ScienceBase Overview (15 minutes)

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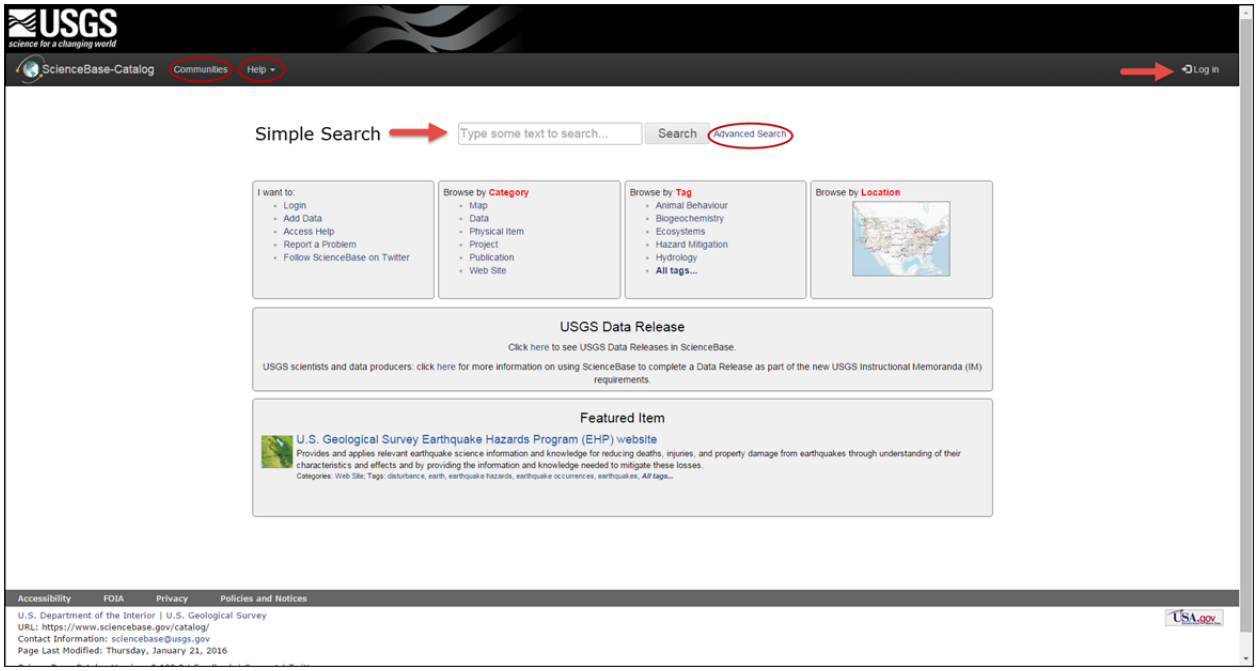
Navigating ScienceBase (demonstration): (15 min)

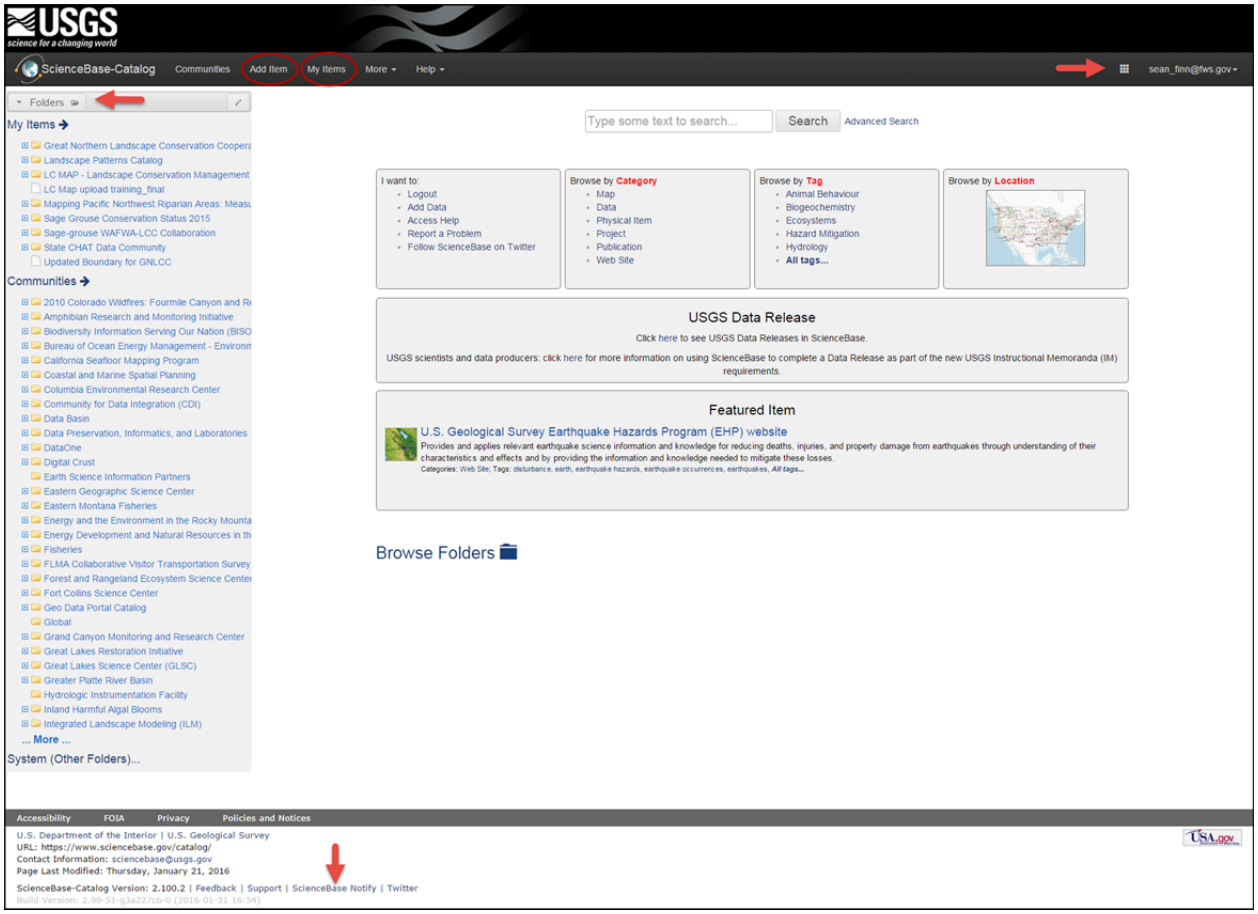
ScienceBase is a collaborative scientific data and information management platform developed by the U.S. Geological Survey. Data and metadata can be accessed via web services to drive downstream applications and websites. ScienceBase is available at https://www.sciencebase.gov.

