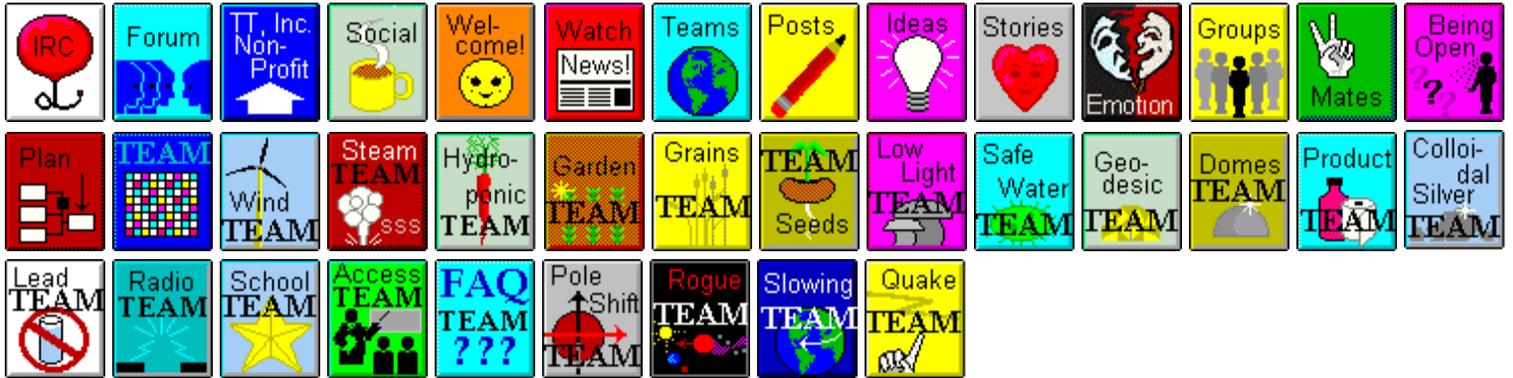


# Troubled Times



## Team Work



Click on the icons above to go to your area of interest.



# Troubled Times

## TOPIC: IRC

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Regular monthly IRC chats are held to provide a convenient forum for members to discuss current concerns. A historical reference in the [Chat Logs](#) archives reflects the Troubled Times startup years. Chats were resumed in 1999, currently as a [Perpetual Chat](#). Most Internet gateways include IRC facilities and access to a number of IRC servers. IRC software by anonymous [FTP](#) is available. Free IRC software is available for Windows 95 and Windows 3.1. To get general IRC questions answered surf to [IRC Help](#) or ask the Troubled Times [IRC Coordinator](#), who has posted some [IRC Commands](#), for help. IRC for those on [American On-line](#) is available. Those on a [MAC](#) can also participate and a [MAC Client](#) is available. There is [Help](#) for [Web TV](#) users, but password protected IRC is a problem. The international Troubled Times team has found it handy to synchronize their watches by checking the [UT Clock](#) and a [Time Zone](#) map, or the [Local Time](#) zone map.

# Troubled Times



## TOPIC: Forum Server

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The Forum is where ideas on how to deal with the coming changes are not only discussed but result in formulating solutions to the problems the coming changes present. Most of the solutions presented on the Troubled Times web pages come from discussions that took place in the Forum. Good netiquette is asked of all who join. This means offering content rich postings that make it worthwhile for the Forum members to download and read. This means avoiding large attached files intended for individuals rather than the group as a whole. This means eliminating postings that simply say you agree or appreciate the posting, as these types of responses can be e-mailed to the individual directly. This means avoiding hypertext wrapped postings when many cannot correctly read this format. To join the Forum, go through the [Application](#) process and then address posting to the Forum to [tt-forum@yahogroups.com](mailto:tt-forum@yahogroups.com).



## Welcome to Troubled Times, Inc.

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**Troubled Times, Inc.** is a public benefit [Nonprofit Corporation](#) dedicated to educating the public on the likelihood of the pending pole shift, solutions on how to deal with such a cataclysm, and solutions for life afterwards.



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Operations

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# Troubled Times



## TOPIC: Social Server

---

This Social Troubled Times server is for those who are seeking advice to help cope with the mounting problems of today. It is also meant for people to talk about their transformation experiences and how the Pole Shift will effect their lives. Some may be contactees, or might have just discovered what will be happening in our futures and may need some questions to be answered. Through this server, we hope to give aid to those who need it, or if you just have a topic to discuss, we are willing to listen. We can give each other support and comfort so that we may all better deal with the coming changes ahead. Feel free to bring up these issues after [Joining](#) the Social Server. Address posting to the Social Server to [tt-social@yahoogroups.com](mailto:tt-social@yahoogroups.com)

Contact [Gerard](#).

# Troubled Times



**TEAM:**  **Welcome!**

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The Welcome committee is available to help newcomers navigate the wealth of knowledge within Troubled Times, to clarify the premise, and to answer newcomer questions. The premise of Troubled Times is that cataclysmic changes are going to happen in our world soon. This premise is based not only on increasingly evident earth changes, but also on ancient and more recent prophecy. Newcomers are encouraged to [Join](#) this group if they have any questions at all to pose, or comments they have been hesitant to make on the other lists. The Welcome committee is there to help you with these issues! After joining, address your questions and comments to the ongoing Welcome discussion at **tt-welcome@yahogroups.com**.

# Troubled Times



## TOPIC: Watch Server

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In general the Watch server addresses those topics in The Word section of Troubled Times - prophecies, the weather, food shortages, geological changes and the evidence of this, earthquakes, cover-ups, the alien presence, and of course the rogue planet known as the 12th Planet. The Watch server is not dedicated to finding solutions to the problems the coming changes will bring as to clarifying the information or disinformation put out about the coming changes. Good netiquette is asked of all who join. This means offering content rich postings that make it worthwhile for the Watch members to download and read. This means avoiding large attached files intended for individuals rather than the group as a whole. This means eliminating postings that simply say you agree or appreciate the posting, as these types of responses can be e-mailed to the individual directly. This means avoiding hypertext wrapped postings when many cannot correctly read this format. To join the Watch, go through the [Application](#) process and then address posting to the Watch to **tt-watch@yahogroups.com**.

# Troubled Times



## TOPIC: Teams

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[Membership](#) in Troubled Times is currently composed entirely of volunteers who share the same [Mission](#) and desire and who chose their [Roles](#), but new [Responsibilities](#) are envisioned in the near future. The fluid nature of preparing for the coming cataclysms finds the focus on delivering [Solution Sets](#) to those who will need them, rather than on titles and formalities. Teamwork on a peer-to-peer basis permeates the efforts. [Credits](#) for contributions of original work given to Troubled Times are given to the contributor, but [Confidentiality](#) is maintained if desired. Where Troubled Times offers information to the public on their web pages, [Outreach](#) by other means is also a goal. Special mailing lists have been setup for [Social](#) chatter and [Gossip](#), and [Group](#) formation is directed to the individuals seeking to establish groups. The main list serve is dedicated to discussing solutions.

# Troubled Times



## TOPIC: Postings

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Immediate research or assistance needs identified by the Troubled Times teams members are [Posted](#) for easy access by members looking for some [Way to Contribute](#). Some posts have a member contact identified, but for most posts a member wanting to offer time and energy should simply initiate discussion on the List Serve.

# Troubled Times



## TOPIC: Idea List

---

Concerns and thoughts on solutions have been captured as they came up, and are listed and dated for future reference.

- Information should be packaged such that [Late Comers](#) as well as organized planners can gather what they need.
- Solutions sets should emphasize [Self Help](#).
- [Replacement Parts](#), will need to be manufactured, not purchased.
- Both short term [Survival](#), and long term [Sustenance](#) should be planned.
- [Supplies](#) should be stocked to provide a transition to a new lifestyle.
- [Internet](#) communication can be a lifeline before the Pole Shift and for survival afterwards.
- Functioning [Prototype](#) survival sites should be in operation before the Pole Shift, as models, but actual [Sites](#) may be selected at the last minute.
- [Practical Crops](#) need to be emphasized and [Permaculture](#) practices instituted.
- [Vitamin Deficiencies](#) need to be guarded against.
- [Eating Bugs and Worms](#) may be necessary.
- Fighting [Depression](#) among survivors will be a challenge.

# Troubled Times



## TOPIC: **Personal Stories**

---

Troubled Times members often share their personal stories with each other on the List Serve. Some of the members also have found the courage to share these stories with the readership. Here are the personal stories from some members - why they joined Troubled Times and what they hope to accomplish.

- [Bill's Story](#)
- [Brian's Story](#)
- [Clipper's Story](#)
- [Gus's Story](#)
- [Helena's Story](#)
- [Kristy's Story](#)
- [Lyn's Story](#)
- [Michel's Story](#)
- [Pat's Story](#)
- [Paul's Story](#)
- [Ron N's Story](#)
- [Shekhina's Story](#)
- [Terry's Story](#)
- [Jan's Story](#)
- [Star Child](#)

# Troubled Times



## TOPIC: Emotions

---

By [Sharing](#) reactions, Troubled Times members hope to help others. Emotional [Adjustments](#) to the coming [Cataclysms](#) vary by individual, but all are affected by [Grief](#), [Fear](#), despair, and [Anxiety](#). There is [Uncertainty](#). In other words, we all experience [Inner Struggles](#) and the need to integrate [New Information](#) to regain [Perspective](#). Some pay heed to [Prophecies](#) or the [Signs](#) or [Dreams](#) they receive, others plan for [Tomorrow](#) but live for [Today](#). Some [Look Beyond](#) the horror to see the potential for a better world, one with a [New Geography](#). [Life Goes On](#), and where life in the Aftertime is the focus, a [Positive Attitude](#) can develop. Survivors will learn to adapt, and by [Being Prepared](#) when [Disaster Strikes](#), be better able to cope. If unable to explain to family and friends, [Secret Preparations](#) can be made. Examining present day [Emergencies](#) and their [Prevention](#) is a positive approach. [Don't Wait](#) to start preparing.

# Troubled Times



## TOPIC: **Group Formation**

---

Group formation as the passage approaches is occurring elsewhere on the Internet. Troubled Times members wishing to meet others in order to form survival groups are allowed to post their mission statements and introductions here within this topic. However, as the predicted time of the passage approaches, groups are increasingly requesting that their names be withdrawn. Please note the Troubled Times disclaimer that will appear on all pages posted herein.

[Jim Cutler](#) in the northern New England states

[Debra](#) in New Jersey

[Luxan](#) in Redding, CA

[Peter Boudreau](#), in Southern CA

[Jon](#) in Colorado

[James Gibbs](#) in North Carolina

[Steve Pritchard](#) in Australia

Alex's [Cataclysm Narod](#) in Russia

[Mike O'Hara](#) in northeastern Pennsylvania

[Valerie](#) in Quebec

### **Disclaimer**

Any person meeting others through postings on this Group TOPIC within Troubled Times is doing so at their own risk.

Where offering a forum for the exchange of information, Troubled Times takes no responsibility for the outcome of any arrangements made as a result of postings within this forum. Troubled Times is not coordinating group development nor managing groups once formed, nor will it act as an arbitrator in disputes. The individuals posting here within this TOPIC are doing so as individuals. Troubled Times is not responsible for any negative outcome of group formation, such as broken hearts, empty wallets, rape, theft, confiscation by the government, monitoring by the government, harassment, broken promises, lack of expertise and support, liability due to negligence or crime, or any other adverse situation that may arise.

This disclaimer put forth by Troubled Times also applies to ZetaTalk, which supports Troubled Times but in no way supports, advocates, or is involved with any given group that may develop as a result of these group formation postings.

# Troubled Times



## TOPIC: Mates

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Having the right [Skill Set](#) makes one an attractive mate, and the right [Mind Set](#) will help in lining up with the right mates during the coming pole shift, creating the [Strongest Team](#) and avoiding [Mad Max Gangs](#). [Local Groups](#) will spontaneously form. The [Amish](#) are seen by many as a [Role Model](#). Ideal [Community Size](#) depends on many factors, including adequate [Infrastructure](#). Dependents such as [Children, etc.](#) can perform important tasks, and are happiest when allowed to do so. The best mates can share and sacrifice, but making a [STO Determination](#) is a [Difficult Call](#) sometimes assisted by [Instinct](#). Clearly the [Antisocial Personality](#) is not a good mate when the orientations are an [Oil and Water](#) mix. Cults such as the [Nuwaubians](#) should be avoided. [Setting Standards](#) or using [Probation](#) are screening mechanisms. A community may find [Heroes](#) emerging, but the [Original Mix](#) and [Community Focus](#) matter. Things may be [Worse, not Better](#), [Small Groups](#) the norm, [Leadership](#) earned, and [Information](#) the best gift. [Military Units](#) will be disbanded, and [Mercenaries](#) few.

# Troubled Times

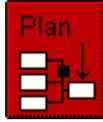


## TOPIC: Being Open

---

Being open with others about pole shift preparations can bring ridicule, but many Troubled Times members find they can [Plant Seeds](#) or [Be the Seed](#). By [Sowing Seeds](#) or being a [Personal Example](#), the message is given. Like the fable of the [Ant and Grasshopper](#), many feel they can only be [There for Others](#) when the time comes. Others find they can bring the subject up [With Strangers](#), but with the [High Strangeness](#) of the subject matter, the best approach may be to [Cite Facts](#) and be [Mum on ZetaTalk](#).

# Troubled Times



## TOPIC: The Plan

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[Government](#) and [Industry](#) are both likely to collapse and in any case not address the issues before hand, though [Emergency Ops](#) centers may exist. There will be [Bulk Survivors](#) almost totally [Unprepared](#), probably [Not in Cities](#), though [Some Groups](#) may fare well. There are [Obstacles](#) to any large scale plan, and communities could [Attract Gangs](#). A mental [Independence Day](#) must be entertained. Care should be taken not to be tracked by ones [Social Security Number](#) or other identifier. In laying plans, one must be [Realistic](#), stick to [Basics](#), and determine the personal [Mission](#). An [Integrated](#) approach to finances is possible. There is only so much an [Individual](#) can do, and there are [Tough Decisions](#) on whether to be [Moses or Noah](#). The approach is [Surviving](#), then rebuilding with [Supplies](#). Any given [Survival Group](#) must first protect their ability to survive at all and not be overwhelmed. Most survivors will expect to be [Rescued](#). The [Right Mix](#) of people and [Leadership](#) will matter. Physical requirements include a per person [Garden](#) space and [Energy](#) generation.

# Troubled Times



**TEAM: LEDs**

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[Light Limits](#) experiment is underway. John's [Quantum Snaplite](#) experiment reports success in growing plants with this LED array. Steve F's plan to assembly inexpensive [LED Arrays](#).

For information contact [Mike](#), [Steve](#), or [Steve K](#).

# Troubled Times



## TEAM: Windmill

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The Windmill TEAM is brainstorming inexpensive ways to harness the wind. Early thoughts are:

- to use [Flappers](#),
- a [Dome Sails](#) acting as a [Turbine Hub](#), which has [Drawbacks](#)
- a [Sphere Shape](#)
- using [Available Parts](#), for the costly [Rotating Parts](#)
- [Focus](#) the wind into a [Funnel](#), like a [Jet Engine](#) facing [Into the Wind](#)

Contact [Michel](#), [Roger](#), [Rob](#), [Doug](#), or [Jeremiah](#) for more info on TEAM activities.

# Troubled Times



**TEAM:**  **Steam**

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A Troubled Time TEAM has been formed to explore development of Aftertime steam engines, constructed from available materials, such as the possibility of [Wood Burning](#) turbines. Ron has started a [Prototype](#) of a [Inexpensive](#) steam engine, with the [Objectives](#) and [Design 1](#), [Design 2](#), and [Design 3](#) formulated. Discussion on [Rust](#) problems, [Piston](#) power, [Distilled Water](#) potential, and [Diesel](#) engines.

For information on developing TEAM activities, contact [Clip](#).

# Troubled Times



## TEAM: Hydroponics

---

A Troubled Time TEAM has been formed to share practical tips on home hydroponics. Early reports, concerns, and ideas are:

- [Success & Failure](#)
- [PVC Pipe](#)
- [Nutrients](#)
- [pH Balance](#)
- [Alaska Hydrosled](#)
- [Teeter Totter](#)
- [Q&A](#)

For information on developing TEAM activities, contact [Clipper](#), [Roger](#), or [Steve](#).

# Troubled Times



## TEAM: Gardening

---

Gardening under the conditions that will exist after the coming pole shift is a challenge that several members of Troubled Times have begun exploring and experimenting with. Reports to date are on:

- an [Au Natural](#) garden
- a [City Plot](#)
- [Soil Fertility](#) experiment
- Beginner [Bumblings](#)
- [Container Gardening](#) problems
- [Tomato](#) peculiarities

For information on developing TEAM activities, contact [Roger](#).

# Troubled Times



## TEAM: Grain

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Inexperienced Troubled Times members trying to grow grain for the first time find [Winter Wheat](#) vulnerable to erratic weather.

For more information on developing TEAM activities, contact [Roger](#).

# Troubled Times



## TEAM: Seed

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The Seed TEAM is looking for [Growers](#) to grow seeds in their [Seed List](#) of non-hybrid seeds for distribution among the growing membership of Troubled Times. [Shortages](#) of non-hybrid seeds are occurring. Planting, growing, and seed gathering tips have been gathered for [Asparagus](#), [Beans](#), [Beets](#), [Broccoli](#), [Cabbage](#), [Carrots](#), [Corn](#), [Cucumbers](#), [Eggplant](#), [Herbs](#), [Lettuce](#), [Melons](#), [Okra](#), [Onions](#), [Peanuts](#), [Peas](#), [Peppers](#), [Potatoes](#), [Pumpkin](#), [Radish](#), [Spinach](#), [Squash](#), [Tomato](#), and [Wheat](#). Here are tips for preparing seeds for [Storage](#) and separating [Seed/Pulp](#), storing biennials in a [Root Cellar](#) and getting an [Early Start](#) with [Grow Lights](#). [The Arc Institute's](#) selection of non-hybrid seed has formed the base for the Seed TEAM, which was expanded during 1999 due to the Troubled Times, Inc. nonprofit by a contributor designating funds for the Seed TEAM, and during 2000 with dedicated seed gardens.

- [During 1998](#), 18 growers grew seed from the [Original List](#).
- [During 1999](#), 28 growers grew seed from an expanded [1999 List](#).
- [During 2000](#), dedicated gardens began with an expanded [2000 List](#).
- By the end of 2001, the [2001 List](#) had grown.

For those wanting to participate, contact [Roger](#).

# Troubled Times



**TEAM:**  **Mushrooms**

---

Troubled Times members are starting to prepare for the gloom that lasts for years after a pole shift by trying their hand at growing mushrooms. One complication has been [Mold](#).

# Troubled Times



**TEAM: Safe Water**

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Learning how to [Distill Water](#) seems intimidating but is actually a simple process. Contact [Brian](#) or [Pat](#) for more info on TEAM activities.

# Troubled Times



## TEAM: Geodesic

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Joe has been experimenting with a portable and easily assembled Geodesic dome frame made from [Pipes](#) and secured by [Stringing](#). Another team member is building a [Geodesic Hothouse](#), using [Reflective Material](#). Home made domes from conduit and [Plywood](#) are serviceable. Erik is working on [CAD Models](#).

For more information on TEAM activities, contact [Travis](#).

# Troubled Times



## TEAM: **Domes**

---

The dome shape offers many advantages, but for many is out of reach. Some Troubled Times members are struggling with a method whereby survivors could build their own domes, inexpensively. Current designs are:

- Joe's [Geometric Dome](#)
- Ron's [Dirt Mound](#)
- [Step-by-Step](#) development
- Dome [Punt](#)
- [Donut Shape](#) dome
- Josh's [Dome Lifestyles](#) website

# Troubled Times



**TEAM: Products**

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[Soap Making Tips](#) and a contact are provided for those Troubled Times members trying their hand at this.

# Troubled Times



## TEAM: Colloidal Silver

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Several Troubled Times members make their own Colloidal Silver. TEAM topics are:

- [Testimonials](#)
- [Michel's Travails](#), with [Pat's Answer](#) and [Mike's Answer](#)
- [Tian's Travails](#), with [Various Answers](#)
- [Aron's Travails](#), with [Wire Answers](#) and [Laser Answer](#)
- [Not Sophisticated](#)
- [Step-by-Step](#), with [Mike's Concerns](#) about [Voltage](#) and [PPM Dosage](#)
- [Optimum Settings](#), [Measuring PPM](#), and [Solar Cell](#)
- [Silver Sources](#) and [Silver Wire](#)
- Beginner's [Q&A](#)

Contact [Mike](#) or [Pat](#) for more info on TEAM activities.

# Troubled Times



## TEAM: Lead Poisoning

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Struggling to discover an affordable yet reliable lead testing kit, Mike has suggested an [Experiment](#).

For more information on TEAM activities, contact [Mike](#).

# Troubled Times



## TEAM: Radio

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A Troubled Time TEAM has been formed to foster support for an Internet supported by short wave radio and other uses of short wave radio.

- [Frequencies](#)
- [Ham Classes](#)
- [Coordination](#)
- [Call Signs](#)

For information on developing TEAM activities, contact [Jan](#) or [Helena](#) or [Mike](#).

# Troubled Times



## TEAM: School

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In the after-time, once the shaking and quaking have ceased and things have settled down somewhat and are as close to normality as they are going to get for a while, thought will have to be given to the task of educating the children. It is not the purpose of this topic to try to tell you how to do this; individuals and communities can make these decisions for themselves. Our intent here is to inform you of what we feel are the best ways in which material can be preserved, in order to help this process along when the time comes. Current TEAM efforts or concerns are:

- [Questions & Dilemmas](#)
- [Library Project](#)
- [Preservation](#) Techniques
- [What to Save?](#)

Contact [Shirley](#).

# Troubled Times



## TEAM: Access

---

Welcoming one to Troubled Times appears to be a contradiction in terms, but as you will see momentarily it is a safe haven. We are here to share vital information, new ideas, and create solutions for this most unprecedented period in our history. Please review this incredible collection put together by the people who volunteered their time and effort.

Throughout the speculative predictions, doomsday legends, and false hope tactics reported in the daily media, there are pertinent sources of information that we do address concerning the upcoming millennium. We offer you and your loved ones a much needed platform of stability so that you can calmly assimilate such life altering information. Please believe us when we say, what you read here **will** shift your view of reality. There is no doubt about that.

We have put together ideas and solutions and offer you our support and guidance. We will listen to your concerns and address your fears. All of us here, at some point, have been where you are now, and ... we know where you will be in the near future. We would like to introduce a couple of members and share with you their stories. Learn how they became aware of the upcoming changes and what steps they took to adjust and prepare for what's ahead.

Hi, [Pat](#) and [Brand](#) here. We would like for you to know a little bit about us and how we came to be here. Please read our [Stories](#).

This site is designed as a special route for offering off-web access to **Troubled Times** information to those folks who are not hooked up to the net or do not have access to a computer. If you would like to share the information assembled on this website with others who you feel would benefit, we offer [Hard Copy Mailings](#) along with timely updates for the cost of shipping and handling charges only. Why not consider a hard copy for yourself?

# Troubled Times

TEAM:  FAQ

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A Troubled Time TEAM has been formed to develop a composite of FAQ, Frequently Asked Questions. For information on developing TEAM activities, contact [Pat](#).

# Troubled Times



## TEAM: Pole Shift

---

Pole Shift analysis includes:

- Mike's [Modified Globe](#), with [Pre Pole Shift](#) photos of [Step 1](#), [Step 2](#), [Step 3](#), [Step 4](#), [Step 5](#), [Step 6](#), [Step 7](#), [Step 8](#) and [Post Pole Shift](#) photos of [Step 9](#), [Step 10](#), [Step 11](#), [Step 12](#), [Step 13](#), [Step 14](#), [Step 15](#), [Step 16](#).
- [Film Adaptation](#) possibilities, and [Animations](#).
- Michel's [Animation](#) of new geography globe.
- [Nancy's Map](#) source.
- Mike's [Print/Paste](#) of Nancy's map, with photos of the [Top](#) and [Bottom](#).
- Mike's analysis and diagrams of what-we-surmise on [Orbit](#) and orbit [Diagram](#), [Angle](#) and angle [Diagram](#), [Size](#) and size [Diagram](#), and outstanding [Questions](#) and Zeta [Answers](#).
- Bruce's [Sloshing Water](#) guide.

Contact [Mike](#) or [Michel](#) for more info on TEAM activities.

# Troubled Times



## TEAM: Slowing

---

The Earth's slowing rotation in response to the approaching 12th Planet, aka Planet X, is becoming noticeable. By early 2003, someone in France was noting [Lost Minutes](#), by comparing old [Moon Phases](#) and [Sun Rise/Set](#) tables to new, [Star Position](#), and computing a lost second per day via [Clock Comparisons](#). The [Old Data](#) was collected in 1995. Others have noted recent dramatic [Clock Differences](#) with the atomic clock maintained by the Navy. Mike also noticed a [Dramatic Slowing](#) during Jan-Feb of 2003, and provides his [Calculations](#), his [Approach](#) to [Plotting](#), using the [Best Clocks](#), showing a loss of [1/3 Sec/Day](#) during these two months.

For those who did clock/watch synch with Mike in the past, and compared notes, a method of [Keeping Track](#) was devised. These clock times were compared against the official [NIST](#) date. This project had early [Benefits](#). Sync times were [Apr 15th, 1998](#), [Jul 12, 1998](#), [Oct 25, 1998](#), [Jan 3, 1999](#), [Apr 4, 1999](#), [Jul 11, 1999](#), [Oct 31, 1999](#), [Jul 9, 2000](#), [Apr 1, 2001](#), [Oct 28, 2001](#).

Mike has discovered that based on the Atomic Clock being set and reset by the Navy, as all these clocks worldwide sync with the Navy clock automatically, the data collected by the TEAM to date shows a [Slowing Trend!](#) Mike's charts, recently [Updated](#) on:

Watched Clocks/Atomic Clocks difference: [A1](#) (2nd Integral), [A2](#) (1st Derivative), [A3](#) (2nd Derivative)

Watched Clocks Majority/Atomic Clocks Difference: [B1](#) (2nd Integral), [B2](#) (1st Derivative), [B3](#) (2nd Derivative)

Casio Wristwatch/Atomic Clock Comparison: [C1](#) (2nd Integral), [C2](#) (1st Derivative), [C3](#) (2nd Derivative)

Summary and Projection: [D1](#) (2nd Integral), [D2](#) Estimated Slippage, [D3](#) by May 15, 2003

show this, so that [Future Trends](#) can be hypothesized.

For information on developing TEAM activities, contact [Mike](#).

# Troubled Times

TEAM:  Quake

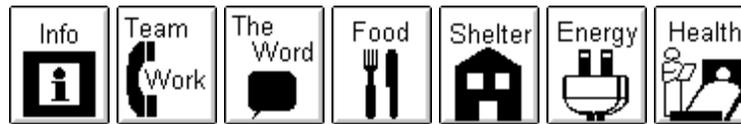
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A Troubled Time TEAM has been formed to experiment with earthquake prediction methods such as:

- [Radio Static](#)
- [Copper Catch](#)

# Troubled Times

## The Hub



- [Troubled Times](#)
- [Hub](#)
- [Frames](#)
- [Table of Contents](#)
- [Surviving the Shift](#)
- [Homeless](#)
- [Settlement](#)
- [High Tech](#)
- [Science Data](#)
- [Nonprofit](#)

[Troubled Times](#) is icon driven. To explore the contents, just click on the icon above representing your area of interest. Troubled Times content can also be viewed from a [Frames](#) version, or a simple [Table of Contents](#) version.

Troubled Times content is also organized into several views. Surviving the pole shift and Aftertime lifestyles are cumulative views, so that [Surviving the Shift](#) would apply to all, [Homeless](#) would apply to all some time, and [High Tech](#) solutions assume that [Settlement](#) solutions are already in place. [Science Data](#) is a view into those parts of Troubled Times that detail the millennium in scientific terms.

A [Nonprofit](#) arm supports educating the public and developing solution sets and has developed a handy [Booklet](#) toward this end.



# Troubled Times



## Late Comers

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**December 17, 1995**

Practical advice on what to do, how to approach it. Imagine year 2002, with folks taking this seriously now, for the first time. They'll be coming on the web for straight forward how-to, not philosophical stuff. We need procedures, diagrams, do-it-yourself stuff.

**January 14, 1996**

Our living sites *today* are not as important as the work we are doing. I think many people will move, a year or two ahead, and some just at the last minute. But the *important* thing right now is getting the cookie cutter approach documented and available to folks. Solutions, so they can set up. We have time to relocate. The survival setups are *not* that expensive. It won't cost more than my normal housing, groceries, etc. Hydroponics for fun can cost no more than re-sodding the yard, etc.

**February 18, 1996**

I think there may need to be a start-up packet, maybe for those really getting nervous at the last minute, etc. And remember, up until the end, there will be money that each can spend. This doesn't have to be a giveaway. Perhaps there will be a commercial endeavor that provides that. I'll bet there will be a thousand such commercial sales, only a few worthwhile. Our service may be to point folks to the right place! What is needed is for sites to be *doing* fish and vegies, etc., via windmill, *before* it happens. Smooth transition. Maybe pass our seeds and fishlings to others in the area, help them get started. What I think we need to do is get a cookie-cutter approach, that folks can quickly purchase and adopt, or make, or whatever, and have it tried and true! Ahead of time.

**May 12, 1996**

Carrie, where to go is a problem beyond telling them where *not* to go, as we may have tens of thousands of folks going to those specific locations at the last minute. Then what? The government won't be able to care for folks, my bet is they will just throw everyone onto their own resources. There may be tent cities, beans and rice, but not for long. Perhaps we'll have to design something to accommodate these tens of thousands

**June 9, 1996**

Take the kids away from the parents, feed them and make the adults starve? There are going to be some tough calls to be made! The welfare arguments are a precursor to those times, I suspect. Once could put them to work - assign them tasks. Look at what Stephen Gaskin did with The Farm in Tennessee. This could be a model for what to do with these folks. If one has the basic survival kit, earthworms and moss and vitamin C, then one can support thousands. They won't like the lifestyle, but then they can leave! Maybe that's the answer. Tents for shelter after the shift, and an outhouse affair, a trench. This will be basic survival for those who don't prepare. But those who plan should have their sites elsewhere, secret, and have this other "charity site" separate. Otherwise none in the group will ever move above the subsistence level, as late comers aren't likely to be good planners either. They would say, lets eat the seed rather than plant, that type of thing. The thing to do is set up the earthworms, moss, and vitamin C in one place where folks

can find it, with instructions, and leave them on their own!



# Troubled Times



## Self Help

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**May 12, 1995**

Best bet on safe places is for each responsible person to read what is written about what the dangers are, what safety precautions to take, and then make a decision based on their personal life.

**February 18, 1996**

Will those who prepare be overrun by those wanting to just be taken care of, just ahead of time? ... Perhaps the answer is to present, among the solutions, self-help packets. You know, like anyone can afford this, taken this and help yourself! I think that there will be thousands of small farms, each setting up for a small group. I anticipate giving out seed, fishlings, how-to instructions, etc., and helping folks set up. An ongoing helping hand of that nature. I'm talking afterwards, for those who *did not* prepare.

**June 9, 1996**

The thing to do about last minute folks is to have the very minimum as a self-help packet. Seeds, Vitamin C, etc., instructions. Something that would cost \$100, at cost, and that would be provided at a site local to them.

**October 6, 1996**

I wonder if there will be organized groups, with the best of intentions, who get taken over by either the government or the establishment or just plain mean minded sorts. I think the smaller groups would be better, as then you can get to know each member, and maybe can become aware if a service to self member is in the crowd. In a large group, how can you get to know everyone?

**October 6, 1996**

Then there may be the organized groups that have anything but good intentions! For instance, set up a group, attract good hearted hard-working sorts, and use them! In the end, the controlling folks who set it up kick out the contributors. I've had a thought about that - at the last minute folks who contributed their money go to the site, only to find nothing there!

**December 15, 1996**

Diagrams showing the parts of these things, and how they work, should be developed, like the diagrams showing how to do spinning and weaving, showing the basic concepts and moving parts, etc. So that someone could build one if necessary. I think we need this same basic diagrams on the gist of how things work on many level, like electricity storage and the like. Light bulbs, when we figure out how to create them at a survival site. We need diagrams showing folks how to construct them. And think of computers! If the parts break, how will folks communicate!



# Troubled Times



## Replacement Parts

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**January 14, 1996**

There is a need to be able to replace any parts needed. This must be addressed just as growing food will need to be addressed.

**May 01, 1996**

Broken light bulbs without replacement parts, they're all so fragile. We need durable light bulbs. What does the military use? They have hardy of everything, don't they? 12 volt electrical is the most practical.

**July 14, 1996**

What about making yarn from rabbit furs? Need to get info on how to make yarn from various furs, though the spinning technique is the same. However, I think that fur has short fibers, and they won't catch and cling like cotton or wool does. Maybe if the fur was mixed with other fibers?

**July 14, 1996**

Basket weaving is another thing I though should be included, how-to. And pottery, the basic principles, so that this can be done after the shift. All primitive cultures make pottery, just bake it in a fire, fire the pottery, then it can be used.

**Sept 08, 1996**

Air plane black boxes survive the fall, are designed to do that, so technology such as computer could be built better if one wanted. Another idea on helping mechanical parts survive is to put them in water, or perhaps oil, as the jolt will be cushioned then. Most computer parts require one not put water or oil on them, etc. or they will be ruined, so one could seal in plastic bags or some such. Oil would be better, or even more dense stuff. But if you seal computer parts, one by one, they may crash into one another when quakes, even when in oil.

**Sept 08, 1996**

A jell type substances that would not affect electrical parts, etc., could be put on circuit boards, and maybe just rinsed off afterwards, or put out to dry and evaporate, whatever. Silicon is a protection for electrical parts, or some kind of silicon kit, its cheap and electrical parts are packed in it by the manufacturer. It also turns water away.



# Troubled Times



## Survival

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**December 17, 1995**

One has to worry about the firestorms, so metal roof or earth roof. Earthquakes will take out most conventional buildings. Metal, flexible, would be OK. Tents would too, but would burn up in under the petro drop. Might be better to have materials stockpiled and wait until afterwards to construct. Live in tent until ground stops shaking. Old tires and dirt would work well on all fronts. Or the technique using stacked hay bales covered with plaster?

**December 17, 1995**

Learning basic first aid techniques and CPR would be helpful.

**January 14, 1996**

Hurricanes, even tornadoes, things are *not* touched when the shelter is below the surface of the earth. This is why tornado protection is just lying down flat in a ditch. Under a tires and dirt shelter, with a metal roof firmly attached, will be like a hill to the winds, but won't be heavy enough to fall during quakes! Perfect!

**January 14, 1996**

Only protection from tidal waves is being in deep water or away from the shore. Wave height decreases with water depth. Tidal wave data has shown that coastal valleys are *not* a good place to be as they magnify the effects of the tidal bores.

**January 14, 1996**

Firestorms, under an earth or metal roof. Be OK.

**February 18, 1996**

Does anyone remember the show Gilligan, well they rigged up a bicycle type thing, could this actually be done on shifts of maybe 15 minutes. If you have a bunch of people you could recharge your batteries. It's exercise, plus one could listen to a lecture or chat at the same time. Take alternators and batteries out of cars/trucks to come up with this via the bicycle. Look how many bikes are around. Anyone, even Third World countries, could put such a rig together! Anyone can find an old bike frame and for a few pennies get it working. That way we wouldn't have to worry about assembling a windmill right away

**February 18, 1996**

Temporary shelters, out of straw and the like. Third World countries know how to build these.

**February 18, 1996**

How to identify and prepare edible plants? One of the easiest and best protein gathering tools will be a large, small mesh fishing net.

**July 14, 1996**

Those who survived the PS on their own for a period of time should have an emergency backpack for just such a situation.

**July 14, 1996**

If the rotation of the Earth has stopped, and folks are waiting, biting their nails, for the PS, then they would not want to be in a building that would fall on them, collapse. What about a tent kind of thing, under a metal roof. The roof would only be there to protect from rain and firestorms. Like if you cut a metal barrel in half, down the middle, and laid each side cut side on the ground. Then this gives a smooth surface for wind to move over, doesn't lift with the strong winds, and gives protection from the firestorms. I think the military uses these, too. Of course, the barrel is not used, its just the shape. One could take metal sheeting, slightly curved like maybe the kind that they make vats out of, water reservoirs or to hold gasoline or a large liquid container. Put the curved pieces of metal on the ground, so they curve into the ground, and hide under that curve during the high winds and firestorms possibilities. Like the letter U upside down, like that, but more flattened so the winds just roll over it. Now, that would also force folks to lie down, which they should be doing anyway.

**July 14, 1996**

Hiding below the surface just ahead of the Pole Shift is a good idea.

**July 14, 1996**

A portable potty would be handy for that waiting period, so that folks could stay under the metal roof, just get up and sit on it for a moment, then lie back down. Like the little potties they have for boats.

**Sept 08, 1996**

Watch movies of natural disasters. Tune everything else out but what is on that screen. Imagine you are a victim in the movie. What would you do? Rehearse this in your mind several times. Feel it! Then when the time comes, your response will be learned, almost instinctive.

**Sept 08, 1996**

The key to survival, both for folks and mechanical equipment one wants to survive, is to not have to move more than a few feet, for one. Right? Think of the gravity fall. In air, you fall 200 feet and die. In water, you drop 200 feet and hardly feel it when you touch bottom. All movement is slowed and cushioned. If one doesn't have far to roll or fall then the jolt comes, rolls along the ground only 2 feet or so, then one only gets a bruise.

**Sept 08, 1996**

What about a tin roof over a trench with dirt piled on top. What if one is hiding under a metal roof, curved into the ground on both sides which the wind can't life up, packed with earth, closed on both ends so the wind can't get a grip. Geodesic domes are good as wind passes over! Won't lift up and fly away just as you need the metal roof.

**Sept 08, 1996**

What about a raft on water with pontoons of inflated tires. Water can protect. Being submersed in water is the very best way. One might take a ride if the water moves overland, but other than that, less of a bump. No bruises. What about going swimming in some lake at the time. Lakes don't have tides, at least not big ones. With the movement of water though, you could possibly be thrown against an underground rock or such. And there will also be debris in the water. The water might move, but the cushioning is greater.

**Sept 08, 1996**

What if the raft were staked in shallow water, by many nylon ropes, so that it bobs and lurches around, but stays in one place. Kind of like those rides that one goes on at the fairs. Perhaps one could get pulled under. A raft in shallow water would be OK as long as the movement of the earth did not cause huge waves. Perhaps, an artificial basin, full of water, but all covered. How about some bungee cord ... four strands four posts and computer slug in cradle in the middle.

**Sept 08, 1996**

Oh, the winds one must deal with by being under the surface. Dig a wide trench, cover with a metal sheet, put earth over that so that there is no edge the winds can pick up. Use mesh nets to secure the roof, putting the mesh into the sod roots on either side of the roof. Plus, have a big boulder inside with you so if anything collapses, that boulder will hold it up. The trench should not be that deep, only just below the surface. The metal roof same as the ground surface.

**Sept 08, 1996**

Have more than one entry/exit possibility, like all those little rodents that burrow - they have alternative exits in case snakes come after them. A metal roof, earth on it. Metal holds, earth slows the debris. And if one's oxygen supply holds up during the digging out process. That is why lots of trapped miners die, they run out of oxygen. One could have alternative holes, very small for air supply. A few might get covered but not all. Think about it. With pipes sticking out, or like those pipes used in submarines, something on top that closes the pipe when there's danger. Submarines close the hatch. One could construct a hatch in the metal roof, and then just open the hatch, or more than one hatch, is best!

**Sept 08, 1996**

Hole/trench sounds OK but located where it can not easy fill with water, say a slope, as there may be torrential rains too, drainage should be considered. Perhaps a trench on a slope, with a drain hole at the far end. We will be coming up against very strong winds and rains, so precautions have to be taken when constructing this



# Troubled Times



## Sustenance

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**February 18, 1996**

Practical = survival. What good does it do to be prepared emotionally when you are dead? One has to think of long term because everything will be destroyed and supplies will run out. Thinking long term is so difficult because we don't know what the planet will be like and what resources we will have. Think housing, food, medical supplies, everything you might need. Survival means eat, means food, means raising crops, hunting, fishing, seeds.

**February 18, 1996**

Many Third World countries have houses on stilts, which after the PS will be just the thing. Continuous rains, etc.

**April 29, 1996**

How are we going to run the lights? What lights should we use? The best lights are HPS or MH, they come in 75, 175, 400 and 1000 watts and take around 15 amps. They put out a lot of light but suck power. Florescence are no good for growing plants, they have HO (high output) and they also have VHO (very HO) but that takes too much power too. I guess a hydro generator would work but a people powered bike is not going to work...

**May 12, 1996**

A comprehensive solution set is what is needed, where it is not just spotty, but covers all aspects of survival. For instance, if folks are told to gather batteries and canned food, but not about the long term, it does them little good ultimately. The batteries will die, and the food run out, and then what! Likewise if they are prepared to grow food with worms and mushrooms at a minimum, they will have calories and protein, but will be vitamin deficient.

**July 14, 1996**

Medicines can be made from common household stuffs. Maybe we could look for some info how the Native Americans helped those who were wounded etc., the things they used ... They found a lot of medicines etc. in nature. Penicillin came from the Indians. I heard you could treat various of diseases with a mixture of garlic and vodka. What about eastern type medicine, like Chinese medicine. They use a lot of natural ingredients ... mushroom, etc. We could take a variety of common stuffs and mixed them for treating various injuries ... illnesses.

**July 14, 1996**

You know, in the short term, for electricity, the bike rack arrangement would be great! Also, gives those who don't know how else to help something to do. Tell the kids, stop whining and get on the bike and pedal, talk to the kid next to you about things, etc. Good exercise too. Dad says, "pump, pump!" And the kids see what the results are, they'll be part of the solution, feel needed, always a good thing, brings families together.



# Troubled Times



## Supplies

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**December 17, 1995**

Medicines, IV solutions, medical supplies can all be stockpiled. However, one hopes that their compositions are not changed by all the "activity". Stockpiling all the portable medical supplies we can get our hands on is the best way to go right now.

**January 14, 1996**

But won't supplies be needed until new supplies are available? The best thing to do, is to start saving canned goods now. Watch expiration dates and all.

**January 14, 1996**

What about potatoes? Grown underground, not subject to wind damage, very dense production per acre .. reproducible Potatoes are supposed to be *the* thing, per the book Mary's Message to the World, for getting through that first bad year. Yep. Beets, carrots and turnips also.

**October 6, 1996**

My thought is that the best thing to store is non-hybrid seeds, plants growing and producing these seeds, etc. on a family or extended family basis. This then won't be snatched away, as it seems to be small potatoes and plus is not a thing easily carried. Would one carry away a worm bed? One would look for sacks of dried beans, etc.

**October 6, 1996**

Hydroponics has been specifically mentioned on the list of things to be confiscated, as well as everything that might be useful from farms of any sort. But what if families just set this stuff up in their basements. Actually ordered the supplies to self-sustenance, but set up someplace else other than where the purchase site was. In other words, order or buy in town, set up on the farm.

**October 6, 1996**

How about doing all the gathering gradually over the years so it wouldn't be noticeable? However, what a heartbreak to gather stuff together for one's group only to have it taken away last minute! One should have more than one store, etc. Gradual, and whomever does catalog ordering via the mail, etc., should not be the one storing the stuff. Bait and switch. It doesn't take much quantity of seed for a ton of food.



# Troubled Times



## Internet

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**March 17, 1996**

Internet communication very important. We will teach each other through the wires!

**May 12, 1996**

I see perhaps an Internet type of communication, with dishes on high points linking up. Short wave radio might be a great short term solution. If folks agree ahead of time on the channels, etc. Long distance communication I think will be down and gone. Without satellite linkups in the sky, which will be torn out of the sky, there won't be any physical way to communicate across the oceans.

**June 9, 1996**

When we have a prototype site up, we can make a video of it, as the Internet is going in this direction - film clip shorts. Rove around the site, talking and filming, and put up shorts on this or that technique for folks to select on the Internet.

**Sept 8, 1996**

The roads torn up, the bridges down, new waterways where we don't expect them, etc. No planes to fly, runways torn up and planes dashed and fuel running out - computers will be important! Computers, individual servers with dishes pointed at each other so they can telecom to each other - this will be a means of communicating to each other afterwards.

**Sept 10, 1996**

A Ham radio operator with 100 watts of power (say stored by bicycle generator to a 12 volt deep cycle battery) can communicate using code, voice, and the equivalent of the internet, around the world. A specialty within Ham radio is referred to as QRP, which must use LESS than 5 watts. With 0.05 watts one can communicate with australia from mississippi. This sort of communications is common and the equipment plentiful and relatively inexpensive.

**Sept 10, 1996**

Utilizing antennas which transmit with narrow beam patterns, undesired detection is possible; but unlikely. Also there are lots of ways to put the transmitter/receiver at a location remote from the community and control it remotely; and for digital communication lots of encryption schemes are being used every day on the internet for commerce transactions.

**Sept 10, 1996**

Immediately after the Pole Shift I'm sure that HF radio communications would be totally disrupted due to the effect of the 12th planet on the ionosphere. In any case, ground wave and vhf/uhf would not be effected and communities within

a hundred miles or so of each other would be able to use that. This technology is available on any HF Ham radio.



# Troubled Times



## Prototype

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**February 18, 1996**

We need to have prototype sites, so that all this can be worked out ahead of time. Small farms that grown fish in tanks or ponds, hydroponic vegies, growing larva in humus beds, windmills, etc. Practice what we preach, live that way, prove it can be done. Also, determine what works best! Actually living at one, or doing part of this activity and reporting on results.

**May 12, 1996**

There should be a way to build a sample survival center somewhere - a prototype to practice on without being "discovered". Why not? Nothing to stop one. I think there will be many, many of these secret sites.

**October 6, 1996**

I though to start a training or research site, and test what we recommend. I plan to make video clips, put them on the Internet, etc.

**December 15, 1996**

Maybe one person has a windmill, and reports in detail on what it produces for them, etc., reports on what type of equipment they use, take pictures that we convert to .gif and put on the Internet. Maybe another one has a hydroponic bed, recycles the water and reports in detail on at what point they have to add acid or lime to the water or whatever to keep the pH balance correct. So, prototype sites don't have to be the *whole thing*. However, that's more or less what I want to establish, the whole thing.



# Troubled Times



## Sites

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**June 9, 1996**

Those who have set up a site well ahead of time, have everything running, remote place, will be the best off. Between now and then there will be many options opening up! Think of all the small farms owned by retired folks. They need help, others join. They have the site and others have the expertise. Thousands of such small groups may form at the last minute, the last few months.

**July 14, 1996**

A group, like a family or extended family, should have a place to meet, so that if they get separated, or if the PS happens and they weren't all able to get together ahead of time, then they could find each other.

**July 14, 1996**

What about communication? Short wave radio? Is this something that can work with little power? Of course, as soon as one starts talking about short wave or another kind of thing, the danger in being discovered and raided comes up. If groups agree ahead of time the channel and general time frames, they may be able to talk to one another. What if groups agree on a code system, so that even if someone catches their channel they can't understand exactly what has been said! Not everything would need to be coded, but important things like locations could be coded. Words for supplies could be coded, so if you say how many feathers do you have, they are talking about bags of beans, or something. I guess if one doesn't stay on the line too long, then raiding groups can't locate them. Kind of like the 3 minute thing on tracing a phone call. Groups have to make up the own code ... before the PS.

**Sept 08, 1996**

Places resting on solid rock, rather than mushy watery places where liquefaction occurs, don't have much earthquake damage. The reverberations are actually most destructive. If on solid rock, the jolt from earthquake is less, as you get only the initial jolt, not many jiggles afterwards. Folks on Nob Hill in San Francisco didn't lose their houses in 1906 quake, where those on mushy soil had a pile of rubble.

**Sept 08, 1996**

Many people mention they are heading for Colorado, which is in the mountains but would take a ride over the plains, also is far enough east that hot earth would not be a problem. Mountain ranges ride over the plains next to them, sometimes, depending on what's happening with the plates. During a recent pole shift, per Velikovsky, Chief Mountain moved 100 miles or some such, over the plains. Best to be on the part that's going for a ride, not on the part that will go under, be ridden over.

**October 6, 1996**

I think the safest place may be about 300 miles inland from an ocean on flat land. I think the safest place in the US is east of the Rockies about 100-200 miles, North New Mexico. There is a lot of flat ground in southern NM and AZ. I

imagine a lot of people will try going to four corners, but that's too obvious. Lots of chance for problems from STS folks.

**October 6, 1996**

Many, many folks are being called to the Colorado Springs area for the last 5 or 6 years. The particular place is at the base of a well known mountain. Why would one want to be at the base of a mountain with all those boulders and stuff coming down? Maybe they are destined to die. Look at all the people flocking to Florida.

**October 6, 1996**

I'm a Californian and have lived in the inland areas too. That area is very active with fault lines, and in-between 2 mountain ranges, so I am certain that that area would not be safe. Also, if the waves are large enough, what is to prevent the ocean from flooding the CA Central Valley.

**October 6, 1996**

Come inland more than Texas, though the western and the panhandle area may be better. I think that perhaps north-east Texas (which is hilly and inland) is worth checking out. The Texas panhandle is on what is called the "cap rock" and I don't know what that implies re earth quakes and plate movement.

**October 6, 1996**

Spain would be safe in Europe. The Netherlands will be under water. The new North Pole will off Brazil.

**October 6, 1996**

Just remember, mountains will be coming down. Hills are better than mountains, yes. Less chance to collapse. It is my understanding that you have to get away from the mountains as just as they have welled-up dramatically in the past (do to earth plates colliding), they can be expected to do the same during/after the pole shift. Also, if I heard it right, where the plates meet the ground will also get super hot. I'm concerned about all that rain, that flat ground can be vulnerable during flash floods.

**October 6, 1996**

I really believe that we need at least 3 alternative plans that can be chosen from in the final week. More plans, better choices. We should identify about 3 or 4 potential safe areas, research them and plan accordingly. Each of us should have a place. Problem is how to prepare a site when one is thousands of miles away from it. Well, we will most likely leave our areas to new areas within the few weeks ahead of the pole shift. Then we will contact each other and go there. A few weeks will give us time to put together a site.

**October 6, 1996**

Only a group could afford to set up more than one alternative site. But a group site would be dangerous. It would be overrun. How would you keep undesirables away? We should keep in mind that their would be a last days panic. But the last days will be the last week.

**October 6, 1996**

I plan to stay mobile as long as possible. In the months ahead of the comet becoming obvious movement may be restricted and property confiscated. I'm not so much thinking about this site or that, as about a "virtual site". A site that

it is portable, can be moved, can be set up at the last minute. What is permanent is what is built afterwards, the more permanent housing, etc. Folks gather what they need ahead of time. as the moment draws near, then go to a safe AREA of the country/world. Then after the shift, they set up tents, wooden hydroponics trenches, etc., worm beds, etc.



# Troubled Times



## Practical Crops

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**December 17, 1995**

How to cook with bugs is actually what some students are doing, in NC or Florida or some such, but I don't have the details. Bug cookbook. Due to humidity, dead tissue everywhere, the bugs and mushrooms will do great. Mushrooms don't require light just good organic material and humidity. There's even a web site to link to that tells how to grow them with lots of recipes. Bats over the fish pond = fertilizer. Is this batty? Bugs will greatly increase, lots of protein, use bats to harvest and eat the bats.

**December 17, 1995**

Potatoes...underground crop, not subject to wind damage, tremendous food potential per acre .. caused the Irish starvation when the fungus killed them. I think fungus is going to be a *huge* problem with indoor gardening. Does ultraviolet light help that? Ultraviolet light means power and bulbs, no solution and not many UV fluorescent tubes. Best figure out how to identify and prepare mushrooms. Lots of them'll be around! Go with the flow. If we got mushrooms, make mushroom soup!

**January 14, 1996**

Bugs are not a bad idea. Apparently, they are a protein food! Plus, fish are good protein. Beans and legumes are another excellent source of protein. Food combos are overlooked, the Orientals know that fish and rice together are more than any apart. They synergize. Some primitive people eat insects etc., things from trees etc.

**February 18, 1996**

What about earthworms? Anyone tried them? *Easy* to grow! Do you purge them for a couple of day like you do with snails? Take hands full of earth worms and purges them quickly. Start with an old washing machine cloths wringer! You can then dry the worms, pulverize them, then add to other ingredients for a protein rich meal! Some of the best bug recipes to come form 3rd world countries!

**February 18, 1996**

The real animal protein that is the most similar to current foods will be rabbits. Three adults (two female and 1 male) will produce 250 pounds of dressed offspring. Unused greenery from vegetables grown for their roots or bulbs can feed the 3 grown rabbits. The meat eats *only* milk. Then they are harvested. Very good even by today's.

**May 12, 1996**

Beans and rice can be planted - they each have a short growing season. Rice requires lots of water, but beans don't require much.

**July 14, 1996**

I think that any hydroponics beds or fish tanks that folks have set up and operational will be damaged by the shift, have to be repaired.

**July 14, 1996**

Earthworms are easy, they eat dirt and if one throws in the garbage, they eat that and then taste better for eat when we eat them! Do mealworms eat garbage, etc.?

**July 14, 1996**

I know that growing fish in tanks can be a delicate operation, as they can get diseases, fungus and the like, need oxygen and moving water, I think. Can't just dump everything into the fish tanks. Plus, if the PS breaks the tanks, then the water spills out and one has dead fish. So these tanks need some kind of mechanism that will prevent the water from standing still. Fish farming is an established operation, so I'm sure all this has been written up in books, etc.

**July 14, 1996**

During earthquakes, fish tanks could rupture, but what about stainless steel tanks? If one lines the tanks with plastic, then maybe losing all will be minimized during the shift, you know, using a plastic liner. What happens to metal during violent earthquakes? I know metal frame buildings do better than others, that's for sure. The metal flexes. Also, circular structures resist EQ better than square. An oval or circle is resistant, no weak points to take stress, its spread all over.

**July 14, 1996**

On the hydroponics beds, wooden beds lined with plastic is best for 3 reasons. 1: they are cheap to build, 2: they will be a mess after the PS but could be rebuilt quickly, so the plants don't even die in the meantime. 3: later, after the shift, more permanent ones can be built in trenches in the ground, concrete beds, etc.

**January 5, 1997**

Mushrooms are so important, as they can grow in no light and require only the right things to grow on plus the original mycelium. Fantastic source of protein, make lots of other foods taste good when cooked together.



# Troubled Times



## Permaculture

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**July 13, 1997**

Vital Earth states that worm urine is an excellent fertilizer. The worm beds are elevated, with drains at the bottom. This is excellent fertilizer! Maybe this can be used for hydroponics! An important issue with hydroponics is that mold or fungus should not affect the plants, thus the gravel or sand or stones are sterilized before a bed is set. If we use worm urine or sewage effluent is used, then mold or fungus could infect the hydroponics beds. Perhaps, to sterilize the effluent or worm urine, it could be boiled. This would retain the nitrogen fertilizer, but kill the mold or fungus.

**November 10, 1996**

So much of human farming practices assume that one can consume nature, and just move on. For instance, soil erosion, farming in a way that ruins the topsoil steadily. Permaculture is farming in a way that soil does not wash away, too. Plants to prevent erosion is a good idea. Plants cover the ground and they protected the ground in this way

**November 10, 1996**

The American Indians had a technique to not turn the soil over, to not create erosion, but to just put the corn kernel in and let it grow. This way the soil did not erode. Plus, they put a fish in the bottom of the hold where they put the corn kernels into, and this fertilized the corn. I guess they did this during times when they had tons of fish, or it doesn't seem very efficient to me. Fish is more important to eat than corn, my thoughts.

**November 10, 1996**

In farming, there are certain crops that work with each other to help the other grow. For instance, they plant alfalfa, I believe, to put nitrogen back into the soil, as it has root nodules that do that. Then they plant the other crop that is looking for the nitrogen. Cycle crops, one adds nitrogen, the other takes it out. Once the land has been used, it is wise to swap different crops. Plant one thing one time, another the next.

**November 10, 1996**

For Aftertime groups, then, they should first feed garbage scraps to their rabbits or chickens.

**November 10, 1996**

One year I lazily just threw the seeds out there on top of the ground and with the rain, it buried them and they grew. Boy what a garden.

**November 10, 1996**

Breath, as CO<sub>2</sub> pushes plants to grow. I know that article I posted in the Chicken section talked about that. They had the chickens in an indoor garden area, where the chicken breath CO<sub>2</sub> recycled into the garden and made the plants

grow. So, indoor gardening where human and animal breath is kept close for the plants - that would help.

**November 10, 1996**

Indoor gardening with animals around also recycles heat, if one is looking for that. In the middle ages, and even somewhat in pioneer times here in the US, folks used the heat from their herds to keep themselves warm. The herds were housed in a lean to next to the house, but there was a passageway to the house and the hot air from their bodies moved into the house. Probably pretty stinky all around, but sometimes you have to deal with the smell if you don't want to freeze to death

**November 10, 1996**

Water can be recycled too. For instance, distill water for drinking and cooking. When one washes the dishes, pour the water into the gardens as the soap in essence makes a fertilizer, and the water also does not go to waste. Then, when one creates urine, also use that for the gardens in such a way that it does not burn the plants. Bathwater can be used to water plants.

**November 10, 1996**

Egg shells can be recycled. My grandma dropped them into water, and used that water for plants. If one crushes them and adds to the compost, then with certain other things added the calcium comes available to the plants. Broccoli and kale and such pull up the calcium. I know that there are folks that feed kale and greens to chickens, to allow them to make strong egg shells.

**November 10, 1996**

Bones, how do folks use bones? Bones are cooked in a broth, instead of meat, sometimes. Many claim it's better.

**November 10, 1996**

Urine has a lot of ammonia, and that article in the chicken section mentioned that chicken droppings have ammonia and if that is run up through the soil, it combines with stuff to make nitrogen, one of the big fertilizers.

**November 10, 1996**

Now, the small groups in the Aftertime will need to recycle everything. We tell them to run their sewage effluent into fish ponds, or at least grow algae to feed the fish, etc.

**November 10, 1996**

If bacteria make soil out of compost, to step it up, we should give them better surroundings, and that's more oxygen (air), and moisture. Yes, we need to establish the ideal surroundings for making soil out of garbage. We should know which garbage is useful for making soil.

**November 10, 1996**

Fertilizing with horse crap and chicken crap I think is the best from what I have seen, but horse crap could contain the tetanus bacteria.

**November 10, 1996**

Human shit can be used to make soil too. However, then certain human diseases can cycle round, and come back to infect folks via the food grown. So, it's not a simple process, needs to be done in a way that the nutrients come through, but the darn bacteria that cause disease stay back!

**November 10, 1996**

Maybe if the food is cooked well, there is no problem. I know that cooking food gets rid of parasites like round worms or other tiny parasites that can infect folks. I'm thinking of trichinosis which lives in pork and gets into human muscles, etc.

**November 10, 1996**

Dehydrated shit can be used for fire, too, you know? Many in deserts do so.



# Troubled Times



## Vitamin Deficiency

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**December 17, 1995**

Vitamins will be scarce, especially with sunlight minimal. Vitamin D, etc. Vitamins can be genned chemically, I'm sure. How many of us know how, though, we think it so easy to just buy them. ... Mushrooms and gravy from larva. But not too good on Vitamin D, A, C, etc. Bugs and Mushrooms offer protein and carbohydrates, just no vitamins. But THAT can be fixed in the chem lab, easy, I think.

**May 12, 1996**

Scurvy is going to be a problem anyway, due to lack of vitamin C. Perhaps people need to store a 10 year supply of that. Perhaps a solution is to find atypical vitamin producers among those things that will thrive in the Aftertime climate. Can be surprising discoveries. Time for some research. Eskimos! A good research topic, for sure.



# Troubled Times



## Eating Bugs and Worms

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**July 13, 1997**

Worm and bug recipes need to be developed and tried out. There are web sites with these, but if a daily diet of this is maintained, what are the problems? For instance, does one get chronic diarrhea. The diet must be able to be maintained by the common man, too. If a chemist did an analysis on the nutrition in such a diet, this would help fine tune this solution, find out what else may be needed in the diet.

**October 6, 1996**

The foremost earthworm advocate here in the US is Jim McNeeley. His big thing is to use them for recycling organic waste. Vital Earth uses an earthworm application that is a waste conversion to high grade organic fertilizer.

**October 6, 1996**

Regarding eating earthworms. I did a prototype many years ago to clean, dry, and powder them. Very high protein and no taste when added to other stuff. Makes good cookies and bread. You have to purge them like snails, which I do grow for eating. After all a snail is a top shelf grazer. I've been actually eating lots of insects, usually raw, and making notes on their taste, i.e. the common moth tastes almost identical to a little grass.



# Troubled Times



## Depression

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**December 17, 1995**

Major depression will be rampant as a result of so much loss - any suggestions on how to deal with that? Best thing to fight off depression is to keep people *busy*, organize and assign work, group support, party when not working, songs, music, etc. Major depression is a chemically based disease. It may be that we will have to treat major depression like they did in the old days. Just watch folks closely and let it run its course. It *does* run its course. I read an article that said treated, x weeks, untreated x weeks, something like that. Problem is that many sufferers become suicidal and don't survive the course. For Major Depression, as brutal as it sounds, ECT equipment and how to operate it (comes from *one* book) is the initial answer. Expensive; but not that expensive. Simple to. Suicidal, yes, they will have to be watched. Stockpile straight jackets. Put them all in the same place, no pants so they can potty themselves easy. Make them sing to each other, tell each other stories - continuous group therapy. I think mental illness, depression, is going to be 50%. Physical injuries may even take a back seat. Look at the loss! Folks will be grieving, not only over lost loved ones. Jobs, security, car, routine, status - loss!

**January 14, 1996**

Well, in the old days, old folks were involved, had roles, and there is an extremely strong correlation to being and feeling *needed* and staying mentally alert and physically strong, in the old. The mind and emotions are so important to our health status.

**May 12, 1996**

I think a big part of what we could add is recipes. People focus on meals for more than just food. Its a social hour, and something to look forward to.



# Troubled Times



## Sharing

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In a topic area on emotional adjustments, we could describe the phases that one goes through before one accepts the pole shift. We could by example tell visitors about personal emotions we had when came across the information about the pole shift and the 12th, we can show by example how we cope. We will enable others to understand what they are going through, or what they can expect so they might be able to put in effect changes in their life, so they can adapt.

Offered by [Michel](#).



# Troubled Times



## Adjustments

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We are not all going to survive the shift. If you don't feel guided to prepare perhaps your not one of the ones who are destined to survive. Live each day not in fear but with joyous anticipation of what is to come. Any other thought is a waste of time. The shift is a blessing not a tragedy. Live your life!

Offered by [Peter](#).

If someone is depressed over the pole shift, they are probably depressed for other reasons as well. Depression also doesn't last forever, the forced motivation the pole shift will provide will surely bring most people into an active mode instead of a passive one. In short, knowing *what* you can do and *when* is probably the important way to prepare emotionally. At least then you're aware of your options.

Offered by [Joe](#).

As a helicopter ambulance pilot in Vietnam, I observed first-hand the shock and anomie in the listless (passive) behavior of villagers after the destruction of their homes. "Shattered reality" shock and the shock generated by catastrophe both tend to rip away our sense of who we are and our reason for being. What finally facilitates a shift to the active mode, as you call it, is the initial handful of people who elicit a sense of "we're in this together" by expressing helping behaviors such as rescuing, medical relief, clean-up, disaster control and rebuilding. Usually, persons who are strong enough to respond in this capacity have prepared themselves, physically, emotionally, mentally and spiritually for such a challenge. So far, I don't know of any other organization or activity that is approaching the pole shift/Earth changes theme in such a well-rounded capacity with respect to preparing for these forecast events.

Offered by [Granville](#).



# Troubled Times



## Cataclysms

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I remember going through a full year of adjustment, where I looked at things around me and imagined what would happen at the pole shift. Being in the Bay Area, and knowing that the tidal waves will roar over the coastal mountains and flood the inland valleys, and that in the Bay Area a back wash will occur, I could put details to the image. I would imagine dead bodies, washing back *out* from inland and washing against the inside of the coastal mountains. Dead bodies caught in houses that were covered with water, drowned, floating still in their living rooms where they were caught. The buildings and homes, all smashed and crushed against each other.

These images would play though my mind daily for a period of time, my own adjustment period, in which I tried to come to grips with what this will mean. This also means coming to grips with the fact that family members won't make it, won't want to, will chose to be in a place where certain death or likely death will result. One must be at peace, to a certain extent, with these unconscious decisions made by others.

Offered by [Nancy](#).



# Troubled Times



## Grief

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How can one deal with emotions that cause inner pain and grief? Like,

**The country I live in will be devastated, destroyed.  
Most of the people who live here will die.**

Offered by [Gerard](#).



# Troubled Times



## Face Fears

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Facing things that make one uncomfortable is necessary in order to grow. We suggest that only by personal, individual growth will we change along with our planet, which is in a cycle of rapid change at this time. Usually what one avoids facing inside is the thing that can set one free. But only if dealt with honestly. The mind believes it alone knows 'the truth,' do not let it deceive you into making fear based decisions, such as flight or fight decisions, otherwise known as panic. Even a 'controlled panic' is fear motivated, reactionary and unreliable, often not seeing all options, especially of a moderate nature. Fear is the mind killer. Its legacy is inner chaos; and emotions can become unhinged when the mind freezes. However it is the exercise of coping skills that develop exactly from these uncomfortable situations that may save lives in an extreme situation. If these coping skills are not used and you find yourself 'on the job training', with unknown factors coming at you fast and furious, it's too late to practice flexing the coping skills muscles. This is the time to practice, while there is precious time (food still on the table, houses standing, etc.).

What are coping skills? Patience is the first step. Patience with what you have had to bear, realizing other people have many more burdens. Does this not make you grateful? That's a good start. But the foundation is facing fear, the nitty-gritty, the hardest and most necessary action for growth and change. We all have courage to some degree, somewhere inside. Haul it up, dust it off and prepare yourself to use it. Courage is an act of mentally harnessing emotion, a union of emotion and mental processes used willfully. What are you deathly, irrationally afraid of? What you avoid at all costs, what you are willing to lie to yourself to evade or ignore, that is the fear, that's the one that must be faced. Why? Because if you want the best chances of surviving earth changes you must depend on yourself. And if you have hopes of saving your loved ones, you must do the hard work now-on yourself. Facing your fears now, and in the next few years, is an important exercise if you hope to offer help to anyone else, lest you fall apart when overwhelming disasters happen. No one else can do this work for you, or make you do it, other than your sense of conscience, bringing your integrity into action.

Simply stated; now is the time to face what you fear, clear out all the history, nagging irrational emotions, old anger, new anger, whatever, deal with it now, because if the crust on our planet is drug along with a pole shift, you ain't seen nothing yet. Emotionally, if you're all full up with old or other frustrations, you won't have any coping skills left to deal with truly mind boggling events.

Offered by [Forrest](#).



