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# Multi-parameter search in CMGDS

## General Information

The multi-parameter search of CMGDS data holdings is available from:

<https://cmgds.marine.usgs.gov/multi-search.php>

CMGDS is the public interface to the database known as Compass which is the inventory system for the Coastal and Marine Hazards and Resources Program (CMHRP). The system itself is not intended to store the data acquired by the CMHRP research, but instead point to the data.

A large component of what CMHRP does revolves around field work, hence the ability to search the system by activities as well as datasets. The ability to search by datasets is a relatively new functionality. One reason for this added functionality is the growing number of datasets produced by CMHRP that are not related to activities – such as coastal modeling.

The system is in development, so some of the added functionality is still being adapted and applied to the older information contained in the system.

## Activities:

Compass contains several types of “activities”. Primarily, the term activities often refers to field activities, where CMHRP personnel went into the field to collect data. These activities are identified by the last two characters being “FA”. But three other types of activities are available in Compass and reflect the source of the data. These three “activity” types are: donated data, contracted data, and lab work. CMHRP is the steward of these data. All three of these activity types are also recognized by the characters associated with the activity number.

- donated data – DD: These are data that have been donated to USGS CMHRP. The sources of these data range from universities to oil and gas companies.
- contracted data – CNT: These are data the USGS has contracted to be acquired.
- lab work – LW: These data represent data generated in the lab.

Of these three, LW is currently the least used.

Within an individual activity, additional information is documented about the work – including information about the datasets associated with the activity.

## Datasets:

Information about datasets stored in Compass can be data associated with one of the activity types, or data that have no relationship to an activity – such as modeling types of data. CMHRP has derived data that is based on publicly available information. The multi-parameter search now allows users to search for datasets themselves, and not just activities associated with a particular data type on an activity.

## Searching the database:

The first decision of the user is to determine which type of search to perform – activity or dataset. The radio buttons at the top of the page provide the options.

### CMGDS Multi-Parameter Search

[User guide](#) | [Previous search form](#) | For help email [gs-g-cmhrp\\_compass@usgs.gov](mailto:gs-g-cmhrp_compass@usgs.gov)

Use this form to find published data or field activity information from the Coastal and Marine Hazards and Resources Program. Toggle between a search of field activities or datasets using the radial button found within the blue box. The form below will change based on which type of search is selected.

Find  **Activities**  **Datasets**

The top of the page also provides the user access to the User Guide (this document), a link to the older search form (Previous search form), as well as the email address to use in case there is a problem with the system.

Two buttons are also available at the top of the form:



- Search – to begin the search based on the criteria. This button is also available at the bottom of the form after the map.
- Clear all – this button clears all search parameters, giving the user a clean slate to build the query again

Other useful information associated with some of the search elements can be obtained from the information icon:



Mousing over this icon will provide the user with some additional guidance with respect to that particular element.

## Activity Search:

This search can be broken into 2 components, and these components can be combined:

- Searching by information contained in the activity such as personnel, platform, free text search
- Searching by the spatial information based on geometry that is attached to activities or datasets within activities

The results returned are a list of activities in a table with some basic information, as well as a link to that activity where additional information is presented.

## Activity Information Search:

Find  **Activities**  **Datasets**

Find field activities by:

**Search**

**Clear all**

**Data type:**

**? Date:** Start year:  End year:

**? Person:**

**? Platform:**

**Contains the following text:**

**Science center:**

**? Field activity:**

**Data type** refers to the data types known to the system. In Compass, the data types are associated with equipment. Although you cannot search by equipment, you can search by the data type associated with that equipment. The value has to be selected from the drop-down menu.

**Date** allows activities to be search by a range of years. Or if only a start year is supplied, then only activities occurring in that year are returned.

**Person** refers to any person in the Compass contacts lists that would be listed on the activity. The caveat with this search is that you have to let autofill assist you as it requires an exact match. Only one person can be entered at a time.

