



**NOAA UNDERSEA RESEARCH CENTER  
UNIVERSITY OF NORTH CAROLINA - WILMINGTON**



*SOUTHEAST & GULF OF MEXICO REGIONAL (SEGM) CENTER FOR NOAA'S UNDERSEA RESEARCH PROGRAM*

***NURC/SEGM CAPABILITIES: Deepwater AUV***



Explorer-Class Deepwater AUV completing factory acceptance testing at ISE.

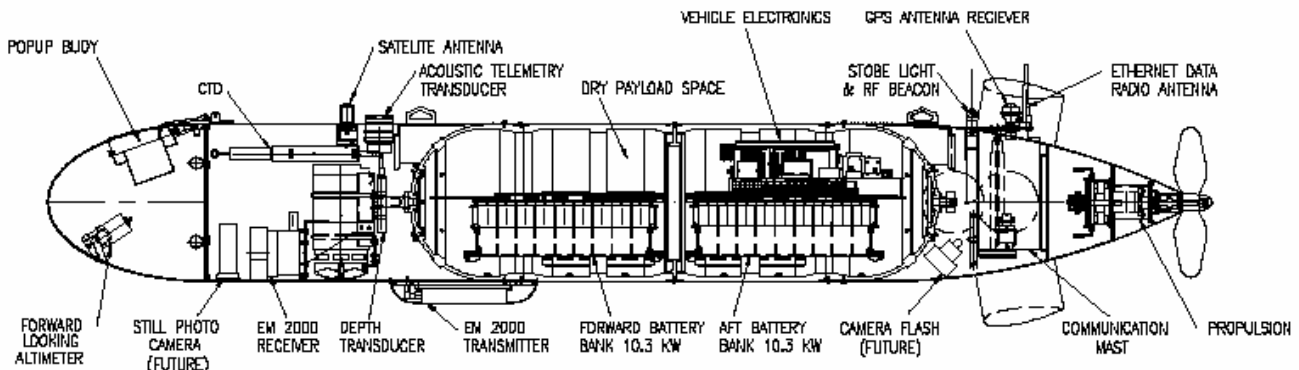
The NOAA Undersea Research Center at the University of North Carolina at Wilmington ([www.uncw.edu/nurc](http://www.uncw.edu/nurc)) will operate an EXPLORER Class autonomous underwater vehicle (AUV) from International Submarine Engineering, Ltd. of Port Coquitlam, BC, Canada ([www.ise.bc.ca](http://www.ise.bc.ca)). In 2006, this deepwater AUV will conduct 24-36 hour seafloor mapping missions, to depths of 2,200 meters. The AUV follows programmed transects to gather high-resolution bathymetric data that can be further analyzed to characterize bottom habitats. This AUV provides a much more efficient and cost-effective means of acquiring high-resolution bathymetry than traditional towed bodies.

***Vehicle specifications:***

- **Weight:** 920 kg
- **Size:** 4.5 m long, 69 cm diameter
- **Maximum Operating Depth:** 2,200 m
- **Normal Operating Speed:** 1.5 m/s
- **Maximum Speed:** 2.5 m/s
- **Range/Duration:** 150 km; 24-36 hours depending on payload and speed
- **Navigation:** Doppler-aided Inertial Navigation System, Kalman Filter with USBL updates, altimeter
- **Communications:** Acoustic modem, Iridium satellite, Ethernet radio

***Science Payload sensors:***

- **High Resolution Multibeam:** Kongsberg/Simrad EM-2000, 200 kHz Multibeam Echosounder
- **Conductivity/Temperature:** SeaBird, Inc. FastCAT SBE-49 Conductivity-Temperature sensors
- **Precision Depth:** Paroscientific, Inc. Digiquartz 9000 pressure transducer
- **Forward-looking Altimeter:** Kongsberg-Mesotech, Ltd. Model 1007.
- **Expandable Science Payload:** The Deepwater AUV contains internal payload space for a science computer, and hull space for digital still imaging and additional scientific hardware and sensors.



FOR MORE INFORMATION: AUV Operations—Lance Horn, SEGM Operations Director ([hornl@uncw.edu](mailto:hornl@uncw.edu), 910-962-2443); SEGM Science programs—Tom Potts Associate Director ([pottst@uncw.edu](mailto:pottst@uncw.edu), 910-962-2442)