



Asteroids

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Image: Don Davis

Asteroids

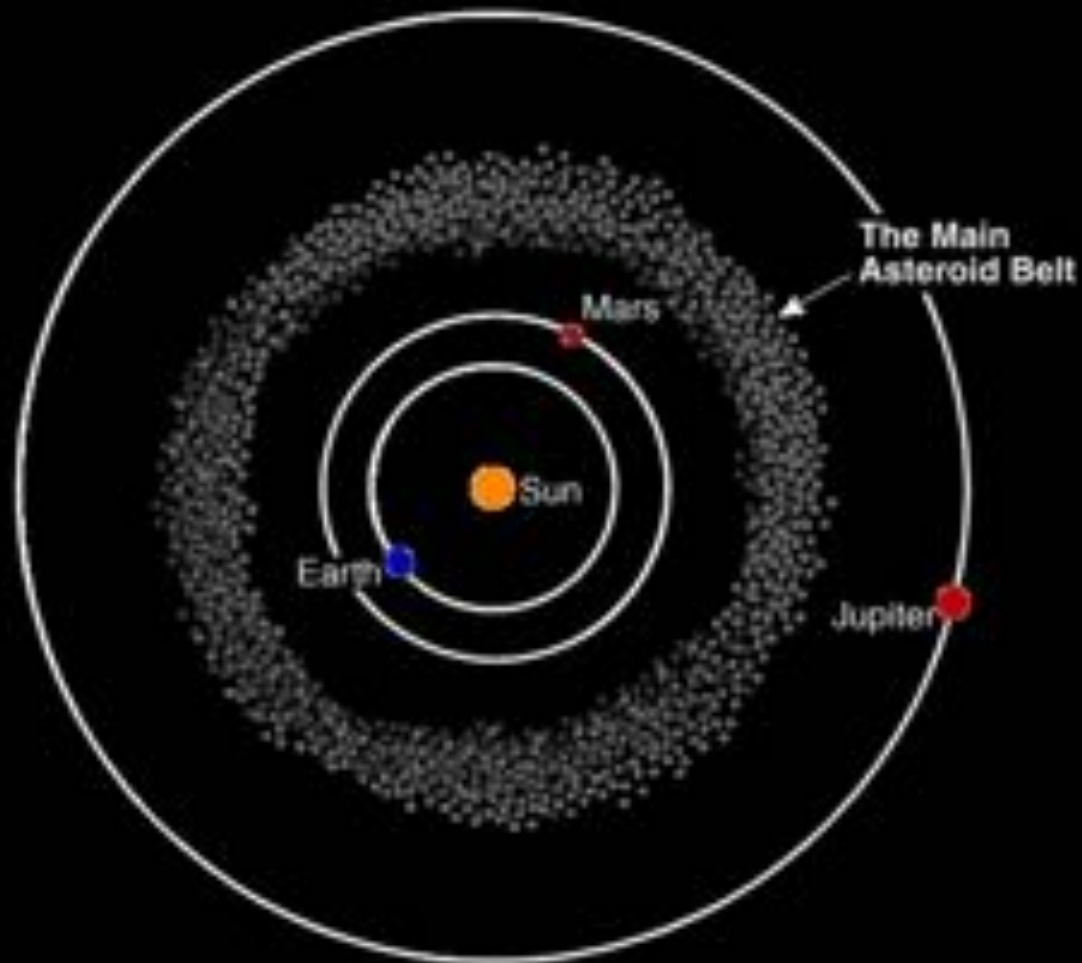
- Asteroids are small rocky objects orbiting around the Sun
- They are also called **Minor Planets**



433 EROS

Where are they all?

Most are in the Asteroid Belt



(Orbits drawn approximately to scale)

by NASA

Where are they all?

But they can be found almost anywhere!

**Known inner
Solar
System
Asteroids**

**Orbit of
Jupiter**

Plot prepared by the Minor Planet Center (2006 Mar 19)



Where are they all?

But they can be found almost anywhere!

