



Jet Propulsion Laboratory
California Institute of Technology

Heterogeneous retreat of Thwaites glacier, West Antarctica

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**Monthly Sea Level Change
Between April 2002 and March 2015
Referenced to April 2002**

**Adhikari & Ivins (2016)
Science Advances**

Why

PORTI A RISCHIO ALLAGAMENTO AL 2100



ENEA

Agenzia nazionale per le nuove tecnologie,
l'energia e lo sviluppo economico sostenibile



CONFCOMMERCIO
IMPRESE PER L'ITALIA

What

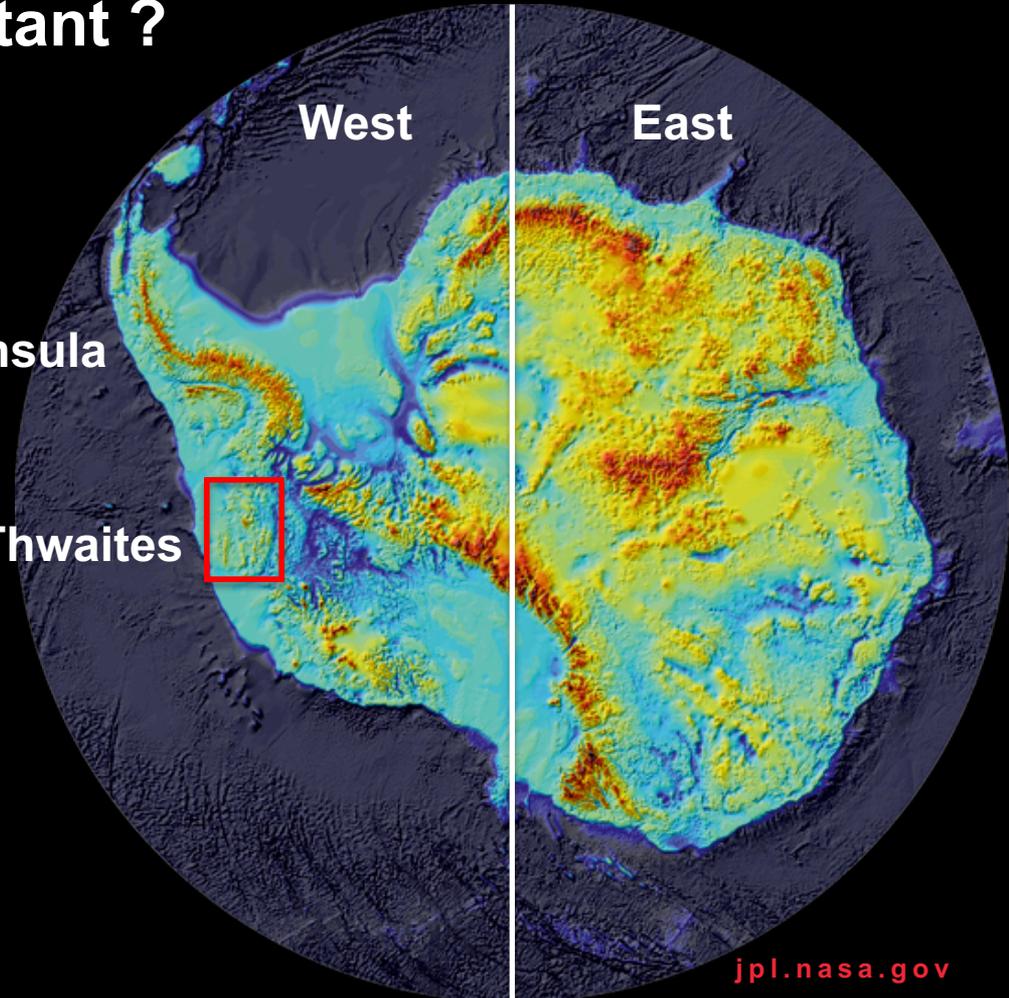


Why is Antarctica so important ?

