

NOAA Geospatial Data Resources

NOAA produces a variety of geographic information system (GIS) and geospatial data. Below you will find a list of key sites to access NOAA GIS data.



The Mission of the National Oceanic and Atmospheric Administration (NOAA)

To understand and predict changes in the earth's environment and conserve and manage coastal and marine resources to meet our nation's economic, social, and environmental needs.

Ocean and Coastal Data

National Ocean Service (NOS) Data Explorer

<http://nos.noaa.gov/dataexplorer>

This GIS-based Web mapping portal gives users access to all of NOAA's ocean and coastal data in any area in the United States and its territories through a single interface. The search feature enables users to access metadata records, links to Web sites with additional information, and view/download capabilities for key NOAA ocean and coastal data sets.

Key NOS data sets found within NOS Data Explorer:

- **nowCOAST**

<http://nowcoast.noaa.gov>.

This GIS-based Web mapping portal provides users with on-map displays of the latest surface observations, geostationary operational environmental satellite (GOES) cloud imagery, and weather radar mosaics for U.S. coastal areas. In addition, the portal provides NOAA forecast products and geo-referenced links to thousands of real-time coastal observations.

- **NOAA Electronic Navigation Charts (ENC)**

Direct to GIS

<http://ocs-spatial.ncd.noaa.gov/encdirect/viewer.htm>

This Web portal provides comprehensive access to display, query, and download all available large-scale navigational chart data in a variety of GIS and computer-aided design formats for non-navigational purposes using Internet mapping service technology.

- **NOAA Aerial Photography/Emergency Response Imagery**

http://ngs.woc.noaa.gov/eri_page/

View NOAA's imagery taken following the hurricanes of 2003 to 2005. This imagery is used to support national security and emergency response requirements.

- **National Geodetic Survey (NGS) Continuously Operating Reference Stations (CORS) Mapping Site**

<http://www.ngs.noaa.gov/CORS/>

NGS coordinates the network of CORS. Surveyors, engineers, scientists, GIS and land information systems professionals, and others can apply this data to position points at which global positioning system (GPS) data have been collected. The mapping site enables positioning accuracies that approach a few centimeters, both horizontally and vertically.

- **Harmful Algal Bloom Mapping System (HABMapS)**

<http://www.ncddc.noaa.gov/habsos/Mapping>

HABMapS, a component of the Harmful Algal Blooms Observing System (HABSOS), is an interactive mapping tool that can be used to access recent data on harmful algal blooms in the Gulf of Mexico and on environmental conditions that may affect the spread of these blooms.

Climate and Weather Data

National Weather Service (NWS) GIS Data

<http://www.weather.gov/gis/>

The National Weather Service produces several data sets that are available in formats available for GIS import. These include watch/warning advisories, grid and operational forecasts, flash-flood guidance and precipitation data, and next generation weather radar system (NEXRAD) imagery. **Coming soon** — hurricane storm-track data and wind-swath data.

Three new data sets now available from NWS in a GIS format:

- **NEXRAD Composites**

<http://www.srh.weather.gov/ridge>

This site provides radar imagery in a geo-referenced format using associated "world" files.

- **Severe Weather Regions**

<http://www.prh.noaa.gov/regsci/gis/shapefiles>

Polygon data for tornadoes, severe thunderstorms, flash floods, and special marine warnings are available as real-time sets of GIS shapefiles.

- **National Digital Forecast Database (NDFD)**

<http://www.weather.gov/ndfd>

This database is a collection of gridded forecasts of sensible weather elements (e.g., cloud cover, maximum temperature) with standard naming scheme and batch GIS and graphical user interface (GUI) conversion routines.

National Climate Data Center (NCDC)

<http://lwf.ncdc.noaa.gov/oa/climate/climatedata.html>

This site is the world's largest active archive for weather data, including surface, upper air, and marine climate data.

Historical Hurricane Tracks

<http://hurricane.csc.noaa.gov/hurricanes/>

This interactive mapping application allows you to easily search and display tropical cyclone data from the Atlantic Basin and East-Central Pacific Basin.

Fisheries Data

National Marine Fisheries Service (NMFS)

GIS Web site

<http://www.nmfs.noaa.gov/gis>

This site highlights the uses of GIS in the fisheries service and provides a forum for exchanging knowledge among GIS practitioners in the fisheries service, NOAA, other federal agencies, and the general public. The agency's publicly available spatial data is listed on the site, as are useful GIS tools and links to interactive mapping sites hosted by the fisheries service.

Alaska Fisheries Data and Maps

<http://www.fakr.noaa.gov/maps/default.htm>

This site includes data and imagery from essential fish habitat (EFH) and EFH designated-species information on regulatory areas and zones, statistical and reporting areas, savings areas, habitat conservation zones, regulatory areas and districts, marine reserves, conservation areas, and management areas.

Key data sets accessible from the site include:

- **Alaska ShoreZone Coastal Mapping and Imagery**

<http://www.fakr.noaa.gov/maps/szintro.htm>

This mapping and imagery page is a compilation of data, photographs, and video of the southeast Alaska coastline, interpreted by Coast Alaska biologists.

- **Steller Sea Lion Protection Measures Maps and Additional Restricted Groundfish Areas**

<http://www.fakr.noaa.gov/maps/sslmapviewer.htm>

Download and install the stand-alone MapViewer software to download, view, query, navigate, and print maps from your PC offline.

Oceanic and Atmospheric Research Data

Hydrothermal Vents Research Program

<http://www.pmel.noaa.gov/vents/data/index.html>

NOAA's Pacific Marine Environmental Laboratory Vents Program maintains numerous data bases related to the research and exploration of hydrothermal vent processes. Many of the research data sets are provided here in formats that can be used with GIS, generic mapping tools (GMT), and other software.

Hybrid Single Particle Lagrangian Integrated Trajectory (HYSPLIT) Modeling

<http://www.arl.noaa.gov/ready/hysplit4.html>

NOAA's Air Resources Laboratory (ARL) is using the Environmental Systems Research Institute (ESRI) ArcMap interface to run the HYSPLIT model from a simple point-and-click interface. The data server provides hourly updated surface observations from around the continental United States, Alaska, Hawaii, Canada, and Mexico.

Ocean Exploration Program

<http://www.oceanexplorer.noaa.gov/welcome.html>

Explore the ocean realm. This Web site chronicles the adventures and discoveries of NOAA's at-sea science and education teams.

NOAA Internet Mapping Services List

National Geospatial Data Center (NGDC) Internet Mapping Sites

<http://www.ngdc.noaa.gov/maps/>

This interactive map service provides visual displays of one or more data layers, often with links to download the underlying data. IMS sites allow users to access a variety of data sets, including ecosystems, hazards, marine, paleoclimate, satellite, snow and ice, thermal springs data, and others.

NOAA Observing Systems Data

National Observing System Architecture (NOSA) IMS Site

<http://map.ngdc.noaa.gov/website/nosa/viewer.htm>

This geospatial database covers more than 85 observing systems from all NOAA line offices and several global observing systems.