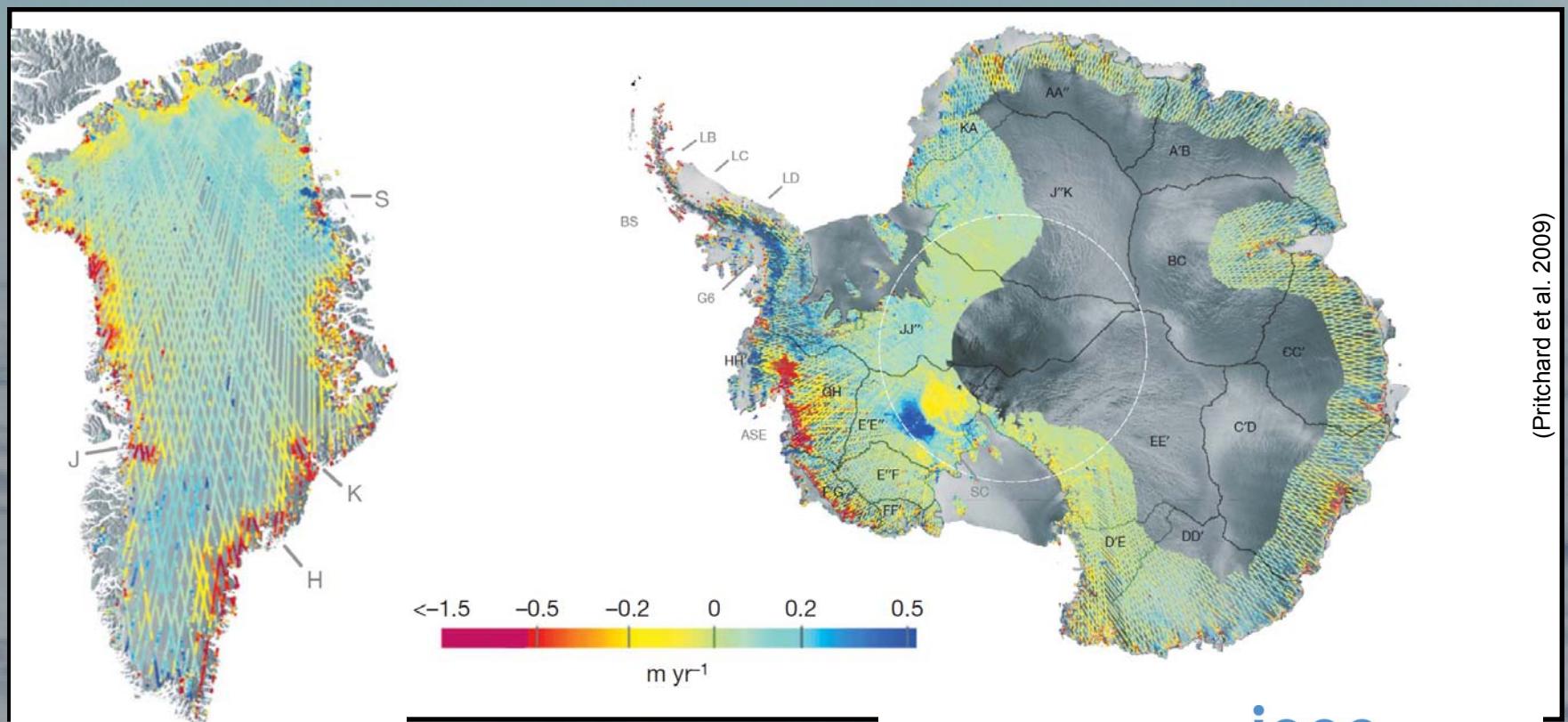


# Ocean cavity beneath Pine Island Glacier

Leo Peters, Kiya Riverman, Einar Steinarsson  
Martin Truffer, Tim Stanton, Mike Shortt

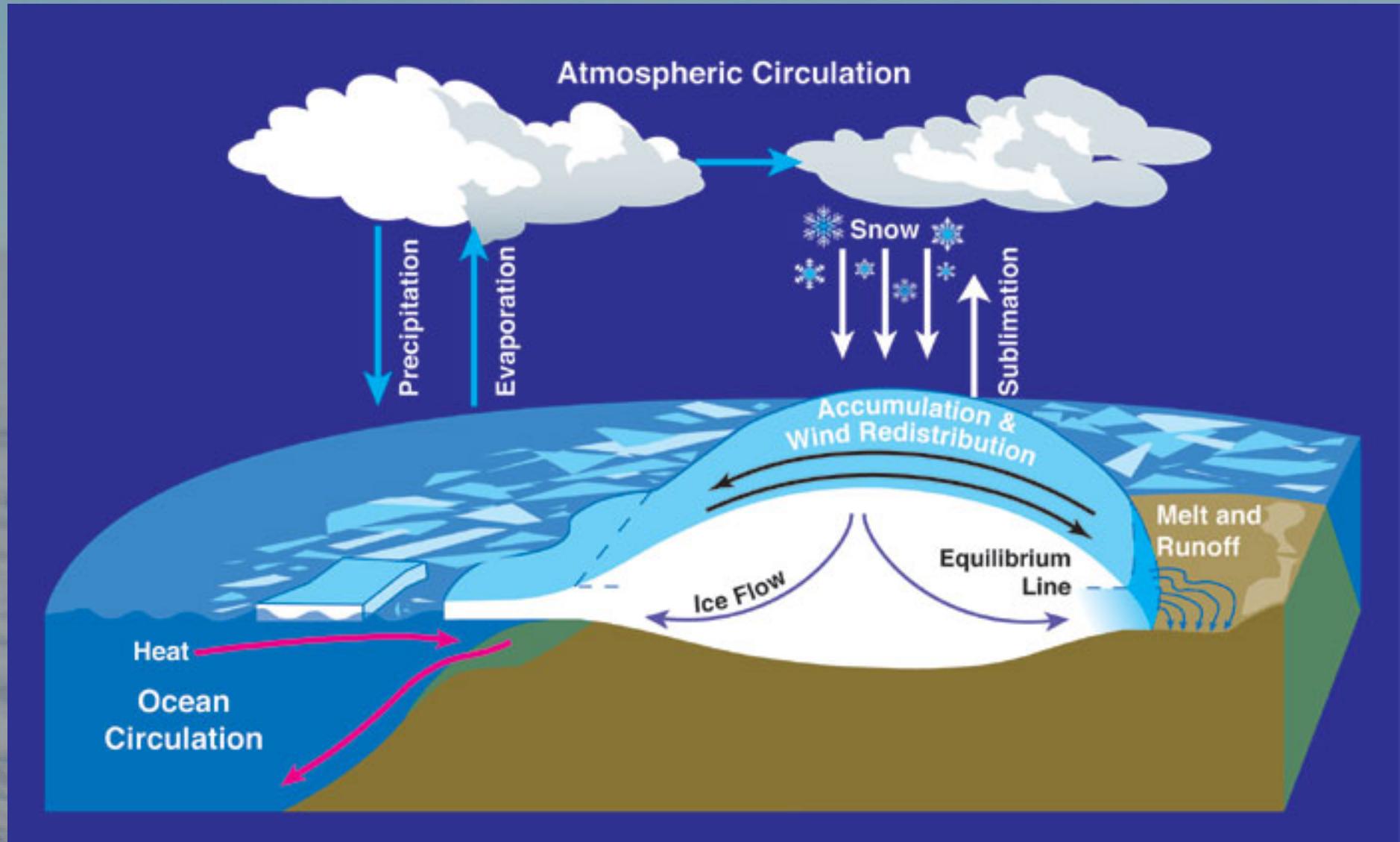
Sridhar Anandakrishnan,  
Bob Bindschadler, David Holland