Ice on land	Sea level equivalent (m)
Antarctic Ice Sheet	58.3
Greenland Ice Sheet	7.36
Glaciers and ice caps	0.41

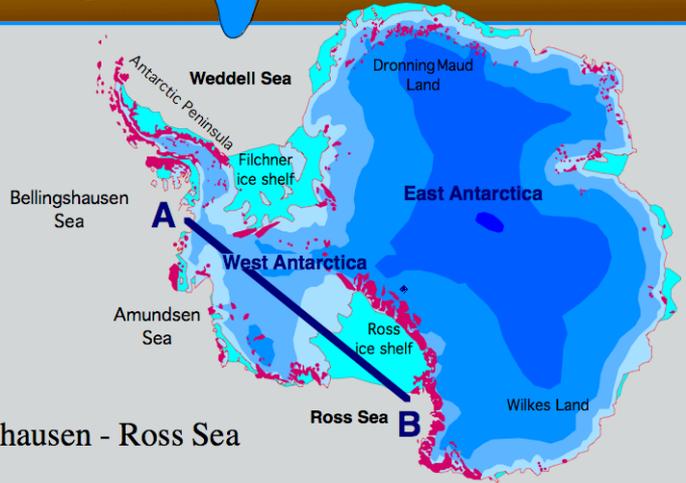
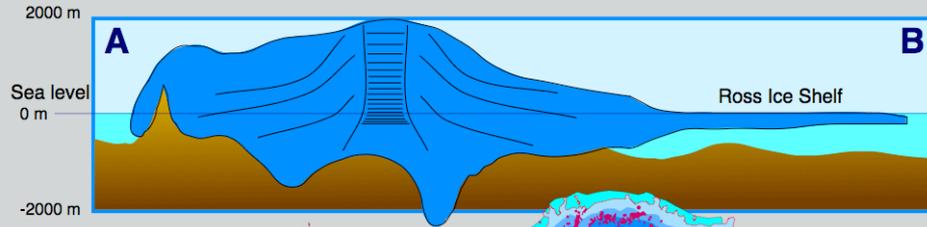
Peninsula

