



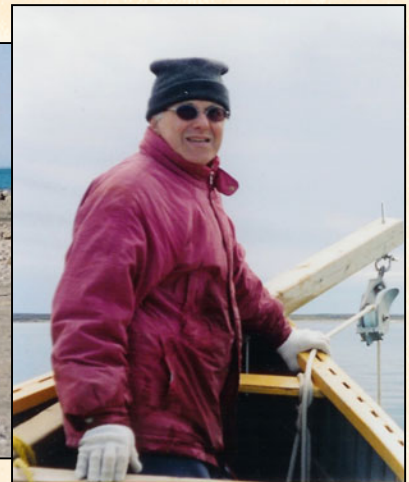
## **Oceanography by Canoe**

Jean-Pierre Savard of InteRives Ltee. often performs his oceanographic work from canoes! For his latest project, he has leased from ASL an FTS Weather Station, an AML CTD STD 12+, a Coastal Macrowave, 2 RBR Tide Gauges, and a Nortek Aquadopp current meter for use at Ungava Bay and Hudson Bay in Northern Quebec. This data will be used for harbour development for Inuit people in several villages. ASL is processing some of the data for a tidal analysis.

In most places in Northern Quebec there are no existing marine charts or bathymetric data. The Inuit and Native people are accustomed to navigating through the many shoals and reefs without instruments. The only safe access to this coastal area for oceanographic work is often by canoe.

With time and a little imagination, Mr. Savard has developed a number of ways to perform oceanographic work from a canoe, without the use of winches or other heavy mechanics. He has used canoes for mooring tide gauges, wave recorders, current meters and other automatic equipment. Canoes were also used to perform CTD profiling and current profiling, to collect water samples, bottom sediments and even sediment cores. He has used canoes for bathymetric surveying and to install land instruments such as weather stations on remote islands. The instrument and data recovery record, over the past ten years, is almost 100%.

Specific methods have been developed to operate safely from a canoe. Booms or support arms are always located on the bow of the canoe, to avoid the risk of capsizing of the boat. Heavy weights are never passed overboard, but carried suspended outside the boat, under the floatation line, at low speed. With these methods, it was possible to moor equipment with several hundred feet of ground lines and several hundred kilos of weight in coastal waters of various depths ranging from a few meters to more than 100 m.



## **Sediment Transport System for Geological Survey of Canada**

ASL has completed a second project for the Geological Survey of Canada for the provision, deployment and recovery of a specialized, multi-instrument sediment transport platform (dubbed NORTON) for use in marine geological research on the Pacific coast of Canada.

In this instance, NORTON was deployed on Robert's Bank on the Fraser River delta. It was equipped to measure wave height, period and direction, mean current speed and direction at multiple locations above the seabed for bottom boundary layer characterization, optical backscatter for suspended sediment concentration at multiple locations above the seabed and sector scanning sonar images to monitor bedforms.

In addition to deploying and recovering NORTON, ASL processed all acquired data as specified by the customer.

## ASL Provides Real Time Current and Water Level System for the Port of Vancouver

ASL has delivered to the Port of Vancouver a real time monitoring system for currents and water levels at the Second Narrows Bridge in the harbour. This has been a joint project with the Canadian Hydrographic Service, CN Rail and terminal operators.

This system, using ASL's proprietary Acoustic Scintillation Flow Meter (ASFM) technology along with other off-the-shelf components has successfully completed an extensive, two-year long field trial to confirm its operational reliability.

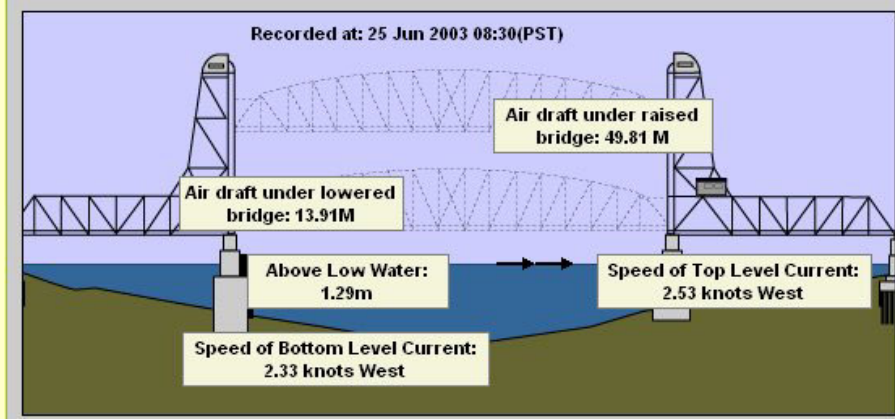
The ASFM technology was selected because it requires no cabling or instrumentation in the shipping channel, a strict requirement in this heavily used channel.

The system provides real time data on current (at two levels) and water depth under the bridge at 5-minute intervals. The data are transmitted to the Port of Vancouver offices where they are incorporated into a web page, which is available to authorized users.

In addition, ASL developed a suite of web-based software to predict water level and currents in support of harbour traffic decision making.

Future plans call for these data to be incorporated into routine scheduling of ship movement in the harbour and possibly into an expanded Automated Identification System (AIS) or Universal Information System (UIS) on the Canadian Pacific Coast.

Current Water Level: Second Narrows Rail Bridge - Looking East



Website display of measured values and calculated drafts.

## Meet Us at Events

ASL will be attending the following trade shows & conferences. We would welcome the opportunity to meet with you.

Oceanology International UK 2004	March 16-19, 2004	London, UK
Offshore Technology Conference	May 3-6, 2004	Houston, TX
Oceans '04	November 9-12, 2004	Kobe, Japan

## Customized Ice Profilers™ to be used in Arctic Study

Dr Andreas Muenchov and Mr David Huntley of the University of Delaware are using two specially modified versions of the Ice Profiler from ASL Environmental Sciences as part of the NSF-sponsored Canadian Archipelago Throughflow Study. The main purpose of this study is to track the freshwater fluxes out of the Arctic Ocean into the North Atlantic, which impact ocean circulation and thus global climate.

The study is taking place in the Nares Strait between Ellesmere Island and Greenland beginning the summer of 2003 and continuing for 5 years.

The Ice Profilers have each been delivered with the capability of operating over a two-year period and at a depth of 100m to facilitate installation on iceberg-tolerant moorings.



## ASL Renews Hydrosphere Representation Contract

ASL is pleased to announce that its agency contract with Hydrosphere Ltd of Upper Froyle, Hants, UK has been renewed for a further two years. Under the terms of this contract, Hydrosphere will represent ASL's Profiler™ line of products as well as oceanographic equipment rental, deployment, data acquisition and analysis in the UK, Ireland and Western Europe. For more information, see: [www.hydrosphere.co.uk](http://www.hydrosphere.co.uk)