(Pritchard et al. 2009)

# Ice sheet/oceans partner



# Piles Fall Apart

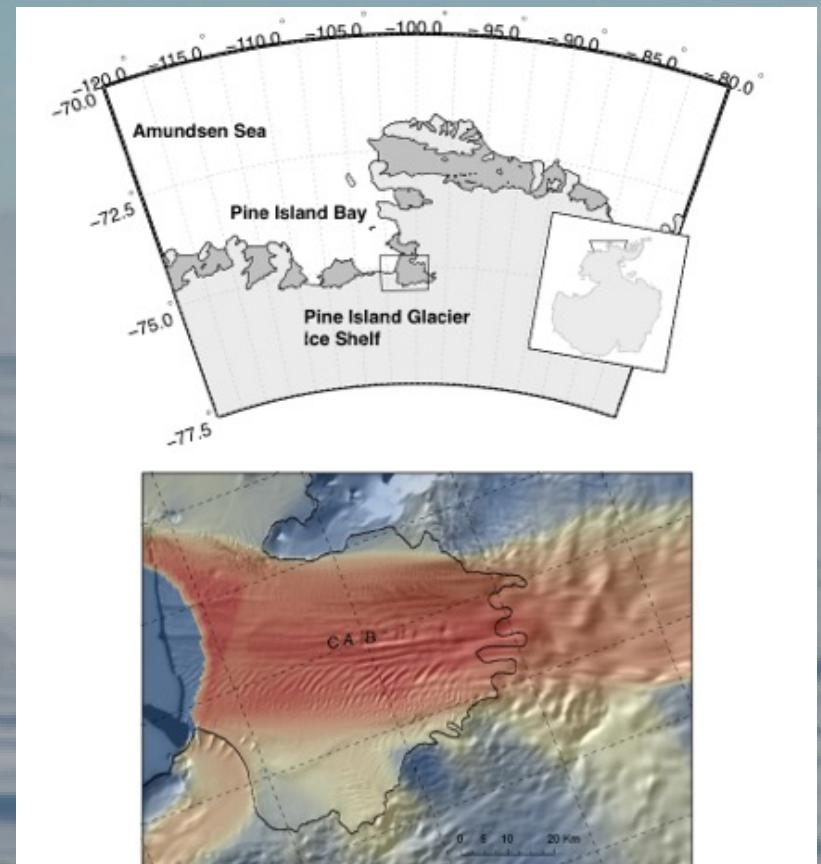


Unless We Brace

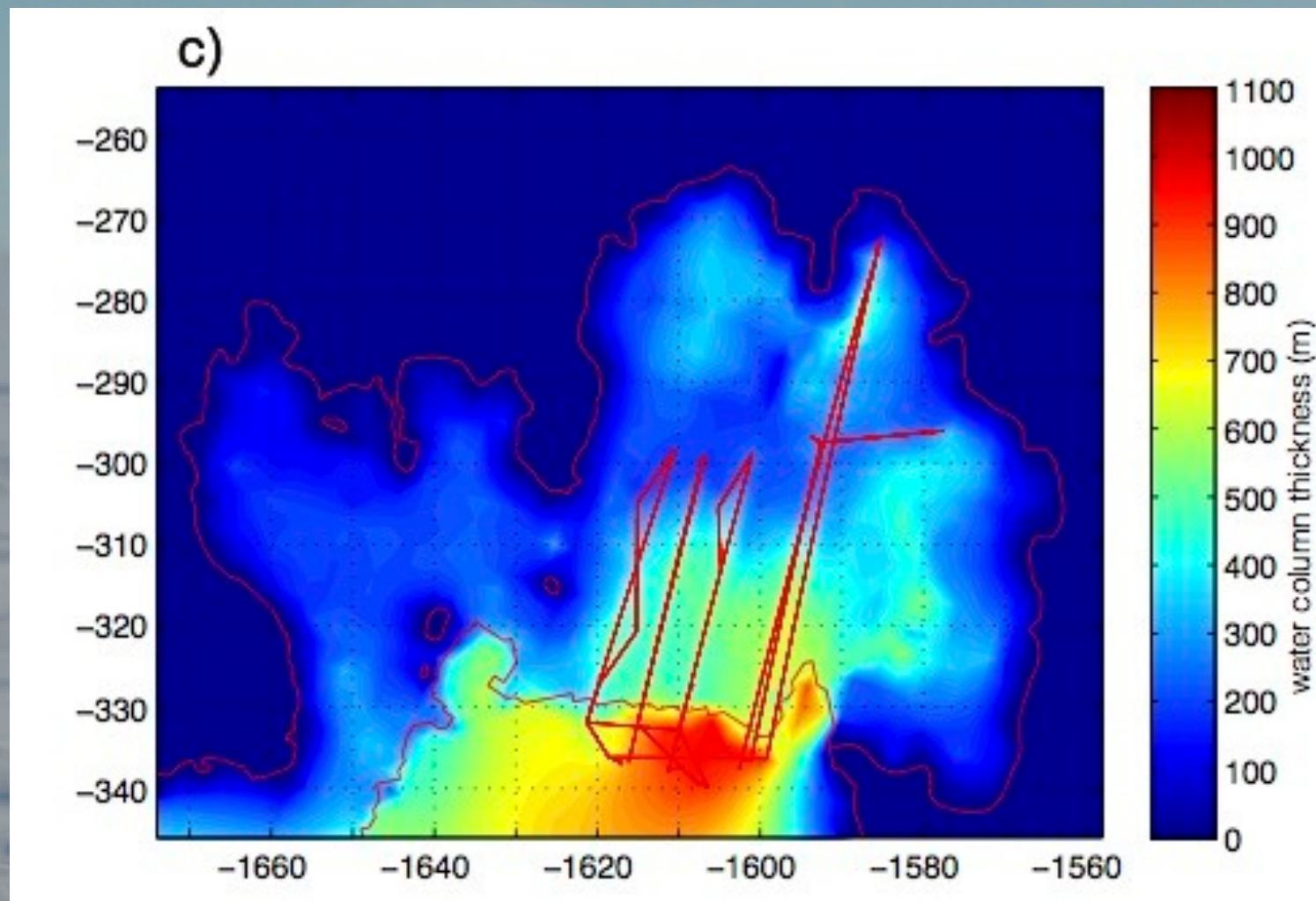
Andrew Wood [CC-BY-SA-2.0 (<http://creativecommons.org/licenses/by-sa/2.0>)], via Wikimedia Commons