Thwaites

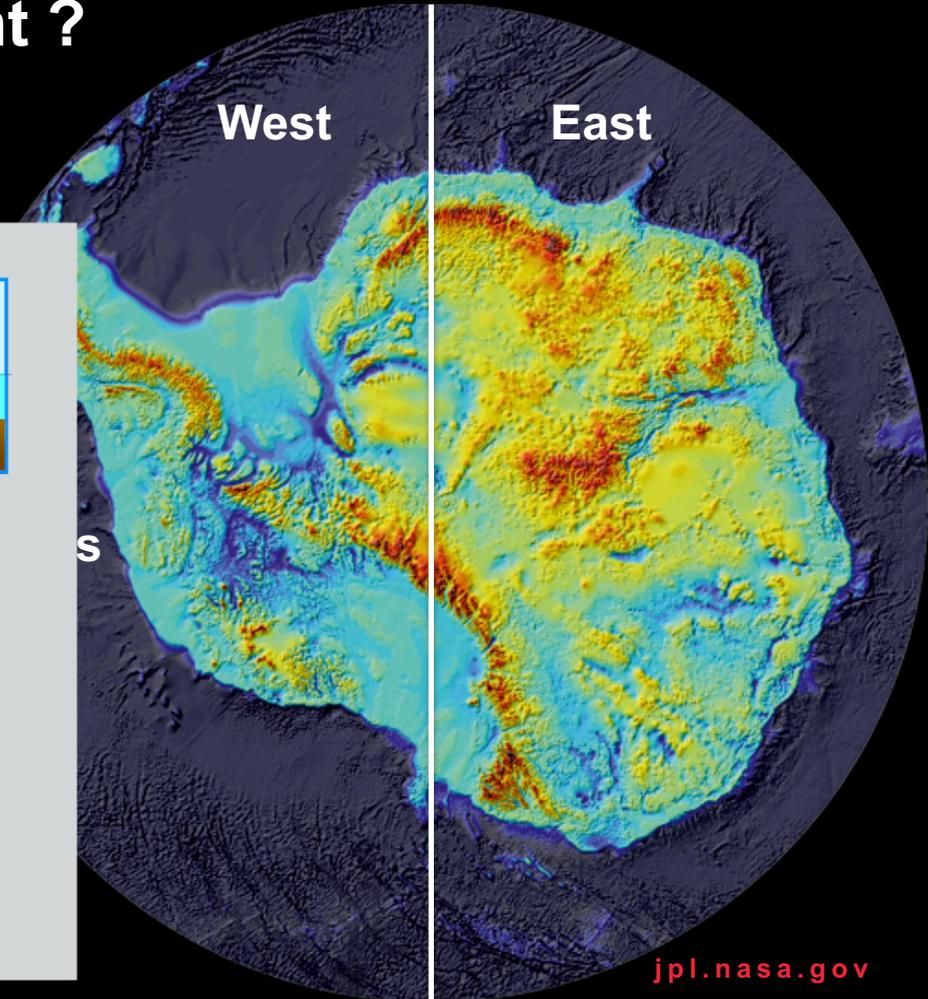


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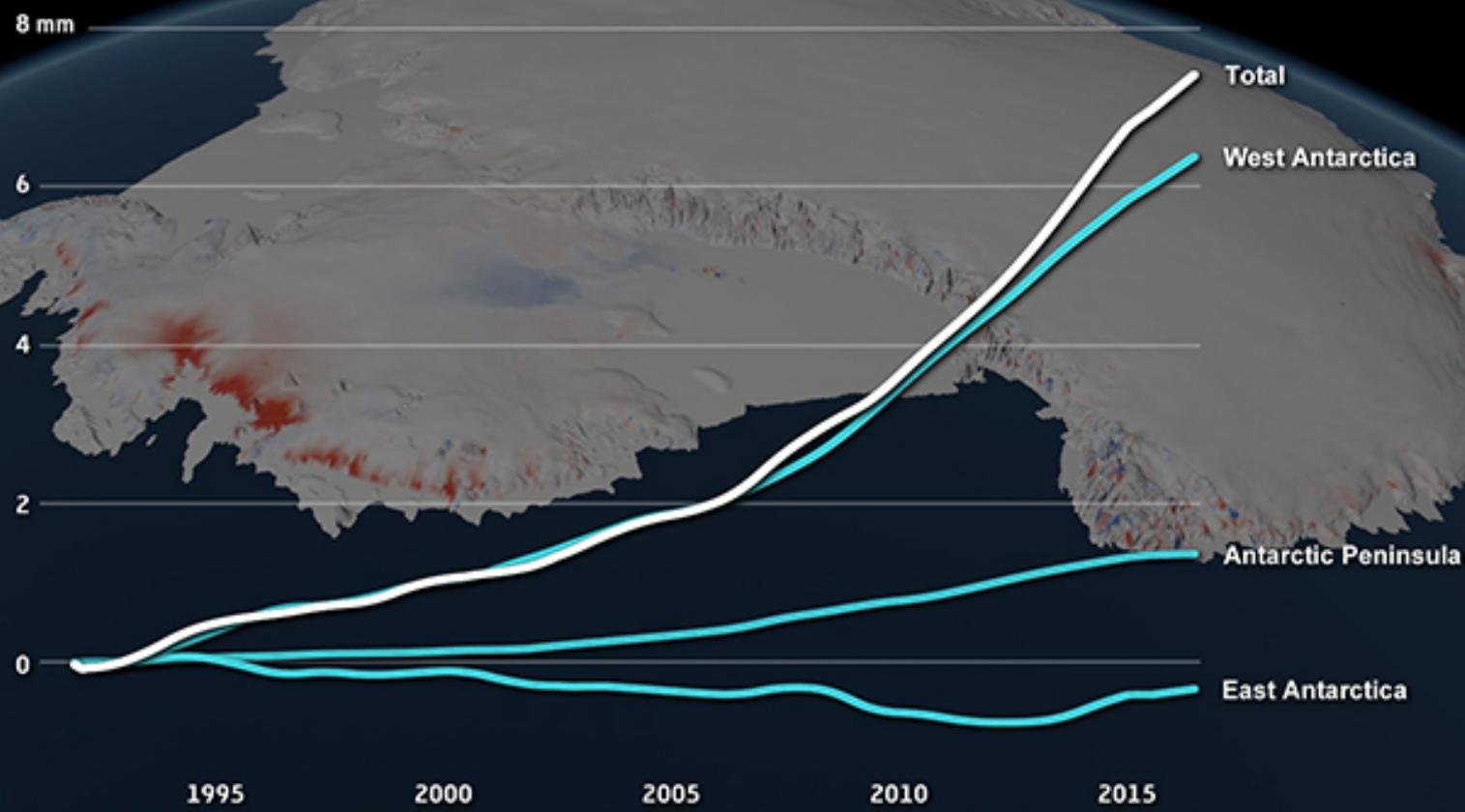