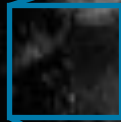
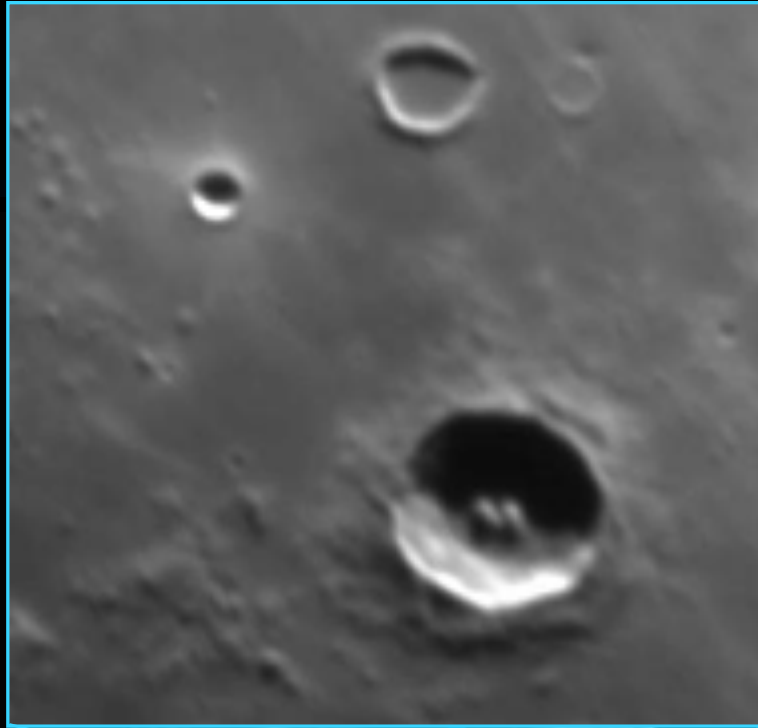
**Known inner
Solar
System
Asteroids**

**Orbit of
Jupiter**

Plot prepared by the Minor Planet Center (2008 Apr.30).

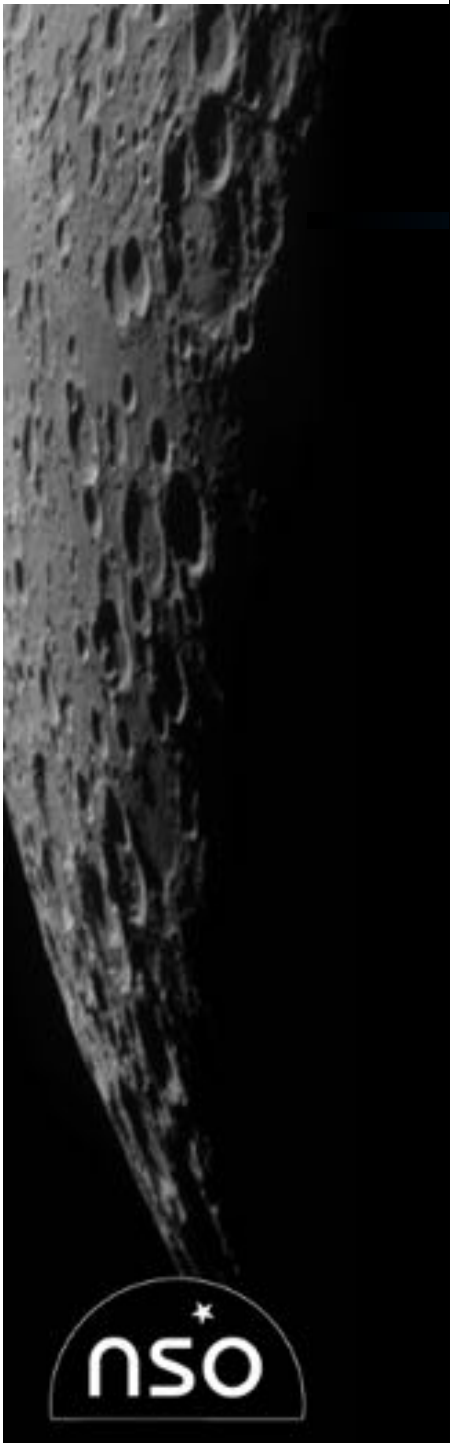


Moon Impacts





Comet Shoemaker Levy 9, July 1994



Mimas
Moon of Saturn





Mimas
Moon of Saturn??

