

## Benthic Mapping and Habitat Characterization Initiative



The NJDEP and USEPA have identified a critical need to document the condition of benthic communities in New Jersey's estuarine waters (EPA, 2008). Under the Benthic Mapping and Habitat Characterization Initiative, we will conduct:

- benthic habitat mapping ; and
- collection of baseline data on sub-tidal shallow water benthic habitats.

Habitat mapping is an essential tool for monitoring important habitats over time, and developing resource management strategies and restoration priorities (NOAA CSC, 2008).

The mapping initiative is targeting the following estuaries:

- Manasquan River
- Shark River
- Navesink/Shrewsbury
- Northern Barnegat Bay (*Future work*)
- Raritan Bay shore (*Future work*)

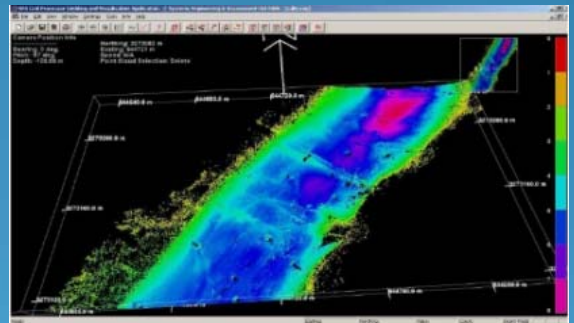
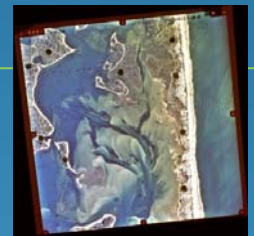
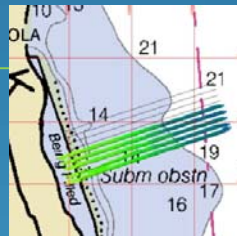
To provide high-resolution multibeam bathymetry and sonar-derived habitat map products, survey data collected for all sites will include: multibeam bathymetry, side scan sonar, along with geo-located video and sediment grabs of substrate and biotic communities.

Availability of these data will enable Monmouth researchers to work on a continuing basis with local, state, and federal resource managers and regional partners to assess the impacts of runoff from degraded watersheds on benthic habitats, and develop restoration strategies to protect the beneficial uses of these estuarine waters and the region at large.

The high resolution bathymetry data is also valuable for navigation, coastal processes, flood monitoring and for the development and fine tuning of coastal tidal and storm surge models.

### Vessel and Mapping Capabilities:

- R/V Sea Hawk 27ft fiberglass hulled survey vessel
- R/V Little Hawk 18ft fiberglass hulled survey vessel
- Multibeam :SEA SWATHplus 488 kHz interferometric sonar
- Single Beam: Odom Dual Frequency 200/33 kHz
- Positioning: Trimble RTK GPS Base and Rover
- Data Collection: Hypack/Hysweep Software
- Sea Bed Classification: Qeuster Tangent Side View
- GIS: ESRI ArcMap
- ACSM Certified Hydrographer on staff



### For more information contact:

James Nickels  
Monmouth University  
400 Cedar Avenue  
West Long Branch, NJ 07764  
732-263-5686  
jnickels@monmouth.edu