

Doomsday 2012, the Planet Nibiru, and Cosmophobia

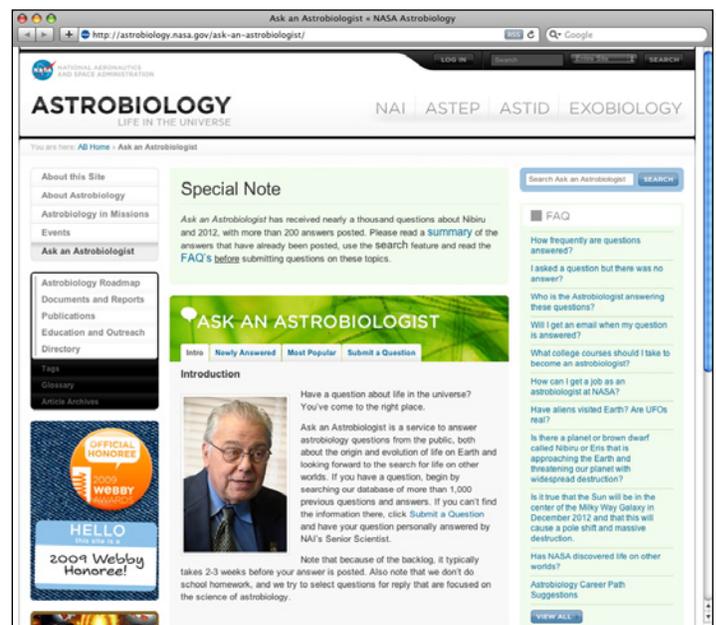
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Editor's Introduction

Astronomer and former ASP President David Morrison keeps a web site called "Ask an Astrobiologist" as part of his duties as Senior Scientist at NASA's Astrobiology Institute. Here the public can ask questions of a NASA scientific representative, and Dr. Morrison gets many questions from people of all ages. Lately, he has been inundated with queries about the end of the world in 2012 and a planet whose approach in December of that year is supposed to cause it. (To make things worse, a Hollywood movie about this catastrophe is coming to theaters near you in November 2009 and advertising for it has already started.) Dr. Morrison has tracked down some of the sources of this myth and compiled answers to the most often heard questions on his web site. *Astronomy Beat* readers are sure to get such questions from friends and colleagues as the film advertising campaign intensifies in the next two months, and so we asked Dr. Morrison to share some of his conclusions with us.

Stories about the fictional planet Nibiru and predictions of doomsday in December 2012 have blossomed on the Internet. As of this June, there were more than 175 books listed on Amazon dealing with the 2012 doomsday. As this hoax spreads, many more disaster scenarios are being suggested. "Ask an Astrobiologist" has received nearly a thousand questions about Nibiru and 2012, with more than 200 answers posted. Here are a few of the most popular questions and answers. See: <http://astrobiology.nasa.gov/ask-an-astrobiologist/>



The Ask an Astrobiologist Web Site

<http://astrobiology.nasa.gov/ask-an-astrobiologist/> for the full set of 20 top questions.

1. What is the origin of the prediction that the world will end in December 2012?

The story started with claims that Nibiru, a supposed planet discovered by the Sumerians, is headed toward Earth. Zecharia Sitchin, who writes fiction about the ancient Mesopotamian civilization of Sumer, claimed in several books (e.g., *The Twelfth Planet*, published in 1976) that he has found and translated Sumerian documents that identify the planet Nibiru, orbiting the Sun every 3600 years. These Sumerian fables include stories of "ancient astronauts" visiting Earth from a



Failed predictions of cosmic disaster go back far beyond our time. This is an 1857 cartoon of a comet tearing our planet apart.

civilization of aliens called the Anunnaki. Then Nancy Lieder, a self-declared psychic who claims she is channeling aliens, wrote on her website Zetatalk that the inhabitants of a fictional planet around the star Zeta Reticuli warned her that the Earth was in danger from Planet X or Nibiru. This catastrophe was initially predicted for May 2003, but when nothing happened, the doomsday date was moved forward to December 2012. Only recently have these two fables been linked to the end of the Mayan calendar long-count at the winter solstice in 2012 — hence the predicted doomsday date of December 21, 2012. (For more on the Mayan connection, see: http://en.wikipedia.org/wiki/2012_doomsday_prediction).

