

**LVIS G-V Flight Plans**

**8/23/11**

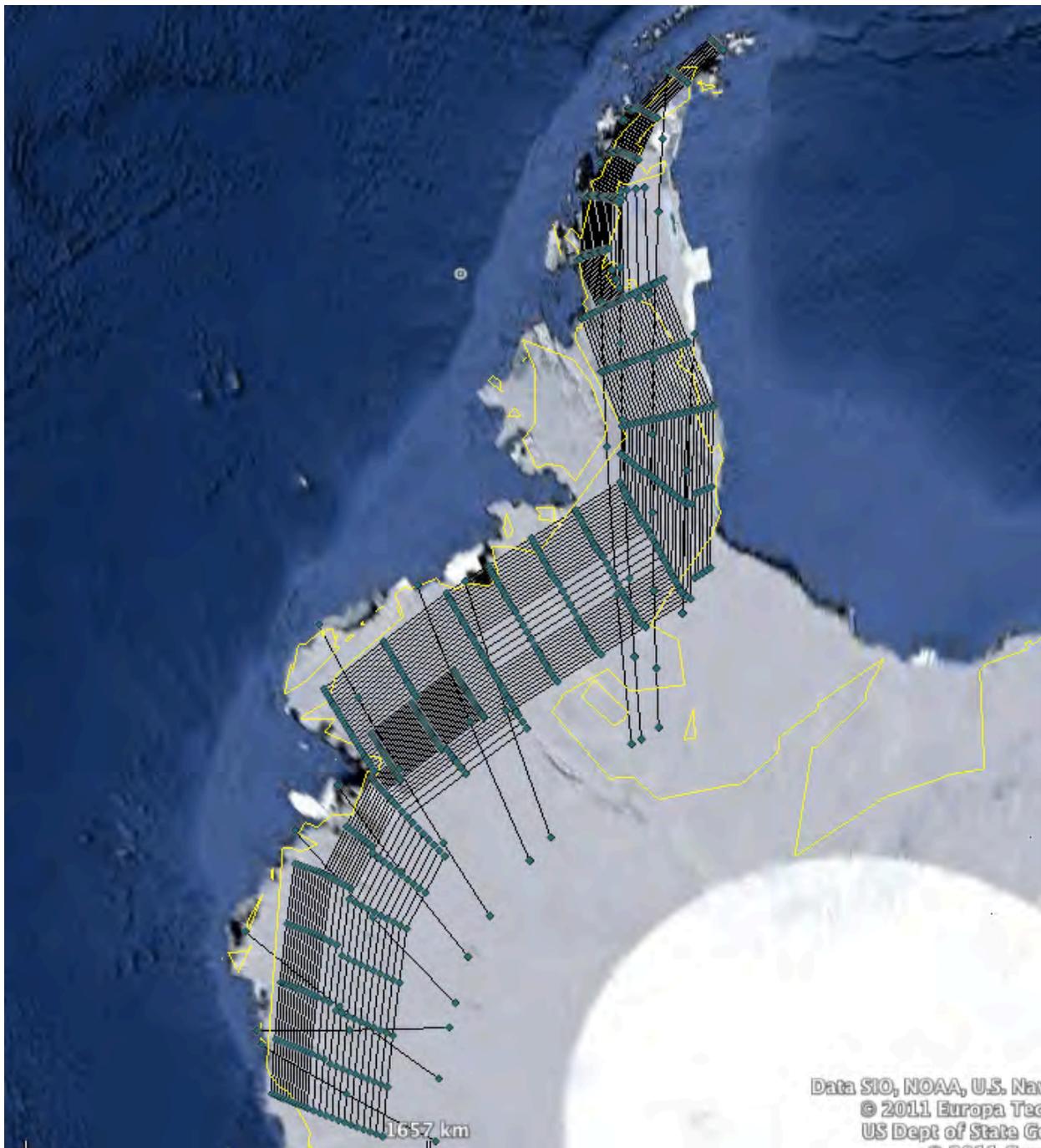
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Notes:

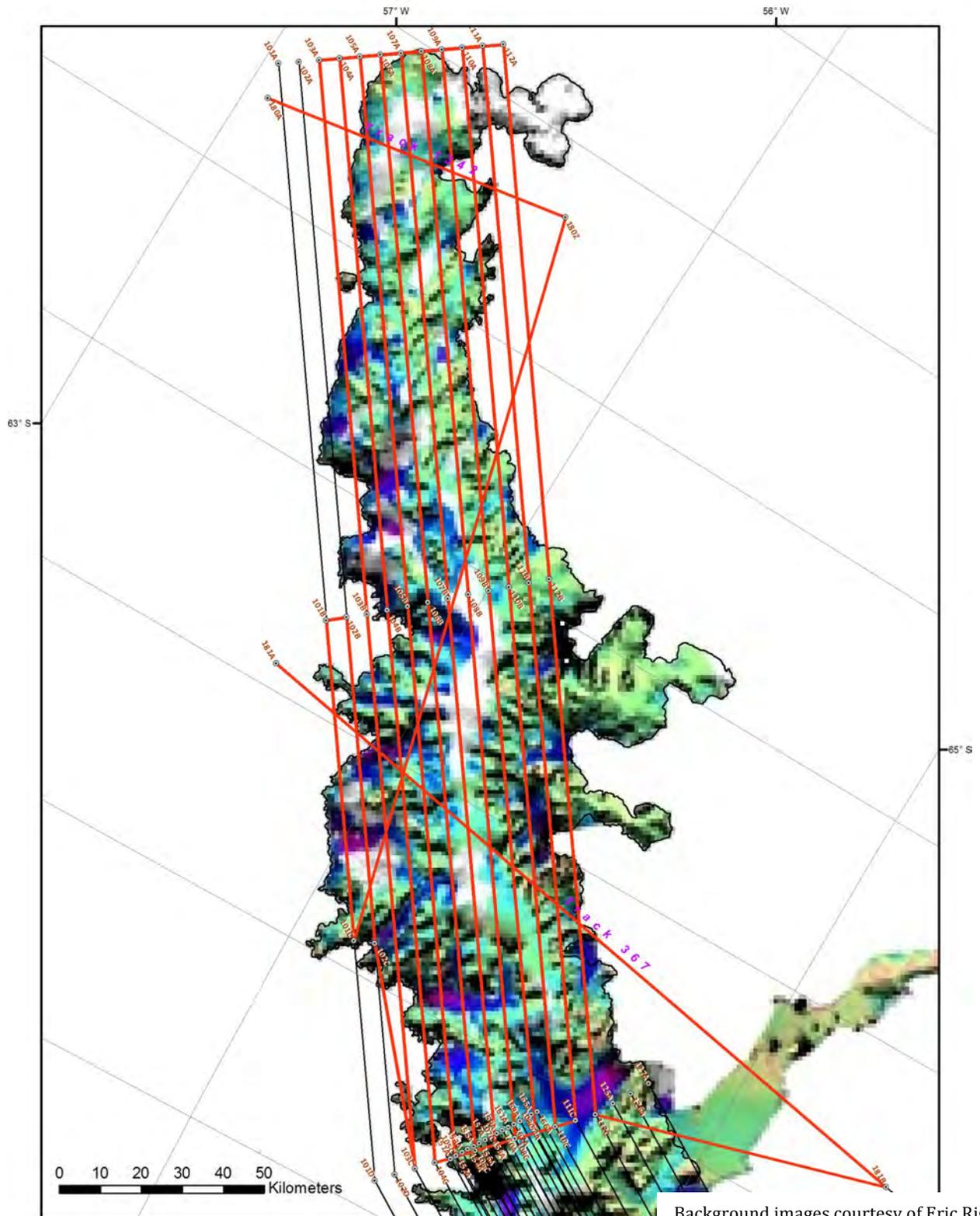
- series of grid lines, 5 km or 10km spacing within 100km of coast (5km at PIG, Peninsula, 10km elsewhere) and 20km inland
- coverage designed to encompass areas of recent, significant changes, from GRACE and Icesat results
- Icesat tracks with good spatial and temporal coverage or over rapidly changing areas picked to cross (tie) grid lines together
- It's a multiyear plan
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- Attached plans assume 10hour flight duration but extra 1 or 2 science hours per flight may be possible.
- Each image shows 1 flight (all possible line options in black, selected ones in red).