# Troubled Times



## Anxiety

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So you are all going to be the ones to live through this so called pole shift. What if it never happens? What if it's all just speculation? I have been poking around on Troubled Times now for weeks. Why? Because I guess I'm just a human being with a morbid sense of curiosity. And, just maybe I think you may all be right. And then again, you may all be wrong. If you're all right, then no matter how much preparation you do, you still are not going to know in which direction the earth will turn, which pieces of earth will crack open and swallow up whatever is nearby. What about falling trees, dust from explosions blocking sunlight (as in the movie *Deep Impact*) If you're all wrong, then here we waste time preparing and becoming just plain, well, weird. We will have time for what? Some often wrong prophet's ramblings. What about living for today?

I'm still reading more about this pole shift thing. I have four beautiful daughters, and you know I want them to survive if this happens. On the other hand, I know this would be hard on them emotionally if I were to become a fanatic and prepare the ark like Noah did, with all my family and friends and neighbors looking on as if I were insane. Am I Noah? God help us all if this actually does happen, prepared or not.

Offered by [Cindy](#).



# Troubled Times



## Uncertainty

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Isn't the rock hard proof that the pole-shift is going to happen?

Offered by [Mitja](#).

There are no absolutes, positive or negative. Even if the pole shift never happens, there are a multitude of reasons (in my mind) to prepare for a self-sufficient lifestyle, which brings about a better *quality of life*. I left the city years ago and moved to the land. It is the greatest thing I ever did for myself and my children! Of course, the pole shift *might* be all speculation. But the changing weather is as real as the clouds in the sky every day. The crumbling economics world-wide are as real as the numerous bank branches that have already closed their doors. The deterioration of society is evident everywhere you look. The atmosphere is full of gases, toxins, and poisons - all created by man. *Someone* needs to do *something* to make things better for all concerned. I think this is what we are doing here on this list.

Offered by [Shekhina](#).

We are all intelligent, caring, scientific *and* spiritual people. To put it more simply; we are the ones who poke our heads out of the box and take a good look around. Once we've investigated thoroughly, we report back to our friends and loved ones our interpretation of what we've seen. We don't walk the streets wearing sandwich boards announcing that the end is near. We know that the pole shift is only a possibility and we are committed to preparing for that possibility. I know in my heart that everyone on the list, no matter how dissatisfied we may be with the world today, hopes that we are all wrong. No one wants to see millions or billions of people dying horribly all at once knowing that they could have saved themselves. I'm sure Noah's heart was breaking as he watched his neighbors die after warning them about the flood. I know that our hearts will break too.

Offered by [Doug](#).



# Troubled Times



## Inner Struggle

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The clock is ticking, the days come and go, everything passes us so fast and in this state of thought the nearing 12th Planet - and the pole shift it will cause - become ever more terrifying. It gets to you, you may feel nervous and suddenly there may even be a little sense of panic within. You might start to think about what one can do to prepare, if one has time enough, if you will be ready financially by then to prepare as you want to - as others want to, and you may think about all the destruction and death it will cause to all that now seems so normal. When alone you may become angry, sad and frustrated. You will become temporarily confused emotionally, and from this state a short depression may arise, to put you down. You become tired, and eventually you will relax. All will seem to better soon, and you are open again to see the light at the end of this dark tunnel. And days later you find yourself flowing into this mindset again.

Does this sound familiar to you? Then you are going through **Cycles**, and most likely these are continued because you may feel you lack **The Means To Prepare**, or you can't **Express Yourself** about this topic to your loved ones, or you are suffering from what I call **Pole Shift Anxiety**. You need to put it all **In Perspective**.

Offered by [Michel](#).



# Troubled Times



## New Information

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It seems that everyday more and more information is coming to us for us to go through and decide if its authority is right for each us. After awhile its like I get so lost in it all. I feel like shutting down for a month to let my brain air out. Maybe when I come back, I'll be able to feel what's real for me. And I hope all of you have felt like this at one time or another.

Offered by [Sandy](#).

I can only speak for me, but I pray all the time that we are all wrong. I like the way the world is heading, the mainstream here in America has become far more open to taking a more spiritual path. People are more giving to one another. Some people can't see that because they watch the news. They don't realize that the broadcasters deliberately give us only the bad or shocking news in an desperate attempt to grab our attention. I see the good things happening around me and I want the people of the world to stick around so we can continue to grow and see each other as powerful spiritual beings.

There are millions of people who don't believe that the end times are here and they are still not living for today. Living for today is a choice we have to make in the moment and doesn't exist in the future. How hard would it be on them if the pole shift does occur and they suddenly are without food, medicine, shelter or their mother. I don't mean to scare you, it's just that many signs have pointed to this pole shift actually occurring. If it does, are you really going to care about what your neighbors think? I've been letting people know my beliefs for the past year and I continue to get the same looks from them. They say - "What if your wrong? Everyone will laugh at you." I tell them - "Then I will laugh along with them and thank God that we are all still here to do so."

Offered by [Doug](#).



# Troubled Times



## Perspective

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It's difficult to keep one's perspective when you have not a rack to hang one's hat on. How do you pray when you know now religion was a means of mass control? How do you feel when you know now your emotions can be manipulated by means of electromagnetic inductions and subliminal messages? How do you eat when you know now that the majority of the food is contaminated with chemicals, feces, hormones, radiation and plastics? How many of you out there have silver fillings, drink fluoridated water, been vaccinated. You've been poisoned and the government knows it. Our children have been poisoned, there's no getting around that. We must all learn to cope with reality, I know that, and I also know that seeing it for what it is would be no easy task and I don't shun it. My eyes are open and my heart bleeds. I know I see just the tip of the iceberg and chances are I will be ripped to shreds by the bulk I don't see.

Yet ... I still can be overwhelmed by the beauty of a dew drop on a blade of grass. Catch my breath in awe at the sight of a doe crossing a meadow. Become totally engrossed and lost within the play of my two children. I feel a sense of warmth and satisfaction when I can help someone just for that feeling alone! I love the taste of chocolate! Being able to watch the sun rise and set, seeing the moon pass thru its phases, watching all the colors pass before my eyes as day becomes night, I sometimes feel that understanding all that there is is just at the edge of my sight and if I look hard enough I'll be able to see the "why" of the horrors and beautys of this world. I will be able to hold in balance the "deaths" and "births" of innocent people, the "slaughters" and "salvations" of nations, and the "you" and "me" of perception.

Offered by [Pat](#).



# Troubled Times



## Prophecies

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Many of us on the list have spent a lifetime studying prophets and prophecies. I personally have read *27 different* translations of the **Bible**, the prophecies of the **First American** tribes, the history of the world, including **Atlantis** and **Mu**, as well as **Krshna**, **The Book of Mormon, Doctrine and Covenants**, and **The Pearl of Great Price**, just to name a few. I have been seeking answers to the problems of men since I could read. And you know what? They *all* say the same thing! They *all* speak of this time in the world. And they *all* freely give faith, hope, and love to those of us living in these times. Many visionaries have drawn maps of the after-time. **Gordon Michael Scallion** has a wonderful map that shows his vision of the world after these changes. There is an **I AM** map available on the internet, as well as others.

The earth has opened up many times and swallowed everything in the vicinity. Many people have died in earthquakes, tornadoes, hurricanes, floods. Many people will continue to die in such circumstances. I, myself, have experienced many personal terrors concerning some very violent weather. I am sure that many on this list have, also. But preparing for a tidal wave when you know it is coming is not a waste of time. Making ready for a blizzard coming in is just good common sense. Building structures that will sway and not break in an earthquake zone a good indicator of well-founded foresight. These are the things we prepare for, even if we hope and pray every day that it will not happen to us. So putting aside some rations to make it through a world-wide economic tragedy is a good thing to do. Watching the signs of the times and learning some new skills that will be beneficial later, whether or not there is a pole shift, is frugal thinking. I have never considered making preparations, learning skills, and improving our quality of life to be wasted time.

Offered by [Shekhina](#).



# Troubled Times



## Signs

Just to show you how strange it can get, when we went out looking for land to build our future on, there was a 3"x5" colored slip of paper lying by the side of the trail. My wife, who is equally spiritual but in a Cherokee way, refused to pick it up, as she was convinced it was a tarot card and "didn't even want to know" what was on it. Her friend did pick it up, and imagine my disbelief (or rather my belief) when I saw that it was a group of Native Americans riding a sea turtle, and the caption read: "Turtle Island". Whoa! Stand back! This wasn't a bible card with Noah and the animals on it (that itself would have been truly amazing). It was an even rarer "myth" aimed directly at the two "squaws" who were there to pick it up. The topic was a previous incarnation of exactly the reason why we were there in the first place. My science and its probability laws convinced me on the spot that this little "sign" was truly of "cosmic" origin. As if to punctuate that thought, the next time we were there my son found an arrow sticking up out of the ground. A modern arrow, no doubt, but now interpreted as another sign. As if to say, "You are on the right path".

The first site I looked at was near a place called Fortville. The second on a road called Mount Carmel. We almost went for that place. It was beautiful, but nearly unaffordable. Then I did my research on the web and scared up an earthquake zone map for our state. There are only two major faults shown. The first is the Fortville fault, the other is the Mount Carmel fault. No kidding. Sent a shiver up our spines to say the least. Not that any place would be exempt from the big one we're all expecting, but to set up camp on top of an existing fault seems sheer lunacy. I know I'm reading things into everything these days. Think of it as my way of coping and let's get on with the story.

We looked at another place, it was cheap, beautiful wooded countryside, and just maybe I could beat the site into submission for my needs (i.e. wind power, earth sheltered, etc.) As I stood there surveying the land, and exactly as I was coming to the decision, "Yeah, this could work, I'm gonna go for it." our friend was in the process of freaking out not fifty feet from me. She had a wave of what could only be described as visions come over her from every direction, visions of death, drowning, dead people! Aggggh! She fell and hurt her back in the process. She has never had an experience like this before. She felt so strongly about it she said if we built there she'd have to make other plans. Of course when I did my research into the topography of the area I discovered it was below 700 feet, in a main watershed valley that would surely flood out during the coming events. Was someone helping us with the decision?

Another concern was the cutting of trees. Nobody wanted me to cut any trees. Now how can you build on a wooded site without cutting any trees? They were right, but we got into a big argument about it (kind of like those floating around the TT-list lately). The following weekend a realtor called us about a place that had just come on the market. The price was right, it's on high ground, it's partially wooded, and I don't have to cut a single tree. Not a one. We now joke about our arguments, since it seems "someone" always just makes the problem go away. Now that we have found a place that fits all of our needs, both my wife and our friend are convinced that this is the place they have been seeing in their meditations and dreams for years. We looked at a lot of property in our quest, and every place else just doesn't have the same character as the final site. We also found two eagle feathers while we were there, and this is the Midwest, not the West. Another sign?

On the same vein, I myself do not usually have dreams or visions. I'm Mr. Spock, remember? I have only had three vivid dreams worth recounting in the last ten years, all of them about five years ago. In one I'm standing at a window watching what can only be described as special effects from the Ten Commandments movie, billowing clouds rolling toward me at great speed. In another, I saw construction workers mounding up huge piles of dirt outside in our yard. We live in an older rural subdivision on well and septic. They put in the new sewers last week. And as I stood watching it felt strangely like the dream. My last dream was of the family standing in the 15 acre field across from the subdivision, watching what could only be described as strange lights in the sky. I'm talking psychedelic stuff like

nothing I've ever seen before. Whirling colors and iridescent effects. It's only since we've purchased our new property that I've realized that the view from our new homesite is identical to that from the field across from our present home. I'm not waiting around for the boiling clouds, I'm ready to start digging in!

The only physical advice I could give to anyone is to do your research before you plan to do anything. And it appears that sometimes even if you don't "someone" else will let you know what's right or wrong. Trust your gut. Mankind is always looking for signs, "Let me know if this is right, Lord". Of course those requests are seldom answered, and we usually choose to ignore the real ones. Ah... human nature. That little colored piece of paper is on my refrigerator next to the School Lunch Schedule as a constant reminder to us of just how cosmic this all is. If you've ever had the eerie feeling that you were being led, or that there was some purpose to your life even in these Trouble Times, perhaps you're right.

Offered by [Ron](#).



# Troubled Times



## Dreams

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I had a dream not too long ago where my brother was putting my mom in our car to take her away to die because she knew she would not make it through the red skies, lightning and firestorms that were happening. (mom is 81). The last dream I had was a few nights ago. My wife and another officer in the Troubled Times nonprofit were in it. It was a restaurant atmosphere. My wife dreamt the same night in a restaurant atmosphere. Both dreams had lots of people in them. My oldest daughter dreamed of Stephen King coming out of the bathroom wall saying "The terror of the world, you will see". Her boyfriend had one where they were at a party that lasted for days but was forever dark. **These dreams all happened on the same night.** The next day is when I asked of the list serve if others had any dreams to see how far this occurrence went. Yes, and the nonprofit officer had also dreamed that night in a cataclysmic fashion. (We are good friends).

Is it time to awaken?

Offered by [Clipper](#).



# Troubled Times



## Tomorrow

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We can do both. Some people plan and save for years for a family vacation or their retirement. Planning for ones survival should be no different. We have *all* thought the same way you are right now. Some just won't admit it. My thoughts are, what if we are right? We work and prepare for what's coming. What if we are wrong? So what. People have called me weird before and one more time would not bother me. What if it happens and me and mine don't survive? We gave it our best shot.

Offered by [Clipper](#).

Why waste our time preparing for something that may or may not happen instead of living for today. Good question. I think we all must answer this one for ourselves. I know how hard it can be, even if you *truly* believe these terrible events will take place, how to tell the ones you care about what is in store. Very difficult indeed. I, myself, have an easy answer for the preparation part. Shouldn't we be trying to live more like what we are preparing for anyway?

How bad could it be to be using a clean power sources like wind turbine engines, hydroelectric engines, or Solar power that virtually has no negative effects on the environment unlike burning fossil fuels or nuclear waste? What does it hurt to grow more of own food instead of having to rely on the store to supply us with this necessity? What does it hurt to build and live in dome-type houses that are very energy efficient and can withstand many different outside stresses instead of the square counterparts we are so used to? Pole shift or no, this seems to me a better way to live, for my family and the planet we are living on. We have somehow forgotten that this planet is not ours to destroy and treat so poorly as we have done in the name of progress. In our onward pursuit toward a better standard of living, we have forgotten what should be a better standard of *life*.

Just focus on today with an eye on tomorrow. Try to seek guidance from whatever that may be for you and your faith. Knowledge without guidance can be a dangerous thing. It was hard on me too, but now I am calm. It's only normal to get upset about these things. It can break you down, *and* build you up. You will gain strength from it, I guarantee you!

Offered by [Jon](#).



# Troubled Times



## Today

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If it does happen then it will be a big mess, and all this may be just the prolonging of the agony and the dead will be lucky, but you never know till you live it and I say prepare for the worst and life will just get better. I am involved in a restoration project with a travel trailer that had a fire in it. When it is finished then it will serve as a mobile retreat or if nothing happens then it will be a travel trailer. I would do it anyway so it becomes not a waste of time. Know what I mean? A fanatic with poise is a man splitting something that the eye can not see.

Offered by [Lou](#).

You can live for today and prepare for tomorrow. If you take a look at what you actually do on a day to day basis, almost all of us already do that without recognizing it. Do you have a retirement plan? Then you're preparing for tomorrow. If you believe in this stuff, you will probably make some different decisions about that retirement plan, just as if you thought rampant inflation would happen, a recession, or a continuation of today. You're always making decisions about tomorrow. I'm assuming your children are going to school to prepare for tomorrow. It's all in how you look at it.

Offered by [John](#).



# Troubled Times



## Look Beyond

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I think though that we will have to focus on the positive side of this future we expect. I feel we had better think about what will be lost and what will be gained and focus on the gains, especially when the horizon seems to promise you nothing but a positive station to rest for a while and come to strength. We *all* have these feelings, we all have stress now and then, and we all cope with them differently. Look at how others are doing and dealing with it and type about it, as most of us have not got someone to talk to when we leave that chair behind our computers!

Offered by [Michel](#).



# Troubled Times



## Life Goes On

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Dead Bodies *everywhere*!!!!!!! Hopefully we all will be in safe places with as many as will come. Mourn the dead and get on with life within our groups! The ones who survive *will* be the *start*! We need to focus on this. Not fun, but it needs to be done.

Offered by [Bruce](#).



# Troubled Times



## Positive Attitude

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Is it my imagination or wishful thinking or is the website growing in leaps and bounds with more very useful and diversified info? Are we experiencing the quickening amongst this group? Even on the social list the psychological/emotional bonding and strengthening, sharing, (an awakening). I know I have been on list serve for a short period but the last 2 months has been awesome! Didn't know I had capability to learn and concentrate on so many different areas so quickly, at one time. Instead of complaining of lack of concentration or focus or inability to prioritize, it just seems to be happening, all falling into place, pieces fitting together, and instead of fear or panic, a feeling of adventure, goals, accomplishments, motivation, stimulation and hope.

Offered by [Debra](#).



# Troubled Times



## Be Prepared

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First and foremost in any emergency situation is the safety of yourself and your family. The physical, material loss of possessions and emotional devastation of a crisis is impossibly difficult, without adding to it the loss of a member of your family or permanent disability that accompanies physical injury. Each person should know *exactly* what to do in any emergency situation.

As a small child in grade school, I recall doing "Duck and Cover" drills and "Fire" drills. When the air-raid siren sounded, we each knew exactly what to do. We each would crouch down on our knees, underneath our desk and pull our jacket down over our heads. Eyes closed, curled in a ball with my head between my knees and my arms over my head, I often wondered if this was another drill or if something was actually happening. When the principal got on the loudspeaker and told us everything was all clear, we would get up and go back to our classwork. When the fire alarm went off, we automatically fell into pairs and assembled ourselves in a quiet line and headed out of the building. The last one out was responsible for closing windows and doors and shutting off lights. Once we were outside, we met together in a pre-designated place. Each of us was to make sure our "partner" was present, and the teacher would immediately call roll. When the "All Clear" bell sounded, we would go back into the building and resume normal activities.

After going through these drills, all the way through eighth grade, I began to think that an emergency was something you prepared for, but something that never really happened. I was mistaken! There came a time when my class was going on a field trip. We were going to visit a canning factory and learn how foods were canned for sale to the supermarkets. About half-way through the tour of the factory, we heard the ever-dreaded air-raid siren blasting! We all dropped to the floor and got underneath of the nearest stable thing we could find, which, at this point of the visit, was the conveyor belt. We were all lined up like little frogs, ready to jump. The workers in the factory did the same thing. Soon there was an enormous sound, like an explosion. The building began to rumble and shake. Things were falling all around us. The rumbling was so loud we could not talk to the person beside us. Everything above the conveyor belt was smashing to the floor and we could hear windows shattering and heavy objects thudding to the ground. Then, just as suddenly as it had started, all the noise stopped and a deafening silence fell upon us. No one moved. Just about the time I opened my eyes to peak around, the factory's fire alarm sounded.

We all got up, saying nothing, and lined up in pairs. The workers led us out of the factory to a clearing in a back parking lot. We could see people coming out of all the factory doors. One of my classmates mentioned that at school, we were always instructed to move as far from the building as possible and then gather together in the front. So we walked, two by two, in silence, around to the front of the building. That is where we met up with our teachers and the rest of our schoolmates. Some of the children had small cuts and there were a few bruises from falling objects during the earthquake. We all sat in a group and talked about this incident. It was clear to me right then and there that all those drills we had in school had paid off. No one was missing from our groups and no one was seriously hurt. That was the result of *being prepared*.

So, now that I have told you all of this, I would like to propose, to anyone who is *getting ready* for the coming earth changes, that you begin having drills such as this with your family. Each person should have very specific instructions. Mama can alert the family. Papa can secure the barn. Joey can close the doors and windows. Cathy can pick up the cat on her way to your sheltered area. There are many differences in what each family will do, according to their living conditions, experience, and fore-planned safety procedures. Be sure that everyone has their responsibilities in order and that all members of the family know what to do, how to do it, and especially where to meet together in the event of such an emergency.

Another thing that has come to my mind is that each person preparing for the coming events might find it useful to *practice* certain things. I live in the woods already, so it is possible that the changes might not be so very devastating here as it will be in a city. There are several things you can do to help yourselves be more prepared for the living that comes right after the initial changes. I would suggest that you take the time to learn certain basic skills right now. For instance: choose a day when all the family is at home. Turn off your power to you house for 24 hours. Do not use any electrical devices or appliances. Learn how to fill your kerosene lamps, trim the wicks, clean the globes and work by kerosene light. Turn on your battery-operated radio and listen to the news. Have emergency candles on hand in case your lamp runs out of fuel. Make sure everyone knows where the extra batteries and candles are located. Have fire extinguishers on hand, easy to get to. Get all the curtains in the house closed to prevent cuts and abrasions from flying glass. Enact the scene (for 24 hours) just as if the changes were already upon us. Help your family to understand that being prepared is the best way to survive the changes, for all of them!

Offered by [Shekhina](#).



# Troubled Times



## Disaster Strikes

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Shekhina, your story couldn't have been too long. Apart from the fact that the message it gives is superb, I found it riveting. By the time you got to the actual emergency, I was sitting on the edge of my chair, because I knew something was coming. You have hit the nail smack on the head, not only for the bigger picture, the pole shift, but for the smaller disasters that could affect my own life.

Here we have been following the ice storms in Quebec and New York. Every morning at around one or two o'clock, there is a broadcast on one of our radio stations, describing how things are with those who have been affected. In this regard, I have realized how totally unprepared we would be if something similar were to happen to us. Yes, we have candles; yes, we have battery radios ... and that's all. We have no extra foodstores, no logs to put in the fireplace; no oil lamps of any kind. It isn't that I have been unmindful of the need to prepare. I usually like to have backups for everything. When we first moved into this house, I suggested that as well as an electric stove and fridge, we also acquire a natural gas stove, and a gas-powered fridge. We didn't; but in any case, these are preparations for a disaster that would occur in a civilized environment. I am going to have to get into a whole new mindset to deal with the pole shift.

Offered by [Helena](#).



# Troubled Times



## Secret Preparations

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As you might be aware of, I am someone who is stuck within an environment which is and will stay I fear, in complete denial. Though I claim I have this task to spread the word (guess why!) I wondered today if might not be the only one isolated. I know people who are on the list but don't want their names to appear. Same situation, or so. So I think there are simple tips to provide to begin with a preparedness.

Everyday tips. Things that you can do *without* being suspected! For instance: if you have children, think of the size of clothes (and especially shoes) they will need in 2003 and after and buy them, or keep them if you have several children. You will be a very far-sighted person, no more! Or begin to learn how to use homeopathy cause these pills are valuable for 5 years so you can have a stock when times come. Again a very clever person, no more. Buy and grow fruit trees at home (very decorating, and up to date) you will be an artist, no more, and so on. It's because I cannot ask my husband to think of either hydroponics or eating bugs unless the arguing would get awful -and I'm sure I'm not the only one! - that I thought of the unsuspected ways of getting prepared, at least a bit. And not only within your family but with your neighbors.

Offered by [Véronique](#).

For those who stay in denial (*or are too poor to stock up on everything now*) before the red orb appears. Have a list of essentials: food, supplies, etc. and begin to "raid" the grocery stores when you have seen enough signs to know the time is "go". Each day, say, returning from work, go to a different store outside your neighborhood (avoid raising suspicions) and *buy your whole list*. If money is short, as it is for us, use that "emergency" credit card you have stored. Go to different stores and return/unload after dark. Store items in different places at your *post-pole shift setting*. If your timing is right, you will have your inventory bought and stored by the time things happen. Don't forget the hardware stores, for things on that list. (If you are still in the subdivision by then, good luck!)

Offered by [Granville](#).



# Troubled Times



## Emergencies

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As we all work together to prepare ourselves or what may happen with the coming earth changes, I would like to point out that there is really no way to ever be fully prepared for any emergency situation. It occurs to me that the reason a crisis situation is called an *emergency* is, quite simply, because we cannot be prepared for every *emergent* situation. As a crisis *emerges* in one's life, all we can really hope for is to be as prepared as possible. And, no matter how prepared you might be, it just may not be enough. I want to tell you a little story, just to clarify my point. Let's take a drive down a dusty country road. The pine trees are pretty this time of year. There is frost on the needles and the atmosphere is crisp. It is early in the morning and you can hear the birds waking up. The air is full of all the wonderful little sounds of nature. The sun is coming up and it has painted the sky with reds and yellows and purples.

As we wind around the many curves of this lovely country road, we can see the transparent daylight moon. There is a family of quail crossing the road, so we slow down to give them the chance to get to the other side. Off in the woods, we see a white-tailed doe with a fawn. She stops in her stride as she hears the engine of the car. We move by slowly, so as not to frighten her. The tawny little fawn stands close beside its mother. Our moment of wonder is interrupted by a woman running across the road, screaming. We can't tell what she is saying, so we stop, just in time to hear her yell out, "call 9-1-1!" This is our introduction to a small family who lives out in the country. The family consists of a man and wife and two little girls, ages 5 and 6. This man's mother also lives on the same piece of land, with her youngest little girl, who is 7.

We see the smoke, we smell the burning wood. We are the observers. Here is this man, desperately trying to put out a fire that has erupted in one of the outbuildings. The three little children are running to and fro, each in their own little world of panic. The man is spraying the front of this building with a garden hose. The flames are shooting out around the bottom of the door. There is a sudden, great hissing sound, as the top of the water pressure tank blows off. Suddenly, there is no water coming out of the hose. Large plumes of blue and gray smoke rise into the morning air. The man tries to beat at the flames with anything he can find. An explosion cracks through the still of the morning. The man screams at his wife to get back and get the children back. The agony and frustration is evident in his face and in his voice. As the back-draft blows out the windows and the door, the man jumps back, pulling out the power and phone wires as he moves, in hopes that the fire will not spread through the wires.

The large pine tree next to the building is beginning to smoke and turns bright red. His mother is trying to get the children back. She cannot do much to help her son, as she is unable to move quickly on her crutches. A neighbor comes running over with a fire extinguisher, but there is nothing he can do. The flames have engulfed the building. Another neighbor comes over and moves the children to the small cabin, which houses the bedrooms and a small sitting room. This is what they call home. The man, along with his wife, mother, and neighbors, moves back from the heat of the burning building. The total desperation is evident, as these people stand and watch this building burn to the ground, knowing there is nothing more they can do.

Just about this time, the fire department arrives. The building has been burning about 30 minutes already. The heavy fire trucks pull into the driveway and the firemen quickly tend to their chores. The family stands, awestruck and in shock, watching, as the building begins to crumble and fall in upon itself. The roof thunders into the building and the already destroyed walls give way under the pressure of the large water hoses. The firemen go through all the necessary steps to extinguish the flames. They water down all the surrounding area, in hopes that the fire will not move into the woods. After the fire is extinguished, the fire department prepares to leave. But the large, heavy trucks are stuck tight in the mud! After a couple of hours of digging mud, stacking rocks, and winching the trucks this way and that, they move off, down the dirt road, leaving this family staring in disbelief at the pile of burnt rubble that had been the

central point of activity in their life for the past six years.

Now we talk to this family. They had chosen to live a life close to the earth. They had been preparing for the coming earth changes. The building that had just burnt down was their well-house. Why did this little building mean so much to these people? Surely it wouldn't be too difficult to build another little building the same size. So why were these people so completely and totally devastated by this emergency? Why were they in such deep despair? What was so important that they considered this crisis as a total loss? These questions have an answer.

Within that little building, the wellhouse, were all the appliances that these folks used to maintain a somewhat *normal* lifestyle. Let's look at that for a minute. That little building had housed the water tank and the pressure tank that allowed them to get water from their well. The control box for the well and the tanks was also housed there. The washer and dryer had been housed within, as well. A deep freezer, which had just recently (last week) been stocked with food, was also inside. The bathtub/shower and the kitchen sink were inside. The electrical breaker box that provided power service to the small wooden cabin was also inside. As was the stove/oven and all the necessary cooking vessels and utensils.

That little building had served as a kitchen, a bathroom, a laundry facility, and a power control center. It had also been used for storage of linens and bedding, as well as for all bathroom supplies. The attic of the building was a storage unit for personal and household items. Books and pictures and various special family heirlooms had been stored within. And the family had used the building for storing what they had accumulated as emergency food and water, medical supplies, and needed equipment for the coming earth changes. They had known they were very well prepared for the crisis events that are coming in the very near future. Now it is all gone.

Offered by [Shekhina](#).



# Troubled Times



## Prevention

OK, you may say, "Why are you telling us this story?" Well, I am telling you this story because I think there are some important lessons here, for those of us who are trying to *be prepared* for whatever crisis may soon come to pass. I am certain that this little story will cause many of you to think twice about how secure your emergency preparedness materials and supplies really are. And I hope this story will cause you to re-evaluate what are really the most important things in your life. And I am telling you this story because I now know, first hand, that nothing, absolutely nothing, is ever 100% safe and secure, no matter how hard or how long you have tried to *be prepared*. And I am telling you this story because it is evident to me that this kind of crisis can happen to anyone at anytime. I know; because that man is my son ... because that crisis is real and present in my life ... and because sharing this story is one way that I can reach out and help in a way that perhaps no one else can. I am telling you all this story simply because I care!

- As you read this story and begin to think of solutions that could possibly have prevented this total loss, I am sure you will also think of ways to prevent this kind of crisis from happening to you or to those whom you love. Some of the solutions that I have been thinking about are these:
- When we have the opportunity to rebuild the well-house, we will be sure to have a separate, smaller unit, to house the well-pump, the water heater, and the pressure tank, as well as the control panel for these units.
- We will, eventually, replace some of the appliances. They will not all be housed in the same unit. Perhaps we could put the washer and dryer in one unit and the freezer and stove, along with cooking vessels and utensils into a separate small room, with a sink, divided from the main area of the well-house.
- We will house the bathtub and linen cupboard in an adjacent *room*, with fireproof wallboard as an enclosure.
- We will *not* keep all our emergency supplies and equipment for the coming earth changes in the same place. It will be stored in a couple of different places, built to be more fireproof, and not all together. That way, if a crisis does hit us again, we will not lose *all* of our stored supplies.
- We will build the new building with more fire protection, thicker insulation, less wood, and a more secure enclosure for the breaker box and electrical controls. We will have fire extinguishers in each part of the unit.
- We are also looking into a raised water storage tank, which can be filled and which will give us available water if anything ever happens to our water supply again. Being raised up on a girder-type structure, it will give us the necessary gravity feed for the water to maintain a constant flow for all our water needs. We may even build more than one such structure.

I hope that in some small way, my sharing of this story and our recently-conceived solution sets, will help those who read it. If any part of this story gives you cause to *think* about your own situation and come up with something better than what you already have, I will feel that I have succeeded in my efforts to help.

Offered by [Shekhina](#).



# Troubled Times



## Don't Wait

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This year's gardening experience has been a sobering one for me. It's not going well. My decision to tear up the old, smaller garden and put in a larger one was met with a serious heat wave shortly after work began. This slowed us up, but we did get some of the seeds in (a sampling of everything) in a special section while we attempted to continue with the rest of the garden redesign. It has been a battle, with dryness, raccoons and especially the weeds we sowed aplenty by disking and plowing them throughout the whole area. Perhaps I can share a few hard lessons (updated with the coming times in mind).

- Considering what we are expecting, the time to start gardening and growing skills development is now. If this year's garden had to feed us and provide seeds to send on to others to feed them now, we would starve and so would those who need the seeds we should be able to send!
- It's too easy for the elements to creep up on us and our gardens before we know it. I take little consolation from the fact that my being overwhelmed trying to survive professionally against managed care will not be an issue in five years. Through this process, and our family's growing awareness of world changes (see below), they are slowly joining me in the gardening efforts, a role I cannot take on by myself! By 2001, we should have become a team, with a thriving garden and a history of having sent a lot of seeds out.
- Don't wait until 2002 to begin gardening in earnest. You will not have the time to develop and refine the skills, as an individual and as a family/community if you don't begin now. Many of us are as overwhelmed as our family is trying to get by in the "modern" world. Start your garden small enough for you to keep up with it, and follow a plan that will allow it to grow seeds to share, and ultimately feed you and those with you.
- Always remember the native plants grow faster, stronger and hardier than the plants you bring in. The native plants would be the weeds and, you guessed it, the plants you bring in are the vegetables.
- *The changes are happening now!* I made the mistake of approaching the garden in the manner I undertook three years ago. We went from rainy winter to a dry summer almost overnight. We are going to have to do a lot of experimenting and focus a lot of attention in our gardens that was not required of us in the past. Some of what we plant will thrive, but some will certainly be lost. Our first harvest will be limited due to the unexpected changes.
- As you increasingly shift your life efforts to outside settings, gardening, foraging for wild plants, etc., relying on simpler self-sufficient environmental supports, you will be challenged to hold to your values. For example, because of changes in their food supply, raccoons are becoming an increasing problem here for us. They sense our lack of malice toward them and come right up on the deck to eat the cats' food, and they prowl the garden, timing their plans to get a first strike at the harvest. What shall we do? Killing them is not an option. The wildlife officials, who used to be the ones to remove wild animals to the deeper woods, simply told us to destroy them. When I told them their solution wouldn't solve the raccoons' problems and said I would move them, the officials threatened me with a stiff fine for moving wild animals. For us, these are real "end times" issues, as defined in the Art Bell way of seeing things. I can tell you one thing first hand. The folks up there look hard and fast at how we treat our fellow creatures on the planet. Today, it's raccoons. Someday, it may be the neighbors. (Actually, I guess the raccoons are neighbors, as they live in a pine thicket just west of the house.)

For anybody who wonders if the changes are not already underway, I suggest a drive through Florida. We drove through many areas that had already burned or were still burning after the 1998 fires. At times, with the fire burning on

both sides of us and smoke drifting across the highway, it seemed we were driving on a road through hell. Even though we may appreciate our openness to the changes on this site, nothing brings it home like seeing a part of it really happening. At times like that, I realize my own lack of emotional preparation when I wonder how what I am seeing could possibly be real. We have a lot of work to do on ourselves. Seeing Florida certainly opened my family up to some of the things I have been saying, especially after my having warned them at the end of winter of bad tornadoes in our future. Emotional preparation is essential. Trust your intuitions without doubting or denying them. Trust your visions. Trust your dreams to prepare you. In your sleep, you will know.

Offered by [Granville](#).



# Troubled Times



## Skill Set

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This is a list of skills that would benefit one to learn before the crisis hits. Hopefully, this little solution for many questions will help those who do not know where to start. This is in no way inclusive, but I thought it might help stir up some imagination and give some of you a checklist to start from.

### Skills List

1. How to level a spot of ground with no leveling equipment
  2. How to make and use a block-n-tackle from nature
  3. How to make a simple pulley with Nature's materials
  4. How to use vines as rope and tie proper knots for the purpose
  5. How to utilize natural terrain for the best benefits
- 
1. How to make your own tools and/or where to acquire them
  2. How to fell a tree to make it fall exactly where you want
  3. How to build a mule harness for moving your logs
  4. How to skin a tree and cure it for making lodge poles
  5. How to cut firewood with no power or fuel and how to split it
  6. How to notch poles by hand into "Lincoln" logs
  7. How to build temporary and permanent shelters by hand
  8. How to build utility buildings and animal shelters
  9. How to build a root cellar for efficient storage
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1. How to know where there is water by plant identification
  2. How to use willow to witch for water on a piece of land
  3. How to incorporate flowing or standing water to develop power
  4. How to build a watershed to collect natural water
  5. How to collect and filter rain water for survival
  6. How to build a condensation pool for gathering water from the atmosphere
  7. How to recycle *used* water to serve many purposes
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1. How to create additional lighting in nature
  2. How to build a wood-burning stove with rocks
  3. How to build a fireplace and heat system with adobe bricks
  4. How to make your own mortar from natural ingredients
  5. How to make your own bricks from straw, clay, and sap
  6. How to make and use sun-dried mud (adobe) to build
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1. How to attract and repel various kinds of insects
  2. How to create a worm-bed and incorporate it into your garden
  3. How to prepare soil for many different purposes
  4. How to grow your own food and medicine in any kind of ground
  5. How to grow produce for high yield in limited space
  6. How and when to harvest your crops for specific purposes
  7. How to repel gophers, deer, or other animals that can destroy your crops

8. How to plant and maintain a garden for high yield, low yield and seed stock
9. How to recognize edible, non-edible, medicinal and poisonous plants in nature
10. How to gather and create fertilizers for your gardens and yards

1. How to cook, bake, and roast on an open fire
2. How to cure and preserve various kinds of food
3. How to dry produce naturally for storing
4. How to store foods naturally for later use

1. How to make cloth from natural fibers
2. How to make your own candles from items found in nature
3. How to make liquid, powdered, and bar soaps
4. How to make warm clothes and shoes from natural materials

Offered by [Shekhina](#).



# Troubled Times



## Mind Set

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It will be rough after the pole shift, but some of this will happen every where, even away from the cities. In my opinion, there is no appropriate thought pattern in the cities, programming would be more the case there. Like, I am used to doing this or that, like eating at 5 PM everyday or going to the store to get supplies. Do not be near the programming, be near the thought patterns like the farmers, the ranchers, the self supporting folks who are used to this method of survival. Thought patterns like feeding the kids at some other time of day because that is when they can eat or bathing once or twice a week because that is how it is due to the amount of water or the chores have to be done first.

Always be cautious, hunger will do strange things to people. Even a farmer could slit your throat for your bread if he is hungry, but the "thought pattern" is there. The first thing any business would tell you when starting up is "Location, location, location". Ask any car lot or grocery store. They are there because of the crowd they want to attract. If you want to attract programming, be near it. If you want to attract survival thought patterns ... well. Remember, your mind is your best defense.

Offered by [Clipper](#).



# Troubled Times



## Strongest Team

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The success of a group in the Aftertime is greater if

- they know how to be self sufficient, how to grow their own food, etc.
- they are emotionally independent, rather than emotionally dependent
- they rely on themselves, rather than social services or a steady income and stocked shelves that will disappear

This analysis of a strong team casts the soft wife of a rich man in the same category as a welfare mom, and the bum on the street in the same category as a stock broker. Both potentially lack qualities that would make them a strong team member in the Aftertime.

Offered by [Nancy](#).

Team selection is very important, since integrity of the survival group would mean success or failure. People do not realized how important it really is. Some members are bringing their personal problems and it would be a good idea if they get some help before this “shithouse explodes” to quote Jim Morrison.

I used to do rock climbing and in our club we made sure that everybody understood that other person that you climb with is responsible for your life. It was said over and over again. Despite of this I have seen people walking away from their partners in a snow storm just because “I called him and there was no answer”. Nobody would go anywhere with them after such incidents. There was no indication from them in normal conditions that they will behave like that. The point is that you never know what the other person is going to do in difficult situation. You can minimize it by asking questions and trying to find out as much as you can. After all 50% marriages end up in divorce.

Offered by [Chris](#).



# Troubled Times



## Mad Max Gangs

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The cities are where the Mad Max gangs will originate and do their horrible deeds. The destroyed cities will offer the greatest opportunities for these types. They can endlessly shuffle through mountains of rubble in search of what they consider to be the most precious commodities - money, gold, fuel, canned food, weapons, abandoned vehicles, abandoned homes, people they can enslave. Destroyed, broken cities are Mad Max's assets and source of entertainment. The sparsely populated countryside has nothing to offer. Boring, few assets, not worth it for Mad Max.

Some of us get guns to protect our families and some do not. However, 10 times *more* people in families die from guns being kept for their protection, as compared to people who *do not* choose that form of protection. In summary, your wife, your child, or your husband have 10 times more of a chance to be killed by a gun if you keep a gun in the house. Certain people may have good reason to keep a gun in the home. But, when advising it for the general population, it is clearly preposterous. Your chances of being killed by a gun go way way up when you put one in your home.



# Troubled Times



## Local Groups

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We had our first local meeting of Troubled Times Friday night here at my place. It was great. So far, we have four of us. We discussed many things about our local area, and things that are on ZetaTalk and Troubled Times, but mostly just to get to know each other. We figure we will all be together for the rest of our lives (that is the plan) so we should know and understand each other - what each other does for a living and how we can best contribute to each other. We also agreed that what we know about each other will remain in our group, like names, size, location, etc. We think this is a grand idea on a local level. We plan to do this at least once a month. My wife and children are also in on this.

**Anonymous, 1998**



# Troubled Times



## Amish

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I took the liberty of gathering our postings on the Amish.

I live about two hours from Pennsylvania's Amish region, and it's well known that these people shun devices that were invented after the year 1900. I recall driving past Amish homes in the early night, and the homes were pitch dark, except for a couple candles in the window. I can't help suspect that their leaders were "tipped off" a long time ago about the impending pole shift. These people are hardy, they live close to the earth, and they are more prepared than most of us to survive in a post-shift world, having developed a strong sense of community. You know what happens if an Amish barn burns down. The whole community pitches in and rebuilds the barn in a matter of days. That's the kind of community I want to be part of after 2003, and much of my current efforts are directed toward establishing a community. I don't want to survive as an individual, nor do I think I can if I wanted to, nor do I want to survive just as a small family - that may not be possible either.

*Mike*

While the community concept is dandy, the rejection of technology seems a bit extreme. It's good to know how to do things the hard way (and it's often good enough anyway). But maybe if they knew anything about torus or dome geometry and construction, perhaps their barn wouldn't blow over in the first place, right? So while 'living off the land' is a good idea in one sense, completely rejecting technology is completely senseless - at least to me. Imagine what technology *and* the good community can do in unison! Why only accept 1/2 of the deal when you can have it all?

*Joe*

There is no reason for technology to dye out. It's here, let's keep it. In the past, civilizations and information died or was lost because they either ate or burned their books to survive. Like wetting your pants in winter to get warm. Feels good for the moment, but... The Amish are great people and would seem to have a handle on how to survive immediately after the pole shift and are used to the life style. We should gather some of that info for it is good. But, on the other hand, as time goes on, they will remain in the same life style. Religion as we know it, will go out the window (the reason for their life style). Then what? We are just like a plant, we are either growing or we're dying. No in between. I choose we grow with technology and take it with us. Learn what we can from examples like the Amish until we can put the technology to good use.

*Clipper*

Every unprepared person for hundreds of miles around will hit upon the idea of visiting the gentle and productive Amish of Lancaster County, PA. I personally don't want to bother these nice people, as they will have plenty to cope with.

*George*

The sad part is that those unprepared people might very well take all the supplies of the Amish and leave them with nothing. Of course the thieves themselves would also have nothing when the supplies ran out. The skills and knowledge of the Amish would be their most important asset. That and their sense of community. However, I suspect that the Amish will be in worse shape than the rest of us here in Troubled Times: their lifestyle is built around growing food, but they don't know anything about electricity. Not too good if the sun "takes a nap" for a spell. Along those lines it is absolutely essential to take at least some of

our technology with us if we plan to survive.

***Ron***

The Amish are a good model in that they rely on community and farming, a time past in fact.

***Nancy***

Offered by [Pat](#).



# Troubled Times



## Role Model

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I studied Amish lifestyle for several months in the spring of '96 as a possible model for building an intentional community. Oddly enough, the best place I've found for learning about the Amish is the internet. Many Amish groups maintain an office in town for contact with the outside world, and some of these have setup web pages to promote their lifestyle and prevent misunderstandings with the public. (The perception of the Amish as a Waco type group is certainly possible and to be avoided at all cost.)

There was an article (in *Fine Homebuilding*, if I recall) in which a man who owned an ancient dilapidated Amish barn had decided to tear it down for the timbers. First, it's interesting to note that after 150 years the timbers were still in excellent condition because the siding was still intact. Not sure what type of tech is involved here, but we would be hard pressed to duplicate this today, and certainly not 150 years ago. Once he got the siding and roofing off, he had to remove all the wooden pegs that held the beams together (time consuming but not hard). At this point he discovered that he *still* could not disassemble the frame because the joinery was so close in tolerance that the pegs were quite unnecessary. In the end, what he thought was a 3 week project turned out to be an 11 week project and the man has sworn *never* to mess with demolish an Amish building again. He took the post-beam-peg construction style and formed a company that uses similar techniques and modern materials to manufacture buildings that are completely open, an Amish trademark. They usually have no supporting columns in their barns.

I find the remark about Amish barns blowing over amusing because he could not pull the barn over with a tractor even after having taken the pegs out He had to figure out what order the beams were placed and remove them one by one in the reverse order. It might be worthwhile to point out that while maintainable tech improves survivability and comfort, non-maintainable tech is a liability. For example. if one *depends* on battery operated radios, they have no recourse when the radio breaks down and there is no place to obtain replacement integrated circuits. This applies to water purification, lighting (ever try to make a bulb filament?), power generation, etc. I would urge you to beware of depending on electricity after the Earth changes. For example, you suggest using artificial lighting to grow food. Even lettuce takes four weeks to harvest from sprouts. How much diesel is required to run the generator 8 hours/day for six weeks? Can the generator be repaired from scratch? Solar obviously out of the question in the example you give, and storage batteries are good for about an hour in the situation you describe (unless you have a warehouse full of them).

As much as the Amish are distinguished by their worship, they are also noted for their government, nearly always government of consensus. This makes them a very slow to change, very conservative group. Each generation, the youngsters go to the outside world, return, and ask to use various technological ideas. Every generation the elders examine these ideas, accept some, and reject most. They very carefully define how they live on a weekly basis. It's a good read to review some of the logs of Amish meetings and find how points of passionate disagreement are handled - consensus *must* be reached one way or another, even if some members must "stand aside" from an issue.

Any group of people who are prepared for Earth changes will be besieged by those who are not prepared, after the fact. This is unfortunate but true, no matter where you are or how carefully you hide and perhaps this is the way it should be. It is the responsibility of those who survive to help each other, and the better prepared a group is beforehand, the better their position to help afterwards, the quicker they can feed the starving, and quicker they can show the starving and desolate how to get their crops planted so they can themselves, and in turn, those they come into contact with. As a side note, this is a topic of some concern to my present community. I detest killing (have butchered and put down dogs, so I have some experience), but firmly believe that every member of a well prepared community should have a weapon and know how to use it. Others in my group are just as firmly opposed to this idea. My rational is that we will be unable to help others if we are starving ourselves after being raided at gunpoint, or if we are thrown out of our

community by those who *are* armed (and you can believe there'll be some).

Offered by [Mark](#).



# Troubled Times



## Community Size

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I compiled the thread of postings concerning communities.

I have been passively viewing this newsgroup's postings for about 1.5 years. I have one pressing question for those who are actively building survival sites around the world. How many are planning and/or building self sufficient shelters for more than one or two families? In other words, how many people (# of adults, # of children) will it take to successfully build a community in the after times?

*Larry*

My personal belief is between 40 and 60 people depending on skills and abilities. I foresee a commune type situation that will be successful with a group of Service-to-Others.

*John*

I'll answer honestly with what is my feeling, rather than logic. I guess I'm in a special circumstance as I have a lot of contacts in the world, and expect the next 5 years to get very lively. I think the target community will live in a conglomerate of domes, some of which will have multiple living quarters, and will be about 300 folks or so, multiple families. This is not what I'm preparing, it is what I *feel* I am preparing for, if you get my gist. It's an emotional and intellectual plan, not an actual today what-I'm-doing plan.

*Nancy*

As a minimum one must cover all the vital jobs: food prep, hydroponics, building, primitive survival skills, medical skills, etc. as detailed in Troubled Times topics as listed. My thoughts is this could be as few as 2 people or as many as into the thousands. I believe the optimum size to be between 20 and 25. The mix being about half adults and half children.

*Mike*

I have a feeling that any communities that form after the pole shift are going to be more medieval then utopian. I think the hardest of things to reconstruct after the shift will be community living. Look at the current state of affairs in present day community. I went to a city meeting about recreational needs for my ward, apparently we have a great gob of money budgeted for our ward and the city wants some direction on how to spend it. Eight people showed up.

*Robert*

Community happens naturally based on the mindset of the folks. Look at the Troubled Times list serve, for instance. We're a community. We set policy based on individual freedom to chose tasks (volunteer) and democratic methods (votecall). We openly discuss issues, no back room agreements. We accomplish things. Mostly, we're highly Service-to-Other in our mind set. We didn't plan this, it happened due to our mindset.

*Nancy*

My definition of a community (preparing for the after time) is any Service-to-Other group of people who are working cooperatively to survive the pole shift and carry on the human race. This is a daunting task, but the key here is cooperation. John wrote that it will take between 40 - 60 people, half adults with various skills to carry on. Mike wrote that optimum might be 20 - 25 (adults?). I tend to agree with both.

If the initial community is made-up of 25 - 50 adults, each with 3 - 4 job skills, then most of the necessary jobs would be covered. But not all of the necessary industries would survive.

Think about something as simple as a piece of metal cookware, or anything metal for that matter. To simplify, one person must know metal casting, manufacturing, and finishing. Another, how to make molds to cast in. Who knows how to make steel, stainless steel, bronze, aluminum, or copper ready to cast. Someone must know mining to get the raw materials, and a good geologist would know where to mine. This is important to me to know how large a community to plan for. If a bunch of people are preparing for single family survival, how will these communities come together in the after times. I believe one must start with 50 - 100 people in a well prepared shelter. Even for procreation, the gene pool should be 12 - 25 families to avoid inbreeding in the future (25 - 50 years).

*Larry*

Realistically, the groups of survivors will be smaller, close to family size plus tag-alongs. Your concerns about inbreeding and skill sets to cover everything presume total isolation of survivors. This didn't happen in the old west nor after prior pole shifts. The blacksmith will sell his product for the food he doesn't know how to grow, and word of his skills will get around, etc.

*Nancy*

I don't think any community as a whole, should prepare for the shift together. The small groups and families is what it's going to take to survive. The reason being, A small group will prepare and help each other because they all helped in the planning and preparation. If you get a group of 40-200 people together calling themselves a community before the shift, what you will have is a few people doing the work, a few living on the welfare of the others, and a few already figuring out ways to rule the rest after the pole shift. These small groups of folks will find one another later. Then the communities will begin, with those who don't work, not eating. And they will be too busy living then to put up with a dictator in a true Service-to-Other community.

*Clipper*

Offered by [Pat](#).



# Troubled Times



## Infrastructure

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I compiled the thread of postings concerning community infrastructure.

The problem with big communities is infrastructure. Consider sewage system and water supply. For bigger group simple latrines would not be practical and would pose a risk of water and ground pollution. Designing a reliable water supply may also pose a problem at the beginning. I maintain my own water and sewage system on my property. My septic tank and waste distribution system for one house is spread over 1 acre of land and is reliable assuming proper maintenance. It is very simple - operates on one electric pump and two tanks. Once a year it has to be cleaned - not everything is able to biodegrade. Process involves pumping up remains and dump it on the county lagoon where UV does the rest but it takes quite some time to do. Water is drawn from the well a deep one 35 feet . It needs powerful pump to bring it up. Water then is stored in a pressure tank in the house. In a field conditions placement near the river and constructing an aqueduct may be a solution for water supply. Large group will use lots of gallons of water as we do today or more.

*Samsara*

I grew up on farm. For years my family used manual pumps. (before electrical pumps)I remember watching uncles and community members take turns pounding metal pipes with sledge hammers, threading the pipe manually with a small vice held threader and connecting the 10 foot lengths of pipe by hand. When water was reached (about 65 - 100 feet) a manual pump was installed, and "primed". There was a strainer attached to the first segment of pipe that kept the pipe free of most debris and when water was reached the water would 'gush out mud, sand and small rocks that might be trapped in the pipe. I remember the water shooting off like a small oil well. The family would just let it flow until the sand stopped coming up. I remember once the sand did not stop and the well digging had to continue 20 or 30 more feet. We as children got a kick out of pumping the water. The only small problem that I remember was that you had to keep a small amount of water present at all time to prime the pump. I think that this procedure could also work after the pole shift.

*Pat*

As far as how many people should be in a "community" I would say no more than it can support. I know that's not a definite answer, but I don't think you can make a decision on that without looking a particular situation. Some areas may be able to produce more food and can sustain more people, while others can't. You might also have to look at what benefit the new arrivals will bring to the group and how well they are prepared; and if they are willing and able to pull their own weight.

*Mike*

As much as any of us plan, circumstances will change matters. You might start out with 5 families and broad skills, only to find that some up and leave or perhaps there are many at your door you simply cannot in good heart turn away. Groups may find they themselves have to go on the move, or perhaps a whole community comes over the hill, looking for a better spot. Anything is possible. My thoughts are that flexibility and mobility must be the rule, and supplies thought of as seeding this or that, rather than being this or that. Knowledge and seeds of various kinds, and I don't just mean the kind you seed. A time of tremendous change, and each change or encounter should be viewed as an opportunity.

*Nancy*

Offered by [Pat](#).



# Troubled Times



## Children, etc.

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We will need help from the children or any one idle in our group after the pole shift. Even a grown up having emotional problems adjusting should volunteer for the task. The production of producing something valuable can improve moral and help pull one out of it. Several ways to do this that will contribute to fertilizer for the gardens.

- Rock dust: Provide a hammer, hard surface (concrete, 1/4 steel plate, etc.), one or more strainers (separate rocks from dust) and some goggles (eye protection) plus one or more individual willing to help. The strainers can be made out of old window screen, or any other small holed plastic or metal surface.
- Organic materials for Humus production: Only for older kids and those who are mentally not too far out of present time. We don't want anyone injured. Provide a hatchet or ax (size appropriate for the size of person and the job) eye protection and a wooden (or other semi-soft) chopping surface. Provide old vegetation that needs to be chopped up. Indicate the final size of particle needed.

**Note:** Recommend have on hand several sizes of hatchets and axes, several sizes of hammers, pre-made or purchased strainers. Several sizes of goggles or plastic face masks. Have one or more 1/4" or thicker steel plates 12 inches square or bigger. Several wood heavy duty (hard wood) chopping blocks or old stumps.

Hey, I think I will volunteer for this - sounds like fun.

Offered by [Mike](#).



# Troubled Times



## STO Determination

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I'm sure that you've been in situations that have made it clear to you that you are Service-to-Other. I've had them at least. What these events are for me is situations where I don't have time to think and I just move. As an example I was sitting in a bar having a couple drinks with my friends and a guy behind me for some reason wanted to kick the s\*\$% out of a guy on the other side of our table. When everything shook out I was between the two of them and my friends were across the room out of the way. I've told this story for a couple of reasons. One is that events like this one could be planned to force someone to make a decision without thinking about it. The other is that my friends, although they weren't in the middle of this, aren't necessarily determined to be Service-to-Self. We need to be careful using tests like this. Not sure if this is something that can be used or not, but now it's out there. I think the idea of sharing information on determining orientation is a good one, but like this test there is always room for error.

Offered by [John](#).

I've been thinking a lot about the years ahead and what we may all be called to do, perhaps lead, contribute, teach, or whatever. I think that one of the most important things that leaders may be called upon to do in the future is act as gatekeepers to communities, whatever size. This function is critical and it will be necessary for those in charge to determine if incoming people are Service-to-Self or Service-to-Other. I think this will be an extremely important function, that can make or break a community. I have been thinking a lot about how we can better prepare ourselves to determine these qualities in others, as we may be called upon to do so in a time of crisis, when our judgment may be hindered or hurried. I think it takes common sense, spiritual insight and knowledge all together. We must act in the overall good interest of the community and keeping out all Service-to-Self types will be extremely important.

How can we tell Service-to-Self from Service-to-Other? I've been thinking that there are many ways, and that we should start discussing and sharing these now, so that we can enhance the knowledge base of each of us. This is not the final answer, as one's judgment, intuition and spiritual insight must be used, but there are tested and true principles from psychiatry that I think might help here. There are several diagnostic categories that I think people with a Service-to-Self orientation would fall into: Antisocial Personality and Narcissistic Personality disorder. This could be of help in getting a rough idea of what to look for in assessing briefly a person who might come to your community for help. The more tools we have to help in this quick assessment, the better.

Offered by [Craig](#).



# Troubled Times



## Difficult Call

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In determining Service-to-Other from Service-to-Self, you've got problems. The Service-to-Self are clever. In my experience, very clever. They have the ability to worm their way into almost anything and for the time that suits them can fool even the best of us. Granted, they always reveal their true colors, but by then the damage could be done. Another aspect is the Service-to-Self ability to control others, who can easily make a personal call and be swayed by the Service-to-Self without even realizing it. Often those so controlled find themselves slowly isolated by these techniques. Those people who have gone into isolation, either by their own design or through pressure from those who are Service-to-Self, may already seem aloof or self indulgent and this may have nothing to do with their being within the Service-to-Self orientation. They are aloof for their own survival.

Secondly there may be those who at this moment operate in the Service-to-Self mode but who will switch to Service-to-Other either during or after the event. There will also be those Service-to-Other who will switch during and after the event. These cannot be detected before the pole shift and can only be dealt with after the event. So detection no matter how good it is beforehand will be meaningless after any orientation shift. The Wolf will already be in the fold.

Offered by [Brian](#).



# Troubled Times



## Instinct

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I have a knack for knowing when someone is not a good person. The hair stands up on the back of my neck. I can just tell if someone is bad, usually. I can't give you any other details other than that. Telepathy, maybe, or bad vibes. Nothing scientific or explainable. I'll bet there are others who have these same instincts.

Offered by [Clipper](#).

For me, determining a Service-to-Self nature starts as a feeling that something isn't right with the person (in the case where a Service-to-Self person is attempting to deceive me). I have explored this and trained myself to look deeper into another person by reading their body language and watching their eyes and paying attention to my own emotional cues. I can determine, with astounding accuracy, whether a person is acting in a manner that is true to himself (not putting on a shell, etc.). In the case where a person is making no attempt to hide his nature, I feel a repulsion.

Offered by [Roger](#).

This is a sensitivity or a sixth sense, and you can't teach someone this anymore than you can teach them to hear or see or taste. Everyone has potentials and we are often taught not to use them - to deny them. For instance, if you can see auras, and you keep talking about that kind of thing as a child, then the adults around you may insult you for such "nonsense" and you will not only stop talking about it, but you will stop seeing it.

Offered by [Jeff](#).



# Troubled Times



## Antisocial Personality

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This is a verbatim quote from *DSM IV*, where in italics, my comments are in parenthesis.

*... there is a pervasive pattern of disregard for and violation of the rights of others occurring since age 15 years as indicated by three (or more) of the following:* (There are a few other diagnostic criteria, but we're not trying to diagnose, just be forewarned by the following traits.)

1. *failure to conform to social norms with respect to lawful behaviors as indicated by repeatedly performing acts that are grounds for arrest* (Prisons are full of these people - will they survive after the pole shift? Are prisons near you in your state? Be on the lookout!)
2. *deceitfulness, is indicated by repeated lying, use of aliases, or conning others for personal profit or pleasure* (They will tell you what you want to hear and are good at presenting themselves as solid and reliable, until you dig further, very slick, professional manipulators towards their own ends - not a team player! If you saw the movie **Primal Fear**, that was a good depiction of an antisocial personality.)
3. *impulsivity or failure to plan ahead*
4. *irritability and aggressiveness, as indicated by repeated physical fights or assaults* (Poor impulse control and aggressiveness is not something you need in a struggling community.)
5. *reckless disregard for safety of self or others*
6. *consistent irresponsibility, as indicated by repeated failure to sustain consistent work behavior or honor financial obligations*
7. *lack of remorse, as indicated by being indifferent to or rationalizing having hurt, mistreated, or stolen from another*

Learning to recognize these traits involves common-sense and hearing any one of them might tip you off. The more of these traits you see, the more you worry. If anyone thinks this is a rare personality disorder, just look around society. It is very common, sadly. Prisons are chock full of this group. How does this happen? Doesn't really matter. Until we're spiritually more evolved, I guess it's here to stay. The point is, these traits can be a tip-off to antisocial behavior, which seems a lot like Service-to-Self. The more we know what to look for, the more we can protect ourselves. Anything less than that is naive.

Offered by [Craig](#).

The Antisocial Personality traits are mostly very easy to spot. A large percentage of the chronically homeless today, with whom I've many times come in contact while working with the Red Cross in shelters set up during disasters, also exhibit many of these traits. While there is certainly a high number of homeless who are good people upon whom extremely hard times have fallen, the chronically homeless also fall into two additional large categories: alcohol and drug abuser, and the mentally ill. Difficult decisions will eventually have to be faced in this regard.

Offered by [Ron](#).



# Troubled Times



## Oil and Water

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I remember reading from *Autobiography of A Yogi*, Parmahansa Yogananda mentioned several times life with his teacher Sri Yukatswar. He mentioned that devotees who were not meditating and devoted were asked to leave the ashram. By this I'm trying to infer that sometimes people separate themselves. Sometimes oil and water do not mix. There may be people that you cannot deal with.

Offered by [Martin](#).

I suspect that most large and small communities will shortly be able to communicate and thus receive over time a pretty good picture of the state of the world, and that this information will one way or the other find it's way to each individual. Individuals within any type of community will be able to assess and decide their own fate within the community, be it Service-to-Self or Service-to-Other. We are rightly concerned about Service-to-Self personalities in contact with Service-to-Other personalities because by their nature. Service-to-Self personalities tend to dominate and take advantage of Service-to-Other personalities. For an individual of Service-to-Self orientation, the world is defined and limited to what benefits that Service-to-Self personality. Such a view by definition works against a Service-to-Other view. The common overlap of two such views is indeed small.

Offered by [Ron](#).



# Troubled Times



## Nuwaubians

### Georgia Sect Alarms Neighbors

*Associated Press, July 27, 1999*

A sect founded by an ex-convict has built two 40-foot pyramids and a giant sphinx amid the pines and red clay of middle Georgia, alarming some with its armed guards and prophecies of deliverance by spaceships from another galaxy. The sheriff and the sect had an armed confrontation in April when he tried to escort a building inspector onto the property, and tensions are running so high that mediators from the U.S. Justice Department were called in earlier this summer. The members call themselves the Yamassee Native American Nuwaubians and claim to have created a utopian society on their 476-acre compound of Egyptian-style architecture.

Many people in and around Eatonton - a rural community that was the birthplace of Alice Walker, author of "The Color Purple," and Joel Chandler Harris, creator of the Uncle Remus tales - fear the Nuwaubians are similar to Heaven's Gate, the cult whose 39 members committed mass suicide in 1997 in Rancho Santa Fe, Calif., and the People's Temple followers of Jim Jones. "This group here has a combination of all those schools of thought," Sheriff Howard Sills said. About 100 Nuwaubians live in trailers on the compound. An additional 300 to 400 reside elsewhere in Putnam County. The Nuwaubians, most of whom are black, claim to be descended from the Egyptians and the Yamassees, a tribe of Indians indigenous to this part of Georgia.

Past the armed guards at the compound's entryway, Nile River Road stretches between two rows of statues of Egyptian royalty. A gold pyramid serves as a mini-mall, with a bookstore and clothing store. A labyrinth leads to the black pyramid, which serves as a church. Inside, an Egyptian-like chant hums over speakers 24 hours a day. The group's lodge houses busts of King Tut and Queen Nefertiti and a glass tomb holding an alien-like creature with a huge head and bulging eyes. Members say they pay no dues and are free to come and go. And they insist that suicide is not in their plans. The group's founder, Dwight York, who calls himself Malachi Z. York, served time in New York in the 1960s for assault, resisting arrest and possession of a dangerous weapon.

York has claimed to be from a galaxy called Illyuwn and has said that in 2003 spaceships are going to descend from the sky and pick up a chosen 144,000 people for a rebirth. Most recently, York has referred to himself as Chief Black Eagle, a reincarnated leader of the Yamassee Indians. "It's a constantly opportunistic evolving ideology," the sheriff said. "We've gone from an extraterrestrial to a Christian pastor to an Indian leader with willful and wanton resistance to legal authority time and time again." The group's spokeswoman, Renee McDade, and Marshall Chance, who is referred to as the Nuwaubians' leader, distance themselves from the space prophecies of York, who lives on the compound and refuses to give interviews. "We're all awaiting the coming of the real Messiah," Chance said. "We are a biblical people. If it's not in the Bible, then we're not concerned about it."

The group moved to Georgia in 1993 from New York, where it had operated under other names, including the Ansaru Allah Community. A 1993 FBI report linked that group to a myriad of crimes, including arson and extortion. Until recently, the Nuwaubians pretty much kept to themselves. Then last year, the county rejected a request to have the property rezoned from agricultural to commercial. Since then, the Nuwaubians have been at odds with county officials. Shortly after the building inspector was denied

access, the sheriff and his deputies tried to enter. "The armed guards literally stood in front of my car," Sills said. "It was obvious to me that this was provocative and they wanted to provoke some sort of armed confrontation, so I decided to leave." When the sheriff returned two months later, "we were served with this cockamamie lawsuit that said we'd be fined \$5 million if we went onto the property," Sills said.

The Nuwaubians said they have met all the permit requirements. "We feel they're trying to impede us from our progress here. It feels like they're trying to put us out of our land," Chance said. Mediators from the Justice Department's Community Dispute Resolution unit were asked to get involved after the Nuwaubians leveled charges of racism against officials in Putnam County, which has about 17,000 people, more than one-third of them black. "The Nuwaubians felt they were being harassed, the county officials said they were being harassed," mediator Ernie Stallworth said. "Everyone was pointing a finger and that has lessened, but I still believe we have work to do."



# Troubled Times



## Standards

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It does not seem to me that assessing if someone is Service-to-Self or Service-to-Other would be limited to newcomers after a pole shift. The issue of such a black and white decision to accept or reject does not sound appealing to me. I am more attracted to the idea that certain standards are set, and people choose to leave or stay. Within these standards (which would change with time) there could be reinforcement to encourage Service-to-Other behavior. The issue comes up - how do you treat the rejected folks? Denying someone is not serving them. Denying some is not service to all others.

The idea here is that you have a community that is exclusive, and there is no community which is exclusive. There is always the earth, there are always the heavens, and there is always social interaction. Some people withdraw from social interaction out of preference. There may be some communities after a crises that simply are not safe - for interpersonal reasons. For me, the issue returns to an everyday life challenge of how to make our interactions safe and cooperative. How do we make our interactions oppositional and confrontational? How do we make our network or community viable. Perhaps the enemy is within. Perhaps it is a matter of healing, and there is no need to delay.

I don't think we need to be so concerned with the future and designing systems to exclude potentials (lives). There is healing to be done and the Service-to-Other in all of us can foster skills of benefit to communities. Notice that "value for the network" does not set up a duality of Service-to-Other and Service-to-Self. It is just an issue of how can we (you, I, etc.) benefit the whole, and if someone doesn't have a lot of potential to benefit others, how are resources developed that support the network. If people don't have enough sense or the capacity to support themselves, they perish - even if they survive a crises, and that is the fate we all share. Now, pray for guidance (insight) into the fitting practices for the situation arising.

Offered by [Jeff](#).



# Troubled Times



## Probation

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From my personal life experience, and while I have surely dealt with a great number of obvious Service-to-Self individuals, the great majority of people I have ever known or associated with are what I personally consider every day people, and these considerably outnumber the Service-to-Self group. In looking at others, we must make great consideration for the social environment in which we live. The last couple decades have often been labeled as the me generation. I do not believe that this label is generally applicable to individuals and their personal values; but to the society as a whole, which is influenced by a vast number of parameters. As individuals we adapt, especially when younger, to the society in which we must function.

