

→ CAFS FOR 2024 MK

ESA's NEO Coordination Centre

Close approach fact sheet for asteroid 2024 MK

The medium size asteroid 2024 MK has a close encounter with Earth on 29 June 2024. The estimated impact probability is: 0.

Fly-by date	2024-06-29
Closest approach time	13:45 UTC (± 20 min)
Fly-by distance from Earth surface	290 000 km, 0.75 Lunar Distances (± 1300 km)
Fly-by speed	9.4 km/s
Size range	130-280 m
Discovery date	2024-06-16
Discovery site	ATLAS South Africa, Sutherland

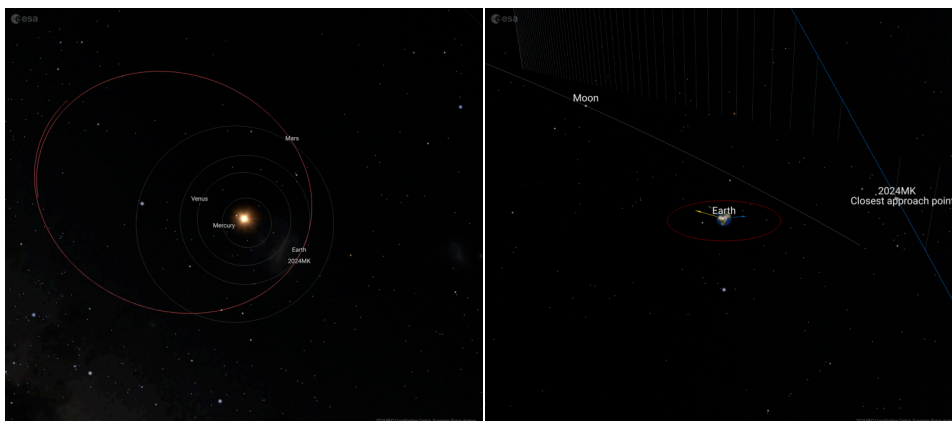
All error bars quoted in this table correspond to one standard deviation.

Orbit information

As the approach distance of the nominal trajectory to the Earth is relatively small, changes in its orbital elements due to the Earth gravity are noticeable.

Date before and after fly-by	Orbital period (year/day)	Aphelion distance (au)	Perihelion distance (au)	Eccentricity	Inclination (deg)
2024-05-30	3.334/1218	3.454	1.009	5.478	8.454
2024-07-29	3.266/1193	3.396	1.007	5.425	8.401

All orbital elements in this table are referred to the ecliptic at the epoch of J2000.0



In image to the left, the orbit is reported – showing how it will be affected by the close flyby. In image to the right, the flyby trajectory (blue line) and a geostationary orbit (red line) are visualised.

N.B.: the size of the object has been magnified.

Physical and mitigation information

Days to closest approach	Cumulative impact probability	Composition	Rotation period (hours)
8 days	Very low	Unknown	Unknown

Observational information

Peak brightness	Visual observability	Geometric observability
8.5	Small amateur telescopes, if above the horizon and dark near the closest approach time.	Easily observable from the Southern hemisphere during the incoming part of the approach. Better observable from the Northern hemisphere afterwards.

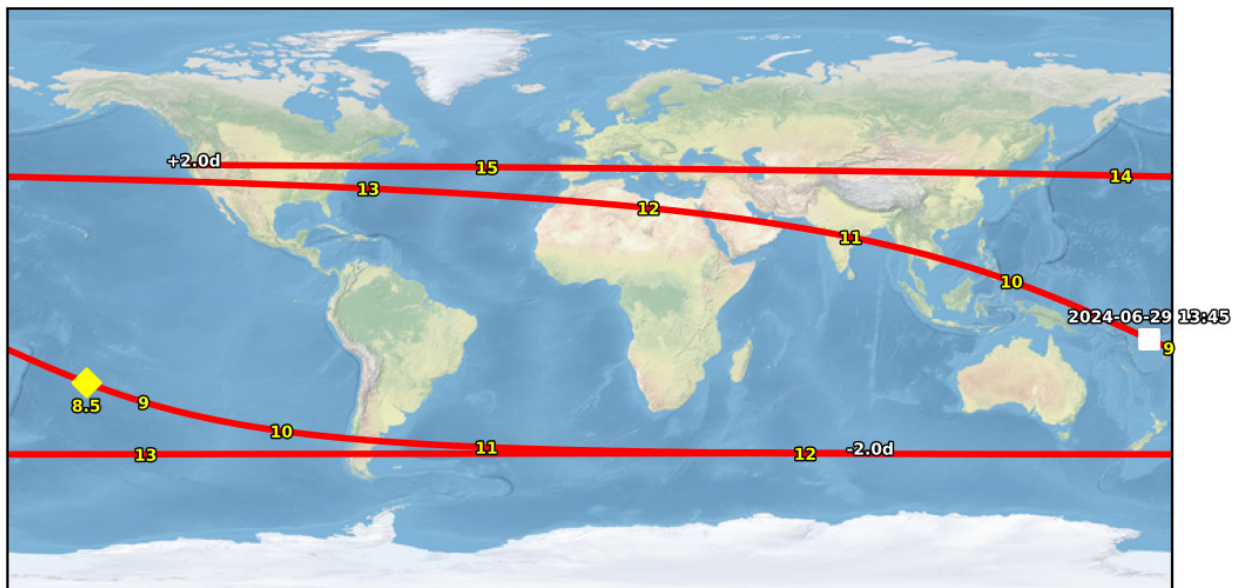
Other information

Encounter peculiarities	Previous encounter	Next encounter
One of the brightest close approaches in the last years	Uncertain	Uncertain

Only encounters within 0.05 au are considered.

Asteroid ground track

The following figure gives a representation of the sub-asteroid point ground track over the Earth. The plot provides an indication of the closest approach point and of the visual magnitudes at different points in the path as observed from the Earth's surface. In the plot, the white square represents the closest approach point, and the yellow diamond indicates the brightest visual magnitude point.



Links

NEO information:

<https://neo.ssa.esa.int/search-for-asteroids?sum=1&des=2024MK>

Orbit visualiser:

<https://neotools.ssa.esa.int/ovt?object=2024MK>

Close approaches page:

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

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