ICE-OCEAN MODELING OF THWAITES GLACIER
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Science Question:
Glaciers in the Amundsen Sea Sector are rapidly changing. What is the role of the ocean and how is it going to affect the future of Thwaites Glacier?

Results & Data:
- Thwaites Glacier will continue to lose mass at a similar rate over the next decades.
- Grounding line retreat governed by bed topography but retreat rate depends on oceanic conditions.
- Coupled ice-ocean models produce more realistic estimates of glacier retreat rates than ice models driven by parameterized melt.

Data from Operation IceBridge (bedrock, bathymetry), MEaSUREs (velocities and grounding lines) and ECCO2 estimates used to initialize, run and validate the models.

Significance:
Results highlight the importance of coupling ice and ocean models and improve projections of ice sheet contribution to sea level rise.