

CryoVEx 2008

Data processing progress report



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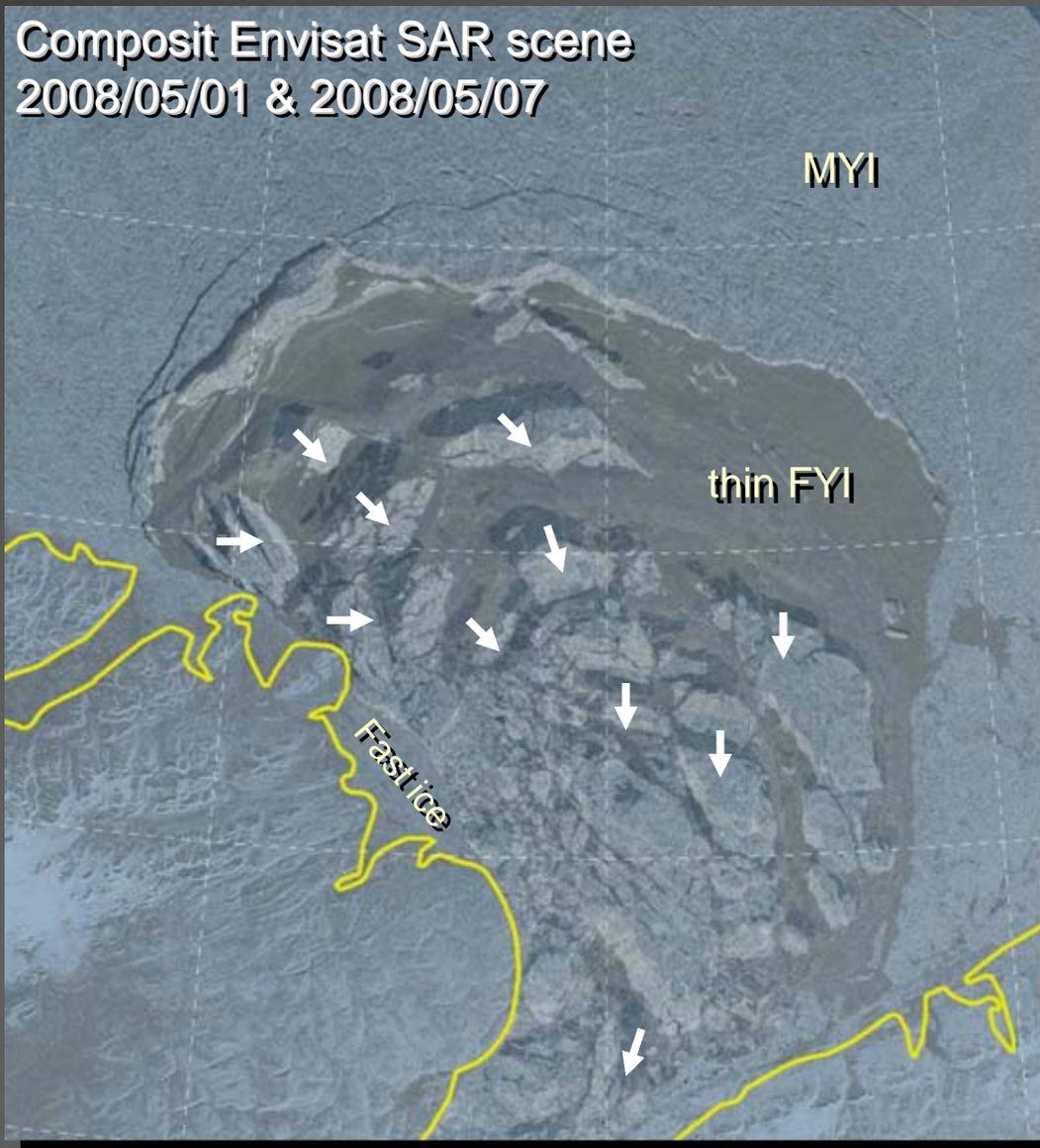


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Sea Ice Conditions



Sea Ice Conditions



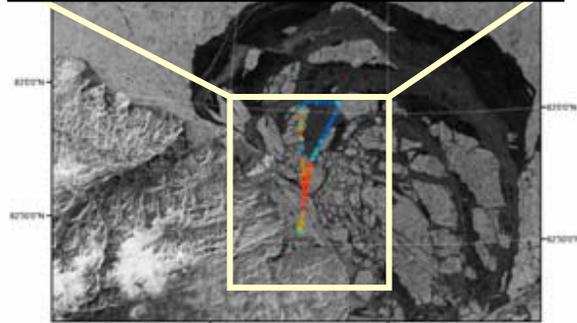
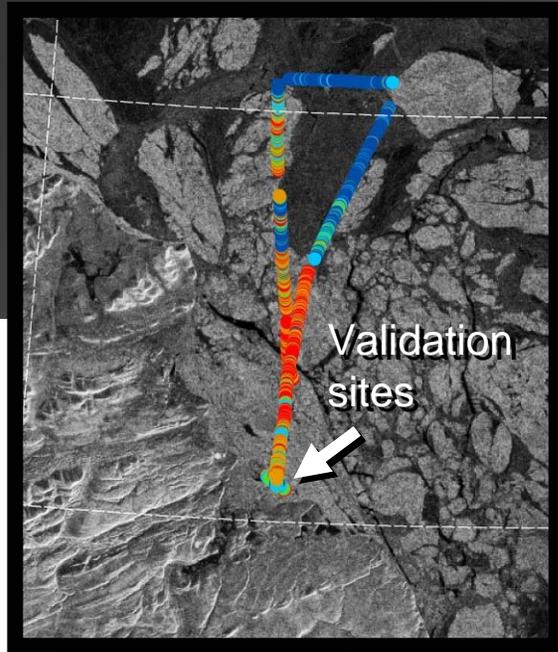
Main Objectives

