

## WASHINGTON

### **Coastal Management Fellowship—1997 to 1999**

[www.csc.noaa.gov/cms/1997Fellows.html](http://www.csc.noaa.gov/cms/1997Fellows.html)

A Coastal Management Fellow worked with the Washington State Department of Ecology on a project entitled “Coastal Research and Local Decisions: Building the Bridge for Improved Coastal Hazard Management.” The goal of this project was to develop and provide an information base for reducing the hazards associated with coastal development. Through the project, an erosion hazard monitoring program and a coastal hazards database were created. The project also facilitated local education outreach and the integration of existing information management systems.

### **Coastal Management Fellowship—1999 to 2001**

[www.csc.noaa.gov/cms/99\\_fellows.html](http://www.csc.noaa.gov/cms/99_fellows.html)

A Coastal Management Fellow worked with the Washington Department of Ecology on a project entitled “Washington State Coastal Atlas: A Digital Tool for Improved Shoreline Management.” The primary goal of the project was to provide convenient access to high quality coastal information through the development of a coastal atlas. The fellow evaluated potential models for a statewide coastal information system, assessed the data needs of the coastal community, and assisted in designing a coastal atlas. The atlas effectively uses geographic information system (GIS) and Internet technologies and is able to accommodate new or updated shoreline data.

### **Columbia River Estuary Land Cover and Change Data—1996**

[www.csc.noaa.gov/crs/lca/col\\_riv.html](http://www.csc.noaa.gov/crs/lca/col_riv.html)

This project mapped terrestrial land cover in coastal watershed environments and identified changes in these areas that occurred between 1989 and 1992. The project relied on satellite multispectral imagery as the primary information source. These data were used to distinguish major land cover classes, and previous images were studied to locate areas that changed over time. For this project, the data were acquired according to the Center’s Coastal Change Analysis Program (C-CAP) methods.

### **Columbia River Estuary Land Cover and Change Data CD-ROM—1997**

[www.csc.noaa.gov/products/crest/startup.htm](http://www.csc.noaa.gov/products/crest/startup.htm)

This land cover classification and change detection analysis for the Columbia River includes the coastal drainage area from Willapa Bay, Washington, south to Tillamook Bay, Oregon. In 1992, the Coastal Change Analysis Program (C-CAP) entered into a cooperative project with the Columbia River Estuary Study Task Force (CREST), the National Marine Fisheries Service Point Adams Field Station (Hammond, Oregon), and the State of Washington Department of Natural Resources to perform this work, which followed the C-CAP methods. CREST is a bi-state council of local governments providing coastal and estuarine planning services in the Columbia River estuary region. Members include cities, counties, and port districts in Washington and Oregon.

### **Community-Based Habitat Restoration—2001 to 2003**

NOAA’s community-based restoration program helps community groups restore marine and estuarine habitat by providing funds and technical expertise. The NOAA Fisheries Service leads the program. The Center has been a program partner since fiscal year 2001 and has co-funded several projects, including the restoration of eelgrass beds in Port Townsend.

### **Coastal Washington Land Cover and Change Data—2002, 2003**

This project is mapping terrestrial land cover in coastal watershed environments and identifying changes in these areas. The project relies on satellite multispectral imagery as the primary information source. These data will be used to distinguish major land cover classes, and previous images will be studied to locate areas that changed over time. For this project, the data will be acquired according to the Center’s Coastal Change Analysis Program (C-CAP) methods.

### **National Estuarine Research Reserve System Data Rescue—1997 to 1999**

[www.csc.noaa.gov/pagis/html/esdimindex.htm](http://www.csc.noaa.gov/pagis/html/esdimindex.htm)

This project was designed to provide state coastal zone management programs with access to an integrated data-sharing system. Data formerly in a hard copy format were digitized, with priority given to those data sets in danger of immediate loss due to media deterioration. Rescued data sets are accessible through the Internet via a geographic information system, and selected data and metadata were published on a CD-ROM.

#### **North Puget Sound Ecological Characterization—2002, 2003**

The North Puget Sound ecological characterization is an interdisciplinary synthesis of information about the sound's ecosystem and the communities that depend on it. By integrating existing information and developing geographic information system (GIS) management tools, the characterization will assist research efforts and promote an ecosystem approach towards managing and using North Puget Sound's natural resources. The Northwest Indian College developed the characterization through a cooperative agreement with the NOAA Coastal Services Center.

