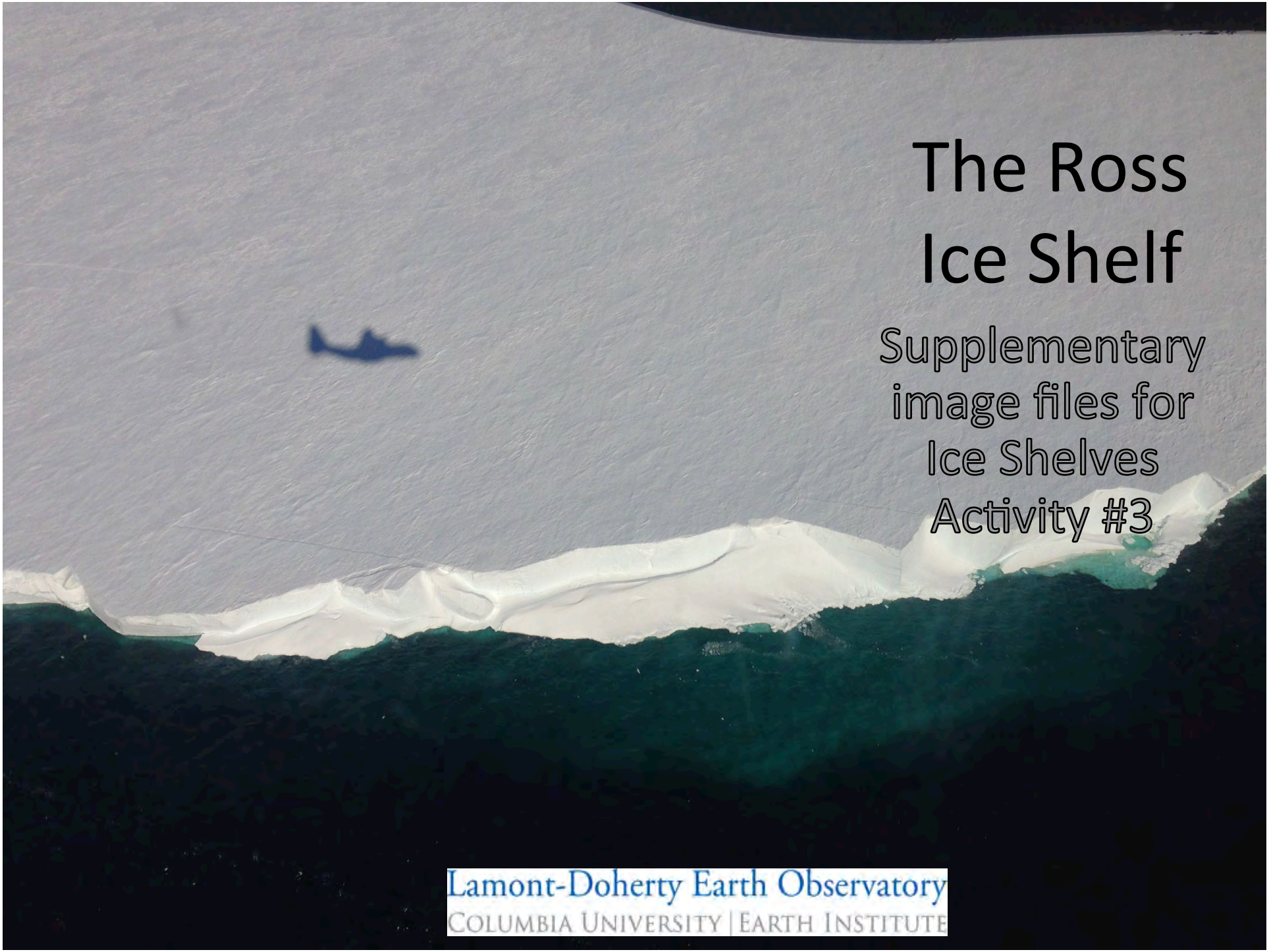
