

## → NEWSLETTER MAY 2025

# ESA's NEO Coordination Centre

### Current NEO statistics

During the first 4 months of 2025, more than 1000 new NEOs have been discovered, in line with the recent average of about 3000 per year.

- Known NEOs: 38 307 asteroids and 123 comets
- NEOs in risk list\*: 1782
- NEOs designated during last month: 244
- NEOs discovered since 1 January 2025: 1006

### Focus on

The development of ESA's first Flyeye telescope is nearing completion. The telescope and its equatorial mount have been temporarily installed in the test facilities at the Italian Space Agency (ASI) site in Matera, and are now preparing for the validation and acceptance campaign scheduled for summer 2025. All 16 optical channels and astronomical cameras have been aligned and are currently being fine-tuned during initial on-sky tests. Additionally, the Flyeye Data Processing Chain will be integrated in Matera to participate in the end-to-end system validation. Construction activities for the final site for the Flyeye, the observatory at Mt. Mufara (Sicily), have resumed following the winter break. The telescope is planned to be transported there in 2026.

### Upcoming interesting close approaches

A large asteroid is having a distant fly-by in May.

- (612356) 2002 JX8 is a moderately large and well-known asteroid, with a diameter estimated between 250 and 500 metres, which will approach our planet on 9 May. Despite its passage at more than 10 lunar distances, only reaching a peak magnitude of 16, the event is classified as infrequent by our Close Approach Index, due to the significant size of the object.

### Recent interesting close approaches

Two tiny newly-discovered asteroids came close to the Earth in April.

- 2025 GS1 is a newly discovered small asteroid that came just below the geostationary ring on 15 April, reaching magnitude 13.
- 2025 HH is an even smaller object, just a few metres across, that came even closer just 2 days later. Due to its smaller size, it only reached magnitude 15 at its brightest.

### News from the risk list

A new entry appeared near the top of our risk list, a moderately large asteroid with a possible impact towards the end of the century.

- 2025 FA22, a newly discovered asteroid first seen by Pan-STARRS 2, entered the top-3 of our risk list at the end of April, for a possible impact in year 2089. The impact probability remains quite small, roughly 0.01%, but its size of roughly 200 metres results in a Palermo Scale above  $-3$ , and a Torino Scale near the boundary between 0 and 1. The object remains observable for a few months, and additional data will likely clarify the impact scenarios soon.

\*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

- The annual Asteroid Day events will happen in Luxembourg on 27 and 28 June 2025, with many additional asteroid-themed events organised all over the world. You can read about them at <https://asteroidday.org/>.

## Upcoming events

- 9<sup>th</sup> IAA Planetary Defense Conference, 5-9 May 2025, Stellenbosch, South Africa  
<https://iaaspace.org/event/9th-iaa-planetary-defense-conference-2025/>
- Meteoroids 2025, 7-11 July 2025, Perth, Australia  
<https://meteoroids2025.gfo.rocks>
- 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/>

## Technical specifications of the Flyeye telescope

Our portal includes technical specs of the main [telescopes](#) used by our teams. ESA's first survey telescope, the Flyeye, is about to enter its testing phase: these are its final technical specifications, as it will be installed in Mt. Mufara next year.

Property	Value
MPC Code	To be assigned
Latitude	+37.868°
Longitude	+14.023°
Altitude	1850 m
Effective aperture	1.0 m
Focal ratio	f/2
Default passband	450 nm - 770 nm
Altitude limit	~15°
Typical PSF FWHM*	~3"
Field of View	6.7°×6.7°
Sensor	Array of 16 sensors, 4k×4k e2v CCDs
Pixel scale (unbinned)	1.5"
Readout time	~3 s

\*Full-Width at Half-Maximum (FWHM) of the Point Spread Function (PSF).



ESA's Flyeye telescope is now fully assembled, and will soon undergo its initial tests in Matera, before being moved to Mt. Mufara in Sicily to begin its survey of the night sky for new NEOs.

[Credit: OHB Italia / ESA]

## 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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