

EXERCISE

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NOT A REAL WORLD EVENT This is part of an asteroid threat exercise conducted during the 2015 IAA Planetary Defense Conference.

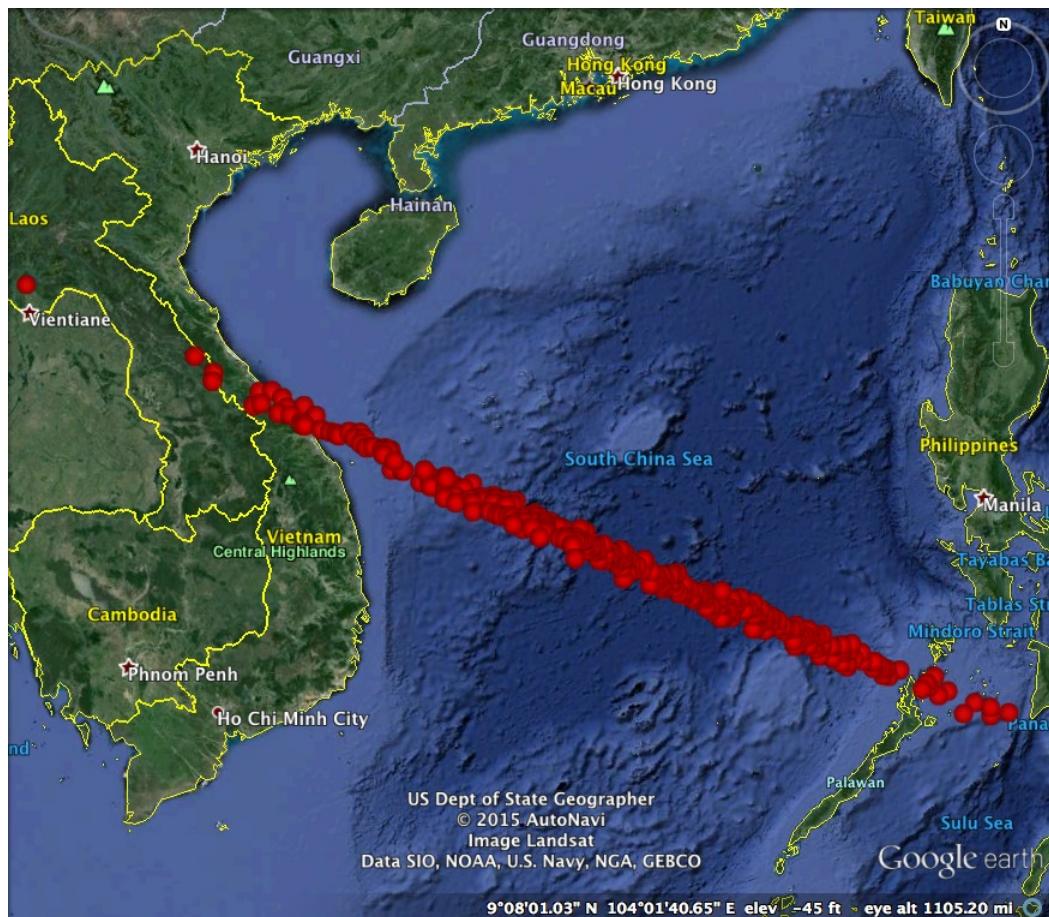
DAY 4

PRESS RELEASE: AUGUST 1, 2019

NATIONS OF THE WORLD WILL SEND SIX SPACECRAFT TO DEFLECT ONCOMING ASTEROID 2015 PDC

Several nations with space launch capabilities have joined the effort to deflect oncoming asteroid 2015 PDC. A total of six Kinetic Impactor (KI) spacecraft are scheduled to be launched toward the object later this month. All six are designed to strike the asteroid at very high relative velocities over a seven-day period in early March 2020. Successful impact of at least four KI vehicles will move the object away from Earth impact.

Based on an extensive set of tracking observations taken over the last two years, IAWN has determined a much more accurate trajectory for asteroid 2015PDC, and the potential impact location on September 3, 2022 has now been isolated to the South China Sea. The impact time would be 3:51 UTC or 11:51am local time. The red dots in the image below trace the extent of the possible impact locations, the so-called “impact footprint.” Unless the asteroid is deflected, it will impact somewhere within this region.



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Although the trajectory of 2015 PDC is now quite well known, the size and mass of the asteroid are still very uncertain. IAWN estimates the asteroid is 150 to 250 meters (500 to 800 feet) in diameter, but it could be as large as 400 meters (1300 feet) if its albedo (reflectivity) is very low.

The six interceptor missions should be more than enough to deflect the asteroid away from its collision course, but the precise size of the deflection cannot be predicted because it depends very much on the uncertain size and mass of the asteroid. The size of the deflection will also depend on secondary factors such as the amount and direction of ejecta produced by the impactors, the so-called beta factor.

The impactor spacecraft will hit the asteroid at a closing velocity of about 15 km/s (9 miles/sec), and they must deliver a total velocity change of about 20 mm/s (1 inch/s) in order to move the trajectory away from impacting the Earth.

The effectiveness of the deflection effort will be difficult to assess directly from the Earth because the asteroid will be basically on the other side of the Sun, and too close to the Sun for observations. The deflected asteroid should be observable again in July 2020.

Because of the difficulty of observing the deflection from the Earth, an observer spacecraft will be launched to fly by the asteroid shortly after the Kinetic Impactors have completed their missions to assess the effectiveness of the deflection effort.

For more information, visit: <http://neo.jpl.nasa.gov/pdc15/day4.html>