2. The Sumerians were the first great civilization, and they made many accurate astronomical predictions, including the existence of the planets Uranus, Neptune and Pluto. So why should we not believe their predictions about Nibiru?

Nibiru is a name in Babylonian astrology sometimes associated with the god Marduk. Nibiru appears as a minor character in the Babylonian creation poem *Enuma Elish* as recorded in the library of Assurbanipal, King of Assyria (668-627 BCE). Sumer flourished much earlier, from about the 23rd century to the 17th century BCE. The claims that Nibiru is a planet and was known to the Sumerians are contradicted by scholars who (unlike Zecharia Sitchin) study and translate the written records of ancient Mesopotamia. Sumer

was indeed a great civilization, important for the development of agriculture, water management, urban life, and especially writing. However, they left very few records dealing with astronomy. Certainly they did not know about the existence of Uranus, Neptune or Pluto. They also had no understanding that the planets orbited the Sun, an idea that first developed in ancient Greece two millennia after the end of Sumer. Claims that Sumerians had a sophisticated astronomy, or that they even had a god named Nibiru, are the product of Sitchin's imagination.

3. How can you deny the existence of Nibiru when IRAS discovered it in 1983 and the story appeared in leading newspapers? At that time you called it Planet X, and later Xena or Eris.

IRAS (the NASA Infrared Astronomy Satellite, which carried out a sky survey for 10 months in 1983) discovered many infrared sources, but none of them was Nibiru or Planet X or any other objects in the outer solar system. Briefly, IRAS cataloged 350,000 infrared sources, and initially many of these sources were unidentified (which was the point, of course, of making such a survey). All of these observations have been followed up by subsequent studies with more powerful instruments both on the ground and in space. The rumor about a “tenth planet” erupted in 1984 after a scientific paper was published in *Astrophysical Journal Letters* titled “Unidentified point sources in the IRAS minisurvey”, which discussed several infrared sources with “no counterparts”. But these “mystery objects” were subsequently found to be distant galaxies (except one, which was a wisp of “infrared cirrus”), as published in 1987. No IRAS source has ever turned out to be a planet. The



Two planets collide in another star system in this NASA illustration.

bottom line is that Nibiru is a myth, with no basis in fact. To an astronomer, persistent claims about a planet that is “nearby” but “invisible” are just plain silly.

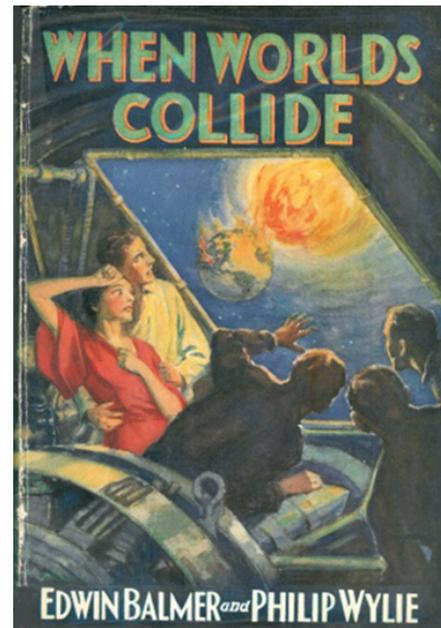
4. Maybe we should be asking about Planet X or Eris? Why does NASA keep secret Eris’ orbit?

