

CGD Seminar Series

Sea ice prediction in a changing cryosphere: Can we? Have we? Will we?

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Date: Tuesday 5 April 2022

Time: 11am – 12pm

For Zoom information, please contact

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For live stream information, visit the

CGD Seminar Webpage

ABSTRACT

Forty years of satellite observations have documented a striking decline in the areal extent of Arctic Sea ice, contrasted by a slight increase in Antarctic sea ice extent. These changes have profound impacts on the climate system, human populations, and ecosystems across a broad range of spatial and temporal scales. In both hemispheres, these trends have motivated significant research interest in the prediction and predictability of sea ice on seasonal-to-interannual timescales.

In this talk, I will focus on Arctic Sea ice prediction, addressing three related questions: Can we? Have we? And will we? First, I will present the scientific basis for sea ice predictability on the seasonal-to-interannual timescale (Can we?). Second, I will assess the prediction performance of modern dynamical sea ice prediction systems and describe the primary mechanisms of predictability that these systems are capitalizing upon (Have we?). Finally, I will consider the potential for future improvements in sea ice prediction, highlighting an Arctic Sea ice spring predictability barrier and new opportunities emerging from satellite observations of sea ice thickness (Will we?).

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