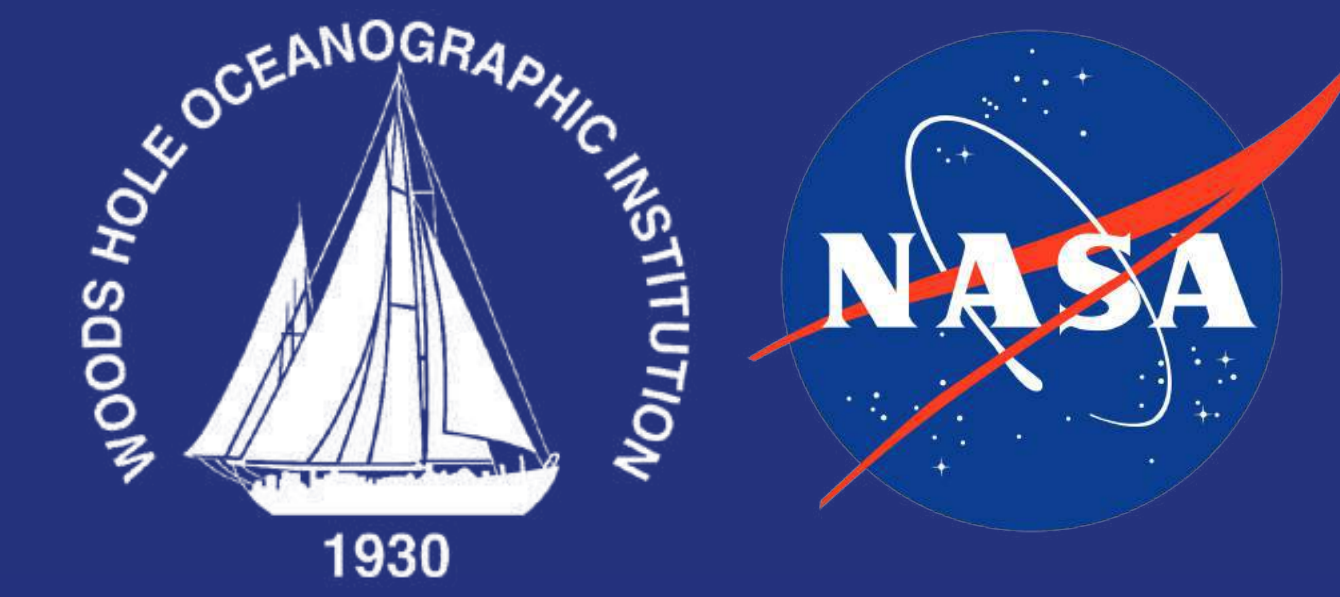


IN SEARCH OF THE PERFECT WAVE:

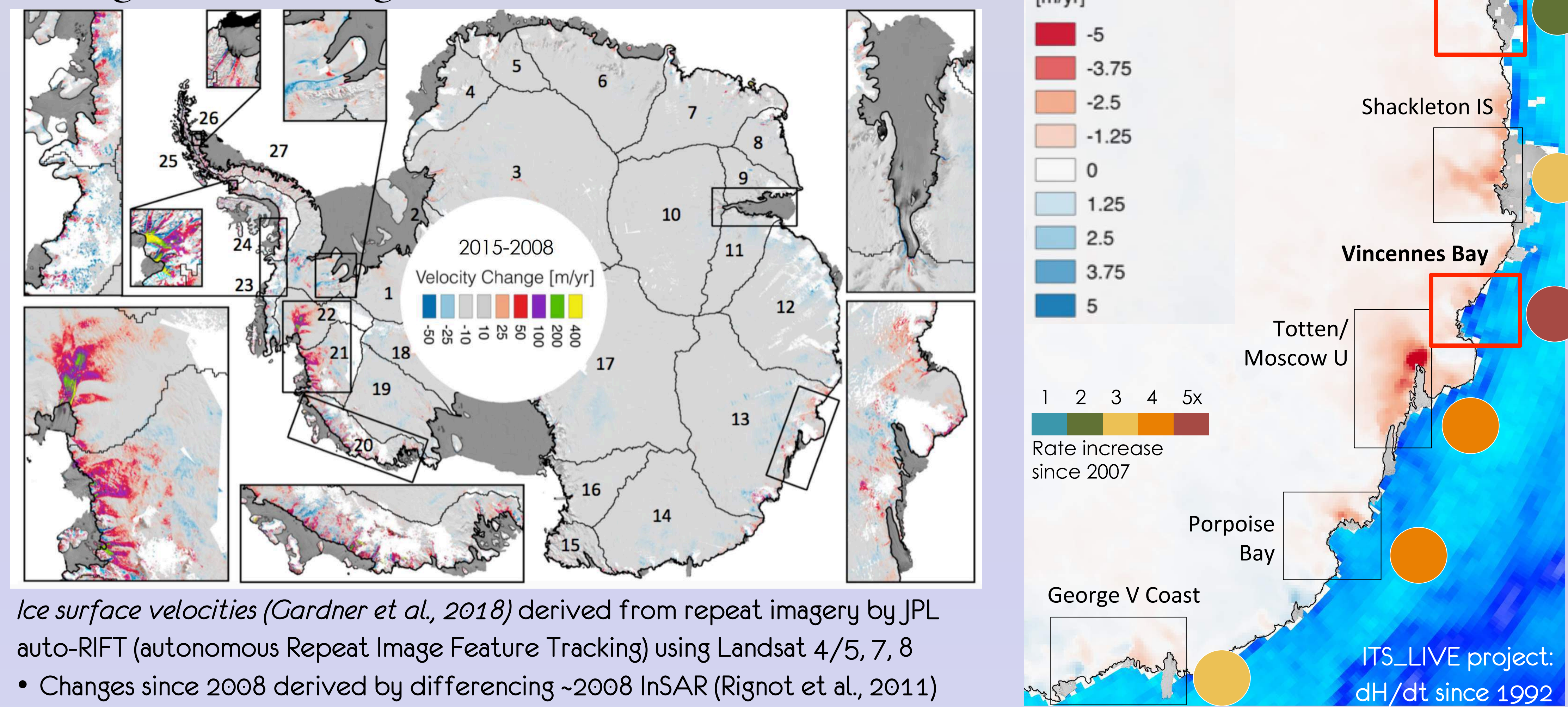
VARIABILITY OF MARINE-TERMINATING GLACIER RESPONSE ALONG THE WILKES LAND COAST TO DIVERSE OCEANOGRAPHIC CONDITIONS

