DAY 1

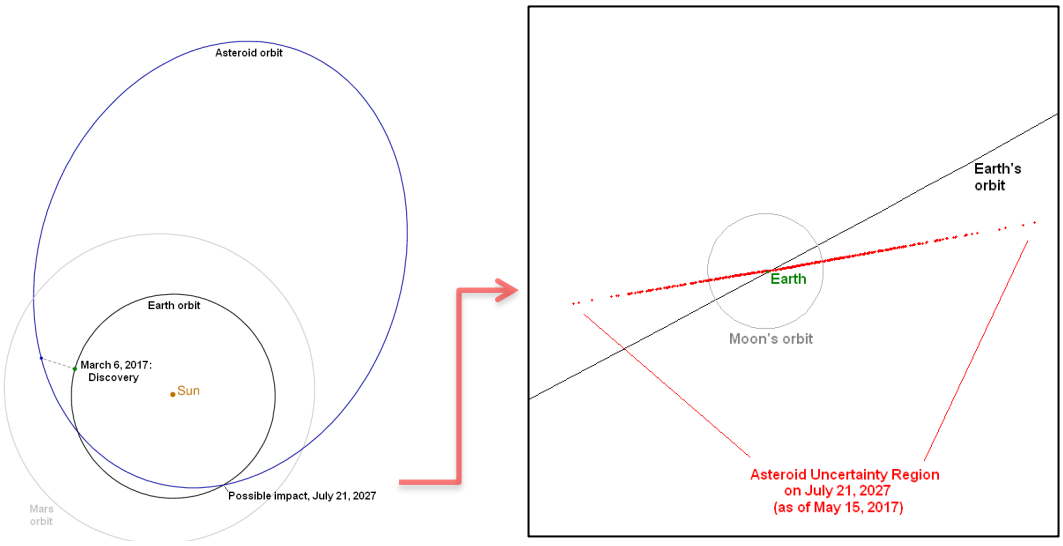
PRESS RELEASE: MAY 15, 2017

NEWLY DISCOVERED ASTEROID POSES SMALL THREAT OF EARTH IMPACT

A recently discovered near-Earth asteroid could pass very close to the Earth 10 years from now, on July 21, 2027, and there is a small chance that it could impact our planet. The asteroid, designated 2017 PDC, was discovered two months ago, on March 6, 2017, and it has been tracked extensively since then by observatories around the world. The observations indicate that the likelihood of impact is only about 1%, or 1 chance in 100, according to the International Asteroid Warning Network (IAWN), a worldwide collaborative network of agencies and institutions that detect, track and characterize potentially hazardous asteroids.

2017 PDC's encounter should not be a cause for public concern, since an actual collision is very unlikely: chances are 99 out of 100 that the asteroid will safely pass by our planet. As the asteroid is tracked by astronomers through the rest of 2017, its orbit will become better refined, and in all likelihood the possibility that it could impact will be eliminated.

The brightness of 2017 PDC suggests that it is roughly 100 to 250 meters (330 to 800 feet) in size, but it is too distant at this time for astronomers to make a more accurate estimate. The asteroid approached to about 0.13 au (19 million kilometers or 12 million miles) of Earth on April 27, but it is now receding from the Earth and will not approach our planet again until the encounter in 2027. The image below on the left shows the orbits of 2017 PDC and the Earth, along with their positions when the asteroid was discovered. The image on the right shows a zoomed-in view of the intersection point of the two orbits, along with the current uncertainty in the asteroid's predicted position at the time when the Earth crosses the asteroid's orbit in 2027; the Moon's orbit is shown for scale.

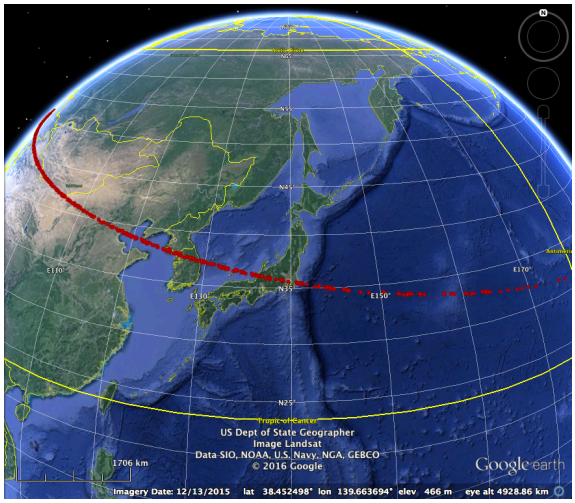


The current best estimate for the actual close approach distance in 2027 is about 120,000 km (77,000 miles).

Asteroid 2017 PDC has now reached a rating of 4 (Yellow) on the 0-to-10 Torino Scale, indicating that it merits special attention by astronomers. Only one other asteroid has ever been rated level 4 on the Torino Scale: (99942) Apophis reached that level in late 2004 before additional observations collected from sky-image archives eliminated the possibility of impact in 2029. IAWN astronomers are now actively searching archives for similar serendipitous pre-discovery images of 2017 PDC, but none have been found to date. The asteroid has not approached close to Earth for the last 20 years, during the time that extensive and systematic asteroid searches have been in operation.

IAWN[1], established with the endorsement of the United Nations in 2013, links together institutions that discover, monitor, and characterize potentially hazardous Near-Earth Objects (NEOs). In addition to observatories around the world, IAWN members include NASA's Planetary Defense Coordination Office (PDCO)[2], the Minor Planet Center (MPC)[3], JPL's Center for NEO Studies (CNEOS)[4], and the European Space Agency's NEO Coordination Centre (NEOCC) with its NEO Dynamics Site (NEODyS)[5]. CNEOS and NEODyS specialize in high precision orbit calculation for NEOs and computation of impact probabilities.

The IAWN partners have published details on the parts of the Earth that might be directly impacted in the unlikely event asteroid 2017 PDC actually collides with Earth. The images below depict the corridor of possible impact locations, traced by red dots that begin in the northern Pacific Ocean, pass through Japan, China, Kazakhstan, Russia, northern Europe, and the British Isles, extending all the way to the north Atlantic Ocean.



For more information, visit: **http://neo.jpl.nasa.gov/pdc17**. IAWN will publish weekly updates of the impact probability as this asteroid is tracked throughout 2017.

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[1]http://www.iawn.net/
[2]http://www.nasa.gov/planetarydefense
[3]http://neo.jpl.nasa.gov
[4]http://minorplanetcenter.net
[5]http://newton.dm.inipi/neodys/