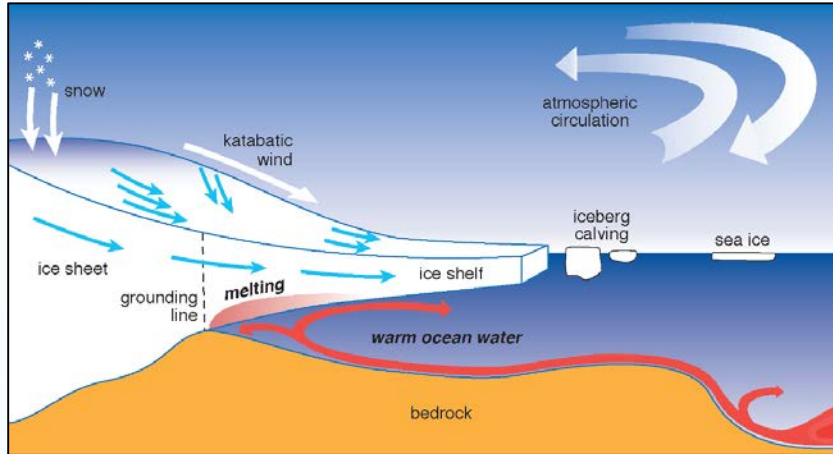


# NSF-NERC Thwaites Glacier Update

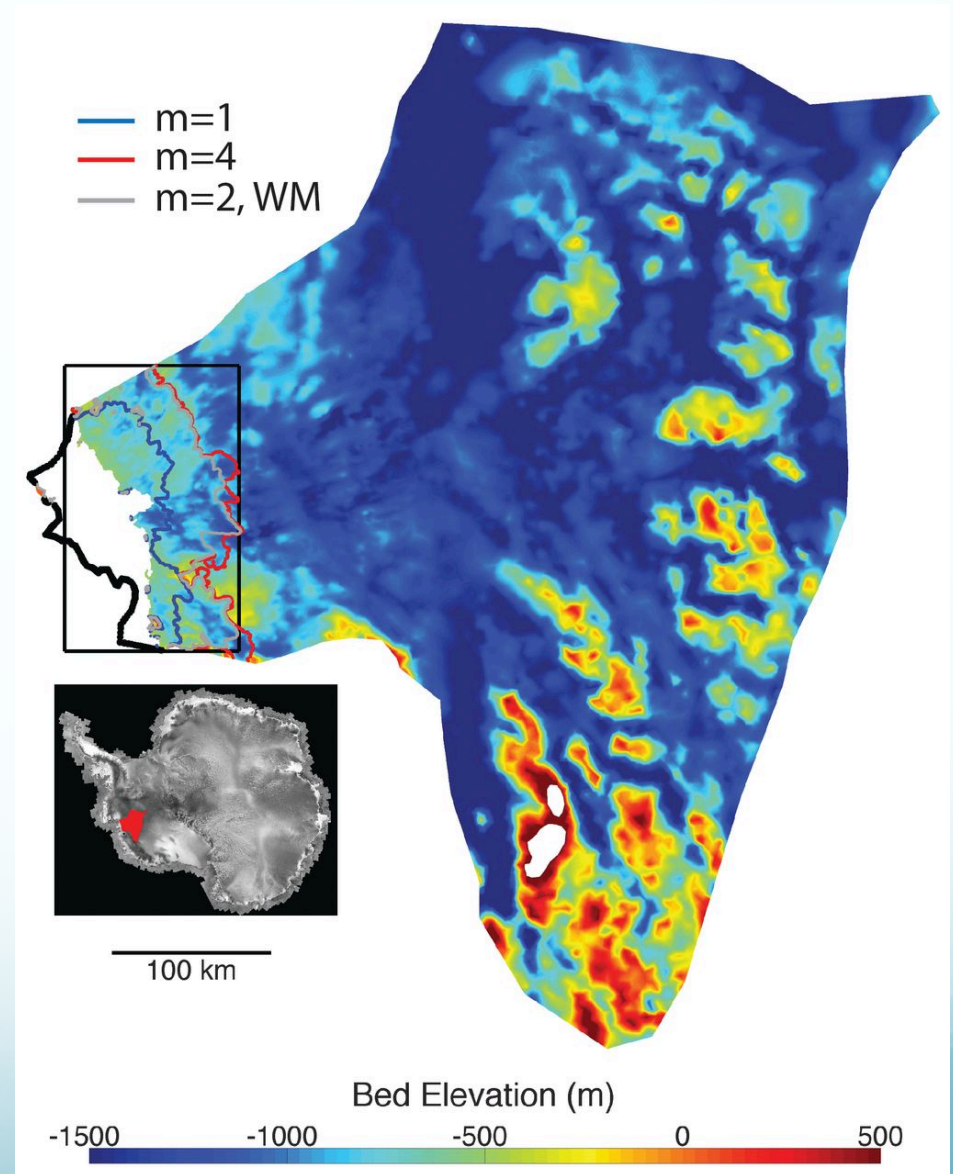




# Thwaites Glacier Bed Topography & Marine Ice-Sheet Instability

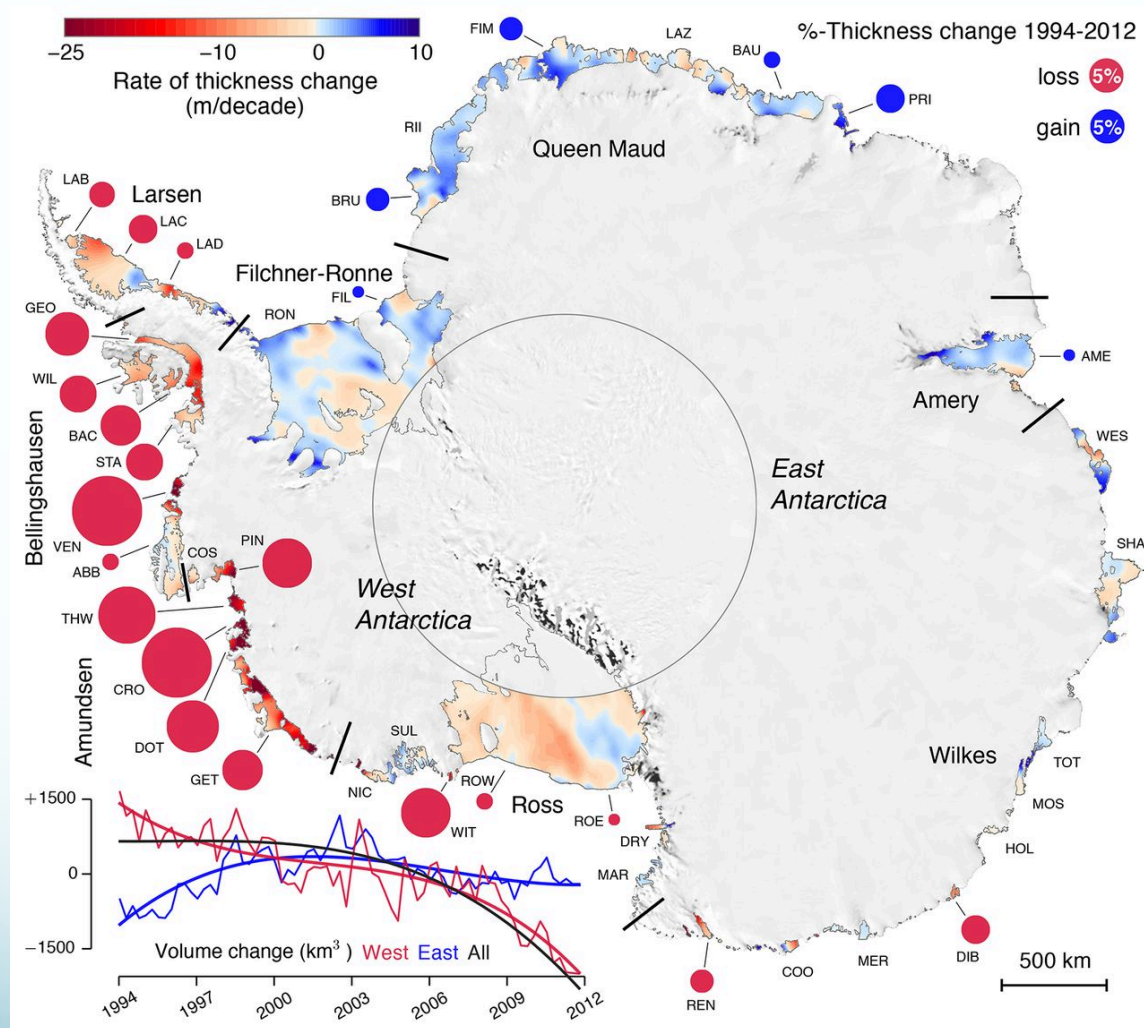


NAS, 2015

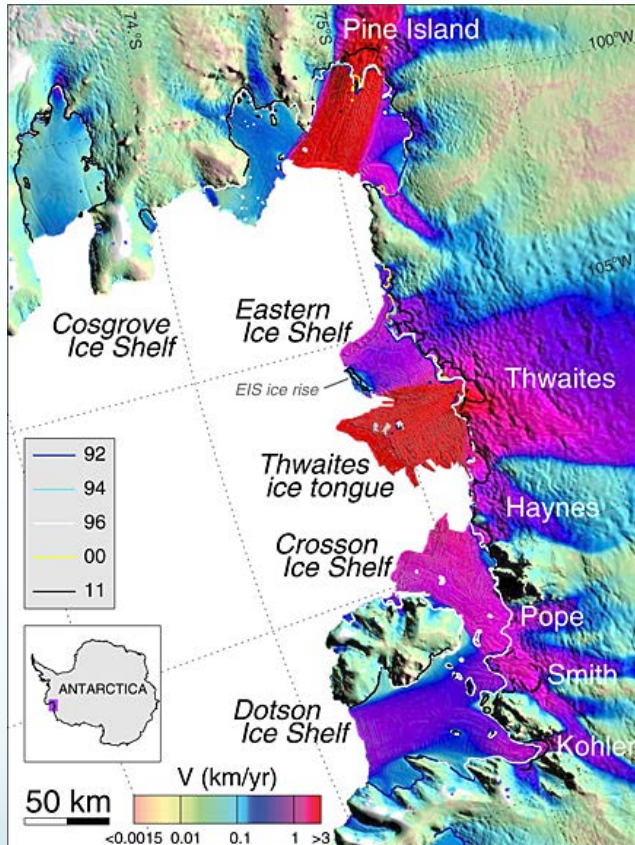


Joughin et al., 2014. Science 344(6185)

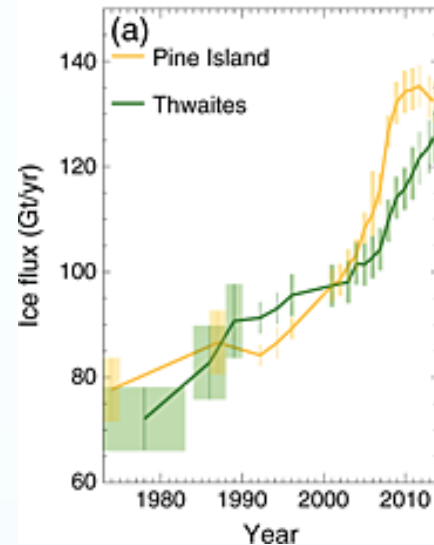
