

SPOT THE SPACECRAFT

Submit Your Images of NASA's OSIRIS-Rex During its Earth Flyby

On Sept. 22, 2017 at 12:52 p.m. EDT (16:52 UTC), NASA's OSIRIS-Rex spacecraft will fly past Earth and use the planet's gravity to slingshot itself toward asteroid Bennu in a maneuver known as an Earth Gravity Assist. Observatories and astronomers with their own equipment are invited to take images of OSIRIS-Rex as it approaches and retreats from its closest position over Earth – approximately 11,000 miles (17,000 km) above the planet's surface.

The mission will collect images of OSIRIS-Rex taken by Earth-based observers around the world during this period – approximately Sept. 10-23, depending on location and local conditions. See below for more details about when and where you can observe the spacecraft and how to submit your images.

What:

Observatories, astronomy groups, and individual amateur astronomers are invited to help image the OSIRIS-Rex spacecraft before and during its Earth Gravity Assist maneuver.

Who:

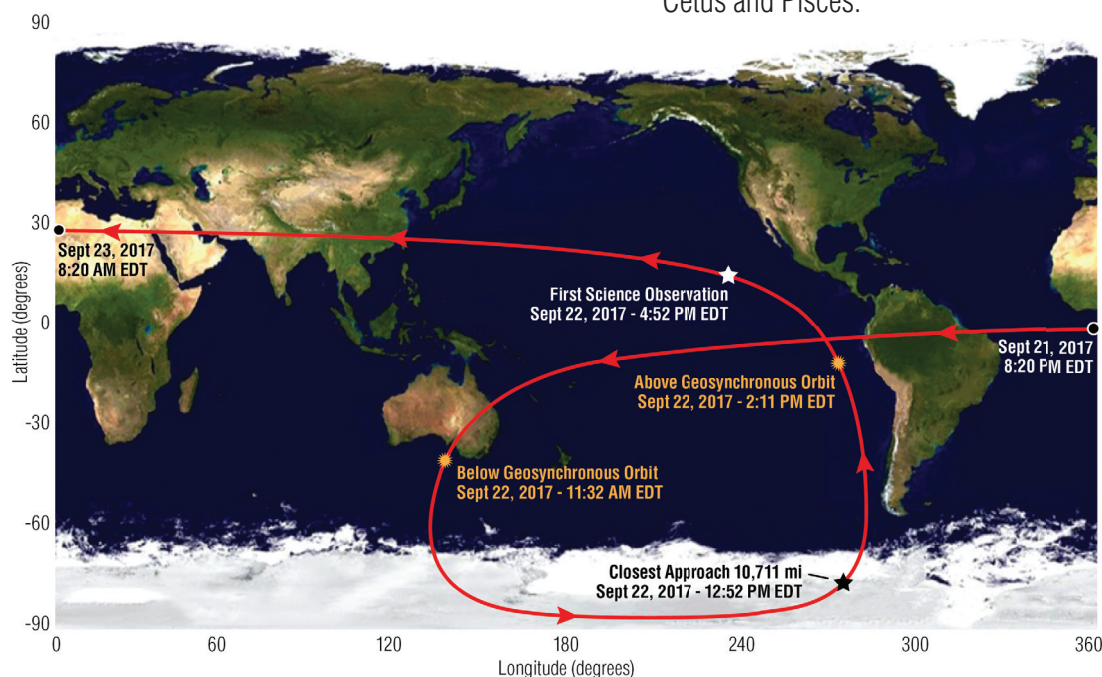
Anyone who has the necessary equipment is welcome to participate. Observers will need a telescope (preferably 8 inches or larger) and a camera.

When:

September 10-23, 2017. Large telescopes may be able to see the spacecraft as early as Sept. 10; most amateur telescopes will not be able to capture it until Sept. 18.

Where:

The spacecraft's closest approach will be approximately 17,000 km over Antarctica and Australia in daylight. Observers in both hemispheres may be able to see the spacecraft during approach until a few hours before closest flyby. For many observers, the spacecraft will appear in the constellations of Cetus and Pisces.

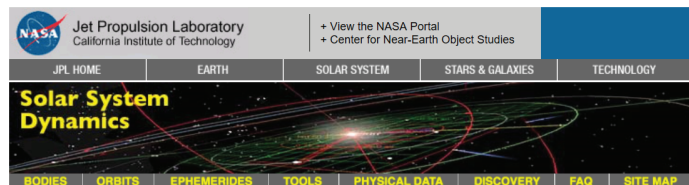


This map shows the path OSIRIS-Rex will travel (relative to Earth's surface) shortly before, during and after its closest approach.



How:

Use the HORIZONS database from NASA's Jet Propulsion Laboratory to look up specifics for your observing location: <https://ssd.jpl.nasa.gov/horizons.cgi>. Use "ORX" for the target body, enter your location, and enter desired observing dates and times to retrieve Right Ascension and Declination. Exposure times will vary, depending on your equipment, local conditions and time of observations. For more details on expected imaging conditions, please see the **Frequently Asked Questions:** <https://www.asteroidmission.org/faq-spot-spacecraft/>



HORIZONS Web-Interface

This tool provides a web-based *limited* interface to JPL's HORIZONS system which can be used to generate ephemerides for solar-system bodies. Full access to HORIZONS features is available via the primary *telnet* interface. HORIZONS system news shows recent changes and improvements. A web-interface tutorial is available to assist new users.

Current Settings

Ephemeris Type [change]: **OBSERVER**
Target Body [change]: **OSIRIS-REx (spacecraft) [ORX]** [-64]
Observer Location [change]: **Tucson, AZ** (110°58'08.4"W, 32°13'14.9"N)
Time Span [change]: Start=**2017-09-10**, Stop=**2017-9-22**, Step=**1 d**
Table Settings [change]: *defaults*
Display/Output [change]: *default* (formatted HTML)

Special Options:

- set default ephemeris settings (preserves only the selected target body and ephemeris type)
- reset *a/* settings to their defaults (caution: all previously stored/selected settings will be lost)
- show "batch-file" data (for use by the E-mail interface)



For specifics on viewing OSIRIS-REx from your location, visit the HORIZONS web-interface at: <https://ssd.jpl.nasa.gov/horizons.cgi>.

Upload your images (most file formats are accepted, but FIT or FITS files are preferred) via the OSIRIS-REx mission website: <https://www.asteroidmission.org/upload-spacecraft-imagery/>

What's next:

Selected images may be included in press releases, posted to social media or the mission website. Members of the mission team may also use them for scientific purposes.

More questions:

Please read the Frequently Asked Questions first: <https://www.asteroidmission.org/faq-spot-spacecraft/>

If you still have a question, contact us at: socialmedia@orex.lpl.arizona.edu.

For general information about the mission, visit: www.asteroidmission.org or www.nasa.gov/osiris-rex.