- Coincident EM thickness and freeboard (laser & radar) datasets
- First-year ice and multi-year ice validation site
- (AUV Sonar ridge site, DAMOCLES)

Table 1.1.: AEM Flights performed during CryoVEx 2008 sea ice field campaign

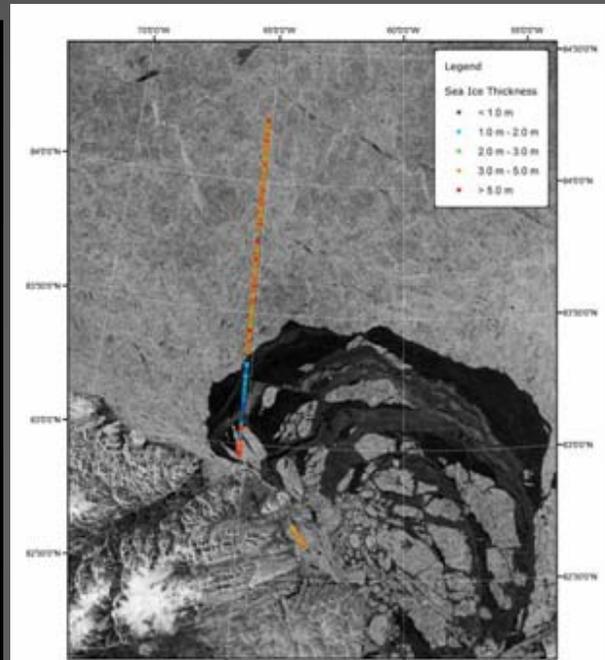
<i>Date</i>	<i>#</i>	<i>Description</i>	<i>Data</i>
2008/05/01	1	Short test flight for test of pilot altimeter display	-
2008/05/01	2	Flight north over mixed FYI/MYI zone, Survey of CryoVEx validation sites	✓
2008/05/02	1	Coincident flight with aircraft in MYI zone along northward profile. Refueling stop for range increase	✓
2008/05/07	1	Test flight to check sensor behavior under bad weather conditions (precipitation)	-

