

Over ten years ago, many people were convinced that something bad was about to happen. The collapse of the tech bubble? A terrorist attack? No, it was Y2K, otherwise known as the End of The World as We Know It. From shoehorning Nostradamus into the 21st century to warning of impending planetary collisions, TEOTWAWKI has now become an industry of wide reach in the United States, a multi-million dollar profit maker. The AIC (the Apocalypse-Industrial Complex, as I call them) have so many failed predictions, yet there is no accountability for the occurrences when doomsayers have gotten it wrong...and they have done so many times. The AIC seems to have something for everyone, and defying all reason it continues to grow with each passing failure.



Photos: National Geophysical Data Center, NOAA

Clearly Y2K did not end civilization, nor did four other predictions of cosmic doom that were publicized with varying degrees of effectiveness in the nine years since. For those who have been following the Apocalypse-Industrial Complex, their next date was obvious and telegraphed early on: 2012. This date is a convergence of many things that almost guaranteed widespread interest and now is the subject of a huge disaster film.

The Maya



Figure 1. General Extant of the Maya Empire.

A prediction by an extinct yet ancient civilization—the Mayan Empire (Figure 1) — is AIC gold. The Maya's best days were only about twelve hundred years ago (in Charlemagne's time), but for AIC purposes the Maya do quite well. Although a stone tech people, they were very advanced in other ways. Their mathematics and astronomy as well as their art and architecture was world class. They even had a form of written language.

To some, the most interesting thing about the Maya is their calendar. It was more advanced and accurate than the calendar of the people who invaded their land from Europe despite, ironically, Europe having recently undergone calendar reform to fix the broken Julian calendar. Their calendar was advanced, in part, by their use of Venus to tell dates, thus avoiding Moon-Sun cycle problems. The Maya also used a system of counting days in a huge cycle. It is well named as the Long Count. The fixed beginning date for the Long Count is August 11, 3114 BCE. Astronomers use a similar device, the Julian date, whose start date is even earlier, January 1, 4713 BCE. The Long Count start is thousands of years before the Mayan civilization existed and was likely picked by them because that date is where their numerical calendar cycles — consisting of cycles of 360 days, ~19.7 and 394.3 years, roughly all based on cycles of 20 — were all set to zero. In our year of 2012 – on December 21 – the Maya Long Count will reset like an odometer at 99,999 miles, beginning the next b'ak'tun of 394 years. Some have seen doom in that fact, but there are those who will find doom in any fact, no matter how innocuous. (See also Kristine Larsen's article on page 10 for other useful resources to use against 2012 arguments.)



Problems with the Maya for the AIC

Firstly, the Maya were not unified politically and there were many differences between the various city-states. One of these differences is in the use of the Long Count. Some city states (like Coba) use many more placeholders in their Long Count; for the Coba Maya, the odometer won't reset until 4.1×10^{28} years from now. Another problem is that there is no evidence that the ancient Maya saw any catastrophic significance of their Long Count calendar resetting. In fact, their calendar rituals indicate it would've been a cause for celebration.

Sadly, the Maya culture is but a shadow of what it once was. There are still Maya, and the AIC is all about harnessing their "ancient wisdom." This only happens, of course, when it supports the AIC's main premise: that we face a major shift on 12/21/12.

Alignments

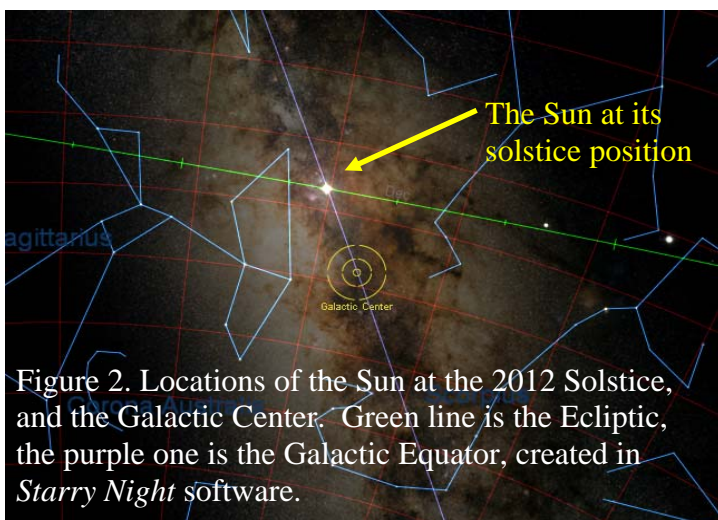


Figure 2. Locations of the Sun at the 2012 Solstice, and the Galactic Center. Green line is the Ecliptic, the purple one is the Galactic Equator, created in *Starry Night* software.

Celestial alignments are hard for AIC'ers to resist. Often, however, the people shilling these alignments rarely bother to do their homework. The next two sections examine alignments that are connected with 2012.