# Pine Island Glacier

- Ice shelf has retreated
- Large crack at shelf front
- Linear crevassed ridges; intact between



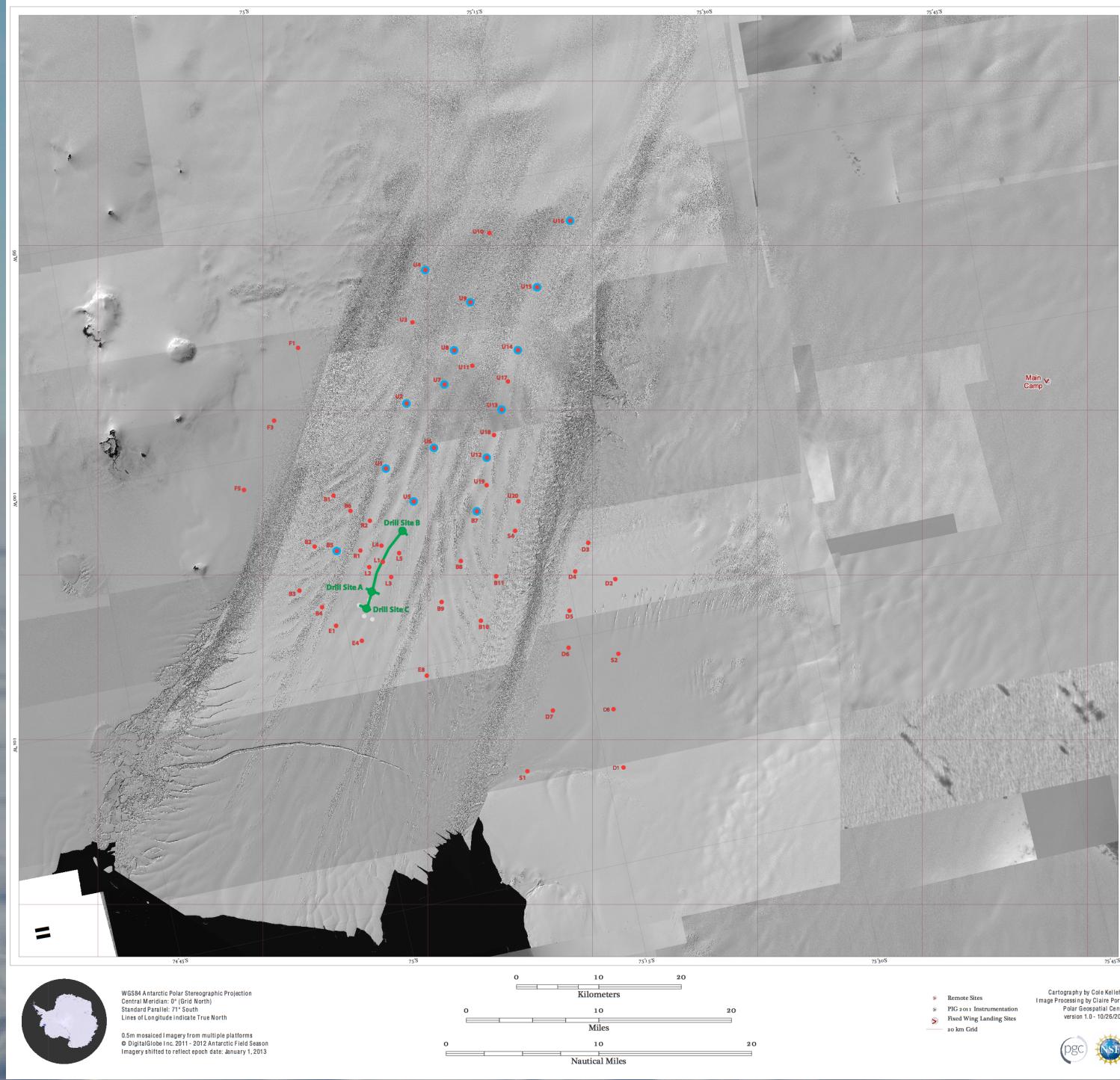
# Gravity Inversion



Muto et al., 2012

Pine Island Glacier

## Fixed Wing Landing Sites and Remote Sites