Airborne EM field program



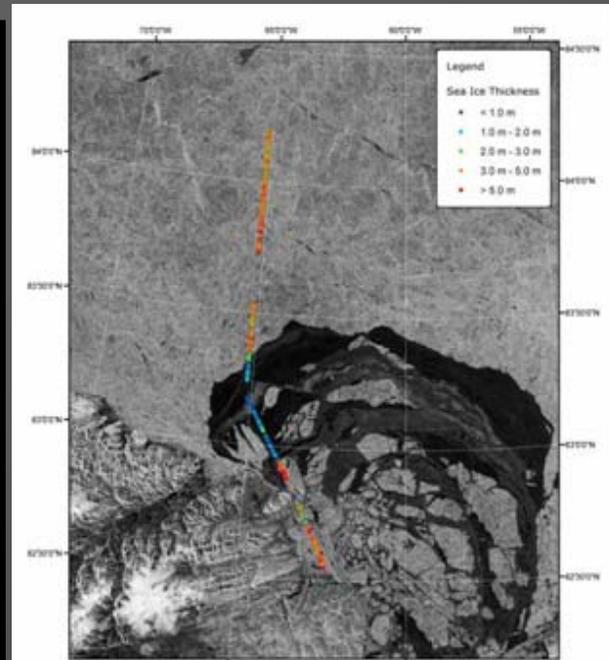
ENVISAT WSM
2008/05/01
17:09:28

EM Bird Track
2008/05/01
19:25:31 - 21:00:01



ENVISAT WSM
2008/05/02
23:16:18

EM Bird Track (northbound)
2008/05/02
20:49:47 - 21:52:42

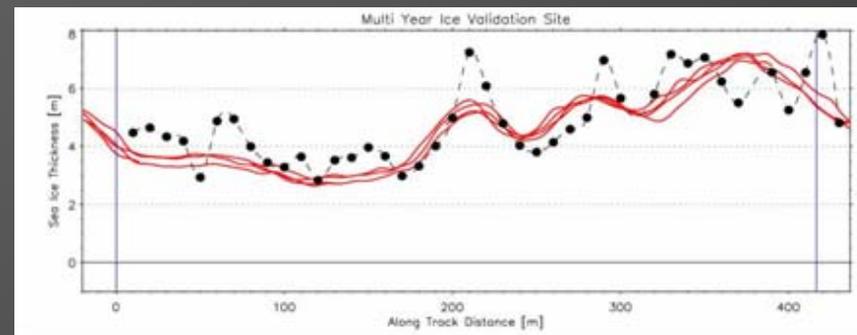
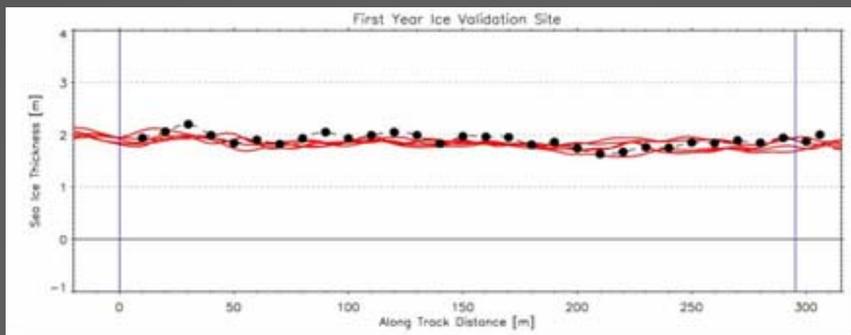
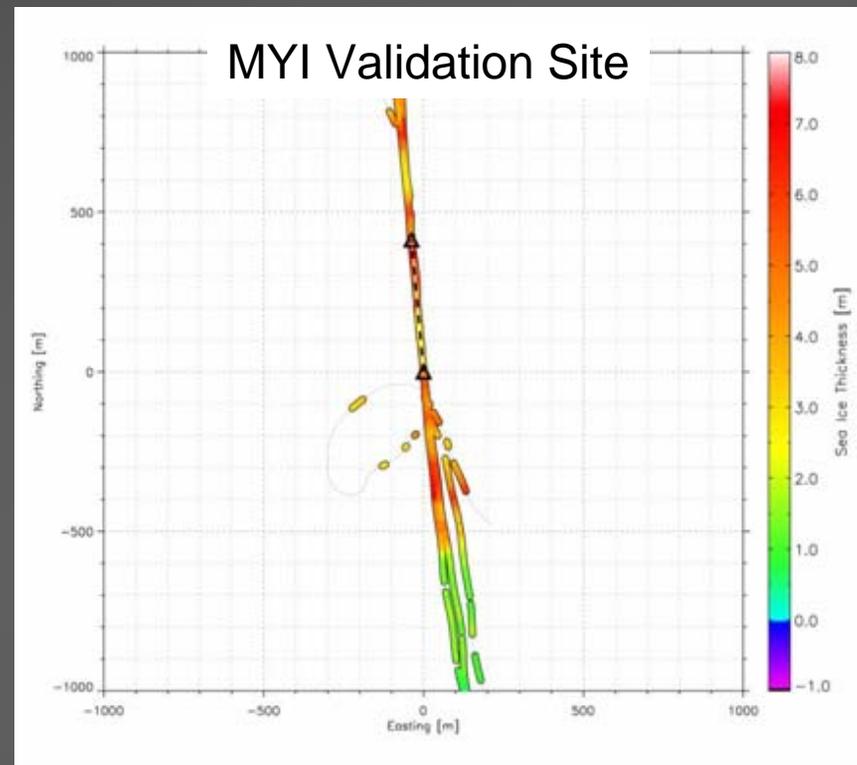
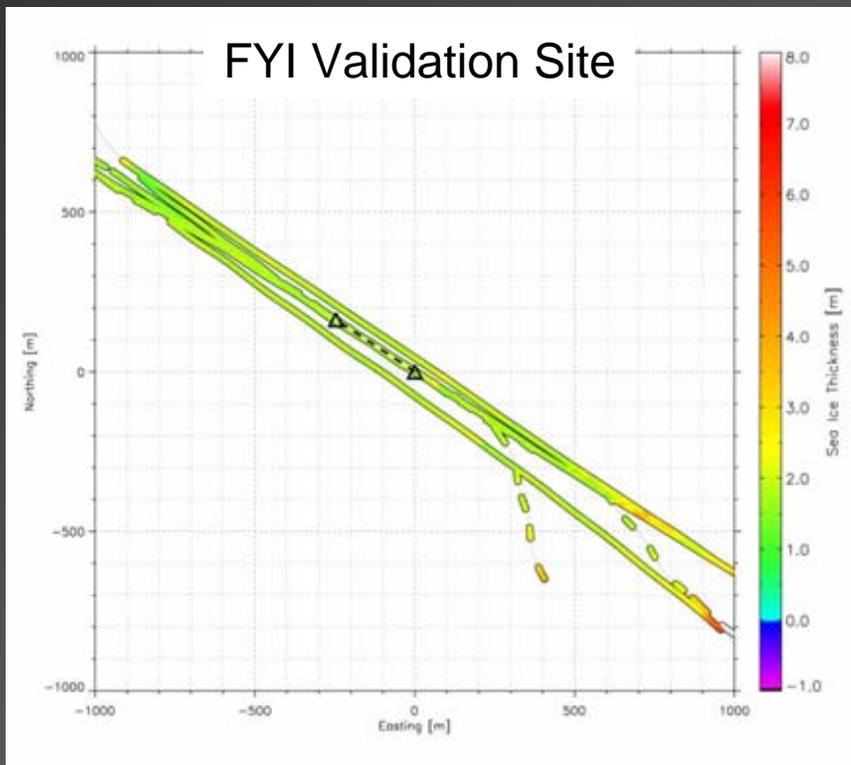