# Change in Thickness and Volume of Antarctic Ice Shelves 1994-2012



# Sustained increase in ice discharge from the Amundsen Sea Embayment, 1973 to 2013



## Ice Flux

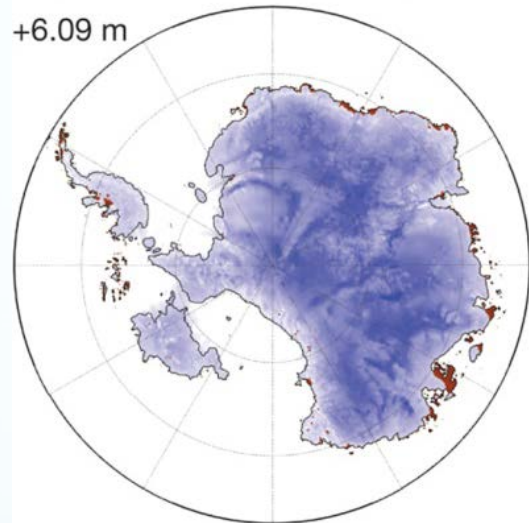


- ~10% of global sea-level rise from these glaciers
- Thwaites = 1.2m SLE
- 75% increase in Thwaites ice flux from 1973-2013 (half of this since 2006)

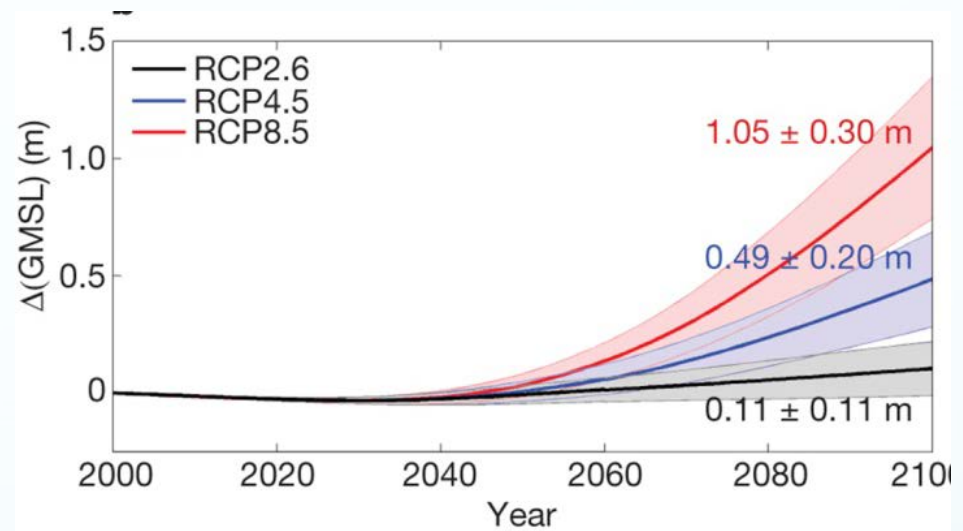


# Model Outcomes

**b** Maximum retreat  
(modern initial conditions)



Last Interglacial



Next 80 years

# “The Future of Thwaites Glacier and its Contribution to Sea-level Rise”



- SCAR Horizon Scan 2014
- NAS 2015 Strategic Vision report
- 2015/16 UK and US workshops
- Solicitation released October 20<sup>th</sup> (today! #17-505)
- Integrated submission/review/logistics
- Five-year effort FY18-22
- Major field seasons 19/20, 20/21