

LDEO Science Technical Support on Healy Report to AICC



Dale Chayes
Lamont Research Engineer

December 3, 2008



Overview

- Support for 2008
- Improvements for 2008
- Anticipated support for 2009–10
- Anticipated improvements for 2009
- Upgrade & Improvement status
- Multibeam replacement status

LDEO Science Support 2008 Support

- Software updates (3)
- Pre-underway evaluation (2-4)
- Shakedown (4-5)
- Transits (1-2)
- Cruises (2-3)

LDEO Support 2009-10

- Approximately the same as 2008
- Plus multibeam related (planning, installation, integration, acceptance testing, and performance evaluation)

Upgrades and Improvements (1)

Item	Status
Gravity Meters (2)	Installed early 2008
Science Met sensors	Installed early 2008
Science AIS receiver	Installed for HLY0806
NDB (aircraft beacon)	Installed mid-2008
Heading gyros	Installed early 2008
Mapserver improvements	AIS, user waypoints, performance
Multibeam replacement	On track for CY2009-10 drydock
Computer Lab SDN racks	Call-back for correct completion
Computer Lab renovation	ECR approved, no progress
New TSG/pCO ₂ location	Revised plan complete, requested cost estimate
Subbottom Profiler 'ducers	Physical replacement complete, test pending

Upgrades and Improvements (2)

Item	Status
Science VSAT	Plan being developed
High Latitude comms	Continuing search for improved capability
Incubator water	Progress on characterization
Transducer void ventilation	No progress
Transducer void cableways	No progress
Dark Room renovation	No progress
ADCP cable re-route	No progress
Future Lab renovation	No progress

Science related work in drydock

- Multibeam installation

Multibeam Replacement Status

- Funding (seems to be) in place
- Detailed installation planning is moving along
- Anticipate award to manufacturer in Dec '08
- Factory Acceptance Test Fall 2009
- Installation during CY 2009-10 drydock
- Dockside acceptance test ~May 2010
- Initial sea trials during shakedown
- Performance characterization during 2010

Test & Evaluation conditions

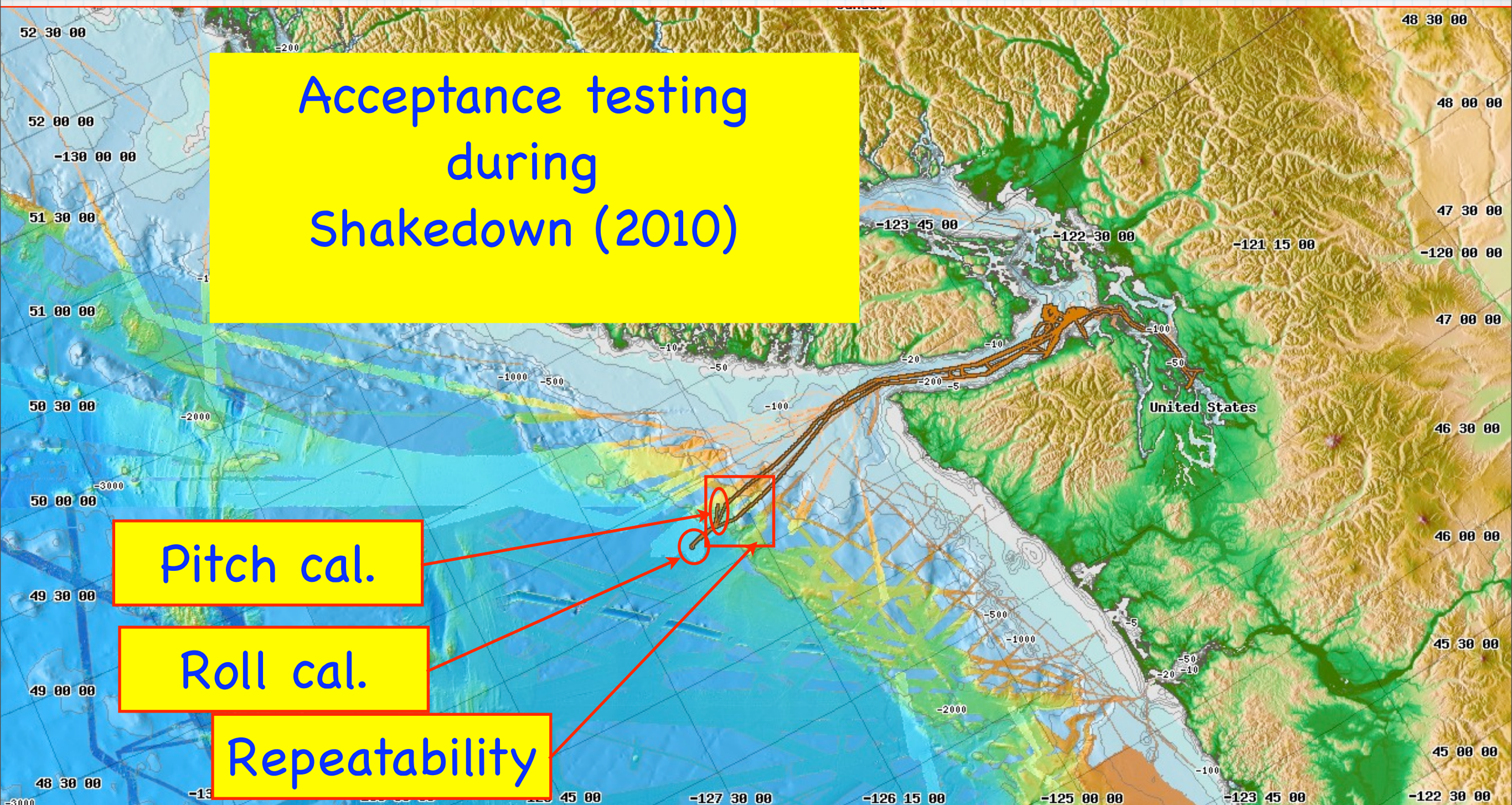
- Factory Acceptance Test (no ship time)
- Dockside (Harbor) Acceptance Test (2–5 days)
- Sea Acceptance Test (~ 5 days + transit time)
 - Deep(ish) water, flat bottom; deep water, steep slope; shallow water, flat bottom; good weather
- Performance characterization under different conditions
 - Deepest water, variable weather, variable ice

