

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

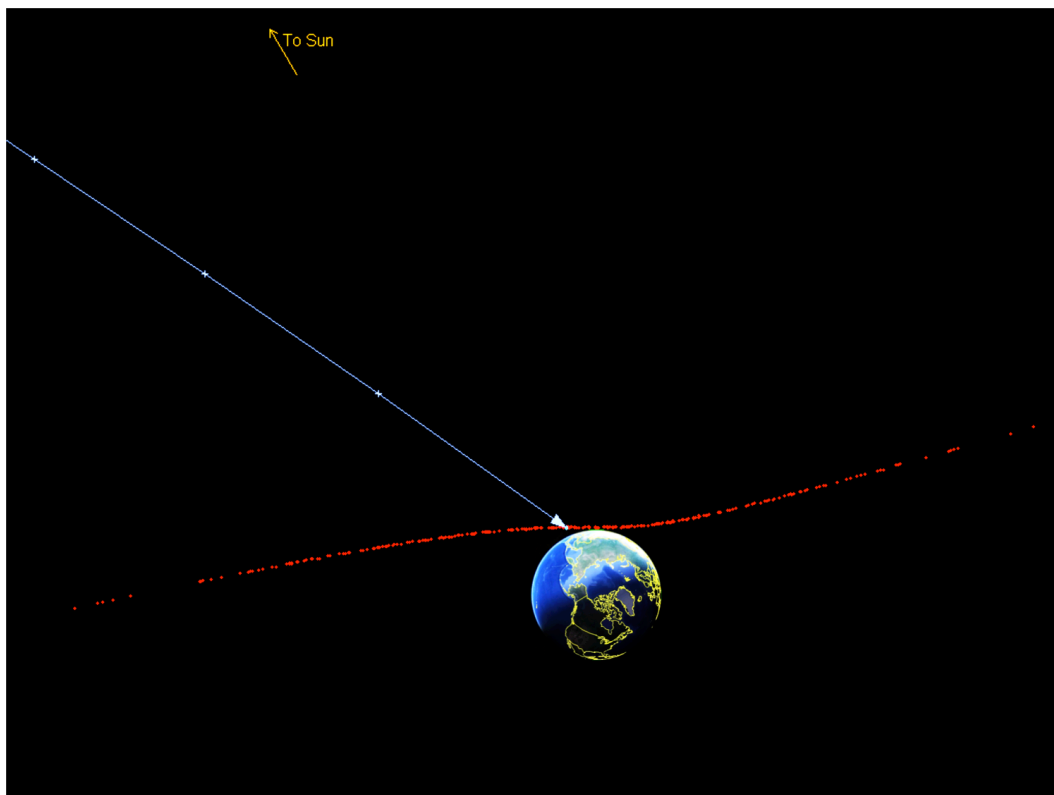
DAY 2

PRESS RELEASE: APRIL 4, 2016

ASTEROID'S CHANCE OF IMPACTING EARTH IN 2022 NOW 43%

After almost a full year of tracking asteroid 2015 PDC, it has become increasingly clear that the asteroid poses a serious risk of impacting Earth on September 3, 2022. Based on the latest set of tracking observations, IAWN now estimates the likelihood of impact at 43%. Further updates to this estimate will not be possible for eight months, as 2015 PDC passes on the other side of the Sun as viewed from Earth, and will not be observable.

Asteroid 2015 PDC was favorably positioned for observation last August through October, and it was observed extensively. Those observations did not eliminate the possibility of impact, as had been expected. Instead, they led the IAWN to raise its impact probability estimate from 5% at the beginning of August to 30% in October. More observations in February and March of this year increased the probability of impact to 43%. The diagram below shows the possible positions of the asteroid in red at the time of the potential impact. The blue line indicates the direction of motion of the red region, with tick marks at one-hour intervals.



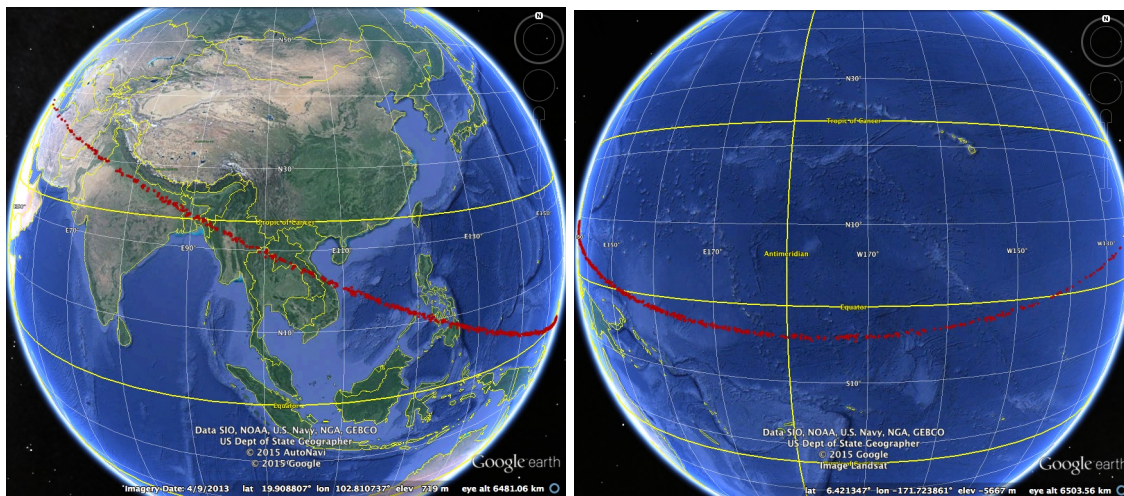
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IAWN has released estimates that the blast caused by the entry and impact of 2015 PDC could create a crater 5 to 7 km (3 to 4 miles) in diameter and up to 500 meters (1600 ft) deep and generate a 6.8-magnitude earthquake. The impact would immediately cause damage over an area of approximately 70,000 square kilometers (27,000 square miles, about the size of the Republic of Ireland). If the impact location is in open ocean, it would create a tsunami as high as 10 meters (30 feet) that could inundate populated coastal areas with waves as high as 3 to 4 meters (10 to 13 feet). A near-shore impact would generate a much stronger local tsunami. Preliminary simulations suggest that an ocean impact would affect a far larger area than a land impact, but with less predictability. All nations with Pacific coastlines are vulnerable to tsunami damage, but the magnitude at a given location critically depends on impact location because of impact angle and ocean depth.

As background, IAWN notes that the asteroid that entered over Chelyabinsk, Russia in 2013 was estimated to be 17 to 20 meters (56 to 66 feet) in size, much smaller than 2015 PDC. That event released energy of approximately 500 kilotons of TNT. Should the object in the estimated size range of 2015 PDC enter our atmosphere, it could release energy of as much as 2250 megatons (Mt) of TNT (about 4500 times more powerful than Chelyabinsk) and would be the largest explosive event in recorded history.

The IAWN partners have released the image shown below of the updated risk corridor, now somewhat narrower than several months ago, but following the same path.



In September, the impact probability for 2015 PDC rose high enough that several space-faring nations began studying how this asteroid might be deflected using Kinetic Impactor (KI) missions. The launch opportunity for these missions would be about three years from now, in August 2019. The size of 2015 PDC is still very uncertain, and it is possible that many such missions will be required, working in tandem to carry out a successful deflection.

For more information, visit: <http://neo.jpl.nasa.gov/pdc15/day2.html>

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