



Bathymetry Web Service

National Ocean Service Hydrographic Data Base
Web Feature Service

▶ A JOINT PROJECT OF THE COASTAL SERVICES
CENTER AND NATIONAL GEOPHYSICAL DATA
CENTER

What is the NGDC bathymetry web service?

▶ The National Geophysical Data Center is responsible for the archive and distribution of the federal government's hydrographic surveys. The NGDC provides this data to the public using programs that can stream the data directly to the desktop of a remote user. Similar to streaming video or audio, the user installs a reader for the data. This data service contains sounding records as a collection of irregularly spaced point observations. The archive has a massive holding, including over 80 million records dating back to the late 1800's. Users can request data packets from the archive on demand and for the geographic areas that interest them.

Why use a "feature" web service?

▶ Numerous mapping applications are available on the Internet that result in a graphic display of information. If the graphic display of data does not meet your needs, a "feature" web service can stream the actual data values to you where they can be recast and used in other formats.

▶ Feature web services also allow a user to gain access to small parts of very large data sources quickly without having to request data on fixed media such as CDROM's and DVD's. This on demand access approach is also very helpful when the source data changes rapidly or regularly. On demand requests ensure that only the latest values are made available. Users also don't need to manually re-order the data, as long as their connection to the web service remains live.

How does the web service work?

Three operations make up the basic web feature service.

▶ The first is **GetCapabilities**. A user can call this service to determine what overall services are provided at this location. Other web addresses and request patterns are embedded in this record and lead the user to the second application related to a specific data set. To make a GetCapabilities call to this service [click here](#).

▶ The **DescribeFeatureType** operation defines a data set. It will respond with structural and content definitions for an individual data service. Field types, definitions, units and other guidelines define the form of the data set offered. Information from this service can help a user more effectively craft their data request to only return those pieces that are needed. To make a DescribeFeatureType call to this service [click here](#).

▶ The final operation is the **GetFeature** service. This application receives requests for data packages and delivers the response to the user in XML. To make a data request to this data service [click here](#).

Where can I find more information about this service?

Read the [Federal Geographic Data Committee metadata](#) record for the original data used in this service.

How do I use the service?

▶ *Casual Users:* You will need to install a WFS reader on your computer. Some of these readers are free and stand-alone, others are licensed and will need to be purchased and may only work in conjunction with other programs. Some of the common applications are: GAIA, ArcGIS, and uDig.

▶ *Power Users:* In addition to the options list above, data can be retrieved by making WFS requests in the address bar of your browser. This will result in a stream of XML being delivered directly to your browser where you can view the results in text form and save it off to a local file for later use.

▶ *Programmers:* A WFS client can be developed from scratch, or from libraries that can be purchased or acquired for free. A few options are the CarbonArc, OGR, and SAFE applications.

▶ *All Users:* Individual data requests have a maximum response of 20,000 values. It is recommended that you limit your geographic request to no more than a 36 square miles, or a tenth of a degree by a tenth of a degree. The record returned includes a location, survey identifier, survey date, a vertical datum and depth value reported in positive meters. [Service Address](#)