

## **Astronomy EPO and the 2012 Hysteria: Your Personal Guide to Joining the Battle**

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**Abstract.** Individual members of the astronomical community have, in recent months, begun to take up the charge and rally against the vast army of pseudoscience, superstition, and snake oil salesmen that is the 2012 phenomenon. EPO specialists and facilities are in a unique and vitally important position to move to the forefront of this battle, given our long-standing dedication to improving the astronomical education of the general public. This poster documents concrete ways in which the astronomy EPO community can (and should) combat the 2012 movement.

### **1. Introduction**

By now everyone in the astronomy EPO community has come face-to-face with the 2012 phenomenon: the widespread belief that the Maya calendar forecasts something cataclysmic occurring on December 21, 2012. As educators and ambassadors for astronomy to the general public, it is our duty to combat the ignorance and misinformation head-on, bringing to bear our years of experience in working with the public and debunking pseudoscience. We are in a battle for the hearts and minds of the general public, and as the 1910 apparition of Halley's Comet and the Heaven's Gate cult mass suicide demonstrate, real lives may be on the line. This poster seeks to educate EPO specialists on what they can do to join the fight.

### **2. Battle Strategy**

#### **2.1. Gather the Troops**

All of us in the astronomy EPO community have a role to play. From teachers and professors to planetarium and museum staff, graduate students and researchers to professional organizations, there are still far more potential victims of the 2012 hysteria than there are of us. Regardless of our specialties and resources, we can all join in the campaign to replace ignorance with enlightenment. All it takes is time and effort.

Astronomy is not the only target of the 2012 pseudoscience proponents. In their effort to sell books, movies, and generally garner attention; they also misuse, misinterpret, and mutilate geology, anthropology, archaeology, statistics, and history. Therefore, working with colleagues in these areas will not only add to our numbers but increase our own education on the truth behind the rumors. *2012 is an interdisciplinary fraud: combating it effectively will take an interdisciplinary approach.*

## 2.2. Know the Enemy

In addition to the literally hundreds of books and thousands of websites making extraordinary claims about what will supposedly occur in 2012, movies such as *2012*, *2012: Supernova*, and *2012 Doomsday* entertain while propagating a variety of pseudosciences (and in some cases extreme religious viewpoints). Cable channels such as the *SyFy Channel* and *National Geographic Channel* have broadcast “documentaries” on 2012 of varying quality. While all of these have played a significant role in promulgating the misinformation which is central to the 2012 phenomenon, by far the greatest source of misinformation and hype is *The History Channel*. Programs such as “Doomsday 2012,” “Nostradamus 2012,” “Mayan Doomsday Prophecy,” and “Apocalypse Island” have spread the 2012 disease to countless viewers, reinforcing the misinformation peddled by the Internet and vanity presses.

As part of our preparation to take on the 2012 hoax community, we should not only familiarize ourselves with the variety of erroneous materials out there, but actually bite the bullet and read and view some of this dreck. In this way, you can debunk in good faith and when someone asks if you have actually read/viewed some of it, you can confidently answer in the affirmative.

## 2.3. Arm Yourself with the Facts

In order to effectively debunk a pseudoscience, you must know its claims and why those claims are false. In the case of the 2012 hysteria, it seems there are new claims being made every day. Some of the most common are the following (all of which are false):

- The Maya calendar/Bible/Nostradamus predict the end of the world on December 21, 2012.
- On December 21, 2012, we will be aligned with the center of the Milky Way, and such an alignment will have a harmful effect on Earth.
- The polarity of the Earth’s magnetic field will suddenly shift in 2012. This will cause a shift of the Earth’s rotational poles (or stop the rotation of the Earth altogether).
- Scientists have evidence that a supernova will fry Earth in 2012.
- Yellowstone will have a massive eruption in 2012, plunging the world into a nuclear winter.
- Scientists have evidence of a “missing” planet named Nibiru, which was known to the ancient Sumerians and which will either hit Earth in 2012 or affect its tilt/rotation.
- There will be a solar maximum on December 21, 2012, which will be the greatest on record and will fry the Earth.