**Peninsula - Tip**

**PRIORITY:HIGH**

Covers 12, 5km grid lines, plus portions of Icesat tracks 367 and 1342.

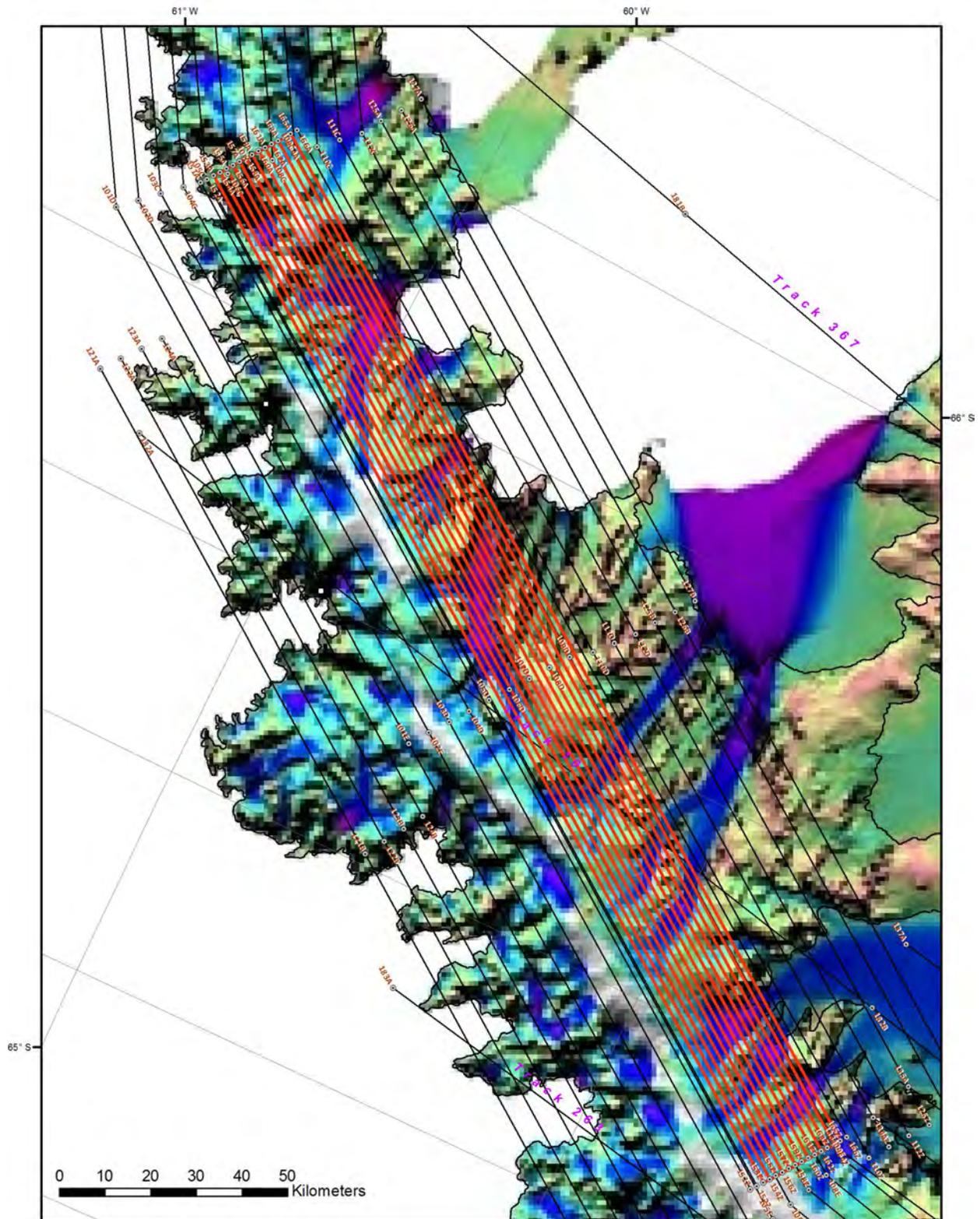


Background images courtesy of Eric Rignot.

**Peninsula: LVIS 2009 Crane Repeat**

**PRIORITY: HIGH**

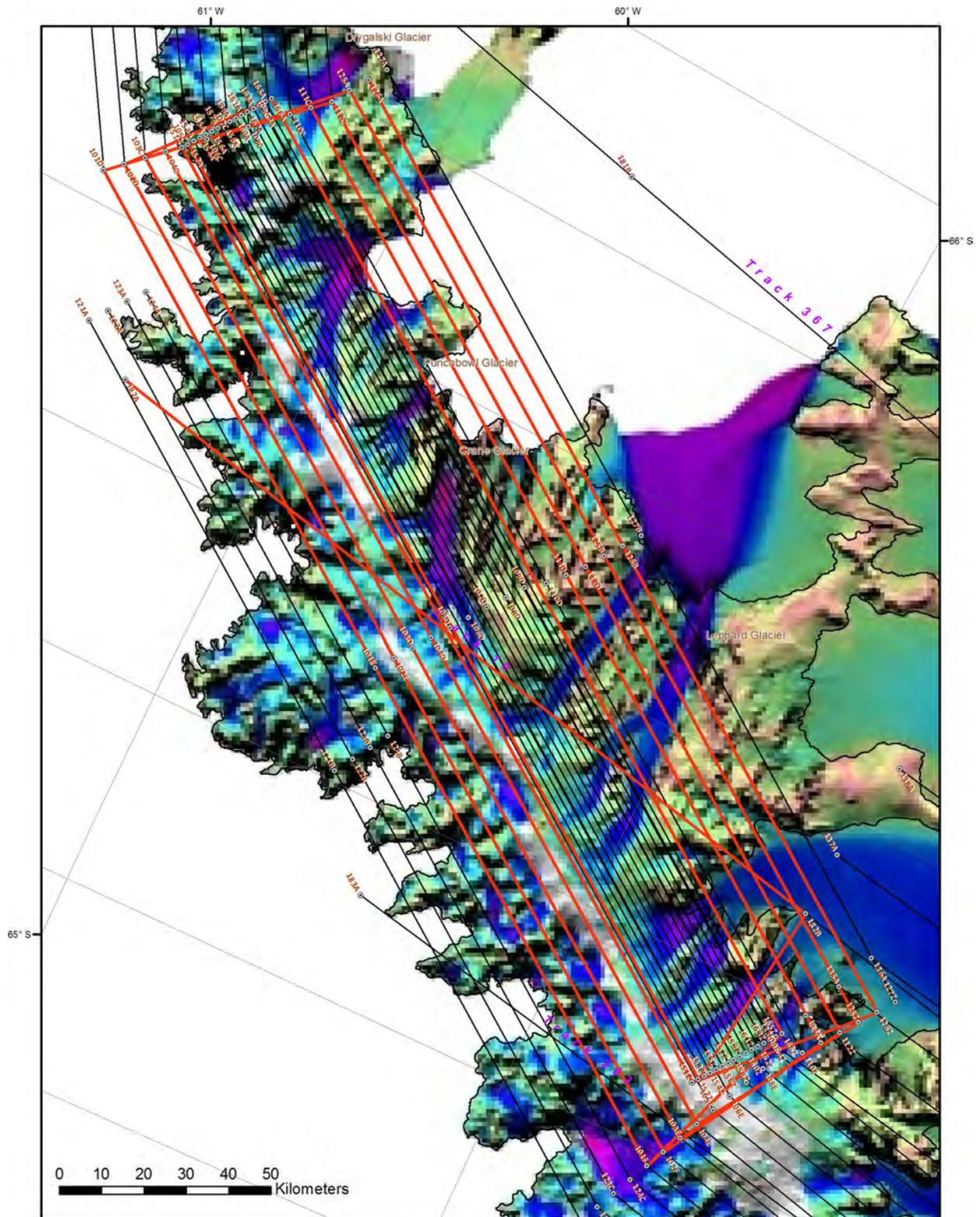
Repeats 13 of 16 2009 LVIS lines flown in 2009 for 100% mapping of 240km x 24km area  
Extra time: Pick up remaining LVIS 2009 lines



