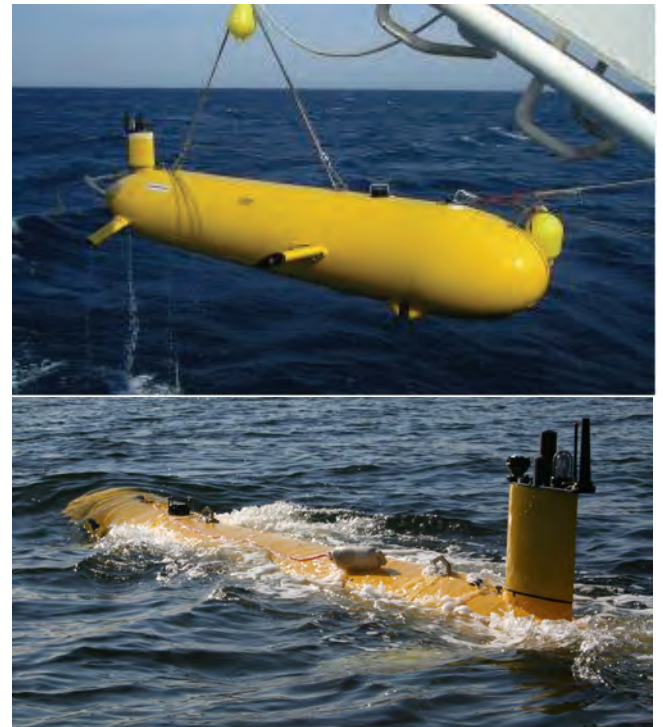


EXPLORER Autonomous Underwater Vehicle

The Explorer class of AUV is a modular vehicle comprising of a forward free-flooding section, full diameter pressure hull and a free flooding aft section. It is optimized for long range and can be easily adapted to meet new requirements. It is available in many configurations and depth ratings from 300 to 6000 m.

Vehicle systems and payload sensors can be customized at any time throughout the vehicle's lifespan. Payload equipment can be fitted in either of the free-flooding sections, with the associated electronics installed inside the pressure hull. The wet payload can include sidescan sonar, multibeam echosounder and sub-bottom profiler - all of which can operate concurrently. Payload data is easily accessible through a high speed Ethernet connection.

Length	4.5 - 6.0 m
Depth Ratings	300, 1000, 3000, 5000, 6000 m
Hull Diameter	0.69 m (300/3000 m), 0.74 m (5000/6000 m)
Endurance	24 - 85 hrs
Effective Range	120 - 450 km
Speed Range	0.5 - 2.5 m/s
Dry Weight	640 - 1850 kg
Typical Payload	CTD, Sidescan Sonar, Sub-Bottom Profiler, Multibeam Echosounder
Power Source	1.6 kWh Lithium Ion Battery Modules
Control Computer	Rack Mounted CompactPCI System
Hydroplanes	3 Aft Planes, 2 Fore Planes
Navigation	iXSea Fibre-Optic or Kearfott Ring Laser Gyro INU
Velocity Sensor	Teledyne RDI Workhorse DVL
Positioning	Motorola GPS Antenna USBL Transponder
Depth Sensor	Paroscientific Digiquartz Transducer
Altitude Sensor	Kongsberg Mesotech Digital Altimeter
Acoustic Communications	Sercel ORCA MATS, LinkQuest or Benthos
Radio Telemetry	900 or 2400 MHz radio, Iridium Satellite Communications
Emergency Equipment	Emergency Transponder, Strobe Light, RF Beacon, Drop-Weight



The Explorer AUV is renowned for its low operating costs, flexibility and exceptional long range unsupervised capability. In the spring of 2010, an Explorer completed more than 10 days of continuous operations under ice, covering more than 1000 km of unsupervised survey without being recovered. Charging and data transfer all took place under water. The Explorer is also a very stable sensor platform, with a maximum deviation of 0.2° per second per roll, pitch and yaw.

Explorer AUVs are owned and operated by the French research agency Ifremer (2 vehicles), the University of Southern Mississippi as part of a NOAA project, Memorial University of Newfoundland, the University of Bremen, Natural Resources Canada (2 vehicles), and Fukada Salvage and Marine Works.



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