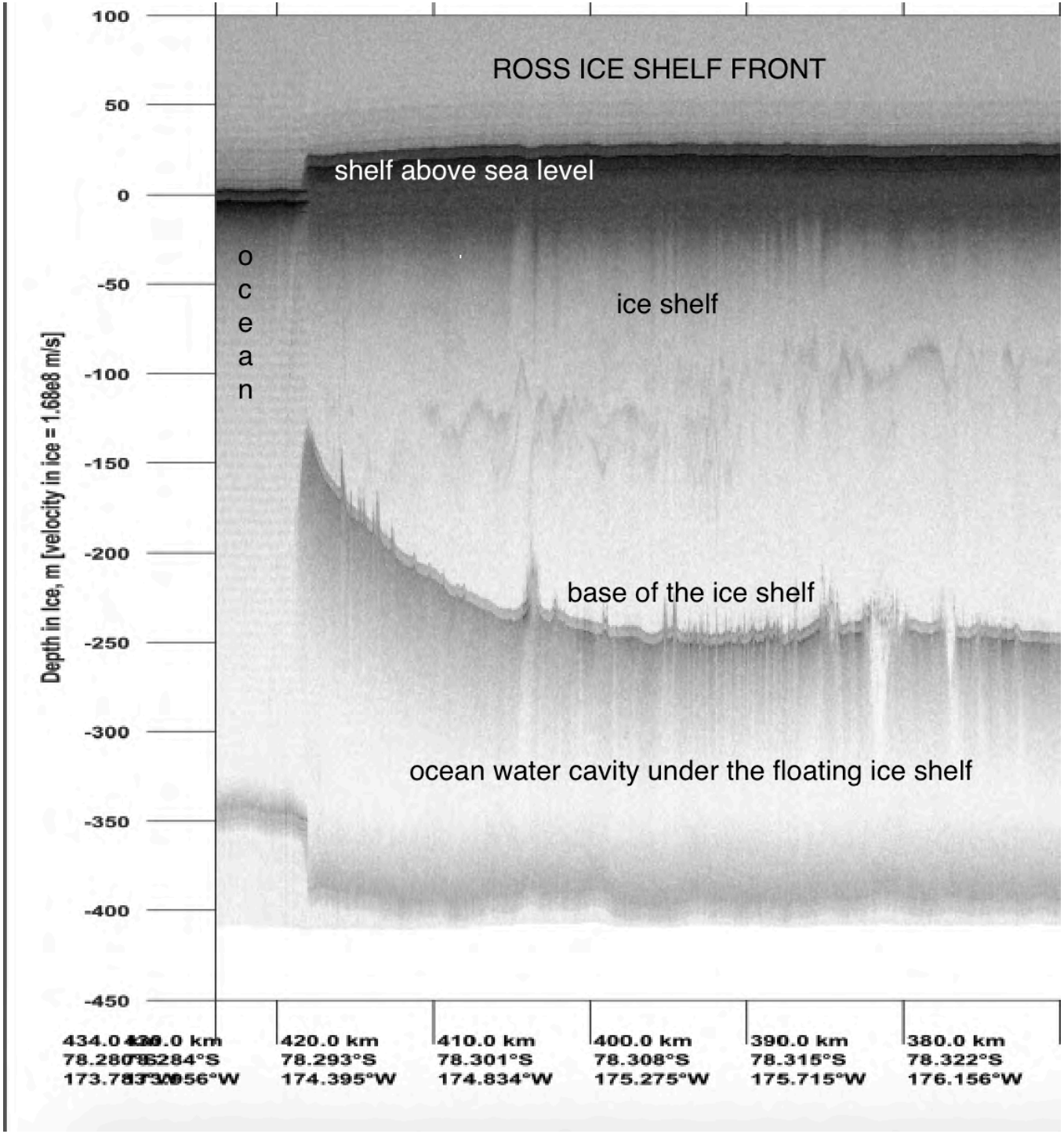