**Peninsula - Expanded Crane**

**PRIORITY:HIGH**

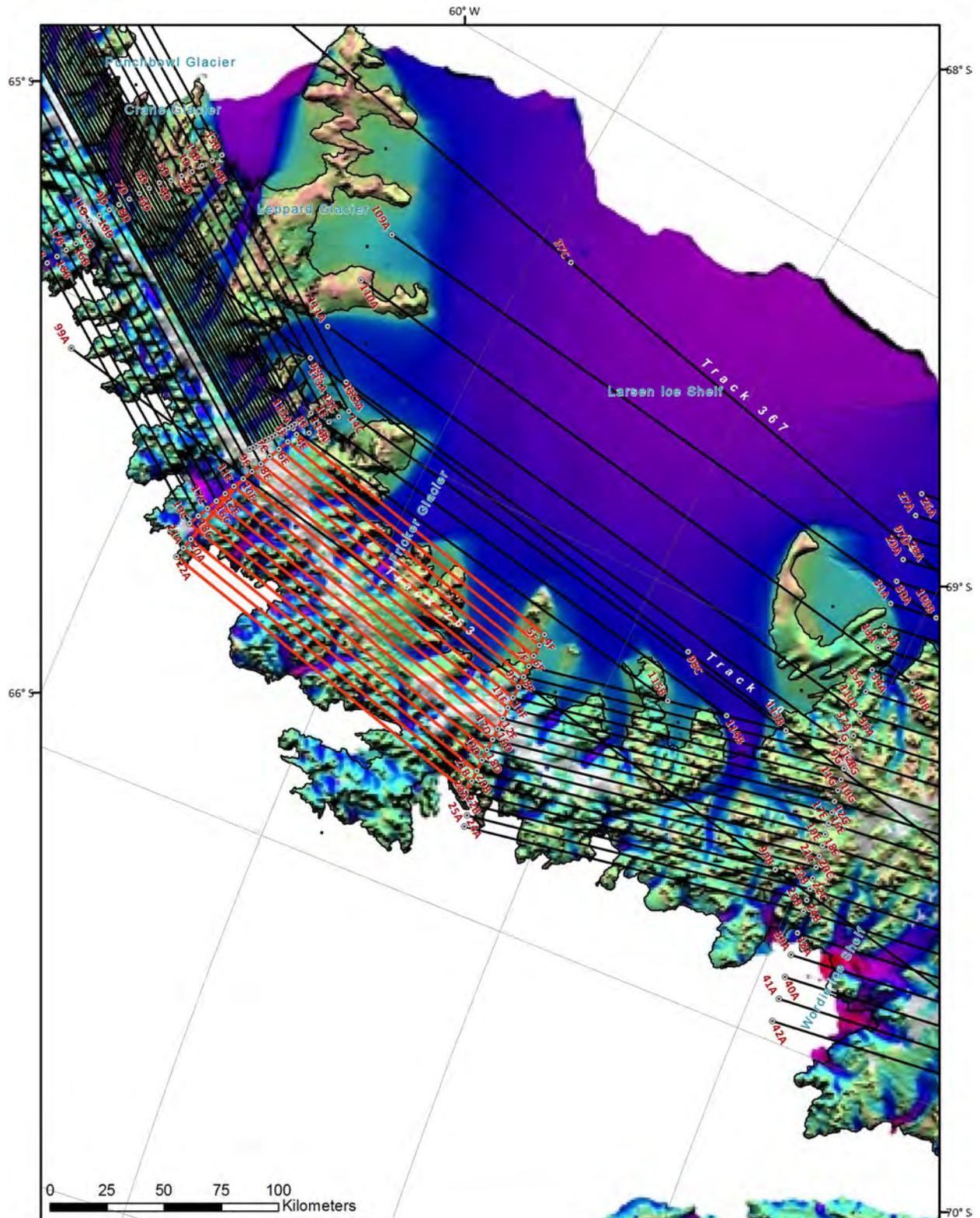
New 5km grid on either side of Crane 2009 LVIS box as well as remaining 3 LVIS 2009 lines (2 on west, 1 on east side of Crane). Uses Icesat track 0010 as cross line.  
Extra time: remaining 5km grid lines to E and W, Icesat track 263



**Peninsula - North Larsen**

**PRIORITY:HIGH-**

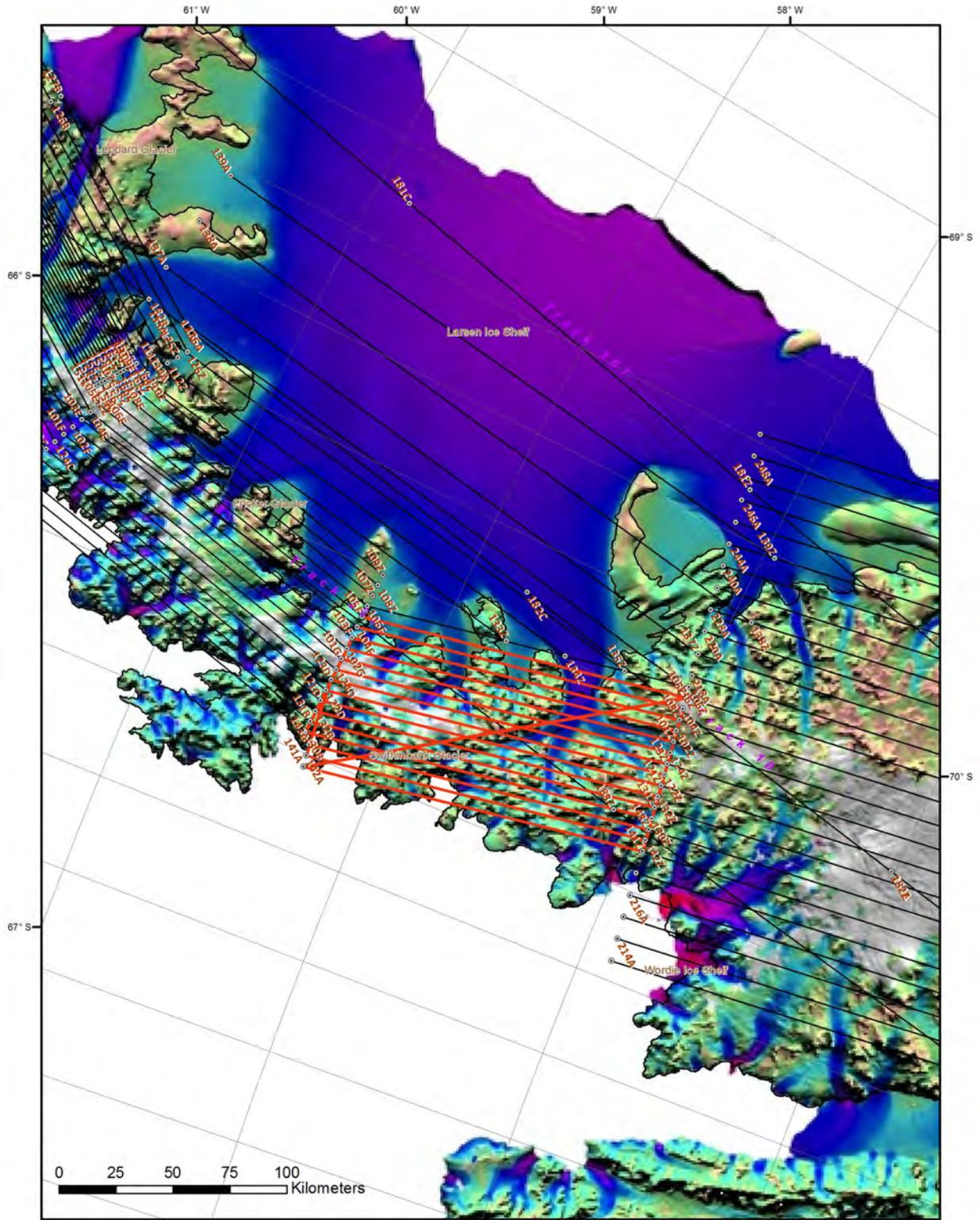
Covers 16, 140km long, 5km spaced grid lines,  
Extra time: Larsen ice shelf lines closest to coast.



