

space situational awareness

→ NEAR-EARTH OBJECTS

Current NEO statistics

On 14 March 2015 the Pan-STARRS survey discovered 2015 ER61, a 10-kilometre NEO in a long period (and possibly cometary) orbit. Fortunately, it does not have any chance of collision with Earth.

- Known NEOs: 12379 asteroids and 96 comets
- NEOs in risk list*: 495
- New NEO discoveries since last month: 144
- NEOs discovered since 1 January 2015: 423

Focus on

On 25 March 2015 our website experienced unusually high traffic for a few hours, seven times above our average rate. We tracked this boost of popularity to some news about the flyby of asteroid 2014 YB35 that were circulating on the web around that time. The tone of some of these texts was wildly exaggerated, and painted a routine event such as this distant and un concerning flyby in an excessively alarmist way. We were nevertheless glad to discover that so many people decided to properly investigate the claims and chose our portal as a trusted source for their checks.

Upcoming interesting close approaches

A new object, discovered only a few days ago, is going to come within 4 lunar distances in early April.

- 2015 FW117, discovered by the Catalina Sky Survey on 24 March 2015, is coming to about 4 lunar distances in early April. Thanks to its moderately large diameter of about 130 m, it is reaching magnitude 14 for a few hours.

Recent interesting close approaches

A large object flew quite far from Earth in late March, but two much smaller ones came really close a few weeks earlier.

- 2014 YB35, a large object about half a kilometre in diameter, safely passed Earth almost 5 million kilometres away.
- 2015 ET and 2015 EO6, on the other hand, both came to about 100 000 km around 11 March 2015, but they were both too small to cause significant damage even in the case of a collision.

News from the Risk List

Six new objects discovered in March are now in the Risk List, none of which is particularly concerning.

- 2015 FE35, a ~ 500 m object discovered by the Pan-STARRS survey in March, has about one chance in a million to collide with Earth in 2096.

* 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/web/guest/risk-page>

In other news

- On 15 March 2015, around 19:45 UTC, a bright fireball lit the sky over Southern Germany and Switzerland. A search for possible meteorite fragments is ongoing, although the rough terrain may make the localisation difficult.
- The preliminary design work on ESA's Asteroid Impact Mission has started. You can read the full news on our website.
- Over the past month, the NEOCC portal has been accessed from more than 60 different countries in the world.

Upcoming events

The Planetary Defense Conference, one of the most important worldwide conferences on NEOs and their danger to Earth, is approaching. It will be hosted at ESRIN (in Frascati, near Rome), where the NEOCC is located.

- IAA Planetary Defense Conference. 13–17 April 2015, Frascati, Italy
<http://www.pdc2015.org>
- IAU General Assembly. 3–17 August 2015, Honolulu, USA
<http://astronomy2015.org>
- European Planetary Science Congress. 17 September – 2 October 2015, Nantes, France
<http://www.epsc2015.eu>
- AAS Division for Planetary Sciences Meeting. 8–13 November 2015, National Harbor, USA

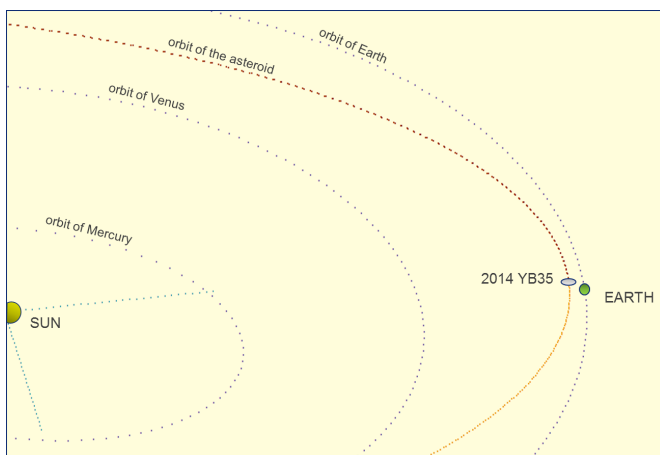
Top-10 table of risky objects

- No major changes in the past month

Object name	Size in m	Date/Time of possible impact (UTC)	Impact probability	Palermo Scale	Torino Scale	Velocity in km/s	In list since (days)
(410777) 2009 FD	472	2185-03-29 18:06	1/370	-0.43	n/a	19.41	1580
(101955) Bennu	484	2196-09-24 07:55	1/11000	-2.32	n/a	12.68	2185
2010 RF12	~ 9	2095-09-05 23:50	1/11	-3.11	0	12.29	1598
1979 XB	~ 830	2056-12-12 21:39	1/3700000	-3.23	0	27.54	12816
2008 UB7	~ 71	2060-10-31 19:06	1/10000	-3.29	0	21.57	2304
2010 MZ112	808	2041-02-17 04:52	1/730000	-3.39	0	11.31	1685
2010 DG77	315	2047-01-12 04:39	1/97000	-3.44	0	11.49	1773
2009 JF1	~ 16	2022-05-06 08:12	1/2900	-3.57	0	26.41	2114
2000 SG344	~ 46	2071-09-16 00:55	1/2100	-3.62	0	11.27	5267
(99942) Apophis	375	2068-04-12 15:13	1/530000	-3.67	0	12.62	3676

Links for more information

- Website: <http://neo.ssa.esa.int>
- Close approaches: <http://neo.ssa.esa.int/web/guest/close-approaches>
- Risk List: <http://neo.ssa.esa.int/web/guest/risk-page>



Plot of the flyby of asteroid 2014 YB35, clearly showing the distance between the object at closest approach and Earth's orbit (asteroid and Earth not to scale). Image credit: ESA/NEOCC

neo.ssa.esa.int

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