The contrast between just another person we pass on the street who lives more or less to the existing societal standards, and the *real* individual person underneath, shows itself time and again no matter where in the world by this individual's actions in times of disaster. As a 30 year member of RACES (the ultimate backup communications arm of the old Civil Defense and now called FEMA), I have personally been on site of numerous and varied disaster situations, from natural disasters such as tornadoes and hurricanes, to large toxic chemical spills. Of all the people I've encountered in such situations, to include both the official personnel and the victims, I would have to classify from 60 to 80 percent as heroes. People seem to somehow magically change from individuals protected and isolated from each other by individual shells, into something more akin to an organism composed of many specialized cells, all working together toward some higher purpose. I have time and again been absolutely floored by the courage, tenacity, and ability of every day people to almost instantly discard their former identities, isolation, personal loss, and become a part of the solution, showing obvious empathy and providing support and help for one another.

For this reason, I expect that any large group community should assume Service-to-Other until reason is found to decide otherwise. Such accepted psychological criteria, about which you are educated and with which you are familiar, would be of utmost value within any community, whether large or small. I believe that the initial assumption should be Service-to-Other, but acceptance into any community should be probationary. I believe that this should not only apply to new comers but equally to everyone, including individuals indigenous to the location.

Offered by [Ron](#).



# Troubled Times



## Heroes

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The pole shift will be a great equalizer when the survivors emerge to their flattened neighborhoods. At that point there will be *no one* who will feel anything but the need for help, and when no help is available even a child has to realize that the ability to survive will require the cooperation of everyone. This is not conjecture, but what I have personally witnessed time and again. One has to only look back a couple years to when a huge area of southern Florida was flattened by hurricane. Or look back to when LA was stricken by a 7.2 earth quake. If you are trapped in a 2 foot space between the upper and lower decks of a bridge, who cares who is responding to your cries for help? And who were the people who risked their own lives to initially respond to those cries? It was people from the lowest strata of society, that's who. The pole shift would wipe the culture clean and a new one would start to be established.

Offered by [Ron](#).

The environment had nearly returned back to normal for them. There was no threat to them personally. Civilization was under control for those of the lower strata of society that were heroic that day. The sun was shining and the earth had not stopped moving. There was the possibility of aftershocks but they considered this worth the chance, since most after shocks are less damaging than the original. There was the obvious future of repair and life would return to normal. These persons were not still living in a continuing situation (hell on earth) as one would be after the pole shift so to speak. This is comparing Apples and Oranges, but does point out the heroic qualities that mankind has.

Offered by [Mike](#).

A very good point, and I must admit that I am forced to agree. An initially good population reduced to savagery by starvation, deprivation, and hopelessness. Now I'm getting depressed.

Offered by [Ron](#).

It's a dangerous practice to attempt to predict human response under a crisis situation. History has repeatedly demonstrated that the unlikeliest of people rise to the occasion while the established leadership fails miserably in the hour of crisis. On the Titanic the overwhelming majority of men aboard that ship willingly sacrificed their chances for survival by allowing women and children to board the lifeboats. The cowardly acts of a few men (rich or otherwise) does *not* distract from the bravery of the majority, who stood by while their wives and children entered the lifeboats. You cannot predict these matters.

Offered by [Ed](#)



# Troubled Times



## Original Mix

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The drawback to forming a community from a large number of survivors who have not planned or formed their communities ahead of time is that one gets the mix of the original community.

- Small survival communities have folks that *came there, migrated* there to join each other. They already have a higher percentage of folks mature enough to face the facts and make life changes based on that, and ready to live tough times so those they are responsible for (dependents) will not have it so rough. In other words, you're dealing with at least a core of Service-to-Other folks.
- The larger community will *not* have this selection, but will be as it is today. In today's mix, orientation and motives can be discerned from the amount of poverty, homelessness, folks without insurance dying in the parking lots of hospitals because they cannot pay, abused children and battered wives ignored by the police department, fat cat corporate executives bleeding their workers or running sweat shops, and outright sadists who have learned to operate in the system. *So you can't expect any more from the community than you're getting today.*
- The generosity of the community often is dependent upon good times, with bad times making the wealthy more protective of themselves and those with goods reluctant to even admit to having them, much less sharing. *So crop and food shortages will not make folks more generous, it will make them more anxious and less generous.* Not exactly the right circumstances under which to address tightening the belt and giving up the usual way of life and instituting eating worms or whatever. Anxious folks trample each other on the way out of the auditorium when they think there is a fire. This is a fire, or worse.
- Food stores will go down, anxiety will go up, the basic mix in a large community that has not formed ahead of time in response to what is coming will be no better than today.

I conclude that knowledge given to a crowd of survivors, such as one will find in a large city after the pole shift, will reach some individuals who will act on the information, having been out of the loop until that point, but these individuals and their friends and family will decide to *leave the community* in order to survive. Else they will be eaten alive, consumed, made ineffectual. I don't see it succeeding. But I think offering the advice is something we should do. There may be communities with the right mix, with a mayor who preaches the right stuff at the right time, who are in a protected place where they won't be subject to invasion, and they need all the help they will be asking for, at that time.

Offered by [Nancy](#).



# Troubled Times



## Community Focus

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A Service-to-Self individual dominating a community may soon be a thing of the past. A very important factor would be the orientation (including human relationships) within the community. If a leader can divide a community against itself (history provides numerous examples of the criminalized, demonized minority), then the leader can direct the members in violence. If not, if people remain Service-to-Other, is there vulnerability to the manipulation of a leader in whose footsteps you do not want to follow?

The issue may be the intelligence of the whole, the network of life on earth and beyond. I used the term network because of our familiarity with the Internet and so on. Consider that you cannot divide the Internet against itself. It doesn't make sense. You can classify its parts (user, ISP, phone lines, hardware, software, etc.) but you cannot divide it against itself and have it work. We face precisely the same issue now on earth, in our divided networks of selves and nations. But let's say that one chat group hates another - there is no physical violence on the Internet, only energy exchange. Yes, people can be dominated, but not groups, not the Internet, not the network.

Offered by [Jeff](#).



# Troubled Times



## Worse, not Better

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How people react to disaster during and after the pole shift will be worse, not better, than today. How does anything change just because we're going to have yet one more disaster looming? All the things that control the priorities will *still* be in place, right up to and past the shift. The only things that will change at that time will be

- more injury and panic
- more looting and personal opportunism
- in some small cases resourcefulness and new leadership
- more starvation and illness

In sum, how does a community suddenly transform? This doesn't happen when we have tornadoes, or hurricanes, or quakes. So why would the shift change these communities? I think at that point, you're more likely to get me-1st-ism. What happened on the Titanic? What happens when you yell "fire" in the theater? People are distracted by their anxieties, and focus on personal safety and security. Very few people emerge during a crisis to greater maturity and judgment. Most go the other way. I won't argue that individual acts of courage occur, or immediately after a disaster that there are those who help others! I'm not saying it will be a zero. I'm saying community wide, the starvation and injury and panic will *not* be a factor for success in any community survival plan. The opposite. If food is to be grown, then you have x mature people saying "plant, don't eat the seed" and insisting that well padded folks live off their padding during this time. Is that going to be accepted by the majority who have gnawing stomachs?

My point is that if today, we have homeless and vast percentages of workers in the US without health insurance, and millions of kids in the US going to bed hungry every night, then if the folks in the communities who can rise to the occasion and make things go right can do it *after* the shift, then why are they not doing it *now*? You can't expect better cooperation and effectiveness. You have to expect worse! To assume the premise that it is a given that a community will be calm and mature and deal with the issues would be to mislead, my thoughts. We should state that each family or group should take individual responsibility. If we tell them that this kind of emerging maturity will occur, there will be those who will rely on that, sit back, wait to be rescued. This would not be a service.

Offered by [Nancy](#).



# Troubled Times



## Small Groups

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Any solution that assists better management of the very large group must be based on the strong foundation of workable small group survival solutions. A large number of people working together can produce tremendous economy of scale. However, I think the society will break apart to small survival groups first before it recognizes it has a lot to gain by sticking together. Our small group warlord history is too close to present time. I believe for the majority of the persons taking responsibility for many, many people and surveying the pole shift as a reality is a real stretch and quite overwhelming, considering the meager resources each of us has. However, I believe a discussion leading to a plan or set of possible plans for a large group would help stretch all of our thinking and improve our overall grasp of the situation. So I am all for discussions on this subject.

Offered by [Mike](#).



# Troubled Times



## Leadership

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The majority of us here within Troubled Times being consensus orientated, not leadership orientated, what's the probability that even a small percentage of survivors will recognize the fact that we have this knowledge on how to survive? Typically some leadership type who can talk the loudest and longest gets the attention.

Offered by [Mike](#).

I have also thought about being the only guy who knows what happened after the pole shift. Times may change in the next few years and others may see the light so to speak. But many may come to us and accuse us of "Why didn't you tell us! Now my family is dead!" when in fact we did tell them but they did not listen. Others will come and ask for help and we will give it. No one knows how things will turn out. I don't think any true Service-to-Other group will need a leader. One guy knows this and another guy knows that (this covers men and women) and with a combination of all skills we start to rebuild. I think the word leader does have a dictatorial sound to it. But, if one was a true leader, one would lead by example. As we are on this list.

Offered by [Clipper](#).



# Troubled Times



## Information

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Now is the time for preparation, for forming our survival camps, to get in a position to help ourselves and those close to us who are willing to listen and heed the warnings concerning what is to come. Do not fall into the trap of worrying, now, at this moment, about who you should help or who you should not help; this will all come out in the wash. If you have formed a community and you are on the flow lines, there is bound to come a time when the life boat is full, and the community simply can't absorb any more people without detriment to itself. In this case, why not make up some "care" packages containing things like non-hybrid seeds, things that will help the unprepared to start their own camp, or at least survive until they can find a community that can absorb them.

Most important of all, we must remember that we, as a group and as individuals, can only do so much. What we can do we must do; and what we can't do, should not concern us to the extent that it inhibits preparation. We could tear ourselves apart as individuals and as a group, trying to decide how to determine who is Service-to-Other and who is Service-to-Self; who should be helped, and who should not. Dwelling on the fact that we cannot do it all, for everybody, can be psychologically crippling and will do nothing but distract us from our primary purpose. Let's get on with the work in hand.

Offered by [Helena](#).

One could, as a bare minimum, hand out a small packet of basic survival information on finding and eating bugs and purifying water etc. In this way one could help all who come to the door. So the bottom line would be we as Troubled Times members would need to pull this basic information together so that it can be used in this fashion. Possibly small water-proof paper booklets or pamphlets (one for each subject) printed and distributed during the last year, or months. Each would outline the basic do's and don'ts. All this information, put together, could comprise a Pole Shift Survival Bible or some such concept. If one runs low on copies to hand out, a quick verbal training session could be held. In this way we help.

Offered by [Mike](#).



# Troubled Times



## Military Units

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I personally expect that at the time of the pole shift most countries will be under martial law. To impose martial law within the US to the extent that is now technically already in effect, but being held off in the implementation would place troops in virtually every community. In order to do this the regular military would have to be augmented by the entire National Guard and the entire Reserves. In addition, vast numbers of the regular military that serve in such ways as tank, artillery, and special munitions companies along with over 20 times that number which serve to support them would have to be reassigned to MP units for which they aren't trained.

In most communities you are looking at an inexperienced second Lieutenant in command of a platoon or even just a squad of 17. Even in a city under control of a Brigade, the commander isn't likely to rank higher than a Lt. Commander. I know these people! They have families, go to work and come home in the afternoon, and have barbecue on the weekend, just like other people with day jobs. Their mind set is to go to War; not to bully the helpless. The soldiers are kids not old enough to buy a six pack of beer in most states. 99% of them have never even actually seen an LA gang member, much less ever even thought about hurting anyone except in the context of War where they are being shot at.

The most likely scenario for the vast majority of these units will be a very quick realization post pole shift that there is no longer a government to serve and they will be attempting to get back to their loved ones. Should their loved ones be located somewhere that obviously has been destroyed, they will be looking to assimilate into communities. And I expect that they will be welcomed by communities for protection from the few inevitable groups who will be attempting what you outline.

Offered by [Ron](#).



# Troubled Times



## Mercenaries

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Looking to the government, or the military, is a joke. The military only functions when it can spend an endless amount of taxpayer money, and can feed the soldiers. Those who join the military are not efficient, and they're not inventive, they're dictatorial. The likelihood is that they would go AWOL, form gangs and setup kingships, and will not steadily organize food and water preparation out of some loyalty to an entity that was no longer there to take care of them. They will become mercenaries, or become rogue operations. They just won't be there, at best, or will be a problem themselves, at worst. How many soldiers in other countries become mercenaries? What are the statistics? Not a pretty picture. The facts are that a certain percentage of soldiers and the like, when denied their normal profession, become mercenaries.

Offered by [Nancy](#).

I agree that looking to the government or the military would be fruitless. And I agree that there will be some number of military units that will see their weaponry as the means to acquire what they need. But to make such sweeping statements is inaccurate. From time to time I read *Soldier of Fortune* magazine and have seen some statistics. Within the US, less than 0.01% ever consider the idea of becoming mercenaries. Actually, world wide, the percentage is a function of the economic state of their home country, and their social values. Even there, the actual number of mercenaries in the world is very small compared to the number of soldiers being continuously released from their military. Those who have ever served in time of war know what I mean when I say that living under those conditions is sickening and the primary thought in one's mind is "I gotta get out of this place". On only one occasion was I in a squad which included an individual who actually *liked* what we were doing. He was considered by everyone else in the squad to be a psychopath.

Offered by [Ron](#).



# Troubled Times



## Plant Seeds

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I have to say, and I am not bragging, that at least 85% of the people I talk to listen. I think this stems from a few lessons I have learned over the years in dealing with people. I call it "attitude". They listen because I don't care if they believe me or not, and I don't care what they think of me for saying it. I might stutter a lot, but what the heck. I throw out "feelers" when something comes up about the weather, earthquakes, my maps or they see the alien T-shirts I wear. I see how they react. I watch body language. As soon as I see they are uncomfortable, I stop and change the subject. I call that part "planting seeds". They will remember that little part. When they see the news about another earthquake or something about El Nino or something about a UFO, they will think of what I said. All the neighbor kids here, know I "love" UFO stuff and so do they because someone else has an interest in something they think is "cool". Never underestimate people. They listen more than you think. They might snicker, but they heard me. That's just me and my opinion. I figure if they don't want to hear what I have to say, there's the door :-)

Offered by [Clipper](#).



# Troubled Times



## Be the Seed

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Remember, the difference between early preparation and late preparation is not that great. In either case 1. your home of many years is destroyed and can't be lived in, 2. you must rebuild from straw bales and concrete and have an outhouse, most cases 3. you will eat dried beans and canned fish for awhile, then resign yourself to powdered worms and weed stew. 4. you will notice someone who prepared a bit better, has indoor gardens and fish tanks, and they will *seed* the know-how out to you so *you* can be at that level too! Think of yourself as being that seeding source, and expect to be the teacher in the Aftertime.

Its always darkest before the dawn, and in this case, always darkest before the big quakes, worldwide simultaneous quakes, and sighting of the 12th movement which will become evident a couple years from now. In time, you'll look back on this time and wonder where your peace went! You'll be *too* busy talking to them, and boy, will they be listening. I think of these times as the preparation times, before the onslaught of demands for information. Patience is required at this point, and use this time for preparation, my thoughts.

Offered by [Nancy](#).



# Troubled Times



## Sowing Seeds

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Instead of "spreading the words" we could begin by "sowing the seeds", cause it will take time, obviously, and our job looks more like a farmer job preparing the earth and choosing his seeds and places to sow them. You must feel the people you are talking to, adjust your talk, and things like that. You must be *so* careful to say not too much, not too bad, not too unbelievable. Hard job: if you loose somebody's confidence, you've lost a lot of people, cause another word is spread against you. So what a responsibility! As you might know, I am working in the scientific area. A few days ago, I had the chance to speak about the heating up of the Earth:

You know, I read somewhere, and it makes sense, that the Earth itself, the inner core of it, would be responsible: did you ever try to make water boil or only warm it up with a hair drier?

*Actually not!*

So, the magnetism could be the reason, I do think it's logical.

*Yes, but why a sudden magnetism?*

Well, this I do not know, they just assumed it could be a better explanation. Maybe the Earth comes into galactic zones where the magnetic field is stronger. I do not know. But this assumption is clever, isn't it?

*It's possible, let's measure it.*

Sow the seeds at coffee time. Please all of you on this Troubled Times list serve, examine your progress in life and how you came here! You will certainly understand a lot of things: why you met this one, to do this thing, to learn that thing, and arrive here! It's a magic puzzle I discover every day, and which makes me think God is a rascal one :-)))

Offered by [Véronique](#).



# Troubled Times



## Personal Example

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I tried for a few years to convince my family and friends of the coming changes. They all pretty much figure I am “not all there” and they pleasantly "put up" with me and my far-out ideas. I live in the woods by choice, and I and my husband have begun to make our arrangements and put up the storage that we will need henceforth. My siblings pretend that they do not think about these things and my friends are all consumed with their day-to-day existence in the city. There came a time that I just had to put everyone else on a back burner and move along the lines that Great Spirit was showing me. So that is what I do. I have come to the point where it really doesn't matter to me what the others think, or what they think of me. I am making my preparations and no one is going to stop me from it!

Offered by [Shekhina](#).

I know how you feel. I do talk to my friends and most of them do believe something will happen in the coming years.. However being 18 I am from another generation. It's pretty ironic being so young and believing that there will be a polar shift. Normally you would think I would be absorbed in superficial things like "partying with friends". I am a full time student. I have no money and not much time. I guess you could say I am still growing. This school is my fertilizer and when I graduate I will blossom. I think everything going on here in the list serve is great. We all should be prepared for the coming events.

Offered by [Morgan](#).



# Troubled Times



## Ant and Grasshopper

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Doesn't this remind you of something, everyone? It reminds me a little bit of the fairy tale, "The ant and the Grasshopper". I can't remember it in detail, having read it more years ago than I care to remember; and I think it was one of Aesop's, but then again I'm not sure about that either. In this story, it is summer; the ant is working hard, though, in preparation for the winter, whereas the grasshopper, is just concentrating on enjoying the sun, and having a good time. The ant repeatedly warns him that winter will come, and that he should prepare. The grasshopper says, lighten up, man, you take life far too seriously. Chill out, come have a great time with me! The sun is nice and warm, and if winter is really on its way, let's enjoy the summer while it's still here. But the ant wasn't having any of that. He went on, doggedly preparing for the worst, which, of course, did happen; and while the ant was snug as a bug in a rug in his prepared shelter, the other bug, who didn't even have a rug, froze to death. God! What kind of an education did I get anyway?

Offered by [Helena](#).



# Troubled Times



## There for Others

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With my family, they already think I'm weird because I used to talk about earth changes when I first discovered Cayce, and they haven't happened yet, my brother reminds me. I have mentioned the 2003 pole shift, but just more laughter. Since the times may be so severe after the shift, the ones who don't survive may consider themselves the lucky ones and feel sorry for the rest of us down here. So I don't consider that I'm doing anyone a favor by forcing this information on them if they'd rather not hear it. In fact one of my family has told me he'd definitely prefer to die. What I do plan to do is relocate in a couple years, and be there for them if they do suddenly want to relocate from their homes.

Offered by [Milly](#).

This is my tack too, to get a place in the heartland, middle of the plate, and be there for those who suddenly pay heed. In particular the children, who don't deserve to be subject to the stupidity and cowardice of their elders, poor little tikes!

Offered by [Nancy](#).



# Troubled Times



## With Strangers

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I find people will listen in strange places. If I am at a garage sale - I might say something like - please don't ask me why I bought this, you will probably think I am crazy. I might repeat this several ways until they become interested and want to know and almost beg me to tell them. Then I say its OK you can think I am crazy. And I am off asking why do you thing the weather is getting worse and worse each year. Used other techniques also, but the point is no one knows where you live and who you are so you can tell it like it is. I have had good interest and questions so far. 4 good conversations with a fifth person walking away saying it will never happen. This by the way was a Buddhist story writer. I was standing looking at a video recorder once several months ago and I began to question a customer standing next to me about which products were the best. He had quite an opinion and had done quite a study. I took it all in asked lots of questions then turned the conversation around and gradually got into the pole shift.

None of these people will be the same ever since. They basically know they have been told the truth. Even if they do nothing now they will remember the conversation as May 2003 approaches. I always make a point of saying the date several times during the conversation and what to look for as the time approaches and where to go. In this way they are programed so that when they wake up they know they must get out of LA and stay away from mountains and water. I always tell them I am working with about 50 friends communicating on the internet to determining how best to survive this event. I have often given out the [www.zetatalk.com](http://www.zetatalk.com) address. I am basically a shy person, but with the urgency of the event approaching and the need to communicate, I speak out.

Offered by [Mike](#).



# Troubled Times



## High Strangeness

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Gradual opening in an environment of social support allows for less difficulty in assimilating high-strangeness information. It is challenging enough to open up to the idea of interacting with "aliens" but being invited to accept coming world disaster can be overwhelming! Many of us do indeed live in two or more worlds, contributing according to our guidance toward consciousness-raising while holding down work which requires our looking most credible to our peers. People who are destined to know more just seem to find out, while others who are not ready to hear seem to miss the obvious. We are all emissaries for the truth on one level or another and it helps to remember that we are not in this alone (though it sure feels like it at times).

It is important that we not overlook the intuitive capacity of the people we encounter from all walks of life. On an energetic level, we are attracted to each other in ways that meet each other's needs. Along with the synchronicity factor, people who are ready to hear will find us. Partly, this is due to the amount of work being done behind the scenes. Even if we don't talk about it or openly promote it, others who are ready to hear will bring it up - often for reasons they cannot consciously explain. By the same token, we should not underestimate our preparedness to talk when the occasion arises ... and it will. Part of the challenge in helping others to open up is seeking to engage natural curiosity before fear can rear up. Humor and paradox are excellent tools for this.

There are a few more innocuous and less-threatening ways of introducing such topics so that the not-ready-to-hear-or-see will not notice, yet those who are ready will. My [web page](#) is full of implicit messages and symbols that indicate availability to talk on deeper levels to folks who are ready to see and hear. Humor is a wonderful way to make a back-door entry to opening minds. For example, my links page has a section on therapeutic humor and one link (strangely enough) is about ET-themed humor, complete with further links to the real thing. The top of the computer mini-tower in my office is populated with little alien figures. Mixed in with realistic figures are figures from fiction (e.g.: Yoda), thus reducing the element of possible threat while "teasing" the onlooker to entertain deeper realities. In our reality, the concept of "flirting" is defined strictly as a courtship behavior, wherein the "flirter" reduces risk of discomfoting exposure to the "flirtee" by mixing subtle humor with the enticement. The same can be done with possibly threatening information, reducing the emotional risk for both parties.

Offered by [Granville](#).

I myself make some people curious too, but that is what they expect of me when they get to know me. It helps before you are going to talk about it with others who don't know but are open to the data. And that is what people want, rough data. It amazes me sometimes what a little humor can do with 'conservative' types. It is indeed all about mixing the heavy data with some water, the humor is the water. It makes the subject start off on a lighter level and as the other gets more curious so are they more open to hear of what will happen, when and what to do. With me I gave my friends the opportunity to listen and especially be listened to, then they come with those questions themselves.

Offered by [Michel](#).



# Troubled Times



## Cite Facts

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You can't expect to influence corporate behavior. These decisions come from their top management, based on what they read in the paper, what they hear on TV, what mainstream scientists at universities believe, etc. I don't talk about these issues at work, unless someone brings up geological evidence of past cataclysms (which someone actually did recently) and *then* I just cite scientific evidence such as the Daly study that shows 16-20" drop in ocean level worldwide approximately 3,500 years ago, coupled with Niagara Falls only having its current course for the last 3-4,000 years, on and on. Science facts. Then magnetic diffusion, where the magnetic field was strongest 2,000 years ago and has been weakening so that it would not exist in 1,280 years or so at the present rate (this is on our web site) and ocean heating from the bottom up, exponential increase in deep earth quakes in 1985 (this is on our web site).

You don't have to cite Troubled Times as the source of information, but can point *elsewhere* to these statistics. Just say you got the information from the Internet. Then say Sitchin's theory of Nibiru if you want, but *always* point to other publications or information sources. Let them draw their own conclusion. However, I never broach the subject, and do no more than add to the conversation, not lead it. This is because I too need my job at the present time.

The bottom line is, even if you were to go bonkers and tell some corporate guy all, do a full tilt sales job on him, you would *not* convince him and he would *not* move his business to safety, as the governments, TV and newspapers, and scientists in the universities are *not* saying there is a danger. How could he sell his stockholders and Board members? If he thinks there is a chance, he'd start planning a personal safe place for his family and friends, etc. Business as usual. This is what the New World Order or establishment characters in the know do. They aren't stopping a thing! Big buildings going up here in the Bay Area, plans to put up a new bridge across the bay, all with a straight face. To do otherwise, they fear, is to create panic and *this* is their big fear.

Offered by [Nancy](#).



# Troubled Times



## Mum on ZetaTalk

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Sadly, as things look currently, I will be keeping the Zeta information to myself to avoid ridicule. This is why I earlier recommended that we split ZetaTalk and Troubled Times. I could point people to the Troubled Times part, but I am afraid most down-to-earth people would just laugh at me and the Zetas.

Offered by [Jan](#).

Sometimes in conversation I mention the pole shift; people just think I am a bit eccentric. I know they think to themselves: "God, she just believes everything she sees on the Internet". But I have to admit I have never tried mentioning the Zetas. My credibility rating would go down from "a bit eccentric" to "totally nuts". The thing is, if we mention the alien presence in this regard, people will discount everything we say; if we simply mention the pole shift, given what people already have heard about Armageddon, etc., we may have a better chance of at least getting them to investigate. I figure half a loaf is better than none. (So far, though, I don't seem to have succeeded in getting anyone to even investigate. Ah, well!. So much for my theories!)

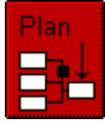
Offered by [Shirley](#).

The problem with separating ZetaTalk and Troubled Times is that 2003, which is the premise for the hurry here, is based upon ZetaTalk and ZetaTalk solely! Else folks say, "well yes, but that may be in 50,000 years or never". It is well on record that only ZetaTalk said 2003 in 1995, in the Usenets and books and floppy copies on sale, etc., ISCNI, and many notables standing witness. When it is clear that the 7 years that preceded the Jewish Exodus are repeating themselves, and when the 12th becomes visible in the sky just where the Zetas said it would be, then the group will be *zillions* of times more popular than if it were just another group muttering about the millennium!

Offered by [Nancy](#).

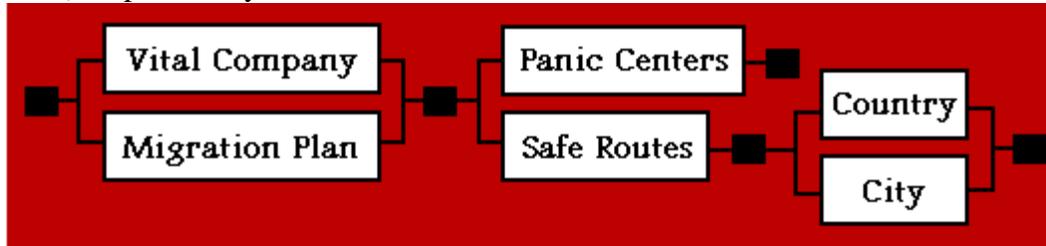


# Troubled Times



## Government

What could we recommend? In Troubled Times we cover now or will cover what the individual, group can and should do. What we don't cover is what the governments and industry leaders should do. Governments (all levels - central or local) responsibility is:



- Create a "pole shift individuals overwhelmed help center": For individuals who are overwhelmed and in apathy, fear, terror, suicidal, hopeless panic, or simply just don't know what to do next - to call and get help. The help they get is education on what can be done to help their survival. This is done individually, with classes, and on TV for the general public. This educational function to replace panic with how to survive is sponsored at all levels of government from central to local on down to privet enterprise.
- All educational institutions to immediately offer mandatory pole shift survival courses to include but not limited to primitive survival, how to grow food, hydroponics, electrical power generation and maintenance, radio communication equipment maintenance and operation, emergency health, building survival housing, emergency transportation methods.
- Build a list of vital companies and organizations. Encourage and help plan to move to safer ground manufacturing and service companies near the coast or on the edge of Tectonic plates. The employees will follow where the work goes. Encourage all to move away from the coast. Assist by funding and/or planning assistance for moving companies vital to food, energy, health, housing, and transportation. Let the rest decide for themselves what to do.
- Create a program that connects people in the cites who wish to move and live with farmers who have land but need technical help and or physical labor to convert to hydroponics and indoor farming.
- As non-vital manufacturing, survive is phased out, create a program that allows personnel to be re-educated and matched to new jobs.
- Encourage and allow emergency self governing organizations to exist at the lowest level and all levels in-between. Help create self governing groups. Push the power down to the lowest levels for observing, recommend, decide and acting. Tell every one there will be no central or local governments for a while after the pole shift. All hats, Police, fire, emergency health, road construction, shipping (trucking), etc. must be done at a very local sometimes individual level.
- Fund or encourage developing in the private sector better manufacturing and products relating to emergency shelters, energy sources, housing, and transportation.
- Plan and publish which roads, oil wells, water sources, and power plants are being planed to be rebuild first. Set aside the personnel and equipment and strategically locate them and there families before the pole shift to

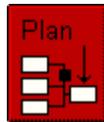
accomplish the task. Pre-pay them if necessary by providing quarters (or other means) for them and their family. Push the organization and control and participation of this to the lowest level. but insure no vital actions are not without backup personnel and planning. Central Governments to insure coordination. Local self governing personal to accomplish the tasks.

- Provide a common public network (Internet like) for computer and communications based on radio short wave technology. This would provide a common Internet capability for the public and governments by use of short wave repeaters if necessary. This would be available for each survival site. It would replace telephones, mail and all other forms of communication for a while. Governments would help organize and prepare all hams for the task of keeping this going. Government stays in communications after the pole shift with the remote repair tasks to ensure the roads get rebuilt and the power plants get back into operation etc. Pole Shift Situation news site on the Internet showing what roads work, where there is food and water and power and who needs help, etc. Is kept up to date by the government and private enterprise working together.
- Initially, keep existing programs going but ramp down funding and phase out non-essential to survival actions and funding.
- Tell the populace for a while everyone will be on their own. To prepare for your own emergency food, health, and shelter etc.

Offered by [Mike](#).

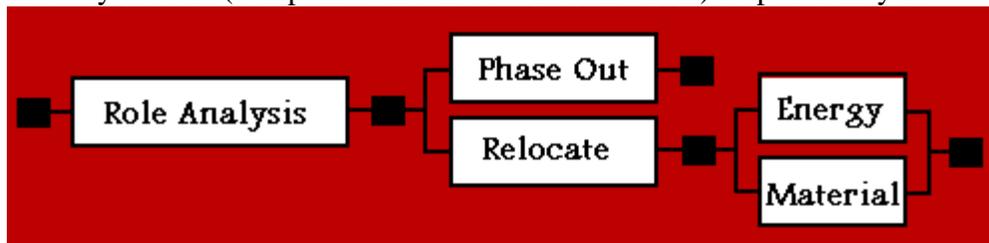


# Troubled Times



## Industry

Industry leaders (companies and those who runs them) responsibility is:



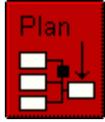
- Same as government but at a lower level.
- Plan to end off the company or plan to bring it back into operation after the pole shift. Let employees know of the plans. Some less vital companies may not plan to go back into operation for sometime after the pole shift. Some companies may want to shift over to producing more vital needed products and services.
- For vital industries plan for transportation to be knocked out for a given time. Have enough resources to start operation to some extent some months after the pole shift with transportation to follow.
- Plan on alternative power sources.
- Plan for the shut down all operation and to pack up or securing all vital plant equipment before the pole shift. Plan to rebuild the building if not constructed to withstand the pole shift.
- Help employees locate their families near by and assist in their survival planning.
- Assist in the local government planning.

Much more could be said - you get the idea - if we all worked together on the task all of our survivals (government, individuals and money lenders) would be better. Will this happen - not likely - but it would be a better way to prepare. This may be realized by many in governments and some money lenders alike but too little and too late.

Offered by [Mike](#).



# Troubled Times



## Emergency Ops

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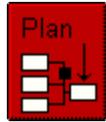
There are really only three things that we should add to what is currently being done within Troubled Times.

1. For every solution set, we should make a conscious effort to address salability. In this regard, we should be utterly practical. For instance, the Troubled Times, Inc. approved prototype/demo list contains both a small water distillation demo for the purpose of teaching the principles, *and* a large scale water distillation prototype to supply the needs of a small community, since people need up to 6 gallons each per day. For larger groups the salability would most likely come in providing a number of the large units as opposed to making the units themselves larger.
2. Place an even higher emphasis on means of getting the word and solution sets out and available to not only individuals, but also Emergency Operations Centers. This is a longer term activity that needs planning so that it can also be scaled up as time becomes shorter and there is likely to be a greater acceptance I think that as far as medium size communities go, that a form of the information should be somewhat targeted to the Emergency Operations Directors of these communities *ahead* of the pole shift, but late enough that they would be less likely to discard the information as they would do now, should they receive it. This puts the information in the hands, not so much of leaders, as those civil servants who will be immediately responsible for such matters.
3. Where we now make it clear that people in communities, both large and small on down to individual families on the farm who live in "unsafe" areas such as the coast, and people in large metropolitan areas should evacuate; we should also make it clear that there are definite limits to the salability of the solution sets, and that as part of any Emergency Management Plan, a community of 30,000 (or whatever) survivors should be broken up into more manageable groups and dispersed so that the solution sets are workable.

Offered by [Ron](#).



# Troubled Times



## Bulk Survivors

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I've been doing a bit of thinking about numbers of people one is likely to encounter after the Pole Shift. The Zetas indicate an approximate 90% die-off during and after the Pole Shift. This number, is obviously a world-wide, under all conditions, aggregate estimate. So, by definition it is not accurate for any *given* location. Obviously, for most of Florida and south Louisiana, being on the coast and only a few feet above sea level, the immediate result of the pole shift would be closer to 100%. In other "safe" areas, such as most of the mid-west where the elevation is high and a large percentage of the population have underground shelter for protection against tornadoes, the percentage of survival may be as much as 75% just after the pole shift. Even in a community with a die-off of 90%, if the initial population is 30,000, the survivors would number approximately 3000.

That's still a lot of people in a relatively small area, especially given the total lack of services. These people would congregate to determine "what just happened", and "what should we do next?"

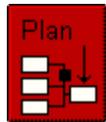
It is this point in time and place that I believe the efforts of the Troubled Times membership will make it's most timely contributions to humanity. I have come to the conclusion that it has been a sub-conscious realization of such statistics that has been bothering me for a couple of years. To date, we have had a mind set of the small "survival community" geared to less than 100 people; and in most cases communities of less than 30 people. What do you say when you find yourself within a group of 30,000 or even 27,000 and only *you* realize what is happening and what is to come? You have the knowledge gained from this forum which would be the key to ultimate survival of this group; but unless we start to include thinking and "survival sets" that are applicable to these numbers of people we have overlooked the most probable scenario that most of us will face.

Optimistically one could find one's self with the opportunity and even sole responsibility to lead several thousands of initially healthy individuals and families with the knowledge gained within this group. This scenario, to me, appears most likely as opposed to "far-fetched". This is especially true of the portion of this group who have every intention to re-locate to a "safe place". Therefore, I believe that it is imperative that Troubled Times begin to address the issues that are involved in fostering and leading large groups of everyday people, who working together toward specific goals, can be saved. I do not think that discussions along these lines should proceed at the pace and in the manor with which we have so far arrived at "solution sets" for small "survival communities". These solution sets do not need to be re-invented; but viewed in a different way.

Offered by [Ron](#).



# Troubled Times



## Unprepared

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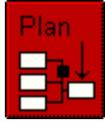
The vast majority of the Troubled Times readership feels an almost total impotence regarding their personal resources to provide everything necessary to survive the pole shift and 20+ years of the aftermath. Although we provide an "on foot solution set", even I, with a vast amount of personal experience and training find it most difficult to imagine the possibility or even desire to survive by myself in the aftermath of the pole shift. Those who have determined to *act*, to the extent of relocating from their present un-safe location, feel a desperation regarding how to locate, assimilate into or establish a survivable community. So many of the essential elements to long term survival which are now put forth are beyond the means and resources of the vast majority of our readership. How many realistically expect to generate enough energy to provide enough light to a hydroponics garden, which will provide enough food for their expected group?

There's not likely to be a single individual within the Troubled Times membership who isn't, from time-to-time, haunted by the possibility that our entire premise is but a mass delusion; and who have decided to just wait and see what actually happens in 2003, and then deal with it as best one can at virtually the last minute. A viable strategy that includes both the ability to survive *and* to continue life within a normal community is the strongest incentive to learn these survival strategies, while at the same time living life as we know it. Should our worst fears actually become imminent, such an individual would be thus prepared to provide the information and leadership which would save thousands of lives.

Offered by [Ron](#).



# Troubled Times



## Not in Cities

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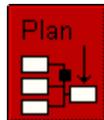
In relation to thinking about the numbers that would be left alive after the shift and helping them to get on their feet and giving them information that they may not have had the foresight to collect - developing strategies that could be implemented on a larger scale and programs to give them what they need to make it on their own. The premise that this is based on may be faulty in that it was planning on 10% of people living in cities being alive after the shift. This was brought up on the chat about how many survivors there would be when everything is said and done. We were using numbers from cities and just cranking it through a formula to drop a zero.

Because of the nature of the beast with cities I don't think that logic works as well. We'll probably have a much lower percentage of people surviving the shift in cities. If a 30 story apt. building is toppled during the shift it isn't very likely that 10% of the people inside are going to be alive. Which means a greater percentage, relatively, of people surviving who are spaced out in the country. These people will be spread much further apart than those that would have been in cities, and they will be on foot. With people spread further apart how can we possibly draw these people together without signaling to the Service-to-Self individuals, "Here we are come, take our stuff."

Offered by [John](#).



# Troubled Times



## Some Groups

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If nothing is done then large groups will die. It may well be that the problems are so multiplied by a large group that there simply aren't solutions. I have no clue as to how to feed 30,000, or even 300 during the time between the pole shift and the harvesting of the first hydroponics crop. That doesn't mean, however, that there is no answer. Perhaps an idea from one will fuel another idea. That's how most of the existing solution sets were generated. What still remains is the Zeta estimate that 10% of the world population will survive not only the pole shift, but also the long aftermath. One person out of every 10 is still a lot of people. Given the pole shift conditions and the aftermath conditions and length of time, it seems to me that these survivors would be rather concentrated by happenstance in the most favorable geographic places. Thus, we find large groups that survive. How?

Offered by [Ron](#).

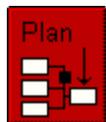
The Mongols in the China highlands will not be worse off, climate wise, and will still run their herds around and live in skin and stick huts. They may be less padded with fat, and have to eat some vegetation instead of dairy and animal meat, but I'll bet a lot of them survive! What would do them in? Not quakes. Not an influx of gangs, as they are too remote. Canadian wilderness folks, in log cabins and living lean and on what they can hunt. They'll find their winters gone, in the main, and have already been adjusted to gleaning what they can from the land. Fishermen along coasts, who put boats together from what is left and *fish*. The waters may encroach, so the shoreline moves, but they do what they do and live relatively well!

I don't think we're talking about cities, where the sheer crush of folks will doom any plan. The folks that survive in the cities are those that leave, the strong and young or clever or foresightful. They pack up and get the hell out! Go to some place where they can starve but eventually eat what they have planted, etc. Where a plan has a chance.

Offered by [Nancy](#).



# Troubled Times



## Obstacles

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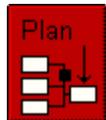
At first blush it would seem that a large number of survivors could be expected, but I think after the initial pole shift death rate, that other things will set in, as follows:

- Heart attack, shock from injury, dropped immune systems from depression, lack of medication like insulin, sewage and ash mixed in with the drinking water, violence from madness or frustration, and starvation. Any group of 30,000 folks, for instance, surviving earthquakes and high winds, will be eroded rapidly by these other problems.
- Lack of resources. We're heading into a period of crop shortages which will drastically reduce food stores. Even today, we don't take care of the homeless or poor. Thus, the 30,000 survivors will find they have no food stores, and hunger in this number, will cause dissension that will blow any hope of survival apart. They will eat the seed, not plant it.
- Lack of planning and honesty on the part of the government. Today, they are doing only one thing. Denial and cover-up and trying to get a handful of elite to Mars. Thus, since the majority of folks will deny and party, not plan, only a small percentage of the 30,000, *not* the government or powers that be, will plan. These individuals will be taken advantage of, and ultimately fail, I believe.
- Gangs, which will migrate to where they can savage and consume the greatest numbers. Any group of 30,000 that is by some miracle succeeding will find itself a juicy target. Can they hide? They will find their stores broken into, their children taken hostage, their drinking water poisoned - so that a gang can plunder.

Offered by [Nancy](#).



# Troubled Times



## Attract Gangs

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I've been working through the numbers myself and getting really concerned that it would be difficult to avoid any groups that would be working in Service-to-Self mode.

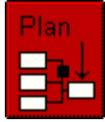
Offered by [John](#).

Logic dictates that a very large group of people - intelligently organized and prepared for the coming difficulties - would possess far greater strengths and resources than a small band of people or an individual family. While a large group could be targeted for plundering by marauding bands, a very large group would also present the prospect of substantial and stiff opposition to such an attack. Criminals by nature always go for the easy target: the weak and defenseless. A very large survival community - by virtue of its sheer size - is going to tend to intimidate such attackers, assuming that the bandits are far smaller in number than the group to be attacked. Now, whether that group is willing and prepared to use deadly force to defend itself is an important factor to consider in the equation. If that group is prepared to defend itself with weapons, then large numbers certainly do make a difference in the chances for survival, both from a division of labor/resources assets and from a security standpoint.

Offered by [Ed](#)



# Troubled Times



## Independence Day

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On the 4th of July, Americans typically celebrate what is called independence day. What this meant to many of the Americans at the time was freedom from organized suppression and oppression of being controlled. Unfortunately this is no longer the case in America. Many true Americans have not felt like celebrating this day for some time now. In light of the upcoming pole shift - I propose we give Independence day (4th of July) a new meaning for all those in Troubled Times, independent of nationality. There are five years left before the pole shift. On this day each year I propose we do a mental mockup of all of the personnel on the planet working together to solve the pole shift survival. Free our thinking of suppression and denial of those around us.

Mock up mental image pictures on this day that the whole planet suddenly woke up to the coming pole shift, and they are turning to us for advice. On this day the governments and other organizations openly acknowledge it will happen and are willing to do whatever is best. Everyone is working in a Service-to-Other fashion for the best solutions for all. What would we say or recommend. Have we already said it all? On this day each year submit ideas and solution mockups as if everyone on the planet knew of the coming events and that we were all working together to make things go right after the pole shift. How would you organize it all? You have this tremendous resource of personnel listening to your ideas. What do you say? What do you say first? How do we organize optimum survival for all?

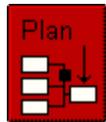
Until now many of us have been working the solutions from the bottom up. From primitive survival of one person up to the family, then to the group then to possibly 300+ and we stop there having a tough time seeing more than this being able to work together. This may be the practicality of the reality we currently face. This could change. What I am requesting is that on this one day each year, we do a let's pretend we as a planet are all working together. Stretch your solutions. Recommend from the top down. What would be the ideal way to survive this given the resources of the planet? What would we recommend to be the vital manufacturing that gets moved to where? What would we say about food, shelter, energy to the world? What is our master plan to save and provide for the majority?

This is a mental stretching exercise that will build an ideal result and push the limits of cooperation in each of us. I feel this process will ultimately make all of our solutions stronger. I realize that some have and are already thinking at this level. On this day (4th of July) each year we all need to do this. Post your ideas no matter how far out, for this is a tough subject. The government couldn't confront this issue because of fear of losing control. We have no such hidden agenda. We can solve it (outline it) and post it for all.

Offered by [Mike](#).



# Troubled Times



## Social Security Number

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Unless one is working for cash, off the books, and stuffs the money into the mattress, that Social Security Number gets used here in the US. But if you "take your vacation" the week before the rotation stops, and leave the area, they've lost you, I believe.

Offered by [Nancy](#).

If you plan on moving around after the pole Shift, this may be OK. If you plan on building a survival center in advance, be careful. Certain data is migrated to cyberspace within days or weeks, other data is kept for years. Beware your spending pattern, distribute your purchases etc.

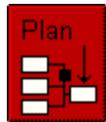
As I said, I do not believe I will have any such problems in my part of the world. Still, my survival center will be owned by another entity, not me. It is a cottage in a winter sports area, period. I may build more cottages "for commercial purposes" or for visitors. The municipality itself as well as a local farmer have already started experimenting with windmills for environmental purposes; so will my company. I do not need any permission to drill for my own water. If I buy a container and bury it in the moraine ground for storage purposes, I will not have to get a building permit etc.

To go underground needs to be planned well in advance. If you "take on vacation" one week before the pole shift, make certain that you have not already advertised where you will be headed.

Offered by [Jan](#).



# Troubled Times



## Realistic

What a wonderful idea!

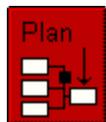
I find that the first knee-jerk reaction to this type of thinking is to try to put into place what we have today, as far as rescue and compensation programs, during the pole shift. This will just not be possible. Insurance companies or the governments cannot compensate folks for loss of property. Governments will not be able to feed the entire populace. India cannot be emptied and taken to east Australia to be fed, for instance. Even if the population were moved, they would then quickly starve. The premise that Mike has put out is that there will be no denial, and no establishment protectionism such as "I've got mine, who cares if you don't have yours". Of course, this will not be the case. But given that premise, I think that whomever is trying to help the populace *best* will stress:

- Self help, as rescue will be almost impossible. Each must help themselves, no passivity and waiting. Even the poor can do this, even those on welfare, as having a garden and living in a shack will be *more* than staying in the inner city and waiting for the check. The check won't come! And seeds will spout.
- Just the basics, not the shiny new car, not the TV, not the imported foods or tailored clothes, just vegies and mending clothes and eating worms and distilling a bit of drinking water and being out of the rain. Turn a deaf ear to moaning about loss of material things. Utterly deaf.
- Accept inevitable or likely death stoically and with a sense of peace. Those on medical support systems will die. Those dependent on medication will probably die. The seriously injured will probably die. Those who simply can't adjust to a reduced lifestyle, and are endlessly depressed for self focused reasons and want *out* in suicide should perhaps be allowed to do so. The "if I can't have my house on the beach I'd rather be dead" crowd should be allowed to die!
- Establish priorities on who will get food, if it is scarce and it *will* be. If one simply says "share and share alike", all will starve. Anyone refusing to work, expecting to be waited upon or given elite treatment due to their prior status, just doesn't eat. People alive but in a vegetative state, brain dead, do *not* get tube fed, etc. If things are still tight, other rules may have to be put into place. Anyone over 70 without vital skills (a practicing doctor or plumber would be exceptions, etc.) just doesn't eat, etc.

And finally, the *best* thing, in my opinion, is to stress what *can* be salvaged. Music and watching the sun set and the joy that comes from helping each other, and *love*, will still be there! Not much different from prior centuries, when times were routinely rough.



# Troubled Times



## Basics

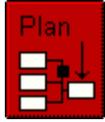
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What a phenomenal idea! I think that we should think about the same types of basic things only consider them on a much grander scale. Takes the things that we've been considering for our own personal survival, i.e. food, shelter, energy, minimizing our impact on our Mother earth to reduce her retaliation and cleansing. If we had infinite resources, how would we solve the problems that are presented to us to solve with the limits that we are unfortunately encumbered with. I think that quick distribution of the more efficient and less harmful energy sources that "the man" is keeping from us would be an important start. Another thing would be manufacturing and assembly of safe, efficient housing.

Offered by [John](#).



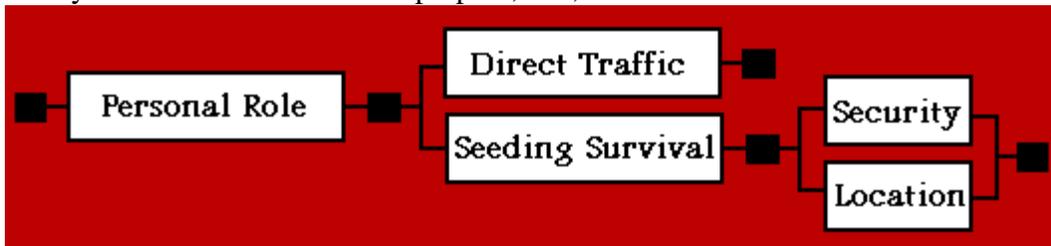
# Troubled Times



## Mission

We've had all kinds of reactions posted, to suggesting that an organized effort to run busses into cities and pick up anyone left there (looking to be a savior) to asking who will take *in* these folks or others in the group who don't have funds (looking to be saved). In between are most folks who are concerned, and rightly so, with their own and their families survival and after that are thinking about helping others. Many of us are strong enough to think about helping others among their top priorities.

In any discussion about how to prepare, etc., one must sort out their mission.



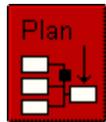
- Do they want to go where the most death and injury will occur, to help others die easy, and likely themselves go out in the process? Then they should go to the earthquake zones, into the cities, and stockpile medicine or pain killers or whatever. Keep a backpack so you can travel to your family when the time comes to leave.
- Do they want to direct traffic for the majority of survivors who will not have prepared? Stock up on rice and beans and dried milk and large tents, and prepare to have *none* left over for yourselves. Perhaps you will to leave to a site with the last group going, or be yourself left in the lurch.
- Do you want to form a high tech community to act as seeding of food and technology to others? Keep your group small, your plans secret, and be cautious in your approach to other groups. Think of survival, not assisting, during your preparations, so you will *be* there for others.
- Do you just want your family and close friends to survive, as in your present situation they will surely not? *You* must worry about that, as no one else is likely to. Think in terms of mobility, the basics, and keep your group down to those you know well.

Bottom line, depending upon the mission, the plans will be different!

Offered by [Nancy](#).



# Troubled Times



## Integrated

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A word on "financing" your solutions. First, let me say if I did not feel any responsibility to my family which includes children and grand children who may be part of building a new world, I would move to Florida and go out in the first wave. Death is not something that concerns me since the only true fact from the day we are born is that we will *all* someday die. So, given what we believe to be true about the near future, my first priority is to family as it has always been. Providing for their needs and defense is not an option. It is mandatory. Any other social responsibilities come second.

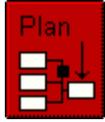
Now back to financing, do you have a mortgage on a home? Do you plan to be making payments 3 years from now? Could the mortgage be refinanced to cash out any equity large enough to continue making payments for say 2 years and provide some surplus funds? Could a new mortgage be negotiated with low monthly payments and a big balloon payment 20 years down the road? Do you have a credit card? Will the bank increase the credit limit? Could you max out this new credit limit and provide enough cash to continue to make minimum monthly payments for say 2 years and provide a little extra? Could you qualify for more cards and do the same? Do you have a retirement plan or 401K? Can you borrow against this plan? Do you have a new car or anything else of value that you could get by with something less for say a couple of years? Do you have any time in 24 hours of a day 7 days a week to take on a another job? Are you so much in debt that maybe you could consider filing bankruptcy (and before that option gets eliminated)?

Do you get the idea here? If not, move you and your family to the coast.

Offered by [Gary](#).



# Troubled Times



## Individual

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To help others is a humble thing to do, but one should be more practical in his/her way of thinking and action.

1. How can you help others, if you yourselves are really not prepared yet?
2. How much preparation have you accomplished up to this date?
3. Do you have a survival camp set up yet? Is it in full operation?
4. Do you have a stockpile of food supplies? And how much surplus of food do you have?

If anyone of you are thinking or are in the process of establishing a survival camp, the ideal way is as follows:

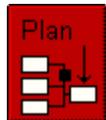
1. Depending on the size of the camp, a council of 4 or 5 members, which ought to be elected democratically, instead of a single leader.
2. The work load ought to be divided in sections with a volunteer section leader i.e. the Kitchen section, the Hydroponics section and the Power Room section.
3. All members including the Council members have an equal responsibility across the board, and this will be understood by all members.
4. The final decision comes from the Council.

Once you have such a camp in operation, then you will know its limitations, like how to deal with the issues of helping others (assuming you have found that safe location). One must not forget, that one cannot help everybody on this planet. I have a lot of relatives and friends on the other side of the globe, but regrettably there is not much I can do.

Offered by [Tian](#).



# Troubled Times



## Tough Decisions

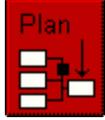
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Are you recommending to take in and feed everyone that comes your way? Any stray cat so to speak? I think many will not have the resources to run such a soup kitchen. Many will be on the flow lines and get quite an influx of people coming their way. What are your recommendations in this case? Where is the life or death judgment in saying “don't have any food, you need to move on”. Especially if it is optimum survival for the majority you already support. In some situations if you share everything, all will starve to death more slowly as opposed to some living. These will be tough times and will call for tough decisions. In the end, one needs to decide based on the chances for the group, and ultimately, mankind.

Offered by [Mike](#).



# Troubled Times



## Moses or Noah

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I have finally come to realize that there is no way I (or anyone else among us, I believe) can take on the difficult task of helping a group of thousands of people through the pole shift. Today, people in Africa die from starvation, children in Thailand die from AIDs acquired through forced prostitution, other children in Asia work 12-hour days in mines, or held as prisoners in local factories etc. Most of us can live with that, for the simple reason that there is nothing we can do. This does not mean that we are Service-to-Self, merely that we understand the limitations of our possibilities. In large cities, we have the starvation and the home-less in the streets. Do we take them into our homes? When planning for pole shift and post pole shift survival, should I try to act like Moses, saving my people, or like Noah, saving one pair of each species? Or should I merely try to prepare as best I can for as large a group as I can sustain? So far in life, I have found that I can only do my best.

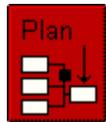
I believe I can do two things:

1. Pull as large a group as possible through. It is impossible to forewarn "ordinary" people, they will think you are a complete crackpot. That does not mean they are morons or self centered, but just not yet aware of what will happen. I have had to inform my family, and they think I'm really far out. However, I will do my preparations, and some months before the pole shift, I plan to invite a number of younger family members (nephews, nieces) and friends of the children. I will store as much food and other supplies as I can, prepare for hydroponics etc.
2. Help organize life post pole shift. I don't know if this will be one year later or twenty years later. Probably something in between. Nor do I know which challenges I will find myself presented with, and to what degree my preparations will actually work out. I only know I will try to do my best, handling whatever situations arise, post pole shift.

Offered by [Jan](#).



# Troubled Times



## Surviving

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As a temporary pole shift survival courtiers, which means you won't plan on living in it for a long time, construct a small dome with weighted bottom (could be close to a spherical shape) that is buried with say 10-20% of it's overall height above ground. Lower part weighted with additional concrete as a ballast to hold it upright in case of liquefaction of the soil. Weight to volume adjusted so that in case of liquefaction it floats with no more than 25% of it's height exposed to the atmosphere. Any higher and the wind may role and blow it out of the ground. Might look something like a floating diver's sphere. Port hole on top for access and viewing the pole shift. Any diameter can be made so as to accommodate from one person on up. The smaller the size the less percentage of height you want sticking up into the wind.

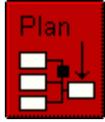
Example: Dig a round hole about 10 ft wide and 6-8 ft deep. Bottom rounded or make it pointed like a funnel. Pore concrete in the bottom 2-3 feet thick as a ballast. Finish the upper part as one would build a monolithic dome. Install car seats with additional seat belts and crash helmets. Provide head supports that the helmet can be strapped to. In a pinch could transfer the seats from your cars during the last days. Leave the access port hole big enough for this. Install a small window in the port hole door. Not sure what would be best to use at this time. Current thoughts are fire resistant clear plastic, or burglar proof glass. This may help the spirits of the inhabitants to be able to see what's going on to a degree. If made small it is unlikely to break. The escape hatch should open to the inside and should be smaller than the port hole door. The escape hatch can be centered on the port hole door.

In this pole shift survival dome you will need as a minimum, digging tools, food and water for say a week to a month. The rest of the supplies can be buried with your building materials.

Offered by [Mike](#).



# Troubled Times



## Supplies

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Once the pole shift is over you live mostly in a tent while you dig up your building materials. The pole shift survival dome is built to be cramped but safe with few frills. After the pole shift build rapidly a Steel building with a dirt floor. These things go up rapidly and have a low cost/sq. ft. Use this metal building and the empty underground storage places for food growing. You would have stored underground in separate quarters the building materials, wind mills, and/or water generators. As supplies get used up - use the empty boxes to build another structure. If you wish to have a concrete floor in one of these then pour it ahead of time. The thrust before pole shift is get somewhere with lots of supplies. During the pole shift stay partially underground in this small survival dome. The tasks after the pole shift are to build, and grow food.

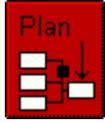
Offered by [Mike](#).

I would strongly suggest multiple 10-15 gallon containers. They are easier to haul around than larger ones, before and after the pole shift. Also MRE's are getting more and more in short supply. I recommend storing MRE's, water, etc. in each container and burying in different locations so that theft or loss of any one container will not adversely impact your total supplies. Also by starting now and filling/burying containers say once a month or every other month will lessen the financial burden by spreading out the cost over a long period of time.

Offered by [Steve](#).



# Troubled Times



## Survival Group

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The whole focus of Troubled Times is survival, and my goal is how to form a local community for survival. Not my personal survival, but the survival of a core group that may extend its services to an increasing number of people in the group. If I remember right, Nancy said last year that she foresaw herself in a local community of about 300 people after the pole shift. I don't think it will be possible to create the necessary survival site or infrastructure for such a group unless the group is created and cooperating in the community setup a long time before the pole shift. For a single person or family, maybe the ambition should be to create a survival site for 10-20, and then act as a development center helping others help themselves.

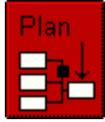
My mission will be to create that survival center, i.e. build shelters, drill for water, stock food, build a small windmill power plant etc. There are already a number of people in this world helping others to die like the Red Cross etc. I really admire their efforts. However, if we believe in anything beyond pure coincidence, we may be here on Troubled Times for a reason. To me, that reason is survival, not helping people to die or directing traffic! And survival is for humankind in the Aftertime, not my personal survival. (And by the way, most people will probably not want to survive once they understand the challenges we will be up to after the pole shift.)

It may sound selfish, but the core of that community will have to be me and my family. Not because we are the only ones worth surviving, but because we will have prepared for survival and for helping others. One of the toughest assignments may be how to select who should be allowed into the post pole shift community and "helped", and who should not. I would hope I will not have to get into such selections. If I have to, it will probably be considered cynical and hard by many. However, the long-term survival of a core group will have to take precedence over a fair distribution of all resources to all pole shift survivors. want a *complete survival preparation solution set* for that survival center and the post-PS local community. Some may also be able to create a pre pole shift local community, cooperating in the construction of shelters, drilling for deep water, installing fish tanks or whatever.

Offered by [Jan](#).



# Troubled Times



## Rescued

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I was once on a traffic accident scene, probably car number 10 or 20 at the scene, 5 to 10 minutes after the crash. Unfair game; Audi meets large truck. There were a number of parked cars and bystanders there already. I stopped, and was the first person went over to the poor guy that had been driving the Audi to check whether there was anything I could do. Nope, he was gone. While I checked him out, another person came up to me, a doctor. He was convinced I was a doctor or nurse since people normally don't bother about the victims, they just stop to look.

Do you remember the news story a few years back from a New York park, where the uncle raped his niece while people were standing around looking, doing nothing? Heard about Estonia - the ship that went down in the Baltic Sea, losing close to 1,000 souls? I recently read an interview with one of the survivors in which he explained how he had passed a lot of people in despair on his way out to his own survival. He had not lifted one finger to help anybody, and now he complained about the Government not doing anything for him and other survivors after the accident!

Unfortunately, the ordinary human being seems unable to cope with big challenges, problems and catastrophes. We will have hordes of such people and others being unable to cope with the situation, and other hordes of self focused people taking advantage of everybody else for their personal survival. If 90% or so die, of the remaining 10%, at least half if not 90% of the survivors will be terrified, babbling wrecks waiting to be saved. Since we are members of Troubled Times, I believe we have chosen our missions to be survival. As far as I can see, there are two quite distinct survival scenarios:

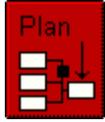
- To locate the survival site so far away that few if any will find it, taking care of your group and the few that do find it.
- To locate the survival site in a popular area where you can expect many survivors to gather, helping as many as you can.

I think each and everyone of us needs to think through these scenarios. I do not know which one is right or best. What I do know is that the second scenario, will require very strong leadership and tough selection of who to help and not in order to succeed. The first scenario may sound selfish, but could still be the right model to be certain that your group does make it through the difficult decades after the pole shift. We all need to prepare for how to deal with the unprepared, and select our survival model accordingly.

Offered by [Jan](#).



# Troubled Times



## Right Mix

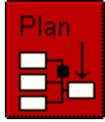
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The success rate of a Survival Camp will involve many factors, with the Service-to-Others / Service-to-Self factor being one of them. If you have 100% Service-to-Other in your camp, then I would say the chances of survival will be greatest, and when you have 50%, then the chances might be 50/50. What I am looking for is an ideal number, perhaps 80% Service-to-Other / 20% Service-to-Self, because in reality one will very seldom find that all the members of a family are all Service-to-Other. One will find either the husband or wife or some of the children are Service-to-Self. You wouldn't leave your Service-to-Self child in the cold would you?

Offered by [Tian](#).



# Troubled Times



## Leadership

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Leaders, if any, that emerge after an event like the pole shift will likely be like most current leaders - only out to profit themselves either with *power* or commodities.

Offered by [Woodie](#).

What would you have anyone do when people come to them because they don't know where else to go or what else to do. I sincerely believe this, that the leaders of the future aren't going to be about ruling people or even telling people what they should or shouldn't do. Leaders will facilitate learning and self sufficiency and have the awesome responsibility to teach people that they can do things for themselves. People that will be "led" are not going to be ruled over because they always have the option to ignore advice or move if they don't like the way they are living.

Offered by [John](#).

The new leaders will be facilitators, not kings, absolutely. As far as the huge numbers Ron talks about, I can see communities of 1,000 or so and am preparing for such in the area where I live. Canned goods and stocking up won't cut it though. It will be the information we have collected and pole shift ingenuity. After all, crisis is the great creator of solutions.

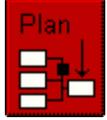
Offered by [John](#).

There is no way you can educate leaders. I have seen a number of people in management positions totally lacking leadership values, mistaking the power to make decisions or shareholder value with leadership. Leadership is something you have or not, and that will show itself when being challenged. Good leaders will know how to distinguish Service-to-Others from Service-to-Self, and will also know when to cut short the kind of endless bickering discussions.

Offered by [Jan](#).



# Troubled Times



## Garden

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Space requirements are difficult to ascertain. Consider the need for seed harvest, storage of seeds and veggies harvested, etc. One source that I remember stated the general rule of thumb is approx. 100 sq. feet per person. This does not take seed harvesting into consideration, but it does account for excess veggies that will be stored. I think one would be hard pressed to meet the caloric requirements of an active (self-sufficient and survival oriented) lifestyle on a mere 10 by 10 plot of ground. Of course this would depend on the veggies grown (most varieties of beets for example are 100% edible - greens and all!).

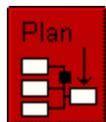
Personally, I have about 400 square feet of plantable space now and I feed a family of 3 (two adults, one child). I harvested an excess of green beans, potatoes, and carrots last year (we ate what we could while fresh and canned the rest) and still have more than half of what we harvested last year in storage. This year I am allowing the green beans to seed out and planted fewer carrots and potatoes. I also grow corn though we usually run out by Christmas. I never get enough peas for more than two meals. I give away cucumbers, carrots, lettuce, and a few tomatoes to the neighbors (just don't have the space to store them or they won't keep very long).

Climate plays a large role in yields. This year was not kind to my corn so I will likely run out before Christmas (it was too wet during germination and too hot soon after). A climate controlled environment would not only eliminate that variable, but also allow year-round production. A 100 square foot climate controlled space planted with the right combination of veggies might yield enough to feed a person year-round. This takes into consideration the need to replant each veggy before the last planting is completely harvested! If you have the space (which we won't since we'll have to provide the lighting) make your garden as large as you can handle!

Offered by [Roger](#).



# Troubled Times



## Energy

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To produce an output from my target steam engine of 15 kW (by the way, this target was randomly selected), we need someone who can tell us really about how much vegetation is needed per person/day and thus area to be lighted, and how bright, so we can come up with a realistic target) would require a steam engine in the neighborhood of 150 horse power (gasoline engines could do it with between 30 and 50 horsepower). To get that much from one or more modified engines would require a *huge* boiler and about 100 PSI pressure with tremendous steam flow. That translates to enormous amounts of fuel.

If we're talking about firing the boiler with wood, we're probably talking about a minimum half a cord of wood an hour to 2 or 3 times that amount. That much wood, harvested, cut, split, and transported to the boiler is quite beyond my own imagination. Coal would be better; but not all that much. I will complete my steam engine prototype design just in case someone can come up with a reasonable way to produce enough steam. Someone actually producing a prototype and doing the required measurements would take the guesswork out of the equation. However, the more I study the subject, the more I'm cooling to the idea of steam being the way to light our farms.

I'm already starting to formulate in the back of my mind how we might more directly harness the tremendous power of already naturally moving water. If a site is situated such that it is near a rather high waterfall, the approach is naturally how to utilize a column of water to power a water turbine as is already covered within the pages of Troubled Times. Most, however, won't be located in such a location. With the expected rain, however, one could reasonably expect to be close to vast amounts of moving water in the form of large streams. In that case, the energy is there for the taking. I'm starting to think about how to do that with materials at hand post pole shift.

Offered by [Ron](#).

To me it looks like with the current technology on this planet that water, wind, bio-mass, and geothermal (listed in the order of most workability) are our best bet, with lots of innovation still needed on all of them.

Offered by [Mike](#).



# Troubled Times



## Light Limits

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Steve's photobioreactor experiments is underway, using [LEDs](#) and algae, [O2 and CO](#) Monitoring, [Adjustments](#), [Algae](#) Production, a [Photobioreactor](#), and a [Closed](#) Ecology.



# Troubled Times



## Quantum Snaplite

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Plant Study using aggregate soils and LED lighting.

### **Purpose**

To test the ability of a strictly LED (light emitting diode) source to produce plant life from seed, and to test the LED's coverage capacity to create such life.

### **Desired Outcome**

A new and reasonably cost-effective way to grow plants with limited energy output.

