→ NEWSLETTER SEPTEMBER 2026

ESA's NEO Coordination Centre

Current NEO statistics

Despite the usual slower discovery rates during Northern summers, the risk list is now solidly above 2000 asteroids.

- Known NEOs: 42 238 asteroids and 124 comets
- NEOs in risk list*: 2005
- NEOs designated during last month: 159
- NEOs discovered since 1 January 2026: 1709

Focus on

After almost two years travelling through deep space, ESA's Hera mission is approaching its destination: the Didymos binary asteroid system. In October, Hera will begin a month-long series of braking manoeuvres, progressively reducing its relative speed before starting its first close-proximity operations in early November. This will mark the beginning of Hera's main scientific investigation. The spacecraft will first characterise the shape, mass and dynamics of Didymos and its moonlet Dimorphos, before moving progressively closer to study their surface, composition and thermal properties in metre-scale detail. A central objective will be to investigate how Dimorphos was transformed by NASA's DART impact in 2022, from the resulting crater or reshaping to the efficiency with which the impact changed the asteroid's motion. Early in 2027, Hera will deploy its two CubeSats, Juventas and Milani, which will explore the system from multiple viewpoints and investigate properties including the asteroids' interior, surface and surrounding dust environment. The mission will then move into increasingly ambitious close-observation and experimental phases, including autonomous navigation techniques designed to bring Hera closer than ever before. Together, these measurements will turn DART's historic asteroid deflection test into a much better understood and potentially repeatable planetary defence technique.

Upcoming interesting close approaches

None of the objects known at the beginning of September will come closer than the Moon during the month.

Recent interesting close approaches

Three small objects, a medium sized one, and two large ones, all came very close and became bright in August.

- 2026 PC6 and 2026 QC3 are two 10-metre objects that came closer than Earth's geostationary ring in August. The former reached magnitude 10, while the latter peaked around magnitude 14.
- 2025 AL2, roughly 10 times larger and already announced last month, also reached magnitude 14.
- (173561) 2000 YV137 and (221455) 2006 BC10, even larger half-kilometre objects, also reached a comparable magnitude, while passing much farther away.

News from the risk list

No objects entered or exited the top positions of our risk list during the month of August.

*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

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In other news

- Beyond individual follow-up and physical characterisation, ESA is also planning for faster risk mitigation in the future. The upcoming RAMSES mission will reach asteroid Apophis just 3.5 years after construction begins.
- In parallel, ESA has launched the SysNova challenge aimed at designing smaller spacecraft, enabling faster implementation at lower cost, and developing mission architectures for repeatable planetary defence responses. Proposals are collected via the Open Space Innovation Platform (OSIP).

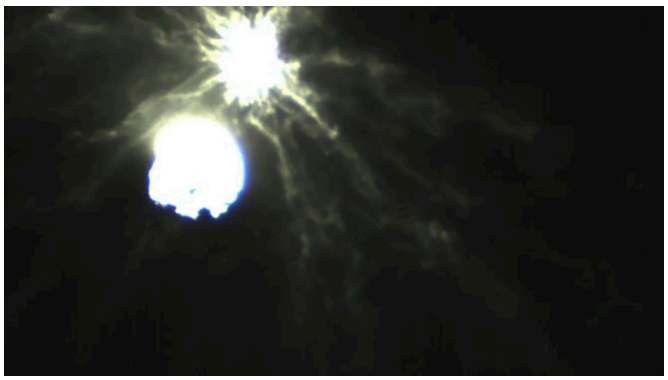
Upcoming events

- 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/
- 58th Annual Meeting of the AAS Division for Planetary Sciences (DPS), 25-30 October 2026, Spokane, USA
  https://aas.org/meetings/58th-dps-meeting
- EU-ESA Workshop on Meteor Observations for Planetary Defence, 3-5 November 2026, Petralia Sottana, Sicily, Italy
  https://indico.esa.int/event/658/

Largest multiple NEAs

Largest NEAs with known satellites. * (3122) Florence and (153591) 2001 SN263 are ternary asteroids.

Designator	Main Body Discovery	Multiple Nature Discovery (approx.)	Size in m
(1866) Sisyphus	1972-12-05	1985	6860
(163693) Atira	2003-02-11	2017	4800
(137170) 1999 HF1	1999-04-20	1999	4400
(3122) Florence *	1981-03-02	2017	4120
(285263) 1998 QE2	1998-08-19	2013	4110
(5143) Heracles	1991-11-07	2011	3410
(276049) 2002 CE26	2002-02-10	2004	3331
(5646) 1990 TR	1990-10-11	2012	2723
(7888) 1993 UC	1993-10-20	2013	2720
(153591) 2001 SN263 *	2001-09-20	2008	2500



The DART kinetic impact aftermath on the binary asteroid system (65803) Didymos, as seen from LICIACube. The frame illustrates the high-velocity ejecta plume expanding outward from the sub-kilometer moonlet Dimorphos. The ejecta plume is asymmetric and filamentary, showing complex streams of vented material. The bright primary body, Didymos, is clearly visible above the impact site, providing a structural reference point for three-dimensional geometry modelling.

[Credits: ASI/NASA]

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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