BCO-DMO

Biological & Chemical Oceanography Data Management Office

http://bco-dmo.org

DATA ACCESS TUTORIAL
2012 OCB PI SUMMER WORKSHOP

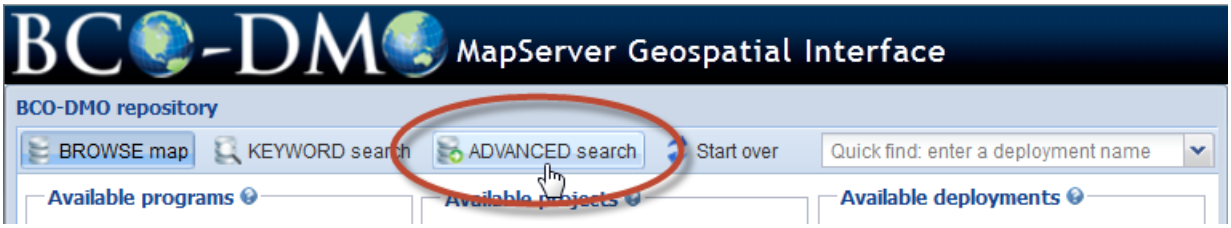
DATA ACCESS: MAP SEMANTIC SEARCH

SCENARIO 5: you have an idea what you are looking for, but you do not know the Program, Project, or Deployment name.

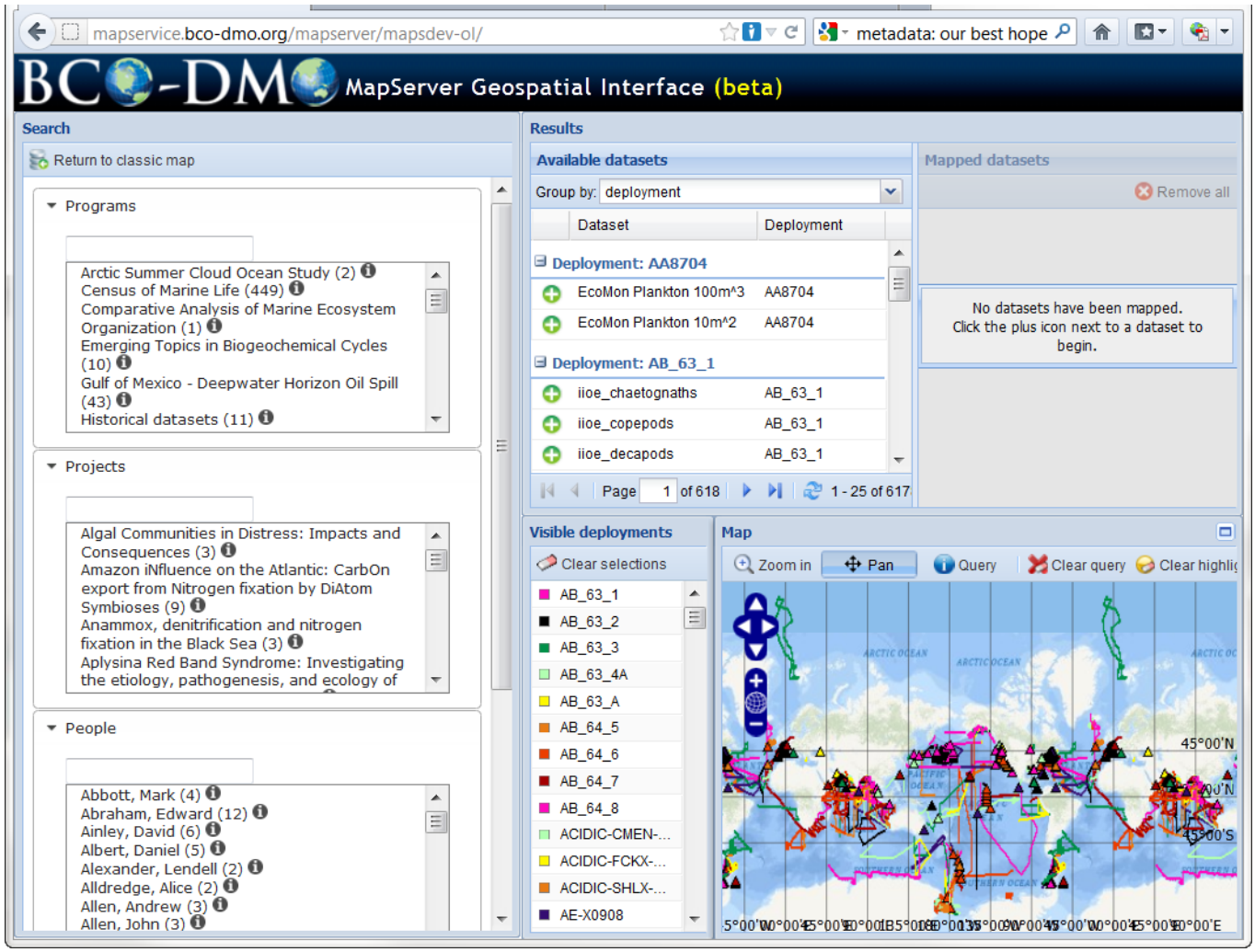
The MapServer has a semantically-enabled search that is useful for finding data in a way that makes sense to you. A beta version of this interface was released in May 2012, and is available as the ADVANCED search option from the MapServer.