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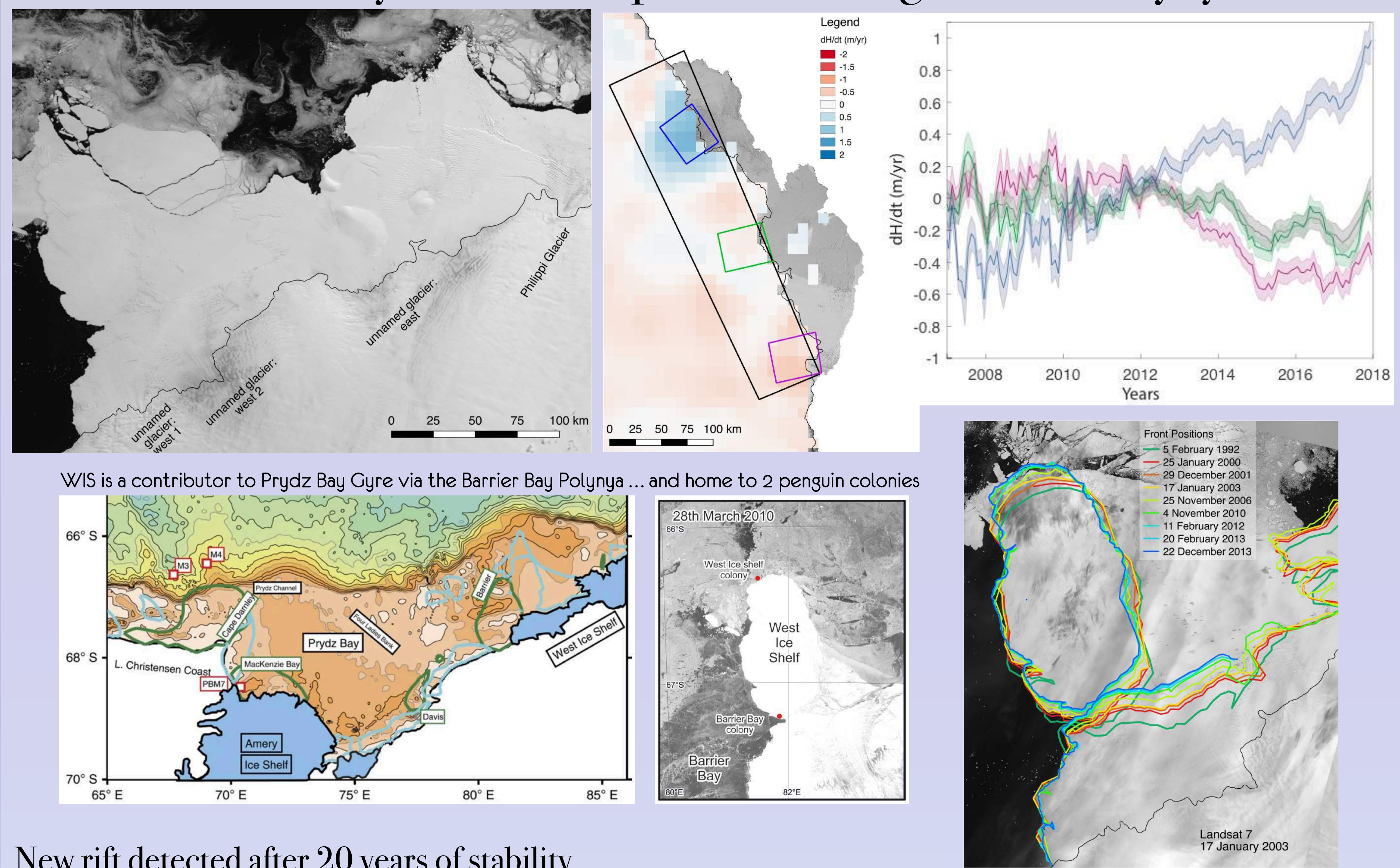


Changes at the margin of the Antarctic Ice Sheet

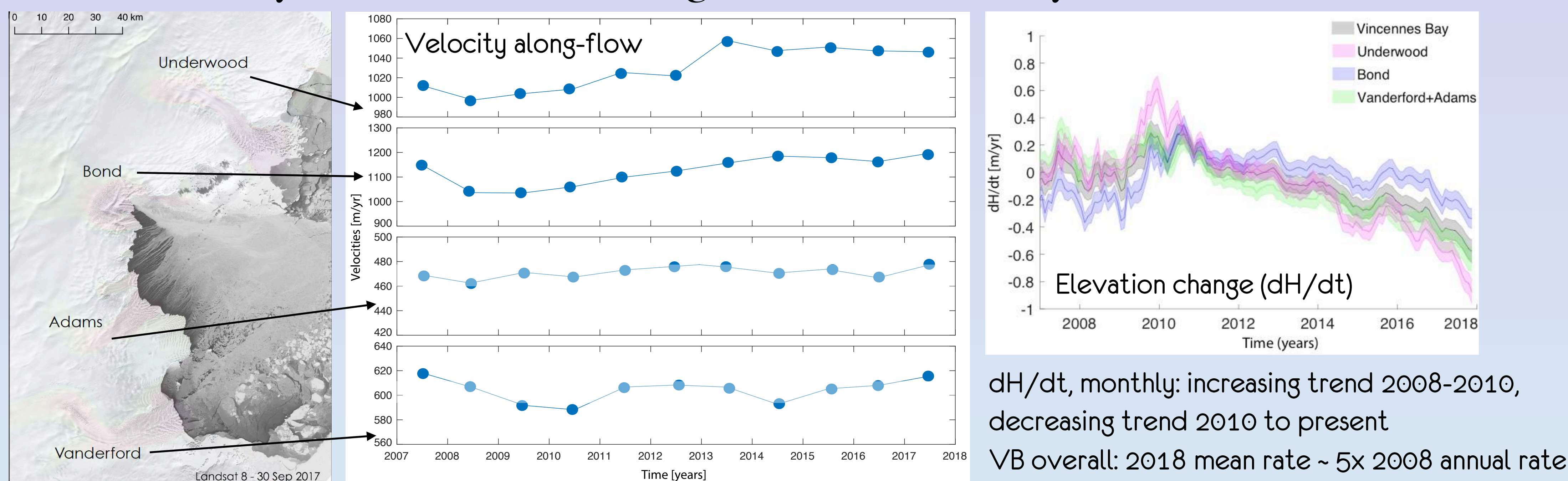


Ice surface velocities (Gardner et al., 2018) derived from repeat imagery by JPL auto-RIFT (autonomous Repeat Image Feature Tracking) using Landsat 4/5, 7, 8
• Changes since 2008 derived by differencing ~2008 InSAR (Rignot et al., 2011)