### **Starting Conditions**

[Day 1](#): September 9, 1998

### **Progress**

[Day 5](#): September 13, 1998

[Day 6](#): September 14, 1998

[Day 7](#): September 15, 1998

[Day 8](#): September 16, 1998

[Day 12](#): September 20, 1998

[Day 17](#): September 25, 1998

[Day 22](#): September 30, 1998

[Day 30](#): October 8, 1998

[Day 35](#): October 13, 1998

[Cost Compare](#): at Day 35

[Day 38](#): October 16, 1998

[Day 40](#): October 18, 1998

[Day 43](#): October 21, 1998

[Day 53](#): October 31, 1998

[Cost Changes](#): at Day 53

[Day 58](#): November 5, 1998

[Day 71](#): November 18, 1998

[Cost Changes](#): at Day 71

### **John**

Glad somebody is doing this. LED's are cheap, take very little current and can last a very long time. They do emit light in a very narrow bandwidth though. It would be interesting to do a spectral analysis of this light array to see how it stacks up against natural sunlight. I'm sure there would be many peaks and gaps as compared to ordinary light. Nevertheless, this might be the most profitable source of lighting for the Dark Times ahead.

### **Robert**

There are certain light frequencies that research has shown plants respond to. Red and Blue light are those frequencies. NASA has done the research already and this product from Quantum was what NASA used.

### **John**



# Troubled Times



## LED Arrays

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Steve F is exploring the cost of putting together his own LED Array with [Bill Mack](#), and [LED Cost](#).



# Troubled Times



## Flappers

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Hey, check this out. (I'm saving the information, if it doesn't work then I'll provide it.) Look at the bottom of the page, he says if you make a large enough "flapper", you might actually create lethal amounts of voltage. A generator like this would be perfect for a windmill, because you could design one to *be* the windmill. So instead of a windmill driving a generator, you just use the rotating part as the "wing".

The problem to overcome would be to allow full rotation, instead of flapping motion. High voltage like this can be used to power neon bulbs, possibly other types. Would be nice to find out how to make a homemade "neon" bulb that could be powered with a non-standard device like this. I think your muscles are electrostatic motors driven by chemical reactions, but this would be an electrostatic generator. The human body is an advanced machine, so if it uses electrostatic anything it's probably better. As far as generation is concerned, the body generates measureable electricity as well - if only a by-product of something more efficient happening. Put volt-meter probes to your temples or spine, the readings get higher there on both AC and DC settings.

I'll probably soon make a small model that can spin 360 degrees instead of flap. (small to be safe) and see how good it lights up LED's or small neon bulbs, so I'll keep you posted.

Offered by **Joe**.



# Troubled Times



## Dome Sails

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I still need to put pictures up and directions, but before I was ranting about how it's easy to make a geodesic dome framework (model) from "string & straws" because you don't have to measure angles. What if you made a very large, lightweight geodesic sphere framework from thin pipes, and arranged "sails" on the inside to catch the wind, thus turning the whole contraption. If you had nice ball bearings at the base, you could pull a wheel-of-fortune and spin the thing real hard to start it up.

The idea is that the larger your sails, the more air you'll catch. (more surface area = increase likelihood to catch wind currents). The geodesic construction would afford you the possibility to make a truly immense power generator with a pretty straightforward construction method. The wind should easily turn such a device since the sails' surface areas will greatly overcome the low surface area and mass of the light framework. Also, the geodesic shape will allow a very strong lightweight construction to be had that won't likely fall apart.

Very large constructions are possible, like 50 feet in diameter or more. Plastic PVC might work well, or light steel pipe with thin walls. You just need a larger pole in the center in proportion to the size of the globe. One point to ponder is how to position the sails on the inside to encourage horizontal rotation, and not the vertical rotation that would try to tip it over. I'm thinking vertically oriented sails would probably take care of this if the sails were fatter at the equator and got thinner at the poles. Hard to explain, I'll have graphics up soon hopefully. (the geodesic is a hard thing to model in 3D)

Offered by **Joe**.

No, in fact you can even get more power from a dome mounted, thin shell concrete dome, wind turbine. This is because in order to make the turbine that big and responsive to the winds it has to have a massive support. Voila, a thin shell concrete dome provides an excellent support and very little interference for a massive wind turbine. I can't remember exactly where I'd heard about this, might try Monolithic Dome's website. [www.monolithicdome.com](http://www.monolithicdome.com)

Offered by **Jeremiah**.



# Troubled Times



## Turbine Hub

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The sails need to be attached to a hub then inside the geodesic framework. Together they best be put into the position that of the blades of a rotor/turbine, as the blades in a jet-engine! Put the entire structure on a rotating basis, just like a wind arrow rotates along with the wind. Have the structure hanging in a similar structure that is attached to the base. This way, the geodesic framework is free to rotate in any direction and will not be tipped over, as the wind will adjust the position of the framework due to it's pressure on the sails inside.

But as I said, lets build a model, or even better a couple of models, and test out different shapes, sizes and positions of sails, and even sail-flexibility and the flexibility of the entire structure. Where it needs to be rigid and where it needs to be flexible. Bamboo is great for large models! Would we be able to grow bamboo? If so, this would be great for building furniture, strengthening structures, making structures and even piping to lead water through.. there are other uses too and they grow a couple of centimeters a day. Bamboo shoots are edible. How about this?

Offered by **Michel**.



# Troubled Times



## Drawbacks

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Technically, no additional energy is wasted using this concept than with any other windmill concept. That is if everything is perfect in both cases there is no additional energy loss. First, this dome-windmill will be very sturdy. But, it will also require a high start-up wind speed. Once it gets turning, it will probably wobble from imperfections in the dome build and wind forces hitting parts other than the blades. This can be compensated by building a trackway for the rim to run in; however, this means friction losses.

Another problem will be the reason windmills are designed the way they are. The wind stream is disrupted close to ground level by trees, hills, etc. To get around this, the actual windmill is placed 50-100 ft above the surrounding landscape. In order to reach this strong wind, a very large dome would be required; say 50-100 ft radius. A lot of energy would be wasted in turning this entire structure.

However, there is one situation where this dome-windmill would be very useful. The winds accompanying the pole shift. Build the dome very large and extra sturdy, and build it in land as clear and flat as possible. Set it so that the produced energy is used to electrolyze water and compress, or liquefy, the resulting hydrogen and oxygen. The oxygen can either be used in a sealed dome's atmosphere, or can simply be vented off.

One other side note, this dome-windmill won't be quite that inexpensive.

Offered by **Jeremiah**.



# Troubled Times



## Sphere Shape

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I was thinking more of a full geodesic sphere, with a large shaft running through the middle. Sorry if I said dome. The whole sphere would be lots stronger than a dome overall I think. But those are good thoughts and probably true nevertheless. I was mainly thinking that a very large structure, built light enough to spin easily in the wind, would be possible. I could be wrong, but wouldn't something large enough catch air currents and turn even on a seemingly calm day? I've been wondering if there's some shape or container you could make, that would amplify the circular motion of the air currents inside. Like a device that lets air come in from any side, but directs it to form a 'tornado' in the center. Kinda like that fresnel lens - taking in diffuse light and focusing it to a point. Can we 'focus' the wind likewise?

Generators can be made pretty light, I think. The regular wind can turn them, but focusing the power of the wind to a small area could spin a generator very fast. And you would only need a large stand-still box with a small protected generator inside - no big moving blades or sails on the outside. A smaller generator spinning very fast would probably provide more power than a large inefficient structure spinning slowly or not at all. Our eyes focus light, and our ears focus sound, so why not wind? Of course I have absolutely no idea how to do it yet.

Offered by **Joe**.

Yes there is, a man named Viktor Schauberger invented one. You described exactly what it does. There is a lot of stuff about him and his ideas on the net. I don't have any addresses on hand; just try any of the search engines.

Offered by **Jeremiah**.

Are you perhaps thinking about those spherical vent covers that rotate while venting heat out of your attic? (I think that's how they work.) The current wind generator technology works best in light winds (10 to 15 mph) and they recommend that you shut them down and lock the blades in winds greater than 25 mph.

Offered by **Roger**.



# Troubled Times



## Available Parts

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An even smarter idea would be to try to spring for a \$5000 generator built by professionals. They give out like 5-10kW, which is enough for a well pump.

Part of the reason we need these ideas is because so many of us don't have the resource\$ to buy the generators built by the "professionals". If we are indeed going down the wrong track then perhaps we need to find the plans to one of these generators and build them ourselves with more readily available parts. If a company is selling them for \$5,000 I would bet that \$4,000 of that went to labor and profit. Besides, it would do us all some good to study how generators work and new ways of building them because there may not be many "professionals" around in the near future to build or maintain them.

P.S. I don't feel that anybody should throw away their plans or give up their laymen ideas because of what "educated professionals" tell you about what works and what doesn't. Some of the best ideas and inventions have come from the minds of laymen.

Offered by **Doug**.



# Troubled Times



## Rotating Parts

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I agree with you. But the main reason that these things are so expensive is that they use custom molded and machined parts - especially rotating parts. I took a course in engineering dynamics in school last semester and this is definitely the hardest thing to build - the rotating part. Things spinning at 1000-2000 RPM (what you need to get 60Hz AC directly) need to be balanced. I agree that we should *not* depend on any major companies and I really don't want to spend the \$5000 on a commercially available mill.

Does anyone know of any materials (plastic, metal) that can be easily shaped into fins or rotors? If we could find some stuff that didn't require a million dollar laser lathe that the corps use then a layman made turbine would be a snap. I think I remember reading somewhere here that there is something called Alumiweld? How strong is that stuff? Maybe that could be used. The generator is not the hard part, its the rotating part that actually catches the wind.

Offered by **Robert**.



# Troubled Times



## Focus the Wind

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A turbine is just a bladed thing that turns when the wind blows. Most of the wind isn't really used. (I don't think)  
Analogy:

- When the sun hits a pile of leaves on a sunny day, the leaves get warm.
- When the sun hits a pile of leaves through a man-made lens, one leaf burns at the focal point. (the combined heat that is usually dispersed amongst the whole pile of leaves is controlled and focused to a point)

I'm wondering how one might *focus* the various wind currents into a small point, increasing the air-pressure per square cm against a much smaller turbine. This would make more efficient use of the wind and the generator would turn with greater oomph. Imagine collecting all the surrounding wind currents and focusing them to a small, but powerful jet spray of air. Even slow breezes might be focusable to a usable amount. The structure might involve something like a very large, *stationary* box or cylinder, with inner structure designed to focus wind to the small generator in the center. The wind would be collected in such a way that it can come from any angle, but will get 'caught in the trap'. I still have no idea how to build one, but the idea seemed at least theoretically possible.

Offered by **Joe**.



# Troubled Times



## Funnel

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Very theoretical. The wind acts like a wave front. The air molecules collectively move as a wave. The force behind this movement is difference in temperature and pressure in our atmosphere. Unfortunately, unlike light and sound, air is not easily gathered and focused. Light is known to bend as it passes through a piece of glass or crystal and this bending is controlled by different shapes in the glass or crystal. Sound is a vibration. This vibration moves along like a wave in that it spreads out with wave-like properties. Our ears "gather" this by collecting the vibration in air molecules and directing it into the ear canal.

The turbine idea is not so bad as long as the entrance was funnel shaped and the blades were aligned along all of the interior surface of the funnel. This would help in focusing air currents - by forcing them inward and together (think of the effect of connecting a small pipe to a large one--the water or gas that passes out of the smaller pipe is moving faster than when it entered the larger pipe).

Offered by **Roger**.

Yeah, I was thinking along the lines of funnels also. Your analogy of water pressure is probably better since it's more similar to air, then say, light or sound. I wonder if you could build a very large upright funnel, rather 'tornado-shaped', and place a small turbine horizontally in the narrow end of the funnel near the ground. I'm thinking that the air in the funnel will spin around very fast, or something.

Offered by **Joe**.



# Troubled Times



## Jet Engine

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Focusing a flow of air from a low to high pressure area is the principle that a jet engine works on - and the ideas that you are talking about sound theoretically good - but there is a problem - when you focus a fluid such as air into a turbine-like device an important principle comes into effect - this principle states that when the pressure of a fluid flow is directly proportional to the speed. So by increasing the pressure (turbine or funnel) you in effect increase the speed of the airflow. Therefore, the turbine blades must spin at a much higher speed to harness this energy. A jet engine does this, but unfortunately, most spin at incredibly high speeds - tens of thousands of RPM's. It is just not feasible for a layman to build such a thing. Special bearings and blades are needed, not to mention the need to balance the rotating part so that it doesn't vibrate. Unless one is a mechanical engineer and has access to machine tools, I really don't think it is worthwhile to try to build a wind turbine.

There *are* commercially available ones, but the cost is probably prohibitive - being that even the cheapest commercially available windmills are in the 1000\$ range. A simple set of propeller blades can provide more than enough energy (10kW for example) to a simple generator to feed a single house or dome. The real problem is *speed* - you need to regulate the speed of a wind generator. (When a 200 mph hurricane comes the thing will tear itself apart!). I am thinking more along the lines of using an old airplane propeller that has adjustable blade pitch - its called feathering - when the wind speed increases you can tilt the blades to adjust the speed. This would be a good idea for a layman-built wind generator. An even smarter idea would be to try to spring for a \$5000 generator built by professionals - they give out like 5-10kW, which is enough for a well pump and some grow lights. That is what I am figuring on. All I am really saying is that wind-generation is not as simple as it seems.

Offered by **Robert**.



# Troubled Times



## Into the Wind

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Would you have to point it into the wind? I was thinking that pointing it upward and leaving it stationary would cause a circular current to form inside, kinda like a 'mold-your-own-tornado'. I know what your saying though, make the whole thing rotate like a big wind-sock. I don't think the big funnel will work at all. If you blow into a paper cone, most of the air blows back. If you blow sideways across it, nothing comes out the bottom. Blah. It would be a pain to build anyway I guess. However, Roger's idea of putting the funnel sideways made me think of wind-socks. Rather than a regular spinning generator, it might be possible to make a large wind-sock electrostatic generator. No spinning parts, just negative strips flapping in the wind in some controllable fashion, like that 'flapper' device I posted a link to a couple days ago. Of course it would be more complicated then that, and I don't know how rain or humidity effects those types of things. (not to mention that things like that can throw lethal sparks if they are large enough.) It would take a lot of doing & testing.

Offered by **Joe**.



# Troubled Times



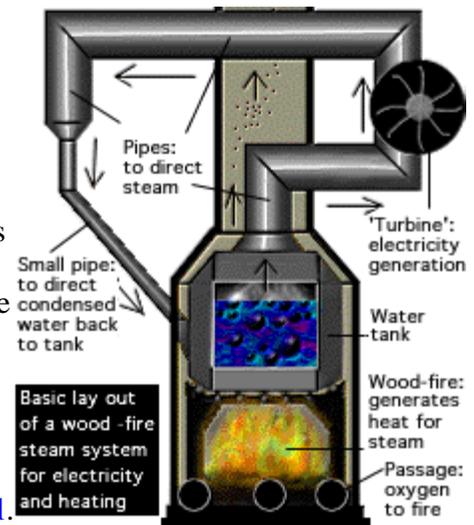
## Wood Burning

I am interested in developing a design for a wood-fire steam turbine generator. Does the Steam Team have any helpful information of resources?

Inquiry by [George](#).

Thanks for writing! Although most of us are not experts in the field of steam energy, we have put together a few things. You will also find that most of our ideas are based on the premise that supplies may be limited later on and that if a steam engine is built, it could be from whatever we can scrounge up. I don't think we have discussed much on turbines. Please, keep us informed and if you run across some good stuff, let us know. Maybe we could add it to our steam topic!

Offered by [Clipper](#).



Graphic by [Michel](#).

You might consider not using steam. Steam assumes that you need high levels of power immediately. However if you consider using the flow of the turbine to charge batteries then you don't have to worry about so great pressure and you can use a single wheel rather than many wheels to use of all the available energy from the steam.

So what you have developed is more like a hot water boiler, and an imitation river flow for a hydroelectric plant. If you can speed up the flow of the water substantially but not convert it to steam you will have a much more long lasting system without needing all the special high pressure protection , high temperature protections etc.

You can also use all the references for hydroelectric power, and you don't need to convert the wood to charcoal so you can develop enough BTUs. But to do this it runs on a long time basis, gradually charging batteries which are used as the primary source. You can also gang it with wind and sun, although we're all betting more on a long period of gloominess much like what happened to the Israelites during their 40 years wandering in the desert after the last shift.

Offered by [Eric](#).



# Troubled Times



## Prototype

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**Welcome To**  
**The Steam Engine Prototype Project**  
**Written by Ron Darby**

This prototype project came about quite by accident. I received an email requesting a wide range of information from a gentleman working on a home project to create his own power. During the course of our correspondence he mentioned something that sparked my interest. So here we are.

The information here is organized as follows:

- [Steam Engine Objectives](#)
- Steam Generation
- [Design Number 1](#)
- [Design Number 2](#)
- [Design Number 3](#)
- Current Activity Status
- What's New

Send mail to [Ron](#) with questions or comments about this web site.

Last modified: December 9, 1998



# Troubled Times



## Inexpensive

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I'm excited about this project because I really think it can be done, the resulting designs are something that small communities and even individuals can readily implement, are very inexpensive, and have the ability to produce enough power to actually allow for growing enough vegetation indoors to feed a small community. The designs are also adaptable to vehicles, and heavy machinery such as bull dozers, excavators, cranes, forklifts, etc.

**Ron**



# Troubled Times



## Objectives

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### Objectives Of Steam Engine Prototype Project

- To develop a design for a Steam Engine and Steam Generation System that can, to the extent possible, be constructed from materials and with tools at hand, Post PS.
- To the extent that materials or devices must be stockpiled Pre PS:
  - - Minimum number
    - Minimum cost
    - Minimum Cache size
- To design a system that has the following characteristics:
  - - Provide enough power to drive an AC Generator large enough to artificially light enough hydroponically grown vegetation to provide for the requirements of a community of at least 30 individuals
    - Provide enough power to intermediately power machinery for building or producing other needed machinery
    - Be adaptable to heavy equipment such as bull dozer, crane, excavator, fork lift, tractor, etc.
    - Be self contained to the extent as to be able to provide cross country transportation
    - Be able to utilize fuel sources at hand
    - Be maintainable from available or self manufactured parts and material
    - Minimum complexity

Send mail to [Ron](#) with questions or comments about this web site.

Last modified: December 17, 1998



# Troubled Times



## Design 1

### Steam Engine Design #1



Under Construction!

The principal idea is to be able to utilize existing internal combustion engines found in late model gasoline automobiles.

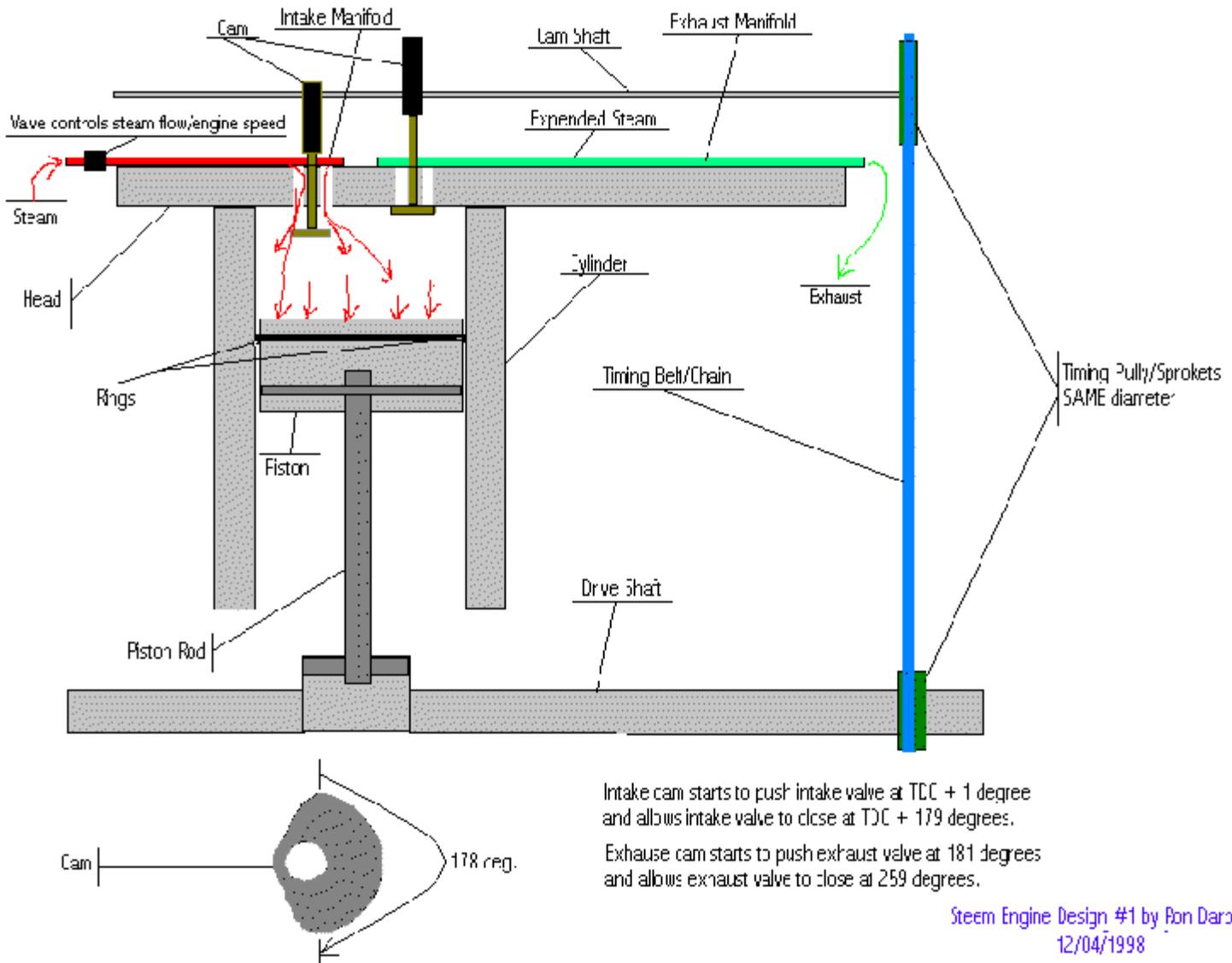
This page deals only with the Engine and assumes that a suitable steam source is available along with suitable fuel to produce the steam.

**Design #1 proposes to utilize existing internal combustion engines, whether gasoline or diesel, as follows:**

- Replace the carburetor with an adapter whose connection to the intake manifold is produced by creating a template using the carburetor/intake manifold interface. This adapter shall be at least 5/8" steel stock with a central orifice to which is welded a 3/4" female standard thread coupler which can connect to standard threaded black steel 3/4" pipe, which will provide steam to the intake manifold.
- Replace the camshaft and crankshaft coupling with a 1:1 coupling such that one revolution of the crankshaft produces one revolution of the camshaft(s).
- Modify the camshaft (or two camshafts in the case of a "V" configuration engine) as follows:
  - remove the existing camshaft lobes, preferably by grinding; or by means of an oxygen/acetylene cutting torch and then grinding smooth, preferably by utilization of a metal lathe.
  - create new cams as follows:
    - utilizing at least 5/8" thick steel stock
    - layer one upon the other the number of stock pieces required
    - using a cam template dimensioned as shown in Figure 1a (note that specific dimensions will be dependent upon the particular engine being modified), shape the stock as prescribed by the template using a combination of oxygen/acetylene cutting torch and grinding; providing the prescribed opening just large enough to slide over the modified lobe-less cam shaft(s)
  - position the completed and polished cams as specified in Table 1a
  - attach the positioned cams by means of electric welding ensuring that nothing incidental to such welding interferes with any part that comes in contact with the cam surface or interferes with any oil port
- Replace the modified cam shafts and adjust the cam to valve interface using normal specifications for that particular engine.
- Throttle control shall be controlled by articulating a valve controlling steam flow into the intake manifold
- Discharge from the exhaust manifold shall be allowed to escape for the initial prototype and later re-injected into the steam generation system once the engine design has been perfected

**The conceptual design of this engine is depicted by Figure 1.**

# Figure 1 Engine Design #1



Send mail to [Ron](#) with questions or comments about this web site.  
Last modified: December 9, 1998



# Troubled Times



## Design 2

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### Steam Engine Design #2



Under Construction

This concept would be applied to each cylinder of the engine, with the Controller opening and closing the valves at the appropriate times.

- For an internal camshaft engine, remove the "push rods".
  - For an overhead valve engine, remove each camshaft ("V" engine has 2) and rocker arms.
  - Remove all valves and valve seats.
  - Fabricate and attach flanges as depicted below for each valve opening.
  - Leave the spark plug in place or in the case of a diesel engine, disable opening of the injector.
  - Repeat the mechanical design below for each cylinder (except for Distributor and Controller).
-



# Troubled Times



## Design 3

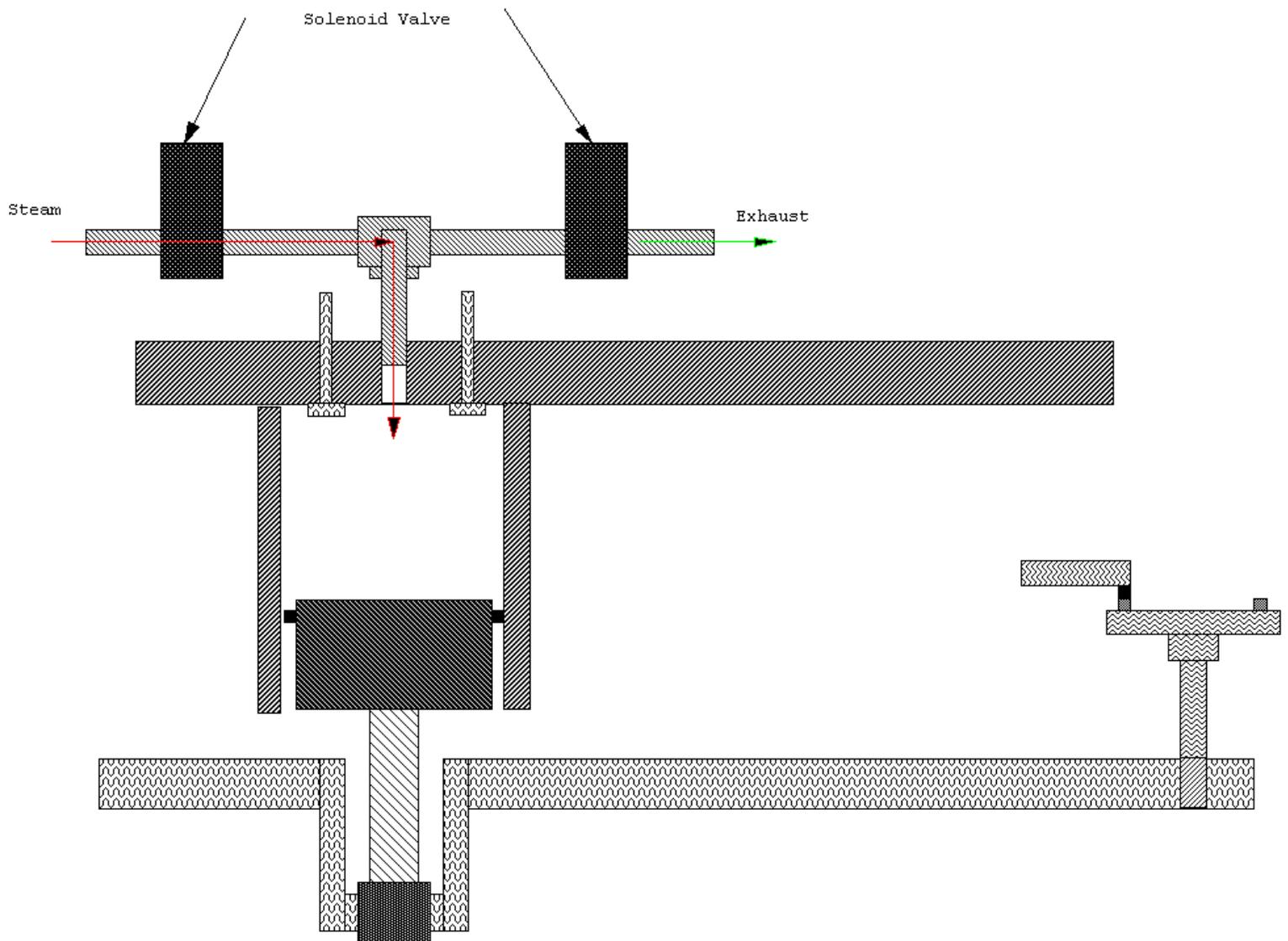
### Steam Engine Design #3



Under Construction!!

This is basically the same approach as design #2, but mechanically much more simple.

- For an internal camshaft engine, remove the "push rods".
- For an overhead valve engine, remove each camshaft ("V" engine has 2) and rocker arms.
- This leaves all engine valves permanently in the "closed" position.
- Using a metal drill, enlarge the spark plug holes and "tap" for 1/2 inch standard pipe threads.
- Repeat the mechanical design below for each cylinder (except for Distributor and Controller).



Send mail to [Ron](mailto:Ron) with questions or comments about this web site.

**Last modified: 12/09/98**



# Troubled Times



## Rust

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Ron, steam condenses to water and can leak past the rings to get into the oil. Do you have a plan to minimize rust and wear from this? The area of "blow by" steam that gets by the rings and into the engine block does require design effort. Using normal motor oil, it wouldn't be very long before the condensed steam (water) would get emulsified in the oil and greatly impair its ability to provide an "oil cushion" within all the bearings inside the block. Two solutions to this are planned for use simultaneously. First, the use of synthetic oil, which will not allow water to emulsify, but remain as whole "globes" of water. The second is to provide for an external oil/water separator using gravity to "filter" the water from the oil. In an extreme case, a "separator" could be designed using either centrifugal force, or more easy to build, one using heat to boil off the water as steam, allowing it to escape.

**Mike**

The only area of potential rust is the combustion chamber area, the area left when the head is at TDC (Top Dead Center). This includes the piston head. Research on "real" steam engines indicates that rust only comes into play in this area when it is left open to access by oxygen (air). Steam from the steam generator contains no free oxygen and so long as the system is left closed, there is very little chance for rust which requires oxygen. The cylinder itself is constantly coated by oil in the same way that a normal gasoline engine is - oil is "splashed" into the cylinder area by all the movement within the block. Actually, gasoline engines have this same problem to some extent as the combustion byproducts include a rather large amount of water, as you have probably noticed at some time. After starting a cold engine, you will frequently find a bit of water running out of the tail pipe - until it heats up enough so that the water escapes as steam along with the rest of the combustion byproducts.

**Ron**



# Troubled Times



## Piston Power

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If I understand you correctly a standard unmodified 4 cycle engine would have about 1/4 the power and a 2 cycle would have 1/2 the power as a modified 1 cycle valve-train-engine, whether mechanical or electrical solenoids are used.

**Mike**

One cannot directly equate the "energy capacity" of steam to that of combustion. If we were talking about a 1 cycle gasoline engine this argument might be made; but steam is something entirely different. The potential power of one of these engines is not yet known. It depends primarily on two things. The amount of energy stored in the steam to be injected into the cylinder, and the amount of time necessary for this energy to be released inside the cylinder. A gasoline engine has a much smaller volume and stroke length than a standard piston steam engine, and normally runs at much higher RPM than conventional steam engines. All this acts against my design as far as power goes. At the moment, I am researching the mathematics of steam power so as to calculate what can be expected from this design and to indicate ways to optimize it.

For the reasons described above, and because of the difficulty in constructing the new cam shaft, I really don't have much hope for engine design #1. I am, however quite hopeful for the prospects of design #3, which is a simplification of design #2. Designs #2 and #3 utilize electric actuated valves built for steam use, the engine's existing distributor mechanism with some simple modifications, and a controller that's electronic; but great pains are being made to keep it simple and enable it to be constructed using electronic parts found in such things as TV circuit boards.

One other point. I currently consider steam power the only practical means of producing the energy requirements for a small community. Should the mathematics of my notion of using converted engines prove to make it impractical, I have joined 4 different listservs where collectors of working steam engines hang out. My reason is mostly to compile a database of where these real, working steam engines are located should a group need to find one post pole shift.

**Ron**



# Troubled Times



## Distilled Water

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Is it possible to have a steam engine that could also distill water?

**Fox**

Well, yes, and no. You couldn't actually use the steam generated for driving the steam engine to condense and drink because it would have a certain amount of oil in it. You could, however, say wrap a number of copper tubing coils around the steam pipe coming out of the steam generator. The steam for the generator would have to be at a pressure of around 100 psi, meaning that it would be much hotter than the normal 212 deg F it takes to boil water. Therefore the water being run into these external coils would get heated above 212 deg F and turn to steam. When condensed, this steam would be pure. This is the way navel vesels for many years have produced drinking water while at sea.

**Ron**



# Troubled Times



## Diesel

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Have you considered modifying a diesel engine? It has a higher compression ratio (longer stroke) and possibly other advantages. I am concerned about the amount of steam that can get through a modified spark plug hole may limit the power and speed. Also, there is inertia in the gas moving in the tubes. May need to design it so the on off steam valves are very close to the spark plug hole.

**Mike**

Yes, although I've concentrated on gasoline engines and in the rough drafts interchanged references to gasoline and diesel, I most definitely have been thinking of diesel. If given the choice, I would choose a large diesel every time over a gasoline engine for lots of reasons. As I talk to more steam experts I am learning that steam should be thought of like one would think of water. The mathematics that is the most applicable is hydraulic related. If you think of the steam generator as a water tank with a pump then you have a better idea of how steam will work. At first I was thinking of something like a half or 3/8th inch pipe for the sparkplug (or injector for diesel) hole. That would be analogous to running electrical current through a thin wire; that is, flow (of electricity or water or steam) is proportional to the diameter of the conductor, or pipe. The larger diameter the pipe, the more steam at a given pressure can flow through it. Now, I'm thinking that to get the most from any engine, I would shoot for about 3/4th inch.

**Ron**



# Troubled Times



## Success & Failure

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- First [3 Months](#)
- [Lettuce](#) Success
- Darn Those [Mites!](#)
- Plant [Towers](#)
- [Containers](#)
- Clipper's [Tomatoes](#)
- [Second Wind](#)



# Troubled Times



## PVC Pipe

I started working on fixing up the shed for Hydroponics today. Spent over five hours leveling it so far. I was doing some checking a few days ago about what might work good for the plant beds. I am trying to stay away from plywood and boards because of the plastic that will be needed, leaks and all that hub-bub. What I had in mind and still looking (for right price), ABS or plastic pipe about 20 or 24 inches in diameter. I want to cap both ends and saw the pipe in half length wise. You end up with two beds sealed on both ends that need no plastic and will never leak. When the PS gets near, bury them some how until it is over. When the time comes to start "farming" again, there should be no worries about what to use for the beds. So far, ABS pipe is over \$8 a foot for 20 inch pipe. I'll get it yet. Working on possibilities of plastic culvert pipe like they put under drive ways. A little over \$2 a foot.

### Clipper

Try PVC pipe, very inexpensive and very flexible, easy to cut etc. That's the setup we have for tomatoes, beans, etc. Just make 3/4 of a rectangle (2 feet wide) on each end with a 4 foot long piece of PVC down the middle for support. This will support to 4 foot long deep trays and the corner joints will allow the tilting of the trays to allow for drainage.

### John

Now, how will you cap the end that needs to drain? You need to flood the gravel or sand, then let it drain completely, once or more times a day. This means that the pipes coming out of the drain end need to have a stop in them, attached to the timer also ..

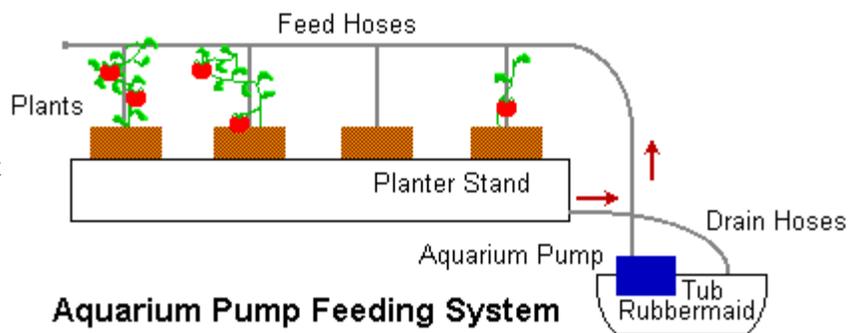
### Nancy

Drain it into a Rubbermaid tub and have a small aquarium pump that pumps it back up through thin pieces of tubing back next to each plants - 4 plants per 4 foot tray, therefore 8 thin pieces coming out of one thick tube. This our setup. The pipes coming out of the drain end just go into a Rubbermaid container; you have a pump in the container; the pump sends the water back up on to the plants through a rubber hose (not garden ... thinner), and even smaller hose goes (thin plastic) goes to each plant ... there are examples in hydroponics books.

### John

I am planning to use PVC fittings and valves on the lower end of the slanted bed.

### Clipper



# Troubled Times



## Nutrients

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- [Nutrient Sources](#)
- [Settling Solutions](#)



# Troubled Times



## pH Balance

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The pH balance is as important as the nutrients in the hydroponic solution. Where [pH Testing](#) needs to be done, during the summer of 1997 the best [pH Meter](#) to use is under debate. John found it highly important to [Test pH Often](#), before adding chemicals.



# Troubled Times



## Alaska Hydrosheed

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Started in [Summer 1997](#), the hydrosheed is lighted with a [Malibu Lighting](#) system and the solution pumped by a [Windshield](#) pump and backup power by a [Onan](#) generator. Clipper plans to use [Milk Cartons](#) to raise the beds.

Offered by [Clipper](#).



# Troubled Times



## Teeter Totter

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Watering hydroponics beds by hand might be a necessity if survivors are without power or using scarce power for other needs. A [Teeter Totter](#) method would provide watering without lifting. However, since the plants would be wet half the time, [Water Loving](#) plants would be needed for this arrangement.



# Troubled Times



## Q&A

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What is the [biological clock](#) of tomato plants so that we can induce the plant to flower?

Do you have to [trim](#) the lower branches of a tomato plant so that the plant will have more yield?

Can we use human excrement/urine for [fertilizer](#) in our hydroponics system?

Can we grow [potatoes](#) in a hydroponics system without soil?

Can we grow [soy beans](#) in a hydroponics system without soil?

How can we induce more [flowering](#) in a cucumber plant, to get more yield without fertilizer?



# Troubled Times



## Au Natural

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I planted my garden this year around May 7, 97 which is normal for Northern Canada. This summer was wet and cold. It was raining every second day. I decided to let this garden grow without much intervention. No chemicals, bug killers etc. The ground was never dry. The site received full sun from noon to around 7-8 PM. On days that did not rain.

What survived - not much. The only plants that I was able to harvest were: beans and zucchini. However the same conditions without over watering produced much better results (slightly less light they were grown under roof). There was no difference between beans. For sure I will be growing beans. Bugs, deer and other animals finished what the weather did not. From nutritional point of view zucchini has mainly minerals. Corn did not mature and sunflowers. I do get a good harvest from this field in normal conditions.

The seed used was from popular seed houses, nothing special. Next year I will consider non-hybrids preferably from Western Canada. The temperature during summer were between 14 deg C. and 18 deg C. (sorry not F.), clouds most of the day. I do not know how close it is going to the actual conditions but I will plant a similar site next year, with different seed. I am now considering a portable greenhouse made of aluminum structure and with plastic windows (not a tunnel) very light and portable. Can be assemble by one person. Hail resistant. COSTCO sells them in the spring for 800 Can\$ (1.4 Can\$ = US\$).

Offered by [Samsara](#).



# Troubled Times



## City Plot

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I am rather crafty in my basement, and have built a combination propane/coal fired forge in my garage. I like to garden and just this evening planted the wheat that I grew out this past year. The wheat came to me from a friend who went to Norway and found some growing wild out in front of a Viking age barrow mound. It has been really neat to have my own wheat patch. I started with three heads, and lost two of them in the first years planting because they were not labeled winter wheat. So once my farmer friend stopped laughing at me - he said that he had never ever seen what winter wheat looked like when it was planted in the spring - I planted the remaining head and from 19 wheat plants got enough seed this year to save out 6 heads and still plant an area of about 12 square feet.

It is really neat to talk to my farmer friends and talk about my 144 square foot garden and the number of wheat stalks I have in my "field". I live in the city and have a small backyard, and with small children to take care of and supply an area for them to play in my garden is small, but I had corn, potatoes, beans, tomatoes basil and pumpkins ( the pumpkins were an accident of poorly rotten compost.) I have been practicing growing food partially as a result of reading this list. I plant different things and see how they grow. I would have to work very hard to live off of 144 square feet, so I consider it an experiment. The corn was really good this year and I discovered that earwigs are the culprits that can wreak a crop.

Offered by [Gus](#).



# Troubled Times



## Soil Fertility

The left side of the picture was planted in loose organic potting soil in a 2 gallon pot. The tops did not have as much tendency to vine and the stems were thinner. Each plant produced about 6-7 patios ranging in size from 3/4" to 1.9". The biggest is about 1/2" to 3/4" smaller than typical store bought sizes. Right side of the picture shows results of Purple Patios planted in sandy soil flower bead near the house. Not as much organic matter as compared to the organic potting soil. The harder sandy soil produced lush tops with thick stems that turned into long vines that lay on the ground. The Patios produced were none to one per plant with the size between 1/4" to 3/4".



Both were planted at the same time 19 April about 3 to 4" deep. Both spots receive about the same amount of sun light of 3-3.5 hr./day. About 1/2 of the plants had died off by 29 Aug (4 months latter). Both were watered and feed nutrients at the same rate. None of the plants flowered during this time. Next time I plan to plant closer to the surface and once the plant gets about 8" high then add about 6" of loose mulch for the patios to grow in. Apparently they need lots of loose room to grow in. I need to find a better patio to give more result for the effort.

**Mike**

Not much I can say Mike, you've done a great job of experimentation and observing the results. About the only thing that comes to mind is that it would appear that something the potatoes need for foliage is in the sandy soil while something that they need for tuber production is missing in the sandy soil. I would suggest that next time you mix some of your sandy soil with your organic potting soil. The rate of 1/3 sandy soil and 2/3 potting soil should work. This should help in increasing the size of your tubers. (You need good healthy foliage to feed the tubers!)

Another thing comes to mind: you used a 2 gallon pot? You might be crowding the plant a little - hence the smaller size of your tubers. Try to keep a few of these tubers for next year. (They will be adapted to low light conditions.) Excellent work!

**Roger**



# Troubled Times



## Beginner Bumbblings

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Even experienced gardeners, the TEAM experts, had their bumbling beginnings. Here's reports from Team members on their beginnings.

- [Roger](#)



# Troubled Times



## Container Gardening

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Container gardening problems under discussion are:

- [Rotting Onions](#)
- Rubbermaid [Tubs](#)



# Troubled Times



## Tomato Peculiarities

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The tomatoes are ripening on the small side. Their taste (heirloom slicing) is quite spicy, great for a pasta sauce, not for a slice on a sandwich. There is also a little bit of green inside the only one that has ripened so far. Any idea what that is?

**John**

Not all heirloom and open pollinated varieties will ripen to the uniform red color we are used to seeing in store-bought or hybrid varieties. My Amish Paste tomatoes had distinctive green shoulders (inside and out) last year. This is normal and they never did redden their shoulders (even indoors for over a week).

**Roger**



# Troubled Times



## Winter Wheat

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The snow has melted here and all the wheat is dead. It was alive during the warm spell we had in February. In March, it got very cold (2 above one night), lots of snow and ice, and the wheat must have already come out of dormancy. Shades of things to come I guess. Since winter wheat must experience winter, I don't know how this could be a good hydroponic plant, so I'm at a loss since I'm sure next winter will be even more of a yoyo than this one. I was really looking forward to grinding a little bit up for some home grown flour and bread.

**John**

Wheat doesn't really need to overwinter. It is capable of surviving winter, but it is not an essential part of its life cycle. The reason farmers grow 'winter' wheat is they can get two crops out of the same field in one year by planting the wheat in late fall and harvesting in May! It is not practical for a farmer to plant wheat in Spring (around April, when the ground can be worked) and then not be able to plant any other crop in the same field later when the wheat is finished. Some farmers do grow wheat this way, but not around here in Kansas wheat country!

**Roger**

I planted some organic red hard winter wheat around 10 jan 99. It light frosted several times in southern California. It really went to town and grew like mad for about 3 weeks. It is now about 2 months later and it is only about 8-9 inches high, hasn't grown much during the last weeks, beginning to lazily lay over, no seeds yet. Been growing it with say 1-2 hr sun light/day. Does it need stress or cutting back, more sun light, or is it doing OK considering the lighting?

**Mike**

# Troubled Times



## Growers

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The **Seed TEAM's** goal is propagation of non-hybrid seed to be distributed among Troubled Times members as needed so they can start their own gardens. [Membership](#) in Troubled Times is open to the public. **Seed TEAM** discussions, when they do occur, are conducted on the [TT-Seed](#) mailing list. If you're interested in participating as a grower we will need an address where we can snail mail the seeds to you. Do *not* send us an address that will become your eventual survival site. This should always be kept close. We'll also need from you a list of those seeds you think you'd be successful at growing. Most growers will eventually specialize, growing en mass what they grow best. Your personal garden will, of course, have a variety.

The list of seed we are currently growing will change over time. There will be more plants than are listed, as the list will grow and begin to sort out by climate and soil type too. Let us know what part of the world you will be gardening in, and what seed you may have of your own, and what seed you might be interested in growing. Remember, the seed you receive is intended to be grown out to seed to increase our seed stock. You may use your discretion as far as harvesting some of it for food in order to taste it and determine if you want to keep some of the seed for yourself. Participating as a grower allows **Seed TEAM** members to hone their skills at saving seeds as well as at gardening. Members should grow in the climate they are in today, but for their personal garden, they should grow with an eye on their future climate too.

### Seed TEAM Coordinators



# Troubled Times



## Seed List

The Seed TEAM is currently growing, for distribution to *new* Seed TEAM growers, the following list of seeds. The goal of this effort is to increase the stock of non-hybrid seed and encourage self-sustaining gardens among Troubled Times members and the populace at large.

### Amaranth

Grain  
Greek

### Apple

MacIntosh

### Asparagus

### Beans

Adzuki  
Fava  
French Green  
Garbanzo  
Green Bush  
Lima  
Navy  
Pinto  
Red Kidney  
Soy  
Yellow Bush

### Beets

Sugar Beet  
Swiss Chard

### Berry

Blueberries  
Strawberry

### Broccoli

Spring  
Fall

### Cabbage

Chinese  
Coleslaw  
Ked Russian Kale  
Red

### Carrots

Arc  
Autumn King  
Danvers  
Detroit Dark Red

### Corn

Flour Meal  
White Sweet

### Daisy/Mum

Garland  
Pyrethrum

### Eggplants

### Grain

Buckwheat  
Tioga Wheat  
Winter Wheat

### Grape

Concord

### Herb

Basil  
Bergarnot  
Camomile  
Calendula  
Coriander  
Endive  
Feverfew  
Motherwort  
Oregano  
Parsley  
Rosemary  
Sage  
Self Heal  
Sorrel  
St. John's Wort  
Sweet Marjoram  
Thyme

### Lettuce

Butterhead  
Lemon Basil  
Oak Leaf  
Red  
Romaine

### Melon

Honeydew  
Musk  
Watermelon, Yellow

### Mustard

Rocket

### Okra

### Onions

Red  
Scallions  
Spanish

### Peanuts

### Peas

Snow  
Sweet Green

### Peppers

Ancho  
Cayenne  
Green/Red Sweet  
Jalepenos  
Long Yellow Sweet  
Paprika

### Pumpkin

Pie

### Radish

Daikon  
Giant

### Spinach

Bloomsdale  
Olympia

### Squash

Acorn  
Butternut  
Gold Nugget  
Zucchini  
Yellow Summer

### Sunflower

Black Oil  
Stripped

### Tomatoes

Paste  
Canning/Catsup  
Cherry  
Greenhouse  
Italian Plum  
Salad Slicing

Yellow Sweet  
**Cucumbers**  
Greenhouse  
Pickling  
Salad

Yellow Seed



# Troubled Times



## Seeds Shortage

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As a precaution against coming cataclysms, I have decided to start saving seeds from my garden this year. With that in mind, I did not purchase any seeds with 'hybrid' in their name. Hopefully, none of the ones I bought are hybrids without being listed as such. I looked through 3 seed catalogues before I found a non-hybrid sweet corn, and then only one variety: Bantam.

**Wendy**

Mainstream seed companies are often very short of heirloom varieties. A page with a long list of sources of heirloom seeds: <http://www.halcyon.com/tmend/links.htm>

**George**



# Troubled Times



## Asparagus

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There is information on [Asparagus](#) from the Seed **TOPIC** in the Food section of Troubled Times.

Prefers full sun; damp, sandy, rich soil; neutral pH; long growing season; and tolerates frost.

**Roger**

### 1998 Observations

Grower Shekina found that the acid pH in Washington State soil caused by pine needles resulted in zero germination. Grower Nancy found that all her seeds germinated in potting soil, however.



# Troubled Times



## Beans

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There is information on [Beans](#) from the Seed **TOPIC** in the Food section of Troubled Times.

Bush beans prefer full sun; damp, rich soil; neutral pH; short growing season. Pole beans prefer full sun; well-drained but damp, rich soil; neutral pH; short growing season. Lima beans prefer full sun; damp, rich soil; neutral pH; long growing season. Soy beans prefer full sun; damp, rich soil; long growing season; tolerates wind.

**Roger**

### 1998 Observations

Grower Jeroen found White Navy beans to be the highest producer of pods to plant and seeds to pod of all beans grown. Growers Jeroen and Roger found Yellow beans to be the least productive. Grower Jeroen found high humidity caused White Navy bean seeds to sprout in the pod. Grower Kristine found harvested White Navy bean seed would rot in high humidity if sealed before being well dried. Grower Robert found his Yellow and Green bean seeds rotting on the vine before harvest in high humidity.



# Troubled Times



## Beets

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There is information on [Beets](#) and beets as a [Biennial](#) from the Seed TOPIC in the Food section of Troubled Times.

Tolerates full shade; well-drained but damp, rich soil; neutral pH; tolerates wind.

**Roger**



# Troubled Times



## Broccoli

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There is information on broccoli as part of the [Cabbage](#) family from the Seed **TOPIC** in the Food section of Troubled Times.

Tolerates full shade; damp soil; tolerates poor soil; neutral pH; long growing season; tolerates frost and wind. Broccoli is a cold weather crop. It loves the cool temperatures of Autumn and early Spring. It will only go to seed when the climate gets warmer, in late Spring or early Summer.

**Roger**



# Troubled Times



## Cabbage

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There is information on the [Cabbage](#) family and cabbage as a [Biennial](#) from the Seed **TOPIC** in the Food section of Troubled Times.

Tolerates full shade; well-drained but damp, rich soil; alkaline(high pH) soil; long growing season; tolerates frost and wind. Cabbage is a cold weather crop. It loves the cool temperatures of Autumn and early Spring. It will only go to seed when the climate gets warmer, in late Spring or early Summer.

**Roger**



# Troubled Times



## Carrots

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There is information on the [Carrots](#) and carrots as a [Biennial](#) and a [Root Vegetable](#) from the Seed **TOPIC** in the Food section of Troubled Times.

Prefers full sun; well-drained but damp, sandy, rich soil; neutral pH; short growing season; tolerates wind.

**Roger**

**Q:** We've just harvested some carrots the seeds of which were planted last year. To have nice big fat carrots this early in the year in Michigan is truly amazing as this is the weekend for planting a garden not harvesting. Seeds for carrots are extremely small. Does anyone know how you get carrots to go to seed or give you seed?

**John**

**A:** If you let those carrots stay in the ground instead of harvesting them, they will put up seed stalks this year. Flowers that you can allow to mature and then dry. Of course by then the carrots will be too woody to eat. Many vegetable crops are biennial like that, cabbage, onions, parsley, to name a few.

**Toni**



# Troubled Times



## Corn

---

There is information on [Corn](#) from the Seed **TOPIC** in the Food section of Troubled Times.

Prefers full sun; well-drained, rich soil; neutral pH; long growing season.

**Roger**

### 1998 Observations

Grower Gus found corn loves chicken manure, and that both the non-hybrid White and Yellow Sweet corn were susceptible to black smut fungus. Grower Gus also found that he had to let the corn seeds dry on the cob to prevent them from spouting after harvest in the high humidity. Grower Jeroen found that high humidity caused his crop to rot while standing.



# Troubled Times



## Cucumber

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There is information on [Cucumbers](#) from the Seed **TOPIC** in the Food section of Troubled Times.

Prefers full sun; well-drained but damp, rich soil; neutral pH; short growing season.

**Roger**

### 1998 Observations

Grower Robert stated "These Salad cukes are *great*, the best I've ever eaten, and prolific."



# Troubled Times



## Eggplant

---

There is information on [Eggplant](#) from the Seed **TOPIC** in the Food section of Troubled Times.

Prefers well drained, rich, acidic(low pH) soil; long growing season.

**Roger**



# Troubled Times



## Herbs

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Parsley prefers full sun; well-drained but damp, rich soil; neutral pH; long growing season; tolerates wind.

**Roger**

### 1998 Observations

Grower Milly found Basil “a very easy plant to grow”. Grower Shekhina found Camomile would not germinate in soil made acid by pine needles.



# Troubled Times



## Lettuce

---

There is information on [Lettuce](#) from the Seed **TOPIC** in the Food section of Troubled Times.

Tolerates full shade; well-drained but damp, sandy, rich soil; neutral pH; short growing season; tolerates wind.

**Roger**

### 1998 Observations

Grower Milly found her potted lettuce, growing in a warm and sunny spot, bolted but did not go to seed. Other growers planting in the ground did not have this experience.



# Troubled Times



## Melon

---

There is information on [Melons](#) from the Seed **TOPIC** in the Food section of Troubled Times.

Prefers full sun; well-drained but damp, sandy, rich soil; neutral pH; short growing season.

**Roger**

### 1998 Observations

Grower Shekhina found that melon refused to germinate in acid pH soil. Grower Gus had no problem growing both Cantaloupe and Watermelon in neutral pH soil.



# Troubled Times



## Okra

---

There is information on [Okra](#) from the Seed **TOPIC** in the Food section of Troubled Times.

Prefers full sun; well-drained but damp, sandy, rich soil; neutral pH; short growing season.

**Roger**



# Troubled Times



## Onions

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There is information on [Onions](#) and onions as a [Biennial](#) from the Seed **TOPIC** in the Food section of Troubled Times.

Prefers full sun; sandy, rich, acidic(low pH) soil; long growing season; tolerates wind. Some varieties of onions are perennials. Most are biennials. You can speed up the process with onions if you plant the seed indoors in the fall and let them grow until they have started to form little bulbs. Then you pull them and bundle them. Put them in the vegetable drawer in the fridge and make sure they stay moist enough to stay alive. Check them every couple of days to make sure they are not wilting and/or molding. Once the outside temp is above freezing most nights you put the onion plants in the ground and they will definitely go to seed in that season!

**Roger**

### 1998 Observations

Growers Nancy and Mitchel found onion germinated but died off inexplicably in non-acid soil.

Grower Nancy found that Scallions were not as sensitive to pH and flourished.



# Troubled Times



## Peanuts

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Prefers full sun; well-drained, sandy, acidic (low pH) soil; long growing season; tolerates wind.

**Roger**



# Troubled Times



## Peas

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There is information on [Peas](#) from the Seed **TOPIC** in the Food section of Troubled Times.

Prefers partial shade; well-drained but damp, rich soil; neutral pH; short growing season.

**Roger**



# Troubled Times



## Peppers

---

Tell me what is the recommended way of harvesting seeds from hot peppers. I have all types little, to large and green, to yellow, to red. When do you take it off the plant and what do you do next.

**Mike**

Leave some peppers on the vine to turn red. Then I pick off and lay them on a paper towel or cloth to finish drying. You want to make sure they are very dry before disturbing them. I usually let them dry almost till next season or take a thread and string them up. Then you can pull one off and use for cooking. You can also plant the seed the next season.

**Ivy**

Ivy's suggestion is essentially correct. Though you can speed up the process considerably by cutting open the pepper and removing the seeds. They shouldn't need washing (most peppers are dry on the inside), just lay them out for a week or two and then store them until you're ready to plant them again! Most peppers turn from green to red when ripe, but to be sure you can leave them on the vine until they begin to shrivel a little. If you are harvesting late season or have a short growing season, you can bring them indoors and they will ripen and mature their seeds just fine. The seed is viable for about two years when stored in cool dry conditions (usually in sealed containers).

**Roger**

There is also information on [Peppers](#) from the Seed **TOPIC** in the Food section of Troubled Times.

Prefer full sun; damp, sandy soil; neutral pH, long growing season.

**Roger**

### 1998 Observations

Grower Shekhina found that a cold snap wilted her Cayenne Hot Pepper seedlings, and Grower Clipper found he failed also with peppers in a climate tending to cold snaps.



# Troubled Times



## Potatoes

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There is information on [Potatoes](#), which can be grown from seed or tubers as a [Root Vegetable](#) from the Seed **TOPIC** in the Food section of Troubled Times.

Prefers partial shade; well-drained but damp, rich, acidic (low pH) soil; long growing season; tolerates wind.

**Roger**



# Troubled Times



## Pumpkin

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### 1998 Observations

Grower Gus trellised the Pumpkins, found this worked well, and that they were delicious and produced lots of seed. "Made pumpkin pie out of some and they were delicious."



# Troubled Times



## Radish

---

There is information on [Radish](#) from the Seed **TOPIC** in the Food section of Troubled Times.

Tolerates full shade; damp, rich soil; short growing season; tolerates wind.

**Roger**



# Troubled Times



## Spinach

---

There is information on [Spinach](#) from the Seed **TOPIC** in the Food section of Troubled Times.

Tolerates full shade; damp, rich soil; neutral pH; short growing season; tolerates wind.

**Roger**



# Troubled Times



## Squash

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There is information on Squash as a member of the [Cucurbits](#) family from the Seed **TOPIC** in the Food section of Troubled Times.

Prefers full sun; well-drained but damp, rich soil; neutral pH; short growing season.

**Roger**

### 1998 Observations

Grower Shekhina found squash (Butternut, Yellow, and Zucchini) would not germinate in soil made acid from pine needles. Grower Robert had great success with Butternut squash, considered a hardy squash that can be stored in a root cellar. Grower Roger found his Acorn squash received from The Arc not true to type, having cross bred, and is attempting to breed true.



# Troubled Times



## Tomato

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Tomatoes need at least a week (5 to 7 days, no less) to ferment. There is no way to prevent mold from forming, save to interfere with the process of fermentation. Ever notice what happens to the tomatoes you toss out because they were split or had been gnawed on by some other garden visitor? They rot and mold extensively. This is how the seeds become viable. You may get lucky with a few of the seeds if only given 2 or 3 days, but your germination rate will go way down. Also, the stirring is necessary, but not to prevent mold, this breaks up the fibers holding the seeds together and helps when it's time to separate the seeds after drying.

Keep the jars or bowls indoors and covered by wax paper to keep the flies from laying eggs in them. This way you don't have to separate the maggots from the seeds (my father had to do this one year - he doesn't recommend it). The best way to dry the seeds after fermentation? Just spread them out flat on a piece of wax paper and leave them on a window sill for a week. Then you can pick up the sheet of seeds and carefully grind them together with your fingers to separate them!

**Roger**

There is also information on [Tomatoes](#) from the Seed **TOPIC** in the Food section of Troubled Times.

Prefer full sun; damp, rich soil; neutral pH; long growing season.

**Roger**

### **1998 Observations**

Grower Gus found the seeds hard to extract from the Canning/Catsup tomatoes.



# Troubled Times



## Wheat

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There is information on [Wheat](#), how to [Thresh](#) wheat, and how to harvest [Buckwheat](#) from the Seed **TOPIC** in the Food section of Troubled Times.

### 1998 Observations

Grower Roger found buckwheat prolific and aggressive, stating "I had to harvest the seed or else I would be pulling buckwheat like weeds for longer than I can imagine!"



# Troubled Times



## Seed Storage Tips

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Words of advice from [Geri Guidetti](#) of **The Arc Institute**

To sum up storage of seed, cool, dark and dry are the conditions you want. Temperature fluctuations, especially heat, and humidity are seeds' worst enemies. Generally the drier and cooler the better. You are shooting for a moisture content of about 8%. Seed that dry can be safely frozen for very long periods of time with little or no loss of seed viability. I have spoken with seed storage experts at the National Seed Storage Laboratory and was told that seed stored forty years ago under these conditions was highly viable.

A great way to get seed down to such low levels of moisture is to use a desiccant with your seed packets and seal them together in an airtight jar. A Kraft mayo jar, for example, is perfect for a new wide-mouth canning lid and ring. Hellman's and Best Foods mayo jars or standard canning jars will take a regular size canning lid. Add silica gel to the jar, add the seeds, still in their packets, to the jars, and seal. Small seeds will dry down to 8-10% moisture overnight, while large seeds may take several days. You can then recycle the silica gel and process more seeds with it, sealing the dry seeds into a new, dry jar and putting them in the freezer.

Now, if you want to store your seed for a year or two, shoot for the coolest, driest part of your home. Humidity is generally a greater enemy of viability than temperature, but both are important. Most vegetable seeds have a natural longevity of about 3-5 years under these conditions. Onions are less - one year or so. Lettuce, approximately 2 years. Store these in the freezer as above, or grow them out this year and multiply to get fresh seed. If you haven't already bought Suzanne Ashworth's great book, *Seed to Seed*, I would strongly suggest that you do so. It can be purchased through **The Arc Institute** for only \$23.



# Troubled Times



## Seed Pulp

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I get a magazine called *The Growing Edge*. The magazine is all about hydroponics. A very good publication and available at Barnes and Noble. One tidbit for separating seeds from edible fruit such as pumpkin, watermelon, tomatoes, squash: Cut open the fruit and scoop out the seeds. They usually have a considerable amount of pulp clinging to them. Place the whole mass in a bowl or jar of water and allow it to sit at room temperature. Stir the mixture occasionally to prevent mold from forming. In 2 or 3 days, the pulp and lightweight non-viable seeds will float to the top of the bowl or jar and the viable seeds will stay at the bottom. Pour off the floating matter, then drain and rinse the good seeds. Lay out the seeds to dry for a week or two before storing them in the refrigerator.

**John**



# Troubled Times



## Root Cellar Tips

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I tried root storage in my basement last year for the first time. I grew Kennebec potatoes, and harvested them in the end of August because the bugs had turned the plants into skeletons. I stored them in a single layer on shelves in a section of my basement that has a dirt floor. I didn't eat all of them, but saved some just to see how well they would keep over the winter. As of now, they are in perfect condition, firm, no sprouting. The store bought russet potatoes I stored next to them are sprouting. My attempts with beets, carrots and Jerusalem artichokes wasn't so successful. The beets turned soft months ago. The carrots and artichokes shriveled up.

I tried soaking some artichokes in water, to see if they would reconstitute and sprout like my dahlia tubers do. They reconstituted all right - but then they molded. Most books I've read on Jerusalem artichokes recommend keeping them in the ground and digging them as needed. Whoever wrote those books obviously lived south of the Mason-Dixon line. I did pull up some clumps and re-bury them in my flower beds last fall. Hopefully those will be viable, since I didn't order any more choke tubers this year. I've thought of burying them in the dirt floor of my root cellar.

**Wendy**

Soft doesn't mean not-viable. If they hold on until around the 1st of May, you can replant them and they should do fine. Molding will happen if there is too much moisture. The same will happen in the ground if the soil is too wet. If you cover artichokes with enough mulch, it doesn't matter which side of the Mason-Dixon line their on. Burying your artichokes in the basement floor will make much difference in the storage life of your tubers. In fact, it might lessen their life as the moist warm soil will confuse them and make them think that the sun will be rising any minute now. The point with leaving them in the ground is to put them completely into dormancy. The frozen ground won't harm them much, it's the thawing that will. If you're concerned about being able to dig one up now and again for a meal, then simply hold a few at a time in your basement for food. Go out and dig up a few more when a warm spell thaws the ground a bit.

**Roger**

Several years ago, I read about a way to store roots in an outdoor root cellar. You dig a hole about 3 to four feet deep and line it with straw. In the bottom layer, you put a single layer of potatoes, beets, carrots, turnips etc. or whatever other roots you want to store, cover with straw and a layer of soil, then more straw, more root veggies, more straw and soil and so on until you get near the top - lots more straw to cover. Each time you need more veggies, you dig out the next layer. You only have to fill with straw to maintain the insulation and ease of access each time. This would solve the temperature and moisture conundrum I think. I haven't actually tried it myself, but the authors said they did.

**Cass**

If you have an old refrigerator that is not working then dig a hole big enough for it, place it in the hole and put your roots in it, then cover with plastic and a layer of straw. If you live where there is snow and ice then use a sheet of old plywood to cover it, then the straw, plastic, and a top layer of straw if you wish. The shelves will act as separators for the different kinds of roots. Also, do not forget to use the freezer portion for storage as well. Animals are less likely to smell through the refrigerator than if the produce is just buried in the ground. Also, you may want to put a hasp and lock on it to keep them out.

**Lou**



# Troubled Times



## Early Start

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I live in Minnesota, USDA Planting Zone 4. However, this has been an extremely mild winter here, essentially Zone 5. With this in mind I have started a few seeds very early, mostly as an experiment to see if I can maintain them until outdoor planting time, and see whether and how much sooner they will produce than seeds started later. The seeds I have started are mostly long-season varieties such as melons, gourds, tomatoes and peppers. I actually bought cell pack seed starters in trays with clear plastic lids (and Martha Stewart's photo on them - yuck!) and some soilless seed starting mix. Each tray and bag of mix cost me \$3.99 at K-Mart. I think 1 bag of mix should fill 2 trays. I started the seeds on wet coffee filters inside of ziploc bags. I check them daily, and transfer sprouted seeds to cell packs. I originally had the bags on a table in a room with a 65-70 F (17-20 C) degrees, but they took over a week to sprout there, so I moved them to the hearth by my woodstove. The warmth from the stone beneath them encourages them to sprout in 3-5 days. I only have 6 seedlings so far.

My husband is going to build me a cold frame of PVC pipe with a sheet plastic skin to put on our patio. I intend to line the bottom with water bottles for heat absorption and put the trays of seedlings on top of the bottles as soon as it is warm enough outside to do so (late March - early April). Tender varieties may still have to come inside overnight, but hardier ones like peas can probably stay out. I will start a lot more seeds in a couple weeks. I have a soil block maker, and I bought 2 bags of potting soil. I intend to put varieties that can go into the garden soonest (like peas) on soil blocks. The warmer-blooded varieties I will start in cell packs and move to larger pots as they get bigger. I know some plants dislike being transplanted. That's why I intend to start peas in soil blocks; the roots shouldn't be disturbed by transplanting. Even for those in bigger pots, like melons, I still think that a 2 month old plant, unhappy about being moved, will be farther along in 2 weeks than a seed put directly into the ground.