ENVISAT WSM
2008/05/02
23:16:18

EM Bird Track (southbound)
2008/05/02
21:55:53 - 23:11:25

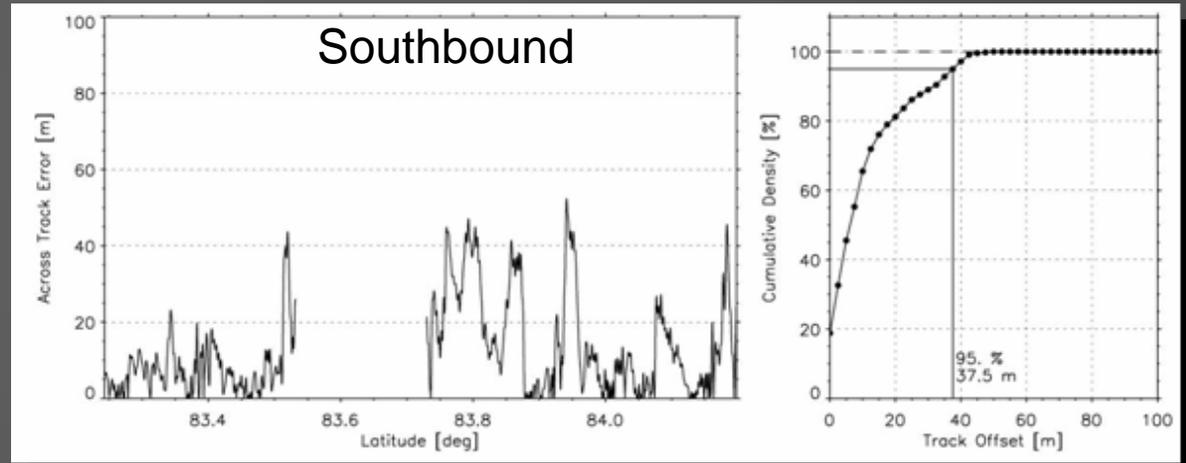
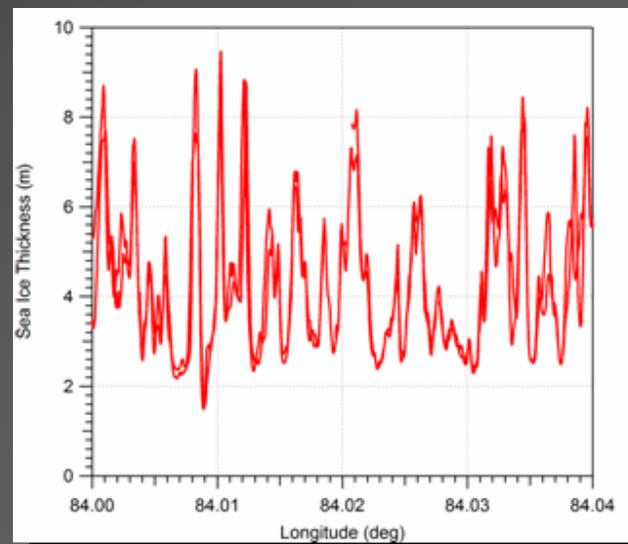
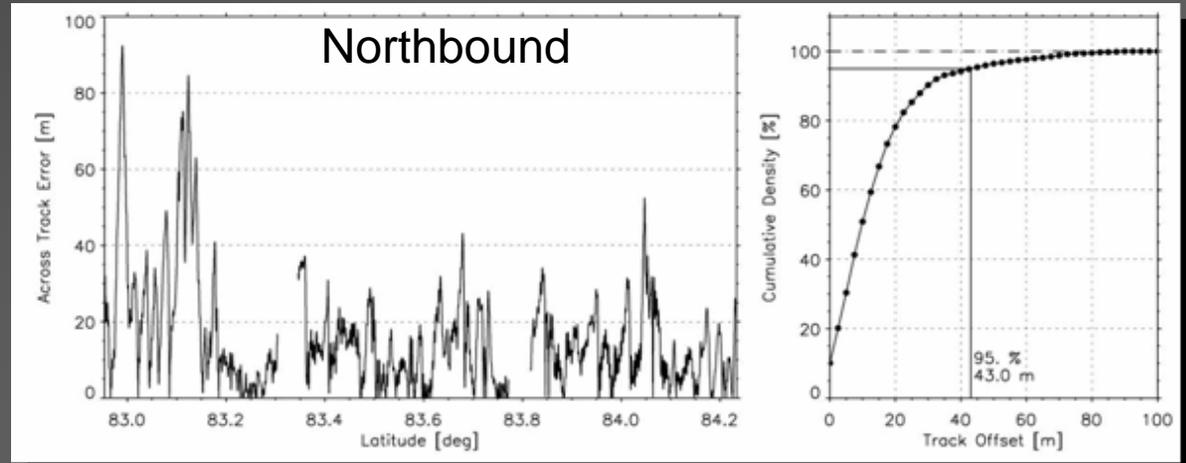