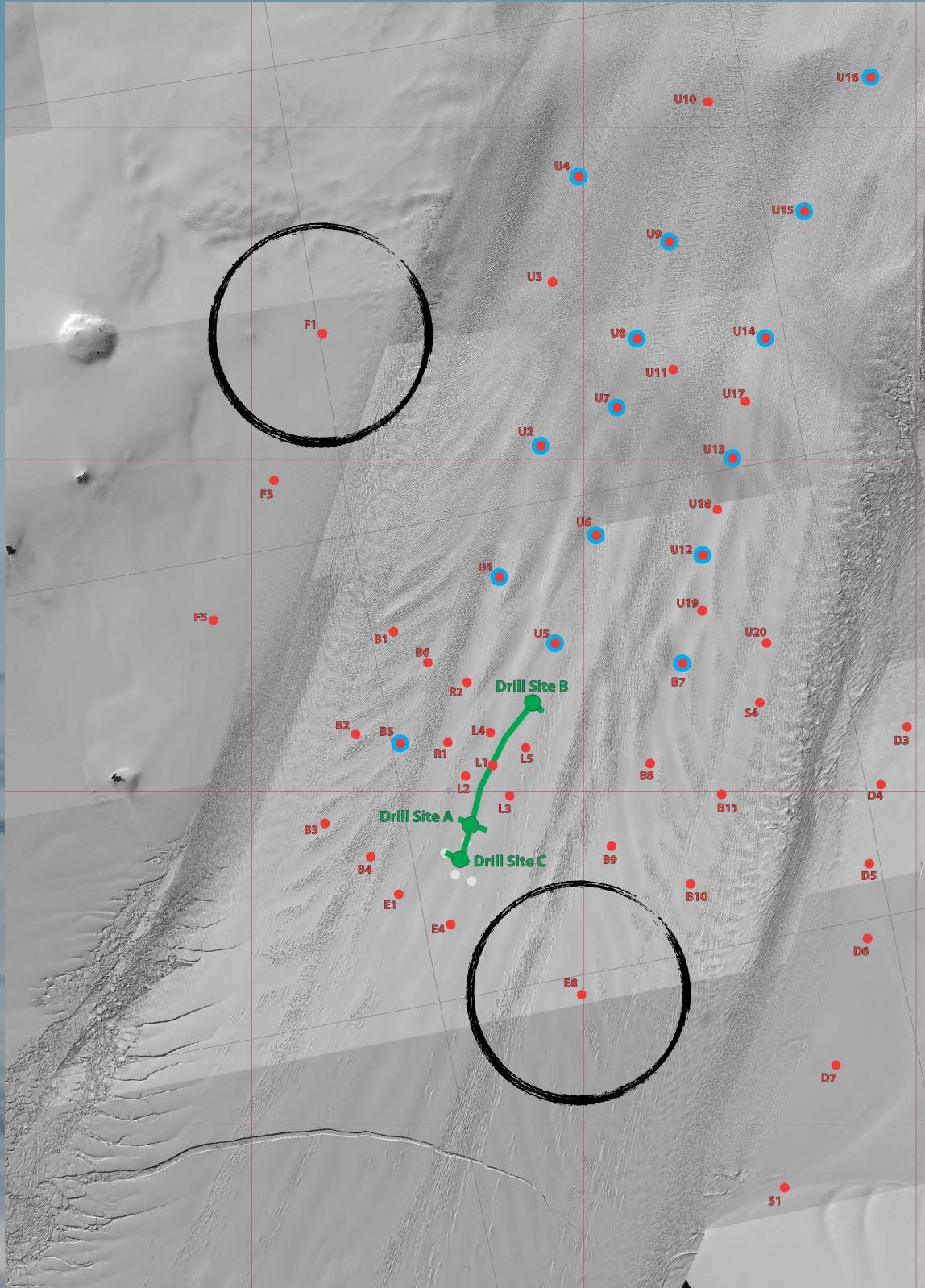


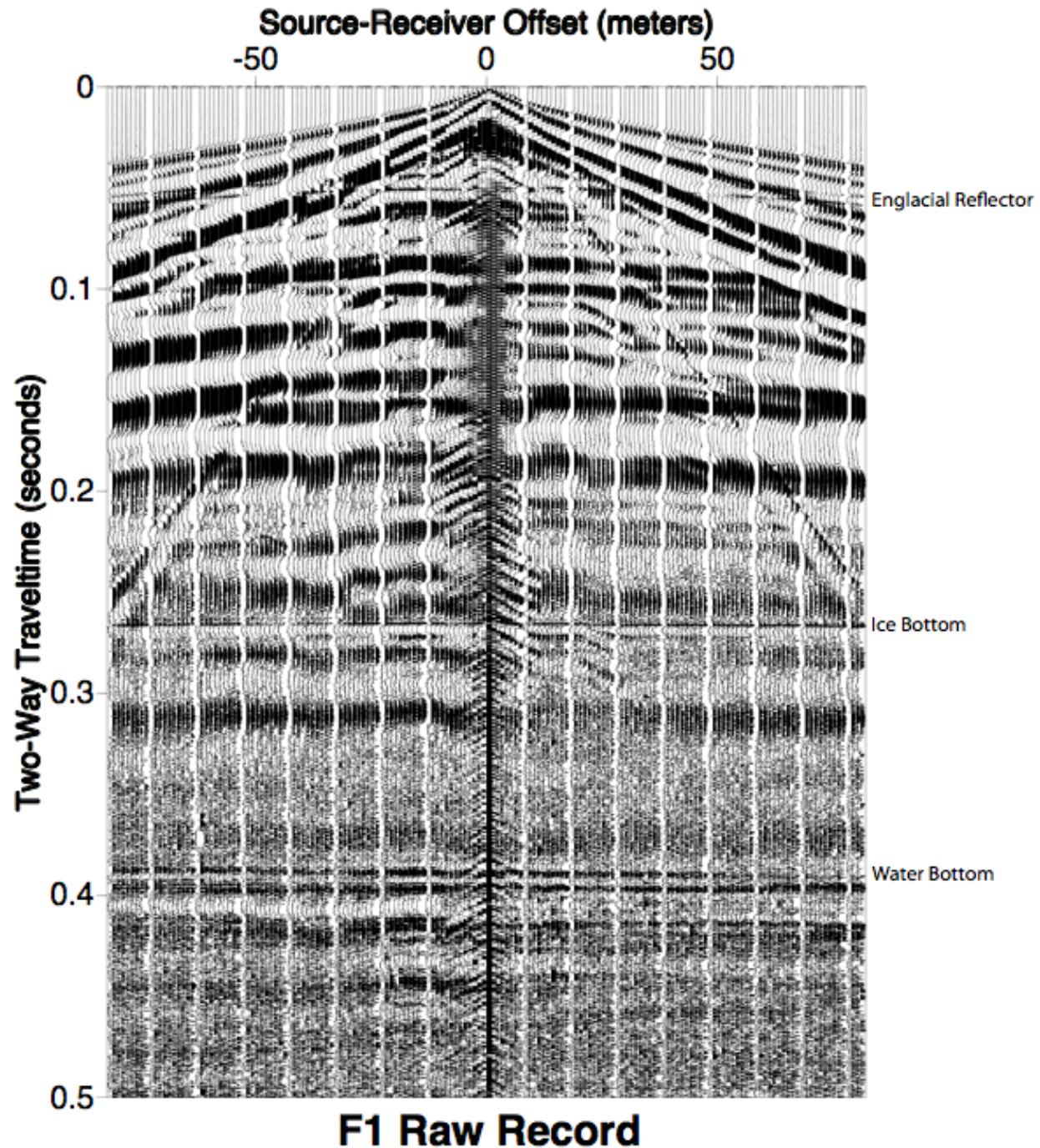
# Geophysics @ PIG

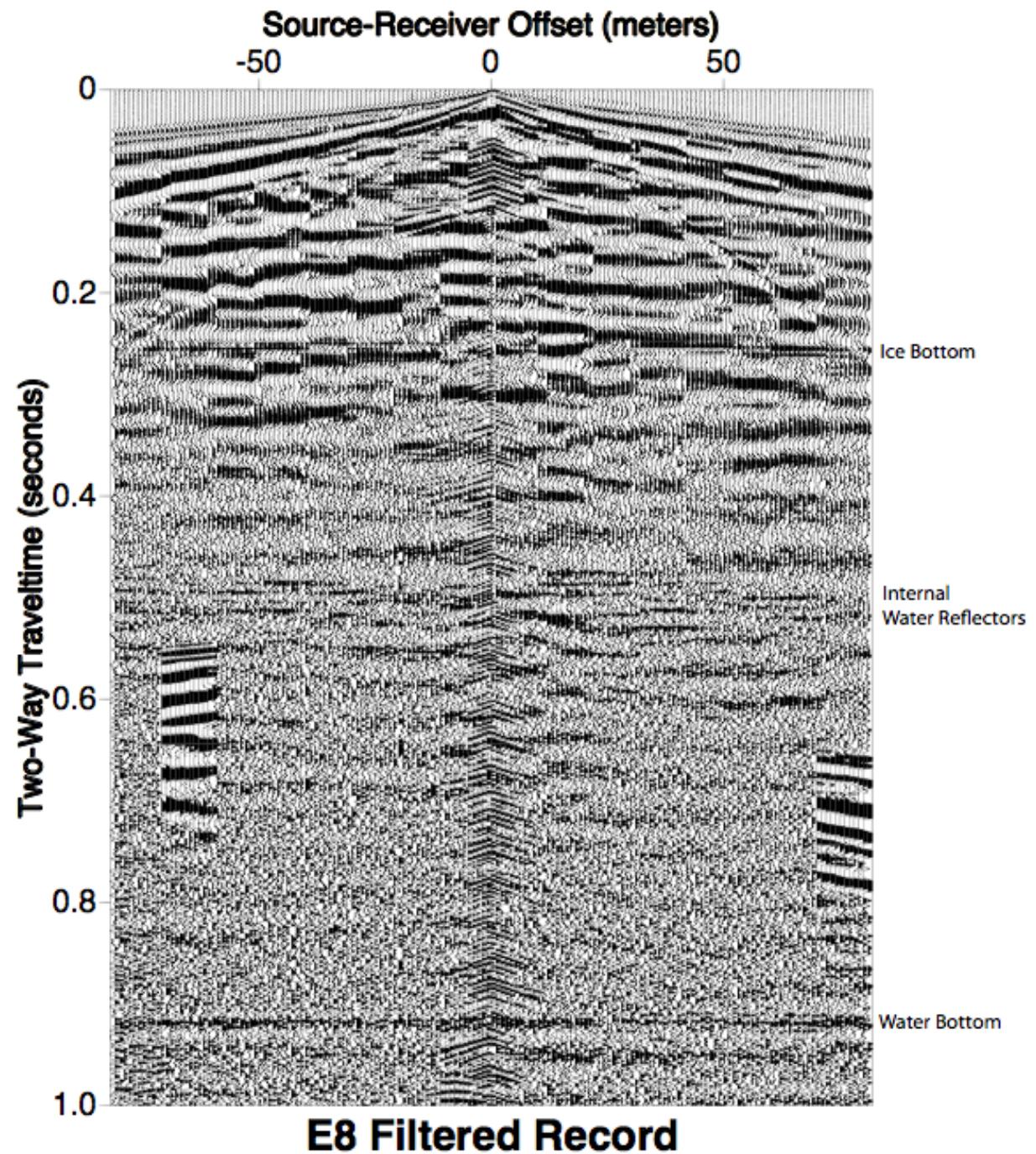
- Ground-based radar and seismics (in the drilling-valley)
- Helicopter-based seismics and melt-radar
- GPS & broadband seismics