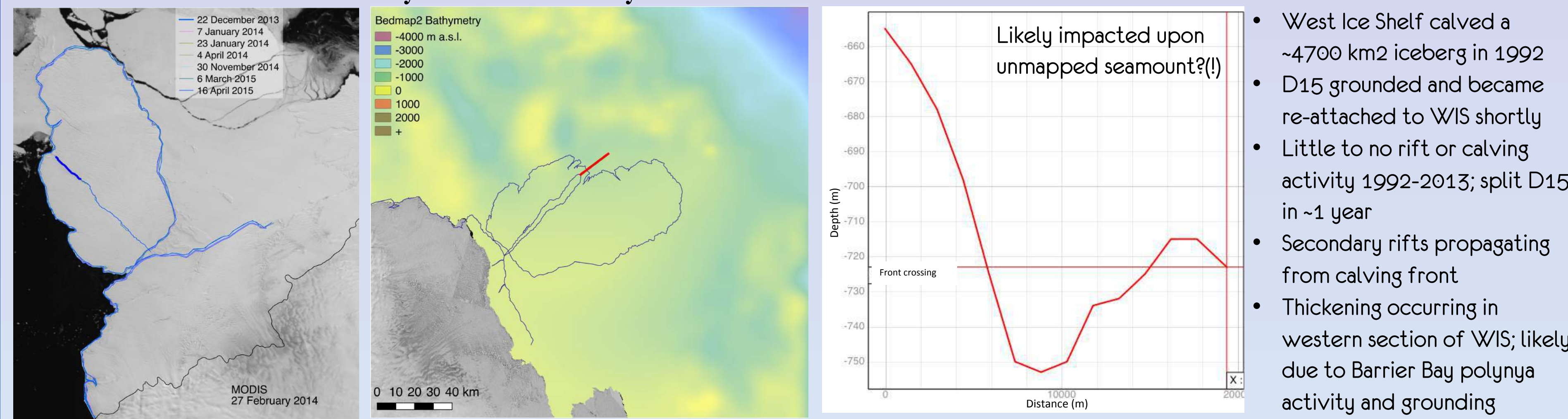
West Ice Shelf: Dynamic Collapse of Floating Ice and Polynya Effects