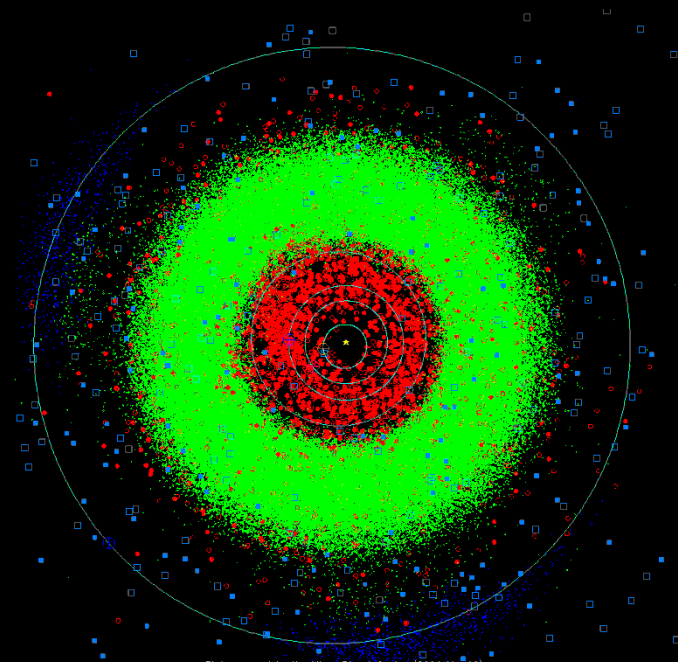


Miranda
Moon of Uranus
Smashed apart before
gravitational reassembly

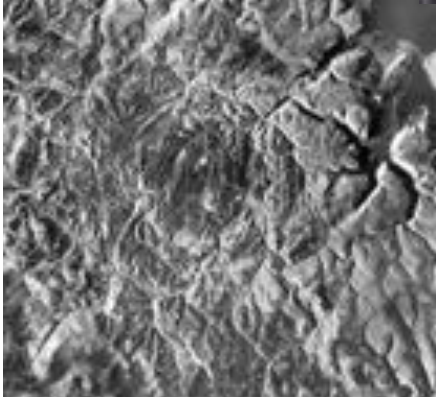
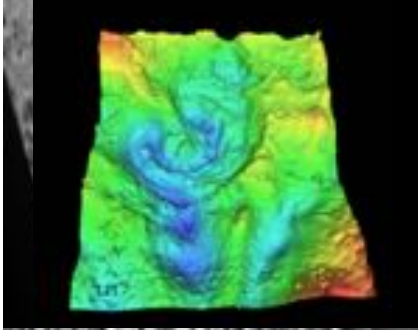
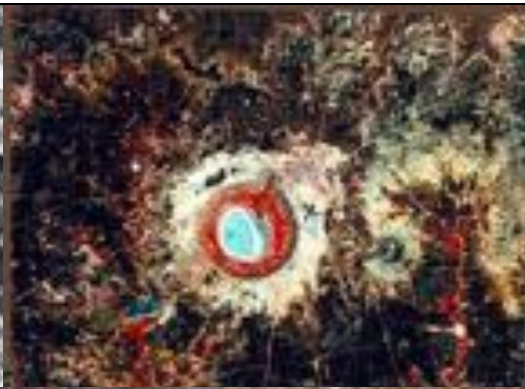