#### **Northwest Fisheries Science Center Collaboration—2002, 2003**

The Center is working with the National Marine Fisheries Service Northwest Fisheries Science Center (NWFSC) to develop a salmon data-management system for the Pacific Northwest. The goal of this project is to provide and maintain corporate data, metadata, applications, and project management services for research scientists and external constituents.

#### **Protected Areas GIS (PAGIS)**

[www.csc.noaa.gov/pagis/](http://www.csc.noaa.gov/pagis/)

The PAGIS project brought compatible geographic information systems (GIS), geographic data management, and Internet capabilities to each of the nation's 25 Estuarine Research Reserves and 13 Marine Sanctuaries. Through PAGIS, the reserves and sanctuaries also developed advanced data sets, underwent extensive training, and found innovative ways to make the most effective use of their new data and technological capabilities.

#### **Protecting Our Ports and Harbors (POPAH)—2000, 2001**

The goal of this project was to increase the resilience of ports, harbors, and their surrounding communities to earthquake and tsunami hazards in the Pacific Northwest. A demonstration project was undertaken to develop, test, and evaluate various strategies and trade-offs to increase the resiliency of lifelines, infrastructure, and facilities in and around ports and harbors. The Center continues developing an educationally based Internet site about tsunamis and works with local stakeholders and the Oregon Sea Grant to acquire data to be used for local risk assessments and a regional risk atlas.

#### **Public Issues and Conflict Management Training—2000**

The Washington Sea Grant Program served as the local host for this three-day training. Participants included regional Sea Grant staff and city, county, and state agency partners. The training built skills in collaborative processes, meeting management, and media relations.

#### **Remote Sensing Data Acquisition—2002, 2003**

This project provides remotely sensed coastal data products obtained through contracts with private industry. All data products meet Federal Geographic Data Committee metadata standards and are freely available to federal, state, and local coastal resource managers. To date, these funds have focused on coastal land cover development, coastal topography, and submerged aquatic vegetation.

#### **Risk and Vulnerability Assessment Tools—2002, 2003**

[www.csc.noaa.gov/csi/projects/assessment-tool.html](http://www.csc.noaa.gov/csi/projects/assessment-tool.html)

As part of the NOAA Coastal Storms Initiative, the Center is developing risk and vulnerability assessment tools for the Florida and Pacific Northwest pilot projects. Local planners within the St. Johns River Watershed in Florida and the Columbia River Watershed in Washington and Oregon use this information to develop coastal hazard mitigation strategies. This project helps protect

coastal communities from storm impacts by providing new and improved hazard and weather-related services and data.

#### **San Juan Archipelago Mapping—2002, 2003**

This study of the San Juan Archipelago is determining the best ways to obtain high-resolution, multibeam bathymetric and backscatter data, side-scan sonographs, and seismic-reflection profiles that can be used to improve navigation charts, characterize essential fish habitat, and map faults and potential landslides that may be geohazards to both Canada and the U.S. These data are used to produce maps and spatial databases that can support NOAA navigational charting efforts, characterizations of marine habitats, and delineations of submarine geology and geohazards. The NOAA Coastal Services Center is working with the San Jose State University Foundation to help develop digital data sets that will be available on NOAA Web sites.

#### **Topographic Change Mapping—1998, 2002**

[www.csc.noaa.gov/lidar/](http://www.csc.noaa.gov/lidar/)

High-resolution Light Detection and Ranging (LIDAR) measurements of coastal beach topography were made during 1998. These measurements can be used for beach change studies and are available to the public. A CD-ROM, *Topographic LIDAR: The Northwest Project*, discussing the management uses of this data was released in 2001. In the summer of 2002, topographic data were again collected to assess the effects of accretion in this area.

#### **Willapa Bay, Benthic Data—1995**

[www.csc.noaa.gov/crs/bhm/willapa.html](http://www.csc.noaa.gov/crs/bhm/willapa.html)

The Center partnered with the Columbia River Estuary Study Task Force, the University of Oregon, and Sound Vessels Inc. to map submerged aquatic vegetation in Willapa Bay. A principal issue in this project is the spread of the exotic estuarine emergent *Spartina alterniflora* into previously unvegetated intertidal mudflats, oyster bed, and seagrass habitats. Aerial photography, towed underwater videography, and airborne video were used to accomplish the mapping.