The Ross Ice Shelf

Supplementary image files for Ice Shelves Activity #3

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

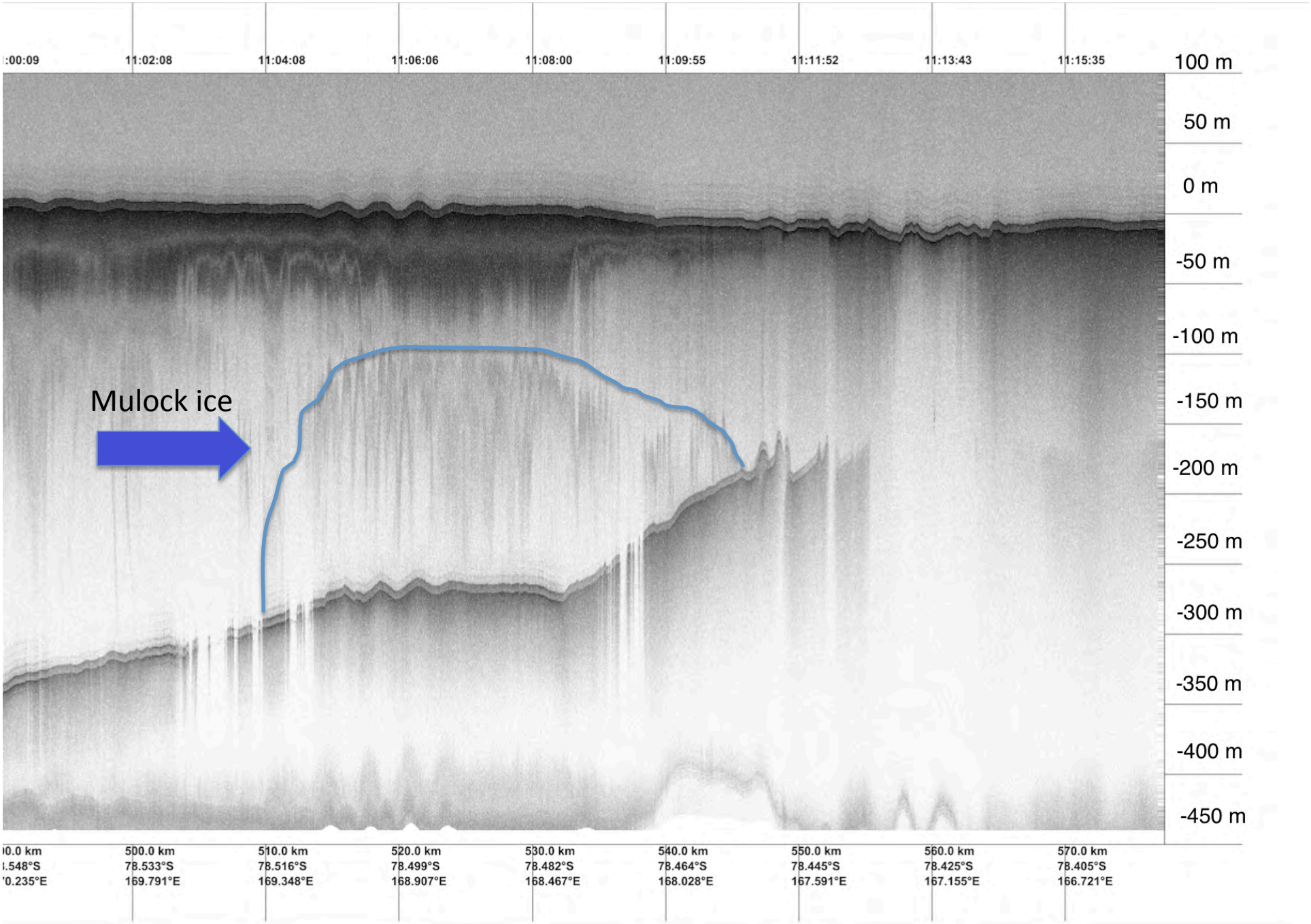


Ross Ice Shelf Front

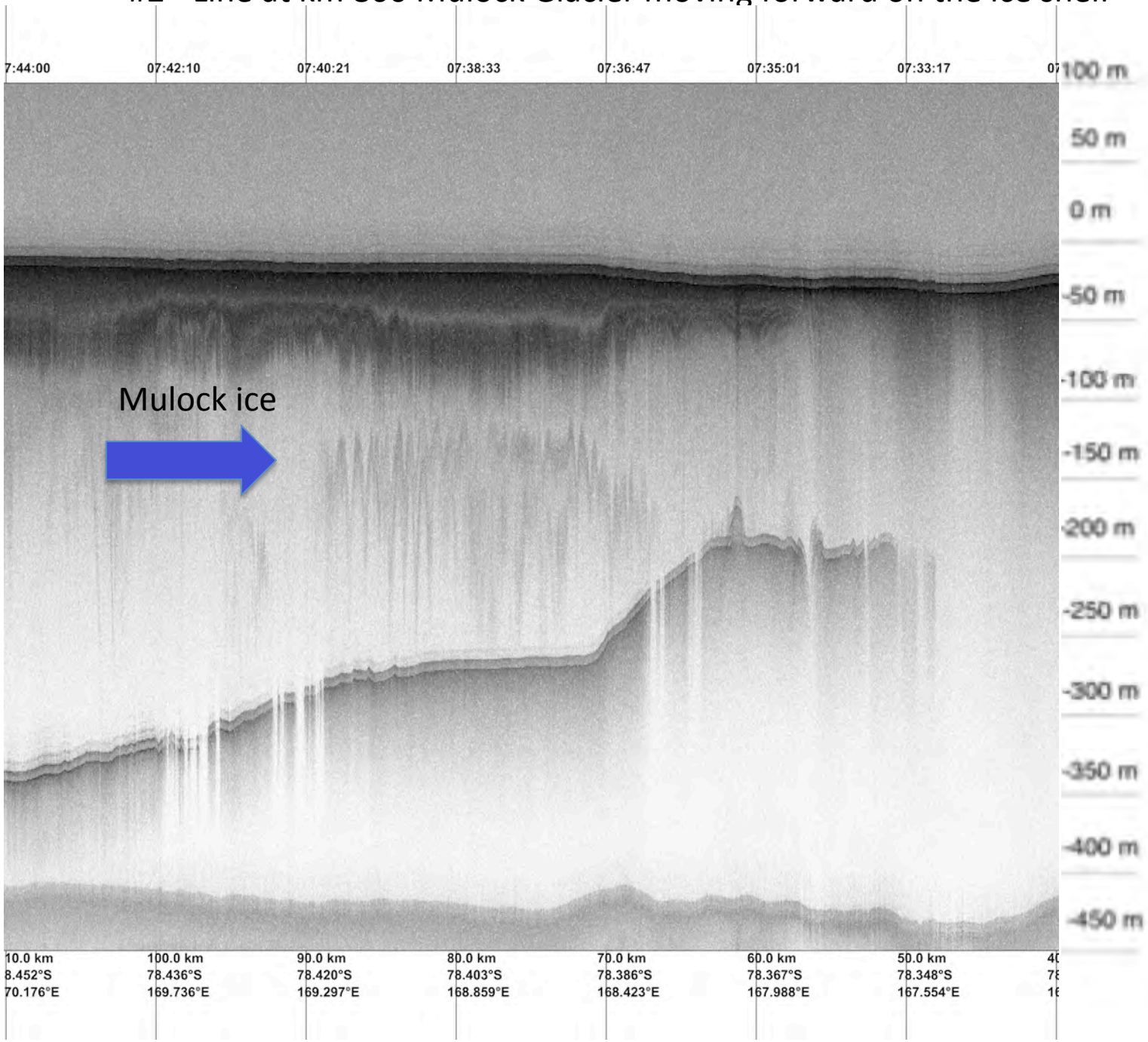
Tracking Ice Along the Shelf

The next series of slides should be printed and provided as individual sheets to groups of ~4 students so they can complete the activity for tracking the Mulock Glacier. The glacier