

# Sea level: Rising for many - dropping for some

Assessing Greenland's sea level change impact on coastal communities

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## Background and motivation

I work within glaciology - yes: glaciers and ice sheets. The ongoing changes of glaciers and interactions with the global climate is quite complex and affecting all of us. I am looking into this topic with the eyes of a mathematician. So far, I studied how our two big ice sheets in Greenland and Antarctica react to changes in air and ocean and how changes in the ice impact ocean and air. Basically feedbacks. Within SEAS, I am adding more layers: melting ice is also changing sea level around the globe. I'd like to know where and how much and what local communities think about this.

## Project description

Greenland's glaciers are melting at an increasing speed contributing to sea level change and impacting people's life around the globe. Understanding how much and where ice is melting in Greenland can help us estimate where sea level is rising how fast, giving a basis to listen to local communities and discuss consequences with them as part of the project ClimateNarratives.

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## Main questions

- ★ How much will the Greenland ice sheet continue to melt if we cut emissions by 2050?
- ★ How fast will sea level change in Greenland and Fiji and to what magnitude?
- ★ How can our scientific understanding benefit from dialog and collaboration with local communities?
- ★ How do different scientific fields include local communities into scientific discussions/results?

## Aims

- Work inter- and transdisciplinary (SEAS and ClimateNarratives)
- Combine research results from glaciology, sea-level and land-use disciplines
- Learn from dialogue with local community in Greenland
- Publish