Validation Sites

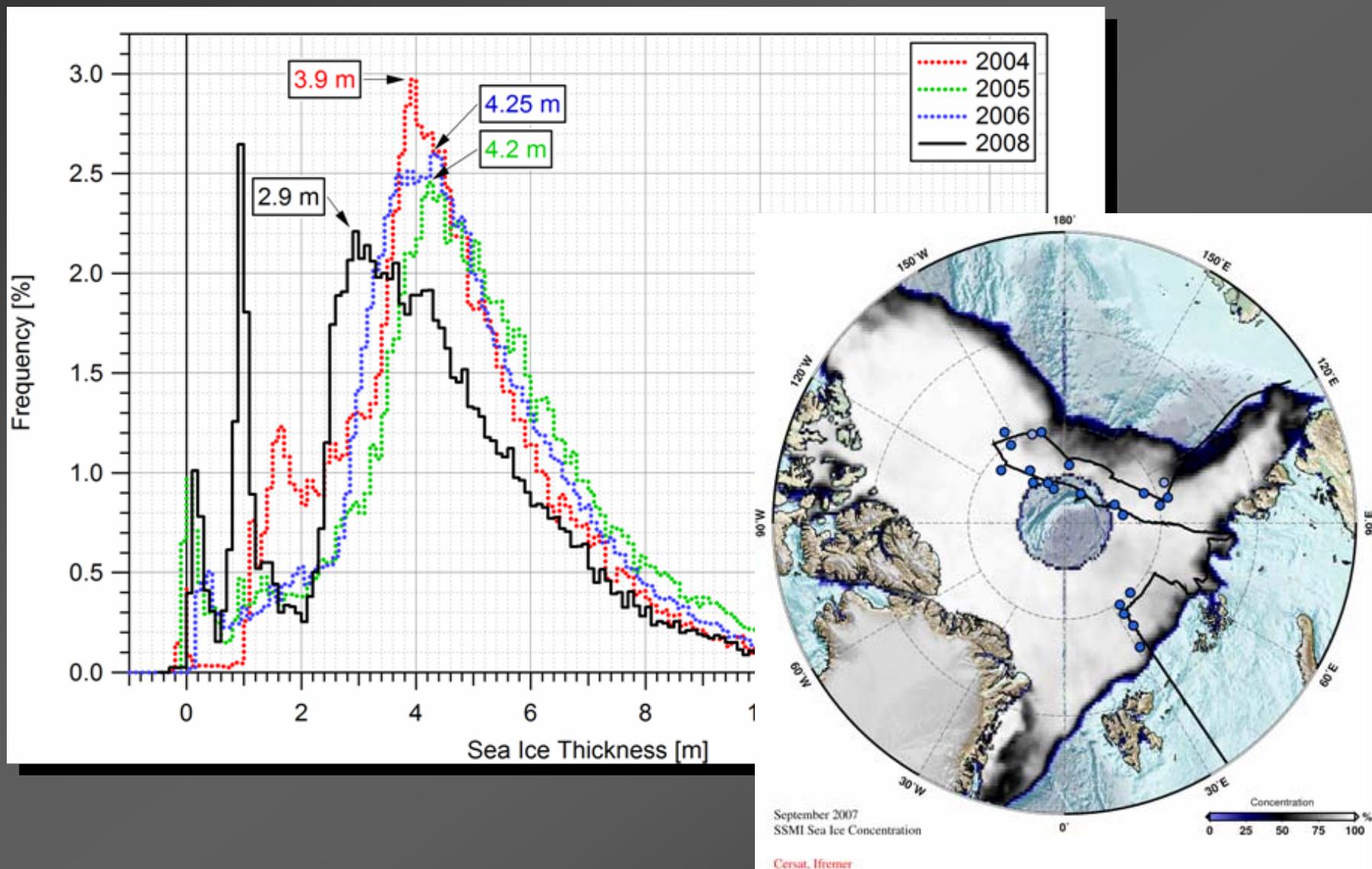


Navigational accuracy

Coincident ASIRAS
flight at 2008/05/02



Sea Ice Thickness Results



Conclusions

- EM data fully processed
- High navigational accuracy during coincident flight
- Very dense ice north of refrozen polynya
(100% ice concentration)
- Thinner sea ice in Lincoln see compared to previous years
(What happened to the redistributed sea ice in summer 2007?)

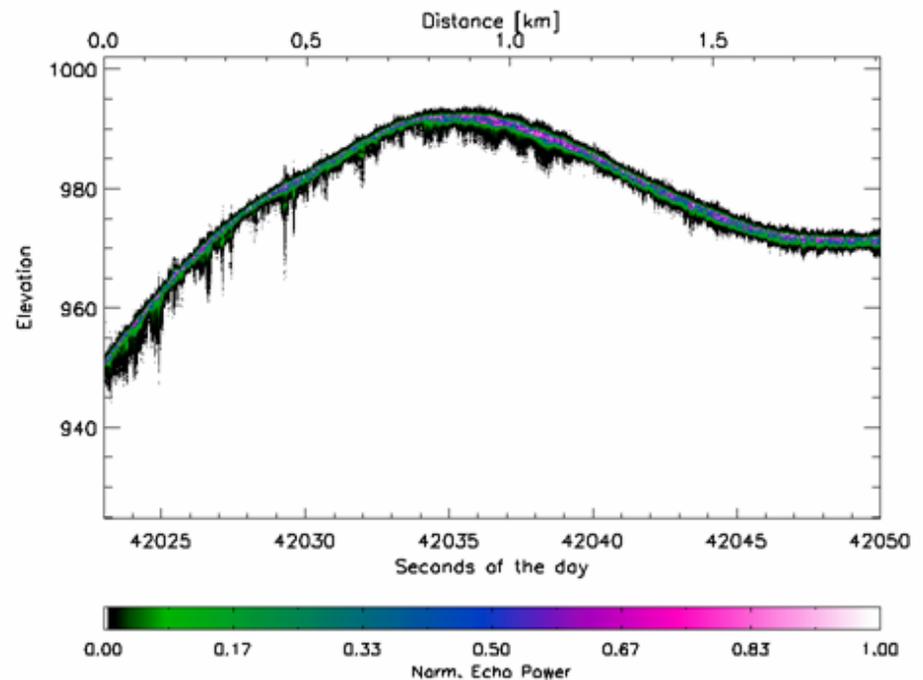
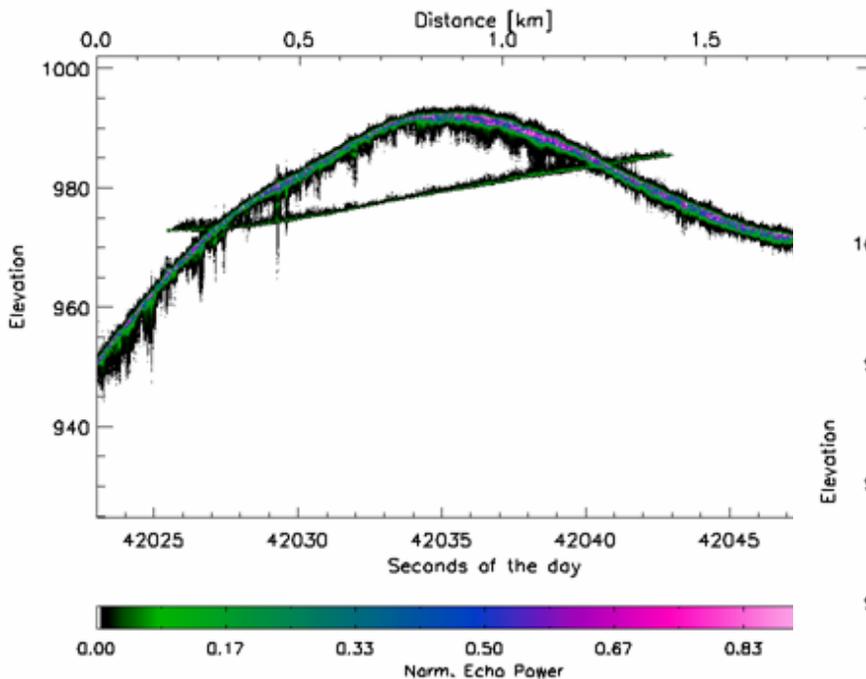
ASIRAS processing status