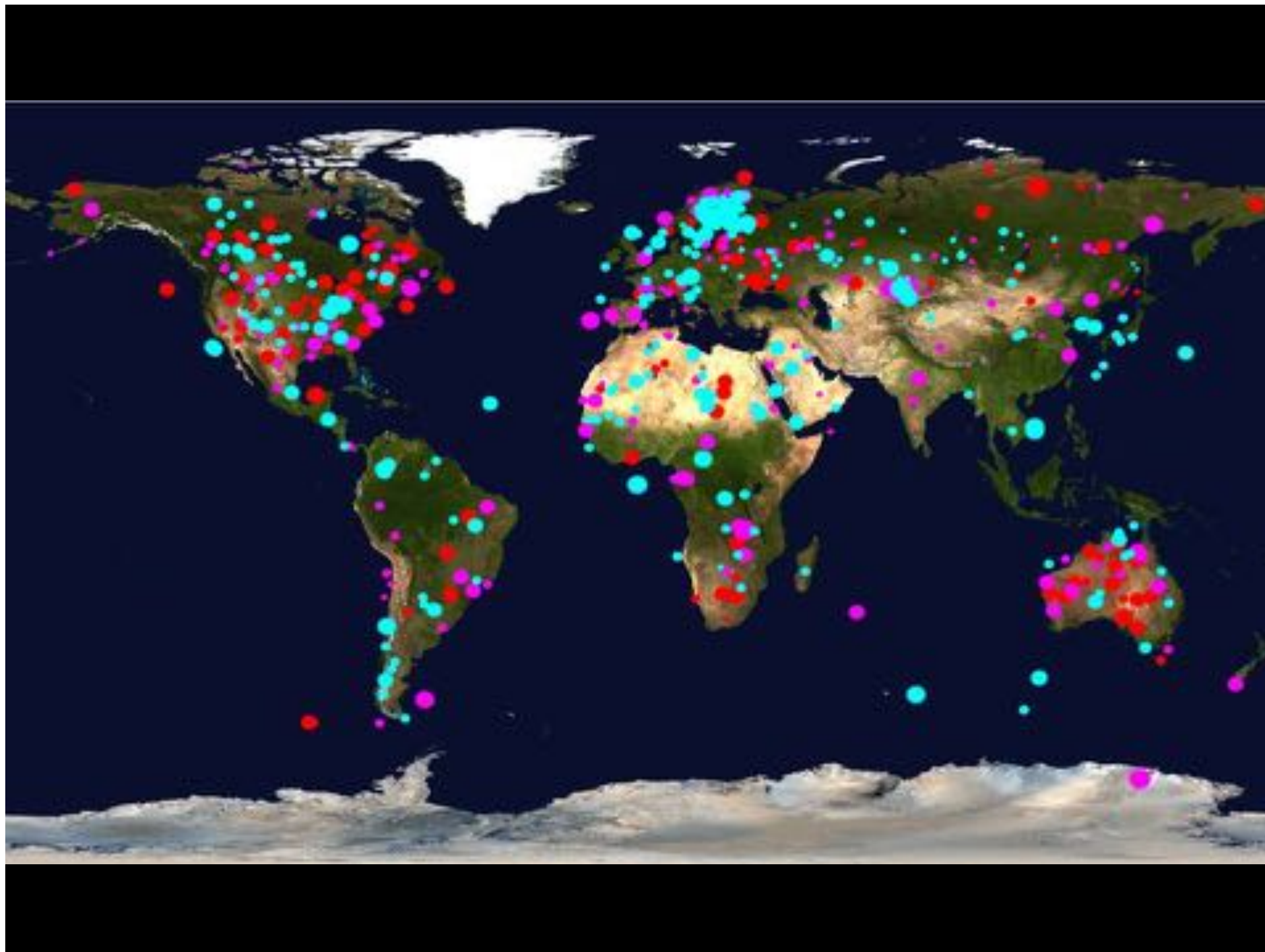
Near Earth Objects

- Some Asteroids have orbits that cross the orbit of Earth
- These are **Near Earth Objects**
- Finding and tracking these is very important...

