

Frequently Asked Questions (FAQ) about EO-1 imaging operations

Q. What are the characteristics of EO-1?

A. For information on the EO-1 mission, instruments, measurements, data requests, data characteristics and products please go to:

<http://eo1.gsfc.nasa.gov/> or

<http://edcsns17.cr.usgs.gov/eo1/>

Q. How many orbits are acquired each day?

A. 13-14 orbits.

Q. How many targets can be imaged per orbit?

A. EO-1 can image 2-3 targets per orbit and can store up to 5 paired scenes (ALI and Hyperion) within the on-board recorder before having to downlink them at an X-band ground station. Both instruments are turned ON for normal earth viewing scenes.

Q. How many images does EO-1 take per day?

A. During a normal operational day, EO-1 will take 20-30 scenes from each instrument. EO-1 acquires images simultaneously using both Hyperion and Advanced Land Imager (ALI). A scene is a paired collect from both the ALI and the Hyperion hyperspectral imager. For each of the 13-14 orbits per day there are 2-3 scene collections attempted per orbit, unless calibration or other engineering activities pre-empt normal imaging.

Q. How many times can EO-1 image a particular location per month?

A. On average a particular location in the mid-latitudes can be imaged up to 10 times per month. The interval between image collects is either 2 days or five days depending on the look angles from EO-1's orbital position. Twice per month, the spacecraft can acquire images of any particular target with a nadir view, twice per month from the adjacent flight path to the East (on the WRS-2 grid), twice per month from the adjacent flight path to the West, twice per month from the flight line that is the second path to the East from the nadir path, and finally, twice per month from the flight path that is the second path to the West from the nadir path. Locations in higher latitudes may be imaged more frequently (up to once per day).

Q. What is the largest angle EO-1 can point to acquire an image?

A. Technically there is no limit other than roll speed, which takes only seconds to maneuver several degrees. The largest angle EO-1 executes under autonomous control is 26 degrees.

Q. How do I request the acquisition of an image for my site?

A. Here are the ways to do it:

1. To submit a USGS Data Acquisition Request (DAR) go to <https://edcsns17.cr.usgs.gov/eo1/dar/instructions> and follow the instructions. The site provides information on the acquisition process. After you register as a user, you will be able to complete the on-line DAR form and submit your request.

2. You can contact the EO-1 Mission Science Office (MSO) Director at NASA/GSFC and request research acquisition(s). Contact information: Lawrence.Ong@nasa.gov

The EO-1 Mission Director oversees all activities on-board the spacecraft and the ground systems supporting the mission. The MSO coordinates image collections with the goal to optimize the use of EO-1 for scientific purposes. For example, the MSO can facilitate the acquisition of requests for short term acquisitions over targets of high interest, large aerial coverage requiring multiple adjacent scenes, repeated coverage, and or resolve scheduling conflicts.

3. If you require multiple acquisitions and would like to actively be involved in the scheduling, please go to EO-1 tasking at <http://eo1.geobliti.com/>.

Q. What are the EO-1 Mission Science Office (MSO) priorities for acquisition?

A. The MSO prioritizes every target request. Below are some user groups listed by order of priority from high to low:

- EO-1 engineering and calibration acquisitions
- EO-1 science acquisitions coordinated with field campaigns

- Disaster and emergency acquisitions
- Requests from U.S. researchers and institutions
- International research institutions
- Requests from the general public

For more detail on how the scheduling system works and how users can view status of acquisition requests, tasking, execution, delivery, and processing information, please see the sections below.

Q. How do I request an acquisition in support of disaster assessment/relief efforts (e.g. fire, flood, hurricane, tsunami, earthquake) with a short turnaround time?

A. E-mail the EO-1 MSO: Stuart.W.Frye@nasa.gov

Q. I would like to receive a notification about the status of the acquisition I have submitted. What is the procedure to follow?

A. The answer differs depending on the path you selected for ordering the data.

- USGS sends e-mail that the request has been received, which should be followed by a second e-mail when the data is acquired.

- The EO-1 MSO will assign a member of the team to trace your acquisition/s. This will be your contact person for the duration of the acquisitions (?).

- If you used Geobliki to submit requests, you will receive notifications about the acquisitions to let you know when you can pull any relevant data over to your servers for further analysis. You can subscribe to the notification service at <http://opsb.geobliki.com/>

Q. How do I obtain the acquired EO-1 data?

A. EO-1 data is distributed free of charge by USGS. You can download the data from the USGS database at GloVis (glovis.usgs.gov/) or EarthExplorer (earthexplorer.usgs.gov/).

Users can also download previously acquired EO-1 Level 1R and 1G data products at the EO-1 ftp server: <ftp://8.17.170.176/>

The directory structure starts with the instrument and data level (ali_l1g, hyp_l1r, and so forth). The next page will allow you to click on 2011 and the next set of folders is for the Julian Day of Year (the DOY for the below scene is 189). After you click on a Day Of Year folder, you should see the SceneID (e.g., EO1H0060542011189110KF), except now the added fourth character is the first character of the instrument name.

Q. How long will it take for my image to appear in the USGS database?

A. When your image is acquired you will see it appearing in the USGS database at GloVis (glovis.usgs.gov/) or EarthExplorer (earthexplorer.usgs.gov/). It takes about one week for the system to be fully up to date. Using Earth Explorer you can register for getting e-mail notification of new acquisitions in your area of interest.

To see the USGS Q&A please visit <http://edcsns17.cr.usgs.gov/eo1/faq>