- Processor version: ASIRAS_03_09
- GPS and INS data delivered from DNSC to AWI
- Corner reflector analysis is in progress
- Comparison with laser scanner data not possible at current state, due to processing issues at DNSC

ASIRAS processing status

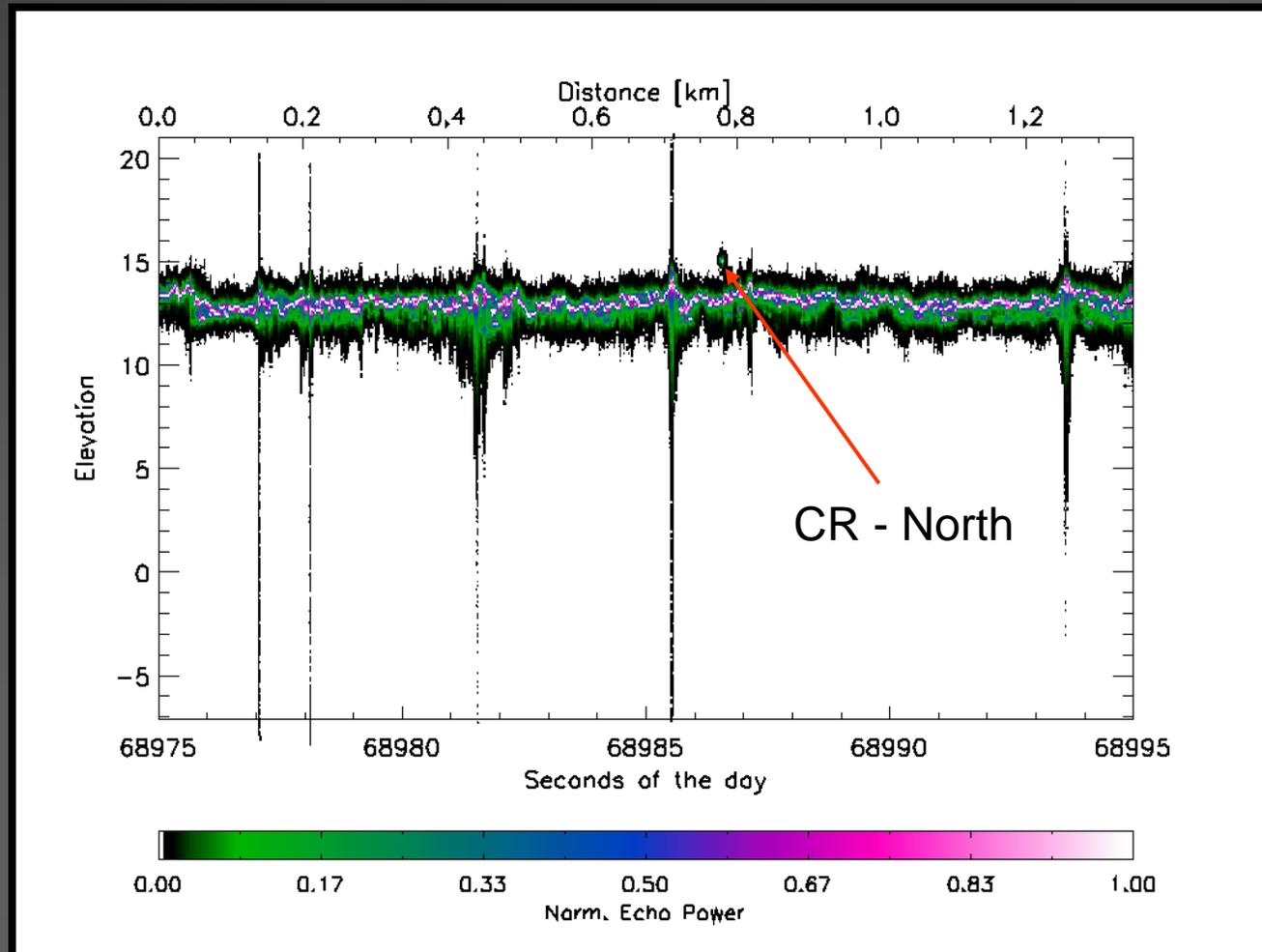
■ ASIRAS I & Q Bias:

can be corrected for in LAMA data by a change of parameter settings in processor configuration file