input looks like a grey snowcone top and is outlined in the first slide. Students are measuring the thickness of the Mulock ice packet as it moves through time & distance. Mulock ice travels ~1.25 kms a decade. Students will calculate the time the ice has been on the shelf for each image, and how long it remains intact.

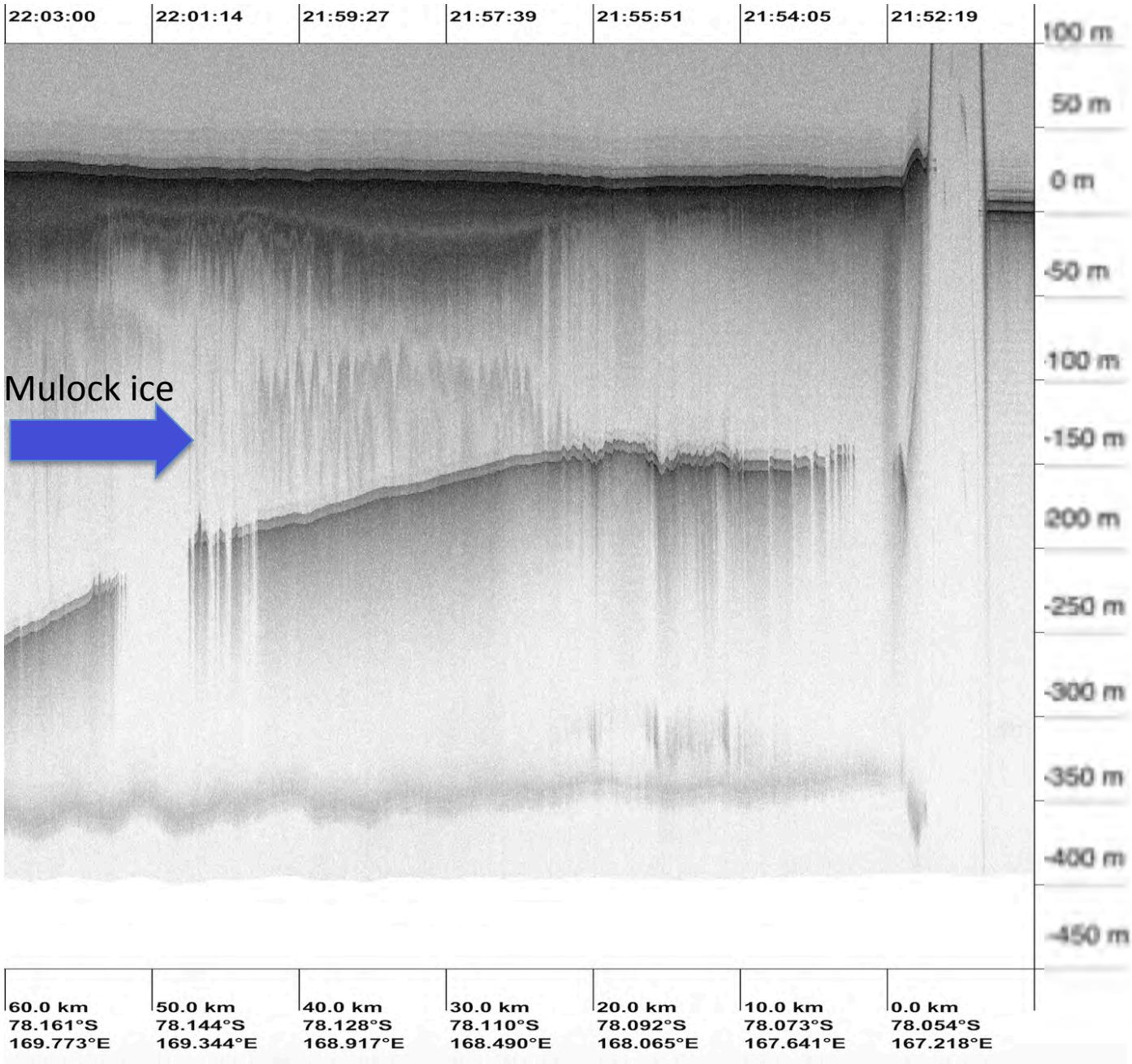
#1 - Line at km 790 closest to where Mulock Glacier feeds onto the ice shelf