Public vs. Logged In View

- Public
  - Can only search for publicly available items
  - Can see Communities
  - Can't see folders
  - Can't contribute data or content

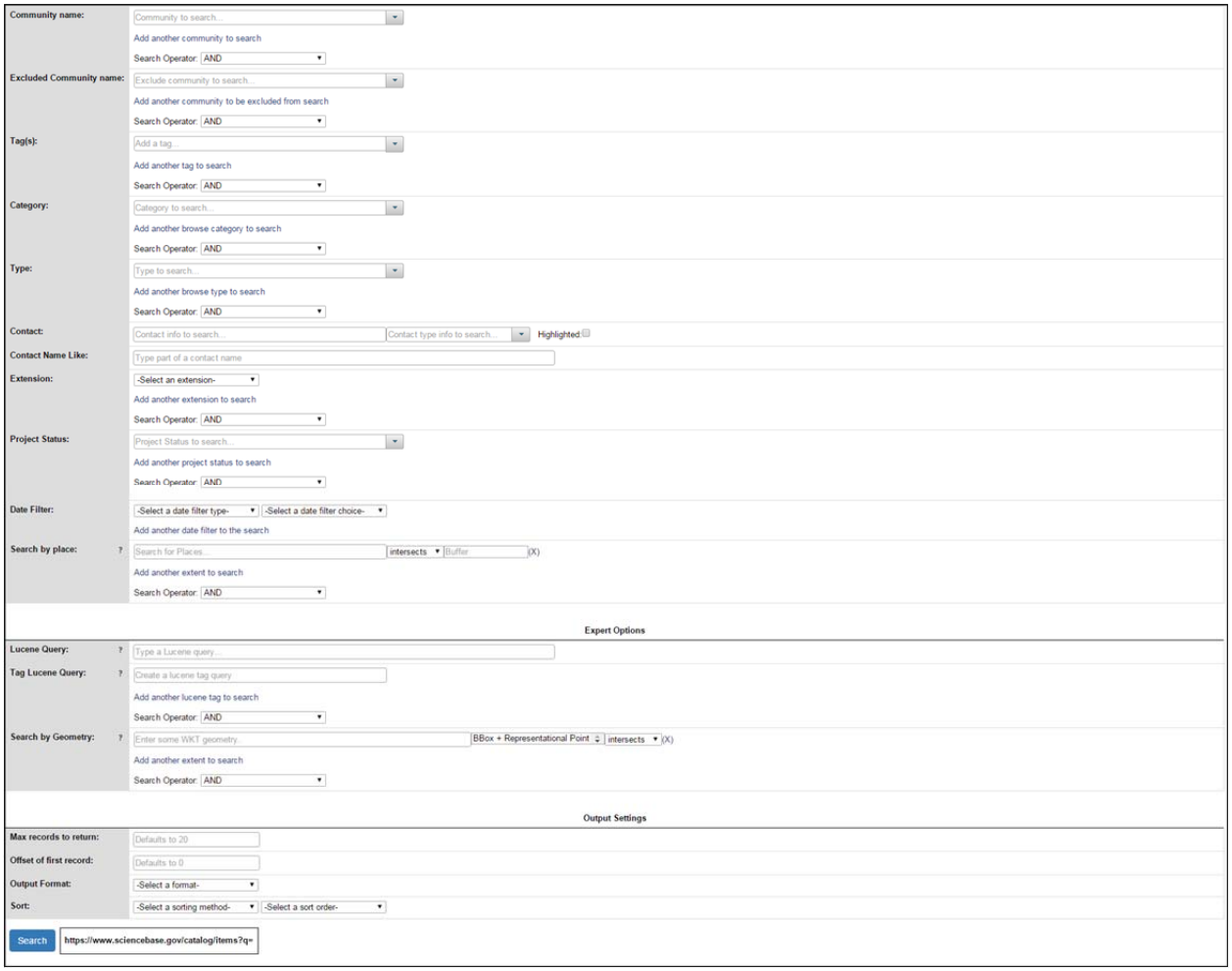


- Logged In
  - Permissions to authorized communities and items
  - Can see folders