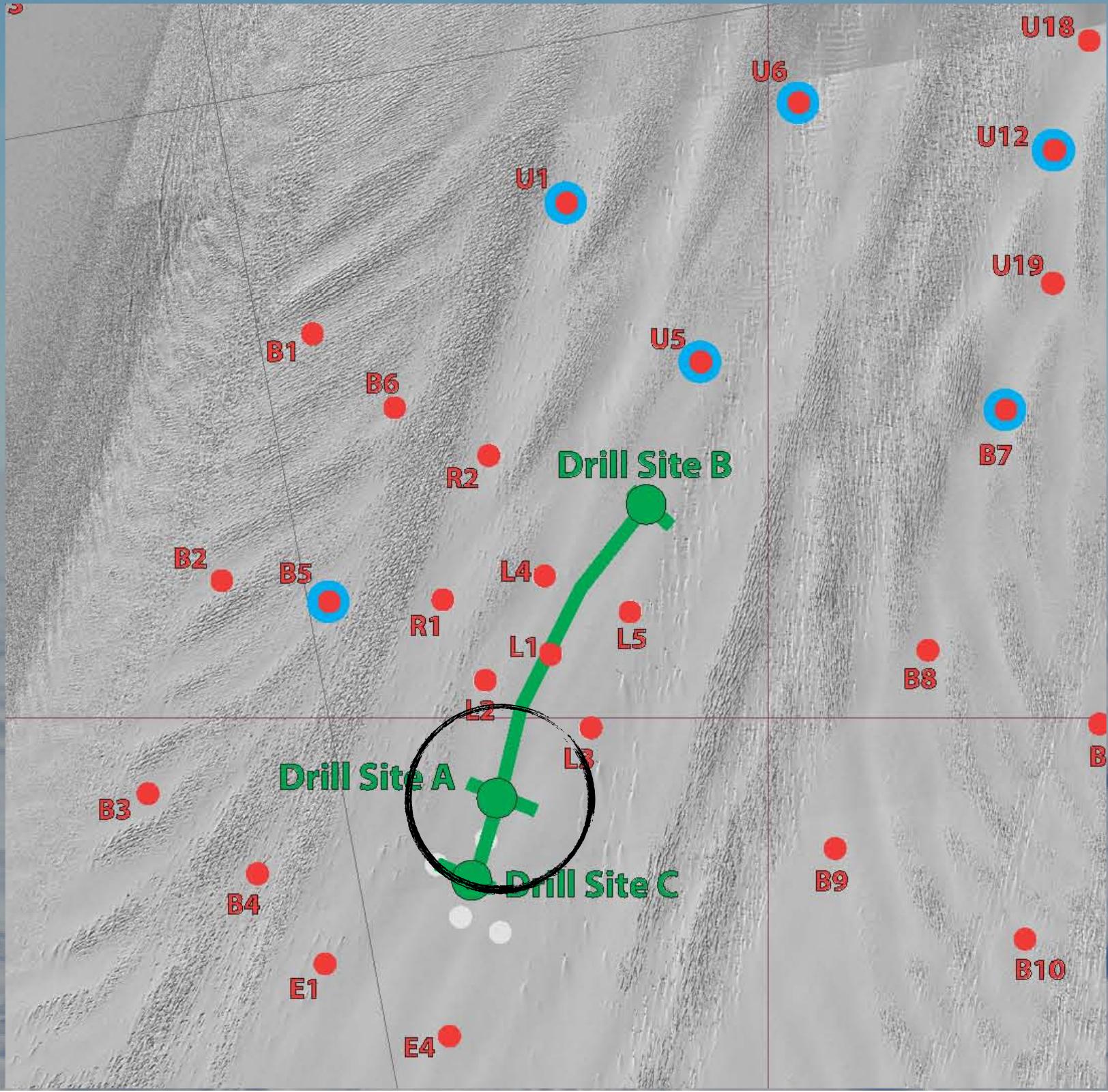


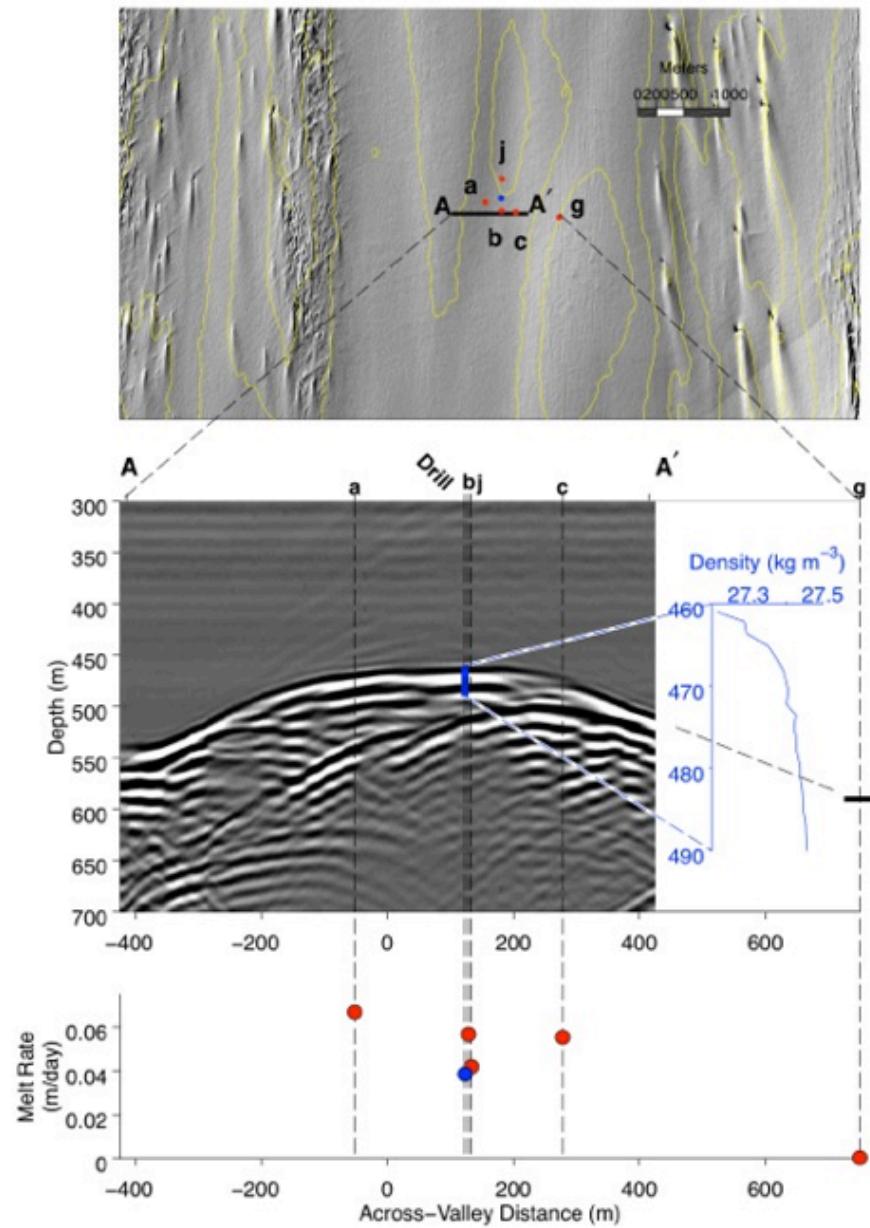


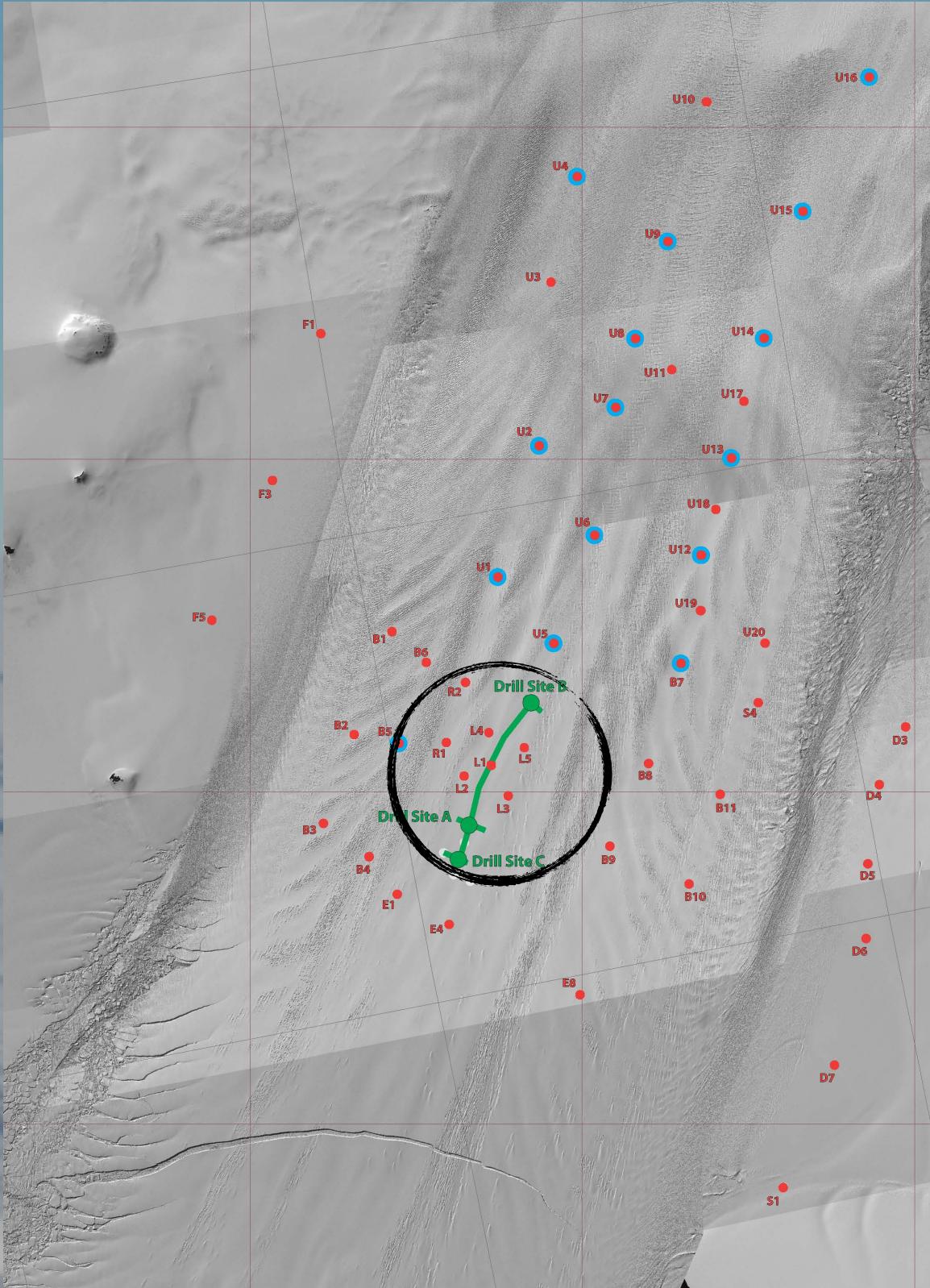