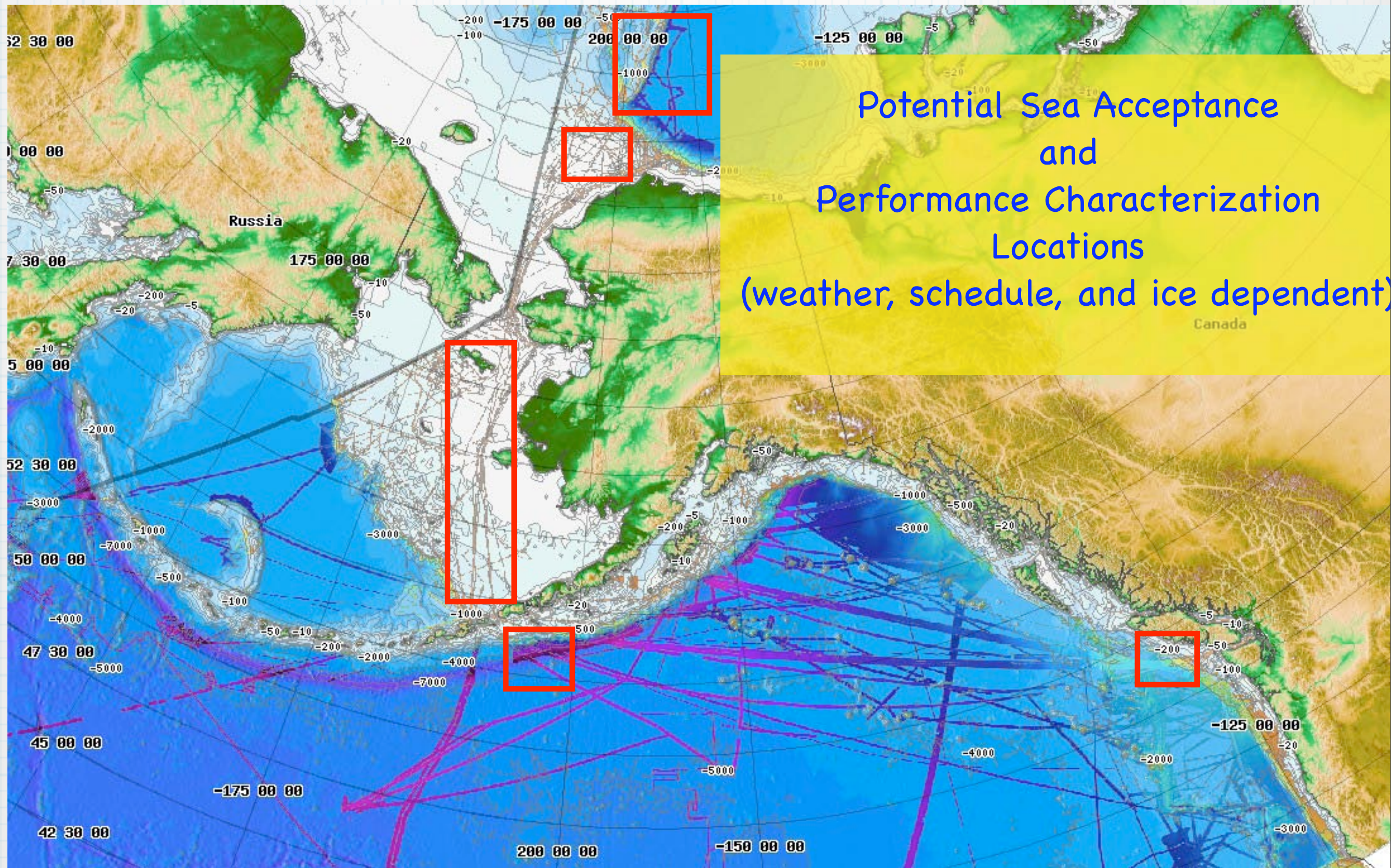
Acceptance testing during Shakedown (2010)

