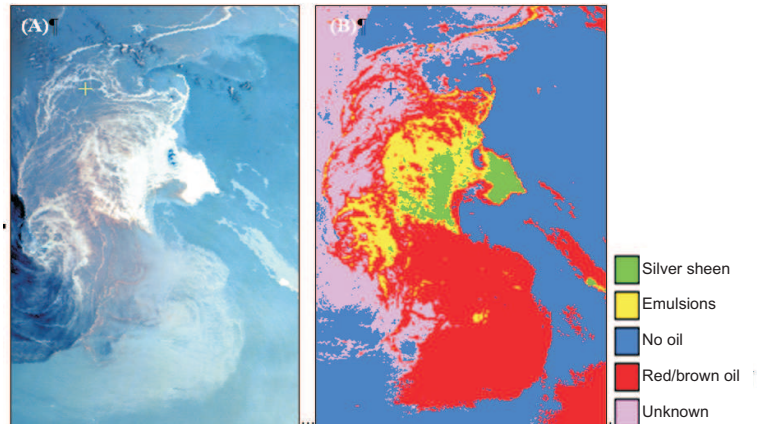
ASL Environmental Sciences

Solutions Newsletter

Winter 2013

Remote Sensing of Oil Slicks at Sea

ASL's remote sensing group has considerable experience in airborne optical remote sensing of oil spills - at the Exxon Valdez spill in Prince William Sound, the Braer spill in the Shetland Islands, the Prestige spill off Portugal and at several smaller and experimental spills in the North Sea and off British Columbia. We are now ramping up our capability to use satellite sensors to map and monitor oil at sea, either small leaks or catastrophic ones, - anywhere in the world. For more information, please contact Dr Kaan Ersahin at kersahin@aslenv.com



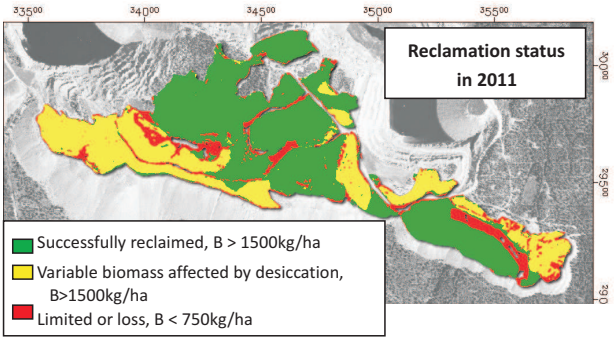
False-colour composite of MERIS FR imagery, May 24 2010

SAM classification with five oil thickness classes based on over-flight observations

Remote Sensing of Reclaimed Mining Areas

Site reclamation is an integral part of the development and ultimate decommissioning plan of any mine. Since 2001, ASL has been helping managers at the Highland Valley Copper Mine in British Columbia use remote sensing as a way of improving the efficiency and effectiveness of their monitoring program, supplementing the more detailed but less synoptic ground biological surveys, and providing a means to focus further remediation efforts on specific locations most needing it, rather than having to make wholesale changes to entire sites. We can now classify the entire mine site according to its vegetation history since 2001, and whether or not it has reached and maintained biomass (B) above 1500 kg/ha, which is one of the permit thresholds for self-sustaining status. The strength of Highland Valley Copper's remote monitoring program is that it provides quantitative time series 'reclamation status' maps of vegetation changes across the large mine site in a consistent manner. The maps are intuitive and easily understood by the public.

For more information, contact Mar Martínez at mmartinez@aslenv.com



Ice Profiler™

ASL's **Ice Profilers** are flying off the shelves this year! And they usually include an entire mooring system – from shallow water taut-line IPS/ADCP pairings to full turn-key setups like the NPI sale, which includes 4 taut-line moorings each with 1 IPS, 1 ADCP and 2 Seabird CT Sensors.