Vincennes Bay: Marine-Terminating Glacier Variability, 2007-2019



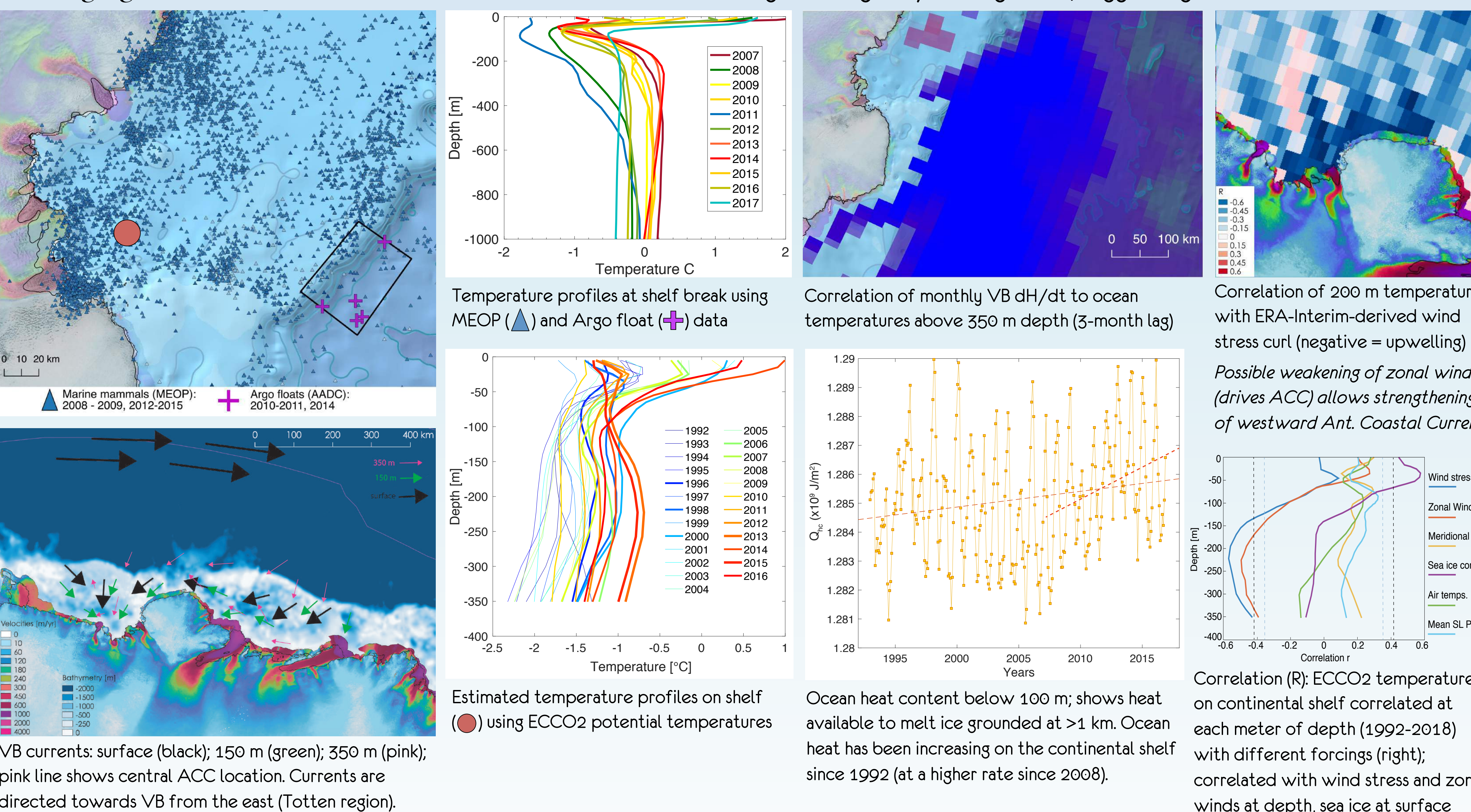
New rift detected after 20 years of stability



- West Ice Shelf calved a ~4700 km² iceberg in 1992
- D15 grounded and became re-attached to WIS shortly
- Little to no rift or calving activity 1992-2013; split D15 in ~1 year
- Secondary rifts propagating from calving front
- Thickening occurring in western section of WIS; likely due to Barrier Bay polynya activity and grounding

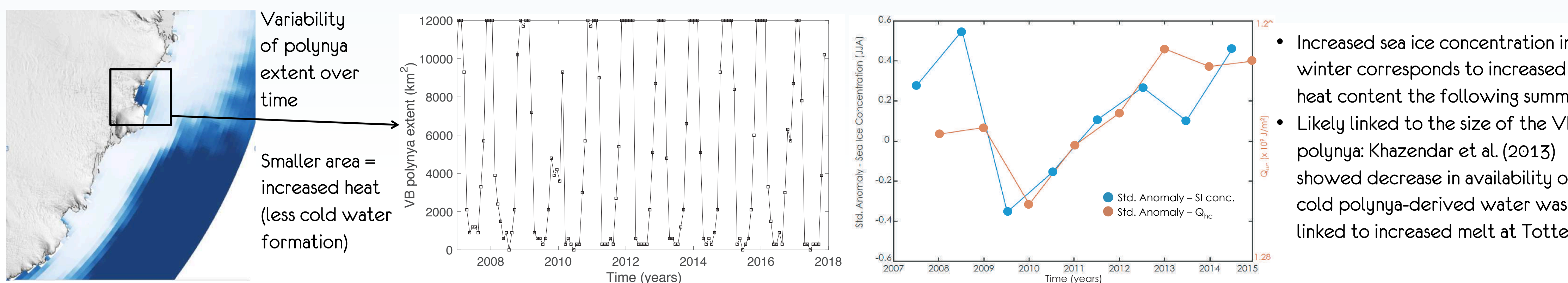
A changing ocean?