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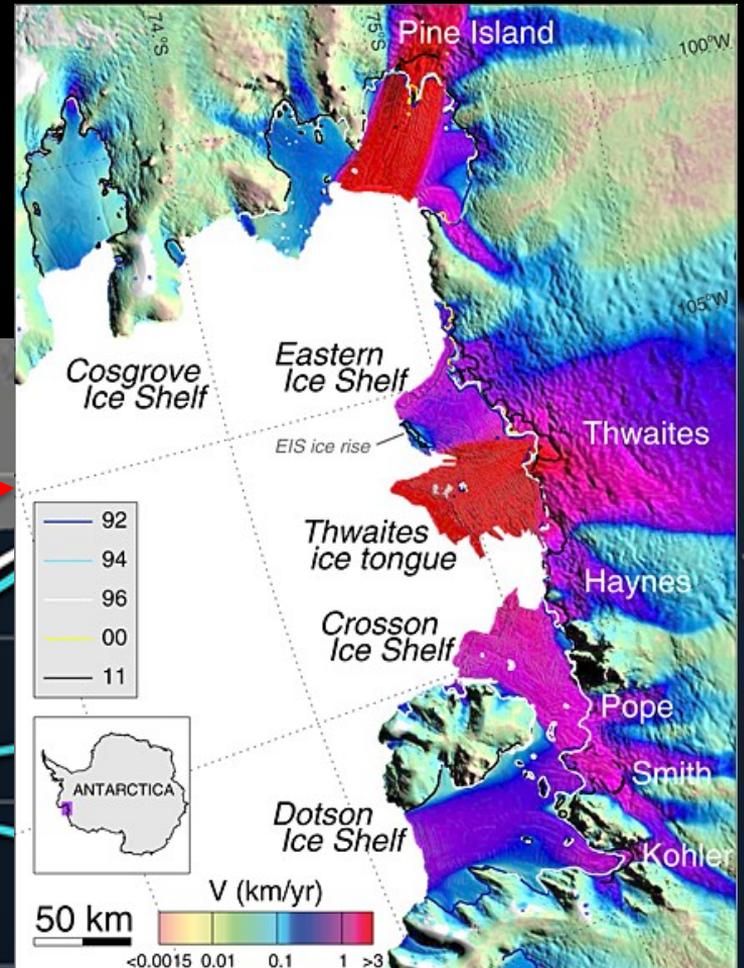
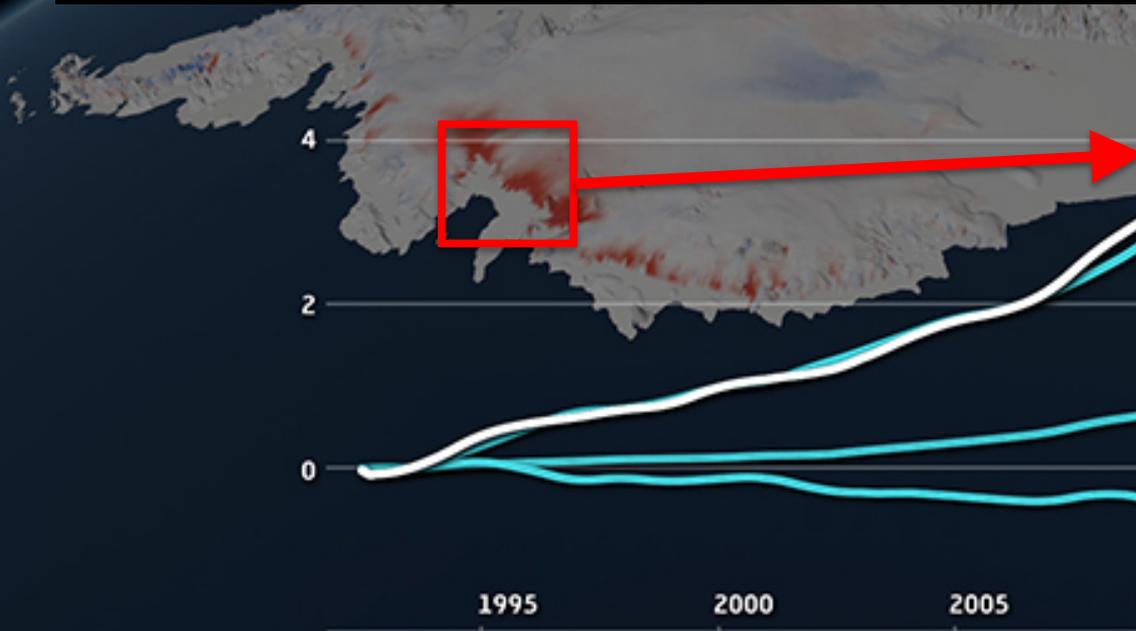
Profil Bellingshausen - Ross Sea