**Peninsula - Larsen Base**

**PRIORITY:HIGH-**

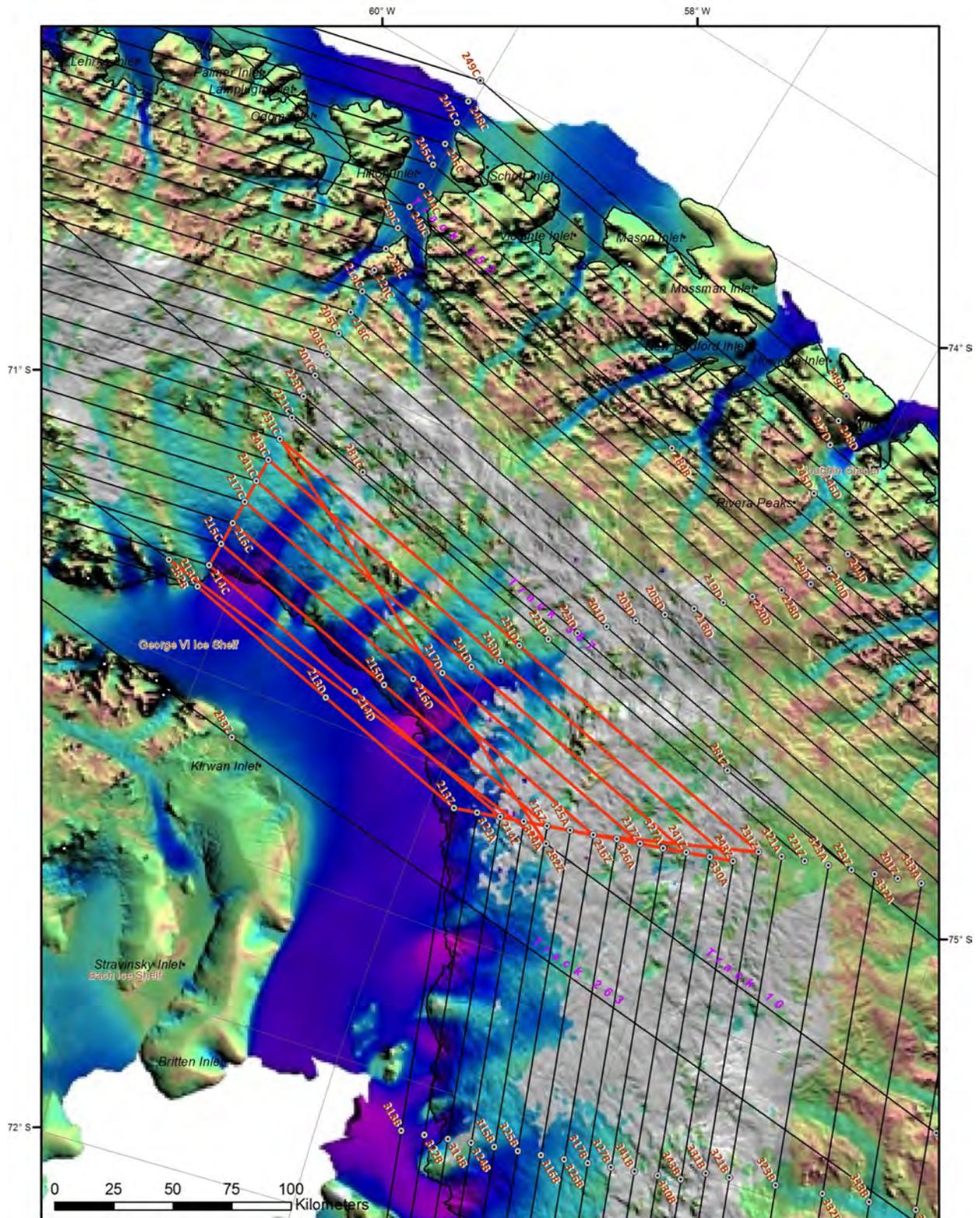
16, 120km long grid lines, spaced 5km apart plus Icesat Track 0263 as a cross line.  
Extra time: Larsen ice shelf lines closest to coast





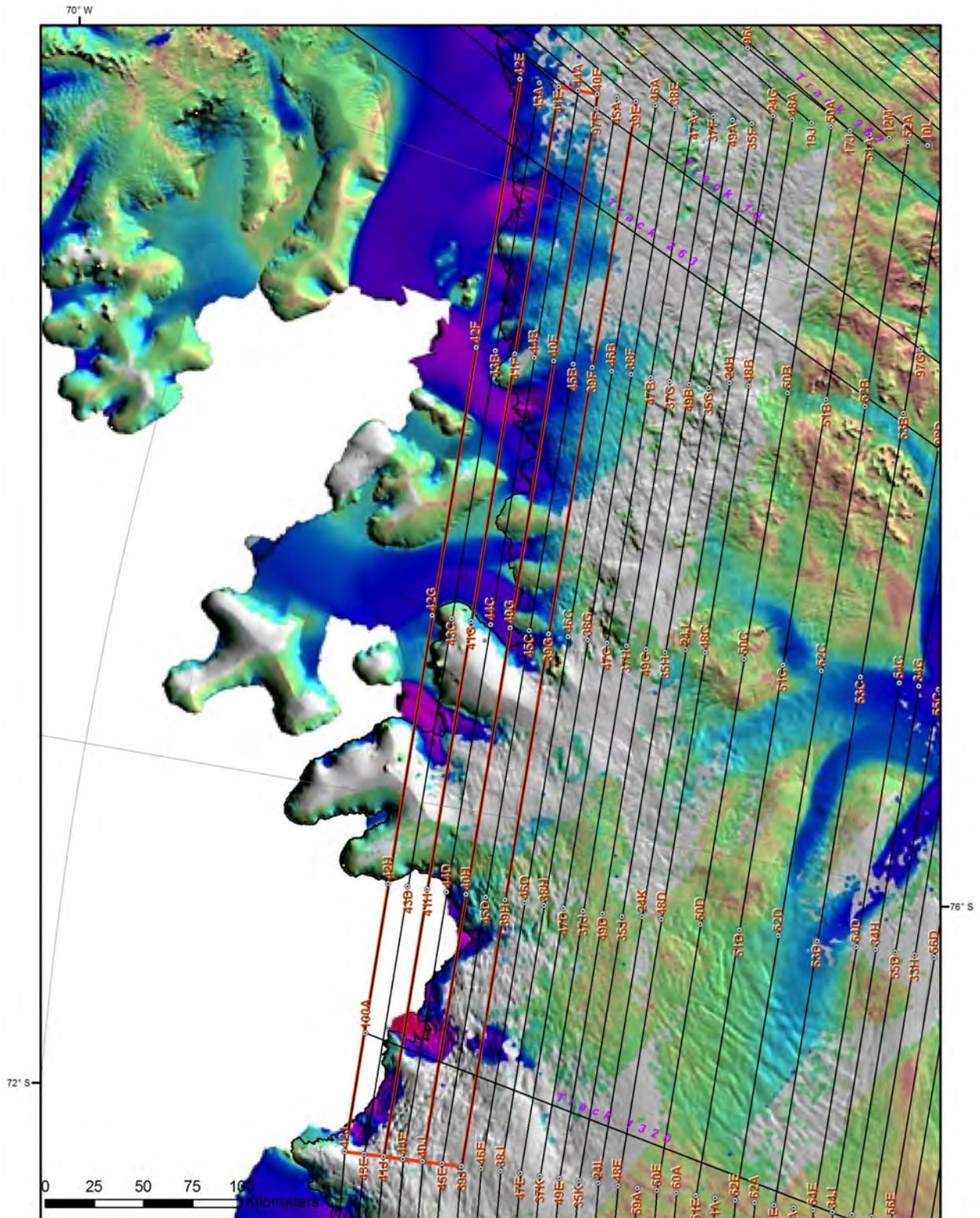
### South George-VI PRIORITY:LOW

8, ~150km long grid lines, spaced 10km apart. Extra time: Inland grid lines, 10km spacing