The MapServer ADVANCED search is a semantically-enabled, faceted search. It provides access to the same data as the "BROWSE map" and "KEYWORD search" modes, but is intended to help visitors find data of interest without having to know much about how the data are organized by BCO-DMO. The facets (search categories) can be arranged in any order, and you can choose which search facets are active.

Try it out …



Click on the ADVANCED search button. The map interface will reinitialize (clearing any selections you have made previously; click OK in the pop up dialog box to confirm this and continue). If necessary, slide the vertical panel divider between "Available datasets" and "Mapped datasets" (upper right of the browser window) so those two panels are more equal in width in your browser display. The browser display should look like the screen shot on the next page.



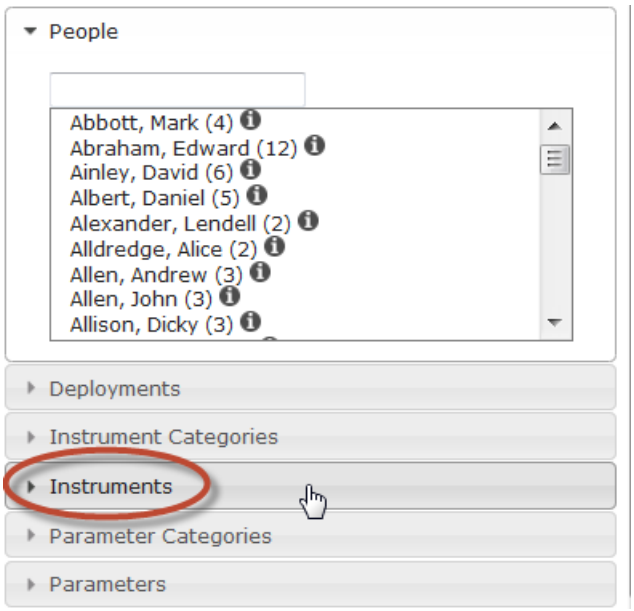
The elements of the ADVANCED (semantic) search interface are similar to the MapServer layout you have seen in the previous scenarios in this tutorial, but those elements have been rearranged. The search panel is now on the left, the map on the lower right, and the dataset panel is above right.