**Platform** originally referred to the ship on which the data were acquired. However, as the research in CMHRP has evolved, not all activities use a ship. Some of the work is done “on foot”. As with the Person search, you have to let autofill assist you as it requires an exact match. Only one platform name can be entered at a time.

**Contains the following text** label provides an input box where the user supplies text. All the text fields of an activity for any terms listed in this field will be search using those terms. The activity fields searched include purpose, description, information derived, comments, start port, end port, location, and summary.

The **Science Center** drop-down allows a user to filter by the originating center. CMHRP is comprised of 3 science centers:

- Pacific Coastal and Marine Science Center (PCMSC) in Santa Cruz, California
- St. Petersburg Coastal and Marine Science Center (SPCMSC) in St. Petersburg, FL
- Woods Hole Coastal and Marine Science Center (WHCMSC) in Woods Hole, MA

Historically, activities originate in one of the three centers. Although there is cooperative work which will result in each center having an activity for the work.

The **Field Activity** refers to the activity designation, or alias (if it has one). If a user knows the activity they are looking for, this is a quick shortcut.

### Activity Geometry Search:

This search behaves the same way whether you are searching activities or datasets.

**Location:** **North**  **South**   
**West**  **East**

**or Geometry**

**Include**  Activity bounding box  Activity geometry  Dataset geometry



All activities have a bounding box associated with the activity. Much of the work done by CMHRP is poorly represented by a bounding box – as that box doesn't necessarily accurately represent the actual areas of data collection. However, the system now has the capability to have more precise types of geometry such as footprints, but not all activities have this more precise representation so default to the bounding box.

Additionally, individual datasets can have an associated geometry. This geometry is intended to be representative of the dataset and can be a footprint, simplified lines, or points.

Some older datasets have the same geometry applied to the field activity and all the datasets, without regard to applicability. Slowly this is changing and the ability for the system to handle multiple geometries is improving.

There are 3 ways the user can employ a geographic search:

- Enter bounding box coordinates
- Provide a GeoJSON feature geometry in the text box (cut and paste the text). The geometry must be in a geographic coordinate system.
- Draw a rectangle on the map

The user can then specify which of the available options they want to do the geographic search based on:

- Activity bounding box
- Activity geometry
- Dataset geometry

In the event the user selects Dataset geometry, the results will return the activity containing the dataset that intersects the search geometry.

### Activity Search Results:

Once all the search parameters are entered and the search button pushed – the results (if there are any) will display. For example:

12 field activity records matched. Click on the result name for more information about the record. The associated field activity number(s) are available in brackets next to the dataset name. Click on the field activity number for more information about the associated field activity. Sort the table results by clicking on any of the column headers.

Location	Start Date	End Date	Principal investigator(s)	Platform	Activity
<i>Western Arctic Ocean, between Alpha-Mendeleev Rid...</i>	1963-02-01	1973-11-30	Lachenbruch, Arthur Marshall, Vaughn	Fletchers Ice Island - T3	<a href="#">1963-001-FA</a>
Monterey Fan	1963-05-01	1963-05-31			<a href="#">B163MB (B-1-63-MB)</a>
Southern California	1963-05-13	1963-05-22		Blue Flash	<a href="#">B163SC (B-1-63-SC)</a>

The list of activities and other pertinent information available about the activity are displayed in the table including the textual description of the activity location, start date, end date, principal investigator(s), platform, and activity name. It's possible for some of the fields to be blank which indicates that information is not available from the field activity.

If the textual description of the location information is italicized, mousing over the information will display the full text of the location information.

The user can click on the activity name to be taken to the activity page for additional information.