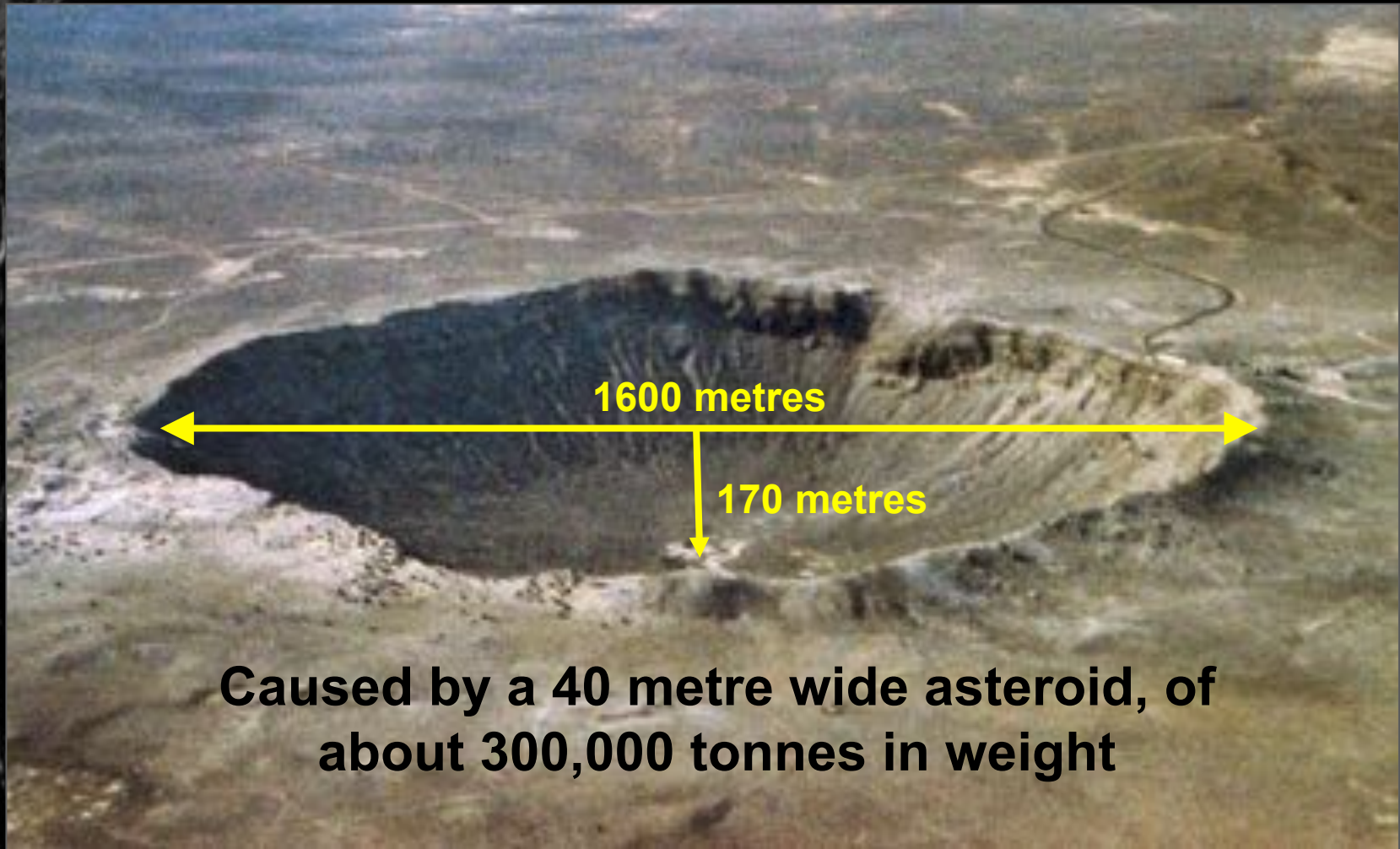








Earth Impacts

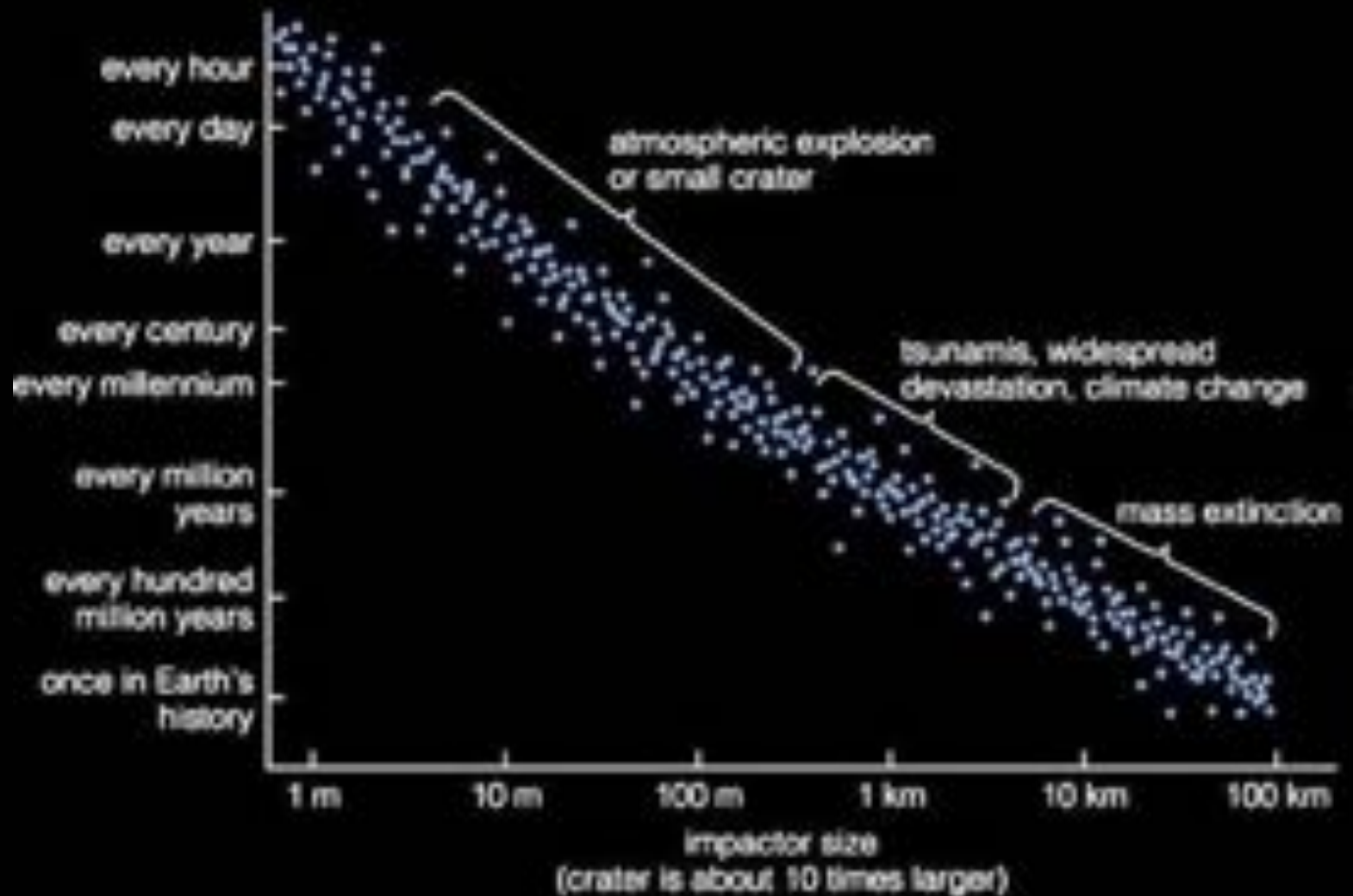


**Caused by a 40 metre