### Ellsworth Coast PRIORITY:LOW

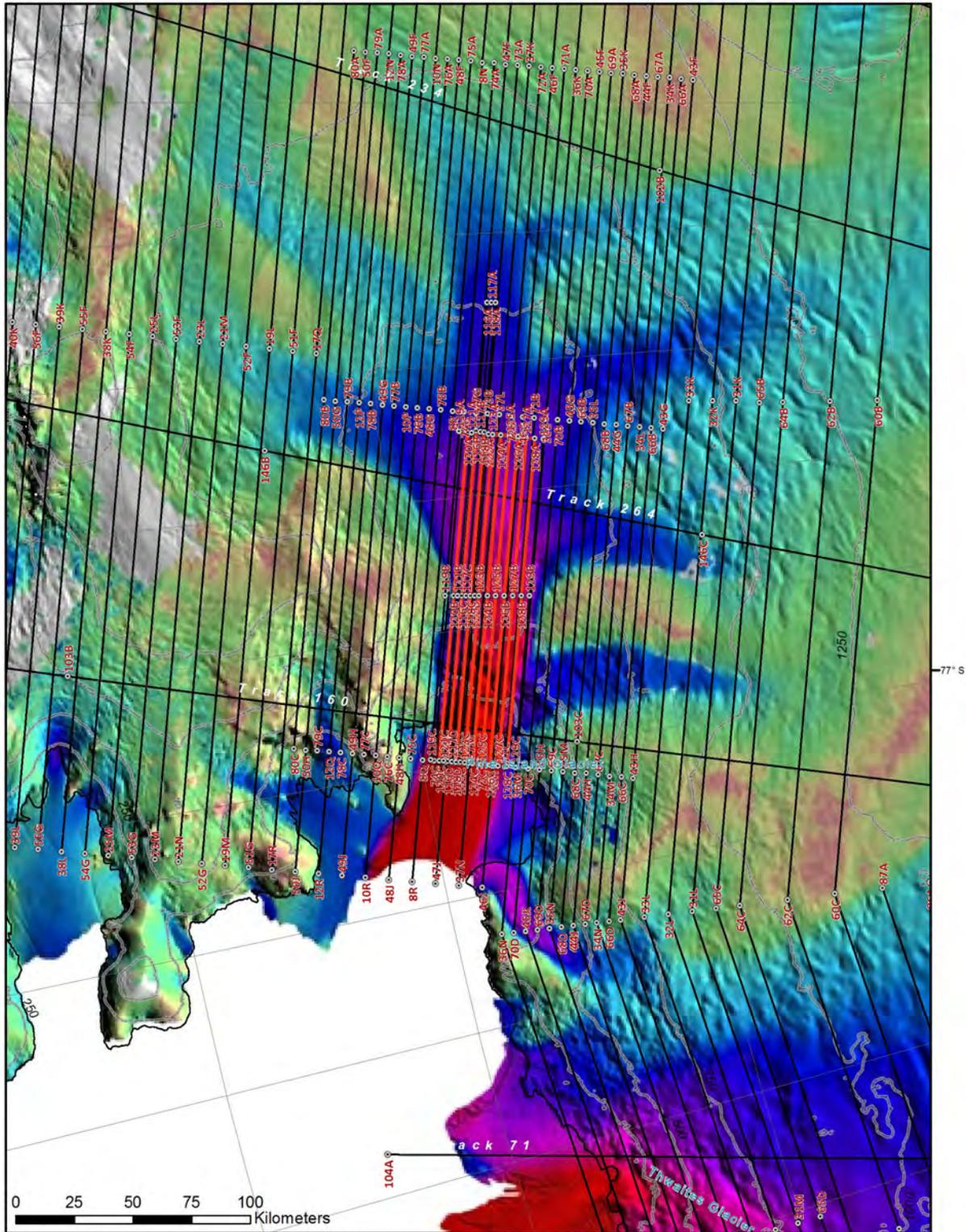
Four 300 km long grid lines, spaced 20km apart. Use Icesat Tracks 263 and 1320 to cross lines.





### Pine Island: LVIS 2009 Repeat PRIORITY: HIGH

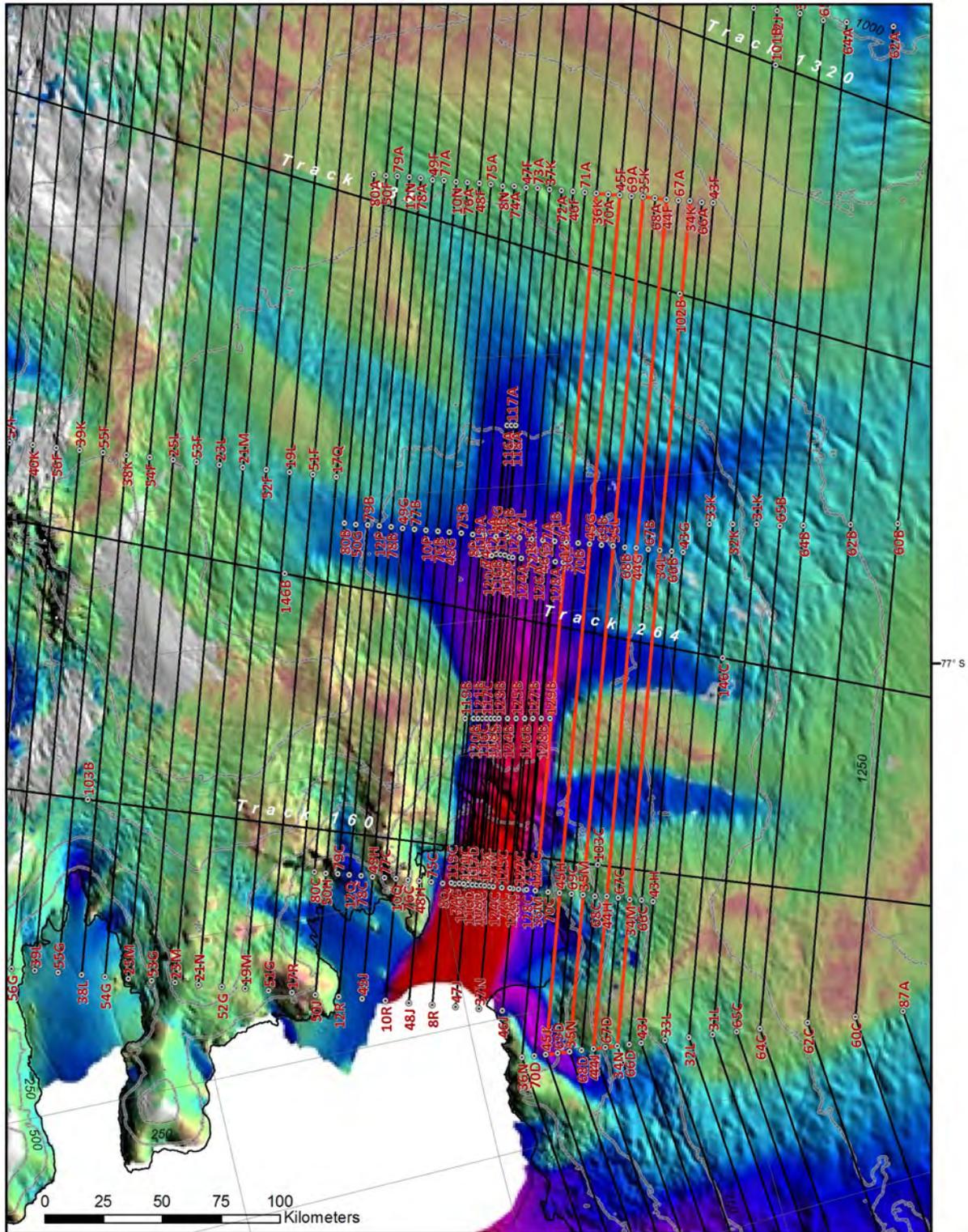
Repeats 9 of the 11 LVIS lines flown in 2009. The 2 that aren't repeated are the outermost lines. Flight lines are ~140km long, and spaced 3.4km apart. Attempt to use icesat tracks to cross data lines. Extra Time: pick up remaining two 2009 LVIS lines.



