

# → NEWSLETTER AUGUST 2025

## ESA's NEO Coordination Centre

### Current NEO statistics

Our team recently recovered 414P/STEREO, a near-Earth comet discovered by the STEREO-A solar observatory in 2016.

- Known NEOs: 38 791 asteroids and 123 comets
- NEOs in risk list\*: 1800
- NEOs designated during last month: 195
- NEOs discovered since 1 January 2025: 1457

### Focus on

The highlight of July in planetary sciences was likely the discovery of the third interstellar object transiting through our Solar System. Now known as 3I/ATLAS, its possibly interstellar nature became apparent while it was still on the NEO Confirmation Page, under the temporary label A11pl3Z assigned by the discovery team. Since at the time it was not yet clear whether the object would come close to Earth, our team took the opportunity to use our telescope network and promptly collect observational data on this intriguing target. As usual, we began with astrometric measurements, using our Test-Bed Telescope in La Silla, Chile, and other telescopes from the Las Cumbres Observatory (LCO) network. The resulting astrometry, with associated uncertainties, confirmed the likely interstellar origin of the object. We then used additional LCO facilities to obtain lightcurve and colour data, which showed a nearly flat lightcurve and a reddish spectrum, both consistent with a cometary nature. We now know that 3I/ATLAS is an active cometary object and that it will not come close to Earth. Nevertheless, it remains an exciting target to further investigate these fascinating samples from another star.

### Upcoming interesting close approaches

Two distant but moderately bright close approaches will happen in August.

- 1998 SH<sub>2</sub> and 2025 OW will both become brighter than magnitude 15 during a fly-by in August. The former has been known for decades, and will pass by at 8 times the distance of the Moon. The latter was only found in July this year, and will come to about 1.65 lunar distances from our planet.

### Recent interesting close approaches

A tiny asteroid was detected just a few hours after a very close fly-by.

- 2025 OS is a new tiny asteroid, just a few metres in size, that came close to the Earth on 19 July, flying-by just 4000 km above the Earth's surface. It was detected just a few hours after its closest approach.

### News from the risk list

Our team followed up a new object in our risk list.

- 2025 OB, a newly-discovered small object with a size comparable with the Chelyabinsk impactor, reached a high ranking in our risk list in July, for a possible impact in year 2063. Our team used a few telescopes in our network to obtain additional astrometry before the object disappeared into solar conjunction, and the new data led to a significant drop in the impact probability.

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

## In other news

- During the IAU F1 Business Meeting held on 10 July 2025 at Meteoroids 2025, twelve meteor showers have officially been designated as established.

## Upcoming events

- Europlanet Science Congress (EPSC) 2025 (joint meeting with the 57<sup>th</sup> Annual Meeting of the AAS Division for Planetary Sciences), 7-12 September 2025, Helsinki, Finland  
<https://www.epsc-dps2025.eu/>
- Asteroids, Comets, Meteors Conference, 6-10 July 2026, Poznań, Poland  
<https://acm2026.eu/>

## Past known closest approaches

The table shows the list of the past closest approaches of known NEAs. It contains only objects that approached within 1 Earth radius of the surface but did not impact. The table includes four more objects compared to the same table published one year ago, one of which was discovered this month.

Object name	Close approach date	Miss distance in Earth radii	Miss distance in km	Size range in m	H magnitude
2020 VT4	2020-11-13	0.06	400	5–11	28.6
2024 XA	2024-12-01	0.21	1 300	1–3	31.5
2024 LH1	2024-06-06	0.27	1 700	2–4	30.8
2024 UG9	2024-10-30	0.39	2 500	1–2	32.4
2020 QG	2020-08-16	0.46	2 900	3–6	29.8
2021 UA1	2021-10-25	0.48	3 000	1–3	31.7
2025 BP6	2025-01-26	0.52	3 300	1–3	31.7
2023 BU	2023-01-27	0.56	3 600	4–8	29.3
2023 RS	2023-09-07	0.62	4 000	1–2	32.2
2025 OS	2025-07-19	0.64	4 100	3–6	30.1
2011 CQ1	2011-02-04	0.86	5 500	1–2	32.1
2019 UN13	2019-10-31	0.98	6 200	1–2	32.0
2008 TS26	2008-10-09	1.00	6 400	1–1	33.3



ESA's upcoming wide-field survey telescope, the Flyeye-1, is currently undergoing on-sky commissioning in Matera this summer. The photo shows engineers on the crane performing the camera alignment.

[Credit: ESA PDO]

## Links for more information

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

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

Risk List: <https://neo.ssa.esa.int/risk-list>

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