  - Can add/upload metadata
  - Can create web map services for external use



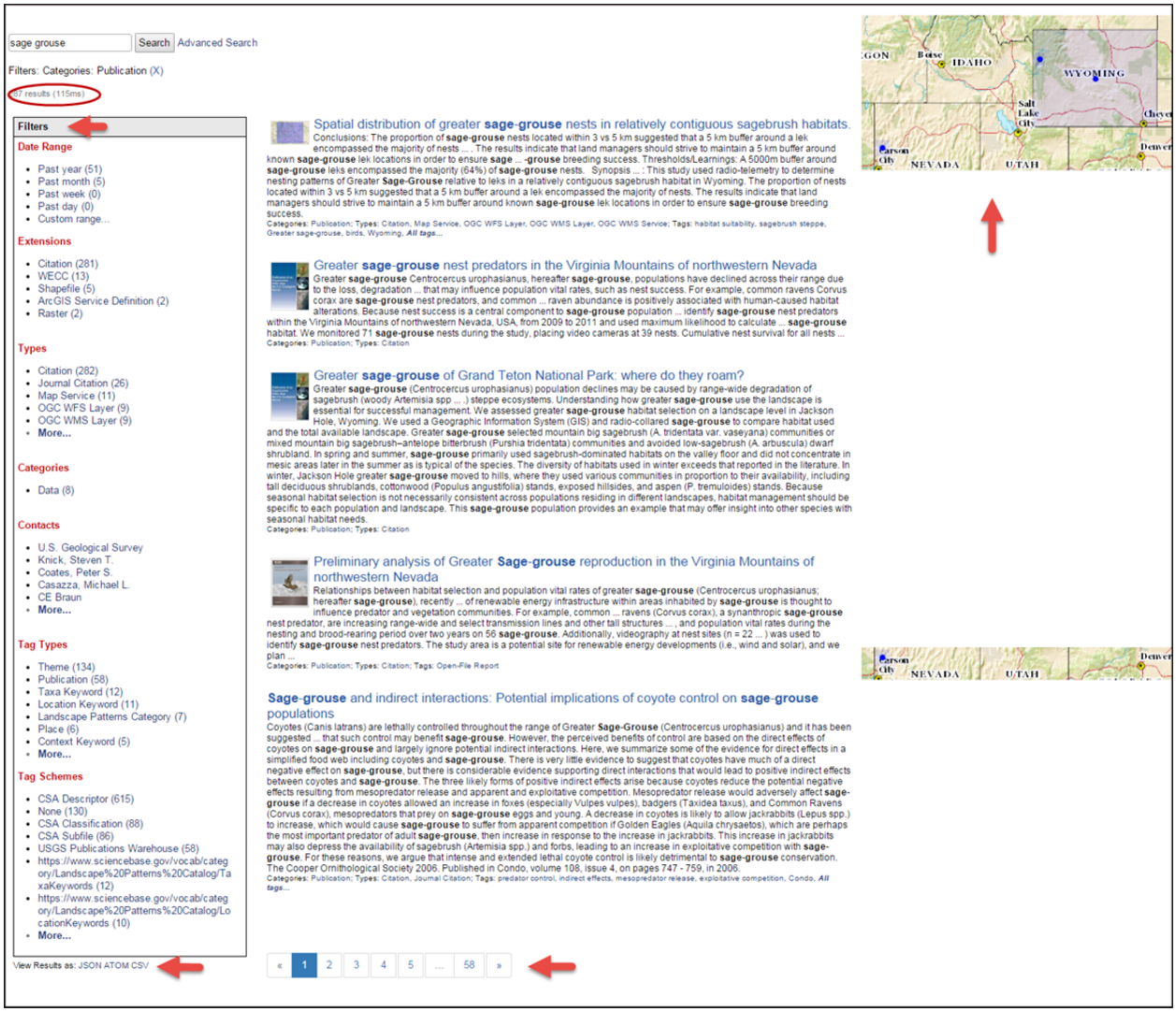
Searching ScienceBase

- Simple Text Search
- Browse by Category
- Browse by Tag
- Browse by Location (finds items whose map marker is located within a bounding box)
- Advanced Search