### Pine Island West

### PRIORITY:HIGH

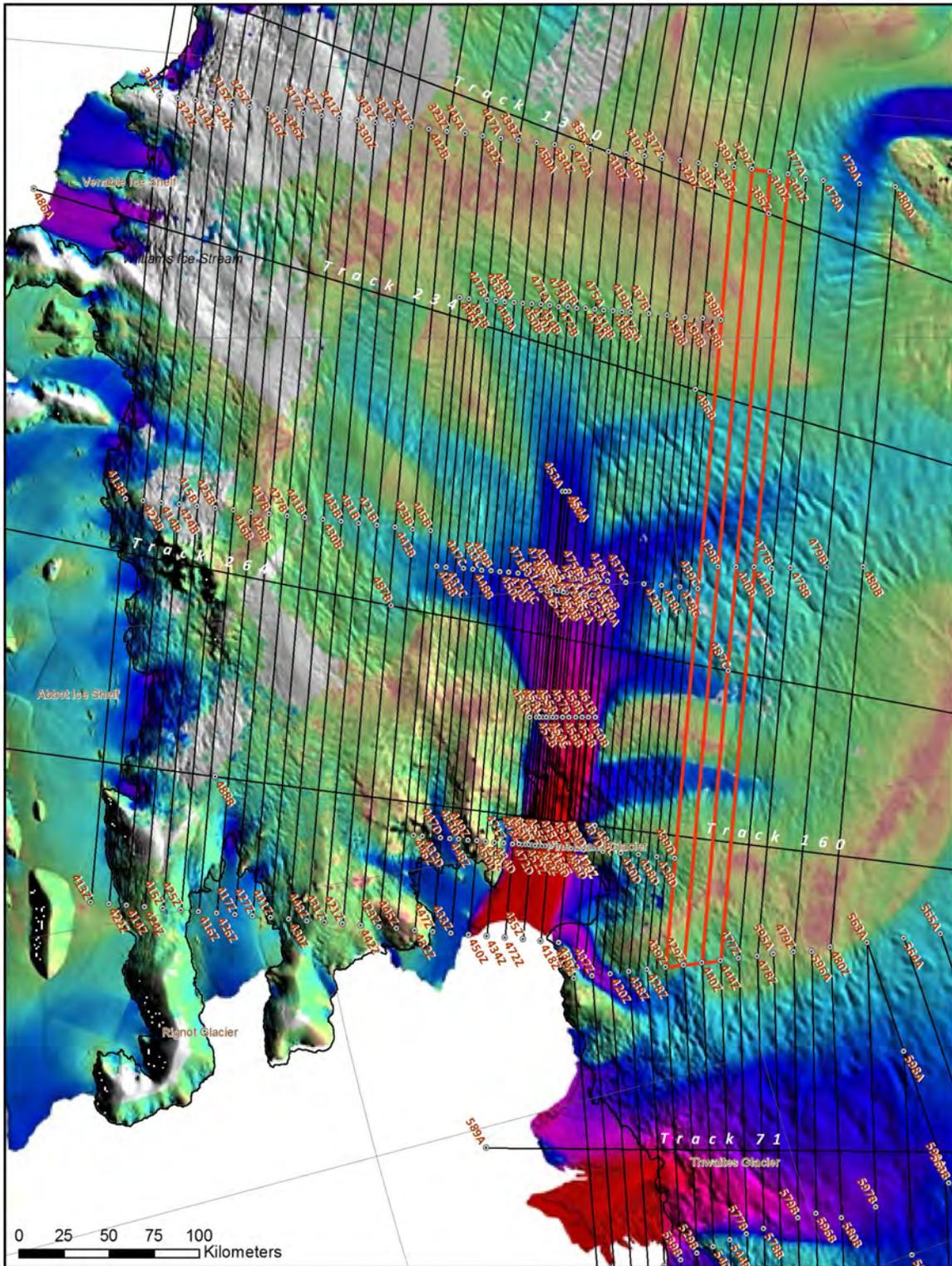
Repeats and extends 2009 LVIS line on RHS of main area plus 4 of the 220km-long 10km grid lines to east of PIG. Extra time: continue 10km grid to rhs of PIG.



**Pine Island West2**

**PRIORITY:MEDIUM**

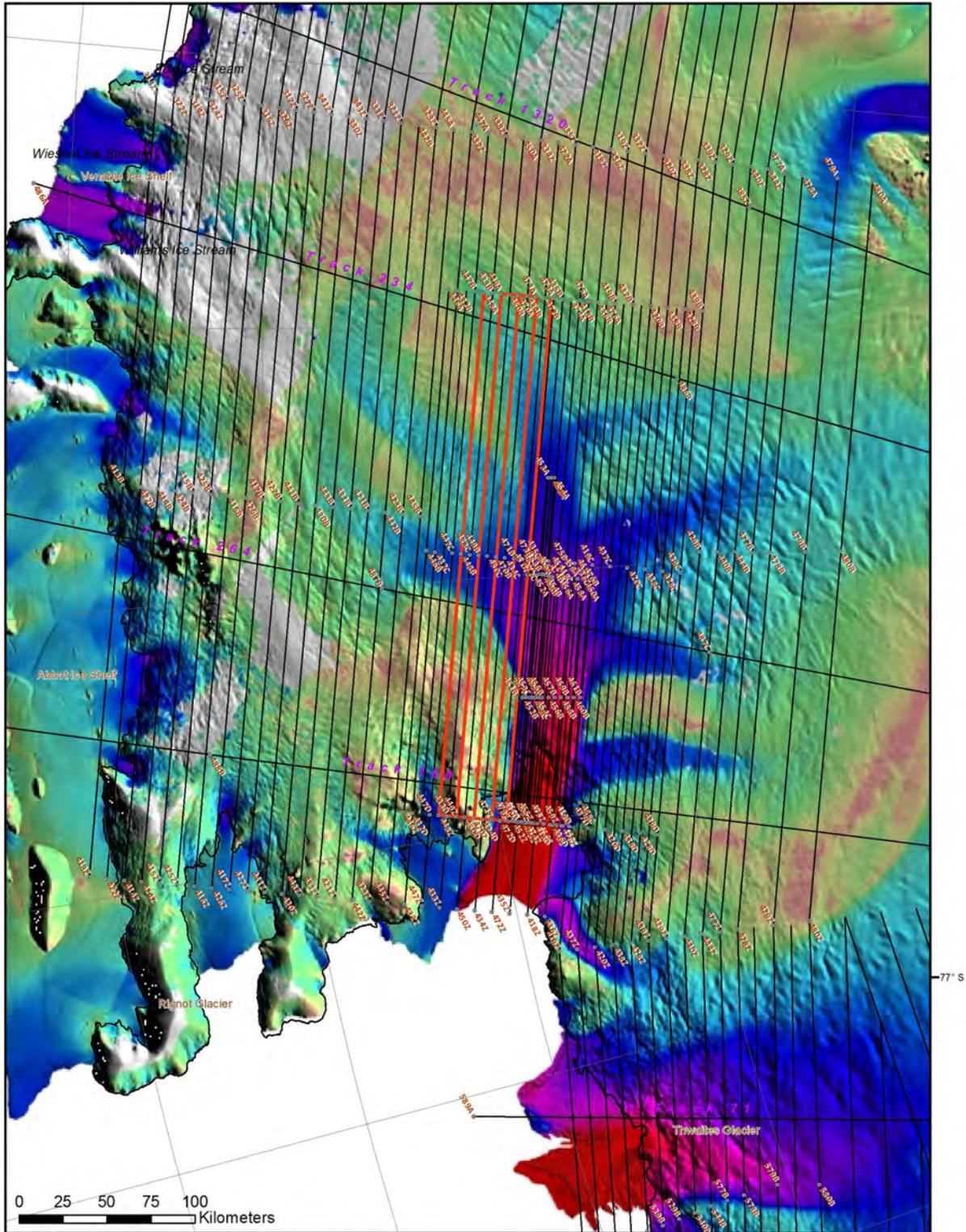
Continues 10km grid to east of FIG.