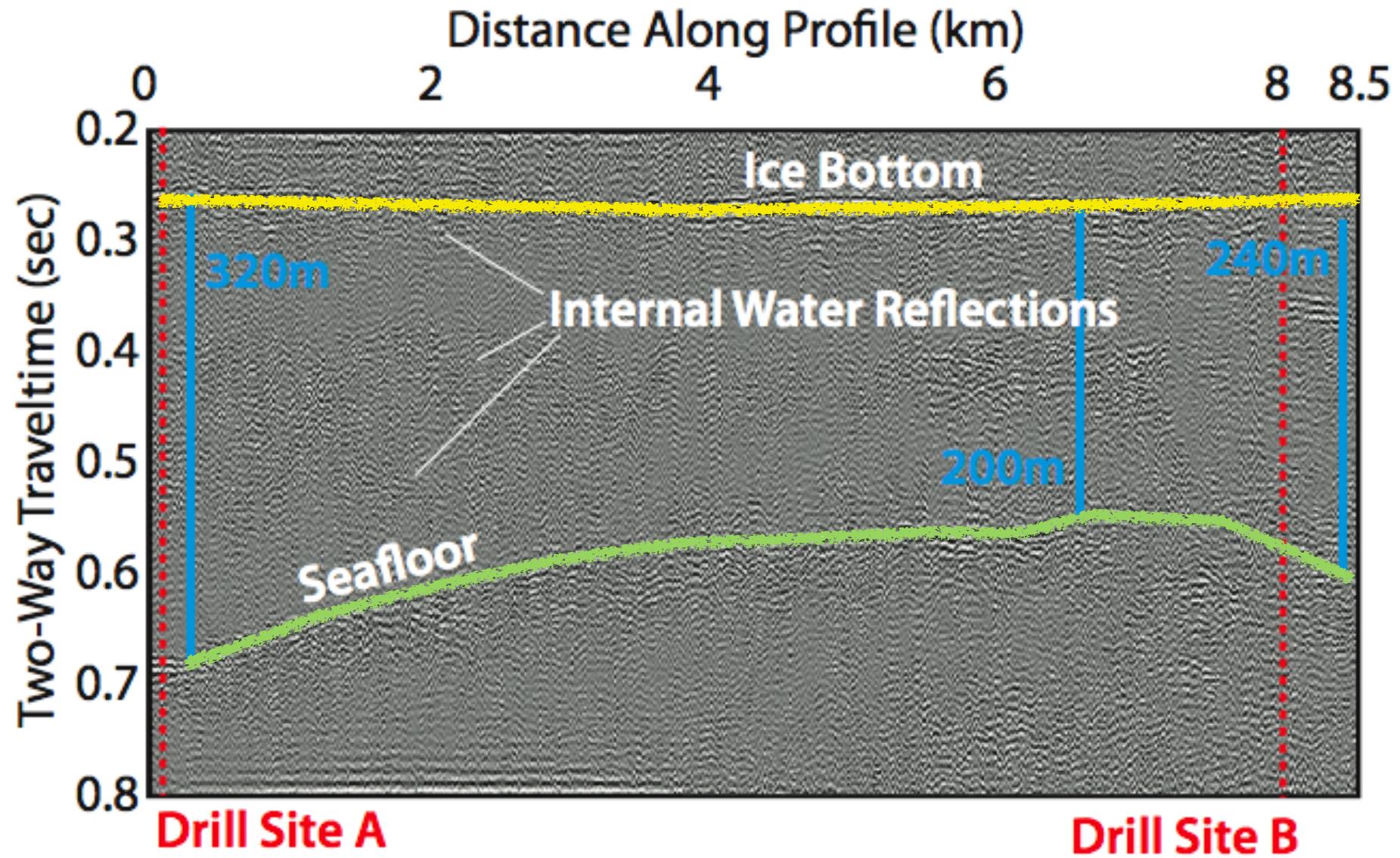




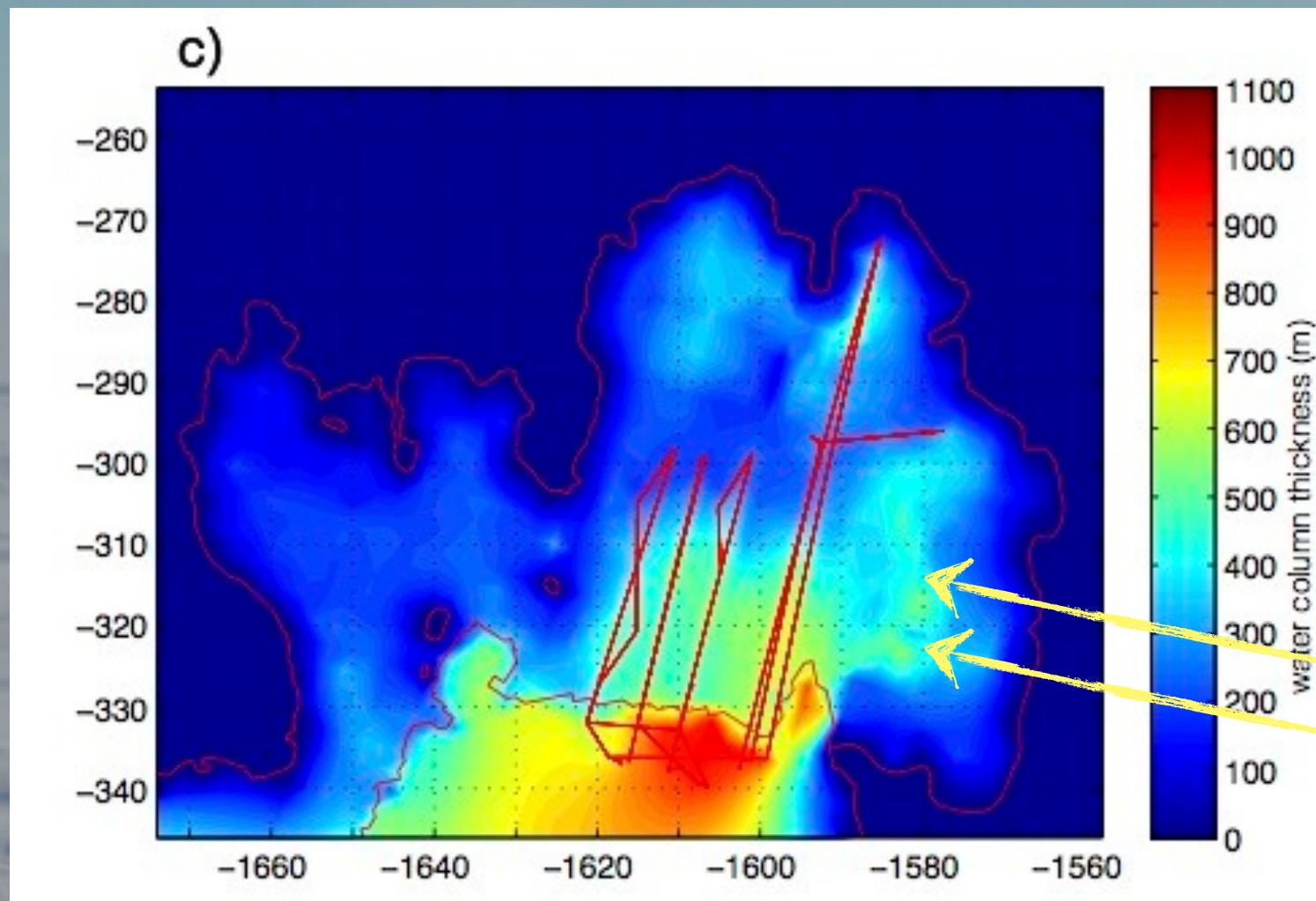




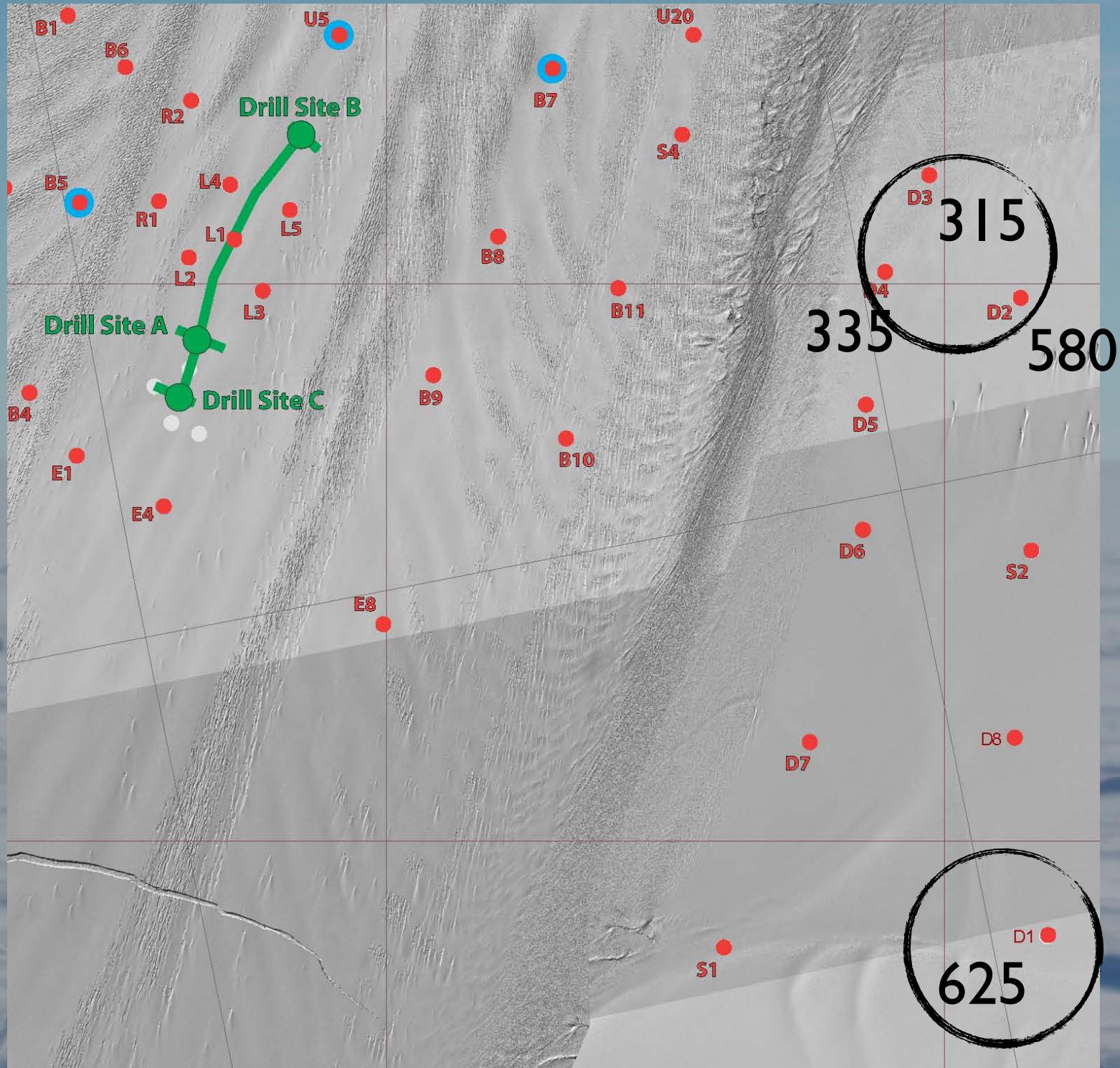




# Gravity Inversion



Muto et al., 2012



# Conclusions

- Gravity data very good, but don't contain the short wavelength variability
- Water-internal reflectors likely a temperature boundary
- Sediment and deeper-reflector analysis ongoing