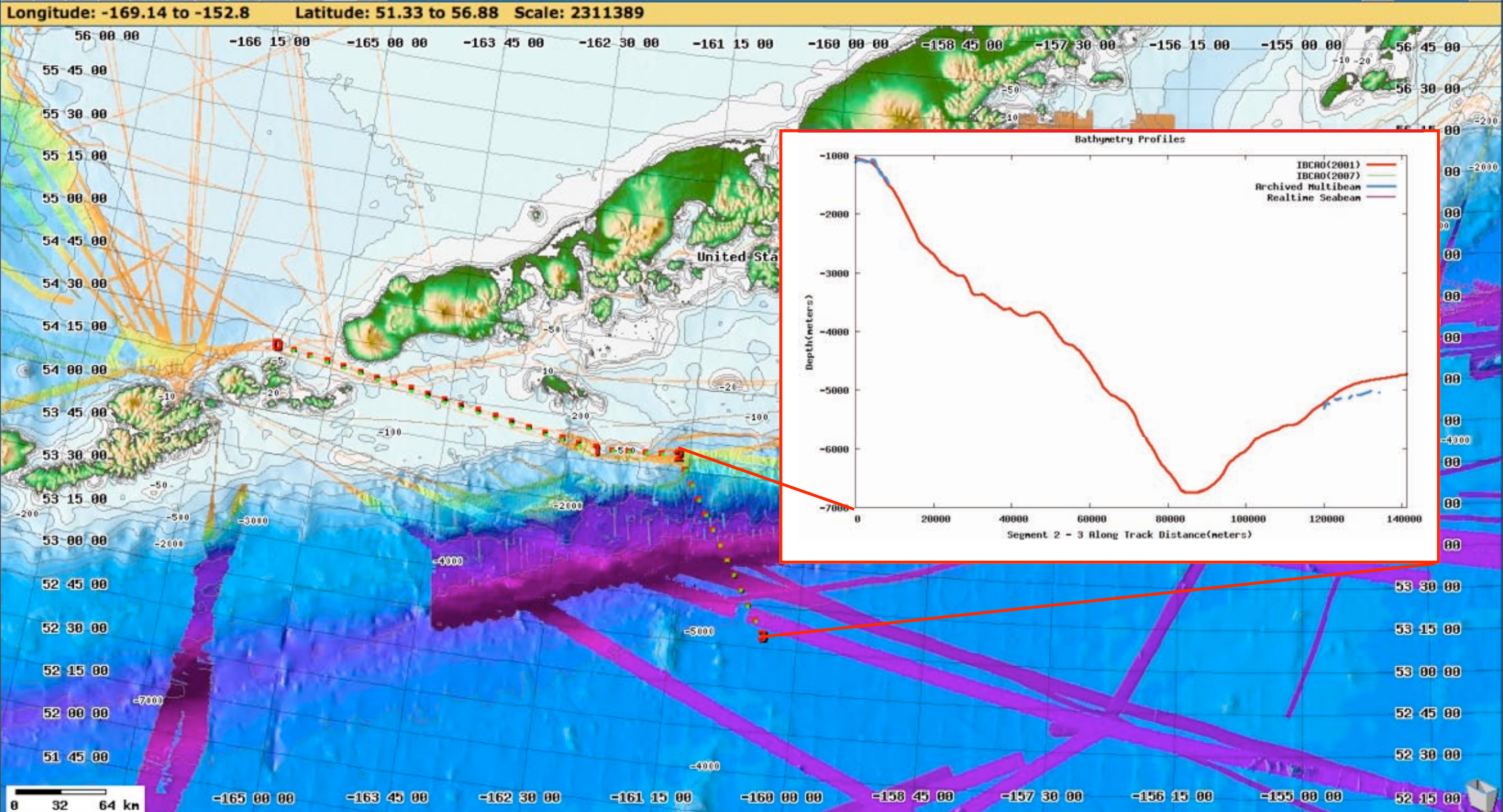
Pitch cal.

Roll cal.

Repeatability







Segment	Lat	Lon	Heading	Length	Cumulative Length	
3	53 04.220 N	160 20.319 W	149	71.517 nm (132.449 km)	221.883 nm (410.928 km)	Profile
2	54 05.562 N	161 21.734 W	87	29.483 nm (54.603 km)	150.366 nm (278.479 km)	Profile
1	54 04.150 N	162 11.734 W	98	120.883 nm (223.876 km)	120.883 nm (223.876 km)	Profile
0	54 23.652 N	165 35.033 W	*	*	*	

Comments, questions, corrections
dale@ideo.columbia.edu