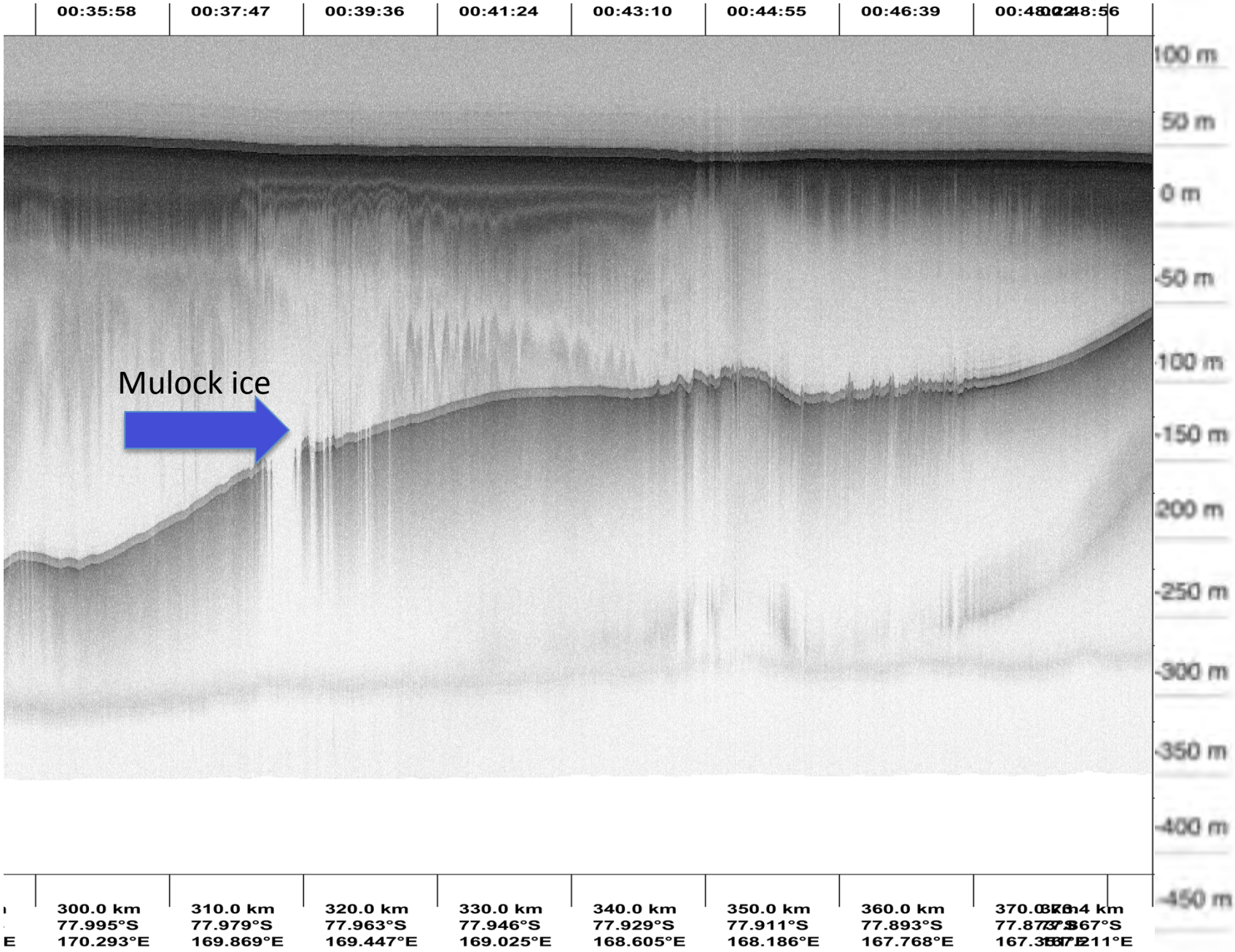
#2 - Line at km 800 Mulock Glacier moving forward on the ice shelf