Search Results List

- Narrow results by filters
- May have a map as you page through results
- Can export results in json, ATOM, CSV

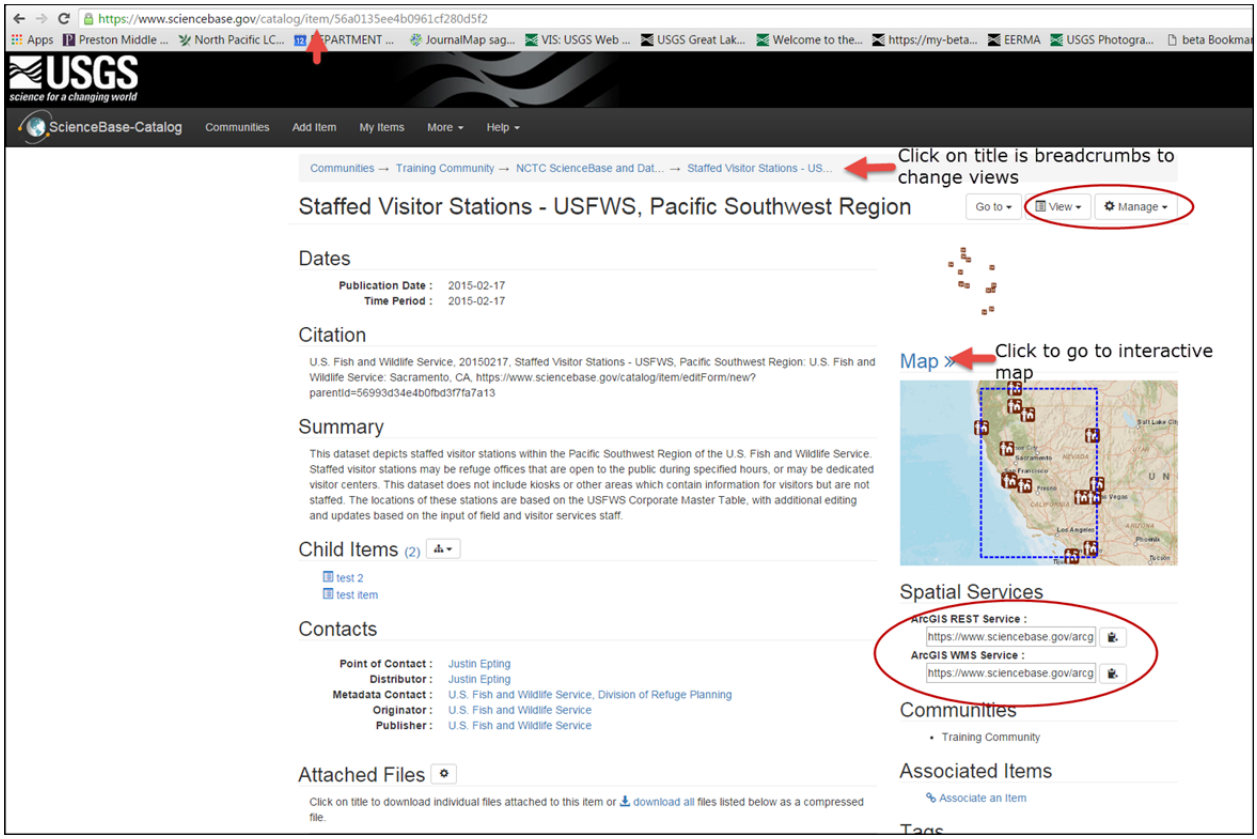


What is a ScienceBase Item?