**Wendy**

A cold frame is a great idea and can be used for hardening seedlings of cool season crops like broccoli and cauliflower. Also, if you put your cold frame in the ground, grow spinach and lettuce directly in the cold frame and harvest from there. Actually, peas are hardy enough to plant directly in the garden while it's still quite cold, and don't transplant well. Several of the plants you mentioned (melons, gourds, peas) do not transplant very well and should be planted directly in the garden. Tomatoes and peppers work great, though. Seeds planted at the wrong time or in the wrong manner will disappoint. I use "The Victory Garden" for much general good advice. "Square Foot Gardening" is another good book. Rodale Press, publishers of "Organic Gardening" magazine, have numerous good books on organic gardening and other sustainable living techniques.

**George**

You can generally direct seed your peas into the soil at the end of March and all through the month of April. They are quite cold hardy. St Patty's Day is the traditional date to plant peas, and we have a May 30th frost date here in New York.

**Toni**

Be careful about damaging the plant while transplanting. Some plants will never recover from the shock. Last year I apparently harmed one of my cabbage starts (one of the easiest varieties to start and transplant, very hardy) and though it didn't die until the Fall freeze took it, it didn't grow or develop beyond that seedling size (about 4 inches tall and only 4 leaves).

**Roger**

# Troubled Times



## Grow Lights

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I bought an incandescent grow-light 60 watt bulb at a hardware store for \$7.72 for my indoor early starters. Although I have the grow light 3-4 inches above them, they already look a bit spindly. I watered them thoroughly today, removed the plastic cover, and put the grow light closer to them (about 2 inches above them). I am aware of the recommendation for fluorescent lights for seedlings. That will require help from my husband, who hates my gardening, so I thought I'd try the incandescent bulb first. I am puzzled as to why it doesn't provide enough lumens for a 4" square area, though. If it can't provide the light, then why do they label it 'grow light' and charge \$8/bulb for it? This is all experimentation on my part, trying to see what works and what doesn't.

**Wendy**

A 60 watt bulb is way too little light to grow strong seedlings. The symptom of low light is weak, spindly seedlings. Fluorescent tubes work better. A workshop fixture with 2 48" grow lights will illuminate your trays properly if you keep the light suspended only a few inches above the seedlings.

**George**

The incandescent lights are marketed to supplement the spectrum for your established house plants. They are just not capable of providing the energy needed to feed seedlings. There is one possible improvement you could try (as an experiment, since you already have the bulb): fashion a parabolic (bowl-shaped) reflector/fixture for the bulb and set it up above your growing area. The parabolic reflector will help concentrate the light and may give you more coverage, or at least deliver better lighting to the coverage of the reflector. You don't need to buy those expensive fluorescent grow lights either. Just regular fluorescent bulbs in a 4 foot fixture will do quite nicely (I can vouch for 20 seasons getting their start this way).

**Roger**

I can vouch for Roger's comments, as I also have almost 30 years experience starting seedlings with regular fluorescent bulbs. You have to get them close, though, about a foot or the seedlings will be spindly. This year, however, I have the opportunity to do something different. The hydroponics equipment, including halogen lighting has arrived. This was purchased by TT Inc. for the hydroponics work here at TT Inc. Headquarters. When I saw the size of the halogen bulbs I just had to hook one up to see how bright it was. Geez!! The 1000 watt bulb was so bright, at about 15 feet, that you couldn't look at it - like looking directly at the sun and a big blue spot in your vision for an hour afterward! Since we won't be actually starting hydroponic growing until after the gardens are in, I plan to use one of these lights to start the seedlings. The 1000 watt unit with reflector will light an area of 64 sq. feet as bright as the noon sun. It will be really nice to be able to put healthy plants into the cold frames to get ready for planting.

**Ron**



# Troubled Times



## During 1998

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During the 1998 growing season in the northern hemisphere, less than 20 Troubled Times members, a small [Number](#) but more than one per seed type, attempted to grow the seeds on the seed list. Good [Germination](#) results were reported. Problems with [Cross Breeds](#) emerged and mixed results were reported. [Changes](#) to the list were suggested.

But mixed results were reported in the end from [Clipper](#), [Gus](#), [Kristine](#), [Jeroen](#), [Michel](#), [Mike](#), [Milly](#), [Nancy](#), [Roger](#), [Shekhina](#), and [Toni](#).



# Troubled Times



## Original Seed List

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Asparagus	Eggplants	Scallions
Spanish Onions	Red Onions	Yellow Onions
Green Bush Beans	Yellow Bush Beans	Red Kidney Beans
White Navy Beans	Pinto Beans	
Green/Red Sweet Pepper	Long Yellow Sweet Peppers	Cayenne Hot Pepper
Parsley	Basil	Chamomile
Early Carrots	Mid-Season/Late Carrots	Pie Pumpkins
Red Beets	Spinach	Giant Radish
Flour/M Meal Corn	White Sweet Corn	Yellow Sweet Corn
Sweet Green Peas	Snow Peas	Wheat
Spring Broccoli	Fall Broccoli	Acorn Winter Squash
Zucchini Summer Squash	Yellow Summer Squash	Butternut Squash
Red Cabbage for Salads	Cabbage for coleslaw/kraut	Canning/Catsup Tomato
Drought-resistant Cantaloupe	Honeydew Melon	Solid Salad/Canning Tomato
Italian Plum Tomato	Large Salad Tomato	Heirloom Slicing Tomato
Salad Cucumbers	Pickling Cucumbers	Romaine Lettuce
Butterhead Lettuce	Red Lettuce	Summer Oak Leaf Lettuce



# Troubled Times



## During 1999

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During the 1999 growing season in the northern hemisphere, serious fine tuning of seed gathering techniques were apparent, with advice from the **TEAM** experts. Good results were reported during the growing season by [Barry](#), [Clipper](#), [Grant](#), [John](#), [Mike](#), and [Ron](#).

The **Seed TEAM** received regular funding from a contributor to **Troubled Times, Inc.**, the nonprofit arm, to support postage and purchase new seed. Consequently the Seed List expanded for the year 2000 growing season!



# Troubled Times



## 1999 List

During 1999, the Seed TEAM selected to grow seed from the following list of plants, expanded from the original 1998 list by contributions from grower stock and select purchases.

### Amaranth

Burgundy  
Golden Grain  
Grain  
Greek  
Hopi Red Dye

### Apple

MacIntosh

### Asparagus

### Beans

Anasazi  
Contender  
Green Bush  
Pinto  
Provider  
Red Kidney  
Tendercrop  
White Navy  
Yellow Bush

### Beets

### Berry

Blueberries  
Strawberry

### Broccoli

Spring  
Fall

### Cabbage

Red  
Coleslaw

### Daisy

Pyrethrum

### Eggplants

### Grain

Buckwheat  
Tioga Wheat  
Winter Wheat

### Grape

Concord

### Herb

Basil  
Bergarnot  
Camomile  
Endive  
Feverfew  
Motherwort  
Oregano  
Parsley  
Rosemary  
Sage  
Sorrel  
St. John's Wort  
Sweet Marjoram  
Thyme

### Kale/Collard

Red Russian

### Lettuce

Buttercrunch  
Butterhead  
French Heirloom Red  
Ithica  
Lemon Basil  
Oak Leaf  
Red  
Romaine

### Onions

Red  
Scallions  
Spanish  
Yellow

### Peach

### Peanuts

### Peas

Dark Green Improved  
Snow  
Sweet Green

### Peppers

Ancho  
Cayenne  
Green/Red Sweet  
Jalepenos  
Long Yellow Sweet  
Paprika

### Plum

Purple (Illinois)  
Purple (Wisconsin)

### Pumpkin

Pie

### Radish

Giant

### Spinach

Bloomsdale  
Olympia

### Squash

Acorn Winter  
Butternut  
Gold Nugget Heirloom

**Carrots**

Autumn King  
Danvers 126  
Detroit Dark red  
Early  
Fall

**Corn**

Flour Meal  
White Sweet  
Yellow Sweet

**Cucumbers**

Greenhouse  
Pickling  
Salad

Rouge D'Hiver  
Simpson Heirloom  
Swiss Chard

**Melon**

Cantaloupe, Drought Resistant  
Cantaloupe, Mildew Resistant  
Honeydew  
Musk  
Watermelon, Yellow

Zucchini  
Yellow Summer

**Tomatoes**

Amish Paste  
Canning/Catsup  
Fence Row Cherry  
Greenhouse  
Heirloom Slicing  
Italian Plum  
Pink Love Apple  
Rutgers  
Salad Slicing  
Yellow Pear Cherry



# Troubled Times



## During 2000

During the 2000 growing season in the northern hemisphere, seed growing in dedicated gardens began, in addition to the seed gathering from individual contributors working from their home gardens. This included an area dedicated to perennial herbs. These dedicated gardens were supported by the Troubled Times, Inc. nonprofit, and profited by donations specified for support of this project came from John Kelso and another generous anonymous gift. The results alone from this acre dedicated to seed gathering, worked by volunteer hands during the 2000 growing season, were:

<b>Fava Beans</b>	<b>2 1/2 C</b>
<b>Yellow Bush Beans</b>	<b>1/2 C</b>
<b>Garbanzo Beans</b>	<b>1 1/2 C</b>
<b>Navy Beans</b>	<b>6 C</b>
<b>French Green Beans</b>	<b>4 1/2 C</b>
<b>Black Turtle Beans</b>	<b>5 C</b>
<b>Green Bush Beans</b>	<b>3 1/2 C</b>
<b>Pinto Beans</b>	<b>5 1/2 C</b>
<b>Green Peas</b>	<b>5 1/2 C</b>
<b>Snow Peas</b>	<b>3 C</b>
<b>Soy Beans</b>	<b>1 C</b>
<b>Adzuki Red Beans</b>	<b>1 C</b>
<b>Pole Lima Beans</b>	<b>3 C</b>
<b>Kidney Beans</b>	<b>3 1/2 C</b>
<b>Black Oil Sunflower</b>	<b>1 Gal.</b>
<b>Striped Sunflower</b>	<b>1 Gal.</b>
<b>Sesami</b>	<b>1 Pint</b>
<b>Muskmelon</b>	<b>2 1/2 C</b>
<b>Pumpkin</b>	<b>3 1/2 Gal.</b>
<b>Chinese Cabbage</b>	<b>1 Pint</b>
<b>Red Cabbage</b>	<b>6 Heads in Root Cellar</b>
<b>Green Cabbage</b>	<b>6 Heads in Root Cellar</b>
<b>Grain Amaranth</b>	<b>1 Gal.</b>
<b>Buckwheat</b>	<b>4 Gal.</b>
<b>Tioga Red Wheat</b>	<b>4 Gal.</b>
<b>Salad Tomatoes</b>	<b>2 C</b>
<b>Italian Plumb Tomatoes</b>	<b>2 C</b>
<b>Canning Tomatoes</b>	<b>1 C</b>
<b>Catsup Tomatoes</b>	<b>1 C</b>
<b>Cherry Tomatoes</b>	<b>3/4 C</b>
<b>Heirloom Tomatoes</b>	<b>1 1/2 C</b>
<b>Cayenne Pepper</b>	<b>1/2 C</b>
<b>Long Yellow Sweet Pepper</b>	<b>1/4 C</b>
<b>Green/Red Bell Pepper</b>	<b>1/4 C</b>

<b>Okra</b>	<b>2 C</b>
<b>Eggplant</b>	<b>1 1/2 T</b>
<b>Sugar Beets</b>	<b>3 Doz. in Root Cellar</b>
<b>Carrots</b>	<b>2 Doz. in Root Cellar</b>
<b>Daikon Radish</b>	<b>1 C</b>
<b>Rocket</b>	<b>1 C</b>
<b>Garland</b>	<b>2 T</b>
<b>Spinach</b>	<b>1 1/2 C</b>
<b>Spanish Onion</b>	<b>2 Doz. in Root Cellar</b>
<b>Scallion</b>	<b>2 t.</b>
<b>Scallion</b>	<b>3 Doz. in Root Cellar</b>
<b>Calendula</b>	<b>1 T</b>
<b>Coriander</b>	<b>1 1/2 C</b>
<b>Parsley</b>	<b>1 C</b>
<b>Basil</b>	<b>2 T</b>
<b>Self Heal</b>	<b>1/2 C</b>



# Troubled Times



## 2000 List

During 2000, the Seed TEAM list expanded from the 1999 list by contributions from grower stock, gifts from Jon Cook and Shuichi Inoue, and purchases of seed.

### Amaranth

Grain  
Greek

### Apple

MacIntosh

### Asparagus

### Beans

Adzuki  
Fava  
French Green  
Garbanzo  
Green Bush  
Lima  
Navy  
Pinto  
Red Kidney  
Soy  
Yellow Bush

### Beets

Sugar Beet  
Swiss Chard

### Berry

Blueberries  
Strawberry

### Broccoli

Spring  
Fall

### Cabbage

Chinese  
Coleslaw  
Ked Russian Kale  
Red

### Carrots

Arc  
Autumn King  
Danvers  
Detroit Dark Red

### Corn

Flour Meal  
White Sweet  
Yellow Sweet

### Daisy/Mum

Garland  
Pyrethrum

### Eggplants

### Grain

Buckwheat  
Tioga Wheat  
Winter Wheat

### Grape

Concord

### Herb

Basil  
Bergarnot  
Camomile  
Calendula  
Coriander  
Endive  
Feverfew  
Motherwort  
Oregano  
Parsley  
Rosemary  
Sage  
Self Heal  
Sorrel  
St. John's Wort  
Sweet Marjoram  
Thyme

### Lettuce

Butterhead  
Lemon Basil  
Oak Leaf  
Red  
Romaine

### Melon

Honeydew  
Musk  
Watermelon, Yellow

### Mustard

Rocket  
Yellow Seed

### Okra

### Onions

Red  
Scallions  
Spanish

### Peanuts

### Peas

Snow  
Sweet Green

### Peppers

Ancho  
Cayenne  
Green/Red Sweet  
Jalepenos  
Long Yellow Sweet  
Paprika

### Pumpkin

Pie

### Radish

Daikon  
Giant

### Spinach

Bloomsdale  
Olympia

### Squash

Acorn  
Butternut  
Gold Nugget  
Zucchini  
Yellow Summer

### Sunflower

Black Oil  
Stripped

### Tomatoes

Paste  
Canning/Catsup  
Cherry  
Greenhouse  
Italian Plum  
Salad Slicing

**Cucumbers**

Greenhouse

Pickling

Salad



# Troubled Times



## 2001 List

During 2001, the Seed TEAM list expanded from the 2000 list by contributions from grower stock, gifts from Jon Cook and Shuichi Inoue, and purchases of seed.

### Amaranth

- Grain
- Greek

### Apple

- MacIntosh

### Asparagus

### Beans

- Adzuki
- Black Turtle
- Anasazi
- Black Eye
- Calypso
- Kenearly Yellow Eye
- Vermont Cranberry
- Fava
- French Green
- Garbanzo
- Green Bush
- Lima
- Navy
- Pinto
- Red Kidney
- Soy
- Yellow Bush

### Beets

- Sugar Beet
- Swiss Chard
- Detroit Dark Red
- Sugar Beet
- Cylindra
- Early Wonder
- Winterkeeper

### Berry

- Blueberries
- Strawberry

### Broccoli

- Spring
- Fall

### Cabbage

- Chinese
- Coleslaw

### Daisy/Mum

- Garland
- Pyrethrum

### Eggplant

### Grain

- Buckwheat
- Flax
- Sesami
- Tioga Wheat
- Winter Wheat

### Grape

- Concord

### Herb

- Agrimony
- Basil
- Bergarmot
- Black Cohosh
- Chamomile
- Calendula
- Cilantro
- Coriander
- Echinacea
- Endive
- Feverfew
- Hyssop
- Lavender
- Lemon Basil
- Lemon Balm
- Motherwort
- Mugwort
- Oregano
- Parsley
- Peppermint
- Rosemary
- Safflower
- Sage
- Skullcap
- Self Heal
- Sorrel
- St. John's Wort
- Sweet Marjoram

### Okra

### Onions

- Red
- Scallions
- Spanish
- Yellow

### Peanuts

### Peas

- Snow
- Sweet Green

### Peppers

- Ancho 101
- Cayenne
- NuMex
- Pepperoncini
- Tabasco
- Green/Red Sweet
- Tam Jalepeno
- Long Yellow Sweet
- Paprika

### Pumpkin

- Pie

### Radish

- Daikon
- Giant
- Cherry Belle

### Spinach

- Bloomsdale

### Squash

- Acorn
- Butternut
- Gold Nugget
- Zucchini
- Yellow Summer

### Sunflower

- Black Oil
- Stripped

### Fiddlehead Fern

### Tomatoes

- Paste
- Canning/Catsup

Red Russian Kale

Red

**Carrots**

Arc

Armstrong

Danvers

**Corn**

Flour Meal

Bi-color (Double Standard)

Golden Bantum

Golden Midget (Yellow Dwarf)

Six Shooter (White)

White Sweet

Yellow Sweet

**Cucumbers**

Greenhouse

Pickling

Salad

Thyme

Wormwood

Valerian

**Lettuce**

Butterhead

Oak Leaf

Red

Romaine

Iceberg

**Melon**

Honeydew

Musk

Watermelon, Yellow

**Popcorn**

Japanese Yellow Hull-less

Multicolor (Dynamite)

**Mustard**

Rocket

Yellow Seed

Cherry

Cerise Orange

Fence Row

Yellow Currant

Red

Yellow Pear

Italian Plum

Amish Paste

Black Prince

Florida Petite

Greenhouse 761

Missouri Pink Love Apple

Old Ivory Egg

Pineapple

Rutgers

Sausage

Siberia

Silvery Fir Tree

White Snowball

Salad Slicing



# Troubled Times



## Mold

---

Is anyone currently working with cultivating mushrooms? I recently developed a passion for the things and am going to try to start cultivating my own. My wife is a vegetarian and I started looking for meat substitutes for her and found that some mushrooms contain complete proteins. This raised an eyebrow, but then I started thinking and this wouldn't require much light (immediately giddy) so I got on the Troubled Times site and did some looking for information to help me get started. I found a link to some site that sold kits to grow at home and books on the subject. When I learn things it usually is with a great deal of trial and error, and I want to help other people skip this error part if I can.

I already tried a kit and failed in the endeavor. I lost it to mold. It took over and I couldn't get rid of it. I'm going to grow another now that I know what I did wrong. I used a 18" x 24" x 8" Rubbermaid container and a makeshift greenhouse out of a perforated clear plastic bag. I watered it twice a day until I noticed the mold. I didn't suspend the kit above the bottom of the container so the kit was sitting in runoff water (not good). After I noticed the mold I put a cookie cooling rack under the kit which kept it suspended above the lying water. If anyone else is thinking of growing mushrooms and has gotten any better results or has some tips on propagating, please let me know. Thanks in advance. I'll keep posting what I learn.

**John.**

I got another mushroom kit. One thing that I did differently to make a cleaner growing environment was sanitize everything with a weak solution of bleach before I used it. I used a 18in.x24in.x8in. Rubbermaid tub, a kitchen cooling rack to keep the kit off of the bottom of the tub, a plastic humidity tent (a clear plastic bag with small holes in it for breathing) that came with the kit, wooden skewers to keep the tent suspended above and away from the kit. In order to get the kit to start to fruit, I had to shock it by putting it in the refrigerator for a few days. Now I am seeing some fruiting happen. Nothing worth eating yet, but at least it's looking better than my last attempt.

The instructions that came with the kit said that I should mist it 4-5 times a day. I'm not at home often enough to do this, so what I do instead is make sure that there is water in the basin to keep humidity up within the humidity tent. Don't leave enough water in the basin to touch the kit, but just below. I mist as often as possible though. Some mold is growing on top of some of the budding mushrooms, but the directions say that I should be able to take a damp cloth and wipe it away. I only noticed minor problems so I wiped it away with my finger instead while I was misting, I hope this wasn't a mistake. I'll try to keep you up to date on my progress.

**John**



# Troubled Times



## Distill Water

---

Today I went to look for distilled water in the supermarket. There I found but one optional brand. The bottle says distilled water, I read the warnings though on the side of the bottle and it basically says that the water is not fit for medical purposes and is not fit for consumption. I live in the Netherlands, maybe the distilled water over here has something added to it. How can I and others get safe distilled water that can be consumed? How can I make my own without having to buy something expensive that makes distilled water from tap water?

### Michel

Michel, I found a site where an artist created [Ceramic Jugs](#) that actually distills water using solar energy. It's worth taking a look, it give you some creative ideas on how to make this work for you. [Boiling Water](#) is the first step of making distilled water. It's the steam that rises and condenses on the coils that leads it out to drip into a container, wa la! distilled water! All of the minerals, bacteria, metals, etc. are left behind in the bottom of the tank.

### Pat

The distilling of water is one of the easiest science projects any one person can perform. It requires no chemistry degree and the equipment can be readily purchased at nominal charges. All you need is a [Condenser](#). A tube type device made of either glass or copper. It is often similarly used to make sour mash alcohol. Then it does not matter what kind of liquid you use. You can even distill waste sewage this way.

### Brian

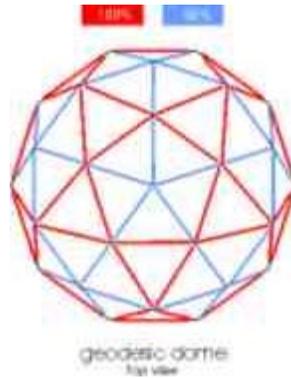


# Troubled Times



## Pipes

---



You can save a lot of trouble by stringing a dome framework together out of pipes, because you don't have to calculate or measure any angles. The framework resolves itself.

Click on the thumbnail above to see a diagram. You need 65 pipes, 30 of which are 88% the size of the rest. Then string them together as shown in the diagram. Start with the outside ring and work inward.

Once completed, slight pressure on the top should cause the base to spread out into a perfect circle. You could probably make large domes this way, then reinforce each vertex somehow once the structure is built. I've only made small models from straws, coffee stirrers, fishing line, twine, etc.

But with some metal poles and strong rope/cabbling, you could build a pretty cool house that even El Nino's bitch ass can't blow over! Just build the framework, reinforce the corners with duct tape or more rope, wrap industrial plastic wrap around the whole thing, then dump on the concrete baby!

If you make a framework large enough to stand in, you'll be able to hang onto the center of the ceiling without bending the dome! (provided you tied enough knots) Pretty good results for no nails, screws, or glue.

Most people's houses are square. Squares blow over, even brick houses have blown over in high winds recently. Domes don't blow over! Build one, or at least save up the parts in advance so you can build one in a hurry if you need to. Why live in a house built like one from the 1700's?

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Copying is permitted, but only for **non-profit** use.  
Offered by **Joe**.

# Troubled Times



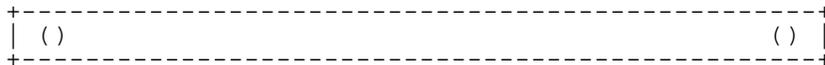
## Stringing

In all the mail concerning tube & rope domes, I have not seen any mention of the path the string takes through all the tubes. There must be an optimum path to minimize the amount of rope used. Those of you who have done one have any thoughts on the matter? Do you try to use one continuous piece to minimize the weakness that knots inevitably introduce (not to mention the hassle of tying lots of knots) or use a series of pieces tied at strategic points?

Offered by **Scott**.

Weakness is rather irrelevant, because once the framework is constructed you'll have to cover it with some hard material like concrete. I had "descreet construction" in mind, where I can "sneak" a very small amount of building material to any location and have a dome up that day. Start with the outside, and work in. Most of the dome can be made from "rings". So start with 10 long pipes on the outside, and ring them together with a simple slipknot, then tie another knot (square knot). Make it snug, but not excessively so. Add more layers using rings as much as possible.

Occasionally, you may have to put 2 strings through 1 pipe. So make sure your pipes are thick enough (or rope thin enough) to accomodate this. I've never had to put 3 strings through 1 pipe, however. And really thick rope probably isn't necessary unless building a real huge dome. When it's done, it might not seem that great until to apply downward pressure to top of the dome. It will press against the ground and the whole thing will even out nicely. Another idea is to skip the pipes, and use flat strips of metal with holes drilled in each end. Like:



Then you could bolt the thing together and bend it around if you need to. If I can find some small metal strips I may try a model of this. Pipes & strings requires a lot less work, though. Putting all of the pipes on one single string might cause trouble. I think you'd still have to tie knots at almost every corner anyway. So in the "hassle" of having to tie a lot of knots, you're still building a dome rather quickly, and with pretty bare materials. I think you can pretty much tie it together any way you want, do like you said and try to minimize. Hope that helps.

Offered by **Joe**.

# Troubled Times



## Hot House

---

I want to build a geodesic in my backyard (for practice) and use it as a greenhouse (you know, cover it with plastic). I thought that it would be a good test of stability (since it is quite windy where I live) and I could experiment with covering it with shading material to control light (to test low light growing conditions).

It may not be a good idea, but I want to build the thing out of wood (easily available and lighter than metal bars). I would use screw-type tie-downs to keep it from blowing away. Could you suggest lengths necessary to make it about 10 feet tall and roughly 15 feet in diameter?

Thanks, **Roger**

You can figure the sizes you need from the radius. Take your 15-foot dome:

$$\text{radius} = 7.5$$

$$\text{radius} * \text{PI} * 2 = \text{circumference}$$

$$\text{which is } 47.123$$

the geodesic base has 10 of the long segments, so your long segments will be

$$47.123 / 10 = 4.712$$

the short ones are

$$4.7 * 0.88 = 4.146$$

Use the metric system instead and you'll make your life a lot easier.

Another idea besides wood is electrical conduit. It's cheap and you can flatten each end, and drill holes. Then you can bolt the whole thing together, bending the tabs as needed. For a small dome even smaller pipes could be used, don't know where to get 'em though. Hope that helps some.

**Joe.**

# Troubled Times



## Reflective Material

I am working on a dome using Joe's design and intend to cover it with plastic and use it for a greenhouse (for the time being). This morning a thought occurred to me - if I cover the interior with a reflective material could I use a minimal light source and provide enough light for the plants inside? My next idea was to design a circular garden, cover it with a dome (with a reflective interior) and light it with one light placed in the vertex. Possible?

### Roger

I think that would be much better than a square building with reflective covering on the inside. All the light would be reflected back towards the center and the ground by shape alone. The dome is more energy efficient than a square so it will hold the heat better. A whole lot less wasted space. I think even the air would circulate better inside a dome with no sharp corners. That, and it sure would impress the neighbors.

### Clipper

Ok, I have an idea. I don't know if it works or not. Find a pentagon shape on the side. Normally that shape has 5 poles within it, converging to the center. You can cheat and make it look like one of these:



Then you'll have a taller door large enough to duck into, or a circle large enough to duck into. I would prefer a circle, but for a greenhouse the tall triangle should suffice I think. For a real dome to live in, the circle would be much better I think. Then you could make a circular "cap" with a seal. Hope this helps.

### Joe

# Troubled Times



## Plywood

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3 years ago my brother and a friend of his and myself built an 8 ft. dome of conduit and plywood in my back yard. It's still there and in good order today, in fact it's where I park my bicycle. The project was intended as an experiment in alternative living, low impact, renewable energy, etc. We never completed the project, money, time, personal commitments etc.. intervened. The friend occupied the structure for one winter while between apartments. It was unfinished, dirt floor absolutely no interior finishing and with a tarp for a roof the first month of his stay. We did put a roof on it and about a year and half later I put in a floor, (joist and plywood, not the cement one we had intended). And now it is a very serviceable storage shed and bicycle garage.

It is a 2 frequency triacon alternate breakdown of 8ft diameter. Built of 3/4 in. conduit bolted at the hubs and covered with 1/4in exterior plywood. Plywood was cut into triangles to fit and attached with conduit clamps, (those little omega shaped clamps that hold conduit to walls, or in this case hold the walls to the conduit). Joints between the plywood panels were taped and the whole shebang painted with an epoxy roofing compound. The roof consists of a pentagon "gable" that sits atop the top conduit pentagon. The gable is topped with that corrugated translucent green house covering and the sides of the gable are hinged and glazed windows.

The door is similar to Joe's idea. Since I'm no artist I'll refer to his drawing for the Hothouse. Looking at the pentagon take the top center tube and bend it straight up and out. Take the two side arms of the star, and likewise bend them straight up and out. This makes a king of dormer that becomes the top the door frame. The two legs of the star are removed completely and a door frame is roughed in. Paneling the door area is more difficult because the panels have to be custom cut.

Some details.

- To address Rogers question about light, even with just a 75 watt light bulb reflecting from unfinished plywood ample light was obtained. The illumination is very even without shadows. If the walls where better reflectors it would be uncomfortable to remain in it with a bright light.
- It is equally good at reflecting sound it is almost easier to hear someone standing near a wall opposite you than someone standing in the middle, (there can be no secrets kept in a dome).
- Air circulation is truly incredible with the chimney effect of the gable windows.
- We never insulated the dome, and the shell is just plywood and epoxy paint so it really follows the outside temp. While Leo used it that one winter he heated with an kerosene heater. It didn't work very well. Domes have a favorable surface to volume ratio, its a lot of volume to heat and without insulation that dome shape makes for a wonderful radiator. The friend couldn't keep it warm.

**Travis**

# Troubled Times



## CAD Models

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Is there anyone who has built or is going to build a geodesic dome for residence during the times ahead? I'm planning to set up a dome for myself, friends and family. Wondered if anyone has tools, software, books etc. to help me out of the difficult mathematics of the dome. Or maybe CAD-drawings of domes in .dxf or .dwg format.

**Erik**

# Troubled Times



## Geometric Dome

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Joe explains his early struggles with a [Quadrangle](#) design, the [Plan](#), the [Discussion](#), the [Model](#), the [Results](#), and the [Prolog](#), and his final [Conclusions](#).



# Troubled Times



## Dirt Mound

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Ron describes a [Dirt Mound](#) construction technique, meets [Expense](#) concerns, is [Inexpensive](#) and generated a lot of enthusiasm as it is a [Viable Idea](#).



# Troubled Times



## Step-by-Step

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This anonymous contribution is a step-by-step description of how to build a concrete dome!

- [Background](#)
- [Level Land](#)
- [Footing](#)
- [Rebar Holes](#)
- [Concrete Requirements](#)
- [Floor Plan](#)
- [Jig & Plumb](#)
- [Rebars](#)
- [Chicken-Wire](#)
- [Ventilation](#)
- [Cement](#)
- [Seals](#)
- [Insulation](#)
- [Utilities](#)



# Troubled Times



## Punt

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I was watching Jeopardy tonight, and there was a question about the indentation on the bottom of wine bottles. The indentation is called a punt, and it strengthens the bottle. This got me thinking, if there was a similar indentation on the bottom of a dome, perhaps it would add structural stability to it, stability that could perhaps help the dome survive a pole shift.

Offered by **Mike**.

This could have some merit. If you think about what it would look like on the bottom of the dome with a punt in it, as a quake was rising to push it up, it would push more on the edges transferring the pressure around the dome and not through the floor. This could also be better for the wind storms as the dome would dig in around the edges and not just slide on a flat surface. The floor would have to be thicker around the edges to create the punt and still have a flat floor. That would be okay also because the floor would have more weight to hold the dome down. I think the advantages would justify the added cost. Other wise you would have a big lump in the floor like the inside of a bottle. You could spill your beer with a floor like that. Very good observation mike.

Offered by **Clipper**.



# Troubled Times



## Donut Shape

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I've been working on better ideas than domes. It seems that domes are a pain, and that a torus-shaped (donut shaped) or half-torus shape would be much easier to construct and at higher strength.

- [Donut Concept](#)
- [Construction](#)
- [Models](#)
- [Framework](#)
- [Not Concrete](#)



# Troubled Times



## Testimonials

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My experience with this solution has been very good. I have used it in my house to cure colds, ear infections, cuts and scrapes. For viral or bacterial infections, I give 3 teaspoons a day and it clears up in about 3 to 4 days. Ear infections I put the solution in the ear about 3 times and it clears up in about a day or two depending how soon I catch it. This is for both adults and children. I take about 1 teaspoon a day as a general tonic and when someone is sick or there is epidemic going around I up it to about 2-3 times a day till it passes. From what I have read, the silver is excreted from the body in about 3 weeks.

### Pat

About 4.5 months ago I added colloidal silver to my routine taking it in an ever increasing gradient amounts. I am currently taking about 1 oz/day of 150 PPM (estimated) CS. This is equivalent to 10 oz/day of 15 PPM. My body weight is 175 lb. I am working on clearing the body primarily of Candida yeast. Something I have had since my early teen years and has invaded all parts of the body. Candida is very tenacious and fights back with some strong cleansing reactions if one jumps the gradient too fast. I have been through about 3 levels of cleansing reaction. I hold the dosage until flat on reactions then I will go up a little more. Sometimes I even have gone down on the dosage for a little while. I will let you know what dosage I finally work it up to. I expect this process to last another 6 months to a year.

### Mike

Last time I made CS, I forgot about it for three days before I remembered I was making it. The glass on the inside is a mirror color. This is a *very* potent batch I would guess. The last time I felt myself getting a sore throat, I squirted two shots (I use a spray bottle) into the back of my throat, swished it around and swallowed. The sore throat disappeared almost immediately.

### Clipper



# Troubled Times



## Michel's Travails

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To those who have experience in making CS themselves I want to ask if it's normal that the silver electrodes discard a fine mist with a golden-brownish color? Within the first seconds the mist began in my self-distilled water and now, after 15 minutes and after cleaning the electrodes and putting them in again I notice the water turning dark-brown-blackish color. Is this okay? I don't trust it. Could the voltage be too high? The water is distilled and at hot temperature with a drop of honey added. The silver also stains the sides of the glass where it touches it a bit of brown-blackish kind of residue or something.

**Michel**



# Troubled Times



## Pat's Answer

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Okay, Michel, let's take it from the top. You are using 3 9volt batteries, correct? Okay. Now, leave off the honey for now until you get the hang of what the finish product actually looks like without any additives. It sounds like your silver electrodes may be bigger then the 14-gauge size wire. The actual time needed to make it averages between 5 and 15 minutes with warm water. The hotter the water, the faster the process. Yes, you will see a fine mist leaving one wire and tiny bubbles from the other. There is a build-up of black residue after awhile. To avoid this build-up switch the alligator clips to reverse the polarity when it starts to show up. This will keep the residue from building up into a heavy layer.

Stop the process before the water gets dark and murky. I let my solution sit overnight for any particles to settle on the bottom. I always seem to have a bit of residue during the process, but it does not affect the solution. By the next day the solution is no longer cloudy and has a nice light golden color. Sometimes the color is very, very light, depending on how long you do the process. I siphon my solution gently with a straw as to not disturb the sediment on the bottom. I use 8oz of water per process. I use a tall clear glass to do it in. I put the solution in small amber bottles that protect the solution from direct light.

I hope this helps. Practice makes perfect. It took me several batches before I got the hang of it and recognized what worked and what didn't.

**Pat**



# Troubled Times



## Mike's Answer

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The longer you let it go the darker the solution. I have made some real black looking solutions. It doesn't hurt a thing. It makes a high parts per million solution. Use a coffee filter or several thickness of paper towels over a strainer. Pore the black solution with the particles of black silver oxide floating around through this filter. The result will look almost clear.



The golden-yellow will show up over the next few days. Keep it in a dark place or dark bottle. The longer you let it set the better (finer particles) it gets. Your voltage is not too high. I use 5 to 6 times what you used. Don't worry about the color - this is normal. I make it without honey.

**Mike**



# Troubled Times



## Tian's Travails

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I am still new in this group, and I have some dumb questions to ask everybody who is involved in this Colloidal Silver.

1. During the production of CS, is it wise to put an alcohol burner underneath the glass jar? (just to keep the temperature constant)
2. Is it necessary to put a lid on top of the jar, during this process?
3. Is it necessary to keep the voltage and amperage steady at 30V, 50 amps? (I have no problem building a power supply with a constant voltage and with a limiting current)
4. One last question, will CS work against viral diseases, such as MS or AIDS? (I understand that regular antibiotics will not/can not destroy virus)

**Tian**



# Troubled Times



## Various Answers

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Answer to 1. No, I do not find it necessary to keep the water heated. I make mine in 8 oz. batches with my homemade generator. I first zap my distilled water in the microwave until it's hot, not boiling. Hot water starts the process quicker, it only takes about 15 to 20 minutes for the solution to form. You can also do it with room temperature water, it takes about 30 to 45 minutes. Mind you, my silver wire is a smaller gauge (18 was all I could get my hands on at the time). 14 gauge is a better size so timing will be a little faster, more surface space for the silver to react to the current.

Answer to 2. I don't find it necessary to put a lid on for the purpose of processing the solution, but I do use a lid that holds my two silver wires attached with electrodes suspended over my glass for the process. It basically just sits on top of the glass. It's not sealed.

**Pat**

### [How It Works](#)

*The presence of colloidal silver near a virus, fungus, bacterium or any other single celled pathogen disables its oxygen metabolism enzyme, its chemical lung, so to say. Within a few minutes, the pathogen suffocates and dies, and is cleared out of the body by the immune, lymphatic and elimination systems. Unlike pharmaceutical antibiotics which destroy beneficial enzymes, colloidal silver leaves these tissue-cell enzymes intact, as they are radically different from the enzymes of primitive single-celled life. Thus colloidal silver is absolutely safe for humans, reptiles, plants and all multi-celled living matter.*

I don't think temperature has anything to do with making CS. I put a lid on our jar only because we smoke in the house. I think it also keeps the dust out. I use three 9 volt transistor batteries run in series to power my generator. Seems to work fine.

**Clipper**

I make it by rectifying 120 V AC. Gives me 170 V DC to about 130 V DC by the time I stop the process. I use a simple circuit of 100 Watt light bulb in series with a diode. The 100 watt light bulb limits the current draw in case the electrodes short out. I use an electrolytic capacitor in parallel with the electrodes to help stabilize the flow. I use .75 sq. in surface area of electrode and produce 1 gallon of 100+ PPM in less than 3 hour. No heat applied. I found the optimum electrode spacing to be .2" for this voltage. Note: The above approach should only be used by those who are extremely cautious around electronics. The voltage and amperage is high enough to be dangerous.

There is reports of it working for viral disease in the laboratory at high PPM (Parts Per Million). The question is can one take enough into the body to make an effect. I personally think the answer is yes, however, there are some other things one might consider having around to use at the same time. Garlic 1-3 cloves 3 times/day is anti-viral and antibacterial. One doctor reports the Russians have used it in preference to penicillin. Echinacea stimulates and builds the immune system.

**Mike**



# Troubled Times



## Aron's Travails

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I've got the batteries, I've got the water, I've got the modle type writen down so i can get the same solar cell. My laser pointer has a max output of 4mW@630-660 nm. Is this the same strength as yours? I assume all red comsumer laser diodes are pretty standard? I got some silver wire. Its pretty thick. Does this sound like the right stuff. The package says Stearling Silver Garanteed? Is there a way I can tell, maybe by the reaction in the water? How might one test this?

**Aron**



# Troubled Times



## Wire Answers

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You cannot use Sterling Silver, it must be Pure Silver at 99.9 percent or higher. Who did you get this from and what does the package mean by Stearling[sic] Silver Guaranteed? Who ever sells you silver must specify the grade and size because it is sold by the troy ounce. There has to be some kind of documentation with the purchase that states the purity and the market value plus markup price. It should also give the weight. If you don't have any of this documentation take your receipt and take back the silver because there is no proof if it is pure or sterling. Your confusion on the packaging stating "Stearling" [sic] leaves me to wonder if that is the name of the seller or they misprinted sterling as the product.

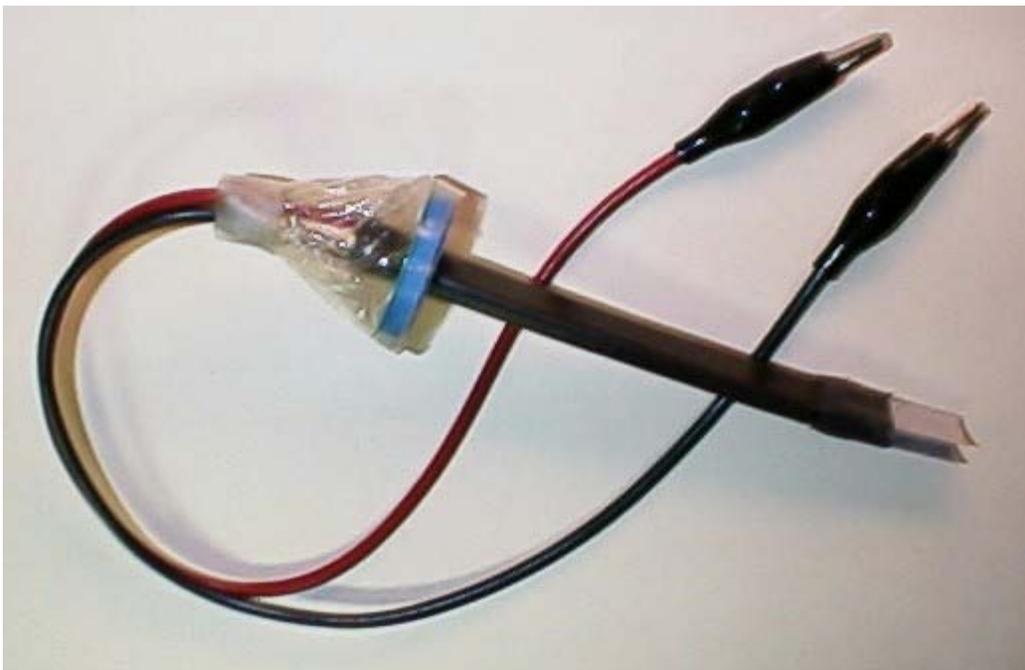
### Pat

Sterling silver is *not* what you want. It contains stuff like nickel (i think). It is *not* pure silver. Pure silver is 99.9% silver and should say so. Don't let that jewelry store pull your leg.

### Clipper

I would not recommend using this. Get .999 fine or 99.9% pure silver. Sterling silver has only about 92% silver and it is the other things in the 8% that could be harmful. I get Silver Electrodes for colloidal silver making from:

[RioGrande](#) tools & equipment  
7500 Bluewater Road NW  
Albuquerque, NM 87121-1962  
telephone 1-800-545-6566 (USA)  
1-800-253-9738 (Canada)  
1-505-839-3011 (other countries)



### Silver anodes

Order number 101-928 this is .999 fine silver with a weight of .45 Troy oz for each 1"x 6" by 28 gauge thickness - cost is about 1.83 times current silver price. Each electrode cost \$3.74 in Jun 97 the last time I bought some. It is what I currently use and like the best. One strip cut in half makes two electrodes. I insulate all but the last .75 inch with heat shrinkable tubing. Once this end is eaten away I cut back on the insulation. I estimate the full .45 oz of silver to make about 40-50 gallons of Colloidal silver of the 100+ PPM type.

One can also get 18 gauge .999 fine silver at about \$.86/foot (Jun 97) and 4 gauge sterling 92.5% silver (not recommended) at \$7.74/foot (Jun 97) at roughly about the same factor above current silver price. My current understanding is the .999 fine is usually only available in small size of wire. The larger wires are more commonly Sterling silver. This is why I use strips or sheet material. If you go into your local jewelry manufacturing supply company ask for "Silver anodes" used for plating silver. Then check that they are .999 fine silver with a weight of .45 Troy oz (1" x 6" by 28 gauge thickness). All of it is sold by the ounce. I order as a hobbyist. Pure silver strips are also available from:

**Academy Metals and Supply**

3201 4th St. NW  
Albuquerque, NM 87107  
(505) 344-8323.

**Mike**



# Troubled Times



## Laser Answers

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See the TEAM pages called [PPM](#) and [Optimum Settings](#) for more information. My laser is 5mW@630-680 nm. Note: Any laser will work. We are going to build a calibration curve for this laser against a standard (sample we send for testing PPM). By the way [Harbor Freight](#) Tools has them on sale for \$12.97 until 5 Oct. 98. They go on sale 2-3 times/year. Regular price is \$19.99 for this HI output laser pointer. Lot number is 37431. This is in case anyone else wants to build one of these CS testers.

**Mike**



# Troubled Times



## Not Sophisticated

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I sit here with my little plastic box holding my 3 9 volt batteries with my attached alligator clips holding my two 10" long 18 gauge silver wires one inch apart from each other in a tall 16 oz. clear glass holding 8 oz. of distilled water warmed up 90 seconds in my microwave oven watching the little bubbles coming from one wire and wispy golden "smoke" wafting from the other wire. As I watch for about 15 minutes, the build up of oxide becomes apparent on one wire and I switch the clips. The build up fades away on that wire and after 15 minutes starts to build up on the other. So I sit there going back and forth, back and forth for about 45 minutes. Why 45 minutes, well because my wire is thin. Could not afford the 14 gauge, but it still works just takes a little longer. In the end I get a light smoky yellow solution with a little of the oxide sitting at the bottom. I let it sit overnight and the next day it is a clear light gold color. I have no way of knowing how many PPM that this solution holds. Based on everything I have read, I would estimate about 15 to 20 PPM.

There are probably a lot of people like me whose only access to something like this will be to make their own little box without the fancy gadgetry that others have and who's understanding of the mechanics is going to pretty basic as far as watching and experimenting with the process.

**Pat**



# Troubled Times



## Step by Step

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There is more to this than just the passage I have here, from an article by Peter Lindemann. Please, if you are making your own colloidal silver you must read this article to get a better view on the process and reasons behind it.

### Pat

*The very best voltage for the reaction is 30 volts, because the electrodes run the cleanest at this voltage. If you have a small power supply, set it for 30 volts. If you are running on batteries, it is best to start at 36 volts (three 12 volt batteries or four 9 volt batteries) and let the batteries drain down from there. Holding the silver electrodes at a uniform distance away from each other yields a better product. When 30 volts is applied across silver electrodes held uniformly apart in distilled water, a totally different event happens. First, the reaction proceeds very slowly. Often, for the first 15 minutes nothing seems to be happening. Then finally, a faint yellow mist will begin to form. Within a few minutes, the reaction will speed up, but the particles produced will be a golden-yellow as viewed with a flashlight.*

*Using this method, 8 ounces of distilled water at room temperature can be made into a 3-5 ppm colloidal silver preparation in 20-25 minutes. Made this way, colloidal silver can cost under 10 cents/oz to make. Electron microscope photographs of this product show a silver particle size in the range .001 to .004 microns. During manufacturing, the particle cloud is a golden-yellow. These particles will hang in the water at the level they are produced, and for the most part, will not fall to the bottom of the glass. This is what a "colloidal" preparation of silver looks like. After the particles disperse, the water will look clear again, but may turn a light yellow if the concentration is high enough and after the particles have become evenly dispersed.*



# Troubled Times



## Mike's Concerns

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Don't believe everything you read. Some things get propagated and said often enough that they get general agreement. Does that make them true? With all due respect "The very best voltage for the reaction is 30 volts" I consider to be a common misconception that needs further explanation. Without an indication of distance between electrodes and temperature of solution this statement is useless. I can take 12 volts with close electrode spacing and get lots of dirty electrodes.

The point is the author doesn't take into account that the field gradient between the electrodes is determined by the distance between them and that this is more important than voltage. The shorter the distance between electrodes the higher the electric field and the electrodes get so called dirty faster. But, also the silver is put into solution proportionally faster. At higher temperature solution the electrodes get dirty faster. Did this author compare how long the solution lasts versus field gradient? I suspect not. I did some testing early on and I found that a low field gradient produced with low voltage and wide electrode spacing results in a colloidal solution where the silver falls out of solution faster. Each particle has less charge.

**Mike**



# Troubled Times



## Voltage

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**Now in defense of the 30 volt process:** It is near idiot proof. Can't get shocked. With no agitation and wide spacing on the electrodes you can walk away from the process. You just don't get as good a colloid as I think you can. By the way the spacing would need to be .037" at 30 Volts to be about the same field gradient as the above. Way too close for good water flow, especially if flat plates are used. I have some solution I made with the above 170-140 medium voltage approach made almost 3 years ago that I estimate to be at present about 125 PPM. This has been stored in a plastic bottle all this time.

**Plastic bottle misconception:** Over time I have found plastic to work just as well as glass. You need to allow about 6 months to a year to get it seasoned or coated with silver on the inside before it really starts working well. Note: I was making silver back before all the fixed ideas came to be published and I had to do my own observation analysis and development of the process. Thus, I don't think alike nor believe all I read on this subject.

Is all of this the final word? Definitely not. I hope others who have the time will improve on this and tell about it.

**Mike**



# Troubled Times



## PPM Dosage

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To get the body up to a point of having a concentration of 3 to 5 PPM would take some assumptions and calculations. If you get above this concentration the killing power starts to go down. This should not be saying to take only 3 to 5 PPM colloidal silver.

If one assumes that it takes 7 to 20 days to arrive at a saturation point for any given dosage. That is to say at a saturation point the amount taken into the body on one day is the same as the amount filtered out of the body during that day. Taking the best case of 20 days one would need to take in each day  $1/20$  their body weight of 3 to 5 PPM colloidal silver. If one weighs 200 lbs., this would be  $200\text{lb} * 1/20 = 10\text{ lb.}$  of colloidal silver at 3 to 5 PPM taken in each day to saturate the body up to 3 to 5 PPM. Now if one took in 50 PPM colloidal silver then one only need take in 1 lb./day. If this is 200 PPM colloidal silver then one only need take  $1/4\text{ lb.}$  or 4 oz/day.

Now what saturation PPM in the body can we expect from taking 3 teaspoons (.5 oz) of 10 PPM colloidal silver/day? This would be equivalent to 1 oz of 5 PPM/day. 1 oz times 20 is a 20 oz body at 5 PPM saturation. But we have a 200lb body so we can expect a  $(20\text{oz}/((16\text{oz/lb.}) * 200\text{lb})) * 5\text{PPM} = .03\text{PPM}$  saturation. Is this enough to do the job? The point is it looks like it is not that easy to get to a point of having 5 PPM in the body. If any one has better data on this subject or the original assumption - on how long it takes to get to a saturation level - please publish it. If the time is less than 20 days then the amount taken in needs to be even more.

**Mike**



# Troubled Times



## Optimum Settings

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I found the following to be the best or most optimum temperature electrode spacing, voltage, wave form, frequency, amperage, and electrode surface area:

**Temperature:** 70 degree F

**electrode spacing:** .2 inches

**Voltage:** 160 V DC

**Frequency:** 2 sec/cycle

(this can be simulated by interchanging the voltage on the electrodes every so often)

**Wave form:** square wave

**Available current:** 1 amp

**electrode total surface area:** .75/2 sq. in.

Observed effects:

- Voltage too high (Above 300 Volts) then the unit becomes dangerous and can't easily supply the current or amperage to keep the voltage up to where it needs to be to use any decent sized of silver electrode surface area. This is the problem I found with the high voltage units I borrowed, tested, and at first built. I had one commercial unit that supposedly used 30,000 volts. I measured 20 volts when it was in operation.
- Voltage too low (below 80 volts) and electrodes need to be too close for good water flow or the process is slow and inefficient.
- Low electric field gradient (electrodes too far apart) produces a low charge on the colloidal silver particle and it tends to drop out of solution sooner than it should. With wide electrode spacing the process takes so long that you pull as much silver out of solution as you put in, thus hard to get a high PPM. Gives a more metallic taste the lower the voltage used. The high voltage result doesn't have this taste as much. I observed the silver produced with low electric field gradients to produce more waste or black particles for every ounce of a given PPM colloid. This is probably because it took much longer to make.
- High electric field gradient (electrodes too close results in bridges of black silver oxide forming across the electrodes that shorts out the process. In other words it is hard to keep the flow of water between the electrodes. Needs constant agitation of the water between the electrodes. There is a possibility of the silver particle size to become larger as the electrodes get closer. However, I never found this to be true no matter how close the electrodes got.
- Available current needs to be enough to keep the voltage up during the full span of the process. If voltage drops too much then one gets into the low voltage effects. The needed amperage is related to the size of the electrodes. The more surface area the more amperage is needed to maintain the voltage once the solution gets a little silver in solution and becomes conductive.
- Agitating to keep the electrodes from shorting (due to bridges of black silver oxide forming) is necessary to use this medium voltage approach. Without agitation you can waste some silver.

I use the following general guide lines:

**1.5 Min/oz** will give a golden-yellow estimated to be well over **100 PPM**  
(voltage gets down to about 140 volts)

**2.3 Min/oz** will give a darker golden-yellow estimated to be well over **300 PPM**  
(voltage gets to a point the light bulb is glowing and pulsing constantly)

**Mike**



# Troubled Times



## Measuring PPM

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### **Current Situation:**

Reliable ways of measuring CS PPM do not exist today. We need a cheap way to do this. I have checked out a hand held meter used for determining the PPM of minerals, and salts in water used by the water filter industry. Results did not work well enough to use. Readings were way too low. The visual method of passing a laser through the solution and estimating the PPM is subject to too much judgment error. This method is useful to give overall ball park estimate to the trained eye in a pinch. However, if we are seriously going to use Colloidal silver then we need to know how strong a batch we have just made. Then, adjust our dosage amounts accordingly.

### **Proposed solution:**

Hand held battery operated laser pointers are cheap today. I have seen them between \$10-20. If one shines this laser through a glass or plastic container of some width say 4" or more wide. With Colloidal particles stopping and/or reflecting the light in all directions, one will notice that the amount of light coming out the other side is roughly inversely proportional to the amount of silver in solution. The more the silver the less amount of light gets through.

Now put a cheap photo-voltaic cell (say from radio shack) on the opposite side to measure the amount of light. The photo-voltaic cell is then hooked to a cheap current meter (or multi-meter if that is what you have). We have a setup that quantitatively measures amount of silver in solution. This unit will need calibration. This can be done by sending off 1-3 or more samples of silver ranging in density from high to low to one of the recognized testing labs. A graph plot of current ver PPM can be drawn. In this way the reading of the meter can be mapped to a more accurate PPM estimate. One reads the meter looks it up on the graph and reads off the PPM.

Now the most costly part of all this is the testing lab fees. If we individually all do this we will have spent a fortune. I recommend that one or more of our list members that sells CS or knows electronics volunteer for the development/refinement of this colloidal silver PPM meter. Post the results of how to build it. Sell the result to those who wish to get a fully calibrated unit and don't have the time or expertise to build it. If one decides to commercialize this unit. I recommend supplying one or more stable test solutions (not CS) that attenuate the light the same as some given PPM of colloidal silver. This would be used to check the calibration on into the future. This could also be sold separately or with the unit.

The commercialized unit that I currently visualize would enclose the sample in the dark once a lid is closed. I am mocking up a clear plastic tray about 4"-6" wide that is 1/4" to 1/2" deep (from front to back) and maybe 1" high that only needs to be filled 1/2 way up with colloidal solution. The beam comes in from the right end and the photo-voltaic sensor is on the left with the meter in front. The unit is in operation once the existing button on the laser pointer is pushed. If the calibration holds well over time then the commercial version could have a PPM scale printed as part of the meter scale. I believe this to be a new idea. I have not seen such units for sale. Do we have anyone interested enough to start to work on it? The technology level needed is not high tech.

**Mike**



# Troubled Times



## Solar Cell

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I just bought a radio shack cat. **No. 276-124A silicon solar cell** 2x4 cm. Cost \$4.99. I soldered on two leads. Not that easy a task they didn't want to stick. I recommend finding a solar cell with leads already soldered on. I already had a Laser pointer that I bought from harbor freight tools for about \$12.00. I used a digital voltmeter that I bought in the past at harbor freight for \$39.00. But they also sell some for \$10.00 that would work just as well. I tested the current on some previous samples I have saved from the past. These were in 1/2" diameter round glass vials.

The solar cell current was highest when nothing was between the laser and the solar cell with a reading of 1.36 MA, to 1.28 MA for a Dec 94 low PPM sample, to .58 MA on a Jan 95 high PPM sample. I held the solar cell right up against one side of the vial and the laser pointer against the other side. Turned down the lights and clicked on the laser and took the readings. Bit crude but proved the concept of workability.

Did notice some things: The current output spread looks great enough to be easily measurable with the proper length of laser beam travel in solution. The rounded glass vial deflected the beam such that it came out the other side of the vial much broader in width. Nearly as wide as the solar cell. The beam coming out the other side had about the same height. The 4"-6" of travel I talked about earlier may not be needed, especially at higher PPM. I think our first tests can be done with a simple test tube. I do think a box or rectangle shape with parallel sides would be more ideal. This is so as to not distort the beam. If we use a test tube or round object we will need to position it as much as we can in the same spot each time. This so as to not get variations due to light dispersion of the rounded glass.

I have been doing some more thinking about the calibration process and the use of commercial lab tests and how to minimize this cost by use of one basic test sample only. If one produces the highest PPM sample that one can of colloidal silver. Then let it stabilize for say 2 months. Send for a official lab test of it's PPM. Using an appropriate amount of the high PPM solution prepare 5 standards at different lower PPM by thinning down each sample with water. For example say you start out at 400 PPM. If you thin it 50-50 with water you get 200 PPM. Now prepare your graph with 5 points on it as detailed in the earlier post. This may make it more affordable and encourage construction without waiting for some one to sell it.

**Mike**



# Troubled Times



## Silver Sources

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Maybe I am overlooking something and can the following be bought in every radio shack or electronics shop. Where can people buy pure silver wire? I am about to build a CS generator myself.

### Michel

Here's a link for scientific (research grade) materials. They have a searchable on-line catalog. I did a search on silver and found that they sell it in many different forms. Their wire is not offered by gauge, but by actual thickness. I am not sure if the prices are competitive to other sources, but at least you can order on-line and have the stuff sent out to you directly! I found this [Alfa Site](#) in my newest issue of *Physics Today* magazine.

### Roger

I myself could not find any pure silver wire although I am sure it is out there some where. I did the next best thing. I have worn in my belt buckle for many years, a pure silver dollar. When I could not find any wire, I bought another pure silver coin from a coin shop, took it to a jeweler next store to him and had the jeweler roll out the silver dollar for me until it was a flat, wide sheet of silver. It looks similar to a knife blade after it was rolled out. I then cut strips from this sheet with scissors and used those instead of wire. It worked great for me. Necessity is the mother of all inventions.

One thing I try to do is use what ever resources I have available on a local scale to accomplish the mission at hand. Ordering silver wire from a web page or a catalogue was not an option for me. I decided to make do with what I had available. 99.9% pure silver coins. ( I think I have that I want it now attitude). These are here in town now and they will be laying every where after the pole shift. They will work even if I have to beat them flat with a hammer later. That silver wire doesn't have to be pretty to work as long as it is pure silver.

### Clipper

As a source of silver, I use Silver Canadian Maple Leaf one ounce coins. They are 4 nines fine pure silver (.9999) and have been minted by the Royal Canadian Mint since 1988. You can find them at your local coin dealer or from Monex Deposit Company (800-949-4653) in multiples of 200 coins. They're also handy to have around in the event of a major economic collapse when paper money will be worthless due to skyrocketing inflation.

### Michael



# Troubled Times



## Silver Wire

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It isn't difficult to obtain pure silver wire . In addition, you need to have that coin assayed to be sure that it's at least 99.9% pure. It very likely is *not*. If that's the case, then you're gonna get other metals in that colloid solution besides silver. Nickel is a common 'hardener' used in the smelting industry and you don't want to be taking in nickel. I listed the names of 2 or 3 places where you can buy pure silver wire under the heading of parts and supplies in my posting of how to make your own Colloidal Silver in Troubled Times.

These metal dealers won't sell you just a foot or two, though. You have to buy a minimum quantity. We buy a couple of hundred feet at a time. Our standard electrode set is 6" silver wire (99.9% pure) bonded to a 3 foot rubberized cord with a pre-molded 3.5 mm gold plated mini-plug at the other end. We make them available for \$15. plus \$1 postage. This is the cheapest way to go if you just want a single set or two. If you want to buy your own wire and put together a bunch of electrodes, the lowest minimum order metal dealer that we found locally is David Fell, Inc. in the City of Industry, CA. The address and phone number is listed in my CS article posted in TT. If anyone wants to obtain a standard silver electrode set (or custom-made length) from us, just e-mail me directly.

### Robert

Try a jewelers supply house or catalog for pure silver wire. I get the [Rio Grande](#) Gems and Findings catalog and they carry pure sterling silver wire, hollow and solid.

### Travis

I get silver electrodes for colloidal silver making from:

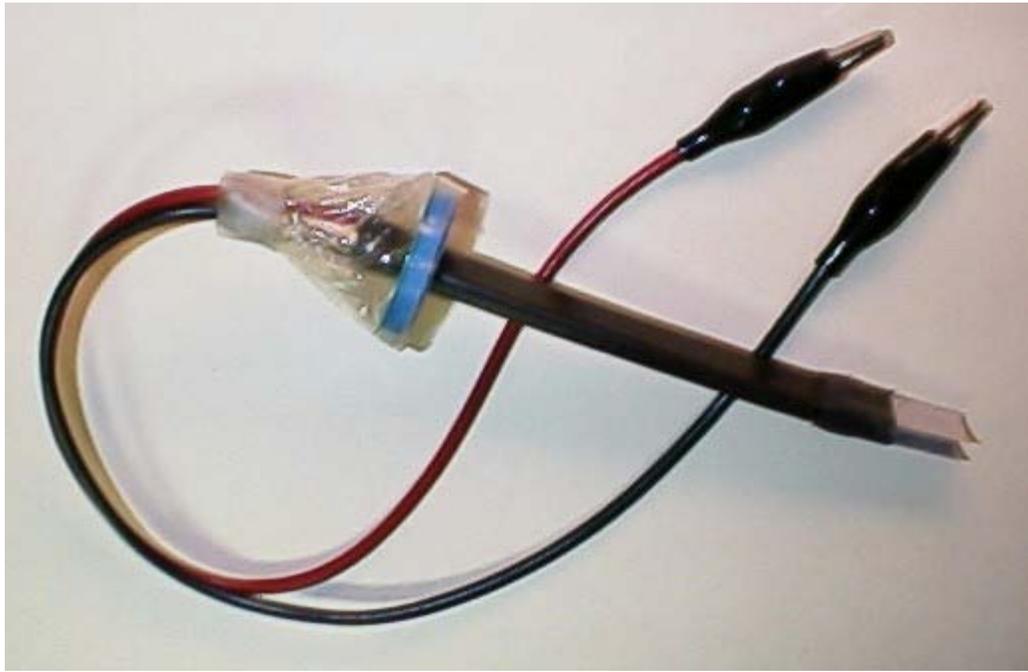
**Rio Grande** tools & equipment  
7500 Bluewater Road NW  
Albuquerque, NM 87121-1962  
telephone 1-800-545-6566 (USA)  
1-800-253-9738 (Canada)  
1-505-839-3011 (other countries)

### Silver anodes

Order number 101-928 this is .999 fine silver with a weight of .45 Troy oz. for each 1"x 6" by 28 gauge thickness - cost is about 1.83 times current silver price. Each electrode cost \$3.74 in Jun 97 the last time I bought some. It is what I currently use and like the best. One strip cut in half makes two electrodes. I insulate all but the last .75 inch with heat shrinkable tubing. Once this end is eaten away I cut back on the insulation. I estimate the full .45 oz of silver to make about 40-50 gallons of Colloidal Silver of the 100+ PPM type.

This picture is the result.

One can also get 18 gauge .999 fine silver at about \$.86/foot (Jun 97) and 4 gauge sterling 92.5% silver (not recommended) at \$7.74/foot (Jun 97) at roughly about the same factor



above current silver price. All of it is sold by the ounce. I order as a hobbyist. Aside from this your local jewelry manufacturing supply company should have equivalent products. Pure silver strips are also available from:

**Academy Metals and Supply**  
3201 4th St. NW  
Albuquerque, NM 87107  
(505) 344-8323.

**Mike**



# Troubled Times



## Beginner's Q&A

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Cloudy CS water, black flakes, water turning black afterwards.

[Question](#), [Answer 1](#), [Answer 2](#)



# Troubled Times

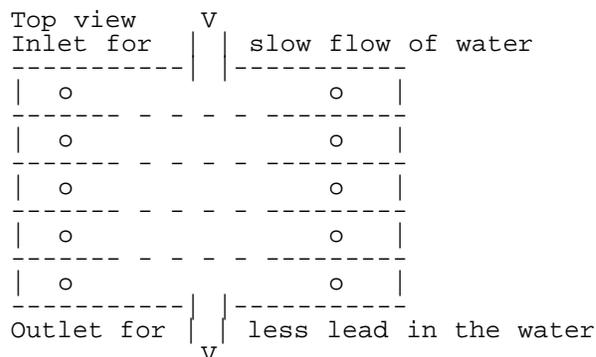
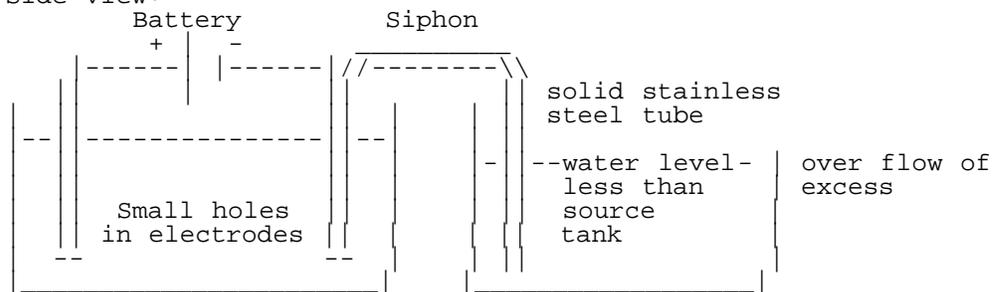


## Experiment

Proposed experiment for those who can test for lead levels. Lead and other metal particles in solution fine enough not to be filtered out by a particle filter will most likely have a charge on them. The assumption is we don't want to keep the water that has in it charged particles or Ions whether positive or negative. With these assumptions one can build a simple water enhancer. We concentrate this charged water in an area that is constantly being draining off to waste.

Example of how it might be tested: Take several small stainless steel pipes about 1/4 to 5/8 inch in diameter. Drill very small holes through the walls on all sides for the area that is below the water. Use fewer holes as you approach the water surface. Seal off the hole in the bottom of each pipe. The battery voltage causes Ions and charged particles to accumulate near the electrodes. A slow flow using a siphon to a separate reservoir is used to suck this water with high concentration of Ions or particles to a separate container and then to waste. One would send to waste more water with this method than conventional filters. I am also not sure of the amount of power needed. The water flow, electrode spacing and voltage would all need to be adjusted for optimum performance. If one wanted lower lead levels then more stages would be used. Each stage could be much longer than I have shown it. This would allow for slow flow of water past it so the Ions have time to migrate to near the electrodes and get sucked out. You want Ion migration to the charged plates to be faster than water flow through the device. I expect from time to time one would need to pull and scrub/sand off from each electrode the accumulated lead and other metals that plated out.

Side view:



Anyone willing to volunteer to test it? I am tied up with some other projects right now.