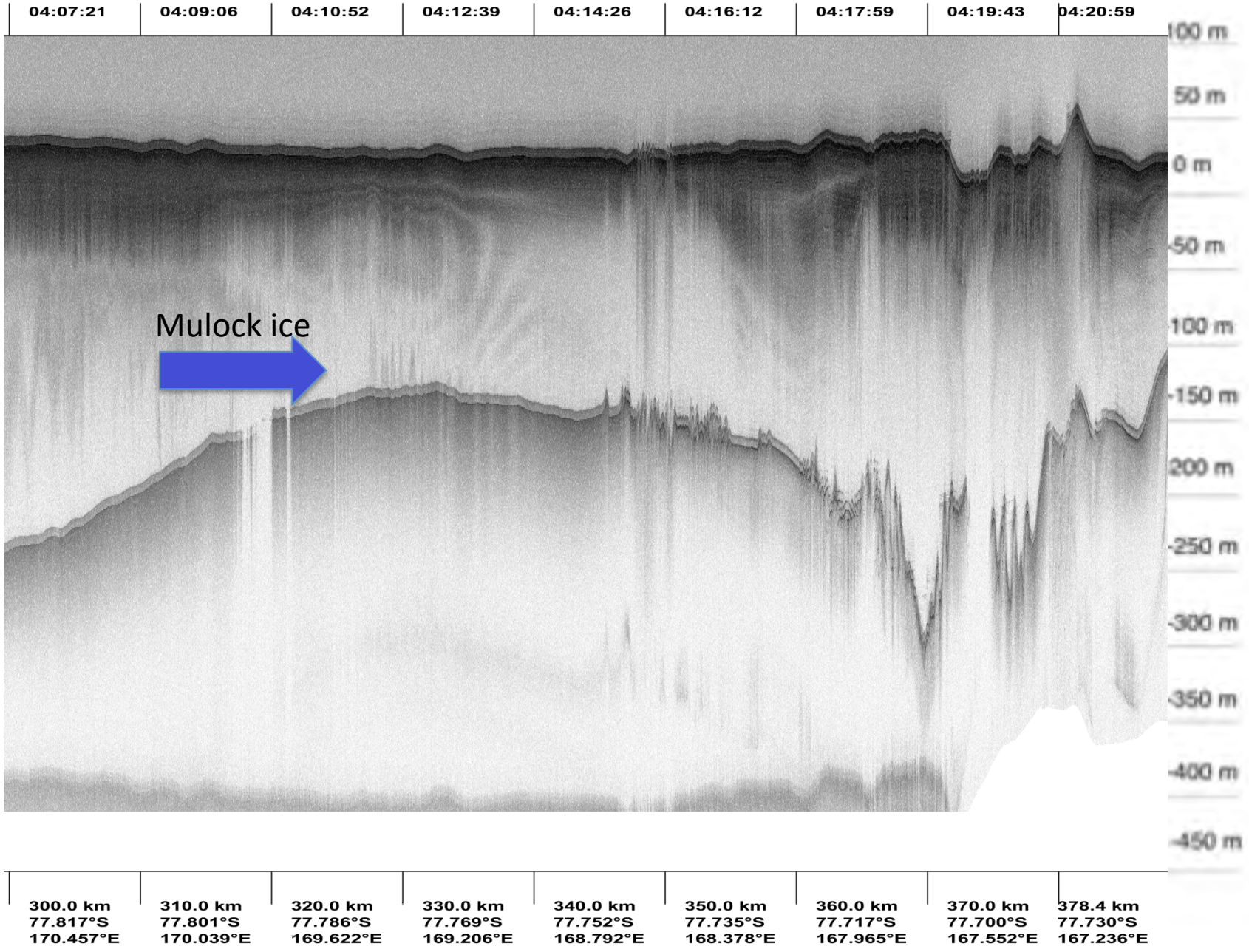
#3 - Line at km 830 Mulock Glacier moving forward on the ice shelf



