

Project Cornerstone

Newsletter #12:

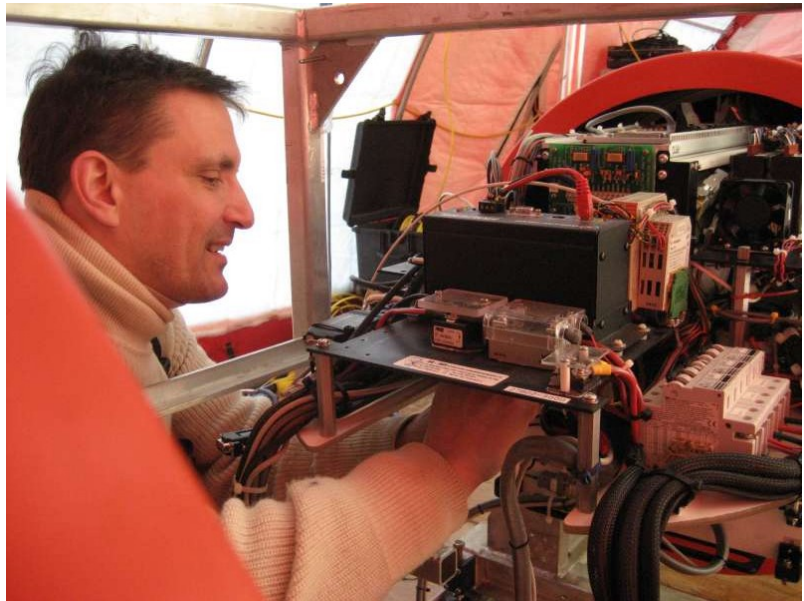
3 April, 2009 (Friday)

The weather continues to be beautiful. It is calm and clear, and the visibility is excellent – except toward the east where the open water in Robeson Channel is boiling off tons of fog. I know I shouldn't say this and jinx the project, but we may complete all the experiments without seeing any bad weather. We plan to leave Alert next Wednesday, and so we will be in pack-up and clean-up mode within the next couple of days. Dave, Sean, Al, Derek and Jim will be staying to help set up a rather large camp north of Greenland, about two hours Twin Otter flying time from Alert. It sounds like a big job, and we wish them well. We may be able to follow their adventures by checking:

http://a76.dk/lang_uk/main.html

The overnight test of the PHINS Inertial Navigation System went well. This morning, the CATCHY was pulled up and dismantled, and the AUV was hoisted up and put on its tracks. Then, the pressure pot was opened and the PHINS was recovered. The picture shows Richard Pederson, the Chief Scientist, getting his hands right in there changing out a power-supply filter. All that electronics is, of course, enclosed in the water-tight pressure-pot when the vehicle is in the water. It is this 'pot' that has to withstand the pressure of 5000 m of water (in the new vehicles – not in this one.) The pressure at a depth of 5000 m is about 500 atmospheres. For comparison, the pressure in a welder's oxygen bottle, when it is full, is about 145 atmospheres. I don't know about you, but I'm impressed.

Once the pressure pot was put back together, the vehicle was hoisted out of the way, and the tracks were pulled outside to make room for Garry and his crew to test the Long-Range Acoustic Bearing System (LRAB). Everyone not directly involved was shooed back to the Spinnaker building because they invariably make noise if



Where did it go???

they hang around. Garry and company don't want any extra noise in the water.

The picture above shows Nicos and Derek looking at the array of hydrophones that they have installed. The one on the right shows them paying attention to the camera.

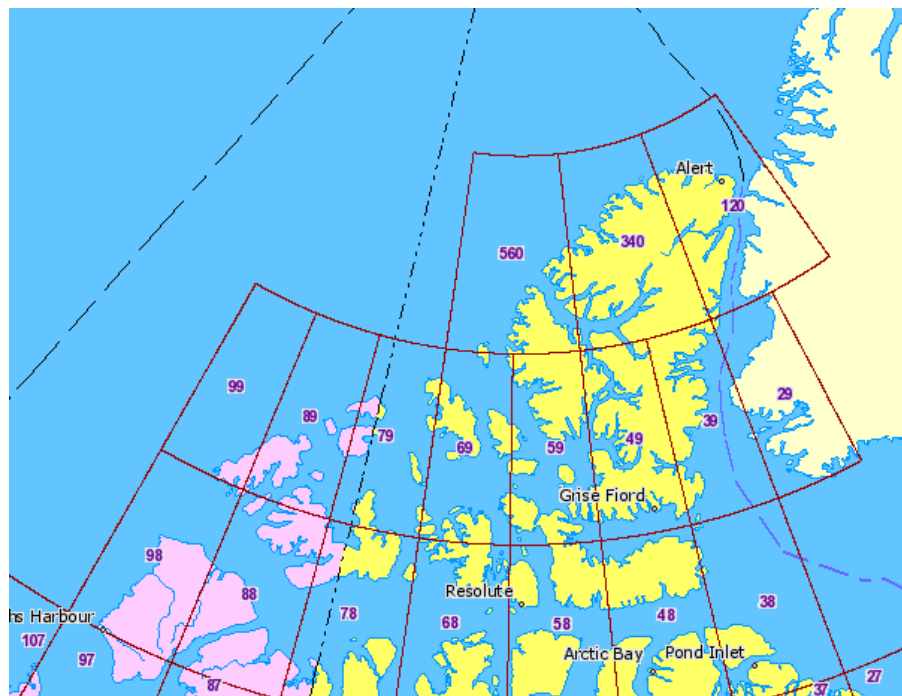


I think I feel it.

