

→ NEWSLETTER JULY 2026

ESA's NEO Coordination Centre

Current NEO statistics

The number of new NEO discoveries remains low due to Northern summer, but the overall total for 2026 is still in line with previous recent years. With the start of operations of LSST this week, we expect a rapid growth in most of these metrics.

- Known NEOs: 41 958 asteroids and 124 comets
- NEOs in risk list*: 1992
- NEOs designated during last month: 177
- NEOs discovered since 1 January 2026: 1429

Focus on

Astrometric residuals, the difference between the measured position of an object and that predicted by orbital calculations at the time of observation, constitute a fundamental diagnostic: in an ideal measurement scenario, residuals reflect limitations in the dynamical model; conversely, under a perfect dynamical model, they reveal measurement errors. Understanding the nature and distribution of residuals is therefore essential for improving both observational processes and orbital modelling.

To support this, a new suite of residual analysis tools has been released on the NEOCC Portal, providing the community, and especially observatories and orbit determination specialists, with new capabilities to detect systematic errors, flag outliers, and identify trends in residuals. Developed in response to needs highlighted at the recent [EU-ESA Astrometry and Radar Observations Workshop at ESRIN](#), these tools help refine data quality across the entire observation and risk assessment pipeline.

The centrepiece is the [Observations Analysis](#) tool, which lets users explore residuals by object or observatory, filtering, among others, by date, maximum residual, and visual magnitude via interactive charts. A dedicated [Observatories](#) page complements this with direct access to residual datasets for ground-based telescopes. Finally, a new Residuals tab, available on individual asteroid pages such as [Apophis](#), allows inspection of residual distributions, identification of low-quality measurements, and detection of biases tied to individual observing stations.

Upcoming interesting close approaches

None of the known objects are expected to come closer than the Moon and become brighter than magnitude 15 during a close approach in July.

Recent interesting close approaches

The numbered asteroid reported last month was the only close approacher that became brighter than magnitude 14 in June.

- (152637) 1997 NC1 was the highlight approacher in June, reaching magnitude 10.

News from the risk list

A new high-rated object entered our risk list.

- 2026 MT1 is the most interesting new addition to our risk list. With a total impact probability of about 1 in 120 000 for possible impacts in 2052 and 2102, its cumulative Palermo Scale rating of -3.5 places it in the top-10 ranking of the list.

*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

- A re-analysis of the discovery data for 2026 JN4, together with at least one credible ground report, confirmed that 2026 JN4 was indeed the 12th discovered imminent impactor. We will soon add it to our list of past impactors.

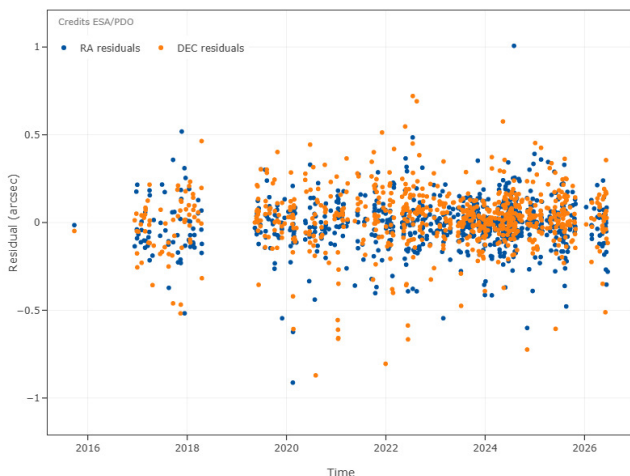
Upcoming events

- Asteroids, Comets, Meteors Conference, 6-10 July 2026, Poznań, Poland
<https://acm2026.eu/>
- Europlanet Science Congress (EPSC) 2026, 6-11 September 2026, The Hague, Netherlands
<https://www.epsc2026.eu/>
- 1st NEOMIR Conference: Hunting Asteroids near the Sun, 15-16 September 2026, Nice, France
<https://neomir-nice.sciencesconf.org>
- International Meteor Conference (IMC) 2026, 24-27 September 2026, Barcelonnette, France
<https://imc2026.imo.net/>

Key Updates of the NEOCC Portal (2025–2026)

The table provides a chronological overview of previous updates and feature releases of the ESA NEOCC portal covering the period 2025–2026. At present, the Meerkat service is not publicly available; however, people involved in observational activities, mitigation, or fireball detection are invited to submit a request via the NEOCC contact form provided [here](#). Once registered, they can receive relevant information via email on imminent impactors.

Date	Feature	Description	Type
2026-04-27	Python Interface for NEOCC API	A Python package to facilitate automated data access, script handling, and programmatic queries to the NEOCC database.	New service
2026-03-09	Plots for Past Impactor List	Interactive graphical representations to asteroids that were discovered before they impacted Earth.	Data rendering
2026-02-03	NEOCC Scientific Publications Page	A page that keeps users and researchers up to date with the latest scientific research, publications, and findings from the NEOCC team.	New service
2025-10-06	Meerkat Asteroid Guard (v2.0)	Performance and accuracy improvements in the orbit determination of imminent impactors, using ESA's Godot library.	Service upgrade
2025-06-12	Plots for Risk List and Close Approaches	Interactive graphical representations to the Risk List and Close Approaches pages.	Data rendering
2025-03-04	Imminent Impactors Page	A list of the confirmed impacting objects detected by our Meerkat monitoring system in the last 15 days.	New service



Daily-averaged astrometric residuals scatter plot of NEA observations in right ascension and declination from the Calar Alto-Schmidt telescope (Z84).

[Credits: 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>

neo.ssa.esa.int

To subscribe or to unsubscribe to this newsletter fill the form at <https://neo.ssa.esa.int/subscribe-to-services>