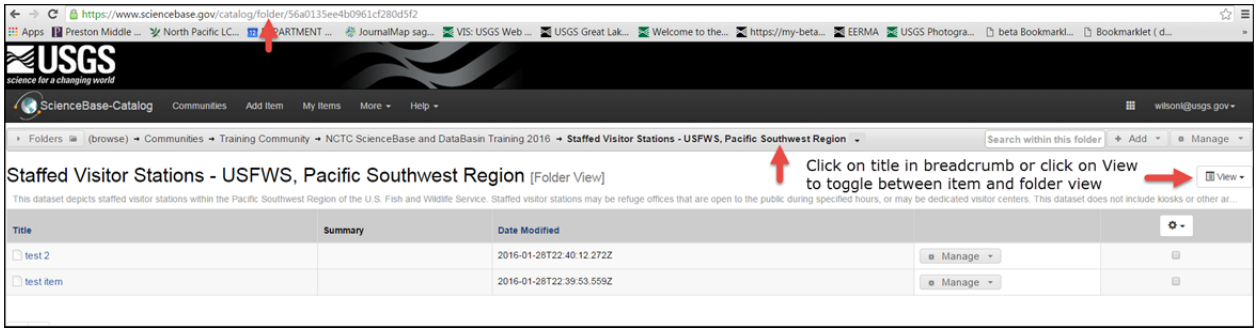
- **ScienceBase item** is any digital object in ScienceBase. Items can be created for a wide variety of purposes. For example, users can create new items to store and share uploaded data (almost any file type), metadata information or links to online resources. Users can also create links to existing ScienceBase items.
- All items in ScienceBase have an identical format (based on the ScienceBase item core model). This means that all items have the same metadata fields and can be described using the same edit form.
- ScienceBase **items** include **records and folders**. In other data management systems, folders are just containers for records. In ScienceBase, because folders and records have the same fields and format, folders can be described, viewed and utilized in the same ways as records. All items in ScienceBase, both records and folders, are discoverable through Internet search engines.
- Relationships between ScienceBase items are defined with the terms **parent and child** items. For example, a parent folder can contain child subfolder, which in turn can be a parent item to a child record.

Item View vs. Folder View

Item View:



Folder View:



User Tips:

- Look at the url to see if you are in **item** view or **folder** view
- Click on the **View** button to toggle between **folder** and **item** view
- Click on the title in breadcrumbs to toggle between views

Adding Items to ScienceBase

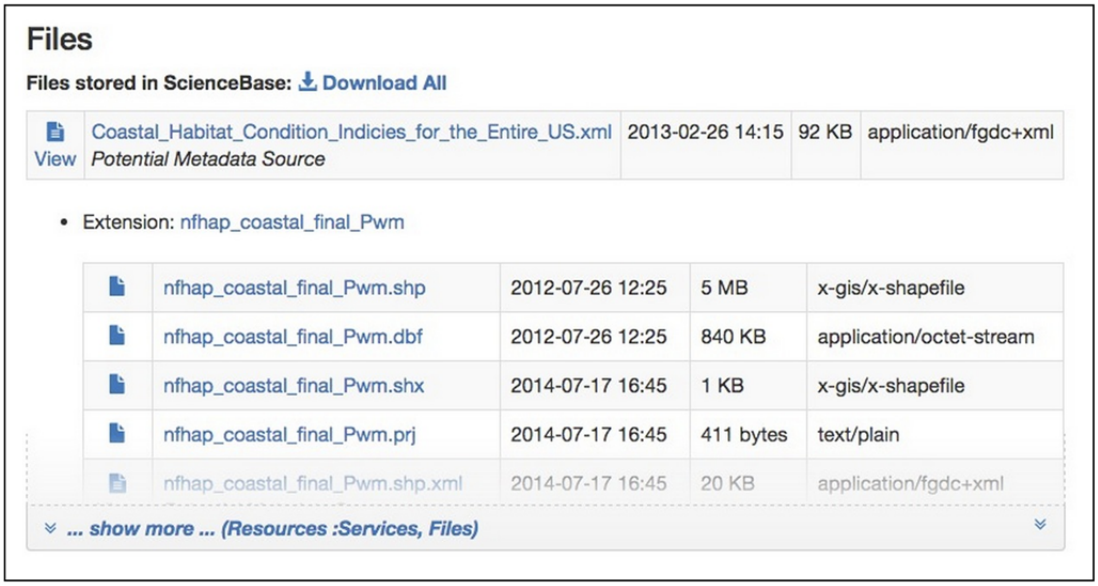
- **Import File**: Select **Import File** to create a new item that will include a file from a local system.
- **Create new record**: Select Create New Record to add a metadata record which could include a project description, citation with a url to a publication, or a web link to a data service.
- **Import a URL:** Select Import URL to bulk load GITHub repository urls.
- Users must be logged in and have write privileges.