They finished four holes by supper time, which is as much as they intended. So, another test has been completed. Derek had the dubious pleasure of drilling through 12 ft of ice. They got a little too close to a small ridge where the ice had piled up under water. (Or should that be 'piled down' under water?)

Chris Kaminski is like a kid in a candy store. He has three PHINS (Inertial Navigation System) to test and compare, and they are worth \$150 grand each. I asked him where they all came from, and he said that NRCan owns one that ISE is holding for the AUVs that they are building; the Mine-Hunting program (IRMDS) with which he and Richard are associated has one, and they brought the two of them to Alert in order to test them in the far north. However, the IRMDS unit failed, and IXSEA quickly provided them with another PHINS for the test. Then, when Alban (from IXSEA) got here, he repaired the bad one simply by making an upgrade to the firmware. So, the bottom line is that Chris now has three good ones, and he is delighted.

You may be wondering where we will be taking the AUVs next year for their inaugural depth-measuring runs. Actually, we are wondering, too. It partly depends on what bathymetry is the most important and partly on where it is possible to get to. One of the locations being seriously considered is the region north of Borden Island. If you find the number 79 on the map, the little pink island just to its north is Borden Island. The larger one to the left of



'79' is MacKenzie King Island. (The names give you a rough idea as to when they were discovered.) The problem with working out of Borden Island is that it is a long way from anywhere – even for the Arctic. Resolute and Eureka are the two closest inhabited towns with runways capable of taking a Hercules or a 737, and they are 600 km and 520 km away, respectively. Dick MacDougall knows where there is an old Herc strip on Borden, so it is “just” a matter of clearing it of snow and keeping it cleared. We would use this Herc strip as a base from which to fly equipment by Twin Otter out to a camp on the sea ice. This whole project is a marvelous challenge. Interesting and exciting – yes, but easy and straightforward – no. I feel very lucky to be part of it. I hope I'll be part of it next year.

The 'name-the-AUV' exercise has taken on a life of its own. I'm amazed at how much effort some people are putting into it. Some of the suggestions, I suspect, are made with tongue firmly in cheek but most are sincere and above-board.

One of my most faithful communicators has gone into the problem in a very organized fashion. I don't think he likes the (perceived) fixation on Greek mythology, and he is trying to come up with names 'as Canadian as possible – under the circumstances'. I don't know whether he wanted this note included in a letter, but I'm sure he won't hold it against me too long. His criteria...

“In no particular order:

1. Must be Canadian and, preferably, iconic.
2. Male and female might be nice.
3. East and west Canada tie-in might be nice.
4. Suitable for conversion into some classy or fun vehicle graphics.
5. Bilingual names or paired words, one English and the other the French equivalent.
6. Names of a highly recognizable Canadian duo.
7. Nothing snobby or pretentious.
8. Recognizable to as many generations of Canadians as possible.
9. Lighthearted.
10. Positive. “

I suspect that #7 is in reference to the Graeco-Latins amongst us. His current list of possibles are:

“Again, in no order:

Johnny (Wayne) and Frank (Shuster)	Squamish and Migmah (or any other east and west tribal names for that matter)
Nelson (Eddy) and Jeanette (MacDonald) - Fails test 8 badly.	Raven and Corbeau
Radisson and Groseillers - Fails test 8, too.	Merganser and Grand Harle
Alexander Graham and Belle	Black Brant and Bernache Noire
Beaver and Otter	Ptarmigan and Lagopede (des Saules)
Moose and Caribou	Osprey and Huard
Big Joe Mufferaw and Johnny Canuck	Wolverine and Carcajou
Dan McGrew and Sam McGee	Surveyor and Arpenteur (The only one that has a mission connection.)”

Moving on now to other people and their suggestions:

Demophon and **Acamas**, who were the two sons of the 'original' Theseus and his second wife Phaedra. Apparently the two brothers took part in the capture of Troy.

Alpha and **Bravo** - very boring [His words – not mine.]

Abbott and **Costello**

Tristan and **Isolda** (or **Dristan** and **Mazola**)

Funk & Wagnall

I even had one suggestion for a pair of skidoos:

Grim and **Bear-it**

I received a note from Tristan at ISE (the company in Port Coquitlam who are building the subs). He says,

'For completeness, the 2 AUVs do have working names at the moment, they are: "Explorer 29B05-5000" and "Explorer 29B06-5000". Dull, but informative (includes hull diameter of 29", 5000m depth rating and sequential build numbers).'

You can download any newsletters you may have missed from the site
http://a76.dk/expeditions_uk/spring_2009/index.html#cornerstone

Note that this is more specific than the site I quoted yesterday. This URL brings you directly to the Cornerstone Newsletters.

Today's pictures were contributed by Richard Pederson and Ron Lewis.

Best Wishes, Ron Verrall
We'd like to hear from you. (ronverrall@gmail.com)