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1. NOAA assists U.S. Naval Southern Command with partner-country hydrographic surveying capacity building in Guatemala

The week of February 3rd 2014, three subject matter experts representing nautical charting (National Geospatial Intelligence Agency), hydrography (Naval Oceanographic Office), and geodesy/tides (NOAA) participated in a U.S. Navy Southern Command “Partnership Station” in Guatemala. Southern Command is strengthening its relationship with the Guatemalan Navy by providing both hydrographic support (Gulf of Honduras hydrographic surveying aboard the USS Pathfinder) and in-country capacity building.

During the week of February 3rd, the Pathfinder was docked at the Guatemalan naval port in Santo Tomás de Castillo (Caribbean coast), and in-country counterparts and VIPs were invited aboard to tour the cutting-edge hydrographic capabilities of the survey vessel. In tandem, lectures in fundamental hydrographic surveying, nautical charting, and geodetic/tidal concepts and applications were presented to an assorted audience of Guatemalan naval cadets, representatives from the Puerto Barrios Port Authority, various Guatemalan ministry officials and university students.

As a result of this outreach, a variety of Guatemalan agencies and institutions have gained valuable information on accurate and precise geospatial infrastructure, and have made important strides in their ability to develop both a national network of permanent tide stations, and also to compute a vertical datum at existing and future tide stations. This outreach also represents an important investment in expanding high accuracy geospatial infrastructure in neighboring coastlines which have traditionally suffered from a lack of high quality data. Better data in neighboring countries may also provide benefits to our national geospatial efforts, for example, in geoid modeling.



NGS ECO gives lecture on geodetic and tidal datums to Guatemalan navy cadets and officers, personnel from the Puerto Barrios port authority, various Guatemalan ministries and college students (Photo: James Ford, NGA).

2. NGS ECO hosts Chesapeake Bay Sentinel Site Cooperative Coordination Meeting

On February 21, the National Geodetic Survey led a meeting in Silver Spring for the Chesapeake Bay Sentinel Site Cooperative to prioritize activities for the next year, select common data sets to inventory, and scope potential pilot projects. State and federal partner attendees included representatives from the U.S. Geological Survey, the National Park Service, Maryland state and county governments, and the Virginia Coast Reserve Long-Term Ecological Research. Outcomes from the meeting will include clear short-term objectives and strategies to best leverage resources, utilizing the Sentinel Site Cooperative structure to successfully monitor and provide tools for addressing the impacts of sea level change on local communities and resources. The CBSSC also discussed outreach opportunities, including presentations at local and national conferences and articles in national publications.

3. NGS ECO selects summer students and projects

Molly Cain, who is pursuing a Bachelor of Science in Geosciences, with a hydrogeology focus at Pennsylvania State University, will be using geodetic leveling techniques to monitor elevation change in marshes as part of a summer internship with NGS (part of the NOAA Hollings Scholar Program). The adaptation of leveling procedures is intended to augment and improve the elevation data collected using a surface elevation table or SET. The new procedures will focus on long-term monitoring of elevation change in marshes, rather than hypothesis testing, which was the original intent for the SET design.

Heather Nicholson, who is pursuing a Bachelor of Science in Surveying Engineering at Pennsylvania State University, will be conducting a high precision digital barcode leveling

survey for one of our coastal "sentinel site" partners: the Smithsonian Environmental Research Center (SERC). The survey will connect numerous monitoring systems already installed at SERC, creating a robust sentinel site for monitoring the impacts of sea level change.

4. NGS ECO supports Smithsonian Proposal for National Science Foundation funding

NGS has supported the installation of geospatial infrastructure at the Smithsonian's Tennenbaum Marine Observatories Network, which will ultimately help fill critical data gaps in the Caribbean. Most recently, Philippe Hensel was identified as a co-investigator on the National Science Foundation proposal "Coastal SEES: Rates and mechanisms of land loss/retreat around oceanic mangrove islands, Florida and Belize- ecological responses and resilience to sea-level rise, episodic events and anthropogenic destruction, and implications for ecosystem sustainability and conservation," and he will provide both technical and field support if the project is supported.



Image from <http://www.serc.si.edu/> on February 26, 2014.

5. Accurate Elevations for Sea Level Change Sentinel Sites accepted by the NGS Products & Services Committee

On Wednesday, February 19, the NGS Products and Services Committee approved the NGS ECO Team guidelines publication to assist our coastal partners interested in developing sea level change "sentinel sites" along our coasts. The guidelines document began as technical assistance that NGS provided in 2007 to our partner office that manages the National Estuarine Research Reserve System (NERRS). Over the years, we have worked hard to develop consistent guidelines for establishing these sites, even as the "sentinel site"

concept was itself developing and maturing. We focused on providing very accessible, easy-to-understand guidance for a non-professional surveyor audience. The document is a compilation of seven thematic sections, and each section is essentially stand-alone. The previous draft versions of the document were received with great interest from our coastal partners, so we eagerly await the final editing of the document and its subsequent publication on our NGS ECO web page.

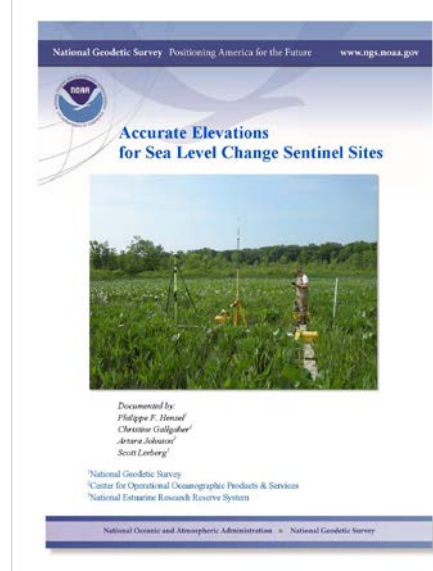


Image: NOAA's National Geodetic Survey.

6. In case you missed it: OPUS Projects update

- **OPUS Projects became a fully operational NGS service in January.** NGS has enhanced its popular Online Positioning User Service (OPUS) to improve positioning results for GPS field projects consisting of multiple survey locations. The new project option, called "OPUS-Projects," allows trained engineers, surveyors, and other users to position campaign-style GPS data files with greater accuracy by combining them and constraining them to either national or local reference systems. Collaborators can easily share project tasks from any Web browser, using intuitive map and tabular data visualizations and simple processing menus.
- **OPUS Projects Manager's Training** opportunities are posted on the NGS Corbin Training Center web page. View the calendar of upcoming classes to register for training opportunities when they are scheduled near you.

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