“Planet X” is an oxymoron when applied to a real object. The term has been used by astronomers over the past century for a possible or suspected object. Once the object is found, it is given a real name, as was done with Pluto and Eris, both of which were at some time referred to as Planet X. If a new object turns out to be not real, or not a planet, then you won’t hear about it again. If it is real, it is not called Planet X. Eris is one of several dwarf planets recently found by astronomers in the outer solar system, all of them on normal orbits that will never bring them near Earth. Like Pluto, Eris is smaller than our Moon. It is very far away, and its orbit never brings it closer than about 4 billion miles. There is no secret about Eris and its orbit, as you can easily verify by googling it or looking it up in Wikipedia.

5. There are many photos and videos of Nibiru on the Internet. Isn’t that proof that it exists?

The great majority of the photos and videos on the Internet are of some feature near the Sun (apparently supporting the claim that Nibiru has been hiding behind the Sun for the past several years.) These are actually false images of the Sun caused by internal reflections in the lens, often called lens flare. You can identify them easily by the fact that they appear diametrically opposite the real solar image, as if reflected across the center of the image. This is especially obvious in videos, where as the camera moves, the false image dances about always exactly opposite the real image. Similar lens flare is a source of many UFO photos taken at night with strong light sources such as streetlights in the frame. I am surprised that these photos showing something nearly as large and bright as the Sun (a “second sun”) are accepted together with claims made on some of the same websites that Nibiru is too faint to be seen or photographed except with large telescopes.

One widely reported telescopic photo (www.great-dreams.com/nibiru-possible.jpg) shows two views of an expanding gas cloud far beyond the solar system, which is not moving; you can see this from the fact that the stars are the same in both pictures. A sharp-eyed reader of this website identified these photos as a



In this 1933 science fiction book, two planets enter our solar system and threaten the Earth. The book influenced a host of later science fiction stories and comic books and was made into a movie in 1951.

gas shell around the star V838 Mon. Wikipedia has a nice write-up and a beautiful photo of it from Hubble.

6. If the government knew about Nibiru, wouldn’t they keep it a secret to avoid panic? Isn’t it the government’s job to keep the population at ease?

There are many objectives of government, but they do not include keeping the population at ease. (My experience is that sometimes parts of the government do just the opposite, as in the frequent references to various terrorist threats or warnings about driving accidents on long holiday weekends, which are no more dangerous than any other time.) Even if they wanted to, the government could not keep Nibiru a secret. If it were real, it would be tracked by thousands of astronomers, amateurs as well as professional. These astronomers are spread all over the world. I know the astronomy community, and these scientists would not keep a secret even if ordered to. You just can’t hide a planet on its way to the inner solar system!

7. Why does the Mayan calendar say the world will end in 2012? I have heard that they have been pretty accurate in the past with other planetary predictions. How can you be sure you know more than they did?

Calendars exist for keeping track of the passage of time, not for predicting the future. The Mayan astron-

omers were clever, and they developed a very complex calendar. Ancient calendars are interesting to historians, but of they cannot match the ability we have today to keep track of time, or the precision of the calendars currently in use. The main point, however, is that calendars, whether contemporary or ancient, cannot predict the future of our planet or warn of things to happen on a specific date such as 2012. I note that my desk calendar ends much sooner, on December 31 2009, but I do not interpret this as a prediction of Armageddon. It is just the beginning of a new year.

8. Can you prove to me that Nibiru is a hoax? There are so many reports that something terrible will happen in 2012. I need proof because the government and NASA are keeping so much from us.

It is not logical to ask for proof that the 2012 doomsday is a hoax. Your questions should be addressed to the doomsday advocates to prove that what they are saying is true, not to NASA to prove it is false. If someone claimed on the Internet that there were 50-foot tall purple elephants walking through Cleveland, would anyone expect NASA to prove this wrong? The burden of proof falls on those who make wild claims. However, I think that astronomers have reached the point where we can offer extremely strong arguments that Nibiru does not exist. A large planet (or a brown dwarf) in our solar system would have been known to astronomers for many years, both indirectly from its gravitational perturbations on other objects and by direct detection in the infrared. The NASA Infrared Astronomy Satellite (IRAS) carried out the first all-sky survey in 1983, and several subsequent surveys would also have seen Nibiru if it were there. Further, if a large mass passed through the inner solar system every 3600 years, we would see its disruptive effects on the orbits of the inner planets, and we don't.