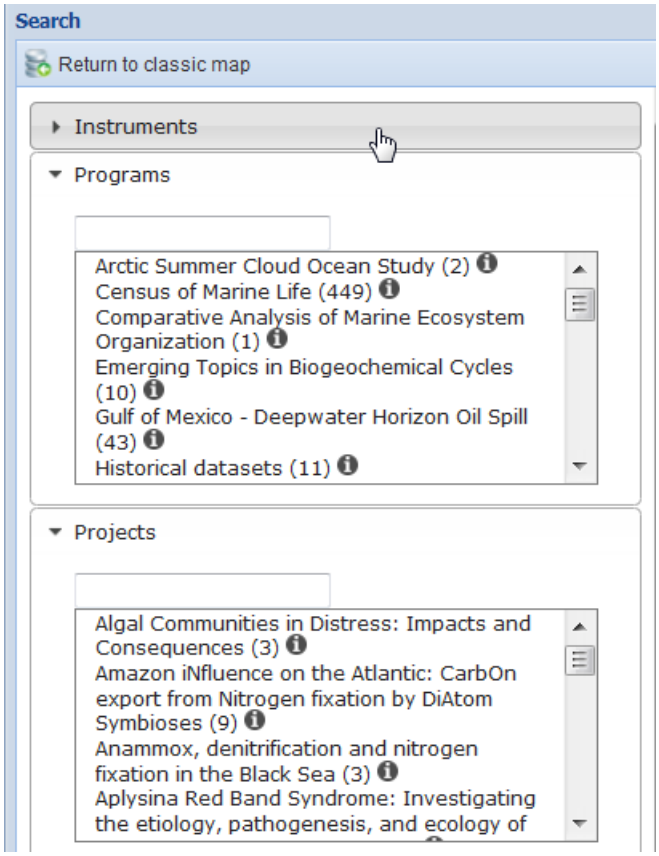
The Search panel initializes with the Programs, Projects and People search boxes open and active.

For this exercise, let's assume you know the type of instrument that collects the data you want to find. For example, you have read a paper about some data collected with a MOCNESS system, and the paper says the data are available from BCO-DMO.

In the search panel on the left, scroll down so you can see the "Instruments" bar.

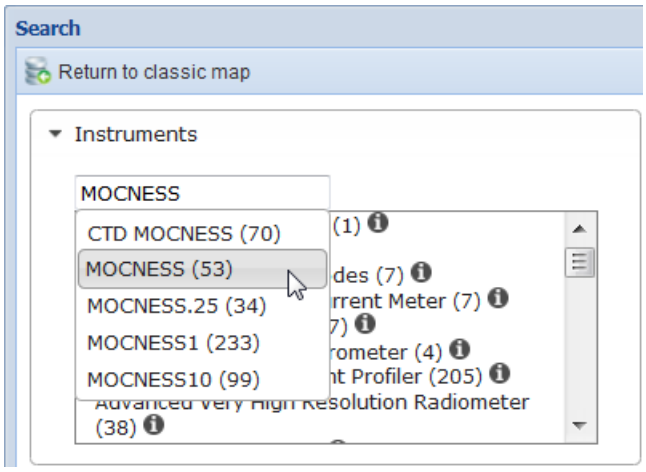
Click anywhere in the Instruments bar and drag it up to the top of the Search panel and drop it above the "Programs" box.





Now, click the triangle at the left end of the Instruments bar to open that search box.

Enter an instrument name to search for; for example, in the text entry box under the label "Instruments", type "MOCNESS". Select "MOCNESS" from the list of matches that pop up.