## Dataset Search:

This search can be broken into 2 components, and these components can be combined:

- Searching by information contained about the dataset such as the dataset contact, data type associated with the dataset, and free text search
- Searching by the spatial information based on geometry that is attached to activities or datasets within activities

## Dataset Information Search:

Find  Activities  Datasets

Find datasets by:

Search

Clear all

Data type:

Date: Start year:  End year:

Dataset contact:

Contains the following text:

Science center:

Dataset name:

**Data type** refers to the data types known to the system. In Compass, the data types are associated with equipment. Although you cannot search by equipment, you can search by the data type associated with that equipment. The value has to be selected from the drop-down menu.

**Date** is actually associated with the activity and will only return datasets that are associated with activities. The date is not directly related to the dataset itself. Not all datasets are associated with activities.

**Dataset contact** is the contact person associated with a dataset. Keep in mind that currently the system only allows one contact per dataset. This does not refer to authors on a data release that might include the data, but rather the individual identified as the dataset contact within the database.

**Contains the following text** is a text search of datasets. This will search all the text fields of a dataset for any terms listed in this field. These fields include USGS Thesaurus keywords, description, and comments.

The **Science Center** drop-down allows a user to filter by the center that is managing the dataset.

**Dataset name** refers to the name associated with the dataset in the database.

### Dataset Geometry Search:

This search behaves the same way whether you are searching activities or datasets.

**Location:** **North**  **South**   
**West**  **East**

**or Geometry**

**Include**  Activity bounding box  Activity geometry  Dataset geometry



All activities have a bounding box associated with the activity. Much of the work done by CMHRP is poorly represented by a bounding box – as that box doesn't necessarily accurately represent the actual areas of data collection. However, the system now has the capability to have more precise types of geometry such as footprints, but not all activities have this more precise representation. Therefore, the search defaults to the bounding box.

Additionally, individual datasets can have an associated geometry. This geometry is intended to be representative of the dataset and can be a footprint, simplified lines, or points.

Some older datasets have the same geometry applied to the field activity and all the datasets, without regard to applicability. Slowly this is changing and the ability for the system to handle multiple geometries is improving.



There are 3 ways the user can employ a geographic search:

- Enter bounding box coordinates
- Provide a GeoJSON feature geometry in the text box (cut and paste the text). The geometry must be in a geographic coordinate system.
- Draw a rectangle on the map

The user can then specify which of the available options they want to do the geographic search based on:

- Activity bounding box of an activity associated with a dataset (omits datasets that aren't associated with activities)
- Activity geometry of an activity associated with a dataset (omits datasets that aren't associated with activities)
- Dataset geometry

Currently, not all datasets have associated dataset geometry, just as not all datasets are part of a field activity.

### Dataset Search Results:

Once all the search parameters are entered and the search button pushed – the results (if there are any) will display.

The dataset results can have more variety than field activity results. A dataset may or may not be associated with a field activity. Additionally, a dataset may be associated with more than one activity such as a compilation of data. The nature of the dataset affects the information in the search results.

The following example is for a search that yielded datasets associated with a single activity:

17 dataset records matched. Click on the result name for more information about the record. The associated field activity number(s) are available in brackets next to the dataset name. Click on the field activity number for more information about the associated field activity. Sort the table results by clicking on any of the column headers.

Description	Start Date	End Date	Dataset contact	Dataset
<i>Photo prints of complete split cores: B/W; 1 phot...</i>	1990-04-12	1990-04-26	Twichell, David	<a href="#">1990-003-FA-PH-001</a> [ <a href="#">1990-003-FA</a> ]
Sidescan Sonar Data	1994-05-24	1994-05-30	Twichell, David	<a href="#">1994-031-FA-SO-001</a> [ <a href="#">1994-031-FA</a> ]
<i>35mm photo negatives and prints for grab sampling...</i>	1998-08-25	1998-09-15	Twichell, David	<a href="#">1998-014-FA-PH-001</a> [ <a href="#">1998-014-FA</a> ]

The first column is the brief dataset description. If the description is in italics, only a portion of the description is being displayed. Simply mousing over the information will display the full description. This column is followed by start date and end date. These dates come from the activities associated with the activity, as no dates are directly related to the datasets. This is followed by the dataset contact. The final column is the dataset name with the associated activity in braces Both pieces of information are provided as links. The dataset name link takes the user to more information about the dataset while the activity link takes the user to the activity page.