Supported File Types

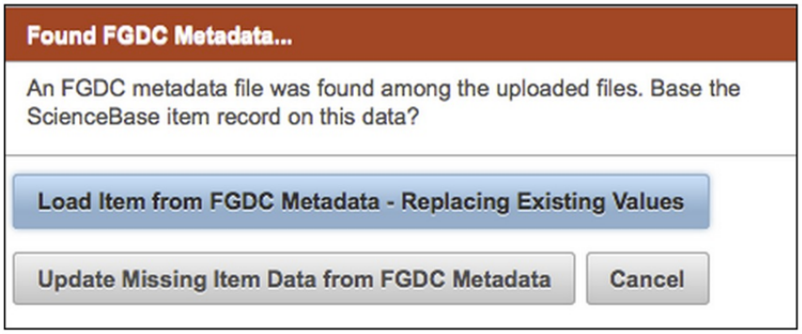
- Almost any file type may be uploaded. Some file types are considered “special” and are processed by ScienceBase to enable interactive online viewing.
    - Shapefile (.shp): Item can be viewed in the Interactive Map. WMS, WFS, and KML services are created.
    - GeoTiff (.tif): Item can be viewed in the Interactive Map. WMS, WCS, and KML services are created.
    - Service Definition (.sd): Item can be viewed in the Interactive Map. ArcGIS REST service and ArcGIS WMS Services are created.
- Multiple files may be uploaded to a single item and these files may be uploaded individually or bundled together in a zipped file.
- Recently added support for larger files greater than 2GB . Using the new Uploader tool, you can now upload large files from your local system, Google Drive, and Dropbox.

Metadata

- Datasets should have associated metadata that adhere to FGDC endorsed standards – either Content Standard for Digital Geospatial Metadata (CSDGM) or the ISO metadata standard.
- Metadata files can be uploaded and stored as resources in ScienceBase items. The following screenshot is from a ScienceBase record that has two uploaded resources: a shapefile (uploaded as an extension) and its associated CSDGM XML metadata file:



- The ScienceBase edit form **does not** contain all the fields that are required by FGDC endorsed metadata standards. Filling out the edit form is not an alternative to uploading FGDC compliant metadata.
- ScienceBase has the capability to recognize and parse FGDC endorsed Content Standard for Digital Geospatial Metadata (CSDGM) and ISO metadata files that are in XML format. This means that information from these files can be used to populate ScienceBase fields. If a CSDGM or ISO XML file is uploaded, ScienceBase will recognize the format and automatically bring up the following menu:



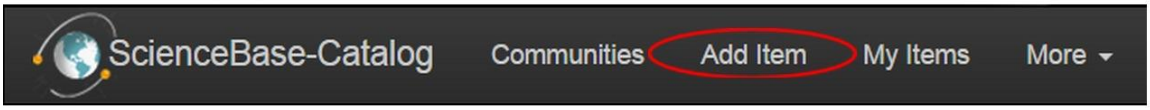
If “Replacing Existing Values” is selected, ScienceBase will overwrite what has already been written in the descriptive fields (warning: this could delete content).

“Update Missing Item Data” will only fill in fields that are blank. In fields that accept multiple entries, such as the contact and date fields, new content will be added to existing content.

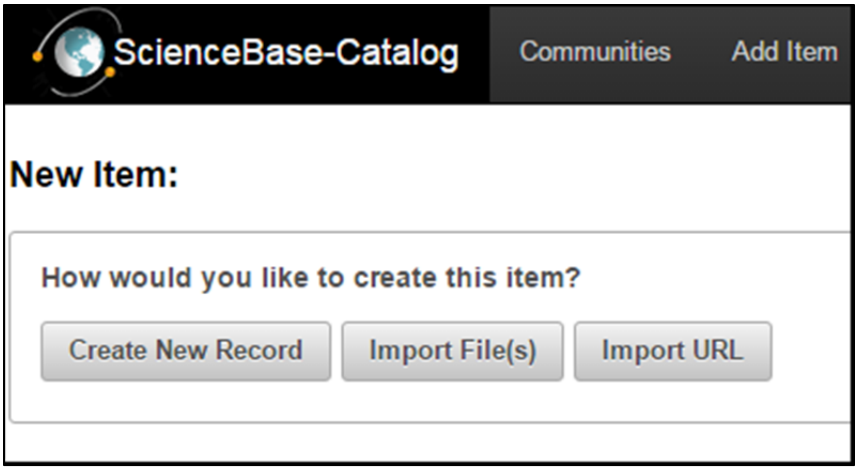
“Cancel” will allow the upload to proceed without any automatic population of fields.

Create an item

Select "Add Item," located in the navigation bar:



This will bring up a menu that has three options: "Create New Record," "Import File(s)," and "Import URL." "**Create New Record**" connects directly to a blank edit form, where it is possible to enter metadata information manually and upload data. "**Import File(s)**" allows users to upload a file first and then describe it through an edit form.