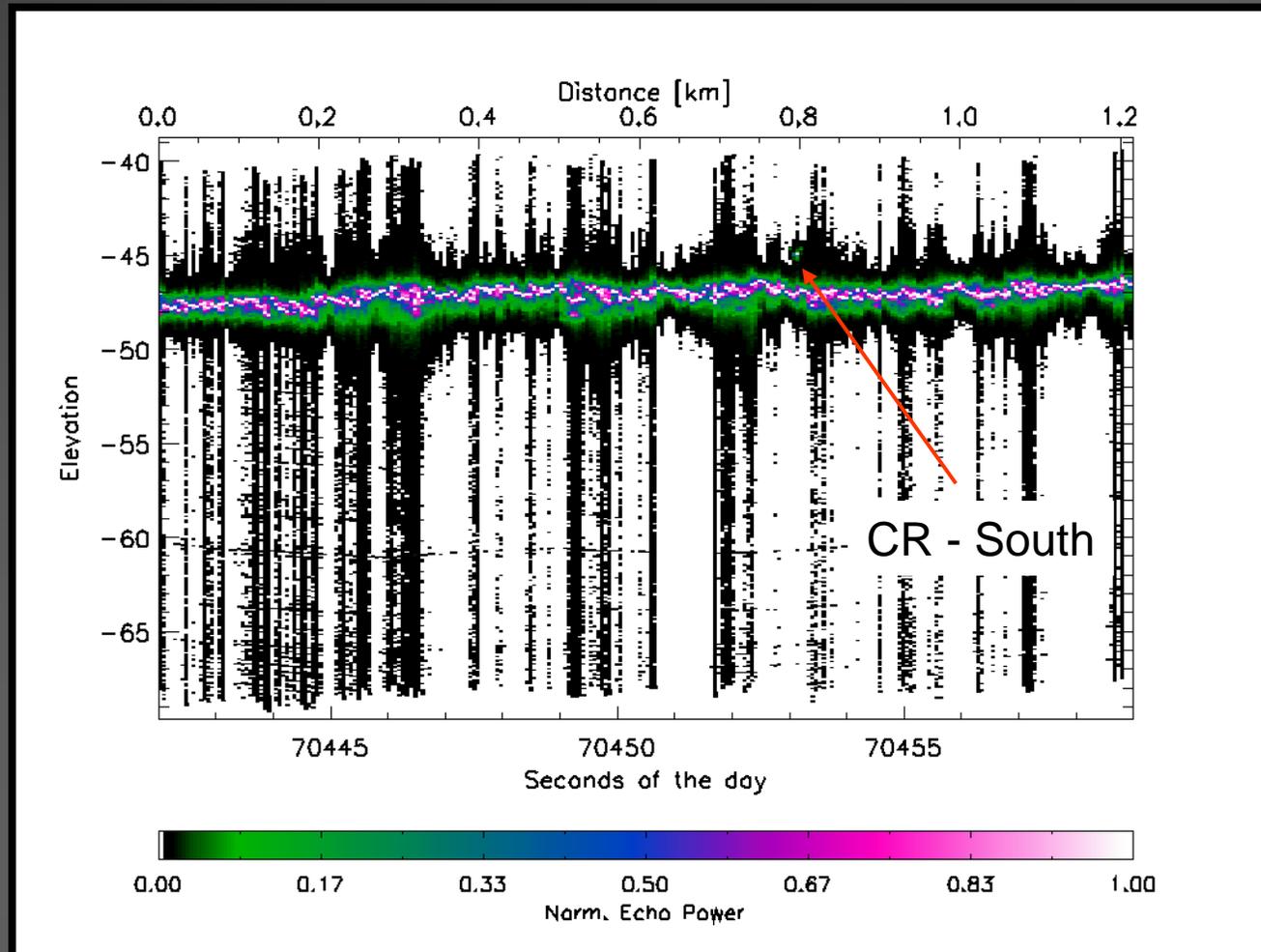
Validation sites

- Multiyear sea ice: flights on May 1st 2008
- some hits of corner reflector in the North of the validation profile



