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Back to the Ice, Part 3 Looking Ahead—Helicopter Reconnaissance

August 20, 2010

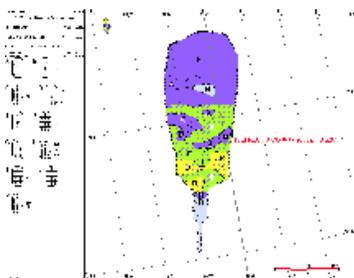
By Helen Gibbons, Web Coordinator, ECS Project

Date: August 20, 2010
 Time: 1800 hours Pacific Daylight Time
 Latitude: 76°19.9'N
 Longitude: -152°14.5'W
 Air temperature: -1.1°C (30°F)
 Sea temperature: -0.6°C (31°F)
 Wind speed and direction: 4 knots from the west-northwest
 Ship's speed over the ground: 4.0 knots
 Water depth: 3800 m

On Tuesday, August 17, I spoke with Erin Clark (Ice Services Specialist with the Canadian Ice Service, Environment Canada) and MST1 Josh Miller (ice analyst with the National Ice Center [NIC]) about how they use satellite-imagery analysis and sea-ice observations to help chief scientists Brian Edwards (on *Healy*) and David Mosher (on *Louis*) pick paths through the sea ice. While we were talking on the bridge, we heard the sound of *Louis's* helicopter. The day's clear weather was ideal for a helicopter reconnaissance of the ice ahead of us (or a "heli recco," as Erin called it).



Louis's helicopter lifts off from *Healy's* deck at 1343 hrs on Tuesday, August 17, during a transfer of personnel. Shortly after the transfer, pilot Chris Swannell, Ice Services Specialist Bruno Barrette (Canadian Ice Service) and Operations Technical Advisor Caryn Panowicz (NIC) flew a helicopter ice reconnaissance to 60 nautical miles ahead of the ships. Click image for larger view. **Credit:** Brian Edwards, USGS.



Ice chart produced by Bruno Barrette during helicopter reconnaissance on August 17, 2010. Scale bar at bottom of figure represents 28.30 nautical miles. The description of ice conditions is recorded in the "egg format" (left side of chart). The top line in each egg represents the total concentration in the area. The second line is the partial concentration for each ice type,

Riding in the helicopter with pilot Chris Swannell were Bruno Barrette, another Ice Services Specialist (Canadian Ice Service/Environment Canada) working on *Louis*, and Operations Technical Advisor Caryn Panowicz (NIC), who transferred from *Healy* to *Louis* on August 10. The helicopter flew about 60 nautical miles to the next waypoint on the same trackline the ships were following. Bruno was carrying a tablet computer loaded with ICEggs, like the one Erin and Josh used on *Healy's* bridge (see log for August 18). He recorded observations of ice 7 to 8 nautical miles on either side of the helicopter as it flew at about 2,000 feet.

At the end of the day, the ice observations made from the



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[Aug 22b Log](#)

the third line is the stage of development (or ice type), and the bottom line indicates predominant floe size. Any symbols outside the egg are used to indicate different topographic features. Click image for larger view or here for a [high resolution image](#). **Credit:** Brian Edwards, USGS/ECS Project.



Another heli recco: Josh (left) and Erin (walking toward viewer, right) on *Healy's* flight deck after flying a helicopter reconnaissance today (August 20). In right hand photo, pilot Chris Swannell (dark blue jacket and yellow helmet) is on the radio with *Louis*, while Bruno (behind helicopter, on right) is showing the new ice chart to *Healy's* Captain William Rall (behind helicopter, on left). Holding helicopter door is IT1 Miguel Uribarri. Click image for larger view. **Credit:** Brian Edwards, USGS/ECS Project.

helicopter were uploaded to the Canadian Ice Service office in Ottawa, Ontario. Some of the information was made available on the Web and some was used to produce a daily ice chart for the western Arctic. (If the helicopter had not flown a reconnaissance today, the observations from the lead vessel—*Healy*—would have been uploaded to the headquarters in Ottawa.)

The U.S. and Canadian scientists are taking full advantage of this joint mission in the Arctic to compare satellite imagery with field observations of ice. The ice observations they collect, besides supporting the mapping mission, will provide valuable data for ground-truthing and improving interpretations of satellite imagery, both on vessels and in offices onshore.



[Aug 22a Log](#)



[Aug 21 Log](#)



[Aug 20 Log](#)



[Aug 18 Log](#)



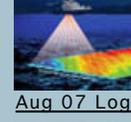
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