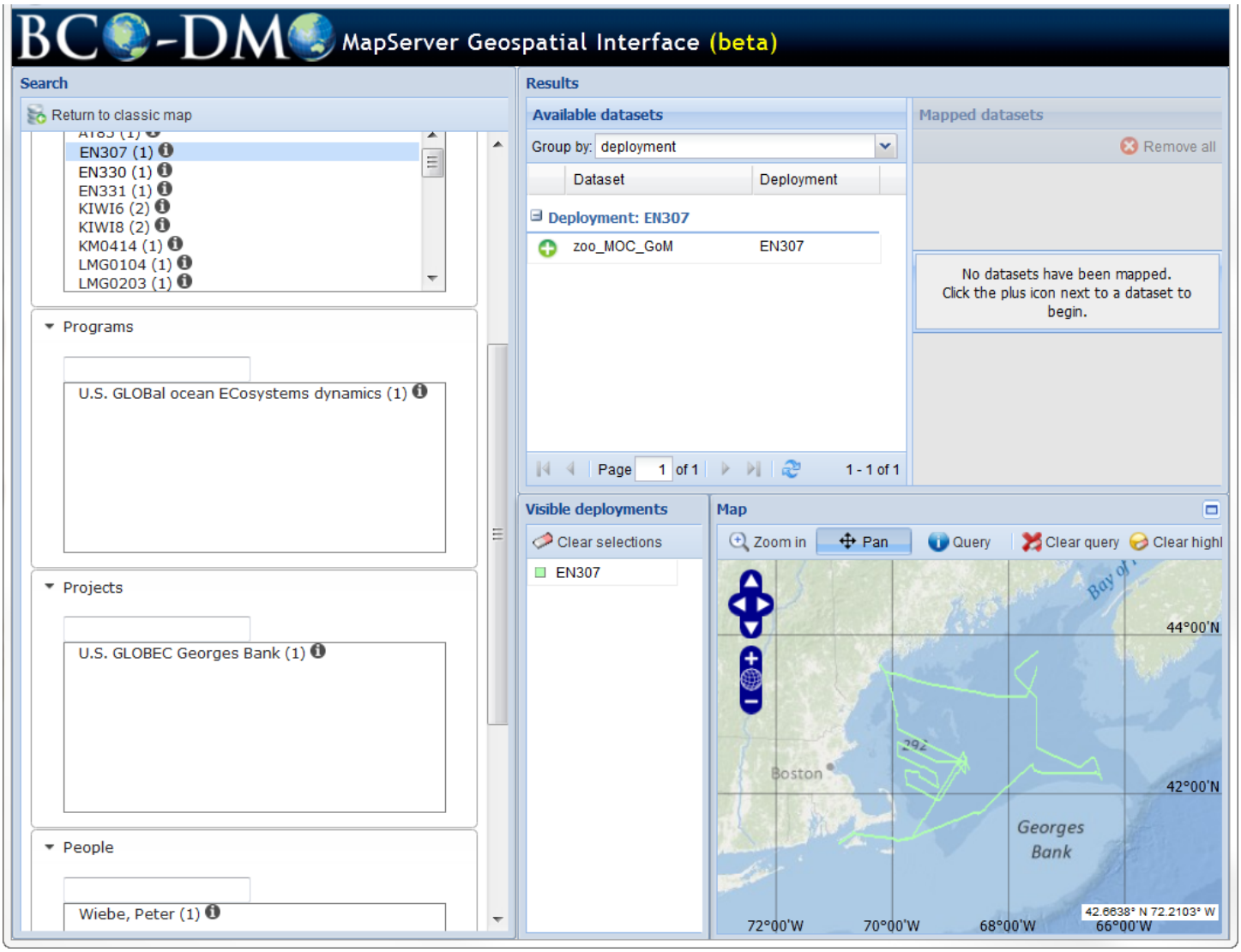


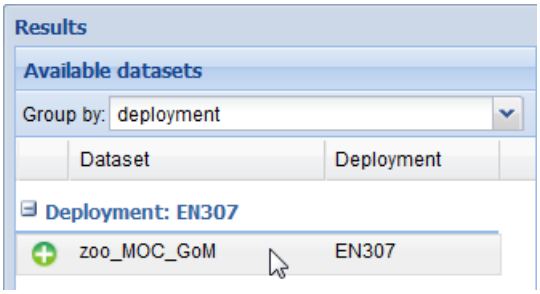
Observe how the lists change in the open search boxes (Programs, Projects, People) below Instruments and the list of "Available datasets" and "Visible deployments" (the panels on the right of the browser window) also get updated to reflect that you are only interested in data from a MOCNESS tow.

At this point you could further narrow the search by selecting a deployment on the map, or by selecting a dataset that looks interesting, but let's try choosing a deployment (cruise ID) from the "Deployments" search box. In the Search panel on the left, scroll down and slide the Deployments bar up above "Programs" (below "Instruments"). Open the "Deployments" search box (click on the triangle at the left end of the Deployments bar). Choose EN307 from the list (second in the list).