wide asteroid, of
about 300,000 tonnes in weight**



Barringer Crater, Arizona

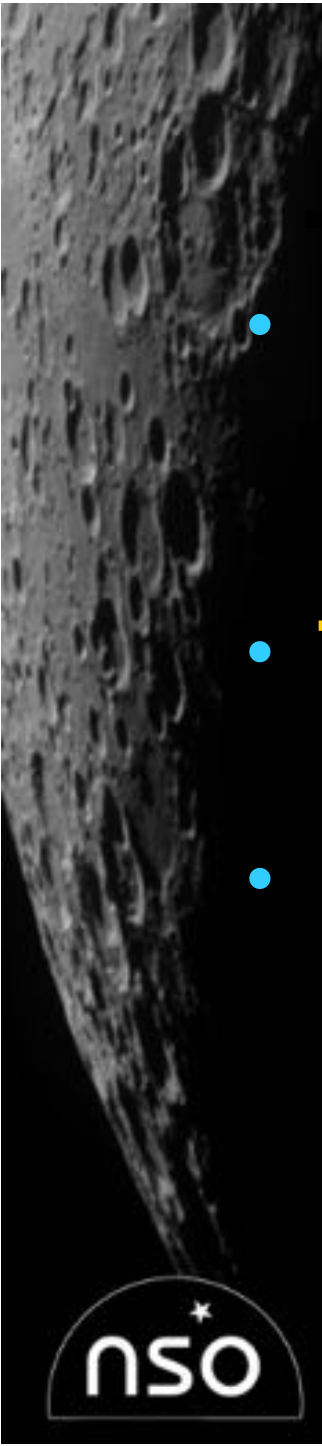
Odds...





