

Sea Grant Helps Cornell Document Change, Develop Educational Curricula for NYC Sites

Since 2008, Cornell Institute for Resource Information Sciences (IRIS) and New York Sea Grant (NYSG) have been developing stewardship education materials to help educators better understand and teach students about coastal change over time in our NY-NJ Harbor-Hudson region's urban coast and the resulting impacts to its coastal environments. To further these efforts, NYSG Hudson Estuary Specialist **Nordica Holochuck** hosted a Cornell University College of Agriculture and Life Sciences (CALS)-sponsored undergraduate intern, **Bryan Chan**, this past summer in her Kingston office.

"Based on our experience in previous workshops, we knew we had educational materials that engage teachers," said **Susan Hoskins**, Geospatial Program Lead at Cornell IRIS. But, with the help of Chan and NYSG's Web Content Manager **Paul C. Focazio** a digital version of the resources will launch in early 2013, serving as the basis for teacher training workshops such as one in late-January at Queens College.

Materials collected by Chan—historic and current aerial imagery, printed maps, video footage and Web-based geospatial resources—are from a variety of sites

around metro New York. These coastal wetland areas which have been identified for restoration by the NY-NJ Harbor & Estuary Program include the iconic Liberty State Park; Staten Island's Arlington Marsh, a haven for harbor herons; and Sound View Park, home to the 24-mile Bronx River, NYC's only fresh water river. With its south end offering a connection to Long Island Sound, the Bronx River serves as a reminder that "we're all connected," said Holochuck.

Through collaborative efforts with Cornell and Sea Grant staff as well as targeted Hudson River Estuary stakeholders, "Bryan brought a whole new perspective to educator engagement with his skill set in video communications," said Hoskins. His video blog posts (Vlogs) – to be featured along with an extended version of this article via NYSG's Web site – "provide a look at his internship experience, and a view of the dynamic Hudson River resource that we can share with educators," adds Hoskins.

In the end, the key is to provide access-friendly mapping resources from relatable areas that will interest the widest array of educators. "For someone who may be new to geospatial learning, it's helpful to include relevant and important, even iconic imagery,



Each year, Cornell's intern program matches students with on-campus faculty mentors and extension programs. This past summer, (l-r) Cornell CALS intern Bryan Chan joined NYSG's Paul C. Focazio and Nordica Holochuck on Liberty Island, one of several sites for a Web-based mapping project on coastal change over time in NY's urban environment. After superstorm Sandy hit in late October, both Liberty and Ellis Islands were closed while the National Park Service assessed the damages.

such as the Statue of Liberty, that make the materials accessible to people outside of our immediate region," said Holochuck.

— Paul C. Focazio and Nordica Holochuck



...for an expanded version of this article, including more pictures and Bryan Chan's video blog.

Stony Brook Hosts 5th Annual NYMSC Research Symposium

The swath of ocean stretching from the eastern tip of Long Island to New Jersey's Cape May, known as the New York Bight, was the subject of a brisk-paced conference that convened in September at Stony Brook University's Wang Center. The New York Marine Sciences Consortium (NYMSC) met for its Annual Conference in order to review the research priorities for implementing ecosystem-based management (EBM) in the New York Bight. **Matt Gove**, of the Bureau of Marine Resources at the New York State Department of Environmental Conservation (NYSDEC), led the conference proceedings, which began with a morning of short presentations from New York and New Jersey scientists on various environmental topics on the history, current status, and future conservation concerns for the New York Bight. After a short lunch break, the Consortium split into discussion groups, and spent the afternoon discussing and refining the research needs for EBM. The release of that final list of research needs will somewhat be delayed due to the aftermath of Hurricane Sandy.

A highlight of the morning presentations was that of **Larry Swanson** from Stony Brook's School of Marine and Atmospheric Sciences (SoMAS) who discussed a lot of the history of environmental activity in NY Bight. He showed photos of dumping refuse and sludge in the NY Bight until bad publicity and public outrage led to the Ocean Dumping Ban Act of 1988 and other environmental legislation.

John Marra of Brooklyn College discussed the physical oceanography of the Bight, and its effects on nutrient cycles from the mouth of the Hudson River out to the continental shelf. From Hunter College, **Karl Szekiolda** explained how remote sensing is used to recognize algal blooms and other ocean phenomena, depending on the resolution and time scale of the image set.

SoMAS scientist, **Charlie Flagg** (see links to his photos of Fire Island damage caused by Sandy), described the Oleander Project, the result of a partnership that takes advantage of the weekly round-trip trek from New York to Bermuda for valuable data collection. The *M.V. Oleander* has collected temperature and salinity measurements

weekly since 1978, and has provided an invaluable historic dataset which details the movement of the Gulf Stream through the year.

Another SoMAS scientist, **Mike Frisk**, reported on the recent telemetry research illuminating previously unknown facets of the Atlantic Sturgeon's life history. Using an array of acoustic telemetry receivers along the Long Island coast, Frisk's lab has gained new insight into the location and timing of spawning aggregations in this threatened species.

From Rutgers University, **Doug Ofiara** examined the effect of floatable waste on public use of New York and New Jersey's beach and coastal areas, and the subsequent economic losses in those areas. This research provides key calculations of the social value of damage due to pollution. **Christa Farmer**, an expert from Hofstra University of the New York Bight's paleotempestology – the study of ancient storms – described her research of how storm tracks have changed over millennia. Understanding patterns and how they are shifting with climate change is vital for developing long-term coastal management plans.

— Sharon Benjamin and Barbara A. Branca