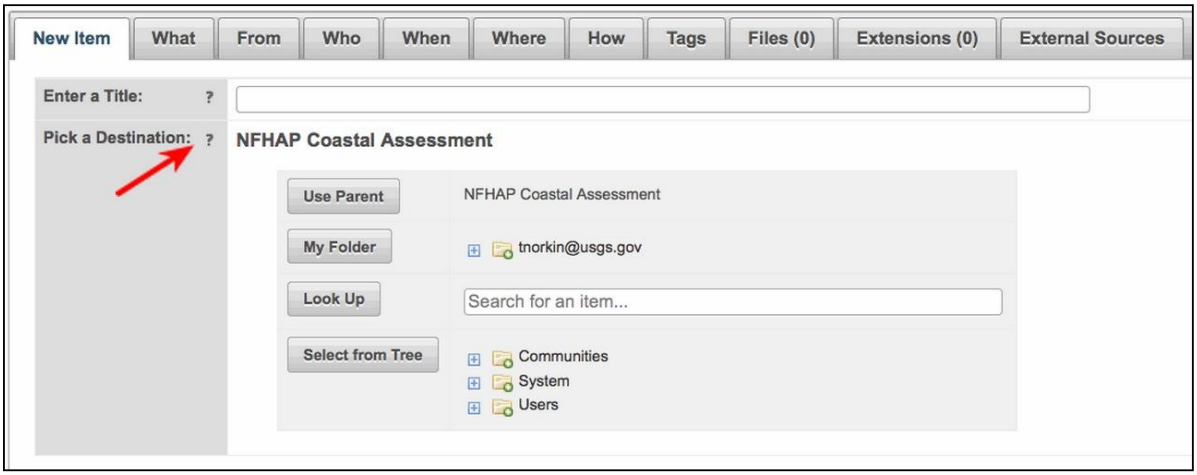


It is also possible to add a new item by using the "**Add**" **drop-down menu** in the grey title bar of a ScienceBase item's folder view:

Describe an item using the edit form

The ScienceBase edit form provides multiple tabs for describing and uploading data.

For information about an individual field, hover over the question mark icon that is next to the field:



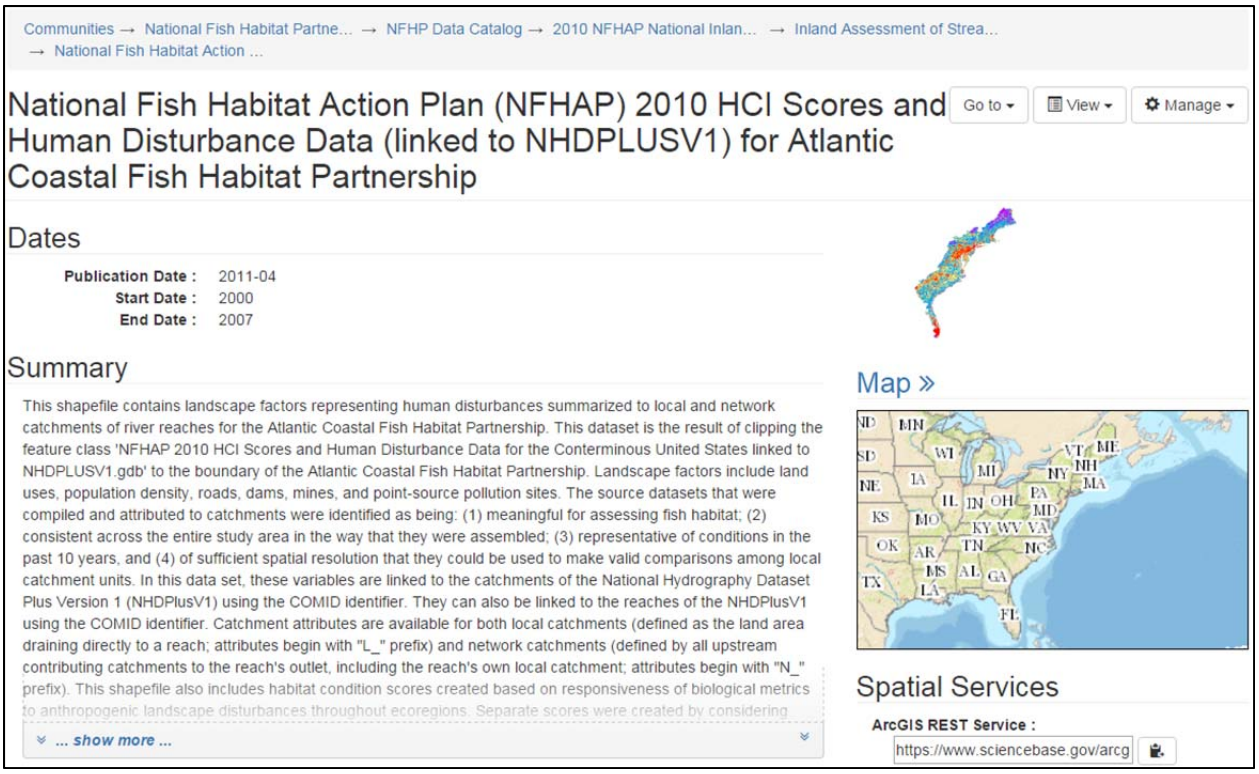
When a new item is created, its location is set by default in the edit form (where it can be changed manually). The new item's parent is set as the item that was active when "Add Item" was selected. For example, in the screenshot above, the user selected "Add Item" while viewing "NFHAP Coastal Assessment". This was automatically entered into the "Pick a Destination" field. The user can manually change the location by using the available search function and directory tree.