#4 - Line at km 850 Mulock Glacier moving forward on the ice shelf



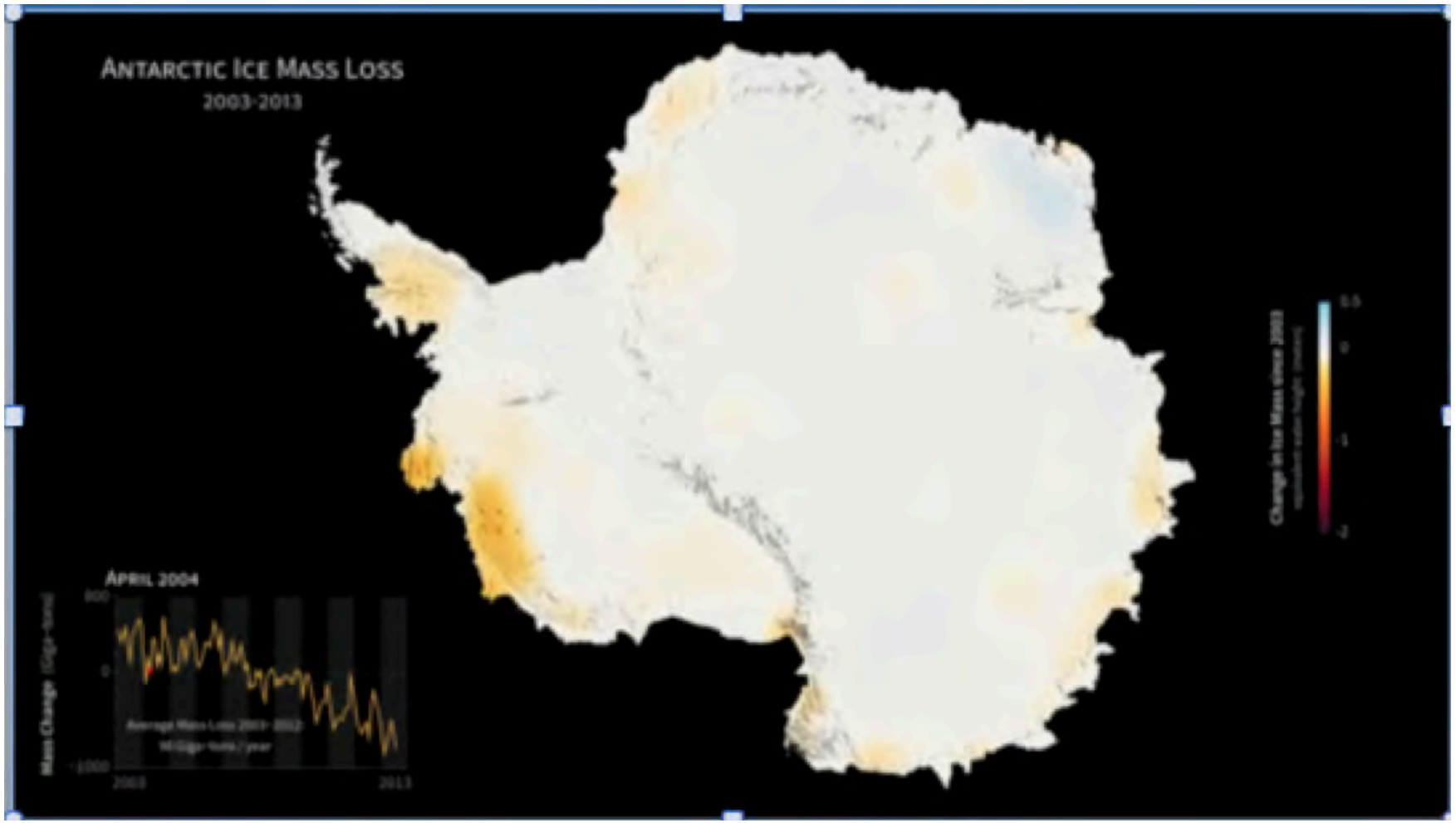
#5 - Line at km 870 Mulock Glacier moving forward on the ice shelf