You don't need to take my word for it. Just use common sense. Have you seen Nibiru? In 2008 many websites said it would be visible to the naked eye in spring 2009. If a large planet or brown dwarf were headed for the inner solar system in 2012, it would already be tracked by hundreds of thousands of astronomers, professional and amateur, all over the world. Do you know any amateur astronomers who are watching it? Have you seen any photos or discussion of it in the big popular astronomy magazines like *Sky & Telescope*?



This is one of the posters for the new "2012" film that you can download on the web from the site set up by Sony pictures.

Just think about it. No one could hide Nibiru if it existed.

9. What about the scary ads for the new film 2012? They tell us to look at these Internet sites to verify the doomsday threat.

The pseudoscientific claims about Nibiru and a doomsday in 2012, together with distrust of the government, are being amplified by publicity for the new film from Columbia Pictures titled *2012*, to be released in November 2009. The film's trailer, appearing in theaters and on their website, shows a tidal wave breaking over the Himalayas, with only the following words: "How would the governments of our planet prepare 6 billion people for the end of the world? [long pause] They wouldn't. [long pause] Find out the Truth. Google search 2012".

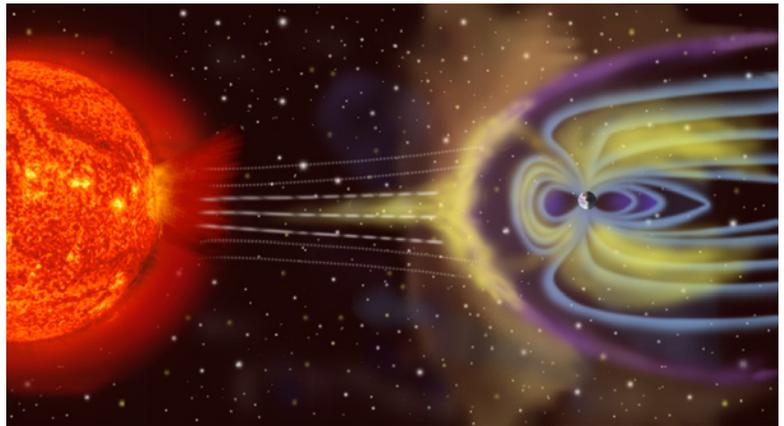
The film publicity includes creation of a faux scientific website (www.instituteforhumancontinuity.org) for "The Institute for Human Continuity", which is entirely fictitious. According to this website, the IHC is dedicated to scientific research and public preparedness. Its mission is the survival of mankind. The website explains that the Institute was founded 1978 by international leaders of government, business, and science. They say that in 2004, IHC scientists confirmed with 94% certainty that the world would be destroyed in 2012. This website encourages people to register for a lottery to select those who will be saved; a colleague submitted the name of her cat, which was accepted. I learned from Wikipedia that creating this sort of fake

website is a new advertising technique called “viral marketing”, by analogy with computer viruses.

10. What is the polar shift theory? Is it true that the earth’s crust does a 180-degree rotation around the core in a matter of days if not hours? Does this have something to do to do with our solar system dipping beneath the galactic equator?

A reversal in the rotation of Earth is impossible. It has never happened and never will. There are slow movements of the continents (for example Antarctica was near the equator hundreds of millions of years ago), but that is irrelevant to claims of reversal of the rotational poles. However, many of the disaster websites pull a bait-and-shift to fool people. They claim a relationship between the rotation and the *magnetic polarity* of Earth, which does change irregularly — with a magnetic reversal taking place every 400,000 years on average. As far as we know, such a magnetic reversal doesn’t cause any harm to life on Earth. A magnetic reversal is very unlikely to happen in the next few millennia, anyway. But these sites falsely claim that a magnetic reversal is coming soon (in 2012) and that this is the same as, or will trigger, a reversal of rotational poles. The bottom line is: (a) Rotation direction and magnetic polarity are not related. (b) There is no reason to expect a reversal of magnetic polarity any time soon, or to anticipate any bad effects on life when it does eventually happen. (c) A sudden shift in rotational pole with disastrous consequences is impossible. Also, none of this has anything to do with the galactic equator or any of the other nonsense about alignments that appears on many of the conspiracy theory websites.