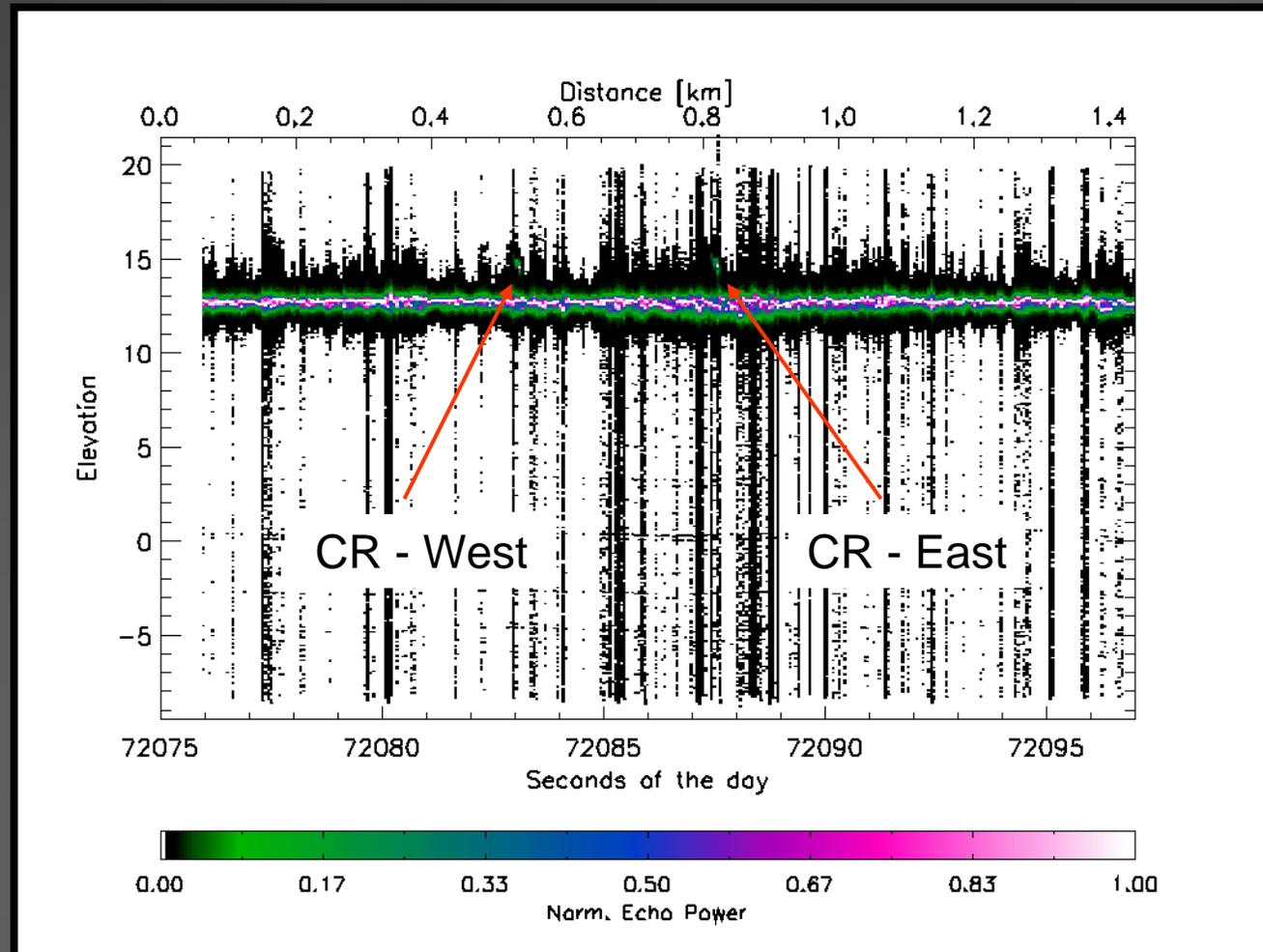
Validation sites

- Multiyear sea ice: flights on May 1st 2008
- some hits of corner reflector in the South of the validation profile



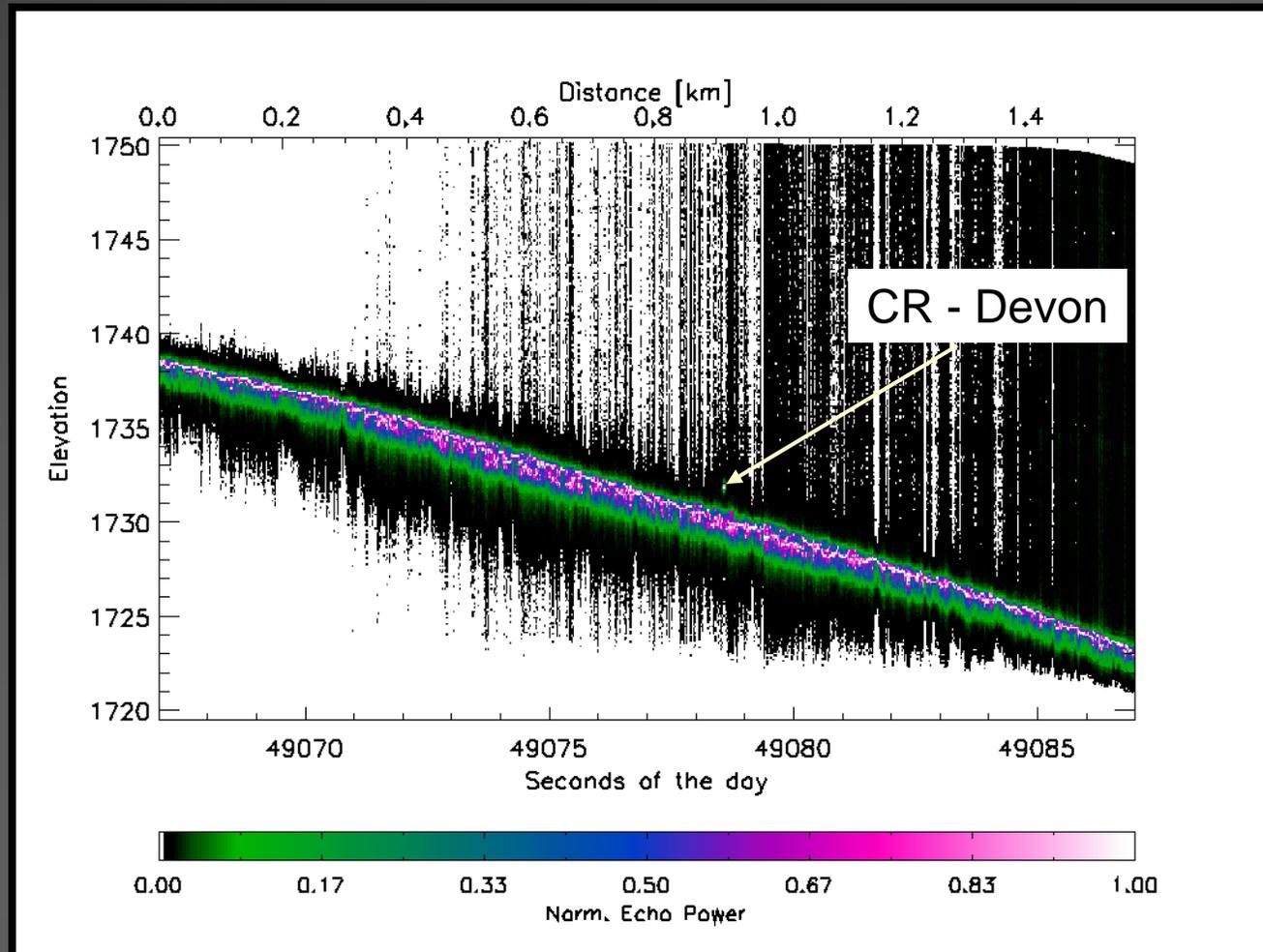
Validation sites

- First year sea ice: flights on May 1st 2008
- some hits of both corner reflectors on the validation profile



Validation sites

- Devon ice cap: flights on May 6th 2008
- 3 hits of corner reflector



Validation sites

- North Greenland: flights on April 29th 2008
- no hits of corner reflector