Models for the final discussion

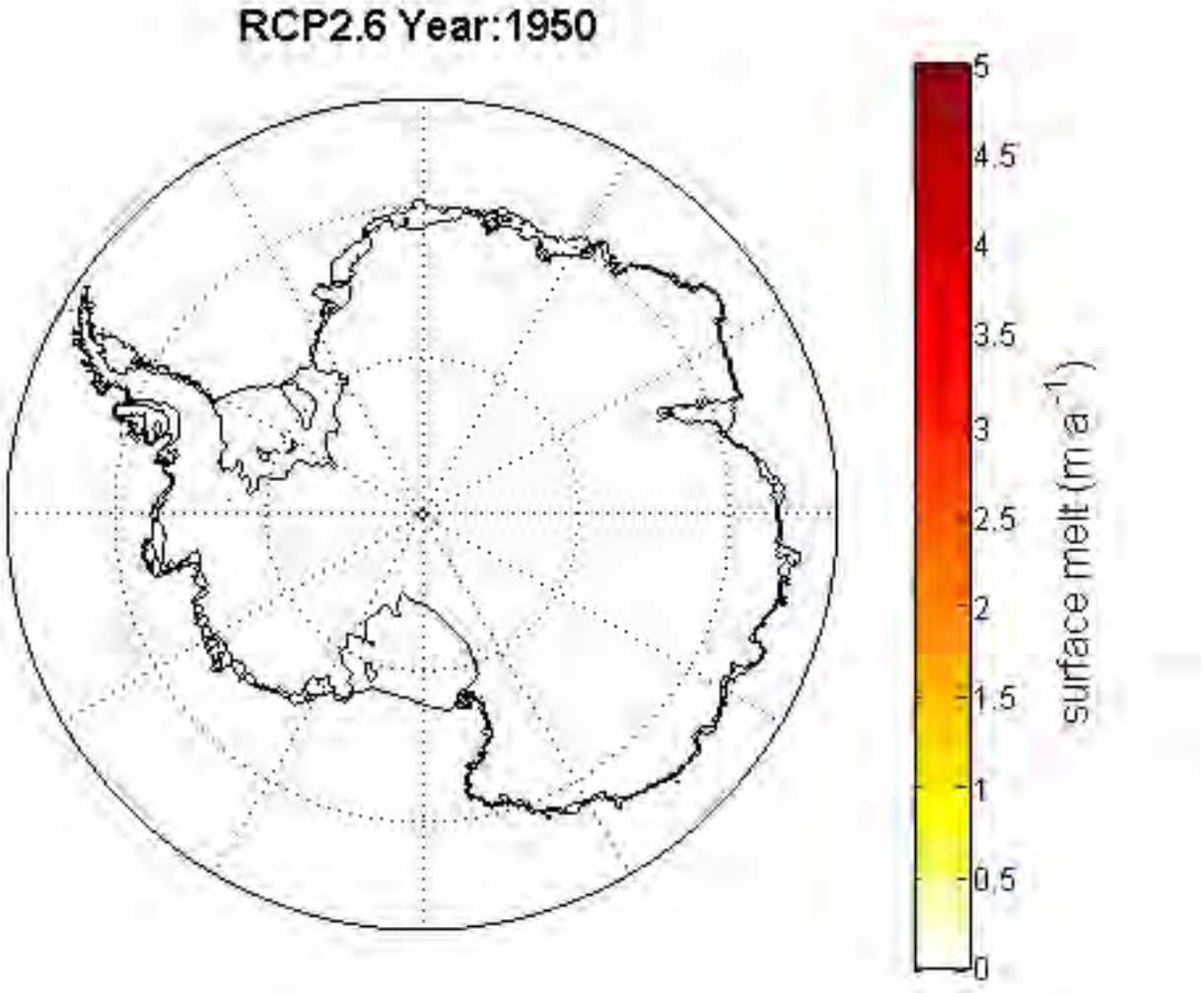
- Models by DeConto and Pollard based on IPCC report categories 2.6 and 8.5 focused on the stability of the ice sheet and ice shelves.

Ice Loss in Antarctica 2003 to 2013 – West Antarctica and over to the Ross Ice Shelf.
(NASA GRACE satellite data)



https://www.youtube.com/watch?v=3jbMCyE3eUU

Model by DeConto and Pollard based on the International Panel on Climate Change (IPCC) scenario RCP 2.6 which presumes the global annual GHG emissions peak by 2020 and decline substantially after that.



Model by DeConto and Pollard based on the International Panel on Climate Change (IPCC) scenario RCP 8.5 which presumes the global annual GHG emissions continue to rise throughout the century.