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Let me summarize: Much of the fear about 2012 comes from claims that the Mayans or Nostradamus predicted disaster in December 2012. First, note that scholars who study the Mayan calendar do not agree with this doomsday interpretation, and there is no evidence that Nostradamus ever correctly predicted anything. Contrary to what many people write me, the Mayans did not know more than we do about calendars, and they did not know how to predict the future (any more than we do). But I receive questions every day from people who have just become aware of some astronomical



In this artist's conception (not to scale), the Earth's magnetic field traps and protects us from high energy charged particles from the Sun. There is no evidence that this protection will lessen in 2012. (NASA)

discovery and ask if it is dangerous to them or their families (or will be in 2012). One typical question was: “What are the current climatologically predictions for the 2012 event? How much gravitation and radiation increases are predicted when crossing the accretion disk (center) of the Milky Way galaxy? What effects on climate would occur if pole shifts or reversals are seen?”

I call this new series of concerns “cosmophobia” — fear of the cosmos. Here is a list of the astronomical objects or phenomena that people are currently worried about in connection with 2012:

- changes in the Sun’s magnetic field,
 - shifts in polarity of the Earth’s magnetic field,
 - disappearance of the Earth’s field magnetic field,
 - solar storms (flares or coronal mass ejections),
 - changes in the Earth’s rotation axis,
 - alignment of Jupiter and Saturn,
 - alignment of the Sun with the galactic center,
 - crossing of the galactic equator,
 - the black hole in the galactic center,
 - black holes generally,
 - the dark rift in the Milky Way,
 - impact on the Earth by asteroid Apophis, or by asteroid FX, or by the dwarf planet Eris,
 - impact on the Sun by a suicidal planet,
 - explosions of supernovas, hypernovas, and the individual stars Betelgeuse, Eta Carinae, Antares and WR 104.
- Previously these would have merely been interest-

ing astronomical ideas to explore, but now for many young people (who read misinformation about them on the Web) they are objects of dread. 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.

Nibiru cult see the discussion by Phil Plait on his BadAstronomy website:

<http://www.badastronomy.com/bad/misc/planetx/>

The 2012 Movie Site with the Trailer:

<http://www.whowillsurvive2012.com/> ♦

About the Author

David Morrison is a planetary astronomer who is perhaps best known for his leadership in defining the threat of Earth-threatening asteroids. Morrison was also one of the founders of the new interdisciplinary science of astrobiology and the Director of Astrobiology and Space Research at NASA's Ames Research Center. Currently, he serves as the Director of the Lunar Science Institute, headquartered at NASA's Ames Research Center. He was President of the ASP from 1983 to 1985 and received the Society's Klumpke-Roberts Award for a lifetime of contributions to popularizing astronomy in 1993. He is a Fellow of the Committee for Scientific Inquiry, and writes frequent articles for *Skeptical Inquirer* magazine, debunking astronomical pseudoscience.



Resources for Further Information:

Morrison, David "The Myth of [the planet] Nibiru and the End of the World in 2012" (from *Skeptical Inquirer Magazine*):

http://www.csicop.org/si/show/myth_of_nibiru_and_the_end_of_the_world_in_2012/

There is a good discussion of IRAS results and Planet X from Caltech to be found at:

http://spider.ipac.caltech.edu/staff/tchester/iras/no_tenth_planet_yet.html

Neil de Grasse Tyson has posted a nice video clip on the Nibiru-2012 issue:

http://fora.tv/2009/02/04/Neil_deGrasse_Tyson_Pluto_Files#Neil_deGrasse_Tyson_World_Will_Not_End_in_2012

For a detailed description of the origin of the Planet X/

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