

ESA's NEO Coordination Centre

Current NEO statistics

This past month the known NEAs passed the number 22 000.

- Known NEOs: 22 007 asteroids and 109 comets
- NEOs in risk list*: 1015
- Number of NEOs designated during last month: 352
- NEOs discovered since 1 January 2020: 327

Focus on

Meteorites are the best known remnants of asteroidal impacts, but they are not the only "impact-related" material we can find on Earth. A less known byproduct of the largest impacts are tektites, small pebbles of glassy material generated from molten terrestrial ejecta lifted off during an impact. They are typically distributed over "strewnfields", large areas of Earth surface adjacent to the site of the impact that originated them. Of the few confirmed tektite areas, the richest and largest one is the so-called Australasian strewnfield, spread over a vast region of Earth between Southeast Asia and Australia. Compositional analyses of these tektites suggest they were generated by an impact in Southeast Asia about 790 000 years ago. However, no major crater has been found in that area until a few weeks ago, when [Sieh et al.](#) published a paper with evidence that the source crater may be in Laos, hidden under layers of younger volcanic rocks. The evidence for its existence is significant, but so far only indirect. Only evidence of shock alterations in a sample of the underlying rock layers, obtained via drilling, could definitely prove the existence of an impact crater, and its role as the source of the Australasian tektites.

Upcoming interesting close approaches

There will be a distant fly-by of a large and well-known object this month.

- (163373) 2002 PZ39 is a half-kilometre asteroid that will fly-by at about 15 lunar distances in February, reaching magnitude 15 around the closest approach.

Recent interesting close approaches

One close fly-by of a tiny newly-discovered object in January.

- 2020 BH6 reached magnitude 14 during its fly-by in January. It came closer than 0.2 lunar distances.

News from the risk list

A new object briefly reached the top positions of our risk list.

- 2020 AN3 entered our risk list, briefly reaching the top position with a Palermo Scale value of -2 , and a Torino Scale level of 1. Precovery observations found in the Catalina Sky Survey archive immediately lowered the Palermo Scale, and pushed the Torino Scale value down to zero. Subsequent observations lowered the risk even more, and now only a single impact date is still possible in year 2106 and with a Palermo Scale of -4 and a probability of less than 1 in a million.

* The risk list of all known objects with a non-zero (although usually very low) impact probability can be found at <http://neo.ssa.esa.int/risk-page>

In other news

- Results published in a [recent paper](#) on the analysis of silicon carbide grains in a primitive carbonaceous chondrite meteorite named Murchison found that these grains might be older than the age of the Solar System.
- A [recent paper](#) has identified Yarrabubba, a 70-kilometre-diameter crater in Western Australia, as the oldest impact structure on Earth.

Upcoming events

Relevant international meetings over the next months.

- Hera Community Workshop, 20–22 April 2020, Nice, France
<https://www.cosmos.esa.int/web/hera-community-workshop/>
- Apophis T–9 Years: Knowledge Opportunities for the Science of Planetary Defense, 23–24 April 2020, Nice, France
<https://www.hou.usra.edu/meetings/apophis2020/>
- Asteroids, Comets, Meteors Conference, 14–19 June 2020, Flagstaff, USA
<https://www.hou.usra.edu/meetings/acm2020/>

List of NEAs with largest unobserved period

The table shows the 10 objects for which more time has elapsed since the last time they were observed.

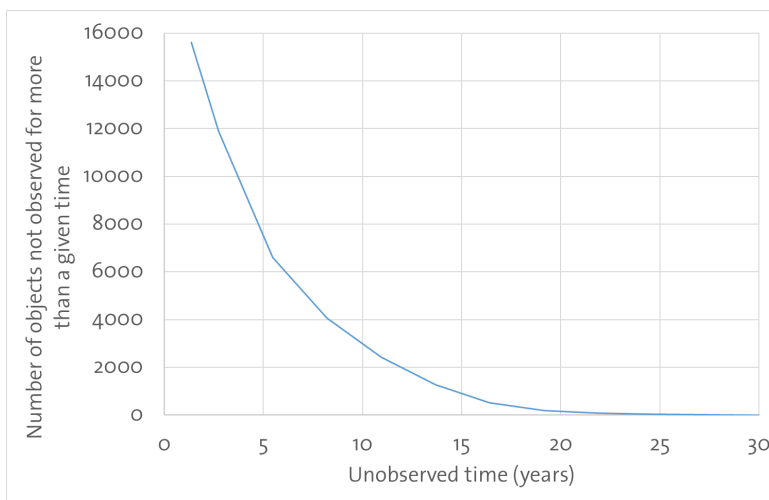
Object designation	Discovery date	Estimated size (m)	Unobserved time (days)	Unobserved time (years)	Observation arc (days)
1979 XB	1979-12-11	500–1200	14 661	40.1	4
1990 UN	1990-10-22	50–120	10 682	29.2	15
1991 BA	1991-01-18	5–11	10 609	29.0	1
1991 JR	1991-05-08	60–120	10 488	28.7	11
1991 TU	1991-10-07	6–12	10 347	28.3	1
1991 TT	1991-10-06	16–40	10 345	28.3	3
1991 VA	1991-11-01	13–28	10 314	28.2	8
1991 XA	1991-12-03	40–90	10 278	28.1	12
1992 DU	1992-02-26	23–50	10 202	27.9	3
1992 JD	1992-05-03	27–60	10 132	27.7	6

Links for more information

Website: <http://neo.ssa.esa.int>

Close approaches: <http://neo.ssa.esa.int/close-approaches>

Risk List: <http://neo.ssa.esa.int/risk-page>



The figure on the left shows the distribution of the number of objects not observed for more than a given time.

For example, there are around 3 000 objects that have not been observed for more than 10 years, or about 7 000 objects that have not been observed for more than 5 years.

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