1 IPS to ConocoPhillips Canada for deployment in the Canadian Beaufort Sea
1 IPS to Shell Houston for the Beaufort Sea
4 IPS to Norwegian Polar Institute/Statoil for deployment off Greenland
2 IPS to University of Alaska Fairbanks for deployment in Northern Europe
2 IPS to Technopole, Russia

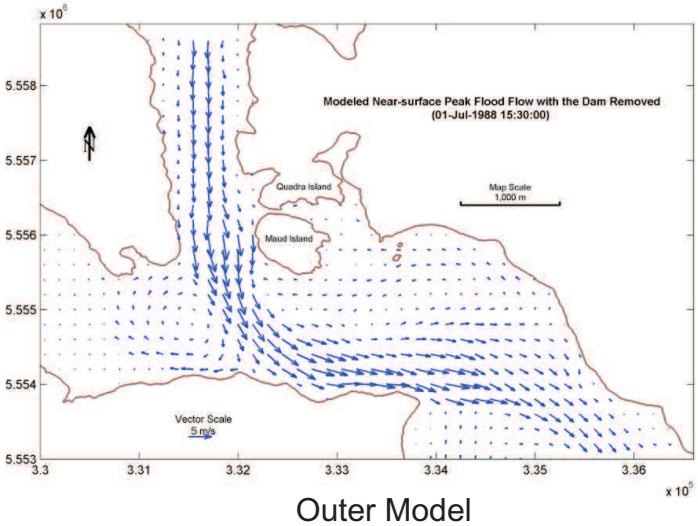
Numerical Modeling

3D Numerical Modeling of Ocean Currents and Sediment Transport in Canoe Pass

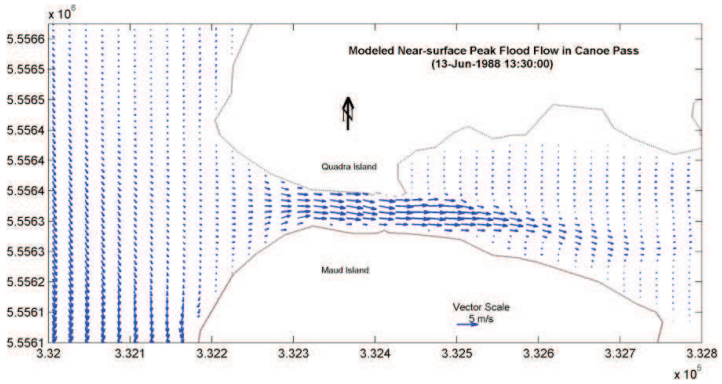
New Energy Corporation Inc, is planning to remove the Canoe Pass Causeway (BC coast) and install two 250kW underwater turbines for electrical generation. ASL carried out a 3D hydrodynamic and sediment transport modeling to determine the flow conditions with the underwater turbines in place, and suspended sediment transport caused by the project construction. This provides input to engineering issues associated with installing and operating the underwater turbines, and assessing sediment transport and dispersion that could occur during construction The aquaculture site on the Quadra Island shore east of Maud Island is of particular importance.

The major scope of work in this ocean current and sediment transport modeling includes:

- Effects on navigation in Seymour Narrows due to altered current flows and current jets.
- Effects on the HMCS Columbia dive site due to silt transport and altered current flow.
- Effects on the Yellow Island Aquaculture Facility due to silt transport and altered current flows and current jets.
- Channel (Canoe Pass) flow rate.
- Sediment transport characteristics on either side of Canoe Pass in both Seymour Narrows and the bay to the east of Canoe Pass including the dive site and the Yellow Island Aquaculture Facility.



Outer Model



Inner Model

Upcoming Conferences

ASLO Aquatic Sciences Meeting	New Orleans	Feb 17-21
Ocean Business 2013	UK	April 9-11
URSI & IEEE RadarCon	Ottawa	Apr 29-May 3
OTC 2013	Houston	May 6-9
CMOS 2013	Saskatoon	May 26-30
POAC 2013	Finland	Jun 9-13
CoastGIS	Victoria	Jun 19-21
ISOPE 2013	Alaska	Jun 30-Jul 5
CRIPE 2013	Edmonton	Jul 21-24
Canadian Remote Sensing	Victoria	Aug 26-29
38th CLRA & NLMRW	Whitehorse	Sept 9-12
Oceans 2013	San Diego	Sept 23-27
Oceanology International	UK	2014

ASL Products and Services:

Ice Profiler
Wave Profiler
Acoustic Zooplankton Fish Profiler
WERA NorthernRadar
Image Recorder for Imagenex Sonar
Shallow Water Ice Profiler

Ice Studies
Meteorological/Oceanographic Measurements
Mapping/Remote Sensing
Numerical Modeling
Equipment Leasing

ASL Environmental Sciences Inc.
#1-6703 Rajpur Place, Victoria, BC, Canada V8M 1Z5
Phone: 1-250-656-0177 **Fax:** 1-250-656-2162 **Email:** asl@aslenv.com
www.aslenv.com