ECHO Access tutorial

> ⚠ ECHO has been replaced by the **Common Metadata Repository (CMR)**, a high-performance, high-quality, continuously evolving metadata system that catalogs all data and service metadata records for the EOSDIS system and will be the authoritative management system for all EOSDIS metadata.
>
> The information contained within this ECHO wiki is now archived for historical reference. Please navigate to the **CMR wiki pages**, or to the **CMR Overview page** on **Earthdata**.

ECHO access is a 508-compliant application which allows discovery and acquisition of NASA earth science data through the ECHO system. It is akin to the Reverb application in terms of functionality but is designed, primarily, with accessibility in mind.

508 Compliance

We endeavour to provide full 508-compiance with ECHO Access as per the following,

Please refer to the original source for latest updates at:

www.access-board.gov

The Rehabilitation Act Amendments (Section 508)

On August 7, 1998, President Clinton signed into law the Rehabilitation Act Amendments of 1998 which covers access to federally funded programs and services. The law strengthens section 508 of the Rehabilitation Act and requires access to electronic and information technology provided by the Federal government. The law applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology. Federal agencies must ensure that this technology is accessible to employees and members of the public with disabilities to the extent it does not pose an "undue burden." Section 508 speaks to various means for disseminating information, including computers, software, and electronic office equipment. It applies to, but is not solely focused on, Federal pages on the Internet or the World Wide Web. It does not apply to web pages of private industry.

The Board is responsible for developing accessibility standards for such technology for incorporation into regulations that govern Federal procurement practices. The net result will be that Federal agencies will have to purchase electronic and information technology that is accessible except where it would cause an "undue burden." The law also provides a complaint process under which complaints concerning access to technology will be investigated by the responsible Federal agency.

- NASA 508 Statute
- NASA 508 Overview

Authentication (login)

In order to access restricted data you will need to log in to the access application. To do this you need URS credentials.

1. Click on 'sign in'
2. You will be redirected to the URS login page.
3. Enter your URS user name and password
4. Click on 'log in'
5. You will be redirected back to the Access application bit this time you will see 'sign out (<your URS username>)'
6. You may log out by clicking on that link at any time
7. Notice that you can login at any point during your access session and be returned to the same place where you started the login process.

Searching for data

1. Direct your browser to https://access.sit.earthdata.nasa.gov/
2. Click on 'Search'

Searching for datasets

1. You will be presented with a form that allows the discovery of datasets represented in the ECHO inventory.
   a. Type in a keyword that will narrow down your search results. For example, if you are looking for data related to the ozone layer, type 'ozone' into the keyword input.
   b. Type in a Bounding Box value to search for datasets within a specific geographic area.
   c. Type in a Polygon value to search for datasets within a geographic specific area.
   d. Type in a Point value to search for datasets with a spatial region overlapping the given point.
   e. Type in a Start Time value to search for datasets with a temporal extent starting on or after the given date.
   f. Type in an End Time value to search for datasets with a temporal extent starting on or before the given date.
   g. Click on 'Search'. Note that all search parameters will be AND'd together.

2. You will be presented with a list of datasets matching your query.
3. If there are more than 10 datasets that match your query you will have the option to page through those results using the 'first', 'next', 'previous' and 'last' links.
4. If no datasets match your query you will see the text 'Your search yielded zero results'
5. Your results will be ranked by relevance. The most relevant results will be returned first. Relevance is only applicable to the 'keyword' part of your query. Any other constraints are not considered when ranking relevancy.
6. A dataset result contains the following
   a. The title of the dataset. For example 'MODIS/Terra Thermal Anomalies/Fire Daily L3 Global 1km SIN Grid V005'
   b. The description of the dataset
   c. The temporal extent of the dataset expressed by a start and end time. Some datasets have no temporal extent or only have a start time indicating an ongoing campaign.
   d. The spatial extent of the dataset expressed in one of the following geometries (note that some datasets do not have a spatial extent)
      - Bounding Box
      - Polygon
      - Line
      - Point
   e. A list of urls associated with the dataset. These may be documentation, metadata, data or browse links
   f. Browse image thumbnails that are linked to the full resolution browse image
   g. A link to an exhaustive description of this dataset. Click on 'More information on this dataset'
   h. A link to a search of granules belonging to this dataset. Click on 'Search this dataset' See below for details on this.
   i. The product data can be downloaded (if available) by clicking on the 'Download this dataset' button.

Searching for granules within a dataset

Once you have isolated a dataset of interest you can search the granule inventory of that datasets by performing the following,

1. Click on the link 'Search this dataset' in the dataset item you are interested in
2. You will be presented with a form that allows the discovery of granules represented in the ECHO inventory
3. The 'dataset ID' input will be pre-populated with the dataset you are interested in
4. You may also further constrain your search by utilizing the following search parameters,
   a. Type in a Bounding Box value to search for granules within a specific geographic area.
   b. Type in a Polygon value to search for granules within a geographic specific area.
   c. Type in a Point value to search for granules with a spatial region overlapping the given point.
   d. Type in a Start Time value to search for granules with a temporal extent starting on or after the given date.
   e. Type in an End Time value to search for granules with a temporal extent starting on or before the given date.
   f. Select a day night value
      i. Day Only - will constrain your granules to those captured during the day locally
      ii. Night Only- will constrain your granules to those captured during the night locally.
      iii. Anytime - is the equivalent of no day night constraint
   g. Check 'browse only' to see only granules that have browse files that you can inspect
   h. Check 'online only' to see only granules that can be downloaded directly
   i. Type in a 'Cloud cover minimum percentage' value to search for granules that are obscured by more than the percentage given
   j. Type in a 'Cloud cover maximum percentage' value to search for granules that are obscured by less than the percentage given

5. Click on 'Search'
6. You will be presented with a list of granules matching your query.
7. If there are more than 10 granules that match your query you will have the option to page through those results using the 'first', 'next', 'previous' and 'last' links.
8. Note that you may return to your dataset results by clicking on the 'Return to dataset results' link and any dataset parameters you have used will be present when you go back to the dataset search page. Also, if you had navigated to a a specific page of dataset results you will be returned to that page.
9. A granule result contains the following
   a. The Universal Resource name or UR of the granule. For example 'LANCEMODIS:304105976'
   b. The temporal extent of the granule expressed by a start and end time.
   c. The spatial extent of the granule expressed in one of the following geometries
      - Bounding Box
      - Polygon
      - Line
      - Point
   d. A list of urls associated with the granule. These may be documentation, metadata, data or browse links
   e. Browse image thumbnails that are linked to the full resolution browse image
   f. A link to an exhaustive description of this granule. Click on 'More information on this granule'
   g. The product data can be downloaded (if available) by clicking on the 'Download this granule' button.