Because the dataset is associated with a single activity, the start and end date information is populated with the field activity start and end dates.

The next example is for datasets with no activity associate:

144 dataset records matched. Click on the result name for more information about the record. The associated field activity number(s) are available in brackets next to the dataset name. Click on the field activity number for more information about the associated field activity. Sort the table results by clicking on any of the column headers.

Description	Start Date	End Date	Dataset contact	Dataset
<i>Offshore baseline for the Alabama coastal region ...</i>			Himmelstoss, Emily	<a href="#">AL_baseline</a>
<i>Digital Shoreline Analysis System version 4.3 Tra...</i>			Himmelstoss, Emily	<a href="#">AL_LT_rates</a>
<i>Shorelines of the Alabama coastal region used in ...</i>			Himmelstoss, Emily	<a href="#">AL_shorelines</a>

In this case, only the link to the dataset is available, and not start and end date provided.

The next example shows a dataset with associated activities in which one dataset is associated with multiple activities where the presence of the “expand” button indicates the dataset is associated with more than one field activity. Clicking on that button gives the list of activities as active links.

25 dataset records matched. Click on the result name for more information about the record. The associated field activity number(s) are available in brackets next to the dataset name. Click on the field activity number for more information about the associated field activity. Sort the table results by clicking on any of the column headers.


Description	Start Date	End Date	Dataset contact	Dataset
	1997-03-20	1997-03-31	McCarthy, Linda	<a href="#">Bathymetry GIS data [1997-005-FA]</a>
<i>Depth to Quaternary regional unconformities offsh...</i>			Foster, David	<a href="#">Delmarva_depth</a> <a href="#">Expand</a>

Because the data are associated with more than one activity, no start and end date are provided.

## Activity Information:

The display of activity information provides the user with a variety of general information associated with the activity. This information including but not limited to the purpose of the field work, textual description of location, information derived, and the platform used to acquire the data.

