

## Will the World End Before Finals?

- 'Doomsday' rumors have been proliferating recently, fueled by recent books, shows, and films
- Most rumors cite the 'end' of the Mayan 'long count' calendar in December, 2012
- Doomsday scenarios include:
  - Collision of a rogue planet with Earth
  - Violent solar storms
  - Sudden violent 'shifting' of continents and poles
  - Sudden reversal of Earth's magnetic field
  - 'Galactic' alignment



Artist rendition of two planets undergoing a catastrophic collision. Such collisions do happen in planetary systems, but are highly unlikely after the system has formed.

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## No!

- The Mayan long calendar *will* partly 'reset', but the world will not end
  - Like New Year's (when both day & month reset), 13 (of at least 20) Mayan time increments will reset in 2012
  - The Mayans recorded recurring astronomical events tied to the Sun, Moon, and visible planets - but did not predict natural disasters or undiscovered astronomical objects
- There is no known 'Planet X' that will impact Earth in the near future
  - A few Pluto-like dwarf planets have been discovered in our outer solar system recently, but none have orbits that bring them inside ~35 AU
  - A planet headed toward Earth would be easily visible
  - Conspiracies in astronomy are unlikely, especially given the large number of skilled amateurs (who regularly pioneer new discoveries)
- Other 'doomsday' scenarios are similarly far-fetched, or based on poor science

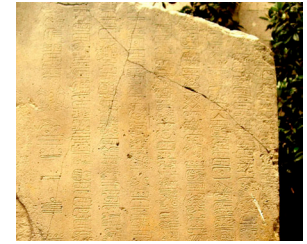


Photo of a Mayan long count calendar



Artist's conception of dwarf planet Eris. From NASA / ESA / A. Schaller

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## The Big Picture

- Many of these doomsday scenarios are not new, but have been recycled for many years
- Ancient (and modern) astronomers could not predict the future, beyond *repeated* events (e.g. lunar cycles, eclipses, planetary positions) based on *observations*
- One advantage of studying science at any level is that one learns how to think critically about any topic, such as the 2012 rumors



Movie poster for '2012', released in November 2009. The movie features worldwide tectonic activity and natural disasters, triggered by the Sun.

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## For More Information...

### Web Resources and Press Releases

- Astronomy Society of the Pacific - Astronomy Beat on-line column on 2012 by David Morrison  
<http://www.astronomy.org/2012/index.html>
- NASA Lunar Science Institute - Video by David Morrison - 'The Truth about 2012'  
[http://www.nasa.gov/mission\\_pages/spitzer/multimedia/spitzer-20090810.html](http://www.nasa.gov/mission_pages/spitzer/multimedia/spitzer-20090810.html)
- NASA - 11/06/09 - '2012: Beginning of the End or Why the World Won't End?'  
<http://www.nasa.gov/topics/earth/features/2012.html>
- National Geographic News - '2012: Six End-of-the-World Myths Debunked'  
<http://news.nationalgeographic.com/news/2009/11/091106-2012-end-of-world-myths.html>

### Images

- Slide 1 image from NASA / JPL-Caltech  
[http://www.nasa.gov/mission\\_pages/spitzer/multimedia/spitzer-20090810.html](http://www.nasa.gov/mission_pages/spitzer/multimedia/spitzer-20090810.html)
- Slide 2 Mayan calendar photo from Wikipedia user 'Maunus', released to public domain  
<http://en.wikipedia.org/wiki/File:Lamojarra-inscription.jpg>
- Slide 2 Eris image from NASA / ESA / A. Schaller (STScI)  
<http://hubblesite.org/newscenter/archive/releases/2006/16/image/a>
- Slide 3 image from Sony Pictures 2012 Official Website  
<http://www.whowillsurvive2012.com/>

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