The only required metadata field is "**Title**," which can be entered in either the "New Item" or the "What" tab. The other fields are optional but highly recommended in order to provide context for items.

Please be as complete as possible in describing datasets and other items. It should be possible for ScienceBase users to view a dataset for the first time and understand what it is, who created it, when it was created, etc.

Please also pay special attention to the titles of new items. Public ScienceBase items (both folders and records) are discoverable through Internet search engines. If a ScienceBase item is picked up by a search engine, it will be displayed in the search results list by its title. Therefore, titles should be both explanatory and understandable, even without any context. Please spell out acronyms and avoid using file names and ID numbers that are only meaningful within an organization. The list of metadata best practices on the USGS Data Management website suggests choosing a title that incorporates the who, what, when, where, why, and scale of a dataset.

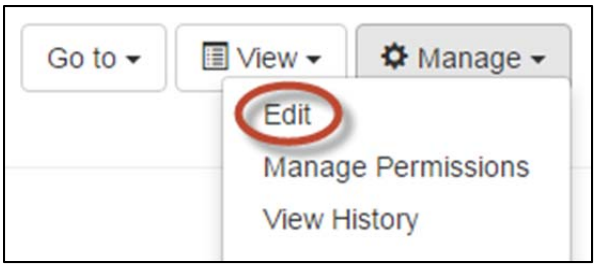
Another important field is "**Body**," located in the "What" tab of the edit form. This field should contain a comprehensive description of the item. Content entered into this field is displayed in a ScienceBase item as "Summary" below the title and dates:



Files and other resources can be added using the last three tabs in the edit form: "**Files**," "**Extensions**" **and "External Sources**."

The "**Files**" tab allows users to upload files from their local drives. The "**Extensions**" tab contains a set of forms that are designed for specific data types (e.g. shapefiles, citations, ArcGIS REST services). Most extension forms, such as the form for citations, simply provide extra fields. Extension forms for geospatial data types (e.g. shapefiles and ArcGIS REST services) offer a place to upload data or enter a service URL. The final tab, "**External Sources**," can be helpful as an entry form for URLs that link to resources outside of ScienceBase.

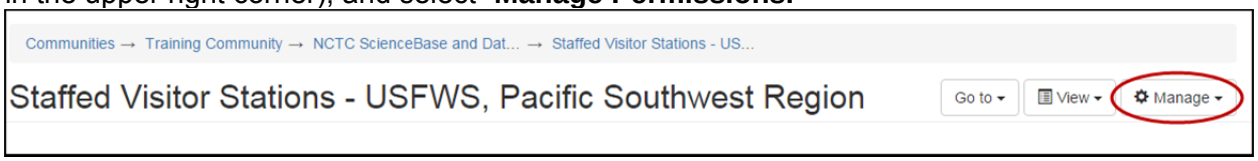
To **edit an existing item, select the** "**Manage**" button on the far right side of the item's title, then select "**Edit**." This will lead to the item's edit form.



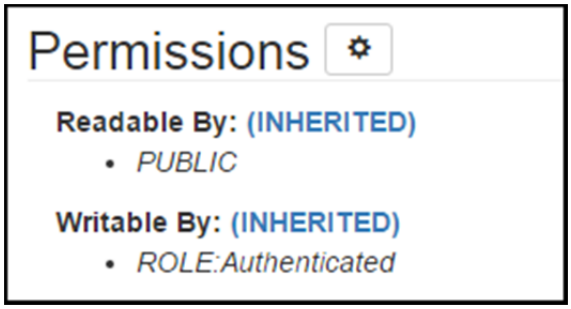
Managing Permissions

A user that has write permission to an item has the ability to change the privacy settings of individual ScienceBase items (both folders and records). This means that they can **control who can view and who can edit** individual items in their community.

- To change privacy settings, click on an item's main "**Manage**" drop down menu (located in the upper right corner), and select "**Manage Permissions.**"



- Alternatively, click the settings icon next to the permissions label in the right sidebar:



- In the "**Manage Permissions**" menu, it is possible to limit permissions to individual users or groups of users. By default, items are set to inherit the permission settings of their parent item:
  - To give an entire role (group) permission, in the ROLE field begin typing the name of the group and click on the name in the drop-down selection. (Groups are managed in myUSGS. If you would like to manage permissions using a group role, please send an email to sciencebase@usgs.gov with this request)
  - To give a specific person permission, in the USER field begin typing their name and click on the name in the drop-down selection.
    Note: If the person is not found in the drop-down selection, they do not have an account to ScienceBase).
  - Select Add and then Save.

Note: By default, child items inherit the permissions from the parent item. If you do not want the child item to inherit the permissions, remove the checkmark from the inherited box when managing the permissions.

For more information about using ScienceBase, please refer to the ScienceBase Help.