

Catch asteroid 2012 DA14's flyby on video, and watch it fade out online

NASA looks at the flyby of asteroid 2012 DA14 from several amateur observatories across Australia.

By Alan Boyle, Science Editor, NBC News

Asteroid 2012 DA14 has made its closest pass of Earth, just a scant 17,200 miles from our surface, and now astronomers are watching it recede harmlessly into the cosmos. You can watch it, too, thanks to a variety of webcasts.

The time of closest approach came at 2:25 p.m. ET, as scheduled, when the asteroid was zooming above the eastern Indian Ocean at a speed of almost 17,500 mph (7.8 kilometers per second). It was too dim to see with the naked eye, but observers in Australia, Asia and Europe could follow it with binoculars or small telescopes.

"It's on its way out now," said Paul Chodas, an astronomer with the Near-Earth Object Program Office at NASA's Jet Propulsion Laboratory in Pasadena, Calif.

Chodas and his colleagues monitored 2012 DA14 with high-powered optical telescopes and huge radar dishes to learn more about the asteroid's color, shape, spin and reflectivity. Such [data](#) could tell them what the object is made of, and perhaps provide insights into how similar objects could be diverted if they were on a threatening course.

Experts estimate that asteroids the size of 2012 DA14 hit our planet every 1,200 years or so, exploding with the energy of a 2.5-megaton atomic bomb: The last such impact [struck a remote region of Siberia without warning in 1908](#), flattening 820 square miles of forest. If an object that big were to hit in just the wrong place, it could wipe out a city. Coincidentally, a much smaller space rock [came down over Russia on Friday](#), sparking a fireball and a glass-shattering shock wave.

Even though the 150-foot-wide (45-meter-wide) asteroid 2012 DA14 is the biggest object of its kind to be seen coming this close to Earth, its orbit is so well-known that NASA's Near-Earth Object Program can rule out any chance of collision in the foreseeable future. And even though 2012 flew 5,000 miles closer than satellites in geosynchronous orbit, NASA said its mostly south-to-north orbital path went through a "sweet spot" that kept it far away from those satellites — as well as from other spacecraft that are in closer orbits, including the International Space Station.

Astronomers hope their observations of 2012 DA14 will provide insights into subtle phenomena such as [seismic disturbances](#) that are induced by Earth's gravitational kick, or [characteristics of the asteroid's spin](#) that are affected by radiation absorption and emission.

Radar readings provide the best way to get a fix on the asteroid's shape and spin, in part because observations from multiple radio telescopes can be combined to produce a clearer picture. During the 2012 DA14 encounter, scientists used radio telescopes in California and New Mexico to produce new sets of radar imagery.

The first pictures from NASA's 230-foot (70-meter) dish at Goldstone, Calif., are due to be released on Saturday, and eventually those radar images will be combined to produce a 3-D map of the space rock.

Other telescopes, spread out from Australia to Israel to the Canary Islands to the U.S., gathered optical data — and the images from some of those telescopes were shared over the Internet on Friday. NASA's Jet Propulsion Laboratory has been passing along pictures from a variety of telescopes via its [Ustream video channel](#). Here's a rundown of other post-encounter webcasts:

5 p.m. ET: The Virtual Telescope Project 2.0 presents live video of the asteroid flyby from a telescope in Italy, weather permitting. Video site: [Watch Virtual Telescope Project's webcast](#).

6 p.m. ET: Weather permitting, the [Clay Center Observatory](#) in Massachusetts will stream real-time, high-definition video from 6 p.m. ET until 4 a.m. ET Saturday. [Watch Clay Center video on Ustream](#).

9 p.m. ET: Slooh Space Camera plans to present [several live shows about the asteroid flyby](#), accompanied by expert commentary. Weather permitting, imagery will be beamed to Slooh HQ from telescopes on the Canary Islands and in Arizona. [Watch the show on Slooh.com](#).

9 p.m. ET: A video feed of the flyby from a telescope at NASA's Marshall Space Flight Center will be streamed for three hours. During the live-streaming event, viewers can ask researchers questions about the flyby via Twitter or the Ustream chat window.

Chodas said the initial observations confirmed scientists' estimates of 2012 DA14's size, but other revelations will have to wait until astronomers have had a chance to analyze the data collected on Friday. By that time, the asteroid will be long gone. Earth's gravitational influence has changed 2012 DA14's orbit to keep it farther away from our planet during future orbits.

"It won't return for many, many years," he said.