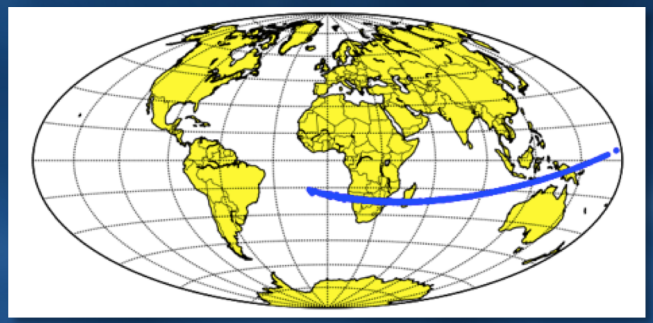
Asteroid 2018 LA Impacts Earth on June 2, 2018

The small (<3 meters in size) asteroid 2018 LA impacted Earth's atmosphere on 2 June 2018 at 16:44 UTC (12:44 PM EDT) and was discovered ~8 hours prior to its impact by the NASA-funded Catalina Sky Survey (University of Arizona).

Two further observations by the NASA-funded ATLAS (Asteroid Terrestrial-impact Last Alert System, University of Hawai'i) site on Mauna Loa confirmed the object.

In the 20-year history of NASA's Near-Earth Object Observations Program, this is the third time an object has been discovered and an impact solution calculated prior to impact. The previous bodies were 2008 TC3 (impacting over Sudan) and 2014 AA (impacting over the middle of the Atlantic Ocean), and all three asteroids were discovered by Catalina Sky Survey astronomer Richard Kowalski (*image*).

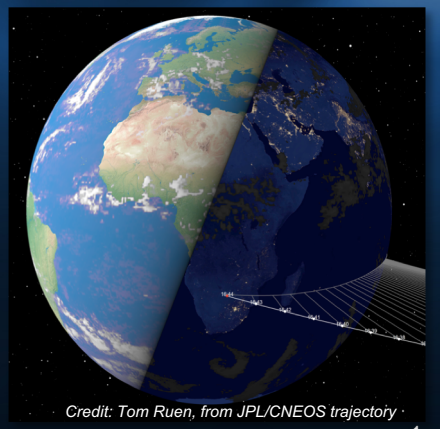


The Minor Planet Center and JPL's Center for NEO Studies (CNEOS) alerted the Planetary Defense Coordination Office of a potential impact. CNEOS calculated an initial impact corridor (*left*) and considerably narrowed it (*right*) once additional observations, including one "precovery" observation, became available.

This was a much smaller object than NASA is tasked to detect and warn about, but this real-world event exercised capabilities and gave some confidence that NASA's impact prediction models are adequate to inform response to the potential impact of a larger object.

Citizen report on the bolide: The fireball was seen over Botswana, lasted ~3.5 seconds, and flared with -27 magnitude (the Sun is slightly brighter than -26). The resultant energy imparted to Earth's atmosphere was just shy of 1 kiloton equivalent TNT.

Comprehensive Test Ban Treaty Organization (CTBTO) infrasound sensors also detected the bolide.



Credit: Tom Ruen, from JPL/CNEOS trajectory