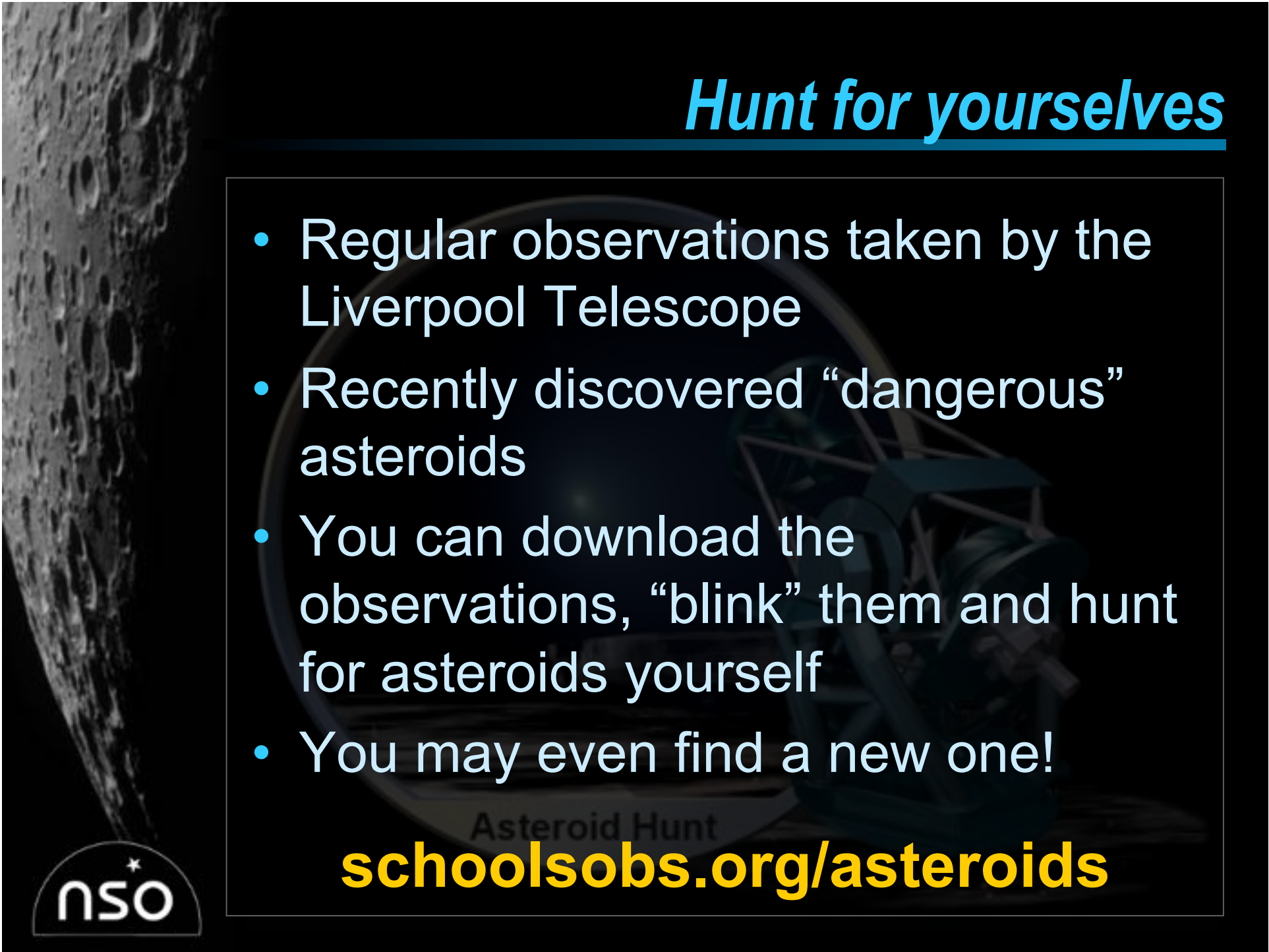
What do we need to do?

- Detect
- Track
- Make safe



What do we need to do?

- **Detect:** An international network of large telescopes covering both hemispheres
- **Track:** A robust, fully-funded follow-up and tracing network
- **Make Safe:** Research into NEO properties and deflection methods



Hunt for yourselves

- Regular observations taken by the Liverpool Telescope
- Recently discovered “dangerous” asteroids
- You can download the observations, “blink” them and hunt for asteroids yourself
- You may even find a new one!

Asteroid Hunt

schoolsobs.org/asteroids



Are we
next?

Thanks to:
Jay Tate, Spaceguard Centre
Liverpool Telescope team



