

Warm Arctic, Increased Winter Sea Ice Growth?

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What are the projections for Arctic sea ice thickness through this century?

- Satellite observations help us constrain model simulations and projections of Arctic sea ice.
- We project a continuation of the rapid decline in sea ice thickness across the Arctic.
- Interestingly, we also project an increase in winter Arctic sea ice growth (October to April thickness change) through the coming decades.
- This is due in-part to a feedback process associated with a thinning ice cover - thinner ice grows faster than thicker ice as it is less insulated. However by the end of the 21st Century, the Arctic warms significantly and promotes declines in Arctic sea ice growth.

What was the impact? New understanding of the positive ice growth feedback process in the Arctic.

Why does it matter? Sea ice growth controls the freshwater content of the upper Arctic Ocean with clear impacts on local ecosystems.

The thinning ice cover is expected to significantly change Arctic (and potentially mid-latitude) weather.