Observe how the panels on the right update to display only results from deployment EN307.

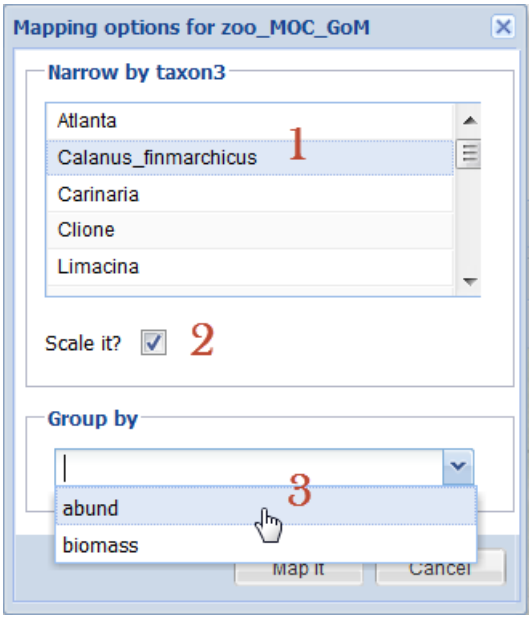
If you scroll down in the Search panel, you can learn that the EN307 MOCNESS data were reported by Peter Wiebe as part of the US GLOBEC Georges Bank project. Your browser window should look similar to the screen shot below.





To map a dataset, select (click on) the "zoo_MOC_GoM" dataset from the "Available datasets" panel in the upper right.

A dialog box pops up with "Mapping options" for this dataset. This particular type of dataset has some custom mapping options.

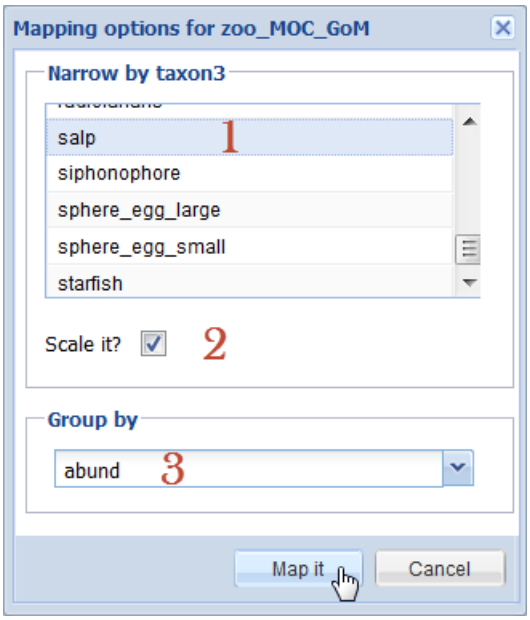


Select some options in the dialog box:

1. Select something from the list, for example: *Calanus finmarchicus*
2. Select the "Scale it" option to display the results using symbol sizes scaled to indicate higher or lower data values.
3. Finally, select "abund" (abundance) as the measurement by which to group the data.

Click the "Map it" button to see the results.

The relative size of the circles indicates differences in the abundance of *Calanus finmarchicus* at the MOCNESS sampling locations on this cruise.



One can display multiple taxa from a MOCNESS dataset. Click on the zoo_MOC_GoM dataset once again (up in the "Available datasets" panel). In the pop up dialog box, scroll to the bottom of the taxon list and select (1) salp, (2) "Scale it" and (3) abund.

Click the "Map it" button to put the scaled symbols on the map indicating abundance of salps from the MOCNESS tow data.

As with the other MapServer search modes, clicking or right-clicking on different elements in the display pops up dialog boxes that display either information about the item or additional options for that item (e.g. access to that selection in the database, or the option to do 'quick view' plots).

The final browser window looks something like this if you have clicked on the northern most sampling location, and clicked on the EN307 cruise ID in the "Visible deployments" list.