

Some asteroids and comets, and the fragments they generate through collisions, or by sublimation while close to the Sun, travel across the Solar System on orbits which can bring them very close to Earth, causing a risk of impact for our Planet.

45 million km  
distance  
from Earth

Asteroids and comets that pass Earth at less than 45 million km are called Near Earth Objects, or NEO. The overwhelming majority of NEO are asteroids, and their number increases continuously.

7.5 million km  
distance  
from Earth

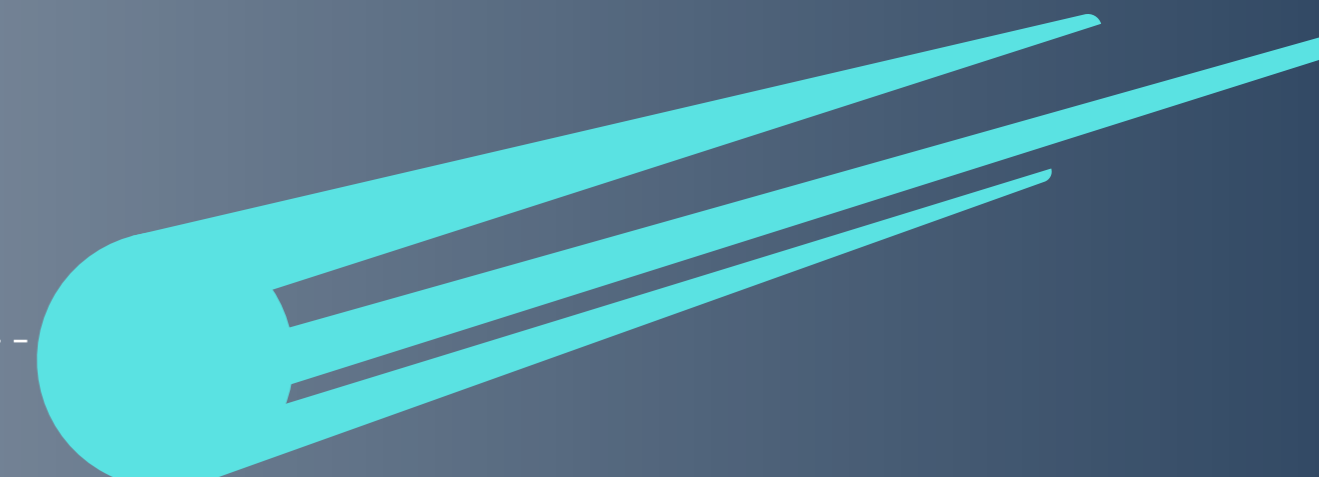
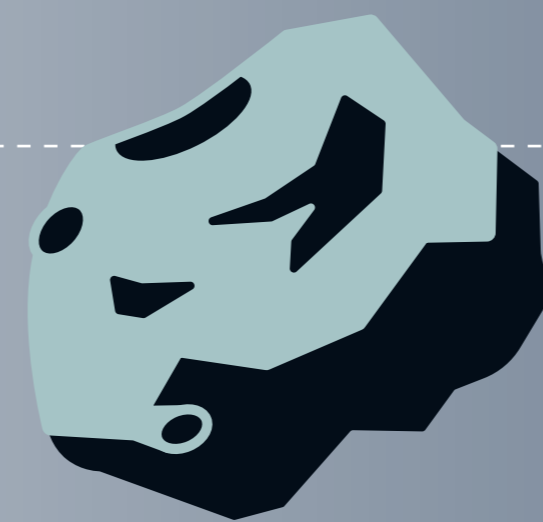
Potentially hazardous objects (PHO) are NEO, usually asteroids, which pass Earth at less than 7.5 million km and are larger than 140 metres in diameter.

384.000 km  
distance  
from Earth

Every year a few small bodies with sizes of a few metres pass Earth at distances closer than the Moon.

ASTEROID

COMET



27.000

Known NEO.

1.000

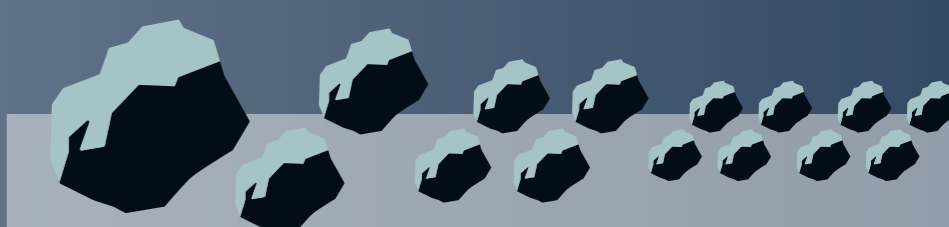
NEO discovered each year.

900

NEO with diameters > 1 km. It is likely that almost all of them have been detected.

MILLIONS

Estimated number of NEO with diameters > 50 metres.



It is estimated that the number of NEO increases exponentially with decreasing diameter. In the next 100 years, the probability that a known NEO should impact Earth is very low, but the same estimate cannot be made for unknown objects. Therefore many research projects consist in continuously monitoring the skies for NEO, both to update the positions in space of the known ones, and to find unknown ones.