**Mike**





# Troubled Times



## Frequencies

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Here is a list of interesting radio frequencies. They are mostly associated with hurricane activity, but many are also used for other emergency situations. For newcomers, Novice can work portions of 80, 40, 15, and 20 meter bands if I can remember correctly and the rules haven't changed. The best bet would probably be 15 meter band.

- [Sources](#)
- [Hurricane](#)
- [Amateur](#)
- [Global](#)

**Ron**

WB5KAN



# Troubled Times



## Ham Classes

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Ham radio classes put out a [Big Welcome](#) for newcomers, and are filled with old timers willing to share their knowledge. Help with [Preparation](#) is also available. With a number of Troubled Times members taking classes, they are giving each other [Encouragement](#) to go [On the Air](#).



# Troubled Times



## Coordination

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I would like to point out that setting a particular "contact time" for while the earth's rotation is stopped is futile prior to the pole shift for HF radio. Propagation characteristics are a function of the sun's position relative to the two sites attempting communication. We will have no idea what that will be during the period of no rotation. After earth resumes normal rotation, and each location is able to establish the exact times of sunrise and sunset, it will then be possible to utilize propagation charts to determine the optimum time windows to other sites. So instead of establishing a set time prior to the pole shift, we need to do two things.

1. First establish general guidelines for xmit/listen time windows for when propagation is favorable between individual sites.
2. Second, add general propagation information to the web site so that one can determine the optimum window to a particular site. I will volunteer to provide this write-up.

**Note:** These comments apply to HF propagation *only*. VHF/UHF communications over a line-of-sight path are not affected in the same way and should be useful 24 hours a day except possibly during the 12th's passage due to magnetic interference.

**Ron**  
WB5KAN



# Troubled Times



## Call Signs

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The new call signs are posted on the web. Check out:

- <http://callsign.ualr.edu/callsign.shtml>

**Toni**



# Troubled Times



## Questions & Dilemmas

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During our discussions regarding the subject of knowledge preservation, a number of questions surfaced and these, in turn, brought forth some dilemmas in which participants in this discussion find themselves. Although not strictly relevant to the topic at hand, this page is included for perusal by our readers, because of the thought-provoking nature of the discussion.

The big problem is what knowledge to keep and what to let go. The medieval church gets a bad rap for lots of things but they sure kept libraries in difficult times. Another problem is keeping the love of knowledge alive in the dark age so that the information will be useful and accessible. Remember the scene in H. G. Wells' *The Time Machine* when he goes to the far future only to find the library moldered away because the books were not valued? A very sobering thing to think about.

**Gus**

Other aspects we have not touched upon, but which will influence our solutions, are:

- What, if any, should we preserve for the time we enter into the 4th density? Have other cultures preserved whatever past knowledge that may be of interest, or will we ourselves lose interest in past knowledge at that time;
- How long a time will we struggle about after the pole shift, before others join us? In other words, we need to know if we are dealing with a time period of a few years, decades or generations.

We also need to know whether we will be saving information for the intermediate time period only, or whether we should save off information for the long term. I for one feel uncertain about this one. My gut feel, for what it's worth (maybe about 2 pennies?) is that we should plan for a few decades, and only for our own survival and comfort during that time.

**Jan**

This is a dilemma with which I am currently struggling. This dilemma is in regard to technology for the handicapped - well, specifically for the blind, since that's what I know most about. If we are going to sally forth into 4th density in the future, is it worth saving the technology, for example, of how to create Braille? I mean, I take it there won't be any handicapped people in 4th density. And even if, by some stroke of awful misfortune, there are, we'll all be telepathic and use of print material will be obsolete. Then there are the talking computers. I am very fond of reminding my computer that, if it doesn't behave, it won't be joining us in 4th. Anyway, seriously, I believe that we should just plug ahead. After all, we should educate our children; and if people want to preserve more knowledge than might be needed, well, we'll just let them. It can't hurt; and it might help.

**Shirley**



# Troubled Times



## Library Project

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One of the great tragedies of Humanity is its loss of recorded human history and culture down through the ages. Beyond human-generated losses, such as the sacking of the library of Alexandria, natural tragedies have inflicted great losses on the body of human knowledge and culture. As a result, our dim memories of ancient civilizations have been rendered to the level of mythologies and questionable fragments found in exercises of past life recall practices. As we face the prediction of catastrophic change yet again, we should seriously consider another level of preservation beyond lives, resources, shelter and food. We should prepare to preserve [Books and Media](#) that will have the potential to carry forward the Human experience of this era. To the extent we are able to do this, we will achieve continuity, with less having to "rewrite the book" in our recreating viable human existence on this planet.

If each survival community undertakes to [Preserve a Library](#) of valuable collected works, chances of wholesale recovery of civilization, education and culture will increase. While heroic efforts to rewrite our literature on clay tablets might be undertaken by a few, this approach is simply impractical. Our best chances lie with the redundancy that will be found in many surviving communities preserving and maintaining libraries in the aftertime. This approach will allow for simple preservation methods that will be described, while also acknowledging some degree of losses due to the catastrophic impact of the elements during pole change.



# Troubled Times



## Preservation Methods

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May I suggest Rubbermaid containers (10 gallon). They seal nicely, are easy to maneuver and can also double as the reservoir for up to 16 tomato plants!

**John**

I plan to place these individually in zip lock bags with a mothball and then seal them each again with a seal-a-meal. Then pack them away for later in a trash bag inside a box. This will then be placed in a wooden box with others and nailed shut. The wooden boxes are old shipping containers from a local shipping company here. (4' x 4' x 8') This is the method I plan to use for all the books I have been gathering since last summer.

**Clipper**

The simplest methods involve acquiring an inventory of good zip-lock bags, of various sizes, that will store all of the books and media you plan to protect. These should be stored out of sunlight, as UV rays will deteriorate the plastic bags. Also, storage of desiccant material is advised. These can be little bags of desiccant crystals or gel, available through packing and shipping supply stores. When the time comes, and you will know the appropriate time, you simply place a book or books into the zip-lock bag along with a desiccant bag that will absorb any moisture. You might want to single-book or double-bag your most valuable books.

**Granville**



# Troubled Times



## What to Save?

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Selection of what to save includes [Practical](#) and [Personal Items](#), and [Reference Books](#).



# Troubled Times



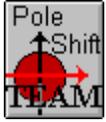
## Hard Copy

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A download of hard copy was planned at one time, but has been replaced by the availability of a [CD of all the Troubled Times pages](#), including ZetaTalk content.



# Troubled Times



## Modified Globe

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I bought a low cost 9" World Globe for about \$10.00 at FEDCO. A larger size would also work. How to start. Assume you are only going to show the displacement or shift of continents most likely to move. I assumed the biggest continent (Europe) would not slip that much and if it did it would stay some what in the same basic shape as shown in Nancy's [New Geography](#) map.

Start with the new south pole at the tip of India. Drill a hole for a pivot and drill a hole on the opposite side. I ended up with holes at about 77 degree west longitude by 8 degree north latitude for the new south pole and 103 degree east longitude by 8 degree south latitude for the new north pole. Next mount the globe back into it's mounts using these new holes. Take an electrical tape about 31 inches long and tape it down to some scrap Formica. Using an exacto knife and metal ruler make a cut the full length to make the edge of the tape straight. Now using the metal straight edge cut a strip about .1" wide the full 31" length. Use the zero degree Latitude marker scale that is part of the frame as a guide to lay this tape down, as you rotate the globe. This becomes the new equator. Another way would be to take a permanent marker and hold it on the zero degree latitude scale while rotating the globe.

Cut up patches of .003" thick clear plastic tarp. Thick plastic bags cut up would also work. Cut a peace that will more than cover the continent that you wish to capture by about 3"-6" extra around the perimeters. Tape it down to the globe over the continent around the edges at about 4-8 places depending on size. Use a hair dryer to heat up and shrink the perimeter so that it fits the round surface. It will melt and act like heat shrink tubing. If your hair dryer is not hot enough block some of the holes to cut down on the air flow. You can temporarily put tape over about 1/2 or more. Once you are done let it cool. The plastic will continue to shrink as it cools. If you start drawing right away your lines will be off as it shrinks. Once it's cool outline with a permanent marker the continent. Untape it and cut off the excess plastic. Set it aside and do this with each content you wish to move.

Once all are made tape down the contents so that they look the same as Nancy's drawing. Now if you get real ambitious you can attempt to draw using another color the shape that will end up taking into account some land going under the sea and some land rising. Do this for only the lands you are interested in.

**Mike**



# Troubled Times



## Pre Pole Shift

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The following is low resolution digital camera shots of the result. I used shifted outlines of the existing continents. Each picture is about 50K bytes. These shots were taken with a hand held digital camera with marginal lighting. Should be enough to determine whether this idea of presentation is worth pursuing any further. Before pole shift [Step 1](#), [Step 2](#), [Step 3](#), [Step 4](#), [Step 5](#), [Step 6](#), [Step 7](#), [Step 8](#). Shot taken for each 1/8 turns of the planet. Rotation was counter clockwise facing down on the old north pole. Rotation starts facing the new North pole.

**Mike**



# Troubled Times



## Step 1

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# Troubled Times



## Step 2

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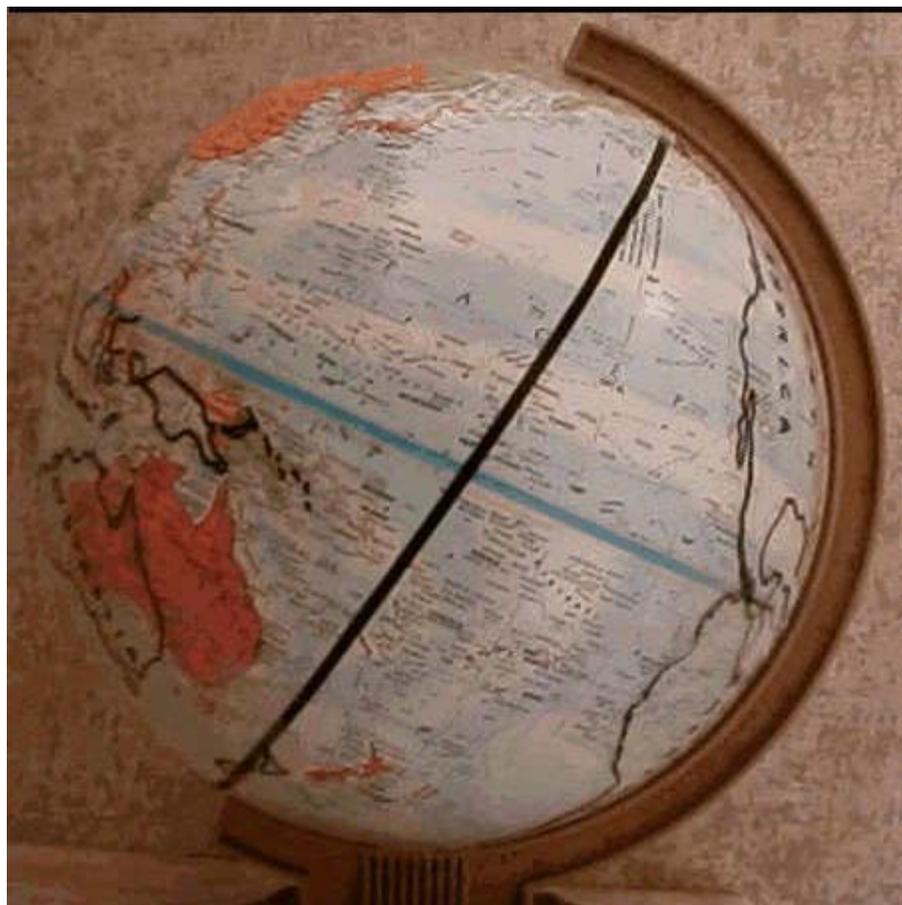


# Troubled Times



## Step 3

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# Troubled Times



## Step 4

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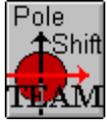
# Troubled Times



## Step 5



# Troubled Times



## Step 6

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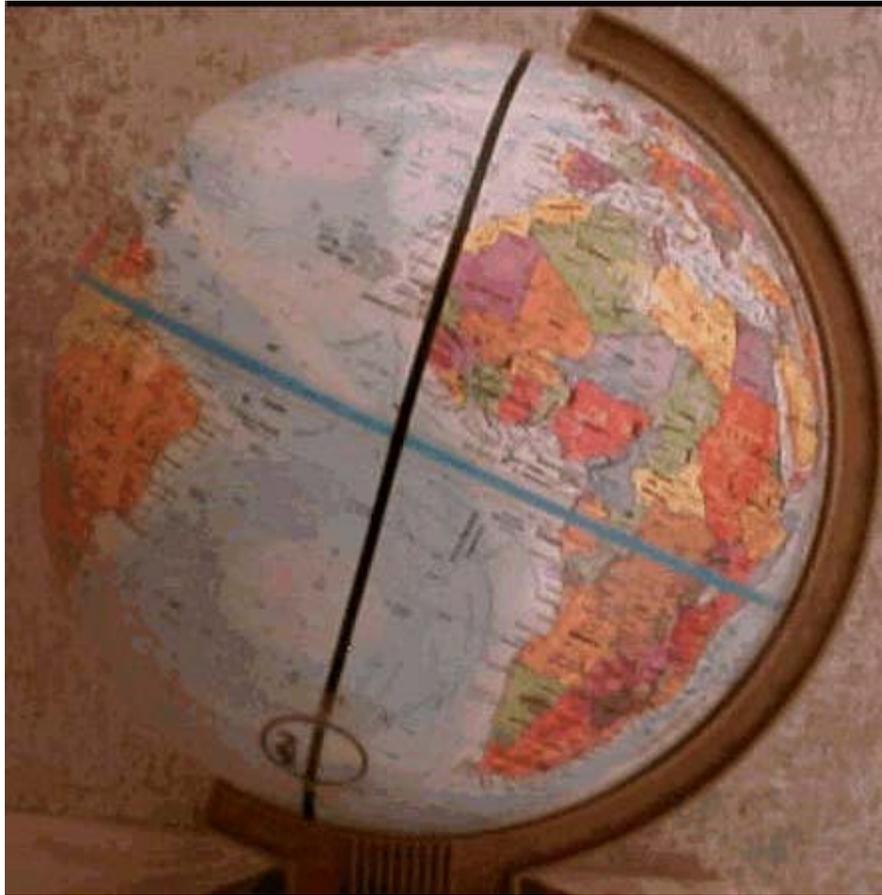


# Troubled Times



## Step 7

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# Troubled Times



## Step 8

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# Troubled Times



## Post Pole Shift

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After pole shift: Shot taken for each 1/8 turn of the planet. Rotation was counter clockwise facing down on the new north pole. Rotation starts facing the old north pole, [Step 9](#), [Step 10](#), [Step 11](#), [Step 12](#), [Step 13](#), [Step 14](#), [Step 15](#), [Step 16](#). My comments on the results: Looking at the slippage of South America of about 75 degrees or over 5000 miles. Realizing that Europe will also slip and that not all of this will take place by north and south America. For ease of construction this was not shown. Yet even if it is half or 2000-4000 miles, this is still a lot. I once calculated that during the shift the planet surface could get up to speed of 12,000 mile/hr. 5,000 miles is a long distance, there must be some other factors I don't yet understand at work other than the inertia of stopping of the planet that could cause this.

**Mike**



# Troubled Times



## Step 9



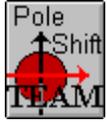
# Troubled Times



## Step 10



# Troubled Times



## Step 11

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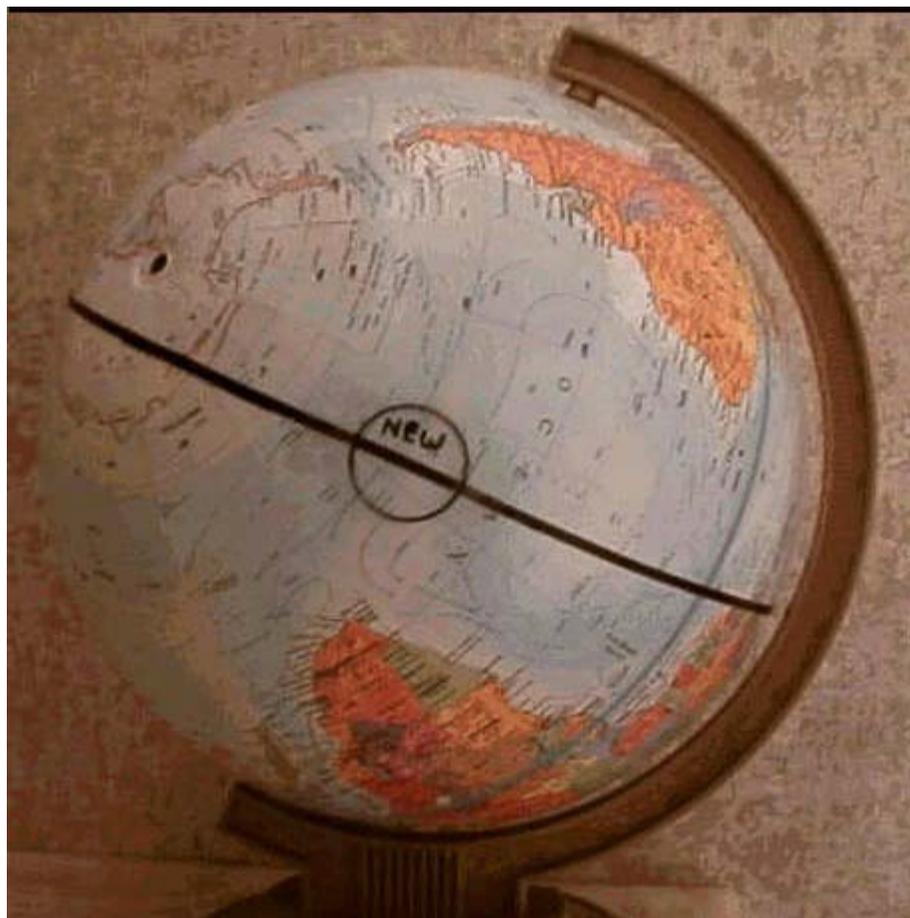


# Troubled Times



## Step 12

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# Troubled Times



## Step 13

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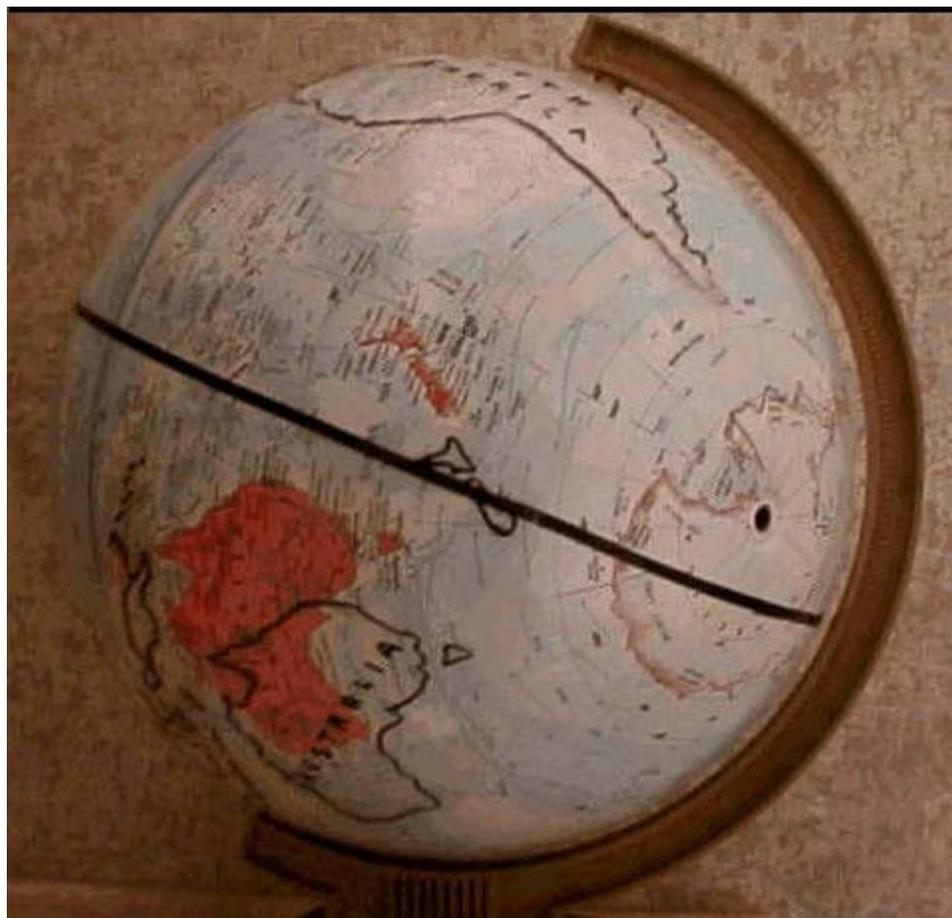


# Troubled Times



## Step 14

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# Troubled Times



## Step 15

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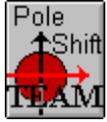
# Troubled Times



## Step 16



# Troubled Times



## Film Adaptation

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I had a thought that this technique of curved marked up plastic overlays might work well with video. One could focus in on one continent at a time and gradually move the overlay showing the shift of the continent. Take some frames shift it by hand and take some more frames. The jerky effect this would produce would simulate the bumping effect of the continent sliding. Also the rotation of the shift and the final rotation of the planet could be shown more realistically. I don't have the equipment to do this.

**Mike**

It seems to me that the changes that pole shift will make on the planet can be programmed, so that a study in motion of the change, as the Zetas describe it, can be visually studied, zoomed in on, slow-motioned, etc. My limited end-user computer skills don't, unfortunately, include this kind of thing. All you computer whizzes on the list: do any of you think it is possible to write a program of this kind, so that we could see the changes unfold accurately and step by step?

**Jenny**

Yes this is possible. This is a matter of design and not of possibility in today's world of software. You are asking for a wheel and that it must be able to spin around, and it is up to the designer to decide what type of wheel is needed. Creating such a program can be done in REALbasic, which is a MacOS program for making programs for the MacOS and WindowsOS. I have no experience with that program though.

A program that could be used is flash, where the contents (selfmade) can be displayed on the internet in a dynamic and interactive fashion. Flash is interactive and has animation. A flash file usually is smaller than the average image on the net (80k). I am very familiar with flash, and the activeX needed for windows users installs automatically. To see what flash can do, go to <http://www.flash.com> and choose 'flash gallery'. I could create a spinning earth with old and new geography, changing geography, pole shift and the lot, all in 3d and by using maps. These can be loaded into flash, where I could put content and meaning to them. With the addition of text and sound, animation and interactivity, the whole concept of the pole shift can be visualized.

**Michel**



# Troubled Times



## Willem's Animation

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Since I'm a wind-bag and my web-page rambles on for a while, I'll make this brief. I've heard that some folks would like to see the pole shift illustrated in 3-D. Incidentally, that's something I've started working on, and I'd *love* to have the team's input. To help, I've signed onto Geocities where I'll post progress reports from time-to-time as work goes on. You can review my work, make suggestions and pitch in if you feel the urge. At present, I'm just beginning, so the page is just there to explain the ins and outs. At the next update, the page will simplify and be dedicated to updates only.

Offered by [Willem](#).

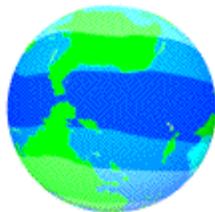


# Troubled Times



## Animation

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# Troubled Times



## Nancy's Map

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I would be very interested in how Nancy came up with this graphic in the first place. My assumption had been that she just copied this type of map (forget it's name) from somewhere else. Were that the case, the map would not indicate any shifting of the continents as you show on your globe experiment.

**Ron**

I took a bitmap of the world, which showed the continents in their right proportions (not where Greenland looks as big as the North American Continent, etc. Then I took the globe and revisited the vision given to me, and spend days. The first cut had a big "map spacing" red wedge in the middle of North America and up into Russian from India, as the curve of these large continents was hard to lay flat. Now I know that both these places split a bit. But I did *not* subduct India and Central America. Mike did that, for the first time.

**Nancy**

I am not sure how much of Central America gets subducted. To me it would be logical that North America or specifically Alaska should slide over the top of Russia to some extent. This theoretically could put clipper or some of Alaska slightly in the southern hemisphere. Then the amount of subduction of Central America would be much less. I also went round and round with the islands around Australia. In an attempt to match your intent I ended up sliding 3 different pieces of overlay, each one slid separately.

**Mike**



# Troubled Times



## Print/Paste

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Used Nancy's [New Geography](#) map. Printed this out with a laser printer and enlarged it to 2.69x with a copy machine. Over all length ended up to be 14.32". Checked the aspect ratio Height/Width before and after the enlargement they were the very close to the same. The rubber balls in the picture below have a diameter of 4.56". Drew a line on the inside of the paper on the exact opposite side of the equator line. Used this to line it up with the seam in the ball so that it would be centered in a north to south direction. Wrapped the paper snugly around the ball and taped it so that it did not slip toward the north or south. Made two of them to see if I got the same result, in case the equator slipped. [Top](#) and [Bottom](#) of both test units.

Notes on the results: The north and south ended up about .25" short of being centered on the geographic pole. The blank spots where you can see the ball do not matter that much. There is no land at these spots, so one can just picture it as water. There is some overlapping of continents or countries especially in the southern hemisphere. This is a concern and indicated a little to big an image for that continent as compared to the diameter of the sphere. There is only so much one can do with flat paper wrapped around a sphere. I think as it stands it gets the point across. One could improve this by making thinner strips but then the appearance in 2D would look like it is cut up. One could possibly adjust the tabs a little however I am not sure how to do this without cutting off valid land masses.

**Mike**



# Troubled Times



Top

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# Troubled Times



## Bottom



# Troubled Times



## Orbit

By pulling together the following references I was able to construct the following graphic that shows to scale half of the 12's elliptical orbit.

[Figure 1](#): **Half of the 12th's Elliptical Orbit** shown to scale.

References for source description:

### [Comet Orbit](#)

*To use multiples of the distance from your Sun to its farthest known orbiting planet, which you call Pluto, this foci is from the Sun 18.724 times as far away. ... After passing through the Solar System, the 12th Planet moves out on the opposite side some 3.560 times the distance from your Sun to its farthest planet, Pluto, then stops.*

### [Second Foci](#)

*... it stands at an angle of 11 degrees off the Earth's orbital plane around the Sun, in the same direction we have given for the approach of the 12th Planet.*

### [32 Degree Angle](#)

*here the 12th Planet approaches from Orion, it dips below the ecliptic during the years just before passage to an angle of 32 degrees below the ecliptic.*

### [Entry Angle](#)

*The 12th Planet pulls down and away from your Sun only at the last minute. This is reflected in time as the last 9.7 weeks or 68 days. This is reflected in distance as 1.2598 times the orbital diameter of Pluto, or two and one-half times the distance from your Sun to this farthest known planet which you call Pluto. The shape of the deviation is parabolic at the angle of turns, in all cases. This is not exact, but for purposes of calculating an orbit is something you can work with that will be close enough. Thus, the 12th Planet starts its deviation from its straight path in a parabolic manner, but has scarcely started to turn away when its increasing speed allows it to come closer to the Sun and it does another parabolic curve back toward the Sun, essentially correcting its path again to be straight toward the Sun. When it passes the Sun, piercing the Earth's orbital plane, it has come to the point in a parabolic curve where the line is essentially straight.*

*The distance of deviation from the orbital line, which is essentially a straight line toward the Sun on the approach, is not great, approximately 37 million miles. This relatively slight distance is enough to grant the 12th Planet the sharper angle it seeks. At this point the orbit of the 12th Planet has been altered, as the Sun is the only giant it is listening to. The 12th Planet maintains this line of orbit as it leaves the Solar System and travels out. In the scheme of things, this puts a slight lift in the orbit, as though the orbit between the two foci were your arm, extended out from your body, and the part of the orbit past the Sun were your hand. If you lifted your hand at the wrist slightly, a 21 degree lift, you would simulate what the 12th Planet's orbit is doing at this point. The 12th Planet maintains this deviation until it again passes your Sun, the second pass. It does not find it necessary to pull away from the Sun on this second pass, as the angle is correct to begin with.*

If anyone sees any errors or thinks something needs to be added let me know and I will fix it. I use a Visio graphics package that has an accuracy of .001" and .01 of a degree. The .gif raster created some loss of curve detail but I think it gets the idea across.

**Mike**

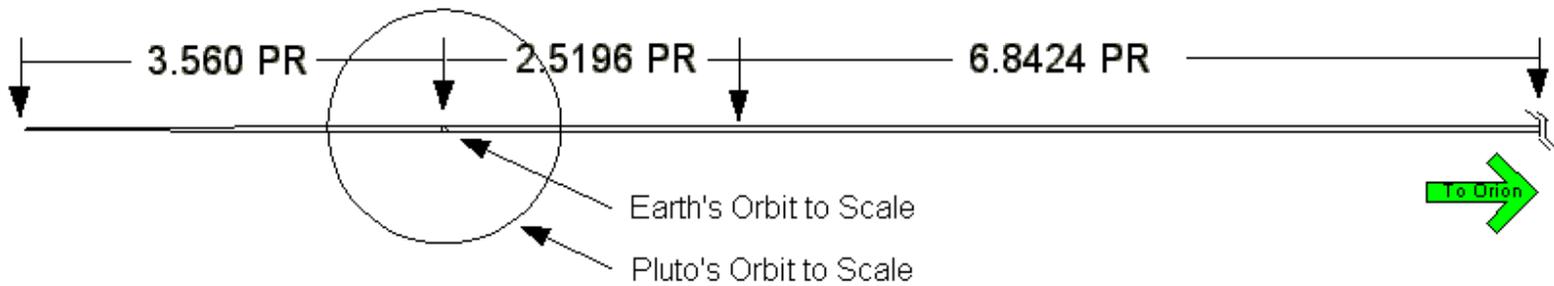


# Troubled Times

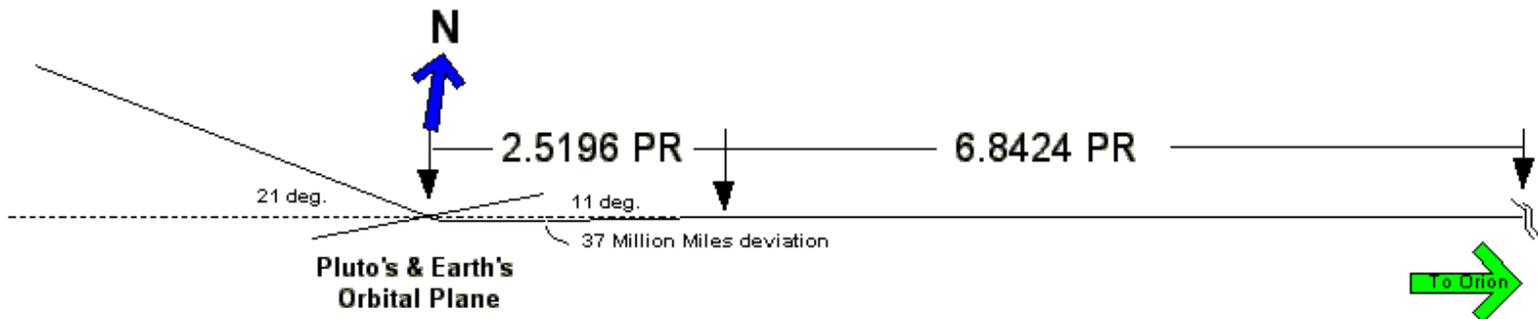


## Figure 1

### Half Of The 12th's Elliptical Orbit Shown To Scale



### Top View looking down at North Pole



### Side View

.5 Inch = Pluto's Radius (PR)

Earth's distance to Sun: 93,000,000 Miles

Pluto's distance to Sun: 3,670,000,000 Miles or 39.5 times that of earth

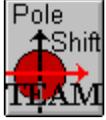
Over all diameter of 12ths orbit is 25.844 times Pluto's distance to Sun

The distance between the two Sun focal points is 18.724 PR

## Figure 1



# Troubled Times



## Angle

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The following graphic was constructed to illustrate the angles, distances and motion as the 12th get close to Earth. The sizes of the objects are not to scale.

### [Figure 2: 12th's Key Passing Angles](#)

It is based on the following references.

#### [Pole Shift](#)

*At this time we estimate that the giant comet will come to within 14 million miles of the Earth.*

#### [Retrograde Orbit](#)

*The 12th Planet's Retrograde Orbit around the Sun is due to its reaction to an energy field emitted by the Sun.*

#### [Entry Angle](#)

*When one is looking toward Orion, at this time, from above the Earth's orbital plane, the perspective human astronomers prefer, the Sun will be to the right. The Earth, Sun, and 12th Planet will thus Form a Triangle in the Earth's orbital plane with a 23 degree angle at the Earth, an 18 degree angle at the Sun, and a 139 degree angle at the 12th Planet. It is at this point, essentially, that the 12th Planet is closest to the Earth, as with the angle of entry into the Earth's orbital plane being 32 degrees at this point, the 12th Planet essentially dives up through the Earth's orbital plane and quickly passes on.*

#### [Point of Passage](#)

*As the 12th Planet pierces the Earth's orbital plane, it forms a triangle with the Earth and Sun, with the angles given as 139 degrees at the 12th Planet, 23 degrees at the Earth, and 18 degrees at the Sun.*

#### **Path as [Viewed from Earth](#)**

If anyone sees any errors or thinks something needs to be added let me know and I will fix it.

**Mike**

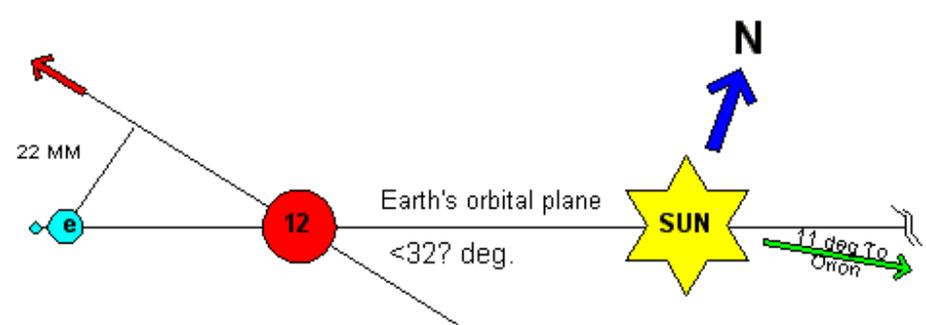
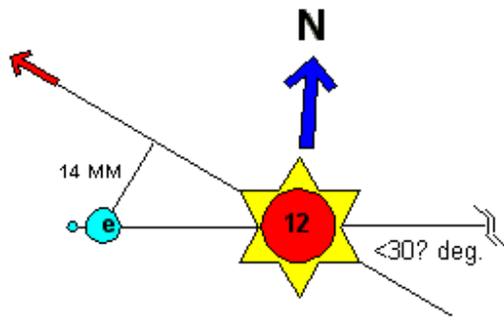


# Troubled Times



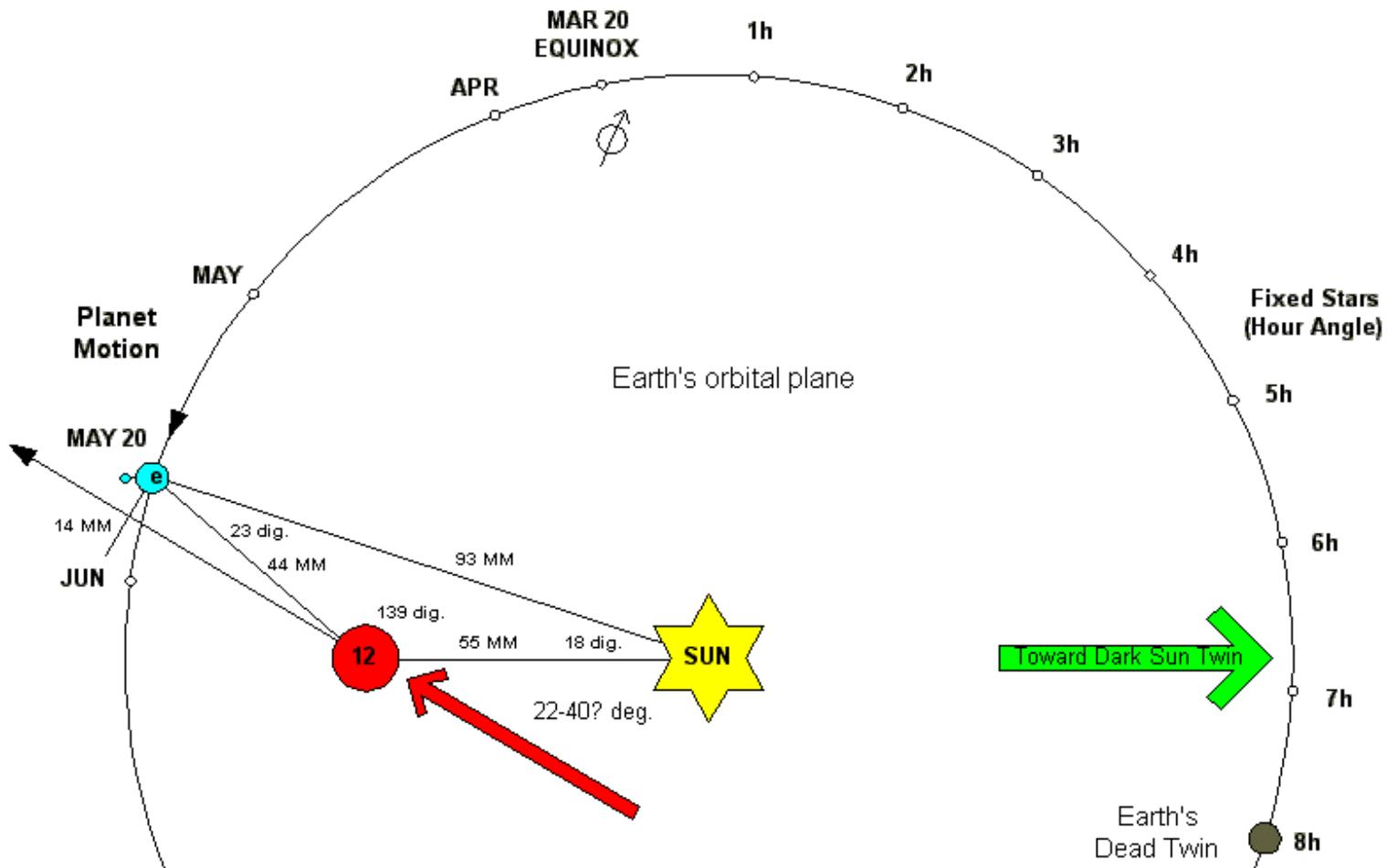
## Figure 2

### 12th's Key Passing Angles



Front view toward incoming 12th looking at back side of earth

Side view



JUL

# Top View Looking Toward South

Scale: .03 Inch per Million Mile (MM)

Note: Distance and Angles  
are to Scale, The Size of the  
Planets and Sun are Not to  
Scale

9h

10h

Figure 2



# Troubled Times



## Size

---

[Figure 3](#) shows to scale the relationship between the sizes of the sun, moon, earth and the 12th planets.

Source Reference:

### [Stop Rotation](#)

*It outweighs the Earth by some 23 times, but by size is not 23 times as large as its weight is due to its makeup, having less silicon than the Earth, for instance. Should one line these planets up side by side, the Earth would look to the 12th Planet as the Moon does to the Earth. Where the gravitational pull on the surface of the 12th Planet is better than half again as much as on the surface of the Earth, ...*

**Mike**



# Troubled Times



**Figure 3**

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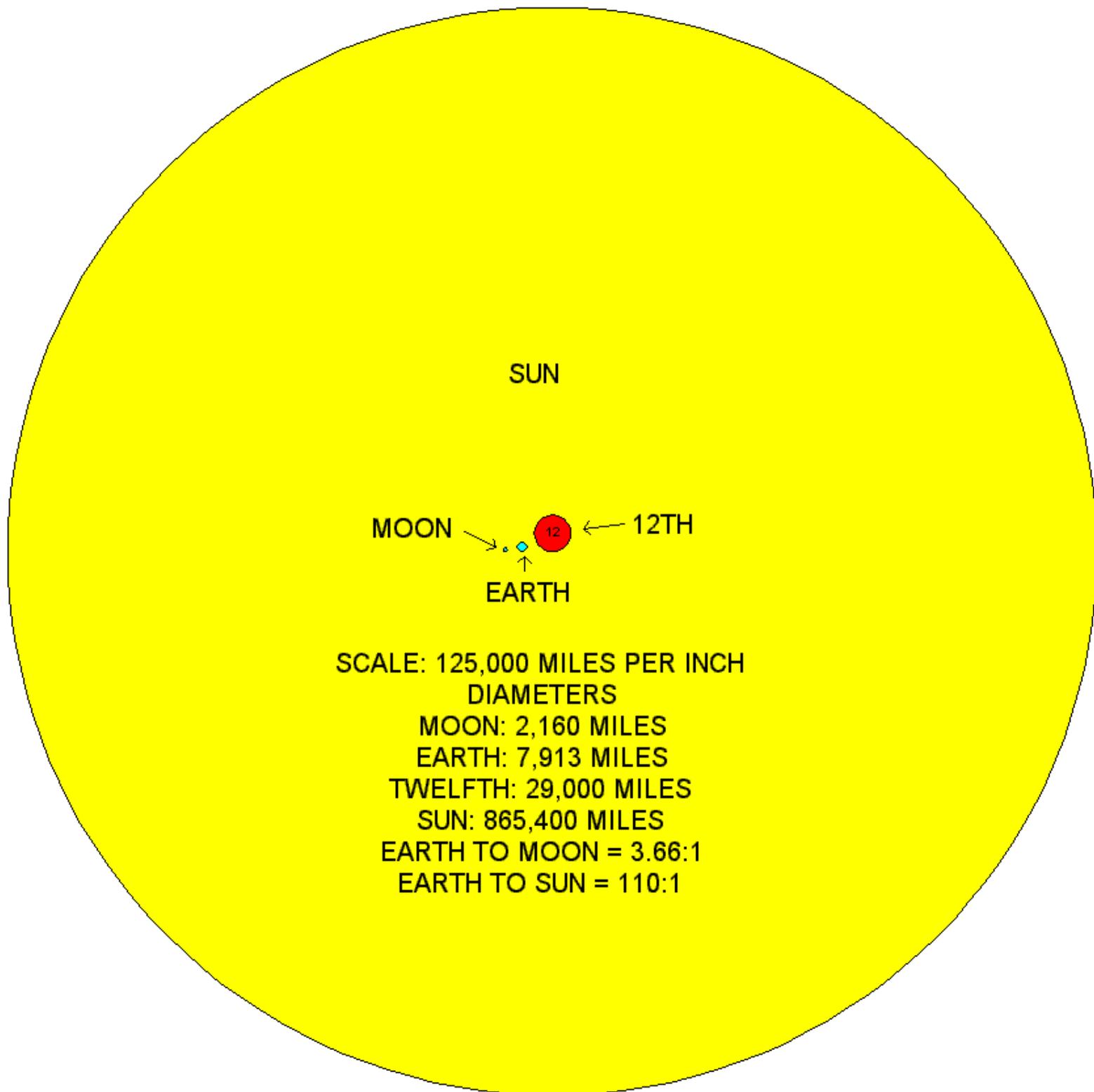


Figure 3



# Troubled Times



## Questions

My comments and analysis of graphics overview of the 12th's motions. It raises the following questions [as of January 2, 1999] in my mind.

### Reference "side view" figure 2

With an entry angle of 32 degrees to the earth orbital plane, how can the 12th get any closer to earth than 22 Million miles? I calculated using a computer drawing package a distance of 44 million miles from 12 Th. to earth as it passes though the Earth's orbital plane with a 32 degree entry angle. The 22 Million miles is assuming it would pass directly over the top of earth. If it travels off to one side or another, then this distance is even greater. The 32 degrees is referenced in numerous places and also is the sum of 11 degree and 21 degree in Figure 1 that shows the 12th orbit. I suspect something is incorrect with the triangle, or the angle, or my understanding.

### Reference Top View figure 2

Now if one factors out the above 32 degrees and looks at the angle the 12th makes with in the earth's orbital plane. This angle needs to be a minimum of 22 to 40 degrees to give a 14 million mile close approach. It also needs to be greater than zero degrees to get around the sun. This drawing says the 12th would need to be coming in from a direction that is off by 2-4 (9h-13h) or more hours from the direction it should be coming from (green arrow). Could it be there is something we don't understand about the orientation or size of the entry triangle?

[Answer](#)

### Reference Front View figure 2

I could not find a reference to the angle between the orbital planes of the 12th and Earth's orbital plane. However if this entry triangle is correct and if 14 Million miles closest approach is correct. Then, this angle must be less than 30 degrees. Most probably it is closer to zero degrees than 30. My question at this time is - what is the angle between the two orbital planes (Earth's and 12th's) as viewed toward the incoming 12th, and viewed parallel to Earth's orbital plane?

### Reference Top View figure 2

Looking at the link [Path as Viewed from Earth](#) link one sees that the earliest sighting point is about Sidereal 5h angle. Assuming for now this is close to dark star focal point. This drawing shows the rough position of the dark star off by about 25-30 degrees as compared to the position of the earth on say May 20th. Would be off a little more for May 15th. I can see some amount of slippage due to the lengthening day. Could it accumulate to 25 to 30 days of time? Questions - What is the Sidereal hour or angle for the 2ND focus or dark star, or if you prefer what day of the year would the sun and earth lie in the same angular orientation to the dark star 2nd focal point. What is the accumulated hours or days of slippage up to the point of stoppage or start of the shift which every you prefer?

Mike



# Troubled Times



## Answers

OK, I checked as to what the Zetas said, and indeed they said the triangle is drawn starting at the sun, starting at Earth, etc. So since this conversation started a couple days ago, I've been getting from them that there is a missing piece we've not discussed yet, during the passage, so there goes.

*Like bodies on the dance floor, and as Velikovsky has pointed out in his record of ancient astronomical observations, planets can get disturbed from their orbit by the close passages of an object as large as another planet, though they then return to the orbit appropriate for their size and composition, within the solar system. Thus, where the this triangle represents an analysis to aid in determining the approach, it does not represent, completely, the position of the passing bodies during the actual passage. They draw near each other, during the approach, where the north end of the 12th Planet is pulling toward the south end of the Earth. At this time, as the 12th Planet is moving, it does the moving, the pulling toward. The shift itself is preceded by a jerking away of the Earth from the 12th Planet, the north end tipping up but also the Earth sliding sideways, a bit. Then, as the south pole pulls up and toward the passing 12th Planet's north pole, there is a pulling back, toward the 12th Planet. As friction in space is not a factor, these motions do not influence those on the surface of Earth. It is the shift that is the disruption, not the movement in space. In the end, the Earth is essentially in the same place, vis a vis the Sun, when the passage has completed, but during these attraction and repulsion movements, the passage has been closer than would be presumed from the approach of the 12th Planet.*

### ZetaTalk™

I think the movement toward the Earth, as a rapidly moving magnet approaching the south end of Earth with its north end, would be a slight change in the curve line it is already taking.

*At what point does the path change? It is now, on the approach, retrograde to hop over the sweeping arms of the sun and positioned at a 32 degree angle to shoot through the ecliptic rather than line up with the other planets in it, and positioned a length away from the sun that its repulsion force demands. It is not until it is approaching the Earth, within the last week, that any change moving the 12th toward the Earth occurs. As you might imagine, seeing this slight change will put panic into those humans calculating the passage. As humans do not ascribe to the repulsion force that we detail, they will be missing a large piece of the puzzle. When the Earth itself starts to move away, just prior to the shift, they will ascribe it to motion in the 12th, or perhaps a doom or the Earth being sent out into space, out of orbit entirely.*

*Thus, for your calculations, use the triangle we have described as positioning the 12th on it's approach. Detailing the exact position during passage, given the drama of that last week, is unnecessary. It will be rock and roll, as we have described in the pole shift area, and few on earth will be dealing with other than the immediacy of survival at that time.*

### ZetaTalk™



# Troubled Times



## Sloshing Water

---

To see what will happen at the pole shift time, buy a globe. Put new holes at the location of new N/S poles. Then with present locations of poles, spin it, then stop it. Where will the water go? At this point there is no rotation. Then shift the poles on the globe, to the new locations. Where will the water go then? This is true not only for oceans, but, ponds also.

**Bruce**



# Troubled Times



## Radio Static

---

About a month ago I bought a multi-band world radio receiver, including a scale from 520-1600 kHz, which is supposedly quake sensitive. I can say that the scale is indeed sensitive to many factors. Reception is much better in the evening than in the morning or during storms, so this does not necessarily indicate a quake.

Three days ago, in the evening I found a "strange" situation, where I could easily receive stations east, south, or north from here, and a station about 50 miles west, but could not receive a station in Italy, further west. A day later news reported a Richter 3 quake about 100 miles west from here. This may be a coincidence, but I guess is not. I'll try to do a more systematic approach (exactly locate radio stations, monitor receptions daily, etc.) and if I find something of interest I'll post it here.

If a \$30 radio can save your life, why not? :)

### Kiko

520-1600 khz corresponds to AM (amplitude modulation) radio stations within the Us and Canada, just in case you didn't know. When the sun goes down AM shoots up into the sky. If the sky is clear, you can get stations from thousands of miles away. Some US stations such as WJR 760AM, WABC 770AM, CKLW 800AM, and many more are referred to as "clear channel" stations. This means that they are the only station east of the Rocky Mountains with that frequency and they can be heard in all states east of the Rockies on a "clear night". The key is how clear the night is over how much geography.

This is the most likely case of your station reception. What was the weather in Italy vs. the rest of the continent?

### John



# Troubled Times



## Copper Catch

---

Concerning the earthquake predictions using AM radio reception comparisons, try this thought on for size: The friction or stress underground creates a static charge. Similar to rubbing a sweater and touching a doorknob. This static charge when spread over a large area could induce a very slight electromagnetic field, like listening to lightning crackly over the radio when an electrical storm is near. Only so slight as to be nigh impossible to measure. This natural charge could influence the reception by altering the radio waves as they pass through the atmosphere. Aircraft with modern navigation and computer systems have HERF protection through shielded wires and numerous grounds attached to the wire bundles passing through the structure, as even the slightest stray field can dramatically alter data as it is passed from computer to computer.

My suggestion is to try this:

- Fabricate a grounding wire approx., 2 feet long, of single strand copper. Take a 18 inch piece of copper pipe and drive it into the ground with a provision for attaching one end of the ground wire securely to it.
- Find a metal contact place somewhere on the radio frame (possibly at the negative pole of your battery cluster) where you can secure the other end of the ground. *do not* attach this ground to the antenna!
- When the reception anomaly is suspected, hook up this arrangement and see if a difference is found between the 2 configurations.
- If there is a difference, it could be measured with a device called a "megger", short for megometer. These are available at any well supplied electronic supply shop.
- Drive a ground pole into the earth and stretch an un-shielded wire from it to a point several feet away, say, suspended from a tree limb. the wire should have 10 loops like this-----O----- wound into it at the middle. Like an extension cord hanked with both ends dangling. The megger is passed through the center of the loops and around the outside radius when taking a reading.
- These loops multiply the actual reading into something the instrument can detect. just take the reading and divide by 10 to get the actual.

This sometimes works when looking for stray EMF around high tension lines. I agree it's off-the cuff, but it costs almost nothing but time and may yield some surprises. Let me know what ya'll think.

Offered by [AI](#).



# Troubled Times



## Q&A: Biological Clock

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What is the biological clock of tomato plants so that we can induce the plant to flower? How much light (X numbers of daylight hours and Y numbers of darkness), and at what stage ( Z numbers cm tall) is the best to induce it? Should one cover the plant in a black plastic bag for the remainder of the 24 hour period? That is what I understood being done by the Florist to force/induce the plants to flower at any time of the year, by manipulating the biological clock of these flower plants, but then they will not reveal the biological clock to anybody because it is their bread and butter in selling flowers.

**Tian**

Tomatoes grow best at 4000 lux, 18 hours a day.

**Steve**

Works well with 16 hours of light.

**John**

My indoor tomato plants are doing quite well with 12 hours of light. Sometimes they get less, sometimes they get more. I try to put a little randomness into the process to copy the patterns of cloudiness, etc. (Basically I do not have the lights on a timer so I often forget when I turned them on) Also I don't believe there is a magic height that they have to attain in order to start blooming. I keep mine trimmed to 18 inches tall because that is as high as I can raise my lamps and I have blooms on every one of my 6 plants and three small green tomatoes as well. I built the 'incubator' for seedlings and have no other means of growing these tomatoes indoors. I use 4 40W fluorescent bulbs (4 foot long).

**Roger**



# Troubled Times



## Q&A: Trim Branches

---

Do you have to trim the lower branches of a tomato plant so that the plant will have more yield?

**Tian**

It is best to trim off the suckers between the leaves when they are 1-2 inches(2.5 to 5cm) long by hand instead of a knife - less danger of spreading disease. As the plant matures and fruit is harvested, the *yellowing* leaves below trusses (fruit clusters) that have been completely harvested should be removed. Do not remove green leaves, as they nourish the maturing fruit. At all times, about 4-5 feet (1.2 to 1.5 meters) of foliage and fruit clusters should remain on the upper part of the plant. The above applies to tomatoes, cucumbers and peppers.

**Steve**

Yes, you must do this before it starts flowering.

**John**

This is something I have never done (except for removing the suckers, of course). I have never heard of removing leaves at any stage of the tomato's life, let alone before it starts flowering. I have noticed that outdoors, these yellowing leaves eventually dry up and fall off, but I always consider this a natural part of the plant's life cycle and have never considered speeding up the process. Perhaps this is something that must be done in a hydroponics system.

**Roger**



# Troubled Times



## Q&A: Fertilizer

---

Assuming, after the pole shift, none of the commercial fertilizers are available, can we use human excrement/urine for fertilizer in our hydroponics system? in this case for our tomato plants.

**Tian**

Have you ever seen tomato plants grown over a septic tank? Very prolific, though you don't want them to become too acidic from the uric acid (below 4-5ph), but not usually a problem.

**Steve**

Depends on desperation. I'd look for something else first.

**John**

Post pole shift there will be nothing else. You will have to find a way to sterilize the waste before you put it on your plants or into your hydroponic solution. Essentially, you do not want to create a loop in which microbes and parasites go from human (and other animals) to plant and then back to human (or other animals). The material present in liquid and solid waste does make an excellent fertilizer, but you don't want the microbes in it.

**Roger**



# Troubled Times



## Q&A: Grow Potatoes

---

Can we grow potatoes in a hydroponics system without soil? Has anybody tried this method?

**Tian**

Look at how NASA grows potatoes, look at the tuber inducing factor, and the candidate crop testing specifically. Don't let tubers become exposed to light or this could render them inedible.

**Steve**

I have sort of done this. I've put potatoes in an 18 gallon rubbermaid container with a mixture of a little top soil, perlite and vermiculite. Potatoes need a lot of nutrients. I got potatoes, they were just dinky. When I finally got a soil testing kit, I found there weren't nearly the nutrients needed, but it can be done. They don't require nearly the light of say, tomatoes, 12 hours a day is plenty.

**John**

I've had no experience with that here. I do know that exposure to light causes the tuber to transform its starch into a substance that is ill-tasting and if consumed in large amounts (with nothing else to dilute it) can cause illness, but it doesn't make the tuber inedible. I have eaten plenty of green potatoes and I'm still among the living (and didn't suffer any illness). Of course if your only source of food was potatoes and they were all green, this would be a bad thing, so the tubers should be protected from the light as much as possible.

**Roger**



# Troubled Times



## Q&A: Soy Beans

---

Can we grow soy beans in a hydroponics system without soil? And also do you know the biological clock for soy bean plants?

**Tian**

Don't know specifics on soy bean plants, though just about anything should grow hydroponically. There are short and long day soybean varieties though.

**Steve**

It's a bean, so you can do it. Rockwool works best with a continuous water system 3 hours on and 3 hours off. I'm currently growing beans in two Rubbermaid tubs (10 gallon). Lot of good beans that will be available to the Seed TEAM shortly. Again, the mixture is vermiculite, perlite, and a little top soil.

**John**

I have no experience with soybeans, but as John says, it is a bean.

**Roger**



# Troubled Times



## Q&A: Induce Flowering

---

How can we induce more flowering in a cucumber plant, to get more yield without fertilizer? Will the biological clock method work?

**Tian**

Cucumbers, tomatoes and peppers have about the same requirements each. Cucumbers grow best with 6000 mWm<sup>2</sup> of light, 16 hours a day.

**Steve**

Cucumbers have little nutritional value. Haven't tried.

**John**

I've never had a problem with lack of flowering in cukes so I have no suggestions to give other than to make sure the temperature is warm and stable. Little nutritional value, perhaps, valuable nonetheless for culinary diversity. Shredded and pickled, they become a condiment, sliced and pickled they are also a condiment and provide vinegar that aids in digestion, simply sliced they become a salad topping that helps one to avoid culinary boredom.

**Roger**

Cucumbers are an excellent source of silica

**Janar**



# Troubled Times



## Teeter Totter

An idea for a no-pump low-tech hydroponics setup. Two parallel V shaped wooden trays as you have designed say 4-8 ft. long structurally connected at each end. Separated about the width of approximately 1-2 trays. Provide a pivot point at each end centered between the trays. End view would look something like this:



Where "A" is the pivot point and "V" are the trays. Bottom ends of each tray connect with a pipe running to the bottom of the adjacent tray, so nutrients can flow easily from one tray to the other. From time to time walk up and push down (stand on it) the tray that is up in the air until the liquid runs into that tray and holds it down. The amount of up and down motion should be no more than to just drain the tray that is up. Each tray should be mounted such that its top is level when it is down and full of liquid.

My comments on the idea: This set up would only work if the plants liked to be wet then dry half the time. The unit can not be made too big so as to be too heavy to push down. The connecting tubes need to be big enough so as to not wait too long for the water to run from one tray to the other. Wouldn't use this with climbing vines or tall plants. This type of setup trades more sturdy structure or building materials for an electric pump. If electricity is available it's probably better to use a electric pump type setup as previously described. This is just an idea that someone may develop on to work out the rest of the bugs and possibly find an appropriate use.

Offered by [Mike](#).



# Troubled Times



## Water Loving

---

Looking at this and reading what you said, I bet if we tried hard enough, we could figure out how to use pulleys and weights to make this thing operate on its own with the weight of the water being transferred from one box to the other. When the full-of-water box sank down as far as it would go, it could trip a self re-setting lever that would release a weight on the other box, pulling it down to the tripping lever on that side releasing a weight and so on. If this was possible, It would not have to be manned or have electric. Pulling the weight back up may be a challenge, but we could let gravity work for us.

### Clipper

This set up would only work if the plants liked to be wet then dry half the time.

### Mike

This limits the plants you can work with. For instance, lettuce likes it wet always while others have to have porous soil. You should get a book on hydroponics to see what plants this would work with. I'm not familiar with any but by no means am I an expert.

### John

Now that I look at it again. One could use a water loving plant on one side and plants that likes it dry most of the time on the other or leave one side a temporary storage reservoir with nothing growing.

### Mike



# Troubled Times



## First 3 Months

---

Well, it's been 3 months since we started growing lettuce, tomatoes and beans. Some comments:

- Lettuce is far and away the easiest. You just stick the seed in a small rockwool container and let it soak in a tray of water with appropriate nutrients(see any book on hydroponics), then once you have 3 leaves, take the whole rockwool piece and stick it in a piece of Styrofoam. It just floats on the water. pH is the only thing you really need to watch. Styrofoam is naturally acidic. Fortunately, our water is extremely alkaline, so we don't need to adjust it. With just two trays, we're kind of getting sick of all the lettuce.
- Beans were relatively easy in rockwool. Our problem was keeping the plants from falling over which was solved with string and tape(very high tech!) In the case of both the beans and lettuce, you could pick them and they would regenerate. pH was the most important thing to watch here.
- Our tomatoes are just starting to flower(3 months). I don't think the room was warm enough(70 degrees). The plants were also hard to keep up until we got into string and tape. pH was extremely important! The other hard thing about tomatoes is their requirement for pollination.
- We're moving everything outdoors now because it seems the frosts are over (finally!) and the electricity bills have been an extra \$100 per month with a 1000 watt lamp. We didn't fully utilize it during the spring, just sticking our toes in this process. I would suggest to everyone that if you're going to do this, you give yourself at least a year to really understand it prior to needing it. Based on the Zeta timeline, that means get your butts in gear by Fall-98!

Offered by [John](#).



# Troubled Times



## Lettuce Success!

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Lettuce just sits in Styrofoam in a water filled tray on top of a milk crate. During an "event", this stuff will be all put away. By the way, the leaf lettuce we've been growing has just about reached the end of its natural life. Growing since March, and picked on an almost daily basis to provide dinner salads for 3, it's truly been the easiest and most economical plant to grow. Now the stalks (yes stalks) on these lettuce plants are about 2 1/2 feet tall, the lettuce is starting to get smaller and seeds have now sprouted in the top of the plant.

### John

This is a fine example of how to re-seed your plants. Where to get your seeds from later, as something must go to seed to get more seeds. This could be very important, maybe a section of your hydroshed can be used for "going to seed plants" (of course you could eat your way there -:))

### Clipper



# Troubled Times



## Darn Those Mites!

---

We brought strawberry plants in from outside to grow during the winter. What they brought with them was mites which have just appeared. It doesn't look like they've migrated to the other plants, but a strong lesson learned.

**John**



# Troubled Times



## Plant Towers

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**Do not buy those plant towers.** You can't clean them and with any indoors situation, you have mold and have to periodically change the water. When you change the water, you wash off the mold. Problem is, the only way to change the water is to siphon with a hose, and then you still can't move the darn thing without having the very real potential of the plants falling on your head!!! (yes, personal experience). We were going to use it for the strawberries mentioned above because the very structure would prevent runner migration. It's easier just to clip the runners in another structure.

**John**



# Troubled Times



## Containers

---

These hydroponic companies sell these elaborate systems and now that I've been at this a couple of years, it seems to me the best thing to get is Rubbermaid containers (18 gallon ... 10 is OK, but not deep enough for many plants). Stick a hole in one side 3/4 to 9/10 down depending on the plants moisture requirements. Stick a drain in it (like in a boat) only without the cover. Put lots of earth in it. Make sure the earth is porous ... perlite and vermiculite are best but a little expensive. Get a 2 gallon bucket of water. Make sure the pH is right. Put your fertilizer in. Fill the container twice a week until water comes out the bottom and everything seems to grow nicely.

The beauty of this is other than the light source, no power is required ... no pumps (other than possibly for water) etc. Right now, I'm growing corn, potatoes and kamut on our screen porch. The corn is looking fantastic! I'm not sure about the potatoes since you can't see them. In fact, how do you know when potatoes are ready? The kamut is very weird looking. No seeds yet on that. Started all this around May 1.

Offered by **John**.



# Troubled Times



## Clipper's Tomatoes

---

Mother nature has not been on my side among other things this summer. I have three tomato plants left that are not dead. They are the Canning/Catsup tomatoes from the seed team.

- I transplanted them into a 20 gallon reptile tank with about 3 inches of solution inside. The tank is about 3 feet long.
- I cut a piece of white, two inch Styrofoam to fit loosely inside and it floats on the water. I cut three 2 inch square holes in the center of the foam.
- I then cut three pieces of panty hose leg about 4 inches long (don't tell my wife) and tied a knot in one end. I then stuck the panty hose pieces through the holes in the foam and held the top of it to the foam with toothpicks.
- I took each plant and gently cleaned all dirt from the roots and put one plant in it's panty hose holder. The plants are propped up in the holes with smaller pieces of foam.
- I have a fish tank pump, pumping air from two lines under the foam to aerate the water.
- I am using plant food called Schultz. A liquid food. It is 10-15-10. The water from our water tank is very basic on the scale. I wanted it neutral. I boiled some pine cones in a pan of water for about 1/2 hour and let it set until it was cool. I poured off the liquid (very acidic) into a cup and poured it into the solution. The water is a little cloudy now, but that's okay. It is neutral now.

I planted them on the 25th of August. The plants have grown about two inches so far since being put into the house. The new leaves that are coming out look great. Healthy and very green. The tank came with a full spectrum reptile light and that is what I am using. (The tank came from the Salvation Army and I paid \$10 for the whole thing). If I learned anything this summer, it is how to dwarf plants for extended periods of time. These plants are only 4 to 6 inches tall and still alive. They were planted as seeds about Easter time. If these guys make it, they should be put into the Guinness book of records for the longest life span against all odds for tomatoes.

### *Clipper*

Tomatoes need support. I don't see how you get that with what you describe. I'm just starting the indoor stuff again today, and I'm going almost exclusively with vermiculite, perlite and a little top soil in rubbermaid containers (10&18gallon) with a spigot near the bottom so they don't get waterlogged. I've found this to be much simpler than the "true hydroponics" described in all the literature. It also requires considerably less energy from an electric perspective and personal perspective. I've got to tell you. I haven't read *anywhere* where *anyone* has been successful doing tomatoes the way you're doing them.

### *John*



# Troubled Times



## Second Wind

---

I had just about given up waiting for my lettuce to seed in my hydroponic garden. The lettuce had stopped growing and was beginning to die back. Just as I was about to take it out, it got a second wind and is now starting to flower. I like to say it takes patience but it was more inertia on my part. The Tom Thumb tomatoes have been so prolific that I had to eliminate some of the tomatoes from the stems, it was literally breaking the plants from the weight. Amazing. I think I'll try some other crops for food and seed and see how it goes.

**Steve**

Half a day is one of your problems. They need at least 10 hours of light each day and you should put the light as close to them as possible. Of course you will need to raise the light as they grow, but keep it as close as possible to keep them from feeling like they need to grow taller. Also, remove the plastic cover as soon as they sprout. If you have a small fan with a very low setting, position it so that it makes them move slightly. This will help to encourage them to grow strong thick stems and leaves and not get so spindly.

**Roger**



# Troubled Times



## Nutrient Sources

---

As this is also a new subject to me, I have ideas, but what I want to do is inform as I go. I have the basic ideas from the wealth of info that we have now on TT. ( By the way, I want to build and produce *strictly* from the info on TT, kind of checks and balance. Is the info we have for folks to read enough for the novice to eat on? ) If I run into snags, we can research info to fill this gap. One question I have already is "Where would one get the nutrients if there was no store to pick up supplies?" "Would lime work for this or that?" "Would coffee grounds or tea grounds give a certain nutrient to use?" (all hypothetical questions).

**Clipper**

What you'll have is soil around you, you're not going to have a mining colony, what you need is nitrogen, phosphate and potash. These are the major nutrients. You also need "minor" nutrients, but chances are you'll get them because you won't have a "pure" solution. Nitrogen can be easily gotten from excrements... they'll be plenty of that. I'm not sure about phosphates and potash.

**John**

What about campfire ashes?

**Clipper**



# Troubled Times



## Settling Solutions

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A note or warning to anyone keeping hydroponics solutions. After a 6 month hiatus, I have started another crop of hydroponics Tom Thumb tomatoes. I noticed the solution contained crystals at the bottom of the container that would not re-dissolve by shaking. I don't know whether heating the solution will re-dissolve the minerals without changing the chemical makeup. I'm going to take the lazy-assed approach and buy more solution and make sure I shake it up periodically so it doesn't settle; at least until I put a large enough setup together where I will start mixing my own chemicals.