For a crash course on these and other 2012 claims, visit <http://www.2012hoax.org/>. Inherent in most of these claims is a grand conspiracy theory involving the government and scientists. This leads us to the next point—

#### **2.4. Avoid Civilian Casualties**

Remember, our goal is to educate the general public and, equally importantly, assuage their fears concerning 2012. In the process, we do not want to turn them off to science, or even worse, deepen their belief in the 2012 hysteria by unintentionally convincing them that we are a part of the very conspiracy the enemy is warning them of. In order to do this, our tactics must include the following important philosophies:

1. **Be honest:** You cannot promise someone that the world will not end. What you can do is explain that there is no evidence to support the claims of the 2012 proponents. For example, you can explain why scientists are convinced that Nibiru does not exist as claimed, and that even if it did, there is no way within the laws of physics that such a huge, undetected object could make it to Earth's orbit from the outer solar system in two years.
2. **Be understandable:** When communicating with the general public, it is vital to be clear, concise, and comprehensible. Avoid jargon at all cost and concentrate on the heart of the matter.
3. **Be patient and empathetic:** Treat all questions with respect and seriousness, no matter how absolutely ludicrous you know them to be. If it matters enough to John Q. Public to ask you, it matters enough for you to provide a serious answer. Remember—part of successful debunking is learning what misinformation is circulating in the public consciousness, and what better way to collect this information than to collect questions?
4. **Stick to the Science:** A great deal of New Age philosophy has been interwoven with the pseudoscience of 2012. You gain nothing by trying to debunk claims such as “the collective consciousness is moving towards a harmonic convergence” but gain a great deal of trust, good will, and “street cred” with the general public by openly refusing to fall into this trap. By admitting that such claims are out of the realm of science, and hence you cannot make any statements about them, you avoid becoming the annoying stereotype of the “über skeptic” who feels the need to attack religion and spirituality. Channel your inner Stephen Jay Gould and resist the urge to comment on nonscientific claims.

Finally, we come to the most important part of the battle:

#### **3. Choosing the Weapons That Suit You Best**

The astronomy EPO community is filled with individuals of varying experiences, talents, and resources. Therefore no one activity suits each EPO practitioner. Below is a sample of concrete ways you can help stamp out the 2012 hysteria:

1. Include a 2012 FAQ on your personal, institutional, or facility website. Alternately, set up a page of 2012 weblinks for interested patrons and students.
2. Write and produce blogs, podcasts, and newsletter articles for the general public about 2012.

3. Develop planetarium shows, public library talks, and press releases debunking the 2012 hoax. Work with colleagues in other affected disciplines wherever possible.
4. Approach the local media (TV, newspaper, and radio) about doing a story on the 2012 phenomenon.
5. Educate your colleagues about this problem, through professional organizations and meetings, as well as local gatherings (including other affected disciplines).
6. Contact your local school district and offer to give the teachers a crash-course in 2012. They have questions, and you want to make sure they are passing along the right information to their students when *they* ask questions.
7. Answer every phone call and email about 2012 which you receive from the general public. If you are deluged, have a standard referral to your website.
8. Join <http://www.2012hoax.org/>.

The 2012 hysteria is not going to diminish until at least December 22, 2012. Each of us has a part to play in combating this threat to the public's relationship with the cosmos. NASA astrobiologist David Morrison put it bluntly: "This *cosmophobia* could be one of the worst long-term consequences of the 2012 doomsday hoax—to make people fearful of astronomy and the universe" (Morrison 2009). As astronomy EPO specialists, we must become involved. If not us, who? If not now, when?

#### References

- Morrison, D. 2009, "Doomsday 2012, the Planet Nibiru, and Cosmophobia," *Astronomy Beat* 32.