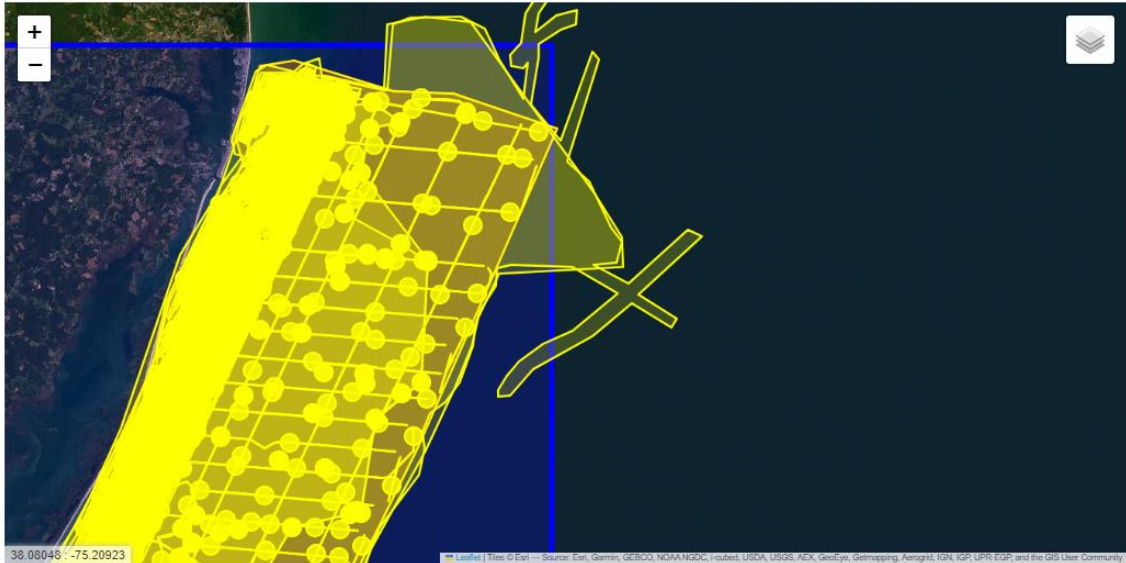
## Field Activity 2014-002-FA

<b>Identifier</b>	2014-002-FA		
<b>Purpose</b>	map inner shelf bathymetry, surficial sediment type, geologic framework		
<b>Location</b>	Delmarva peninsula, United States, North America, North Atlantic		
<b>Summary</b>	Collected swath bathymetry, sidescan sonar, chirp and multi-channel seismic reflection, bottom photos, sediment samples, and ADCP data		
<b>Info derived</b>	Sea floor map;Bathymetric maps;Seismic stratigraphic framework		
<b>Comments</b>	Vans, winches, gear were loaded in Woods Hole on Friday 13 June. Final cruise mobilization Ocean City, MD was Monday 16 June. Initial cruise demob Ocean City, MD on Friday, 25 July. Vans, winches were unloaded Woods Hole on Monday, 28 July. Crew change on Tuesday 01 July. other equipment: Klein 3000 Sidescan sonar 100 &500 kHz Edgetech 512i subbottom profiler		
<b>Projects</b>	<a href="#">Hurricane Sandy - Coastal Vulnerability and Resource Assessment, Delmarva Peninsula</a>		
<b>Related activities</b>	<a href="#">2015-001-FA: Project</a>		
<b>Platform</b>	Scarlett Isabella 130 ft. offshore supply ship		
<b>Itinerary</b>	<b>Start</b>	Woods Hole (van mob); Ocean City, MD (people)	2014-06-16
	<b>End</b>	Ocean City, MD (some gear, people); Woods Hole (van demob)	2014-07-25
	<b>Days in the field</b>	39	

In addition to the textual description of location, a map is available to display the location information associated with the activity. This can include the activity bounding box as well as any footprint geometry associated with the activity or datasets acquired as a result of the activity.

Bounds	
West	-75.61279904
East	-74.67105018
North	38.45454474
South	37.51214671

Show or hide map Hide layers



The layer icon in the upper right can be used to turn geometry layers on and off to assist the user in identifying a specific geometry of interest.

The bounding box of the activity is the blue rectangle, but dataset geometry associated with an activity can exceed the confines of the box if the dataset is a compilation of information from this activity as well as other activities.

Another portion of the activity displays lists the personnel involved in the activity as well as the role they had on the activity.

The personnel listing is followed by the information regarding the equipment used on the activity:

Equipment used			
Equipment	Usage description	Data types	Datasets
<a href="#">GoPro camera</a>	Mounted on the SEABOSS sampling system to acquire seabed photos and video.	Photo, Video	1
<a href="#">SeaBOSS</a>	Modified Van Veen sampler mounted with GoPro cameras on the Seaboss	Surveys (biological), Experiments (biological), Species ID, Photo, Video, Geology, Biology	1
<a href="#">GeoEel 16-channel hydrophone</a>	MCS seismic data were collected using S-Boom source and a 100-m long GeoEel 16 channel streamer.	Multichannel	5
<a href="#">ADCP 300 kHz</a>		Current, Wave	(no data reported)
<a href="#">Real Time Kinematic GPS</a>		Navigation	(no data reported)
<a href="#">SEA SWATHplus-M 234 kHz</a>	used to acquire swath bathymetry and backscatter	Interferometric	3
<a href="#">Sensor - MVP30 (Odim)</a>	These data are collected to supply to swath interferometric raw data to correct for CTD changes (refraction) in the water column	Sound Velocity	1

This table indicates the equipment, how the equipment was used during the activity (if the information has been provided), the data types associated with the equipment, and how many datasets are associated with a particular piece of equipment. The equipment name is an active link that will provide the user with a description of the equipment (if available) and whether or not the equipment is part of the active equipment that is currently available for use.