**Steve**



# Troubled Times



## pH Testing

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Today pH testing is pretty simple. Just get a kit from the store (swimming pool section). I don't know the chemicals involved, but they are extremely inexpensive, so probably easy to do once you know what you're doing. To adjust up, you add alkaline (base). To adjust down you add acid. There are several common products that contain these. Today, I just buy acid and base. I hardly use the base product, only when I screw up by adding too much acid as our water is very alkaline.

Offered by [John](#).



# Troubled Times



## pH Meter Debate

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Damark has a **Chlorine and pH Electro-Tester** Item No. B-40070-426137 on sale for \$29.99 was \$39.99, typical price is about \$59.95. Call 1-800-729-9000 to order. Was in the just released Jul 97 catalog. Uses one AA battery. Is a white hand held meter with a two terminal probe for the water. Could be useful with hydroponics and gardening in general for pH measurements. For after PS I suspect it to be cheaper in the long run and to last longer and be more accurate than stockpiling pool test kits and or pH paper. One or more rechargeable AA batteries could be recharged from a 12V DC system with a simple limiting resistor.

A TT member who is into Hydroponics needs to check this out and verify it's workability-durability. I bought two of them however, it will be a while before I can use them.

**Mike**

The same thing is available at our local hypermarket (combination grocery and general merchandise store). It's much cheaper there, around \$22 I think. If you live in the U.S., you should be able to see it in person ... check out **flower and garden places** ... they do work, though I am using the cheap stuff that doesn't require batteries.

**John**

I have not been able to find a **PH meter** of any type for sale in the places as described above. I live in a large city in southern California. All I can find is pool or soil test kits which use chemicals to test for PH. I did find I can order a PH meter for \$40 from a pool supply store would take several days to come in. Perhaps if you could be more specific as to manufacture and product name for both types (battery and no-battery), I could call each manufacture and ask who sells it locally.

**Mike**

I'm really not interested in a ph meter because it requires batteries and I can think of better uses for batteries. Simple chemicals can be used to determine ph and they are available at every place that sells pools and/or **pool equipment**. Let's not make this complex.

**John**

Check out your local **Green Houses**. I saw them there already, even in Alaska.

**Clipper**

Then are you also saying your previous 2 email on this subject had nothing to do with **PH meters**? Still would like the answer to the question of the manufactures etc. if answer is no.

By the way the choice of batteries versus chemicals is one of long term cost and what you wish to stock up on. One or two rechargeable AA battery as compared to 10 to 20 years (or more) of chemical storage. What do you do when you run out?

**Mike**

I was finally able to find a simple pH meter with no batteries. Found it at a large Armstrong Garden Centers, Inc. Manufacture is **Rapitest** distributed by Luster Leaf Products, Inc. 2220 Techcourt, Woodstock, IL. 60098. Cost was \$19.99 before tax.

Has one probe that is stuck into the wet soil that is made with two different types of metals insulated apart to make two separate electrodes. The acid or base of the soil makes a battery that moves a meter needle away from pH 7 (no flow or zero point) to Alkaline (positive flow) or Acid (negative flow). The pH scale runs from 3.5 to 9. The instructions for use are a bit complicated and include shining or removing the oxide from the probe before each use. Under tips on testing it says - **Use the Meter Only in Soil. Do Not Place the Probe into Water**. Don't see any good reason for this statement, unless if you let it sit in water for a while, water may seep past the plastic seal between the two electrodes and possibly short to some extent the electrodes from the inside out, decreasing it's sensitivity.

Plan to do some comparison testing once the Damark unit comes in. Will write up my comments.

**Mike**



# Troubled Times



## Test pH Often

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As some of you know, I'm doing a lot with hydroponics. I assumed the pH in my water was a constant 8 as it was all last year and in September of this year. It changed a couple of weeks ago to 6.8 or so and it is doubtful my tomato plants will survive as I was adding acid as if it were 8 without checking since it had been consistent. **Don't ever do that without verifying the pH prior to adding acid.** That's why doing this ahead of time is important, get the mistakes out of the way while there is something else to eat.

Very interesting that the pH changed so dramatically just like that!!!

Offered by **John**.



# Troubled Times



## Alaska Hydros shed

The inside of the Hydros shed is now clean, though I can't say much for the yard. I have closed up the 12 foot open end and will insulate this wall soon. I have installed a system called Malibu Lighting Systems. It works from a transformer that is 120 volts and converts six lights (my model) to 12 volt. I have three lights up already (couldn't wait) and they work fine. I can get six 12 volt halogen bulbs to work for what I would spend on one 100 watt bulb, very economic and it also gets me going on 12 volt. The system is designed to go along walk ways that need lighted. I will do some research to see where one might get a Malibu lighting system. It also has a timer that you can set for 12 hours on, then 12 hours off. So, I now have an empty shed, gravel floor and three cute 12 volt lights installed. Heck, I might even grow grass in there! Get my lawn chair and sunglasses.



Offered by [Clipper](#).



# Troubled Times



## Malibu Lighting

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This is an answer to a letter I wrote asking about my Malibu Lighting system. I asked about using headlights for lighting using my Malibu system.

Date: Tue, 29 Jul 1997 08:46:30 -0700  
To: clip642@mosquitonet.com  
From: Amy Koller <amy@nightscaping.com>  
Subject: Nightscaping's Ask Bill

Dear Clipper:

If I understand your e-mail your Malibu lights are not Quartz Halogen. they are a very low grade incandescent - high on the red end of the spectrum. You need honest Quartz Halogen lamp such as GE type MR-16. Yes, the new not over 2 years old outer head lamps are close to full color spectrum. However, they require 12.8V DC and draw approximately 35 amps each. Your Malibu transformer is good for 8 - 10 amps at most.

Bill

My Malibu system runs 6 18 amp lights at the present, and is built to operate at 108 amps max. So that is six 18 amp lights or 3 35 amp headlights. The transformer has 108 amps max written on it.

Offered by [Clipper](#).



# Troubled Times



## Windshield Pump

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I want to use old auto windshield washer pumps (12 volt) to pump the water to the plants.

### Clipper

I suspect that a auto windshield washer pump will not last very long. It is designed for a short duty cycle, to be run for short times only. Due to this it may heat up possibly burn out and/or the bushings on the motor shaft will ware out quickly. If you put it on a timer and ran it for a short time only it may last longer. It will be interesting to see how long one of these things will last, so you can tell others what to expect.

Later on if you need a 12 volt dc pump, you might try your local marine supply house. I saw some inexpensive submergible bulge pumps starting at about \$10 and up. The \$10 unit pumps 350 gal/hr and use a 1/2" hose. It looks like a 2-3" cylinder about 3-4" long. The higher priced units are again more longer lasting. A RV place may also have small 12 volt pumps.

All other kinds of pumps that I can think of (water cooler air-conditioning pumps, aquarium pumps, etc.) are 110 volt AC.

### Mike

Thanks for the info Mike, I kind of figured a windshield washer pump would burn out as I am aware that they are designed for intermittent use. But, we need to know how long they last for information purposes. There are lot's of places where 12 volt pumps can be bought, but I am trying to figure out what may be just lying around for folks to get at easily. That would be the biggest purpose in the whole experiment. An experiment we can eat :-)

### Clipper



# Troubled Times



## Onan Generator

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I bought a new generator today. It is an Onan 60,000 watt butt-kickin diesel. I got a good deal on it, so we bought it. As heavy as it is, it will take one heck of a wind to blow it away! I bought it for construction of future projects.

### Clipper

Well done. Onan is Good brand. What voltages and frequency (50, 60, 400 hertz) do you have on the output panel? I assume it's used? Is the engine in decent shape? Engines wear out first on these things. You may want to stock, common parts that ware out rapidly. Consult Onan parts house. Storage of Diesel fuel would be less dangerous than gasoline. How many people do you think this will support?

### Mike

We had it running the other day, and since I drive a diesel pickup, I could tell the engine was in great shape. Two cylinder air cooled. The voltages and frequency rates I am not sure about, but I will look and let you know the next time I am at the shed where I put it. I went mostly on how good the engine was and brand name. And faith.

### Clipper

Standby KW 6 KVA 6 Amps 25  
Continuous KW 5 KVA 5 Amps 20  
A.C. Volts 120/240 Cycles 60 Phase 1 P.F. 1  
Exciter 04SX1N1A 12 volt, negative ground (battery start)

Saw nothing on frequencies or Hertz. And yes it is used. The guy that had it ran two small apartments and a trailer on it. He also used it for construction. Onan is a division of Studebaker Corp.

### Clipper

Hertz = Cycles  
KW = KVA = 1000 watt  
5,000 watt generator is better fuel economy than the 60,000 watt. Looks like a useful unit.

### Mike

Thanks Mike. Some day we hope to be able to convert it to wind or steam.

### Clipper



# Troubled Times

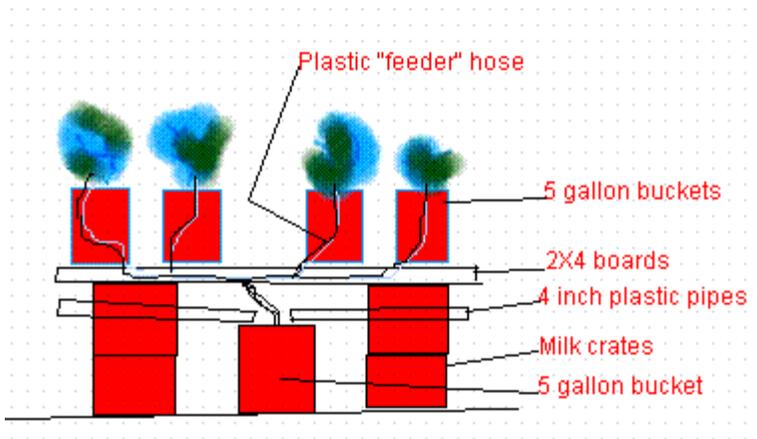


## Milk Cartons

I was at the shed thinking about the setup for stands and such for the hydroponics plants. I came up with a cheaper method to build the plant stands. I am using milk crates and five gallon buckets along with a four inch piece of plastic pipe for the drain back into the bucket of solution. They are everywhere that cows aren't! The milk crates are the support for the plants. If you look at one of your milk crates, you will see that the handle hole is shaped in a half moon shape. They vary depending on the distributor, But the handle hole is perfect to lay the 4" plastic pipe in for the drain.

I want to use old auto windshield washer pumps (12 volt) to pump the water to the plants. It then runs through the gravel holding the plants contained in five gallon buckets. The water then runs through a hole in the bottom of the bucket onto the four inch plastic pipe that will be cut length wise as a drain and back into the solution bucket under the bench.

This a simple way to build and a lot cheaper for most. Five gallon buckets and milk crates are out there by the zillions. Most restaurants will give away old buckets and sometimes milk crates if you ask them and tell them you want to experiment with hydroponics. Most people in general like to help you do projects if you just ask them. Human nature. Makes them feel good about them selves.



Offered by [Clipper](#).



# Troubled Times



## Rotting Onions

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The seeds sprouted, they got to about 6" high, and then just shriveled, dried up, and died! Fertilizer, water, sun, nothing mattered. The Scallions did fine. I attributed it to a bad soil pH, not knowing what to think.

**Nancy**

Did they rot? What kind of pots did you use? If you use wooden crates lined with screen they should work OK.

**Martha**

Yes'm, they rotted. I was using the traditional clay pot. Wooden crates lined with (window?) screen? What size and how deep? Have you been successful with these or did you see them somewhere?

**Roger**

I don't know anyone who has done it before. Right now, being an apartment dweller, I don't have any sort of garden. I did have an organic garden several years ago, and I kinda learned how to think like a plant. I'm basing my suggestion on the above and on what I know about the nature of onions. I suggested it because that is exactly the way I will do them if I find I need to grow them in containers. It isn't too much of a leap from raised or French biointensive methods to the onion box theory. Thus, my suggestion to you is a logical/intuitive response.

I think the clay pot retains too much moisture for the onions. The wood would hold some moisture, but allow for faster evaporation. Also, onions like a lot of room, and you didn't say how big your pot was. I think something like an old fashioned produce crate would do it. If I had to, I would build my own box, say, 24"x18"x18" deep, and would probably not put more than a dozen onions per box. (The width and length are up to you; depends on how many onions you want to grow. I would have it no shallower than 18"). I'd find a sunny spot. I'd put about two or three inches of gravel in the bottom and use a rather sandy soil (so it stays nice and loose) with a few handfuls of organic material mixed in. (Think "loose" and "airy" and "good drainage"). I don't think I would want to use pine for the box, maybe ash or birch. The window screening or mesh would be necessary only if the spaces between the slats are so large dirt can fall through.

**Martha**



# Troubled Times



## Rubbermaid Tubs

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If you use these things, which I personally think require a lot less work and a lot less water, you need to punch a hole about 2 inches from the bottom and make the hole large enough to stick a water outlet in. The best are the same ones they use for boats (around me they're cheap - \$2.99) and they don't leak at all. What I do is have 5 of these tubs in a row and plastic tubing off each one. I have a master tube that goes to the drain and this keeps the plants from getting waterlogged as well as providing some air input into the water.

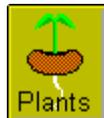
**John**

I do not have holes in my tubs. They are 20 gallon tubs filled with top soil only. I considered punching holes in them near the bottom as has been suggested, but instead I just carefully monitor the amount of moisture in the top several inches of dirt. I also monitor the plants that are growing in them. In the last month and a half I have found the plants wilted once and watered them that day (about a week ago). I had not watered them before that except when I transplanted them into the tubs. These tubs are in my greenhouse dome and the humidity level is quite high in there. Last week (when I watered them) it was getting up to 100 degrees in there during the day and that's probably why they wilted, but the soil was a little dry in the top two inches, so I watered them anyway. They are perky and growing like weeds now.

**Roger**



# Troubled Times



## Beets

*Mother Earth News*, Sep/Oct 1987

### **The Easiest Seed-Saving Crops**

By Nancy Bubel

The dusty-fine pollen of beets (like that of spinach) can be carried a mile away by the wind. Garden beets will also cross with sugar beets and with Swiss chard, so keep your seed beets isolated from other blooming relations (or grow Swiss chard and beets in alternate years). Plant your firmest, shapeliest cellar-saved roots about 18 inches apart in spring. Six to eight of these will produce plenty of seed for a family garden by summer.

### **The Arc Institute**

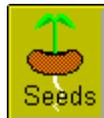
Beets like alkaline soil, not acid. Each seed is really a seed pod containing several, so 3-5 plants emerge and should be thinned to the single strongest plant. Two crops per year can be planted, early spring and mid-summer. Plant 1/2" deep, 3" apart, rows 2' apart.

Seed from Sugar beets would be the same as from regular beets. They are biennial so you won't see any the first season. Keep several of small to moderate size over winter and replant (bury) the following Spring. They should quickly go to seed. They will grow a tall, branched stalk loaded with tiny flowers. When they are matured, cut them to ground and hang upside down to dry. You can strip the seed from the stalks by hand and winnow out the chaff.

Offered by [Roger](#).



# Troubled Times



## Halted

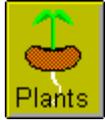
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The American biotechnology company Monsanto says it has decided not to develop what is known as "terminator gene" technology for its genetically-modified crops, per the [BBC](#) (October 4, 1999). Terminator genes prevent crops from producing fertile seeds - which means that farmers growing them would have to buy new seeds each year, rather than saving part of the harvest to plant next year's crop.

Offered by [John](#).



# Troubled Times



## Cabbage

*Mother Earth News*, Sep/Oct 1987

### **The Easiest Seed-Saving Crops**

By Nancy Bubel



Cabbage, cauliflower, Brussels sprouts, broccoli, collards, kohlrabi and kale cross with each other and with turnips, rutabagas, radishes and horseradish. (Chinese cabbage and mustard greens won't cross with their leaf- and heading-cabbage kin but in cross with each other and the root-crop crucifers.) You need to keep flowering seed crops 200 feet apart or, if space is limited, intersperse rows of sunflowers or other tall plants with the crucifer seed rows to deter pollinating insects. Remember, too, that most crucifer seeds stay viable for as long as five years under good storage conditions, so you can save seed of one or two varieties each year and keep rotating them.

Excepting broccoli (an annual), all crucifers are biennials - they have to make it through one winter before they'll produce seed. Kale and Brussels sprouts are the easiest biennial family members for seed saving, because these hardy plants can over winter in the garden even in cold areas. They'll then send up their seed stalks the following spring. Most of the other biennials need to be dug up - roots and all - stored in a root cellar and planted out again the following spring. (In some regions, you may be able to over winter them under mulch or in covered trenches.) Many growers make an inch-deep vertical cut in replanted cabbage heads to help free the plant's growing point. The tall seed stalks that emerge sometimes need to be staked to prevent breaking.

Probably the trickiest member of this family to save seed from is cauliflower, because it doesn't keep well either in the ground or in root cellars. Often the best way to treat it is to start plants in early fall and over winter them in a cold frame.

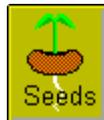
### **The Arc Institute**

Two crops [of Broccoli] per year can be planted, early spring and mid-summer. Plant 1/4" deep, 18" apart, in rows 2 1/2' apart. Harvesting for food, pick the heads before the tiny buds open into yellow flowers. Cabbage worms and root maggots can be a problem.

Cabbage can take cold weather, and two crops can be harvested per year. The later crop can be stored in a cool cellar and will last through the winter. Plant 1/2" deep, rows 2 1/2' apart, and depending upon type, place plants in rows 12" to 2 1/2' apart. Seedlings can be started early and then transplanted. Do not over water when heads are firm or they may split open.



# Troubled Times



## Potatoes

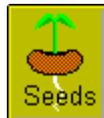
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When the plants flower and go to seed, those berries are actually potato seeds and you can plant them to grow more potato plants.

Offered by [Gus](#).



# Troubled Times



## Root Vegetables

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*Mother Earth News*, Sep/Oct 1987

### **The Easiest Seed-Saving Crops**

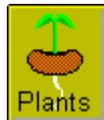
By Nancy Bubel

Like the cabbage clan, all root crops (except annual radishes) send up seed stalks in their second spring. Unless you live in a mild-winter area where root vegetables will not freeze if left in the ground under mulch, you'll have to winter your beets, carrots, winter radishes and onions in a cool, damp root cellar and replant the best ones the next spring. (On the other hand, if you live in a very warm climate, you may need to chill your root crops for a couple of weeks in a refrigerator to convince them to go to seed.)

As the exception to this rule, parsnips are the easiest root vegetable for seed saving. They're so hardy, you don't need to dig them up. Here in south-central Pennsylvania, I leave parsnips in the ground under mulch all winter, dig some for spring eating till around the end of April and then give in to their seed-forming intentions. The tall, coarse-lace flowers are cross-pollinated by insects, and dry seed is ready around the end of July. Two plants will produce all the seed you need unless you plan a parsnip plantation.



# Troubled Times



## Radishes

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*Mother Earth News*, Sep/Oct 1987

### **The Easiest Seed-Saving Crops**

By Nancy Bubel

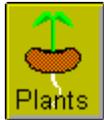
Most radishes are another exception because spring sown plants will produce seed pods by summer. Let the pods dry on the plant, but pick them before they split and scatter the seed. Such biennial radishes as Japanese daikon and China rose should be over wintered in a root cellar and replanted 12 inches apart in spring. They'll produce seed by early summer.

### **The Arc Institute**

Mature quickly and can be planted between rows of carrots or parsley to keep the soil moist. Not high in nutrients. Plant seeds 1" apart in rows 18" apart, in soil that is cool and moist rather than hot and dry.



# Troubled Times



## Spinach

*Mother Earth News*, Sep/Oct 1987

### **The Easiest Seed-Saving Crops**

By Nancy Bubel

This hardy annual has tiny, scarcely noticeable wind-pollinated flowers which can cross with other blooming spinach plants as much as one mile away. If you can avoid crossing problems, though, spinach is an easy plant to grow to seed. You might try selecting for later bolting by roguing out small, early seeders - and, of course, by getting your seed from plants that produce the latest seed stalks. Harvest yellowed or browned plants when the seed has matured. Rub off the tiny seeds while holding the stalks in a grocery bag.

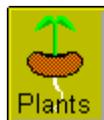


### **The Arc Institute**

Matures quickly and best planted for food in the early spring, as will go to seed when the weather turns warm. Plant seeds 1/2" deep and thin the plants to 2-3" apart in rows 18" apart. High in nutrients - vitamins and minerals.



# Troubled Times



## Cucurbits

*Mother Earth News*, Sep/Oct 1987

### The Easiest Seed-Saving Crops

By Nancy Bubel

This large group embraces fruits as diverse as cucumbers, gourds, melons, pumpkins and zucchini. In all cases, blossoms are pollinated by insects, male and female flowers are separate, and crossing between varieties that accept each other's pollen occurs at distances up to at least 100 feet. (Indeed, commercial seed breeders keep related cucurbit crops 1/4 mile apart.) Since plants can cross only within a species, and cucumbers, watermelons, cantaloupes and pumpkins all belong to separate species, they can't cross with each other. Zucchini and gourds are members of the same species, so they can produce some crazy crosses. Buttercup and banana squash will cross as well.



How can you keep it all straight? Follow this rule. In any one year, you can save seed - without bothering to separate the varieties - of cucumbers, cantaloupes, watermelon and any one member of each of the following:

#### **Cucurbita pepo:**

Members of this group have deeply grooved, ridged and prickly five-sided stems and include striped and warted gourds, Lady Godiva, Small Sugar and Connecticut Field pumpkins, and acorn, cocozelle, crookneck (summer), scallop, spaghetti and zucchini squash.

#### **Cucurbita maxima:**

Stems are round, hairy and somewhat soft. Members include Hubbard, turban, delicious, banana, marblehead and buttercup squash.

#### **Cucurbita moschata:**

The smoother five-sided stem widens at the base. Moschata members include golden cushaw and butternut, cheese and melon squash.

#### **Cucurbita mixta:**

The vines resemble those of *C. moschata*. Members include cushaws (except for golden cushaw), Tennessee sweet potato, Japanese pie and mixta gold. All seed cucurbits should be allowed to remain on the vine until the skin hardens, so the seeds can mature. Most seeds will be more viable if allowed to after-ripen in the fruit for 20 days past maturity. Rinse off the pulp and dry the seed on screens before storing.

If your garden is close to others where cucurbits grow, if you want to keep seed of several related varieties in the same year, or if other people will be depending on the purity of your seeds (for instance, if you're part of a seed savers' exchange), you should hand-pollinate your cucurbits. First, examine the flowers of a healthy, productive plant. A male flower has a slender stem, while the base of a female flower has a small swelling of undeveloped fruit. Work only with blossoms that have not yet opened. (Once the blossom has opened, you should assume that it's already been pollinated.)

Tape several perky but still closed male and female flowers shut, or fasten small bags over them. Then

when the flowers have opened (probably the following morning), uncover one male flower and several female flowers from different plants. Pick off the male's petals, then gently but firmly touch its pollen-laden anthers to the stigmas of the females. Next, recover the pollinated females with envelopes or small bags, and carefully wire them shut. Leave the protecting covers on for several days. Then remove them so the fruits won't rot or develop abnormally. Don't forget to label the pollinated flowers!

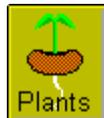
## **The Arc Institute**

Cucumbers like lots of water. Planting in hills with a depression in the center makes it easier to water them effectively. Plant 1/2" deep, 2 or 3 plants per hill, 5 feet apart. For seed production, allow the cucumber to go yellow and orange. Cucumbers are not highly nutritious, but provide Vitamin A. Cucumbers are very cold sensitive, and need warm weather and soil.

Summer squash matures quickly and is prolific. Picking summer squash regularly will encourage more production of squash. Leave any squash grown for seed to become large and fully mature. Winter squash matures later and should be left on the vine to mature and harden. Winter squash is a heavy feeder, and does well when planted in the compost pile. Pick winter squash before the first frosts and store in a cool cellar. Plant 1/2" deep, 1' or more apart in rows 4-5' apart. Plant when the soil is 75 degrees or warmer.



# Troubled Times



## Tomato

**Saving Seeds** by Jim Randel, Thayer, Missouri

We have been saving tomato seeds for the past 20 years with great success. The simplest way is to just spread the seeds on a thick pad of newspaper to dry. After 3-4 weeks of drying, the seeds can be stored in tightly closed jars. We leave them attached to the newspaper until we are ready to plant them. However, you can scrape them off before storing, or you can dry them on waxed paper, as one of our neighbors does. A longer tomato seed saving method involves squashing the tomato into a container with 1/3 to 1/2 cup of water. We use recycled plastic containers. Let this mixture stand where it can be checked each day. Fermenting will take place in several days, and the good seeds will separate from the pulp and sink to the bottom of the container. After a day of fermentation (but not more than five) pour the goop off the top of the jar, strain out the seeds, and rinse them. Air dry for several weeks and store in tightly closed containers. Make sure your storage place is cool and dry.



We store our tomato seeds in large glass jars with a homemade rubber gasket in the lid, inside our freezer. To use, we let the jar come to room temperature, remove the desired number of seeds, reseal and refreeze. Some of our tomato seeds have remained viable for eight years using this method of storage. Either of these methods can be used with seeds from tomatoes that have been processed in a machine such as the Victorio Strainer.

*Organic Gardneing*, Sept/Oct 1992

### **Step by Step Tomatoe Seed Saving**

by Suzanne Ashworth

Harvest nicely ripe tomatoes from several different vines of the same variety, cut each across the middle and gently squeeze the juice and seeds into a bowl. You will note that each tomato seed is encased in a gelatinous coating. (This prevents the seed from sprouting inside the tomato.) Remove this coating by fermenting it. This mimics the natural rotting of the fruit and has the added bonus of killing seed borne tomato diseases. To foment your ferment, add about half as much water as there are tomato seeds and juice in the bowl and stir this mixture twice a day for about three days. Keep an eye on the mixture - especially if it's in a warm area - fermentation happens more quickly at high temperatures. As the mixture ferments, it will be come covered with white or gray mold. (Do not keep the bowl in the kitchen, anywhere it can be tipped over by animals or children or any where you can smell it - it will get pretty rank.)

When bubbles begin to rise to the top of the mass, or when a thick coat of mold has formed, stop the fermentation by adding enough water to double the mixture, and stir vigorously. The clean, good seeds will settle to the bottom of the bowl. Gently pour off the mold, debris and any seeds that float (they're hollow). Add more water and repeat the process until only clean seeds remain. Capture the seeds to be saved by pouring the liquid through a strainer, wipe the strainer bottom with a towel to remove as much moisture as possible, then dump the seeds out on that glass or ceramic plate to dry. Stir twice a day to ensure even drying and to prevent clumping. Warning: Tomato seeds will begin to germinate if they are not dried quickly, but you should still not dry them in direct sunlight or in the oven. A fan will help speed

the drying process safely.

*Mother Earth News*, Sep/Oct 1987

## **The Easiest Seed-Saving Crops**

By Nancy Bubel

Because tomatoes are the most popular garden vegetable and are available in many wonderful open-pollinated varieties, you'll probably want to save some. I simply scoop out the seeds from several top quality, overripe fruits, removing as little pulp as possible, and spread them on several thicknesses of newspapers to dry. I even store them right on the paper (labeling the sheets with the variety name) and, the following spring, scrape them off as I need them. Tomatoes are less likely than their pepper and eggplant cousins to be cross-pollinated by insects, but such random crossing does happen in about 2 to 5% of close multi variety plantings. Flowers of older tomato varieties also have a long style which is more likely to be touched by bees than the shorter-styled recent cultivars. So if you want to keep seed of a valuable heirloom tomato truly pure, plant it 25 feet away from other varieties. (Separate modern short-style cultivars by 10 feet.)

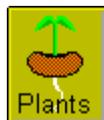
Some gardeners ferment their tomato pulp before straining out the seeds. There are two reasons for this: 1) the seeds will then separate more easily from the flesh, and 2) the treatment kills the seed-borne bacteria that cause some tomato diseases. To ferment tomato pulp, press the flesh into a jar, add 1/4 Cup of water, and keep the mixture at room temperature for several days. Seventy to 80°F is best; fermentation proceeds too quickly at higher temperatures. Stir the brew each day. By the second or third day, you'll be able to pour off the rotten pulp and "clinker" seeds that float on top, and retain, rinse and dry the good seeds that have sunk to the bottom.

### **The Arc Institute**

Long growing season so often are started indoors and transplanted when the soil is warm. Place 18" or more between plants in rows 3' apart or more if no trellis is provided. Crop can be wiped out by blight, so some seed should always be retained to plant in another year.



# Troubled Times



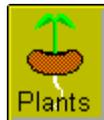
## Wheat

### The Arc Institute

Can be stores long-term if very dry. Placing into air-tight containers and freezing for a week or so to kill any insects will help avoid infestations. Broadcast seed on soil at a rate of 4 lb./1,000 square feet. Mulch with straw to retain moisture and discourage weeds. Plant winter wheat in the fall, so grass-like clumps of wheat are killed back by the first frosts but re-emerge in the spring. Harvest mid-summer for winter wheat, late for spring wheat. Wheat is ready to harvest when stems yellow and kernels can be dented with a fingernail. Cut and bundle the wheat into shocks left standing in the field to dry. Threshing is beating the wheat tops on a flat floor with a stick or flail as the wheat pops out of the heads. During this process, the wheat kernels fall to the floor, the straw removed from the top.



# Troubled Times



## Threshed

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This how I harvest the wheat.

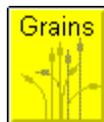
1. Get a sickle like the one in the old communist Russia flag. and when the wheat is ready to harvest cut it down at the base and when you have enough bundle the wheat up into bundles to take to your thrashing floor.
2. At the floor spread the wheat out and then take a set of numchuki or flail and beat the wheat to separate the wheat and chaff from the stalks.
3. Collect the stalks and keep as hay if you want.
4. Sweep up the wheat and chaff together and put in a pail.
5. Go outside and scoop up the wheat in a scoop and pour from a reasonable height into another bucket, letting the wind blow through the stream of wheat and chaff and you will see the chaff blow away and the wheat will fall into the bucket. when the wheat is clean of chaff, pour out of this working bucket into your final bucket.
6. Do not fill the working bucket up too much or else it will take a lot of work to separate the chaff out of the wheat. just a couple of scoops of wheat/.chaff, clean it and then pour the clean wheat out to final bucket.

With that you will be participating in an activity that changes humanity from a hunter/gather society to a agrarian society. I do this with my wheat that I grow.

Offered by [Gus](#).



# Troubled Times



## Buckwheat

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If Buckwheat is a grain you haven't eaten before, you're about to discover a tiny seed that's packed with hearty goodness. It is sold as buckwheat groats (whole seeds), grits (finely ground), or buckwheat flour. When the seeds are roasted, it's called kasha, an old Russian term. Kasha is available as whole groats and in coarse, medium, and fine grinds. All have a nut-like flavor.

Whatever its form, buckwheat is the best source of high biological protein in the entire plant kingdom. It has over 90% of the value of non-fat milk solids and over 80% of whole egg solids. In other words, buckwheat protein comes closer to animal protein than any other plant and no more calories than wheat products or most other grains. It is high in potassium and phosphorus and the green immature plant contains large amounts of rutin. Buckwheat also contains 50% more vitamin B than wheat. This versatile grain boosts the flavor, fiber and nutrition of a wide variety of recipes including soups, salads, stews, and sweets.

For a buckwheat cookbook, send \$2.50 to cover postage and handling to:

**Pocono Buckwheat Cookbook**  
PO Box 440PC  
Penn Yan, NY 14527

Birkett Mills in New York state also has [Recipes](#) and growing tips on buckwheat available.

Offered by [Toni](#).

I found buckwheat flour in my local grocery store and my family and I have enjoyed buckwheat pancakes and waffles a couple of times already. They are heavy and very dark in coloration. The recipe also calls for an equal amount of regular wheat. It's very expensive, but I wanted to try it out before I start worrying about how to mill my own, etc.

Offered by [Roger](#).



# Troubled Times



## Numbers in 1998

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<b>6</b> Asparagus	<b>4</b> Eggplants	<b>3</b> Scallions
<b>5</b> Spanish Onions	<b>7</b> Red Onions	<b>6</b> Yellow Onions
<b>9</b> Green Bush Beans	<b>7</b> Yellow Bush Beans	<b>7</b> Red Kidney Beans
<b>9</b> White Navy Beans	<b>4</b> Pinto Beans	
<b>5</b> Green/Red Sweet Pepper	<b>5</b> Yellow Sweet Peppers	<b>3</b> Cayenne Hot Pepper
<b>5</b> Parsley	<b>6</b> Basil	<b>5</b> Chamomile
<b>8</b> Early Carrots	<b>5</b> Mid-Season/Late Carrots	<b>5</b> Pie Pumpkins
<b>5</b> Red Beets	<b>3</b> Spinach	<b>5</b> Giant Radish
<b>3</b> Flour/M Meal Corn	<b>8</b> White Sweet Corn	<b>5</b> Yellow Sweet Corn
<b>7</b> Sweet Green Peas	<b>6</b> Snow Peas	<b>8</b> Wheat
<b>5</b> Spring Broccoli	<b>5</b> Fall Broccoli	<b>5</b> Acorn Winter Squash
<b>5</b> Zucchini Summer Squash	<b>4</b> Yellow Summer Squash	<b>5</b> Butternut Squash
<b>5</b> Red Cabbage for Salads	<b>5</b> Coleslaq/kraut Cabbage	<b>4</b> Canning/Catsup Tomato
<b>5</b> Drought-resistant Cantaloupe	<b>6</b> Honeydew Melon	<b>4</b> Salad/Canning Tomato
<b>5</b> Italian Plum Tomato	<b>7</b> Large Salad Tomato	<b>7</b> Heirloom Slicing Tomato
<b>6</b> Salad Cucumbers	<b>4</b> Pickling Cucumbers	<b>6</b> Romaine Lettuce
<b>6</b> Butterhead Lettuce	<b>5</b> Red Lettuce	<b>6</b> Summer Oak Leaf Lettuce



# Troubled Times



## 1988 Germination

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I'm wondering how your garden grows. We are having almost constant rain (a clue as to what's to come?) and I am unable to transplant the plants from the flats into mud! These seem to be more vigorous than the typical hybrid and they are about to crawl out of the flats on their own.

**Granville**

I've also got asparagus, onions, and the small amount of seed I got for daisies, those that are a natural pest control. Next year I can distribute seed from that to others. The asparagus seemed to take a long time to germinate, and I thought they were all dead until I noticed tiny purple needles sticking straight up! There they were, like tiny asparagus spears! I planted a couple peas and beans to show a grandchild, in a pot on the porch, and they are highly viable, I agree! Germinate like a shot and produce very healthy plants.

**Nancy**

Just thought I would write the team and let them know that the seeds are in the ground. Now I must be on guard for those pesky crawly insects that will want to nibble on the seedlings.

**Gus**

Many of my seeds are also in the ground here in Jersey. Having about a 75 to 90 % sprouting rate and lost 1 red cabbage seedling to a dog paw, and 2 tomato and 2 broccoli seedlings shot straight up, very tall, thin, only two leaves, fell over and died, no wilt. Also, I did not get potato seeds from Troubled Times but have read about planting potatoes pieces with eyes in a hay/dirt pile. Leave it alone for a few months and when you uncover - bingo, potatoes. I had purchased a 5 lb. bag of potatoes at the store that were really the best looking and tasting potatoes I had ever had. I saved one and am waiting for it to sprout. At that time I planned on cutting it up and using the above planting method.

**Debra**

My plants are all growing well, but we've had some unusually warm weather here in upstate New York. I lost several lettuce seedlings to slugs earlier, so replanted the remaining lettuce in a container. Have about 18 plants doing well now with leaves about 2-3 inches. Beans are up and growing . Cukes are in the ground and doing well. Melons will need to be transplanted into the garden in the next few days.

**Toni**



# Troubled Times



## Cross Breeds

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I realized that the seed Nancy sent me was not genetically pure. I had an anomalous plant that was developing some kind of cross between what it was supposed to be (an Acorn squash) and what I am pretty sure was Zucchini. I kept the first squash that matured from this plant in case I have time to "play" with it in the future. I then removed the plant so I could attempt to get some more-pure squash developing (squash cross-pollinates badly with others within its family!) I removed all the developing squash and the blooms that may have been pollinated at the same time, leaving only the new buds. I will harvest the seed from the most mature squash that has the characteristics of Acorn and attempt to grow out some pure seed next year.

**Roger**



# Troubled Times



## Changes to the List

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Hello. I am a member of a permaculture organization here in Belgium. We collect seeds and plants which are edible and useful (for food) these are mainly tree's and shrubs from other regions (China, Japan, US, Europe). At the moment we are planting the tree's in a terrain of 2ha for study for the best sorts. I think to save them somewhere for after the poleshift (the seeds) and maybe we can exchange some sorts (if you are interested we have hundreds unusual plants).

**Hans**

Why Acorn squash? Butternut squash is much easier to grow in terms of bug and disease resistance. And it is richer in nutritional value. When cooked, Butternut squash looks and often tastes much like sweet potatoes! Of course, sweet potatoes are far more disease and insect resistant, but in the interest of palatal diversity and ease of propagation (sweet potatoes rarely produce seed) I can see the value of growing squash. Should we consider Butternut squash instead? Or is there something I don't know about Acorn squash?

**Roger**



# Troubled Times



## Clipper's Results

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### Early Summer Report

Dang it Mike, you make us all look bad. Which brings me up to a good point. Record keeping. I kept no records what so ever this year. Next year I will. Maybe at least on a monthly basis, I will write down what I have done or observed in my hopefulness of a perpetually perfect and proportionately planted or potted plant for preliminary procedures. Yeah, say that ten times real fast.

### Fall Report

I had a small garden this year here at the house. Planted with seeds from the store. I had good success with the peas, but the best success was the green cabbage (from green house plants). We had 12 plants with cabbage heads about six to eight inches across when we cut them down. They would have gotten bigger probably, but this darn moose and her calves decided it was their garden. If I hadn't cut them, they would have. On the other hand, we planted red cabbage but it never went to head. Strange.

I lost the last of the peas due to the moose. Next year, my huskies chain will be able to reach the edge of my garden area. Bonehead (his name) won't put up with that. I hope. All the clippings from the garden went to compost for next year.

### Clipper



# Troubled Times



## Gus's Results

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Here is my report, I grew my seeds at a farmer friends land, and got some good insights about the seeds and how they grew and all that so I will be putting them in my report. Location: Ontario Canada. Seeds Planted and Results:

### **Sweet Corn**

I have lots of this seed, they grew very well. The plants grew up to about 5 feet in height. The best manure to put on the ground for this plant was chicken manure, we just spread it out over the ground around the plants and they loved it. The variety in the group is a open pollinated sweet corn and it is more susceptible to smut fungus then hybrid corn. This fungus attacks the stem of the plant and looks like a ball of black stuff. I think that research should be done into this fungus so that we have ways to counter it.

### **Meal Corn**

Again the crop was great, same fungus problems however. The corn grew 8 to 10 feet tall, and is an open pollinated dented variety of corn. Watering the corn regularly really helped in growing the corn this summer when it was really dry this year. Again, I added chicken manure on this plot, very important to get nitrogen to the plant.

With the corn I had some problems drying the kernels. The ones I shelled and tried to air dry sprouted, so I have kept the bulk of the crop on the cob so that they would dry without sprouting. I think a real dryer should be tried to see if the seeds are still viable once they have been seriously dried.

### **Pie Pumpkins**

Good crop this year, made pumpkin pie out of some, and they were delicious. Lots of seeds. I grew some up treeless and had the pumpkins hanging down from the vines without netting or anything. The trellised pumpkins turned out really well and next year I am going all telexed.

### **Cucumbers ( pickles and regular)**

Good crop, with seeds available. I let them grow out to full size so that the seeds would mature. I ate a few to see how they tasted and they were good. It important to grow them up trellises, as the leaves get more light and take up less ground space.

### **Carrots (early and late variety)**

Good crop, but need to replant the roots next spring to get them to go to seed. So no seeds yet on this crop.

### **Tomatoes**

It was really hard to get the seeds out of the the tomatoes, but the plants grew well. Not a lot of seeds to distribute.

### **White Beans and Pinto Beans**

Have a mason jar full of pinto beans, they were really good. White beans were good but I did not start with as many beans, I can distribute some.

### **Radishes**

I decided to let the radishes go to seed, and they grew out into really interesting plants, that created pods and the seeds were in the pods. I will have more seeds next year.

### **Peas (snap and pod)**

Good crop, seeds available. I checked and found out that there are no way to hybridize peas to make them sterile. So people can actually go and buy peas in the store and they will always sprout.

I think that is all from the group. I planted watermelon, and they turned out all right, I have seeds from them available. They are yellow fleshed instead of red. I also have musk melons, and cantaloupe seeds, but you can actually use the ones from the store to grow them.

I have 4 varieties of heritage potatoes, but they are not numerous enough yet for giving seed away, next year I will have more. Chicken manure really helped grow them, as well as lots of watering.

I also saved lettuce seeds, I had to really wait till end of September before I could get the seeds, and they are really small. They were just store bought seeds and cannot be hybridized so just get those seeds from the store.

That's about it. I spent a lot of time out in the garden growing and learning how to grow food, and also learning how these plants grow. I will grow seed again next year for the group.

### **Gus**



# Troubled Times



## Kristine's Results

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I report I had about a cup of bean seeds harvested, however , due to very high humidity conditions early in September, they molded in the plastic bag I had saved them in :(

I have harvested 2 ears of corn should give about 1/3 to 1/ cup of seeds.

The acorn squash is still ripening on the vine.

I have to plant the winter wheat this week.

**Kristine**



# Troubled Times



## Jeroen's Results

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### Early Summer Report

I had seeded approximately 3 types of **Beans** 15 of each type and 12 seeds of a **Corn** type. I planted 5 beans of the same type in a separate isolated little garden (mine) in the city. These were all eaten by a bunch of hungry snails that came along, while I was away for the holiday. I got the meagre harvest of 14 little beans from them, but still that was more than the five I used to get them.

The other 40 bean plants and 12 corn plants I planted in a more open, countryside garden (my parents garden). There too, a bunch of hungry snails seemed to like the taste of my bean plants and ate four of them. I didn't want to drown them in a beer-trap, so I tried something, I read in the news-paper. I put some chicken food in an open space between my plants. This was supposed to attract the snails, so I could gather them and bring them to a place far away from my beans. But they didn't seem to be there anymore.

A hedgehog had found his way in the garden and had eaten them. I just love the easy solutions that nature seems to have for problems. Unlucky for me though, my parents dogs spotted the hedgehog and found a hole in the fence, that I put up around the garden. They crushed about 15 bean plants trying to get the hedgehog, luckily his spikes protected him and he didn't get hurt. After that event I checked the fence, so the dogs can't get in the garden anymore and the hedgehog has his own little reserve now.

I'm now waiting for the beans, that are still alive, to ripen their pods a bit more and will harvest them somewhere in the next month. The corn had not so many problems, except for the dogs, that ate the lower leaves, which hang close enough to the fence to be pulled through, but that didn't seem to bother the corn plants much. I'm still waiting for them to go to bloom, but they look good, so I think they will go into bloom some day soon. I'll post some more snail prevention methods in an other mail. Done a lot of research on that area now.

### Fall Report

Things here in Netherland, have been wet and moist. I have limited space, so I planted just three types of beans and one type of Corn. The Corn, didn't make it, or is still not making it. They just weren't maturing fast enough and are now rotting away. The three bean types had one, that didn't do to well, one that did alright but one definite winner. One problem came around the corner though. I noticed, that because of the bad weather at the end of the summer, the bees and other pollinators, stayed inside their little hives, I would probable do the same if I where them. :- ) But, the last blossoms on my beans, where never pollinated because of that, so the last pods didn't contain any beans. :- (

Here are my stats:

White Sweet Corn - All rotted away (still rotting away while I write this)

Yellow Bush Beans - Definite loser of the beans.

Red Kidney Beans - Middle one, not a bad performance at all.

Navy Beans - Definite winner of the beans. Might be a small type of beans, but got the most pods on one bush and also the most beans in each pod. So, I recommend this type to all of you, to try out.

Totally Harvested:

White Sweet Corn - zip, nada, nothing.

Yellow Bush Beans - 28 beans

Red Kidney Beans - 74 beans

Navy Beans - 256 beans

My grandfather crossed over to the spirit world, but left me his seed bank. I'm going to continue with his seed bank. It contains various seeds, also of herbs, etc. I haven't had the time to sort everything out, but I'm going to grow and gather more seeds of the plants in Netherland. Thus making a seed bank, from which I could take seeds after the PS, to create a new strong fauna. Furthermore, I'm trying to grow plants like, ferns, that grow well in the dark dusky places and are still edible.

## **Jeroen**



# Troubled Times



## Michel's Results

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### Early Summer Report

Of all the seeds I had only two types of plants still stand. One being the **Radishes**, which are doing well, the other being the **Beets**, which are doing not that well (no growth really). As I deliberately seeded the seeds later than the other participants in order to find out what still would grow and what not, and as I deliberately seeded every seed in a shaded place in the garden in the back of the house, I am left with one winner, the radishes. They still have to bloom though.

As this was my first time I've learned a great deal about gardening, nutrients, calcium, water, light and more. One thing that I learned is that the seeds need to be seeded earlier than April - may in order to get the best of growth at the *right* time. We learn the most by taking risks and experimenting, to a certain extend I've done an experiment here.

Next year I will plant the seeds in the required months of February - March where needed. The place to grow the seeds will still be the same, to see what then will grow and what not. The soil *is* OK, that's important, and the amount of water differs per plant type, so does the amount of required light and temperature. I will grow not as much of the types of plants as that I had this time, too much seeds while there was too little adequate space.

### Fall Report

Here are the results of my first try at this seed project:

I have two growing containers, each with transparent cover. The containers are 1 meter x 60 cm x 45 cm. I did not expect this much seed so I did not plant some of the seeds, as some seeds need a certian amount of space between eachother and the space available in my little garden is very small.

#### Results container A:

- Spanish Onion: nothing (did grow, but died off later)
- Giant Radish: plants yes but radishes no (checked one by digging)
- Red Beets: nothing (did grow, but died off later)

#### Results container B:

- Yellow Onions: nothing (did grow, but died off later)
- Red Onions: nothing (did grow, but died off later)
- Early Carrots: nothing (did grow for some time, but then died off)
- Mid-Season Late Carrots: nothing (did grow for some time too, then died)

The next time I will take just two or three vegetable types and maybe a herb or two in big pots. I also planted the seeds too late I think, July/August. This time I will plant them much earlier. Next to that I think that the moist and unstable weather this year participated in the failure.

**Michel**



# Troubled Times



## Mike's Results

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I didn't volunteer for the seed team because I don't have much growing area, am new at it and wanted to see if I could grow anything at all. I didn't want to waste good non-hybrid seeds on the testing-learning mode I am in at present. The following is my experience with organic sprouted seeds from a local farmers market. I planted some and eat the rest. They all could be hybrid for all I know. 22 Mar 98 planted seed starter bins and a 2nd batch 2 weeks latter planted in final pots or directly in the ground for each of the following: (fastest growing first in the list - first 3 months no nutrients were used - just water, - no pH testing - used starter soil and ultimately organic potting soil)

1. **Kamut** (several inches high by end of first week) first batch mature enough to pull the plant end of Jul. Aging now. 2nd batch planted 12 Jul. 98 is about 18-20" high one month later 12 Aug. with no seeds yet. Plants a little weak and tend to lean over.
2. **Peas** (1/2 of the planted starter bins (several seeds/each bin) grew enough to made it above ground) Plants did not do well, extremely weak and produced only several pea pods, died off early.
3. **Soy Beans** (1/2 of the planted bins made it above ground). Have 27 plants 7 with most of the leafs eaten off. Some bean pods have formed - plant at latest stages now I think - may get some beans to plant next year.
4. **Mung Beans** (1/4 made it above ground) - 3 plants left one bean pod - the plants are only 3" high still alive and having a hard time with the bugs - weather - pH or something.
5. **Garbanzo Beans** (1/12 made it above ground) all are dead now - harvested one bean - the plants did not last long.
6. **Adzuki Beans** red (first batch didn't make it above ground 2nd batch planted in the final pot did much better) Slow starter the 4 plants left are doing much better now (lots of new growth in last few weeks) due to supplying nutrients and/or keeping the bugs off by using the ultrasonic bug repelled.
7. **Black Eyed Peas** (didn't make it above ground)

About 25 April planted **Purple Patios** one in a pot the rest in the ground. The plant acted more like a vine at several stages. Some die off now starting no flowering has taken place yet. Fast growing at first, Semi hardy plant but some bug holes in leafs. Planted some **Summer Squash** a while back. Has flowered but no squash yet. May not give squash - will need to wait and see. Started a batch of **Green Lentils** on 12 Jul. 98 doing well no seeds yet. Herbs: I am also growing **Ginger, Echinacea Angustifolia, Echinacea Purpurea, Plantain, Habanero** and other less hot peppers, **Feverfew, Parsley** and several varieties of **Mint** plants. Have harvested seeds from **Plantain**.

My growing area gets sun light only a small part of the day. This is intentionally to start to simulate the amount of light I can produce with light bulbs. To see what will grow in limited light. I tried growing some garlic and it produced for the most part one big single bulb and some little baby seeds attached. This I have been told is because of not enough light. I will try this again soon. So far I have learned not to bother with starter bins - put it in the final pot or ground and to use nutrient mix proper pH to help it grow.

My most successfully plants to date are Plantain, Kamut, Peppers plants, Echinacea Angustifolia, Soy beans, and possibly the purple potatoes (until I see the result of this last one I will not know for sure). Bottom line - I am defiantly not ready to live off what I can produce - I have much more to learn - In the near term - I need to get smarter at improving soil quality with micro nutrients and pH management. I also need to start using non-hybrid seeds.

Mike



# Troubled Times



## Milly's Results

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I received lettuce seeds, basil, and chamomile. Since I live in a condo, I planted them in containers. I have not been able to get any of the lettuce to go to seed. I set the containers on the balcony, and we had a moderate summer, not terribly hot, with cool nights (70's). I planted some crowded together, and some with lots of space between the plants. I planted some in potting soil, and some with regular dirt mixed in, and fertilized them. They grew very well at first, leafy and healthy, then got very lanky and stringy, and no seed pods have developed.

I planted basil in April, and it has started flowering and going to seed this last month and a half. Seeds are still in process and should be successful. This was a very easy plant to grow.

I did not plant all my seed as I was afraid of widespread failure, and have about 1/3 left. I was surprised the "going to seed" process takes so long, as in the gardening books they warned of lettuce "bolting" or going to seed too soon, if conditions were not right. Instead, the going to seed part seems the most difficult to achieve.

**Milly**



# Troubled Times



## Nancy's Results

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### Spring Report

I'm growing Asparagus babies (they don't go to seed until the second year, and are perennials) which are doing well. I think (hard to tell as they all shoot up those needles from the roots) that I have about 25 plants. Need male and female but I'm guessing I have both. The other items I'm growing are the 6 small seeds that came "special" from The Arc, a Daisy that has that anti-bug chemical. I have 6 plants, all trying to get some growth in our perpetual fog around the San Francisco bay, but as summer does not end here (60 degrees always, more or less) I expect them to go to seed eventually. Next year, all the growers get some, and we start multiplying.

I estimated that 50% of our growers, and 50% of the seeds sown, would be a loss. But that also, some growers would have phenomenal success, and would specialize in those plants for the next years. In this way, we'll get quite productive. Clipper thought that his tomatoes had died, but his peppers were doing well. Then his peppers died, but his tomatoes revived :-). He will have to take them indoor to get seed, as they have a short growing season. This is indeed our year to learn the ropes, but for each new grower, the first year may be *their* year to learn the ropes. For instance, I found that fertilizing the bagged black soil I got helped a *lot* (after reading what Mike had to say about the poor quality of this soil, re fertility.)

### Fall Report

Asparagus - 25 seeds 25 seedlings in ground for next year  
Red Onion - 6 seeds all died in pot  
White Onion - 6 seeds all died in pot  
Yellow Onion - 6 seeds all died in pot  
Scallions - many seeds grew well, but did not get to seed  
Daisies (bug killing) - 6 seeds growing well, no going to seed

Basically, I succeed in growing asparagus seedlings, which I know will not go to seed until next year, and transplanting these in Wisconsin. I hope (expect) they will survive and take off next year. Thereafter, asparagus seed from me! I think the weather here was too warm to kick scallions and daisies into seed production, but I will research the daisy needs and if they are perennial (think they might be!) then perhaps will still get seed to distribute. We were only given 6 seed of this bug killing daisy, and all germinated well. Healthy plants. I'll probably eat the scallions if I can't figure out how to kick seed production into happening. The onions may have had wrong soil type (not acid enough?) as *nothing* seemed to help. They germinated but never got more than a finger high, then died.

### Final Report

Discovered that the daisies are probably perennial so will keep growing them in the pots, and that Scallions are biennial so have trimmed them back and put the bulbs in the refrigerator to plant next year.

Nancy





# Troubled Times



## Roger's Results

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### Spring Report

Since I joined the team after the Spring planting time, I didn't get many seeds from the team for the effort this year. My own gardening efforts were successful and I do have seeds to offer.

My favorite green bean is **Contender** and as this is an heirloom variety, I have lots of seed to offer. I have almost two pounds of seed so far and there should be a modest fall crop as well. My wife likes **Tendercrop** green beans (another heirloom variety) and I harvested seed from them as well. They have a much longer growing season and the quantity of seed from them is less (perhaps only a pound - not sure yet since they are still desiccating in the silica gel). I planted a Fall crop of **Green Beans** and also the **Yellow Beans** I received from Nancy. I only got 4 (yes, four) of the yellow beans to germinate and grow. The green beans I received germinated better (about 80%). Both have blooms now. I also planted Contender and Tendercrop green beans for Fall and they are doing well.

I also have a fair amount of tomato seeds to offer as well. I have **Amish** paste (a very old heirloom that is not very attractive, but very meaty and Ox heart shaped) and **Rutgers**. Rutgers is also an heirloom and is usually used as a standard for beefsteak hybrids.

I planted the **Acorn Squash** shortly after I received the seed. All of the seeds sprouted, though I pruned back to just four plants. I lost one of those. The squash bugs (or stink bugs, or blister beetles, or whatever) have found them and are mating like crazy. They haven't caused any major damage yet and my efforts to squash them (pun intended!) have merely kept them in check. I'll have to spray them soon. At any rate, I have three very nice squashes (one that is at least 10 inches long and approximately three inches in diameter at its largest). There'll be lots of seed there in a month or so!

I planted the peas last week and have excellent germination from them. I received **Snow Peas** and **Sweat Peas** from Nancy and I planted **Sugar Snap** and **Sugar Ann** as well. I'm racing against time for these guys, but hopefully they will have a good stand of pods before the frost slows them down. I had to wait until the heat broke and I'll have to monitor them daily to make sure they don't get devoured by aphids and such, but it'll be fun to get a Fall crop of peas (something my father was never successful at doing!)

I got the geodesic greenhouse built. Well sort of, it's just a frame right now, but all I need is the plastic and some tie-downs and it'll be ready. I'm not sure if I'll be able to get anything to go to seed in there this winter, but I anticipate a lengthened growing season next year as I'll be able to start things much earlier and I intend to experiment with shading material once it gets too hot inside the greenhouse. I'll simply remove the plastic and put up shading material and install a fan if necessary to keep it cool in there.

### Summer Report

I have bad news. The squash bugs have won. I was not able to save the Acorn squash.

### Fall Report

I joined the seed team late in the season so my offerings will not be reproductions of seed received from the team (with the exception of the green beans). I still have a fall crop of peas growing and it's too soon to harvest from them. If things keep up as they currently are, I may have a small amount of Snow Peas available. I will, of course, grow peas again next season. Basically here is what I have (most of which are from my own stock):

Amish Paste tomatoes - 1 Tablespoon (probably 200-300 seeds)  
Rutgers tomatoes - 3 Tablespoons  
Missouri Pink Love Apple tomatoes - 2 Tablespoons  
Yellow Pear (cherry type) tomatoes - 1/4 cup  
Provider Green Beans (from the seed team) - 1 1/2 cups  
Contender Green Beans - 6 or 7 cups  
Tendercrop Green Beans - 5 or 6 cups  
Carrots (unknown variety) - 1 1/2 cups  
Buckwheat - 10+ lbs.

It should be noted that the above mentioned carrot seed is that which I harvested from a friends garden (one that was unattended all year) and I am not sure if it is 'pure' as in it may have crossed with anything in the area, including Queen Ann's Lace. If anyone wants some of the seed, I will willing send it out, but I won't know anything more about it until I can plant some myself next season :-)

The only other seed I received from the seed team that I was able to plant (beside the winter wheat) was the Acorn Squash. I already posted what happened them. (I definitely would like to receive some Butternut squash seed from someone for next year. I did harvest a little seed from the squash, but not enough to make available to others (sorry).

Also, since this is going to all the seed team members, I wanted to mention that I will be nature willing) offering peanut seeds (two varieties) and an heirloom cherry tomato (called Fence Row Cherry) next year. I also ordered two varieties of Spinach, two varieties of Swiss Chard, a variety of cucumber called Greenhouse Cucumber, a variety of tomato also called Greenhouse Tomato, a cabbage variety called January King that is a winter harvest variety, and also a winter harvest carrot variety called Autumn King. Most of the above I ordered with the intention of growing in containers in my new geodesic greenhouse. If they do well and tolerate shade (through experimentation with shading material next season) I will make the seed available with my compliments!

**Roger**



# Troubled Times



## Shekhina's Results

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### Acorn Squash

No - I couldn't get any of the squashes to grow here. I asked about it at a local nursery and was told that squash might have a hard time growing here because of the ph of the soil, since we have so many pines in our area.

### Asparagus

None - I think the soil here might not be right for asparagus.

### Basil

Yes - these seeds are ready to be distributed for next year's planting.

### Butter Nut Squash

No - (same as acorn squash).

### Cayenne Hot Pepper

These plants started out wonderfully, but the strange weather of ultra cold and then a heat wave wilted the plants and I could never get them to fully come back. They limped along for a while, but just never produced, so I will try again next year. I will split the little bit of seed I have left for distribution next spring and see if someone else gets better results.

### Cabbage for Cole Slaw

Plants did not want to go to seed (and still haven't), so I got very little seed from them. These are ready for distribution now. (Note: Cabbage is a biennial and only goes to seed in the second year.)

### Chamomile

No - the plants never came up.

### Drought Resistant Cantaloupe

No - (same as acorn squash).

### Eggplants

Yes - these seeds are ready to be distributed.

### Parsley

Yes - This herb grew well here, though it was a bit stubborn in going to seed. I do, however, have some for distribution, and may still get more before the end of the season.

### Pickling Cucumbers

Yes, though not as much as I had hoped for.

### Red Beets

Yes - some of the seeds were evidently not thoroughly dried and molded in the plastic bag, so I think I lost approx. 1/2 of what I could have had - but I still got some from the second crop that look pretty good.

### **Red Cabbage**

Yes - these seeds are now being dried.

### **Salad Cucumbers**

Yes - these seeds are now being dried.

### **Spinach**

Yes - I got a couple of the spinach plants to go to seed and will be sending the seed from those - the spinach did not do as well as I had hoped. I still *might* be able to get some more seed in the next couple of weeks, if I watch the plants very closely.

### **Yellow Summer Squash**

No (same as acorn squash).

### **Zucchini Summer Squash**

No (same as acorn squash).

I am also including some non-hybrid endive from my herb garden, for distribution to others in the spring.

### **Shekhina**



# Troubled Times



## Toni's Results

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How is everyone doing with their seed saving efforts so far? I have some **Beans**, just picked a **Cucumber** 12 inches by 9 inches around and a couple of hundred nice seeds inside (they are soaking in water now). Had to stay on the vine extra long, and one was taken by a neighbor, but there are a couple more that might come along. The **Oak Leaf Lettuce** has many yellow flowers now that should produce thousands of seeds. We should be starting to see results by now.

**Toni**



# Troubled Times



## Barry's Results

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Thought you'd appreciate a seed upate.

**Radishes** - Half the seeds sprouted and are pretty much fully grown at this time. Will let them go to seed of course.

**Spinach** - Only one sprouted and the plant is about 6 inches tall right now. Obviously will let that one go to seed.

**Lettuce** - Three seeds sprouted and are still quite small.

Next time around will definitely grow the seeds indoors to get seedlings, then plant them in the garden. Next time will start at a more appropriate time of the year as well. Have discovered that my yard is quite suited for sunflowers and cucumbers, so should lay those seeds on for next season.

**Barry**

*I have only harvested some spinach seed so far and Barry sent me his update today. I have 2 kinds of lettuce coming, Rouge D'Hiver, a Red french Heirloom, and some butterhead. They will probably take another month or 2 to ripen.*

**Toni**



# Troubled Times



## Clipper's Results

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Since we are on the subject of seeds and "how in the heck?", I have the large radishes in bloom (darn plants are at least three feet high in my jungle garden). How do I harvest this seed? Or point me to where it is already written. I don't want to loose them now after all the care I gave them. Many other things are also on their way. Long sunlight days here make things grow fast.

### **Clipper**

*Eventually the blooms will fall off and then a pod will form and grow to about 2 or 3 inches long. This pod will swell. I've harvested all of my radish seed starting when the topmost pods are brown and starting to dry out. I just cut the stalks to ground and removed all the pods. Put the pods in a flat and in the Sun until they're dry. The pods break easily between your fingers and the little seeds fall loose. Then I winnow the pod pieces out in the wind. I've collected about 1/4 cup of Giant radish seed already and I still have two flats to go! Winnow means to pour the seed and chaff from one container to another in a stiff breeze (not a gale!) until a satisfactory amount of chaff has been blown out of the seed. You will loose some of the seed this way, but it beats the heck out of removing the chaff piece by piece!*

### **Roger**



# Troubled Times



## Grant's Results

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Kidney Beans are excellent, Spinach are coming into form, and Yellow Peppers are being grown in hydroponics and soil.

### Grant



# Troubled Times



## John's Results

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Well, the corn is flourishing in the backyard (most stalks are 10 feet tall) right now with the warm temperatures and our watering. The interesting thing is the color of the strands from the ears is red. No one has ever seen anything like that around here. Please understand that there are thousands of acres of corn around here so this has several locals "interested" and is adding to our "interesting" reputation. I can only assume that the organic corn seeds are for red corn. We will find out when the ears are ready... probably a week from now. If anyone else has a similar scenario, loved to here about it.

When harvesting corn for seed, the plan is to just take the ear of and let it dry out? Correct?

One more thing, we planted one of the seeds labeled beans and I can tell you that what is coming up is like nothing I've ever seen, nor anyone else around here... though one person thinks it's just a gigantic weed. Today it's approximately 5 feet tall with big almost round leaves coming out of it in every direction. It is now starting to flower - yellow is all we see at this point... anyone know what we have?

**John**

*White corn typically has red 'hair' (the silk turns red as the kernels mature). You should let it dry out on the stalk as much as possible. Harvest when the stalks are completely dried out. Then you will need to lay the shucked ears out in the sun for a week before attempting to remove the kernels. Your bean story is scary. Did you plant more of this bean, or just the one seed? As a general rule, you should remove any plants that display anomalous characteristics. This will prevent genetic mutation in your varieties and also eliminate disease. Which variety did you plant?*

**Roger**



# Troubled Times



## Mike's Results

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I was doing some gardening today, got some blooming carrots, onions, and beets. I have put some fine nylon mess around some of it twisty tie off at the stem - just because I don't know if the seed will fall off easy or not so easy. So the question is what do I need to know to properly capture the seeds of these plants.

**John**

*Both carrot and onion seeds ripen slowly and the seed heads have a tendency to shatter so you will need to either keep these bagged or to watch them closely and harvest promptly. Carrot seed heads will turn brown in early fall and you should harvest when the topmost heads are ready. Onion seed heads will dry out somewhat and you should begin to see the black seeds 'peaking' out just before the head shatters. Dry both out in the Sun and then rub the seeds to remove the flower material. Sift or carefully winnow the chaff.*

*All my book says about beet seeds to harvest them by cutting the plant to ground and hang the stalks upside down in a well ventilated area. You then strip the seeds from the stalk by hand and winnow out any chaff. I'm not sure about the time to do this so I salvaged a small piece of wind-damaged stalk and allowed it to dry out. I have it in the freezer now and will soon be testing the germination.*

**Roger**



# Troubled Times



## Ron's Results

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Here's the report from the Wisconsin nonprofit headquarters. During the time we were talking there were at least half a dozen instances noted where cars traveling Lieder street actually stopped for from one to 3 minutes with the people gawking at the garden. One even took out a camera and took pictures. All they could see is the zucchini, summer squash and meal corn, as they block the view of the rest of the garden. The meal corn is starting to tassel and is at least 15 feet tall! The sweet corn is over my head and teaseling with some heads of corn already with silk. In all my years of gardening I've never seen sweet corn so tall. I've been just assuming that the height of the meal corn was just an illusion, so yesterday I stopped along side the road with my tape measure and measured the height of the field corn on a farm that was teaseling. Sure enough, our corn is at least 3 feet taller and looks beautiful. If I were canning beans, today I could have picked around 100 quarts of green and yellow string beans.

The peas, broccoli, and cabbage are barely holding on and I am surprised they aren't shriveled up and dead from the heat. They were all planted at least 2 months too late. We'll probably get some green peas for seed, but not much at all. I doubt if the cabbage and broccoli will make it. The scallions, from seed, are doing fine. I have two zucchini that probably weigh at least 5 pounds and two yellow squash just a little less. They are taking all the resources of the plant to grow, so no new fruit is starting. If these 4 squash can go to maturity we will have several hundred times what I planted (3 seed of each). Once I harvest these seed squash, then I'm going to start eating some of the new fruit. One pumpkin has a vine that is almost 20 feet long. Lots of flowers, but no fruit yet that I have found. One of the other squash (don't recall the name) is producing prolifically. The Navy beans are doing great as are the kidney beans. Boy, the combination of soil and the fertilizer has, so far, produced a fantastically impressive garden. The tomatoes I planted for myself have lots of fruit that should start being ready to eat in a couple of weeks.

**Ron**



# Troubled Times



## Ceramic Jugs

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### Ceramic Sculpture Made by Clayton Bailey 1960-1998

#### Distillation Apparatus

*I was looking at 15th Century technology, and it led me to this. The jugs and alchemical ideas began with Leonardo and the ceramics and technology of his time.*

Clayton Bailey 1987

These ceramic stills actually work by solar energy; producing distilled water daily as they stand in the California sunshine. They look like they could be used to manufacture the collection of rare and unusual chemicals and products that Bailey presents in his large tobacco spit glazed stoneware jugs and bottles.



# Troubled Times



## Boiling Water

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Seek and ye shall find.