Evidence of drawdown occurs near the grounding line/calving front, suggesting ocean influence

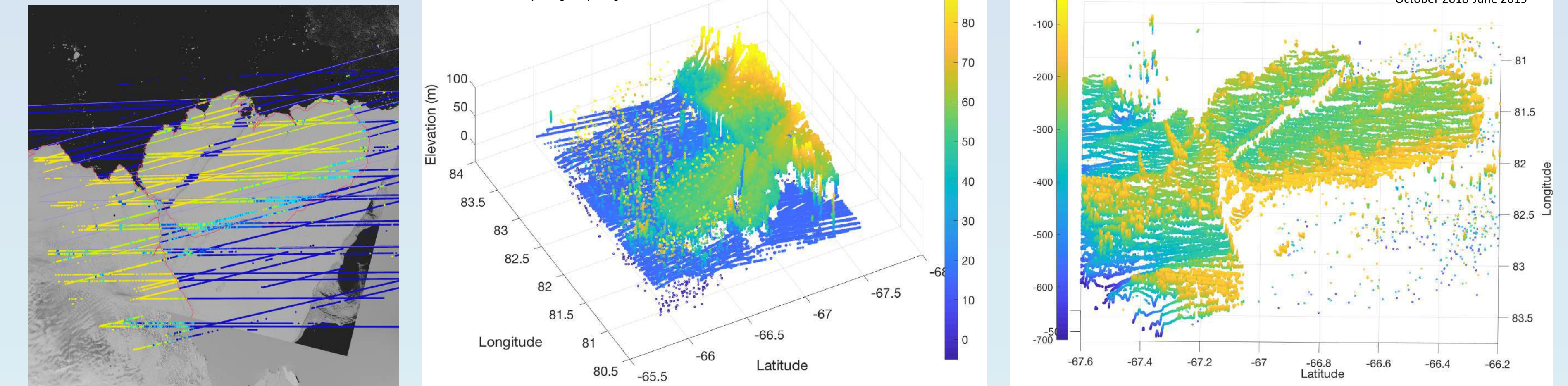


Role of sea ice in ocean heat content

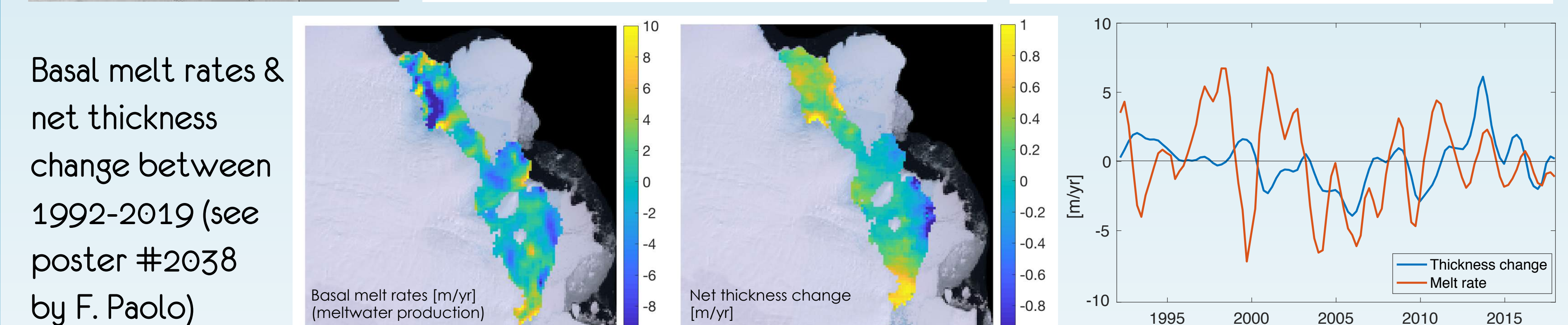
Kitade et al. (2014) observed signals of newly-forming AABW/mixing at continental slope from VB polynya (medium AABW producer)



ICESat-2 views!



Basal melt rates & net thickness change between 1992-2019 (see poster #2038 by F. Paolo)



Oceanographic change