Galactic Alignment

In December, the Sun reaches its most southerly point on the Ecliptic. A few days earlier it also reaches its closest approach to the direction of the center of our Galaxy, which is near the border between the constellations of Scorpius and Sagittarius (See Figure 2). This happens every year; it will happen as usual in December 2012.

Due to precession, the 25,800 year wobbling of the earth's axis, the exact point of the winter solstice moves over time. Some have claimed that that point will be closest to the Galactic Center in 2012. This is simply and obviously not so.

A common problem involving the galactic lineup is agreement over what *is* lining up. Some say the Sun will line up with the Galactic **Equator**. This will happen in December 2012, but it happens every year – **twice**. The Sun crosses the Galactic Equator in June as well as December. This doesn't seem so significant.

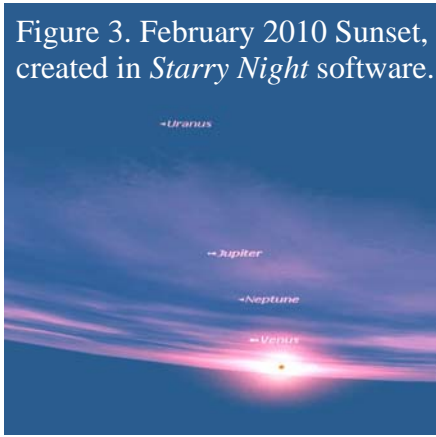
Others claim that the Sun will line up with the Galactic **Center** in December 2012. This is just wrong. The Sun doesn't pass over the Galactic Center because the ecliptic passes about six degrees north of it and that isn't even on the solstice but a few days before. Even if that alignment would be significant, that happens yearly, too. So what?

The Earth and Sun move through the galaxy and it seems reasonable that there will be times when things might line up somewhere in some way. Fair enough. But any changes of this type would take place over millions of years and be imperceptible over human lifetimes.

Planet Alignments

Planet alignments are a pillar of predictions made by the AIC. They are common enough that if any date is chosen, an alignment will be nearby in time. 2012 is no exception, as there will be a "lineup" of planets in December of that year. This lineup will even involve five planets. But they will be spread out over half the sky, and the most important planet of all, Jupiter, will not be involved. Figure 3 is an example of a Great Planet lineup. The three largest worlds, and Venus, the nearest one to us, are all close to-

Figure 3. February 2010 Sunset, created in *Starry Night* software.



gether in the sky! Doom, DOOM!! When will it happen? February 2010. Ooops...

Ironically, there is one very rare event that involves a lineup that will definitely happen in 2012: the transit of Venus. This truly amazing event will be visible to properly protected eyes without need of any telescope or binoculars and was also predicted centuries ago. It's a perfect teaching moment to deflect doom about 2012 whilst being able to have a good time looking at things in the sky – which is what it's all supposed to be about. The transit of Venus will be in June, however, so the AIC pretty much ignores it.

Other Dooms!

Polar Flips

Other types of doom are set on the idea that the Earth's poles will reset or flip, causing movie level destruction. There is a *grain* of truth, but finding it will require some digging.

Firstly, while the Earth's rotational pole wobbles (precesses), it will not flip, or shift, or reset, or stop. This is physically impossible without something to transfer the rotational angular momentum of Earth into something else. Spinning objects strongly resist having their axis of rotation shifted, as anyone riding a bicycle can confirm. Pole flips are an old idea starting out with the idea of ice buildup at the poles making the Earth unstable and flipping it. In the age of global warming, this seems even more absurd than the idea that ice can make the planet flip at all.



The magnetic field of Earth is a different thing altogether. It *does* flip and turn off temporarily, and it probably has affected the history of life over the last four billion years. Many 2012 AIC'ers see this shift happening then. The problem here is that this is also a slow process from a human point of view and picking one year especially makes no sense. Even if the magnetic field were decreasing, this isn't catastrophic. Life has survived all the past hundreds of times it has happened.

Rogue Planets

If alignments or pole shifts don't destroy Earth, perhaps a wandering planet will. Some argue that a planet named Nibiru is on course to violently interact with Earth or perhaps outright collide with it. When? May 2003. The world didn't end (or notice) and Nibiru is nowhere to be found. One disaster writer states it is already visible to the naked eye in the Southern Hemisphere, which would be news to astronomers and awfully hard to conceal from everyone else. If such a rogue planet were heading our way, by now it would be visible to millions of people and even USA Today couldn't ignore it. Such a planet has yet to be seen.

Massive Black Holes and Earth

One last idea is that the massive black hole at the center of our Galaxy will somehow do something that will kill us in 2012. The enormous distance, about 30,000 light years away, between here and there must be considered. The event would have had to happen 30,000 years ago. How would the Mayans, or any stone technology, hunter-gatherers, even know this? Our galactic black hole is also pretty quiet compared to those of more active galaxies. Simply put, it's too far away and too quiet to cause us any problems.

When your students bring up *The End of The World As We Know It*, or the movie, use it as a good teaching moment. Or at least a reason to throw a We Survived 2012 party...

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