Dataset information is available from the activity page as well:

Datasets			
Datasets produced in this activity			
Dataset name	Equipment	Description	Dataset contact
<a href="#">2014-002-FA_photos</a>	GoPro camera	Location of bottom photographs along with images collected by the U.S. Geological Survey in 2014 along the Delmarva Peninsula, MD and VA (JPEG images and Esri point shapefile, Geographic, WGS 84)	<a href="#">Elizabeth P Pendleton</a>
<a href="#">2014-002-FA_samples</a>	SeaBOSS	Location and analysis of sediment samples collected by the U.S. Geological Survey in 2014 along the Delmarva Peninsula, MD and VA (Esri point shapefile and CSV file, Geographic, WGS 84)	<a href="#">Elizabeth P Pendleton</a>
<a href="#">2014-002-FA_MCS_Images</a>	GeoEel 16-channel hydrophone	Multi-channel boomer seismic-reflection profiles collected by the U.S. Geological Survey along the Delmarva Peninsula, MD and VA, 2014	<a href="#">Elizabeth P Pendleton</a>
<a href="#">2014-002-FA_MCS_rp100</a>	GeoEel 16-channel hydrophone	Reflection point navigation at 100 trace intervals for multichannel boomer seismic-reflection data collected by the U.S. Geological Survey along the Delmarva Peninsula, MD and VA, 2014 (Esri point shapefile and CSV, GCS WGS 84)	<a href="#">Elizabeth P Pendleton</a>

This information provides the dataset name, which is also a link to a page with more information about the individual dataset. The equipment associated with the dataset, dataset description, and the contact name for additional information about the dataset.

## Dataset Information:

The dataset description page includes a brief dataset description, USGS Thesaurus keywords assigned to the dataset, the data format, a link to the dataset as well as the metadata describing the dataset. If any geometry is associated with the dataset, that information can be displayed in a map.

The dataset page is accessed through a dataset link on the field activity page, or from the dataset search results on the main search page.

An example of a dataset page is as follows:

### Dataset description: 2014-002-FA\_photos

Location of bottom photographs along with images collected by the U.S. Geological Survey in 2014 along the Delmarva Peninsula, MD and VA (JPEG images and Esri point shapefile, Geographic, WGS 84

**Keywords** [sea-floor characteristics](#), [underwater photography](#), [navigational data](#), [image collections](#)

**Data types** Photo

**Format** JPEG, shapefile

#### Contacts

**Contact** Elizabeth P Pendleton  
[WHSC\\_data\\_contact@usgs.gov](mailto:WHSC_data_contact@usgs.gov)

[Report a problem](#)

#### Location of materials and files

**Public files** <https://doi.org/10.5066/F7MW2F60>

**Metadata** [https://cmgds.marine.usgs.gov/metadata/whcmcs/field\\_activities/2014\\_002\\_fa/2014\\_002\\_FA\\_Photos.xml](https://cmgds.marine.usgs.gov/metadata/whcmcs/field_activities/2014_002_fa/2014_002_FA_Photos.xml)

[Outline](#) - [Questions and answers](#) - [Text](#) - [XML](#)

#### Activities and equipment

Activity	Equipment
<a href="#">2014-002-FA</a>	GoPro camera

#### Geometries linked to this dataset

Map	Name	Description
<a href="#">Map</a>	2014-002-FA_photo_locs	2014-002-FA photo locations
<a href="#">Map</a>	2014-002-FA_photos_footprints	2014-002-FA concave hull created footprint around points

## Issues or problems:

If there are any issues or problems, please email [gs-g-cmhrp\\_compass@usgs.gov](mailto:gs-g-cmhrp_compass@usgs.gov).

Include a description of the problem, including any search parameters or other pertinent information that might be used to address and troubleshoot the issue.

