

Effective problem solving

Making measurements in the harsh ocean environment demands the best in skill and experience. For over 40 years, ASL Environmental Sciences Inc. has specialized in the physical measurement of the world's oceans, lakes and rivers. We have conducted more than 1000 government and commercially-funded scientific and technical projects, some valued at over \$2.5 million, in environments ranging from the Arctic to the sub-tropics. This unique storehouse of experience is available for the toughest measurement problems, on its own or as part of long-standing interdisciplinary teaming arrangements.

Our commitment to excellence

ASL takes great pride in its ability to attract and maintain a team of professionals and support staff whose scientific publication record and familiarity with clients' special needs and interests have earned ASL solid respect within the environmental industry. The company has many long-term clients including: Multi-National Petroleum Companies, Hydroelectric and Public Utilities, Oceanographic and Marine Research Organizations, Environmental Consultants, Universities, and numerous Government Agencies. Our extensive project management expertise ensures consistently high quality services and adherence to schedules and budgets.

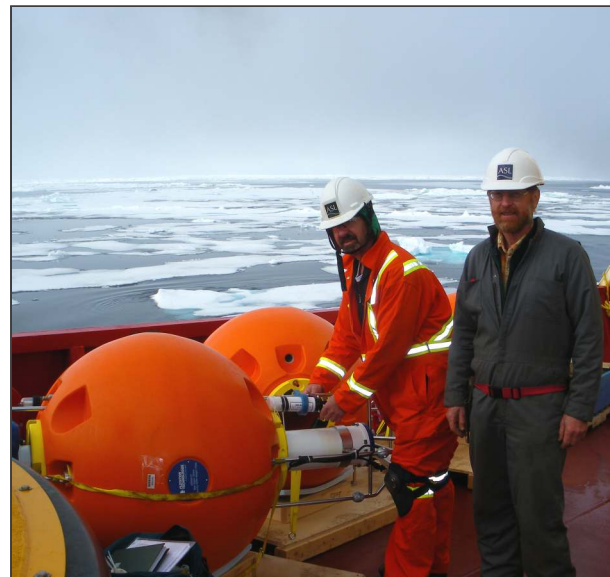
Wide range of services

Primary Services

- Oceanographic and Limnological Consulting
- Metocean Equipment Leasing
- Flow and Dispersion Surveys
- 3-D Numerical Modelling
- Remote Sensing
- Inter-Disciplinary Environmental Studies
- Sediment Transport
- Sea-Ice and Iceberg Climatology
- Climate and Climate Change

Support Services

- Mooring Design and Systems Integration
- Processing, Analysis and Interpretation of Scientific Data
- Software Development
- Computer Modelling and Model Development
- Image Analysis
- Instrumentation Deployment and Recovery



Arctic deployment of an Ice Profiler and ADCP mooring

Innovative technologies

ASL's wide range of technologies and expertise are continually being upgraded to take advantage of the latest developments in the aquatic sciences for the benefit of its clients. Our instrumentation group has developed leading-edge acoustic instruments for oceanographic and hydro-electric flow measurements, and for ice, wave, and water column profiling.

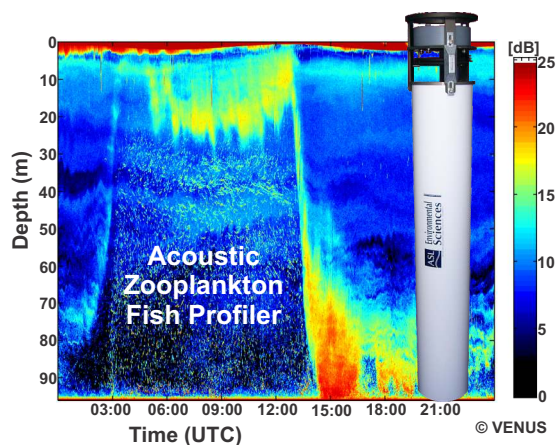
Ice Profiler™

- An upward-looking sonar device, mounted on the ocean floor to accurately measure ice draft
- Estimate ice forces, production rates, and mass balances with these accurate measurements of ice thickness
- Capable of monitoring ocean waves
- Monitoring with real-time networks



Acoustic Zooplankton Fish Profiler™

- Monitors location and presence of zooplankton, fish, and sediments within the water column by measuring acoustic backscatter returns with ultrasonic frequencies
- Operates in bottom-mounted, upward looking mode or in downward looking mode from a buoy
- Collects data continuously
- Available with up to four frequencies in a single transducer housing



IRIS™ (Image Recorder for Imagenex Sonar)

- Data logger compatible with Imagenex Model 881A Sonar and Software
- Very low power consumption - allows extended deployment of 3-4 months with its standard alkaline battery pack
- Up to 2 Gigabyte data storage on Compact flash

Shallow Water Ice Profiler (SWIP™)

- A real-time acoustic ice thickness measurement (ice draft) instrument for shallow water applications (<20m)
- The underwater components include a transducer, a tilt sensor, a temperature sensor and pressure sensor.



Custom Design and Manufacture of Acoustic Instrumentation

- ASL has been involved in all aspects of the design and development of custom electronic hardware and software for underwater sonar systems, data acquisition systems, control and data telemetry systems as well as data processing hardware and software.

Leasing of Oceanographic, Flow Measurement and Meteorological Equipment

- ASL provides an extensive lease pool of oceanographic equipment.
- All equipment is bench tested prior to shipment.
- Discounts are available on long-term rentals, and ASL can provide mooring frames and cages for many of the items to be leased.