**Pine Island East**

**PRIORITY:HIGH**

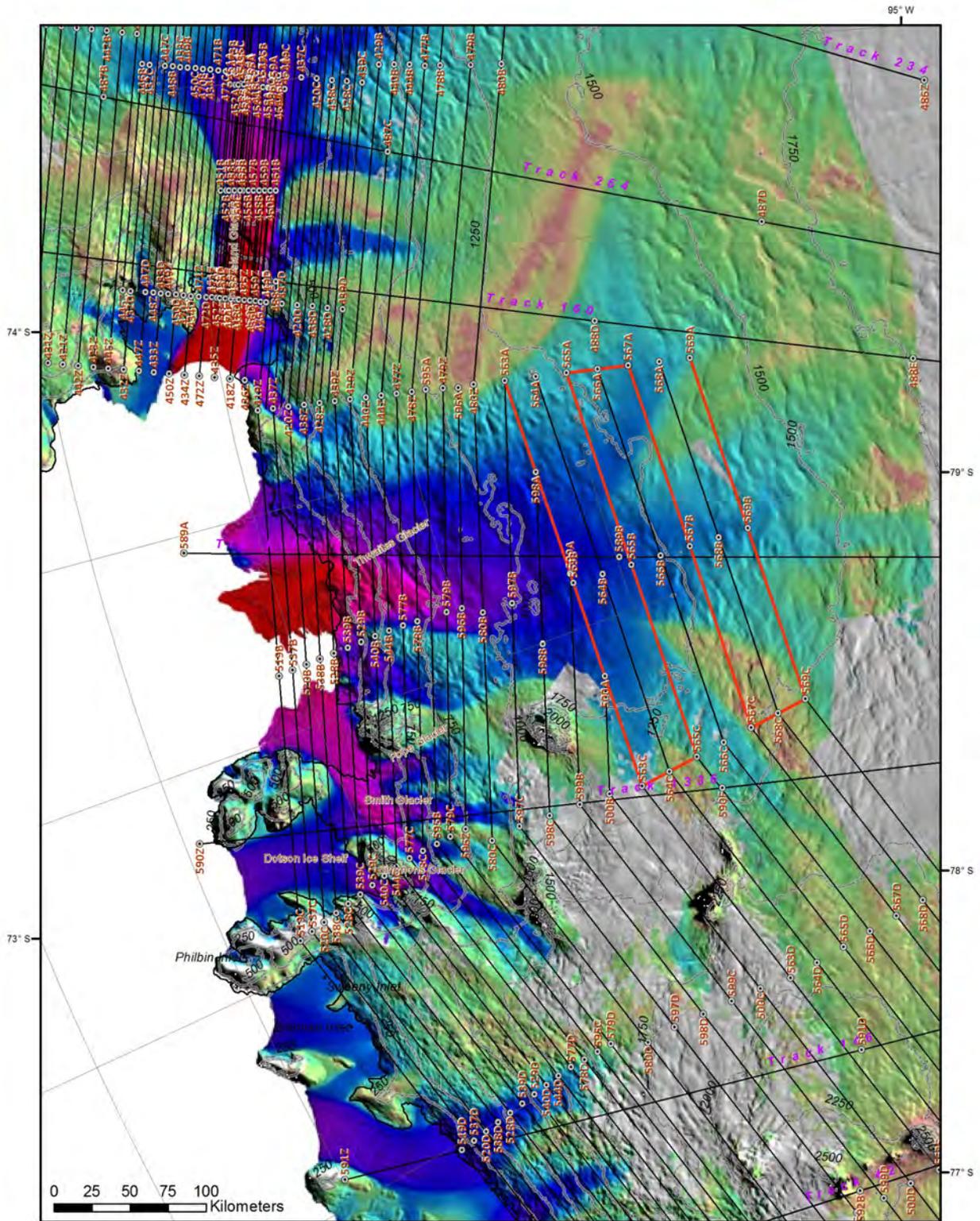
Repeat remaining 2009 LVIS line to east of PIG trunk, extend it inland, and add 4 new 10km grid lines. Extra time: continue 10km grid to east.



### Thwaites -1 **PRIORITY: MEDIUM**

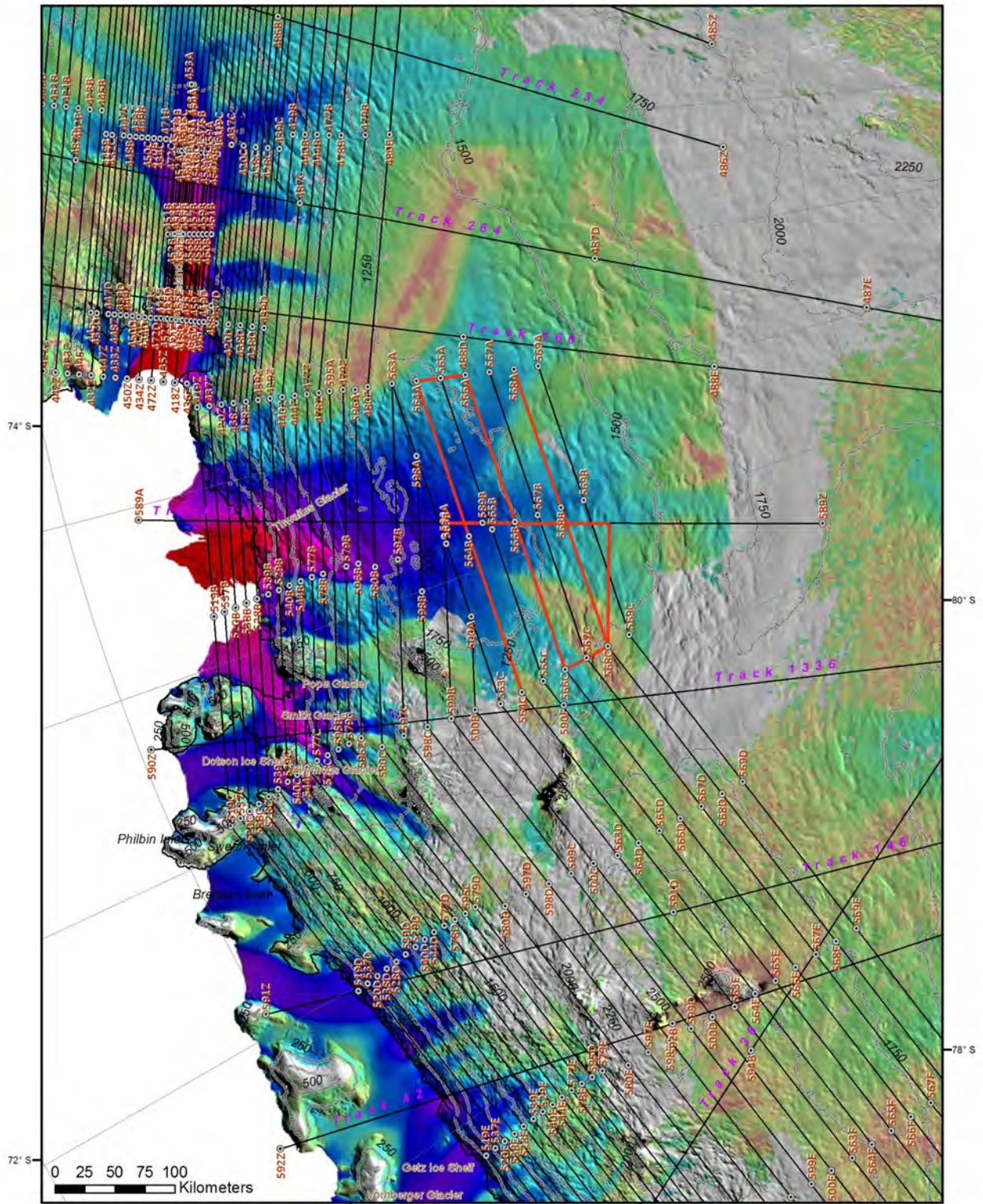
~200km long, 10km spaced grid lines (coast) and 20km spaced grid lines (inland)  
Concentrate 2011 flights on inland grid (DC8 to grid coastal section)

Icesat Track 0071 (104 in graphic) is an option for a cross line  
Extra flights to area: 10km grid lines working inland to coast