**Pat**

**How Things Work**, November, 1996

Louis A. Bloomfield, Professor of Physics, The University of Virginia

*To distill water, you need to condense steam on a cold surface and collect the condensate. You could boil water in a teapot and allow the steam flowing out of its mouth to pass across the underside of a clean metal bowl full of ice water. The steam would condense as pure distilled water on the outside of the bowl. If you then placed a clean cup under the metal bowl, the distilled water would drip into that cup.*



# Troubled Times



## Condenser

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The apparatus is quite simple, though, the actual condenser is a complicated manufacturing problem. Pyrex, who *used* to make laboratory quality glass products made (in my humble opinion) one of the best condensers for quick distilling. Mass production of 100% pure distilled water is the most absolute positive remedy for questionable water supply. It is more reliable than charcoal, or other filter methods. Though, one could use lab grade filters at the end stage of condensing just to be on the safe side (though this actually would not be necessary).

You get a container with any liquid on top of a heat source, preferably the condenser is sealed to the top of the first container. The condenser has running tap water flowing through it to cool the heated steam from the first heated basin. Preferably *above* 220 degrees. As the steam cools in the condenser, impurities which cannot travel the length of the condenser are basically dropped by the steam. At the other end, a second container receives the droplets of *pure water*.

This is 100% pure water, drinkable, or whatever you need. This process requires large volume containers though in order to produce volumes of water. The condensers used to be able to be purchased at home hobbie shops for chemistry sets, and I think can also be purchased from some isolated hardware stores, but not in chains or franchise.

**Brian**



# Troubled Times



## Quadrangle

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I came up with a computer model for a dome which possibly uses fewer parts than others. It started as a 12-sided dodecahedron, then quad-divided into quadrangles. Then I cut it in half to make a dome. Each of the 36 quadrangles are the exact same size and shape. If someone sees a reason that this design might be flawed, weak, or otherwise please tell me. It looks okay to me, if I don't get any problems with it then I intend to look into a fast, cheap, and easy way to construct it. I haven't quite figured out how many "sticks" you need. I'm guessing about 40-60 sticks, which is not that many.

If this is indeed a strong design, someone could collect and cut the parts beforehand, and construct the dome at the last minute if need be. You could keep all the framework parts in a box or bag somewhere. A 10' x 10' x 5' foot dome would be a small, but good short-term shelter, enough for 2 or 3 people to crunch in. Any ideas about what to cover the framework with after construction? Something with insulating qualities? The picture explains it better.



Offered by [Joe](#).



# Troubled Times



## The Plan

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I'm using trueSpace3 for Win95/NT. I modeled a solid 12-facet dodecahedron a long time ago (took forever to figure that one out!). Then today I used a "smooth quad divide" function which turned it into quadrangles for me. It's kind of an accident how it turned out, but since the whole dome is made from equal kite-shapes (where short to long ratio is 1:1.5) it should be relatively easy to construct, and uses less sticks than a regular geodesic dome. (though perhaps not quite as strong?). I still haven't figured out all the angles, once I do I'll post the info. I won't know if they're right for sure until I come up with a way to build a real model.

Let's say I made a small 10 x 10 x 5 dome with the quadrilateral design out of wood or metal. Then I stapled or used binding wire poked through the canvas to tie pieces of it tightly to the framework. Could you then mix up a bunch of concrete in some buckets and dump it over the top until you get a thick layer, possibly doing this for a few days to build layer after layer? Or would rain, time, or other things prevent this? Is concrete too expensive? Or would simply creating a thin outer canvas layer that is waterproof, like a tent, serve better? A dome tent might not blow over like regular tents can.

I think I know a trick to making a dome framework very easily. The dome-builder would only have to know how many segments to cut and what the lengths are. The builder would cut pipes of some sort to the proper lengths, and then run cable or rope through them to build small sections, which can then be roped together to form the finished dome. Obviously a roped-together dome might be a tad flimsy, so then you would have to wrap binding wire very tightly around each vertex, going over and under the pipes until it's strong. Then you could wire fabric to the framework to cover it like a tent and/or dump concrete on top. Or whatever. The best part is that the builder will not have to measure any angles, or any of that crap. Perhaps only a picture of the finished dome or a real good description would suffice. Does this sound reasonable to anyone? I'm going to try out some small models of various geometries.

Offered by [Joe](#).



# Troubled Times



## The Discussion

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The builder could get a template cut to the dimensions of the shape. Since it is a dome built of all the same shapes, all he would have to do is cut out his shape from pattern and go from there. The hardest work would come to the maker of the template. That could be made of paper. Like making a dress from a pattern. Different size pattern for different size dome.

Offered by [Clipper](#).

Why don't you cut the pieces out of steel and weld them or bolt them together?

Offered by [Eric](#).

I'm talking about making a framework (like a jungle gym), not a solid as shown in my picture. I put that up to show what the dome made from kite shapes might look like. It's hard to model a framework on the computer but the solids are very easy. Sorry if I confused anyone. Sorry if I'm confused also. You could make a solid dome, but then you have leakage problems like someone else mentioned. Would seem to be a lot harder to build also than one made from pipes also. Hopefully the string and pipes idea might make dome frameworks very easy to make with the only measurements being the lengths of the pipes themselves. When you have an exact number of pipes made to the proper lengths and string them together correctly, they will force themselves into a tight dome shape automatically.

I don't want to make it out of solid steel because the average human being doesn't know how to weld. Bolting requires corner pieces cut at precise angles to bolt the pipes onto. Very difficult. Using the string and pipes idea eliminates all that crazy stuff and lets the average guy build the structure in a hurry--without measuring angles or other complicated things. You should end up with the same dome anyway. I'm building a model from string and straws right now to get more of an idea, though.

Offered by [Joe](#).

Would it be possible to use tree branches as a source of material? Possible interlace straw or other long flexible plant to use as a roof?

Offered by [Brand](#).



# Troubled Times



## The Model

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I'm almost positive the string and pipes method of building a dome framework will work. I'm building a 12-sided dodecahedron out of xerox paper using oragami. I'm hoping I'll be able to stand on it when it's finished, seems pretty strong already. We'll see. Well I made it in sort of a hurry. Pretty neat though! It's holds itself together exceptionally well. But it's not as strong as I thought. I think if I carefully measured out stiff pieces of cardboard you might be able to sit or stand on it. We'll see.

I built a small dome from my computer model out of short pieces of drinking straws and twine. It formed itself into the proper angles for the dome shape automagically. Even though the model is a bit flabby at the moment (due to the straws being short and probably no tied together the best way), it still won't give out even if I press my hand very hard on the top. I'm going to make a new, larger model from full-length straws, which should be a more realistic one. The angles should be much more accurate then when using the really short pieces.

**times passes ...**

Well, the first dome I made was made from real short sections of straw, and was strung together rather tediously. It's a bit flimsy, but not too bad. It did form itself into the proper dome shape. I'm making a much larger dome from straws now using a different stringing method. It seems to be working much better. You don't have 1 piece of string per pipe. Instead you string rings of them together and then tie them vertically. Try this picture:

**Layer 2** \_\_\_\_\_

**Layer 1** /\/\/\/\/\/\/\

**Base** \_\_\_\_\_

This is a real speedy way to make the dome since you use minimal tying. Sorry it's hard to explain. If I have some success I'll make a web page showing how to make this. I'm almost positive this method will work, especially considering after the framework is made on a real dome, you will then wrap heavy wire around each vertex to reinforce the joints. It should make a pretty tight dome. I went to the hardware stores looking for pipes, and found the steel electrical conduit (1/2 inch or 3/4 inch). It was very cheap, like \$1.64 per 10 feet, and looked very strong. The poles were leaning up vertically up on the racks and were straight as arrows despite them being all piled up. I'm still unsure about what cable to use, etc, and even the geometry of the dome itself, but it's coming along. I just really liked this idea so far since anyone could build the thing extremely fast. It's not ultra-precise but that shouldnt matter.

Offered by [Joe](#).



# Troubled Times



## The Results

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Right now here's where I'm at with making model domes from straws:

- The first dome (as depicted in the picture I put up) was a dismal failure, although it's still my favorite shape.
- I found internet sites dealing with making spheres and dodecahedrons and things like that out of paper. I made 2 dodecahedrons so far, and am working on a large one now out of strong posterboard. You can throw the small ones I made up against the wall real hard without them breaking apart, despite the lack of glue tape.
- I made a small tetrahedron from 6 straws and 1 long piece of string, and tried to smash the thing between my hands. It didn't budge. Very strong shape. Now if I stomped on it, it would break because the twine I'm using is not all that great and stretches out. But you get the idea.
- Tried a dome-inside-a-dome, where the inner dome is attached to a slightly larger one with short segments. Didn't work this time but it might work on the geodesic.
- I'm making a whole geodesic sphere right now. I think geodesic might be the way to go, but only time will tell. (and it's taking a long time.)

That's about it. The trick with this string thing is to use the tension of the string to hold all the stuff together, as in the tetrahedron, I think. So I'm making the geodesic globe with this in mind.

Offered by [Joe](#).



# Troubled Times



## The Prolog

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For those who are interested I'm still working on the cheapskate dome framework idea. I need to get some better materials, but after building about half of a geodesic dome (then running out of parts) with straws and string I believe the basic concept will work. Aside from the geodesic dome made from triangulated pentagons and hexagons, I think an easier and faster to build framework can be made but would have to be reinforced. It might work well because it depends on the tension of the string to hold it tightly together, almost like the dome tents on the market but not exactly. Hard to explain so I will try to make a graphic if I can make a relatively successful model.

I'm not an architectural genius so I'm open to ideas. I base the notion that you can probably build dome frameworks with straws and string on the fact that you can make a tetrahedron out of 6 drinking straws cut short and 1 piece of twine - not very strong materials - and not be able to crush it between my two hands easily.

One annoying detail is: How do you keep the dome on the ground? If you made a concrete dome you'd be OK, but what about a tent? You'd want to eliminate the possibility of it blowing over somehow! Even a rigid, aerodynamic, heavy tent structure might have problems if there weren't anything holding it down *real* good. Perhaps tying cables to large trees, rocks, or tying boat anchors around the tent's perimeter would suffice?

Offered by [Joe](#).



# Troubled Times



## Conclusion

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**Important:** Almost all of the information I posted a long time ago on the Parts thread should now *really* be removed. I accomplished the goal put forth at the end of those articles by making a geodesic dome the string & pipes way. Now that I *finally* know it works, the rest of the information should be updated. You might want to remove that part of the site, and I'll write up a nice article explaining the process of building a 2nd-level geodesic frame in the meantime. I don't want anyone else wasting their time trying my old stuff that's up there now since it don't work. Later I will probably build a 3rd-level model dome, just to see how it goes. Some nutcase somewhere might want to build something *large*. Level 2 should be good enough for small domes I think.

For those who need it, I can calculate the lengths for any level, even very large levels like 20 or 40. (yer talkin a *lot* of little pipes there!) The program (dome46.zip) doesn't give you the lengths, but I can derive the lengths for anyone who needs them from that program's output. If you need it, let me know the level. (please don't ask unless you're really going to build a model or something - it takes a lot of time to do this stuff. Thanks.)

Offered by **Joe**.



# Troubled Times



## Dirt Mound

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I sent Joe a note about dome construction the other day. He's working on the quick, portable type, and it looks as if he's coming close to a viable solution. My idea was borrowed from an architect friend of mine who specializes in earth-sheltered construction, and it's a down and dirty way of erecting a thin-shell reinforced concrete dome without a conventional framework. It's similar to the inflatable balloon method being used today, except you substitute good old dirt for the framework. Here's how it works:

- Dig a circular trench and pour a "ring beam" as a foundation.
- Mound dirt up in the center to form a "mold" in a dome shape. (Have a hill? Use it!)
- Cover the dirt with construction plastic.
- Use 2X6 lumber to define openings, etc.
- Place wire mesh and/or reinforcing bars bent to the shape of the dome.
- Cover with concrete.
- When cured, dig out the dirt! (labor intensive, but cheap!)

The plastic keeps the dirt from sticking to the concrete (that would be messy). You'd need low slump concrete to keep it from running all over the place, but it should be trowlable. Alternately, a swimming pool contractor could spray gunite or shotcrete onto your frame. The concrete thickness can taper from, say 6" at the base to 4" at the apex, it doesn't need to be all the same thickness. This, of course, only applies to those of you who are able to build any kind of permanent structure. I don't know how local code people would react to this either, it would obviously be on a region by region basis. Anyway, for what it's worth!

Offered by [Ron](#).



# Troubled Times



## Expense Concerns

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This sounds like the best idea yet, and seems fairly easy. Woudn't a ton of concrete like that would be pretty expensive, though? I haven't worked on my idea much lately, but I still think it could work. (the one where I was experimenting with various 'straw & string' constructions. The main problem I'm having is with the joints between the straws, I think there needs to be spheres between them of some sort to keep them spaced. I think if a metal framework could be made, then one could cover it tightly and either pour concrete on it in layers, or put some other material around it. Maybe even dirt would work, but it seems like that would wash away pretty fast with no plant roots throughout. Are there any other ways to successfully cover these domes other than concrete? Would even piling a bunch of junk and crap, old tires etc on top of it, *then* pouring concrete on top work? (hence using less concrete, just enough to hold all the junk together--only 1 application needed)

Instead of making solid concrete domes at high expense, what if you could make your dome framework (or dirt hill to be dug out later), but then gather as much junk and garbage as possible to pack around the outside. Once it looks like Sanford & Sons junkyard, you could then pour concrete swirls on the top--connecting all the junk together into a solid peice but using a whole lot less concrete. Does the dome have to be pretty? I know slick and aerodynamic is ideal, but maybe it would be solid enough anyhow. The only major problem I see is waterproofing, you might at least need a thin layer of concrete before you start pileing trash on top, or something.

Offered by [Joe](#).



# Troubled Times



## Inexpensive

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Joe wondered if all that concrete for a dome would be expensive... well, let's see:

- Assume a 30 ft diameter dome. That's 15 ft tall at the center!
- Assume that the parabolic dome is actually a hemisphere (close)
- Assume 6" thick wall at base and 4" thick at apex, for an average thickness of 5" (close)
- Use a 1 ft x 3 ft deep concrete perimeter ring beam footing (less down South, more up North) [see footnote]
- Use a 4 in thick concrete interior slab

Dome:

Surface of sphere =  $4 \pi r^2 = 4 \times 3.14 \times 15 \text{ ft} \times 15 \text{ ft} = 2,827 \text{ sft}$

Since it's a hemisphere, divide by 2 = 1,414 sft

Times the thickness to get cubic ft =  $1,414 \text{ sft} \times 5 \text{ in.} / 12 = 589 \text{ cubic ft}$

Divide by 27 to get cubic yards = 22 yards

Multiply times cost of concrete (\$50 yard???) = \$1,090

Ring beam:

Circumference of circle =  $\pi d$

Assume 1 ft. wide x 3 ft. deep x  $\pi \times 30 \text{ ft} = 283 \text{ cft} / 27 = 10 \text{ yards} \times \$50 = \$500$

Floor:

Area of circle =  $\pi r^2 = 3.14 \times 15 \text{ ft} \times 15 \text{ ft} = 707 \text{ sft} \times 4 \text{ in} / 12 = 236 \text{ cft} / 27 = 8 \text{ yards} \times \$50 = \$436$

Total Cost of concrete:  $\$1,090 + 500 + 436 = \mathbf{\$2,026}$

[I think like an engineer, so yes, these numbers are rounded off! That's OK, we're gonna double it when we're done!]

OK, we've spent two grand on concrete so far. For sake of the discussion let's assume the steel costs as much (it won't). Let's spend another grand on miscellaneous items like 2x6 lumber to frame the door and a nice little igloo style smoke hole at the top, and the plastic to keep the dirt off the concrete on the inside while we pour. We haven't insulated it. Styrofoam would be the best bet. The cost rises. So, for an entire shelter we spend \$4,000 - \$6,000, depending on whether you want it to be a "home" or just a place to hide out till the sun returns. I realize that this is bare bones, but it's bomb proof, earthquake proof, wind proof, and the Native American ancestors (and descendants) would be proud of you since it's a true "earth shelter". Remember, this is the total cost for the "shell". No carpenters, no concrete formwork, just honest hard work.

**F.Y.I.** No, I'm not building one. I'm not into domes. Give me a cave any day. I've always been a hermit! But to each his own, and the most intriguing thing about this to me is the fact that a couple of people could build one of these in a week or so (working full time) and the concrete would be cured within a month. It could very well be somebody's solution.

**P.S.** If I made a mistake in the math somewhere, I already know I'm stupid, so please don't rub it in!

**[Footnote:** North and South for purposes of frost line are to satisfy the building code people, who won't be too thrilled about your dome to start with! These directions won't apply after the pole shift, so I guess it's a moot point, huh?]

Offered by [Ron](#).



# Troubled Times



## Viable Idea

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I know we are to stay mobile for as long as possible, or rather, as we initially will have no choice, but this idea. Can it work? After you dig out the dirt, wouldn't the cement crack? I read the wire mesh part, but in many ways, this concept could be combined with so many other concepts, like a haybail shelter, later covered with mesh & cement, or even a Teepee, any shape at hand, filled with sand even (easier to dig out later), or an igloo, filled with snow that for now would eventually melt or a pile of old cans, instead of sending them to the recycling center. I mean the present technology uses a balloon. Just how strong does the form have to be I am wondering out loud?

### Deb

This a very viable idea. If you have sense enough to store your bags of cement in some sort of protection to keep them dry, then they will be dry. If you have energy and help enough, you can mix this stuff by hand. This is also a very good idea if you build a small one now to survive in during the pole shift. I drove a cement mixer for a living and if you can drive to your survival site, so can the truck. If he mixes his cement so it is dry and not wet, you can spread your concrete by hand for your survival dome. Just make sure the truck driver is the only one you tell where it is. Cover your dome with dirt when it dries. That will give a little extra thermal insulation and help camouflage your location from the little powers that be.

The only problem I can see with this idea, and ugly is not it, is that with all the different stuff in the concrete, it has no connectivity. There would be too many places for the concrete to crack and break. As with wire mess and rebar, the concrete stays together. A good way to explain this would be to lace both your hands together with your fingers. Your hands are locked. But, lay one hand on top the other and they are not. I for one would not like to see a piece of concrete break loose and fall on one of my kids during an earthquake. I think it would lose structural integrity with too much junk in the concrete.

### Clipper

They are selling portable washers in *Heartland America* catalogs and an amish catalog that I can't remember the name of. It turns over and over and over (we bought one).

### John

*American Survival Guide* did an article a couple of months back on this same construction technique. Had some cool pictures and other references.

### Mike



# Troubled Times



## Background

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After watching the discussion about concrete domes, I thought I might offer a construction design that might have some value in meeting the needs described. As background experience, preliminary to the design discussion, I offer the following: I worked my way through college; a significant part of it being construction work, where I observed iron rebar being wired to hardware cloth and other rebar to reinforce the concrete that was then poured over it. I have since then read a lot about construction; took community college CE courses on passive-solar/high tech home construction. I moved into a rural area 16 years ago, sensing impending changes in future times.

At this setting, I have designed and helped build a passive-solar, semi-earth-integrated home; have built two pole (out-) buildings and an office. The office is two buildings: a small passive solar reception and media therapy building and a geodesic dome; both on heavily reinforced foundations. (The office was built to serve as a small counseling/retreat center, with the whole facility intended as an example to the local community of the simple, close-to-nature lifestyle essential for harmony and survival here.) I have had higher guidance all along (don't feel safe to discuss details here and now) in this, and a design keeps coming up that might be of relevance to this discussion, so I'll share it here.

Please understand that the above details were provided so you will have a sense, also, of the *limitations* of my knowledge. I am a counselor, by formal training. Sorry, my graphics capability is down while I struggle with this glitchy software, so I cannot draw any of this. Hopefully you can visualize it. Also, some steps are not overly detailed, as some understanding of construction methods is assumed. A small, low-profile, monolithic dome (12 to 20 ft diameter), of ferro-cement is suggested as a strong structure that might hold-up to the types of changes you are describing.

Offered by [Anonymous](#).



# Troubled Times



## Level Land

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Establish a level and clear area for the dome. Sandy soil, rather than rocky is best as rocky substrate will transmit ground-shock more intensely. (For my office-dome, I removed some of the hard-pan and brought in a fine sand to put under the foundation so it could absorb shock better than the hardpan. There is building literature pertaining to these principles.) Drive a stake at the center point and attach a non-stretching line to a nail in the top of the stake. The line will have another scouring pin or stake at the free end, with the length of the line being equal to the desired radius of the dome.

Beginning at a point at the length of the line (the radius) from the central stake, scratch or scour a line around the full circle the full distance from the center stake. When you are done at this point, you will have a center stake with a circle around it demarking the perimeter of the dome. Since lines in the sand are unstable, drive vertical stakes in the ground, perhaps 18" apart, to a uniform height equal to the desired height of the monolithic slab you will pour (at least 4" to 6"). These stakes need to be strong and deep, as they will brace the concrete form, and they need to be at the same level.



# Troubled Times



## Footing

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Begin by digging a round trench (12" to 18" wide) for the footing, using building codes applicable to the area. Be careful not to displace the perimeter stakes. (Note: Consider the possible climate change that would require deeper, below-freeze-level footings. Frozen soil heaves shallow footings.) Place horizontal rebar (perhaps ½" diameter, inner and outer ring) around the circumference of trench, inside, and heavy hardware cloth (4" to 6" steel mesh) across the dome floor area. It is a good idea to first put a layer of sand, followed by plastic vapor-barrier under the hardware cloth. The forms, following the outer circumference of the trench should be installed (minimum 4". Pref. 6" high) for a monolithic slab that will encompass both the footing area and slab/floor area.

This concrete form can be done by attaching (tack and glue) long strips of layered ¼" inch exterior plywood (double or triple-band) to the inside of the large number of stakes around the outer circumference of the trench, at the same desired height above ground, making sure everything is level. The narrow (4" or 6" wide) strips will bend around the circumference of the stake circle. When you are done, you will have a plywood band circle around the outer rim of the footing trench, reinforced and secured to the inside of the perimeter stakes. It is a good idea, at this point, to "backfill" and pack soil around the outer rim of the band-form, as concrete is very heavy! Use water, if possible, to pack the soil. Bring the reinforcing soil almost to the top rim of the band-form.



# Troubled Times



## Rebar Holes

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You will now "stick a ring" of vertical rebar lengths around the perimeter of the trench (either 18" or 24" apart: equal distance spacing, even numbers opposite-spacing), placing these "sticks" 3" inside the outer rim of the trench. This ring of vertical rebar "sticks" will, thus, circle the inside of the circular trench, 3" in from the outer rim. However, a gap will be left of 2 ½ to 3 feet, somewhere on the perimeter, which will serve as the future door. On either side of the "door gap" place a tight triangle of vertical rebars (3) spaced 6" apart.

Note: these will be long lengths of rebar, so pilot holes can be driven by taking a pipe of the same diameter, or slightly more, of about 4 foot length and starting the holes by driving pipe into the ground the same depth and removing it. You will then be able to insert the long rebars more easily. The lengths of the rebars must be long enough to extend into the ground below footing level deep-enough to hold them vertical, plus enough uniform length for bending along height-equivalent of dome wall to overlap one foot with adjoining rebar on opposite end. When you are done with this phase, you will see a ring of rebar "sticks" sticking up vertical from around the inside of the circular trench, with the exception of the future door area.



# Troubled Times



## Concrete Requirements

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At this stage, you will calculate the amount of concrete needed to fill the circular trench/footing and the monolithic slab that rises above it. Order 2,000 psi concrete mix (strong concrete) from a reputable dealer to deliver the concrete pour. To assure uniform height of the pour, stakes can be driven inside the circle to the same height as the perimeter stakes. (Remove the stakes as you do the finish work.) Have some help, and some rented finishing tools to make the pour. You will begin the pour, filling up the trench first, keeping the rebars vertical (plumb); then filling the floor.

Work from the side opposite the future door, toward the future door, so you will be able to exit without tracking through your finish work. (You should consult a manual/article on finishing concrete before this ... it's not really difficult.) When you are done with this stage, you will see a round slab of concrete that has a ring of vertical lengths of rebar running around the perimeter, 3" in from the edge. These "sticks" of rebar will be even in number, so that each stick has an opposite: making a pair. (The exception will be the triangle placement of three rebars at each side of the future door.) They will be bent into place to form the "wall" of the dome.



# Troubled Times



## Floor Plan

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The dome we are talking about will not be high, as a high profile (e.g. like half a baseball) will offer more resistance to airflow and be a larger target. We are talking about something more disk-like, on the order of 1/3 baseball slice, with no riser-walls. You will make a "half-arch" template, or jig, out of a material strong-enough to allow you to bend the rebar around it. Make your measurements and calculations carefully, to suit your purposes! You may want to be able to stand erect and walk around inside most of your dome.

Remember, we are talking about an all purpose survival dome and human den . . . kind of like a low-profile super-igloo! This is a place to cuddle, be warm and safe and sleep; not a place to have company over for dinner (at least not in large numbers). Small structures are cheaper to build, are stronger, are less visible, etc.. It should be able to take strong impact, resist water and minimize materials used in construction. Also, a lower profile will have another critical advantage to be discussed later.

This jig, or template, will look like an "L", with an arc running from the top leg of the L to the lower leg. (Another way to visualize this is to imagine a circle; then draw a vertical line through the center, followed by a horizontal line 1/3 of the way down from the top. The shape of the jig will be a top "quadrant" of the circle.) This can be made of a number of materials; including piecing 1/2" plywood, cut-to-shape, and bordered at the arc-edges by short sections of glued/tacked 1X4 or plywood. The idea is to create a "channel" over the course of the arc, which will allow you to bend the rebar to the shape of the arc, as follows:



# Troubled Times



## Jig & Plumb

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This will require two to three people. Find the exact center of the circle-slab. Place the finished jig so that the exact edge (centered) of the vertical base of the "L" is right on the center dot of the circle. The horizontal leg of the jig should be the length from the center of the circle to the vertical rebar, or (to be precise) the distance of the perimeter minus 3", minus the diameter of the rebar.

With a little help from your friends, you will hold the jig plumb/vertical at the center of the circle, with the horizontal jig-leg butting against a vertical rebar. Bend the rebar over and along the arc-channel toward the center of the circle until the end is overlapping the center point. Then, move the jig to the exact opposite rebar, position it as before and bend it toward the center of the circle until the end is overlapping the center point and the other rebar. Wire the two rebars together where they overlap.

Continue clockwise around the circle, bending each rebar, then its opposite, in turn; then wiring, until you have done all the rebar. As you join the bars in the center, you will notice some congestion. Simply overlap and underlap, wiring them as you go. It does not have to be perfect. For now, leave the two extra rebars on either side of the door alone. When you finish this stage, you will have the shape of a dome skeleton! Ideally, you can weld the connections at the top for extra strength.



# Troubled Times



## Rebars

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Now, beginning 18" to 24" off the slab level, you will run rebars horizontally around the circumference of the dome at that level. Begin by tying an end with wire (And/or welding) and work the rebar clockwise around the circle until you return to the beginning. Do the same every 18" to 24" up the dome until you reach the top. At this point, you will have a better idea of the shape of the dome.

Take the remaining four rebars (two on each side of the door) and bend them in a smaller arch, crossing them over each other at the top, in front of, and just above your desired door height. This is hard to visualize, except to say you will create a skeleton/frame for an arch in front of the door similar to the arch over an igloo door. Looking down from the top, you will see two "x's", one in front of the other, that frame-out the arch. Stick the ends of the rebar in the ground (Ideally, you can pour a separate, smaller footing). Use one horizontal run, at least, in connecting the door-arch with the dome horizontals.

I know this is somewhat vague without a drawing, but the general idea, here, is to create an arch over the door for protection from rain. The door should be low, requiring a human to bow somewhat in order to enter. (Smaller doors are safer and promote greater structural integrity.) Wire all connection points where rebars cross (or weld).



# Troubled Times



## Chicken Wire

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The type of construction used here is called ferro-cementing. It is a combination of applying a special mix of concrete over a web-work of steel, to a thickness of 2" to 3," to create a very strong shell. Believe it or not, there is a tradition of constructing ship-hulls using ferro-cement, as it is very durable and the hulls stand-up to wave-action and oceanic stresses.

At this stage, you will take patches of hardware cloth (Heavy-duty chicken wire is fine for this) to wind and wrap around and over your re-bar dome-frame, wiring the material firmly to the frame at all locations. (Use steel wire; not copper for all of this. Where possible, use galvanized material.) It would be advisable to wire-in the hardware cloth from both the outside and the inside of the dome-frame. When you are finished, you will have density of meshing that will take and hold your ferro-cement plaster mix.



# Troubled Times



## Ventilation

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Ventilation will be important, though I wouldn't advise windows for a structure like this. I would suggest one or more 6" to 8" PVC pipe elbows, fitted into the mesh (Elbows pointing down) at about one foot above ground level. At least one PVC roof-vent fitting should be located near the top of the dome. (The combination will allow for interior circulation via convection.) Plan vent sealing and filtering fittings according to your anticipated needs.

Also, at this time, fittings can be welded to the top of the frame to allow for later attachment of hardware of the type mentioned in the earlier attached correspondence. Also, other openings can be attached for later adjustable passive-solar heating venting, wiring, antennas, etc. ... keeping in mind that every opening potentially weakens the structure and allows for intrusion of external elements. All openings should be seal-able.



# Troubled Times



## Cement

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Mix batches of ferro-cement in recommended concentrations, such that you can plaster each batch on before it begins to set up. (Never add water to "re-constitute" partially-set mix.) Begin on the inside, at the top and work down, troweling on the plaster mix firmly-enough so that it squishes up between all of the nooks and crannies of the mesh. (However, be careful to avoid pushing lumps up beyond the outer layer of mesh on the outside. Trowel down anything that squeezes up.) Keep a "wet edge," preferably having one person mix while another trowels. This will add to the strength and integrity of the building.

When you are done with the inner level of plastering, allow it to cure before you begin the outer layer. The interior should be finished smooth. Depending on how it applies, it may be necessary to add a later, finish, coat. It may take some days to get a good start on curing, and the curing plaster should be kept damp and not allowed to freeze. This wait is not ideal in terms of bonding both layers, but it will be necessary for you to go onto the roof to do the outer layer and you don't want to be climbing on newly set plaster.

If you are concerned about the time between applying both layers, there is a bonding mix that can be purchased in home-improvement centers. Mix it according to instructions and apply before doing the outer layer. Remember, you want to leave enough depth of meshing to firmly secure the outer layer of ferro-cement plaster. Do the outer layer by starting at the bottom and working yourself around the dome in a spiral to the top. (By reversing the application sequence, as recommended, it is more likely that any water intrusion will tend to work itself back out toward the surface, rather than filtering to the interior.) Since all traces of wire and re-bar should be hidden, it may be necessary to put a finish-coat on the top.



# Troubled Times



## Seals

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There are various ways of sealing this small dome. You can buy a surface-bonding cement, like Sure-Wall Surface Bonding cement, structural grade, and apply a sealing coat. There are various other sealers on the market that can seal your dome. I recommend, also, that you have plenty of heavy-duty plastic (black and clear) on hand for major changes. This material can be draped more-easily over a low-profile dome to seal it in the event of some cracking. (It also seals openings to broken glass windows, etc.)

Plenty of high-grade silicone sealant is good to have on hand. Upon completing the plastering, you will have a very strong structure ... strong-enough to allow back-fill of a layer of soil for additional protection. This monolithic structure should have a thick bead of silicone caulk around the outer and inner joint where the dome meets the slab. Caulk also around all pipes, vents, etc.. It goes without saying how strong this integrated structure will be as the dome walls tie directly into the monolithic footing/slab.



# Troubled Times



## Insulation

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Insulation should be a considered factor – especially if it gets really cold! Domes of similar construction often are constructed by using a fan to blow-up an envelope, which is used for blowing-on concrete mix, doing re-bar reinforcement, etc., including blowing on a layer of chemical insulation. Chemical insulations typically melt in intense heat (some can burn) and give off extremely toxic fumes. For this reason, I did not recommend interior insulation.

Exterior insulation is better for two reasons. First, the thermal mass (all that heavy concrete and steel) is on the inside of the structure; thus allowing for greater temperature stability due to temperature fly-wheel effect. Second, exterior insulation can be added later, as indicated. Natural materials can be piled better over a low-profile dome without sliding off. Soil is a fair insulator. A layer of plastic sheeting can be applied, then a layer of natural insulator (preferably low-flammability), another layer of plastic sheeting, then soil. This dome can even be built in a shallow depression and be back-filled over.



# Troubled Times



## Utilities

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I leave it to you to add the details. Bomb-shelter technology (filters, running water pumps and air venting by bicycle peddling, etc.) can be used in this structure. It can be built over a long time without significant degradation of materials for less money and labor than what would be required by many of the other designs discussed. This design is wonderful as a meditation room or little kiva and such usage would do best to set the stage, vibes-wise, for a hide-out in troubled times!



# Troubled Times



## Donut Concept

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A dome is optimal but a regular man could probably make a stronger torus than a dome, and faster. It's possible to make a collapsable tent that folds out into a torus but I haven't made one yet. The same principles I had in mind might apply:

- be able to build most of it in small parts and assemble quickly on site, because if you spend a long time on a hefty shelter then decide you have to leave or move for other reasons, you wasted a lot of time.
- must be easy enough to build, but also be able to withstand enormous weather and fireproof.

Donuts could be fitted inside each other, and have the added benefit of privacy. (One person can't see the other person in the other side of the donut.) If you could build one light, but strong enough then you could get some big guys to help you *roll* your house to a new location. Just turn it up on it's side and roll it. If it can be taken apart you could rebuild the donut *around* a large tree - you might swing around a little but you don't have to worry about sliding or rolling away. In a field you could fasten the donut to the ground somehow, and build a fire in the middle hole that could warm the whole place. As long as the dome was fire-resistant. Of course it could be designed to make full use of the hole for heating purposes. You would want the door small, but maybe 2 doors--one on the inside and one on the outside. Probably would hafta be round and just big enough to crawl into.

We need ideas for materials or construction methods that a cheapskate like myself can get. Also remember that you can build a big torus out of smaller ones, and in turn build the smaller ones out of smaller ones still. You could fashion tires into a large skinny torus, and then fashion those into one really homongous donut house. But then it might catch on fire easily. I'm going to work on some more models soon. Keep you posted.

**Joe**

I had this idea of rolling a donut house a few months ago, but it's just incredibly weird if you think about it! It's also quite logical if you're willing to challenge your paradigms which is happening a lot for me recently. Is there such a thing as a light weight plaster of paris?

**John**



# Troubled Times



## Construction

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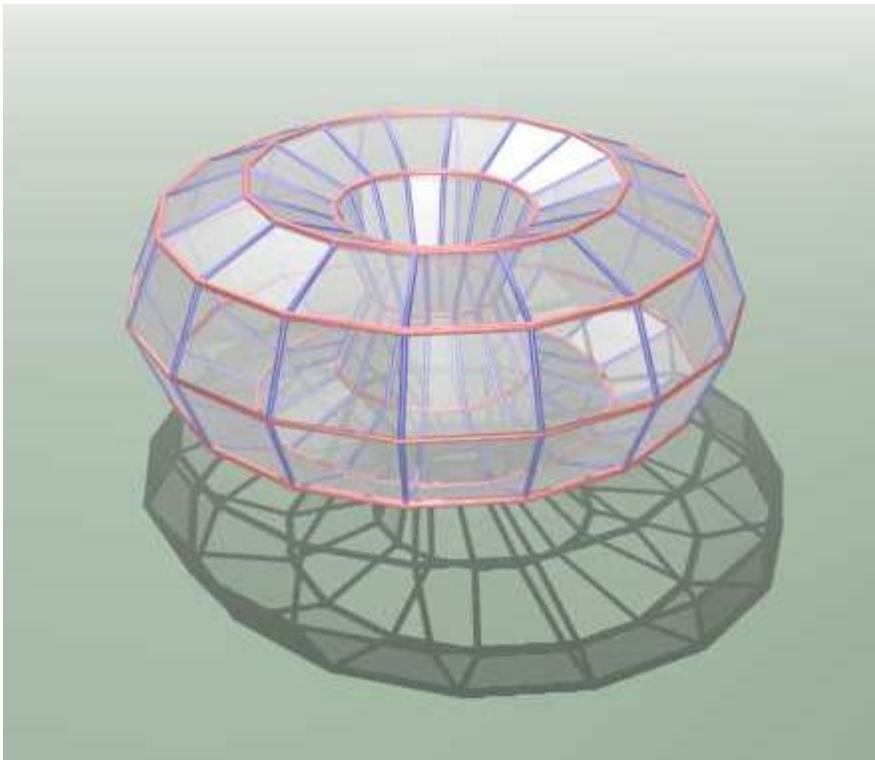
### Why Torus

A torus might be a better shape for a homemade shelter than a dome. While a large concrete dome with a steel framework might be nice, it might be hard to make also.

### How to make

A torus has most of the strength of a dome, but with more flexible construction possibilities. A couple of ideas:

- Using 4 huge concrete or metal 'elbows', bolt together a torus. Water seal the whole thing somehow. Probably very expensive, and heavy.
- Loop together 8 steel pipes with heavy rope or cable into a circle. Make 16 total. This forms the longitude. For the latitude, make 8 more circles in the correct sizes needed. The following picture shows the longitude in blue, and the latitude in red

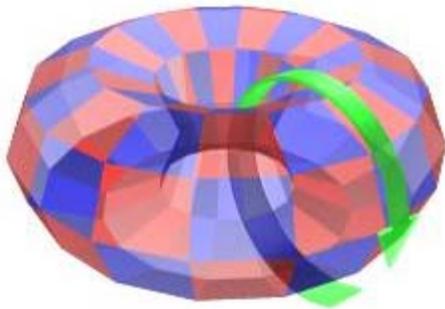


It would be best to figure out all the exact lengths of pipe needed beforehand. I'll come up with some measurements soon. Now you have 24 circles total. All you have to do now is tie them all together tightly, probably with big wraps of binding wire at each vertex.

### Waterproofing

Once the framework is done, take some cellophane wrap (heavy kind, skid-wrap. Kitchen cellophane would work but you'll need a lot more. Skid-wrap comes in large rolls, used in factories etc.) Wrap it around the torus framework as much as you can. Use a lot and wrap it up tight. Wrap vertically, as shown in this picture. Many cellophane layers should provide very nice insulation properties, as there will be a small layer of air between

each layer of cellophane. This should waterproof it pretty good, except for one problem.



### The Door

The door presents a significant problem, because all your waterproofing efforts are nil without a waterproof door. There's not easy answer, but I would only use one 'facet' of the torus as the door, so you don't break the framework. The door should probably be a large screw-on cap or something, so it won't leak as much. Placing the door on the side might be a good idea too.

### Finishing

A cellophane-covered torus obviously won't cut it--it must be covered with something tough. You could cover the whole thing with dirt, or dump concrete over the whole thing. If using concrete you should make a circular pool of concrete on the ground as big as the torus, then set the torus in it. Then pour concrete over the top. That way all sides of the torus are coated, including the bottom. Make sure there's no holes in your cellophane, but if you wrapped enough it should be *\*hard\** to poke holes in it. If covering with dirt, you'd better wrap it with something else after using *\*lots\** of cellophane. You really need to coat it with something hard like concrete so animals don't burrow in. You might want air circulation so you don't suffocate, have fun figuring out that one.

### Other Possible Benefits

If the middle is left hollow, you could climb on top the the torus, and throw flammables in it. You could heat the shelter from the inside-out this way without smoking everyone out. Maybe put a smoke-flap on top so the rain don't snuff out your fire. People could have a little more privacy in a torus, since one side is hidden from the other. You can expand a torus, just by adding more toruses around it. Or design it like that in the first place. You can build one around a lone tree so it don't go nowhere.

Offered by **Joe**.

**PS:** I tried to be clear in the descriptions, if not don't hesitate to ask. I'll be working on models, so please offer suggestions, even if they sound stupid. Stupid ideas are usually the best ones. And no, spraying styrofoam or InstaPak on the outside isn't a stupid idea. Neither is the pink-panther insulation stuff, you can sandwich that between 2 layers of heavy cellophane before concreting. Anything goes.



# Troubled Times



## Models

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The torus (donut) model I've been building out of string & straws doesn't work. The donut idea should be alright but not the way I was thinking about it. I did, on the other hand, build a geodesic dome the same way and it hold together very nicely. Even though it's made from cheap flimsy straws and twine of lackluster strength, it takes quite a lot of pressure to cause the top to cave in. Wrapping each vertex with multiple wraps of string in different directions would increase the strength quite a lot. My thought is that the greater the density of the framework (more sticks but smaller) the less imperfect the dome will be. The straws model is a little crooked looking, but it's pretty close.

I'm stuck even more on the "ropes & pipes" way of building the shelter because:

- The dome becomes self-arranging. All you need is the correct measurements of pipes. *No* angles to calculate and measure. For a decent lower-density dome, all you need is 65 sticks, 30 of which are 92.9% the size of the rest.
- Materials are readily available. Steel fencepoles (which are also fairly cheap) would probably work, or any other kind of tube if it's strong enough. You can string the thing together with chains, or nylon rope, or steel cable, etc. No bolts, nails, or other small items.
- Although it's not a super-accurate dome, who cares. While super-accuracy probably means more strength, it's close enough, even without reinforcing the corners it will still stand on it's own. You could even weld the thing together when you're done.
- You can build it top-down, and raise it up as you go.
- You can easily connect several together.
- You can store the materials and get crackin' when the time is right so you don't lose your job for being "crazy" or lose friends.

Once I build 2 more models out of more realistic materials, I'll post webpages explaining how to make the dome from 65 pipes, then another one of higher density once I figure that out. The goal is to make it as easy as possible so the most people can benefit from it. The framework is the hardest part, then you can cover it with whatever you got.

Offered by **Joe**.



# Troubled Times



## Framework

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I think the donut shape is an excellent idea. However, I think the best way to make it is with large prefabricated pipes. For example 8-20 ft diameter corrugated drainage pipes. If one took 5-10 or more and made a donut shape. Cutting and welding bolting the ends together. Then use stiff smaller pipes for spokes like a crude overly strong wagon wheel. The final wheel shape is built flat on the ground maybe 1/4 to 1/2 under ground with extra dirt piled on each side to help deflect flying objects. It should be made strong enough so it can still slide around without tarring apart if hit by an extreme jolt. High Winds would be unlikely to tip it over. Buying and transportation of the pipes to the site should not raises any big issues - for it looks like you just have a big drainage problem. Learning how to weld is not that hard.

Offered by **Mike**.

Using drainage pipes would seem impossible for most people. Welding requires lots of power, especially if you're going to try to weld something that large. This is why I'm going for a more primitive approach--I want something that can be made without power, rather like a indian teepee but covered in dirt, and/or junk. I'm really wanting to get away from concrete as an answer too, because of the large amount needed and high expense. It's not hard to get now, but later it might be. Making a torus from culverts is cool though, since the heavier and more redundant it is the better. What about using 4 concrete elbows? Where would you get those and the corrugated drain pipes from?

Another option with the torus is to design it to *float*, like an innertube. The culvert torus would probably float without a base; a concrete one might not. A sphere will float, and can be kept upright a number of ways. The idea is that if (when?) a flood came, you might be better above the water then below it. So a large, sturdy, land based torus building that will magically float if immersed might be a good thing to work on also. Would be very hard to test in real life, unfortunately, requiring accurate models to be built and tested. (and hope for the best)

Offered by **Joe**.

Local concrete supply places or possibly your Department of Transportation would be a good place to start asking questions about where to get them.

Offered by **Clipper**.



# Troubled Times



## Not Concrete

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Joe, you really should look into ferrocement as a design option. Steel reinforcement bar is comparatively inexpensive and easy to shape for framing and so is the galvanized "chicken wire" mesh used to "wrap" the frame. You then use little cement, as it is stuccoed onto both sides (inner and outer) of the layers of mesh and frame. Many ship hulls have been made using this sturdy, thin-shell concrete method of construction, as it is much cheaper than steel. Find the [Concrete Dome](#) instructions for detailed instructions. This design is already there for you. Built properly, will be earthquake, wind and falling-tree resistant. It won't float, however. Consider building it on higher ground.

Offered by **Granville**.

I'm really wanting to get away from concrete as an answer too, because of the large amount needed and high expense.

Offered by **Joe**.

Why Gunitite? Why not take the simplest, economical approach? After you apply enough layers of mesh, you trowel the mixture on with a hand trowel, keeping a wet edge. First trowel from the inside, then the outside. Skip the plastic tarp, which would weaken the structure. If you doubt these methods, I suggest you look up ferro-cement under the heading of ship-building.

Offered by **Granville**.



# Troubled Times



## Question

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I've had a few difficulties making really clear CS. The first time I made it, it was really clear, even when I brewed it to the color of Miller Lite beer (I am a bartender, so I know exactly the color of Lite draft.). After that time though, the batches kept getting a cloudy yellow. Will that hurt me if I drink it? Is there a limit to the number of times an electrode can be used? I used a 27 volt generator for the first few batches. Then tried a 36 volt generator with new electrodes when I kept getting the cloudy solution. I nuke distilled water to get it hot, then keep it hot throughout the process on a coffee maker. I use 8 gauge .999 fine silver wire with about 4 1/2 inches of it in the distilled water.

My house is on piers, and walking around will agitate the water enough to knock off silver oxide pieces. Also, I used a center off polarity reverse switch. Nearly every time I switch it, small black flakes fall into the solution. Is that normal? Is that because the current is off briefly, or am I supposed to switch it before the fuzz gets any thickness to it? I've read of some people's batches actually forming bridges and shorting out the process. So far I've just filtered the clear batches through coffee filters and drank it anyway. I thought the cloudy solutions would be good for topical uses. When the electrodes get black, I remove them and wipe them with a clean paper towel, taking care to not touch any part of the electrode that will be close to the water. Is there any reason you can think of for my solution to come out cloudy?

I've also noticed that in certain glasses I pour it into, it changes color after several hours, going from yellow to rust to brown to black. Everything I use to make and store CS I clean with soap and water then rinse with water and then rinse with distilled water.

**Dobie**



# Troubled Times



## Answer 1

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Were the new electrodes the same as the old? Also experiment with doing a batch, one with the 27 volt generator and one with the 36 volt generator. It may be that the extra voltage is causing the reaction you see. You do not need to do the process as long with a higher voltage. Check the Colloidal Silver Topic on Troubled Times for more information. I'd say switch it before it gets fuzzy. I have a unit I made myself which is really primitive with no bells or whistles. I have to manually switch the clips on the electrodes when I get a buildup. I never managed to generate a clear solution and have always let it sit for about 24 hours to let the larger particles fallout. Then I siphon off the "clear" solution (light to golden yellow) into amber bottles. I only make 8 oz batches at a time.

Over-processing and not switching the polarity will cause heavy silver oxide buildup. This you don't want. There is no need to filter your clear solutions. It is best to let the solutions rest then carefully siphon them out. The best thing to do about the electrodes is to not let the silver oxide build up, also, make sure the electrodes are evenly spaced from each other about 1 to 2 inches. Experiment with the spacing to see which produces the least amount of buildup. As far as why your solution is cloudy, it could be (1) you're using a higher voltage and may be processing too long, (2) excessive heating of the water which speeds up the process, (3) and/or make sure the new electrodes are of the same quality silver. Make note which glasses cause the CS to turn black and don't use them anymore! I use a clear 12 oz glass beer stein. Also, never ever use metallic utensils in your solution. It will affect the electrical charge and cause the silver to fall out of the solution.

**Pat**



# Troubled Times



## Answer 2

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We all get the same thing - different colors depending on the temperature, length of time in process, quality of the distilled water, Spacing of electrodes, and voltage used. There may be other factors also. You can use an electrode until it disappears or dissolves and falls off. This is providing you have pure silver and not something that is silver plated. I believe the cloudiness in your case is just more silver, or longer processing. Just let it sit overnight and pore off the top after a few days if you are worried. If you try to use normal tap water then you will get some really cloudy mix that you will not want to drink. Otherwise if there is no chlorine in solution and you are using the best distilled water you can find, this would be the lowest resistance using an ohm meter, then you are probably fine and have normal silver solution like the rest of us. I have let it run at times until it gets greyish black, filtered it, and let it set and used it. Different temperatures give different results. This could be the major factor in your case. You don't need to keep the process warm; once the process starts, you don't need the heat. You may want to get a laser pointer to see how many particles you are putting into solution. The more the beam is stopped the more PPM in the solution.

**Mike**



# Troubled Times



## Sources

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### Hurricane Frequencies

(Unless otherwise noted, times are UTC, freq in kHz)

revised September 1, 1996

The following high-frequency hurricane season intercepts have been gleaned from numerous sources. Times and frequencies are subject to frequent change, and are listed for reference only. This list has been published monthly during hurricane season since 1991. If you copy this list, credit the authors. Do not remove update request and e-mail addresses. This is the only way we can keep the list updated! Thank you all who have so generously contributed information. You really can help keep this list current by sharing your additions, corrections and deletions. Cite source and include detailed info. Submit to either of the following:

#### Bill Snyder AA6KC

E-mail: [aa6kc@scvnet.com](mailto:aa6kc@scvnet.com)

Amateur Packet: AA6KC@WB6WFH.#SOCA.CA.USA.NOAM

FAX: 805-254-2060

US Mail: 26033 Coronado Ct, Valencia, CA 91355-2142

#### Roger Pettengill

E-mail: [rwp@westnet.com](mailto:rwp@westnet.com)

CompuServe: 73300,1327

US Mail: 181 Main St, Highland Falls, NY 10928



# Troubled Times



## Hurricane Season

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### Frequencies of interest During Hurricane Season

03357.0 FAX Pictures from NAM Norfolk (continuous)  
03407.0 USB National Hurricane Center air-gnd "ALPHA"  
04271.0 FAX Pictures from CFH Halifax (continuous)  
04426.0 USB USCG wx NMN Portsmouth (0400 0530 1000)  
04724.0 USB Hurricane hunter acft - GHFS  
05211.0 USB SHARES - FEMA National Emergency Coordination Net (night pri)  
05562.0 USB National Hurricane Center air-gnd "BRAVO"  
05610.0 USB National Hurricane Center air-gnd "CHARLIE"  
06496.4 FAX Pictures from CFH Halifax (continuous)  
06501.0 USB USCG wx NMN Portsmouth (0400 0530 1000 1130 1600 2200 2330)  
06673.0 USB National Hurricane Center air-gnd "DELTA"  
06739.0 USB Hurricane hunter acft - GHFS guarded by MacDill & Ascension  
07507.0 USB USN/USCG hurricane net (pri)  
07508.5 USB FAA Caribbean hurricane net  
08764.0 USB USCG wx NMN Portsmouth (0400 0530 1000 1130 1600 1730 2200 2300)  
08876.0 USB National Hurricane Center air-gnd "ECHO"  
08968.0 USB Hurricane hunter acft - GHFS  
08992.0 USB Hurricane hunter acft - GHFS guarded by MacDill & Ascension  
09380.0 USB USN/USCG hurricane net (sec)  
10015.0 USB National Hurricane Center air-gnd "FOXTROT"  
10493.0 USB SHARES - FEMA National Emergency Coordination Net (day pri)  
10536.0 FAX Pictures from CFH Halifax (continuous)  
10865.0 FAX Pictures from NAM Norfolk (continuous)  
11175.0 USB Hurricane hunter acft - GHFS guarded by MacDill & Ascension  
13089.0 USB USCG wx NMN Portsmouth (1130 1600 1730 2200 2330)  
13200.0 USB Hurricane hunter acft - GHFS  
13267.0 USB National Hurricane Center air-gnd "GOLF"  
13510.0 USB Pictures from CFH Halifax (1000-2200)  
15016.0 USB Hurricane hunter acft - GHFS guarded by MacDill & Ascension  
17314.0 USB USCG wx from NMN Portsmouth (1730)  
17901.0 USB National Hurricane Center air-gnd "HOTEL"  
17976.0 USB Hurricane hunter acft - GHFS  
21937.0 USB National Hurricane Center air-gnd "INDIA"



# Troubled Times



## Amateur

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### Amateur High-Frequency Emergency Hurricane Nets

01984.0 LSB Virgin Islands (Virgin Islands, Puerto Rico, Lesser Antilles)  
03808.0 LSB Caribbean Wx (1030)  
03815.0 LSB Antigua/Antilles  
03815.0 LSB Inter-island (continuous watch)  
03845.0 LSB Gulf Coast West Hurricane  
03862.5 LSB Mississippi Traffic  
03873.0 LSB Central Gulf Coast Hurricane  
03873.0 LSB Texas Traffic  
03905.0 LSB Pacific ARES (Hawaii)  
03907.0 LSB Carolina Coast Emergency  
03910.0 LSB Mississippi ARES  
03910.0 LSB Virginia Emergency, Alpha  
03915.0 LSB Louisiana Emergency  
03915.0 LSB North Carolina  
03915.0 LSB Massachusetts/Rhode Island Emergency  
03917.0 LSB Eastern Pennsylvania Emergency  
03923.0 LSB Mississippi ARES  
03923.0 LSB North Carolina Emergency (Tar Heel)  
03925.0 LSB Central Gulf Coast Hurricane  
03925.0 LSB New York State Emergency  
03925.0 LSB Louisiana Emergency (altn)  
03925.0 LSB Southwest Traffic (altn)  
03935.0 LSB Belize  
03935.0 LSB Central Gulf Coast Hurricane  
03940.0 LSB Southern Florida Emergency  
03947.0 LSB Virginia Emergency, Bravo  
03950.0 LSB Northern Florida Emergency  
03955.0 LSB South Texas Emergency  
03960.0 LSB North East Coast Hurricane  
03965.0 LSB Alabama Emergency (altn)  
03967.0 LSB Gulf Coast (outgoing traffic)  
03975.0 LSB Georgia ARES  
03975.0 LSB Texas RACES  
03987.5 LSB Mexican National  
03993.5 LSB Gulf Coast Health & Welfare  
03993.5 LSB South Carolina Emergency  
03995.0 LSB Gulf Coast Wx  
07165.0 LSB Antigua/Antilles  
07165.0 LSB Inter-island 40-meter (continuous watch)  
07225.0 LSB Central Gulf Coast Hurricane  
07230.0 LSB Southwest Traffic  
07232.0 LSB South Carolina Emergency

07232.0 LSB North Carolina Emergency (Tar Heel) (altn)  
07235.0 LSB Louisiana Emergency  
07235.0 LSB Baja  
07235.0 LSB Central Gulf Coast Hurricane  
07240.0 LSB Texas Emergency  
07243.0 LSB Alabama Emergency  
07243.0 LSB South Carolina Emergency  
07245.0 LSB Southern Louisiana  
07247.0 LSB Southern Florida Emergency (altn)  
07247.5 LSB Northern Florida Emergency (altn)  
07248.0 LSB Texas RACES  
07250.0 LSB Belize  
07250.0 LSB Texas Emergency  
07254.0 LSB Northern Florida Emergency  
07260.0 LSB Gulf Coast West Hurricane  
07264.0 LSB Gulf Coast Health & Welfare  
07268.0 LSB W273.0 LSB Texas Traffic  
07275.0 LSB Georgia ARES  
07280.0 LSB NTS Region 5  
07280.0 LSB Louisiana Emergency (altn)  
07283.0 LSB Gulf Coast (outgoing only)  
07290.0 LSB Central Gulf Coast Hurricane  
07290.0 LSB Gulf Coast Wx  
07290.0 LSB Hawaii Emergency  
07290.0 LSB Traffic  
14185.0 USB Caribbean Emergency  
14200.0 USB (Please advise)  
14215.0 USB Pacific Inter-island  
14222.0 USB Health & welfare  
14245.0 USB Health & welfare  
14268.0 USB United Nations Radio Readiness Network  
14275.0 USB Bermuda  
14275.0 USB International Amateur Radio Net  
14283.0 USB Caribus Health & Welfare  
14300.0 USB Intercontinental Traffic and Maritime Mobile Service  
14303.0 USB Atlantic Region Traffic (Health & welfare)  
14316.0 USB Health & Welfare  
14325.0 USB Hurricane Watch (Amateur-to-Natl Hurricane Center)  
14340.0 USB Louisiana (1900)  
14340.0 USB California-Hawaii  
21310.0 USB Health & welfare (Spanish)  
21390.0 USB Inter-Americas Health & Welfare  
21400.0 USB Transatlantic Maritime  
28450.0 USB Health & welfare (Spanish)



# Troubled Times



**Global**

On **US Global High Frequency System** (GHFS) frequencies. Best frequencies to monitor are those guarded by MacDill and Ascension. After initial contact on one of the published GHFS frequencies, listen closely for them to switch to a non-published frequency to pass traffic. Aircraft call signs are "GULL-nn" or "TEAL-nn" (where nn is a 2-digit number), "NOAA-42", "NOAA-43 and "NOAA-49". The GULL and TEAL aircraft are based at Keesler AFB, Biloxi, MS. The NOAA aircraft are based at MacDill AFB, Tampa, FL.

Whenever a hurricane is within 300 miles of land in the northern western hemisphere, the **Hurricane Watch Net** is operational on 14325. The Hurricane Watch Net provides communication between the National Hurricane Center and the affected areas.

During a communications emergency, **W1AW** transmits special bulletins by voice at hh:00, teleprinter at hh:15, and CW at hh:30. Frequencies are:

<b>Voice</b>	01855 03990 07290 14290 18160 21390 28590
<b>Teleprinter</b>	03625 07095 14095 18102.5 21095 28095
<b>CW</b>	01818 03581.5 07047.5 14047.5 18097.5 21067.5 28067.5

The **National Institute of Standards and Technology** broadcasts storm warnings on 2.5, 5, 10, 15 & 20 MHz AM according to the following schedule:

<b>WV hh:08</b>	Covers Atlantic and eastern North Pacific
<b>WWVH hh:48</b>	Covers Western, Eastern, Southern, and North Pacific

Globe Wireless broadcasts weather information, forecasts and bulletins in CW and SITOR modes on the following time-slot schedule:

**Stations ..**

<b>WNU</b>	New Orleans, Louisiana
<b>VCT</b>	Tors Cove, Newfoundland
<b>KFS</b>	Palo Alto, California

**Frequencies ..**

<b>WNU</b>	04210.5 06327.0 08425.5 12588.5 12607.5 16384.5
<b>FEC:</b>	
<b>VCT FEC:</b>	04217.5 06329.5 08422.0 12610.5 16827.5
<b>KFS FEC:</b>	04211.5 06315.5 08417.5 12580.5 16829.5 22377.5
<b>WNU CW:</b>	00478.0 04310.0 08570.0 12826.5 17117.6 22575.5
<b>KFS CW:</b>	00476.0 08558.4 12844.5 17026.0 22581.5

**FEC Product & Transmission Times ..**

<b>WNU:</b>	GOM/CARIB/ATL CYCLO BULL 0220 0520 0820 1120 1420 1720 2020 2320
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GOM/CARIB OFFSHORE FCST 0350 0950 1550 2150

**VCT:** N ATL HIGH SEAS WX 0450 1050 1650 2250

**KFS:** E & CTL PAC CYCLO BULL 0220 0520 0820 1120 1420 1720 2020 2320  
PAC HIGH SEAS WX 0450 1050 1650 2250

**CW Product & Transmission Times ...**

**WNU:** GOM/CARIB/N ATL HSEAS WX 0350 0950 1550 2150

**KFS:** PACIFIC H SEAS WX 0450 1050 1650 2250

Notes:

1. Offset tune 2.2 kHz for FEC broadcasts in FSK or LSB
2. Normal hurricane season extends 01 June to 30 November

Links to a wide array of current technical hurricane information and data can be found at [Eric Blake's Atlantic Tropical Weather Center](http://banzai.neosoft.com/citylink/blake/tropical.html) page located at <http://banzai.neosoft.com/citylink/blake/tropical.html>. Products include weather forecasts, hurricane reconnaissance flight data, satellite weather images, and more.



# Troubled Times



## Big Welcome

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I had an interesting experience I thought I would share. I went out to our local ham radio club meeting because I was interested in trying finally to get my license. It was so cool ... it is the last bastion for nerds left! It was really neat, they were very friendly, and had the neatest infrastructure in the form of repeaters, nationwide message traffic networks already in place and working, and technical expertise.

This club partners up new hams with old hams and it is the old guys job to make sure that the new person is enabled to get their license. They also have a twelve week course that will get you ready to take the exam. It was so neat I just thought that I would share it with you all. Anyone out there who wants to get their license, find your national agency for hams at [www.arl.org](http://www.arl.org) or [www.rac.ca](http://www.rac.ca) and then your local club. They are so happy to see young blood. They don't want to see their bands taken over by the government and made into cell phone bands or some such I expect.

Offered by **Gus**.



# Troubled Times



## Preparation

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I just started to prepare for my HAM license also. There are two programs available on the net. NU-Morse and NU-Test which will help you prepare for the various elements of the exam. They can be found on the web at <http://www.btinternet.com/~tony.lacy/> and registration for both is about \$49.00. Although it is no longer required to have Morse code skills to acquire a license (Technicians No Code), you will need to know code to acquire the other license levels. I believe it will be one of the most valuable skills to have in preparation for coming events. Morse Code is capable of reaching distance's much further than any other transmission. Requires less power for transmission and is a Universal language.

NU-Morse can train you to send and receive Morse code up to 48 WPM. When preparing for the Morse code exam don't study for the 5 WPM test. Start out with 20 WPM and work your way up from there. The average transmission speed of Morse code in the real world is 18-30 WPM. If you train your ear for 5 WPM you will have to relearn the entire code because there is a world of a difference between the sounds of the transmissions. It must become a reflex action when sending and receiving to attain the proper speeds. Past methods of teaching have created many frustrated applicants who have been unable to go above the 5 - 10 WPM levels. Start off with 2 random characters at 20 WPM and work up from there. Before long you will be able to handle full transmissions at normal speeds as your ear and mind become familiar with the tone of the transmissions.

Offered by **Vince**.



# Troubled Times



## Encouragement

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I was interested in your letter concerning ham radio. I have my license, but have actually never done anything with it. I guess the problem was that once I got it, I was too nervous to get on the air. The reason I was so interested in your letter was that I decided that I should change this, purchase some equipment and force myself to speak out on the air! Of course, purchasing equipment means getting out there and earning money to pay for it, and I'm really going to make the effort this year to do that. Maybe by that time you will have your license and I can talk to you, get started that way.

Offered by **Helena**.



# Troubled Times



## On the Air

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I don't know what the radio group is doing yet but, the obvious thing to do would be to set up a traffic network or something with the hams on the page. I met some old guys last night who are code operators and they are involved in something called the CanadaNET which is pool of code and voice operators that know how to pass message traffic back and forth across the country on the ham bands. The whole object of this is to keep a pool of competent code users around in case of emergencies. Apparently during the Los Angeles earthquake the continent wide network, I don't know it is called was instrumental in getting communications going.

I am going to take the course offered by the ham club, because there I can meet other people and get involved with them. How many hams are on the list? Maybe they could try broadcasting something and we can see if we can hear it on software, it might be an interesting experiment.

Offered by **Gus**.



# Troubled Times



## Books and Media

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A number of categories should be considered for preservation.

- First considered, are those references that will provide practical advice for survival and continuation. Healthcare, Food production, Shelter, Survival skills, Sanitation, among similar topics fall into this category. In fact, preservation of the Troubled Times documentation would be a most worthy overview of all of the topics suitable for this category. The following categories are also critical to such a project, depending upon how committed each individual, family or community is in its undertaking.
- Second, preservation of what we would call "The Great Books" should be undertaken. This includes classics, major philosophical and even appropriate religious works.

Every survival community undertaking this project should have documentation of human history during this era, whether in historical texts, comprehensive encyclopedias or documentaries. The collection and preservation of textbooks that will meet the needs of a comprehensive education, from kindergarten through college will be most valuable. Further, individuals trained in special disciplines should maintain a specialized inventory of books and references particular to their disciplines. Such materials will not only be useful to review and maintain skills, but in the training of apprentices, future scholars and artists to carry on the trades, professions and arts of those disciplines.

Protecting the media manifestations of those arts can only best preserve the arts and the precious elements of our culture. Beyond worthy novels, poetry and plays that would be included in the great books/works categories, our collections should include works that reflect our art and culture as expressed in the various media. Lithographs, if not paintings; photographic works; musical scores; even software where possible. Music in various forms of media will be essential in this category. Some materials, like music and software, will require the preservation of various technologies (e.g.: CD players, computers) that will allow their use.

Finally, many powerful and inspirational spiritually oriented books have been written in recent times. While too recent to be recognized as classics, these books (and other media) will be of more interest than ever as the surviving humanity seeks to build a new civilization. At present, a relatively small but growing percentage of the population is attracted to this "new age" category. As human consciousness changes, material in this category will be in great demand as so many of these works contain the formative templates of a new reality.

Another method of determining how to build a comprehensive collection is to refer to the Dewey decimal (or other) system of categorization and decide upon the most appropriate books you might contribute to represent each category. The availability of preserved collections, as described above, will be most valuable in allowing us to endure the awesome burden of elements and survival work we can expect to face during and after the changes. Whether we turn to a spiritual work to acquire guidance and inspiration, or read stories aloud, or bury ourselves in the task of learning a new discipline, such collected media will be among our most valuable and treasured resources to keep us going through the hard times. And, when the first rays of sun break through the gloom, enough of us will have carried forward the seeds for creating a new civilization on Earth.



# Troubled Times



## Preserve a Library

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When making decisions as to what to preserve, consider the simplest approaches first. The simpler the technology, the easier to preserve and retrieve the medium for future use. For example, books that "weather" the changes will be immediately available. Media that require electrical power and additional technology will be greater challenges to return to use, accordingly. For the longer term, CD technology will preserve better than magnetic-based media, which is more subject to deterioration.

The first step is to take an inventory of existing books and media on hand. You may want to make a decision as to what you want to preserve and what is not of such value. Make a decision as to what level of commitment you will make to the Library Project, which will be an informal, but serious worldwide project to save and preserve literature and other media through the changes. You need not begin at present to store-away these materials, but you will need stores of materials that will allow you to initiate storage when the time comes.

The simplest methods involve acquiring an inventory of good zip-lock bags, of various sizes, that will store all of the books and media you plan to protect. These should be stored out of sunlight, as UV rays will deteriorate the plastic bags. Also, storage of desiccant material is advised. These can be little bags of desiccant crystals or gel, available through packing and shipping supply stores. When the time comes, and you will know the appropriate time, you simply place a book or books into the zip-lock bag along with a desiccant bag that will absorb any moisture. You might want to single-book or double-bag your most valuable books. Books can be put into boxes (with protective packing, if you desire). If they are returned to bookcases, the bookcases should be placed flat on the floor with the bagged books secured within the cases (top and bottom with duck-tape). Extremely valuable books can be bagged and placed together in sealed 5-gallon plastic buckets. When packed together, they should be packed firmly enough together to avoid friction wear between the bags. There will be losses, using this method, just like there will be human losses. But if enough of us add preservation of a book/media collection to our list of end-time priorities, we will have a good chance of carrying the best of our present civilization forward.