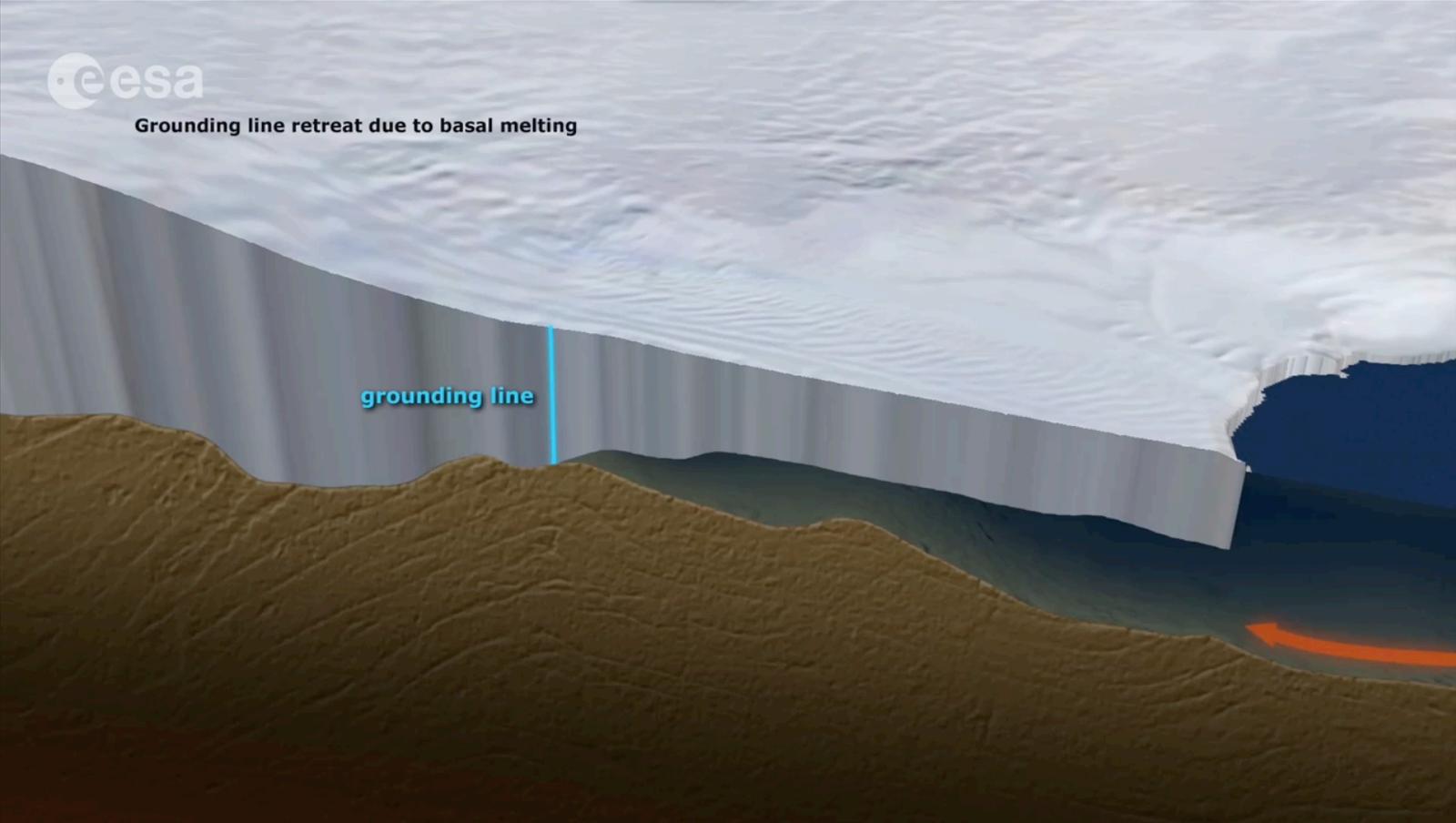
Antarctic Ice Sheet Contribution to Global Sea Level



