National Geodetic Survey

HTTP://GEODESY.NOAA.GOV/

Juliana Blackwell, Director
Mike Weaver, Acting Deputy Director

Mission: To deliver and evolve the foundation of reference throughout the United States for latitude, longitude, height, velocity, shoreline, and gravity with consistency, accuracy, timeliness, and easy access to support public safety, economic prosperity, and environmental wellbeing.

Products and Services

- Coastal mapping and remote sensing
- Continuously Operating Reference Stations
- Height modernization
- Online Positioning User Services
- Airport surveys
- Global Positioning System specifications and guidelines

Legislative and Policy Drivers

Legislative Drivers:

- Coast and Geodetic Survey Act
- Coastal Zone Management Act
- Hydrographic Services Improvement Act Amendments

Policy Drivers:

- Ocean Action Plan
- Gulf of Mexico Regional Alliance
- Committee on the Marine Transportation System National Strategy
- Climate Change Science Program Synthesis and Assessment Reports

Budget and Personnel

- **Budget Line Items:** Geodesy Base, National Height Modernization, Shoreline Mapping
- **FY08 Budget:** $28.4 million
- **Personnel:** 220 FTE

Key Partners

- Federal Emergency Management Agency, U.S. Army Corps of Engineers, Federal Aviation Administration, U.S. Geological Survey
- State departments of transportation, State Spatial Reference Centers
- Coastal managers, emergency planners
- Aviation industry, surveyors, geographic information system users

Fiscal Year 2008 Highlights

- **Beginning proof of concept projects and test flights of an airborne gravimeter** in support of the Gravity for the Redefinition of the American Vertical Datum (GRAV-D) program. GRAV-D is an effort to use gravity data to redefine the vertical datum of the United States by 2017. The GRAV-D program, if fully funded, will allow NOAA to increase the accuracy of the geoid model and, ultimately, give users the ability to use the Global Positioning System (GPS) to determine elevations relative to sea level. Without a comprehensive, cohesive, and accurate geoid model, GPS cannot be used to accurately determine elevations.
- **Releasing a new version of the Online Positioning User Service** (OPUS). By using as little as 15 minutes' worth of dual-frequency Global Positioning System (GPS) data, the new version, known as OPUS-Rapid Static (OPUS-RS), saves time and money relative to the standard OPUS, which requires at least two hours of GPS data. OPUS and OPUS-RS allow users to submit their GPS observations to NOAA, where the data are processed to determine corresponding three-dimensional positional coordinates. Each OPUS solution is estimated to save the user $600 over traditional positioning methods.
- Supporting NOAA's Integrated Ocean and Coastal Mapping initiative to **serve the greatest possible range of ocean and coastal geospatial data users** through collaborative partnerships, the development of common standards, and technological innovation. Pilot projects in North Carolina, New Hampshire, and Alaska helped enhance coordination of ocean and coastal mapping activities and maximize usefulness of data and products.
- Beginning the **installation of a sentinel climate change monitoring network** that will monitor coastal land elevations in relation to local sea level throughout the National Estuarine Research Reserve System. In the coming years, the program will be expanded to include all reserves within the system and will become an essential component in the climate change monitoring toolbox, establishing the reserves as sentinel sites for measuring and monitoring the impacts of climate change on estuarine systems.

Organization

- **The Remote Sensing Division** conducts airport charting and shoreline mapping using traditional methods while exploring more efficient technologies to complement current practices.
- **The Geodetic Services Division** manages the state advisor program; tests and evaluates geodetic equipment; evaluates, markets, and distributes products; and provides various training programs.
- **The Spatial Reference System Division** maintains the Continuously Operating Reference Station network and plans, coordinates and provides technical guidance for geodetic field projects and products.
- **The Observation and Analysis Division** conducts geodetic surveys to support the National Spatial Reference System and the production of maps, charts, and special products and conducts field surveys to support photogrammetric and hydrographic surveys.
- **The Systems Development Division** manages the information technology and telecommunications and network systems, and peripheral input and output systems for the National Geodetic Survey.
- **The Geosciences Research Division** coordinates the research, development, and management of new geodetic data products and designs and programs scientific and geodetic software applications and procedures.