Thwaites2

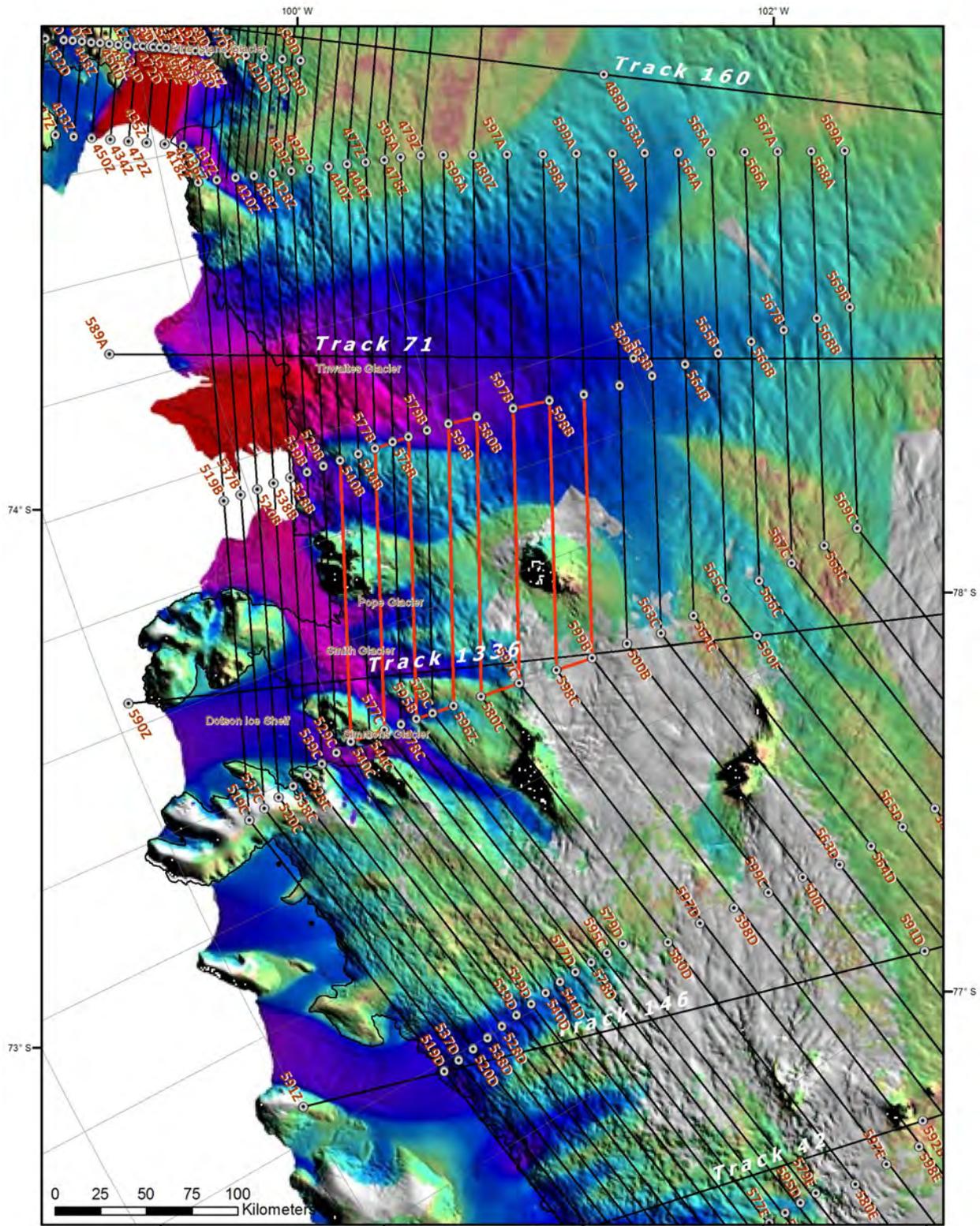
PRIORITY: LOW



**Pope Glacier**

**PRIORITY: HIGH**

8, 100km grid lines catching Pope and Smith Glaciers.

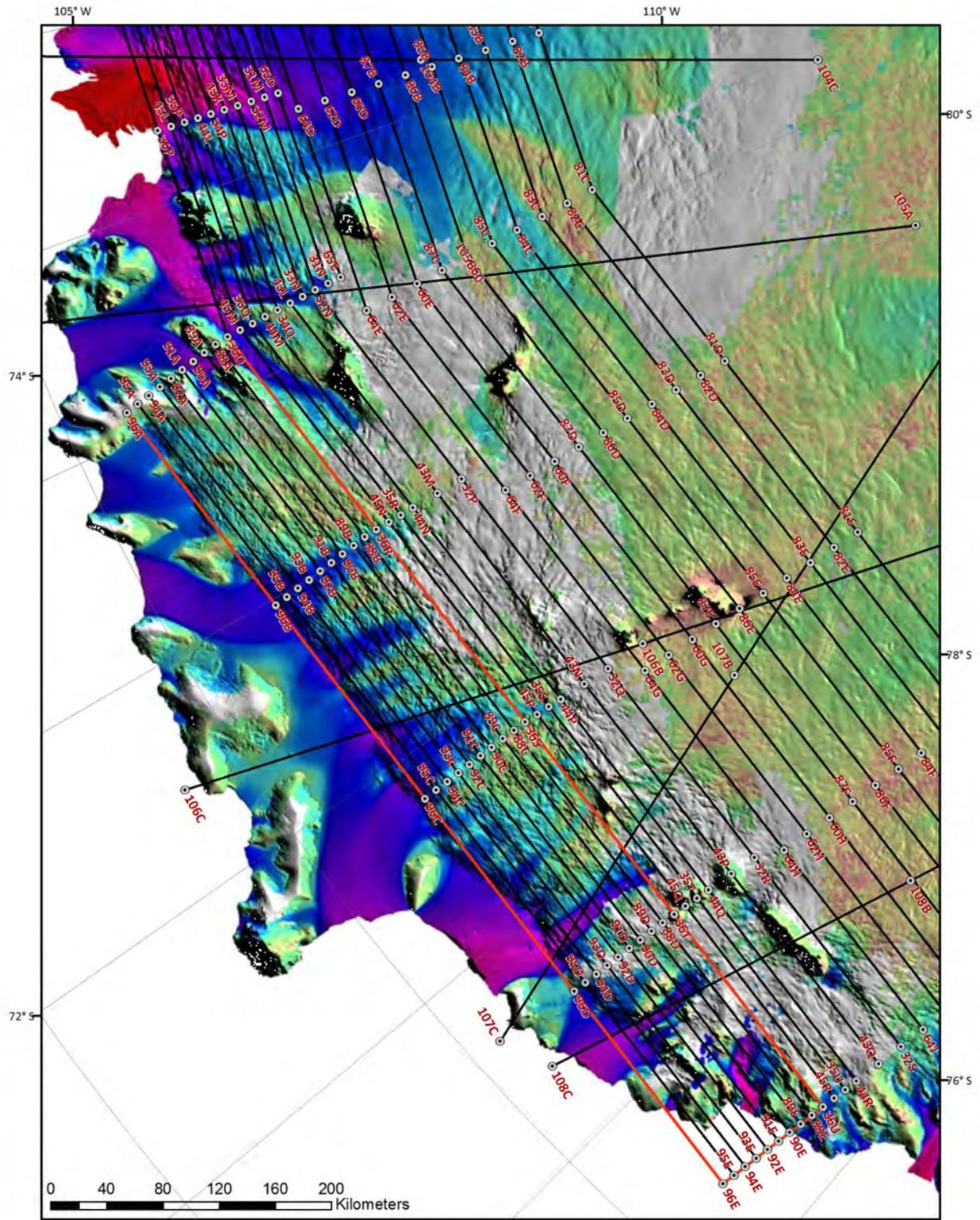


**Getz Coast**

**PRIORITY: LOW**

Series of 10km (coast) and 20km (inland) grid lines covering several GRACE mascons that indicate recent change. This flight captures 1 line where glaciers flow into ice shelf, and a second 100km inland

Extra flights to this area: Work inland using 20km grid spacing



### Icesat track to Whillans Vicinity: ALL OPTIONS TOO LONG AS DRAWN

Icesat track 1336 = 10.7hrs  
track 146 = 11.0 hrs  
track 160 = 10.3 hrs  
both 1336 and 140: 11.5