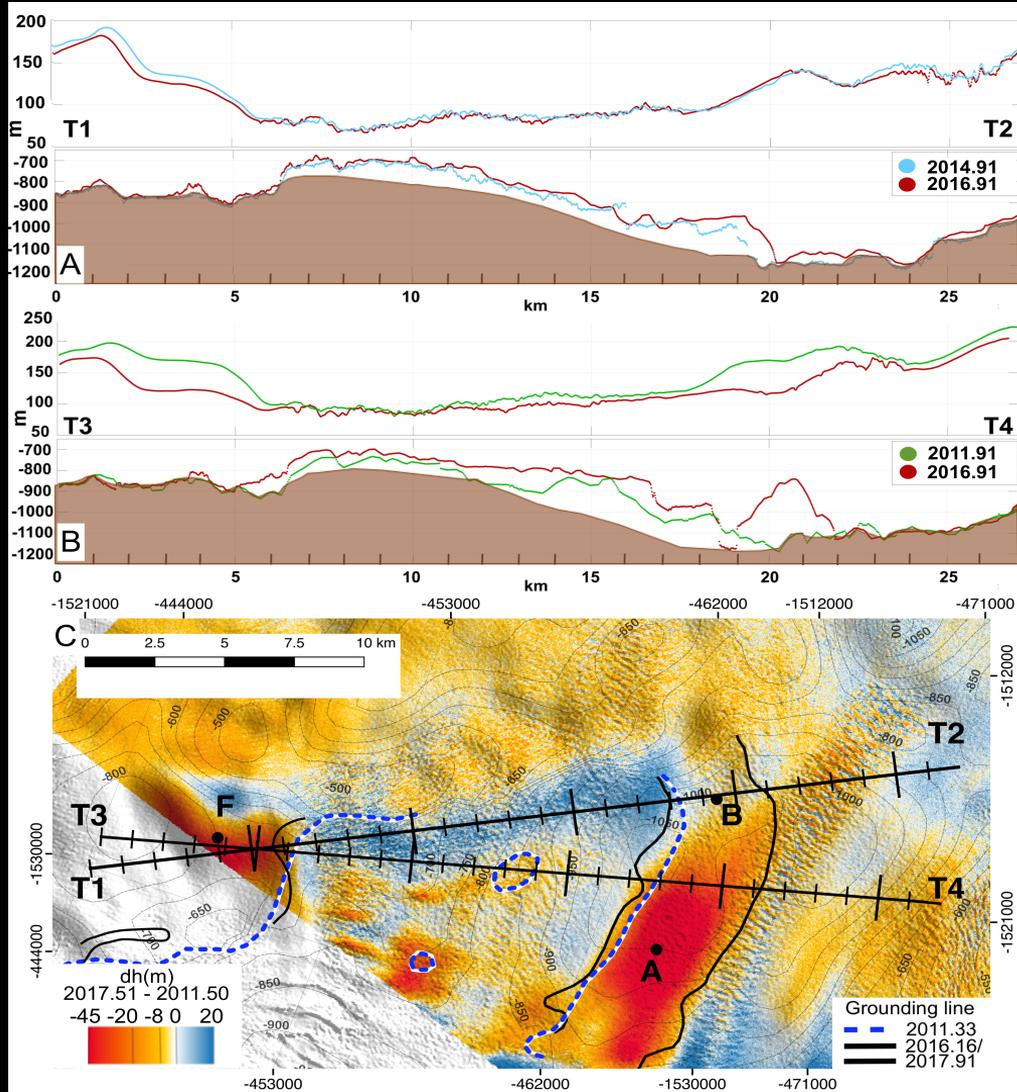
- With **1.2-m potential sea level equivalent**, the **Amundsen Sea Embayment (ASE)** sector of West Antarctica is a **dominant contributor** to sea level rise at present and for decades to come.
- **Thwaites** Glacier accounts for **one-third of the mass loss** from the ASE.



how warm ocean water penetrates the glacier grounding line through basal melt







Radar depth sounding of Thwaites Glacier. (A) Ice surface elevation (Airborne Topographic Mapper) and ice bottom (MCoRDS radar depth sounder) in 2011, 2014 and 2016, color coded from green to blue and brown, along profile T1-T2 and (B) T3-T4 with bed elevation (brown) from (14). (C) Change in TDX surface elevation (dh) from June 2011 to June 2017, with 50-m contour line in bed elevation, with tick marks every