## Marine sustainability

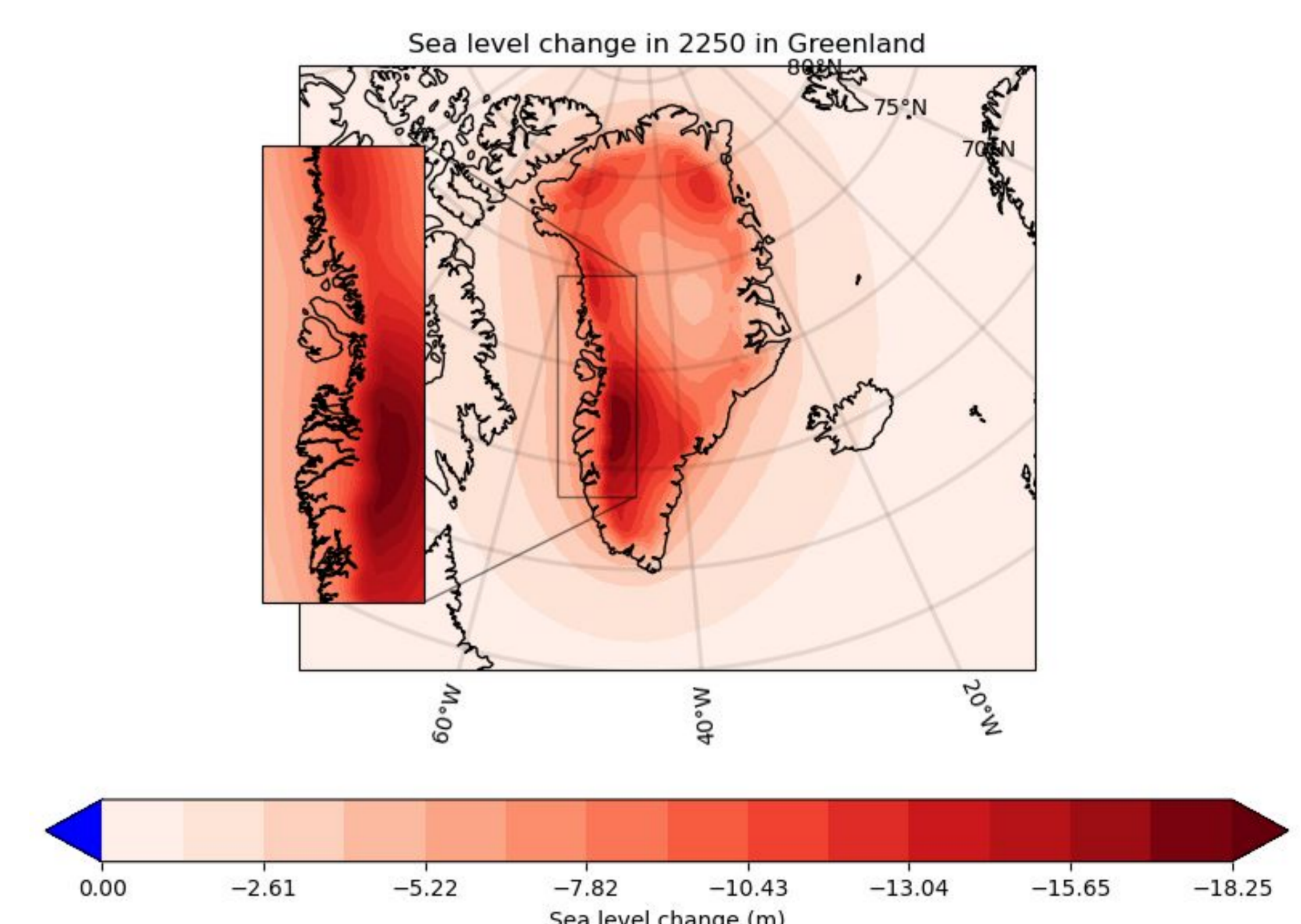
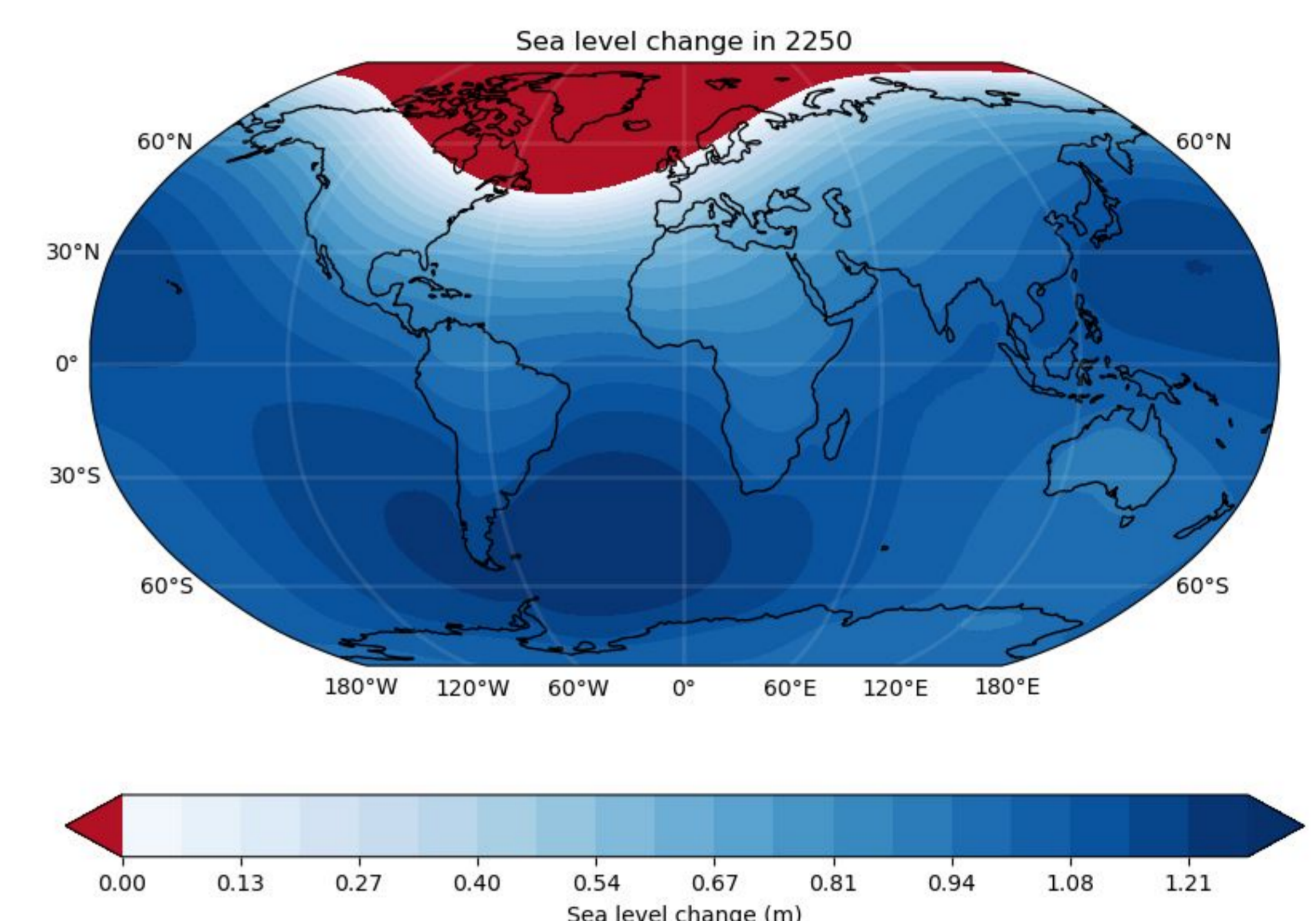
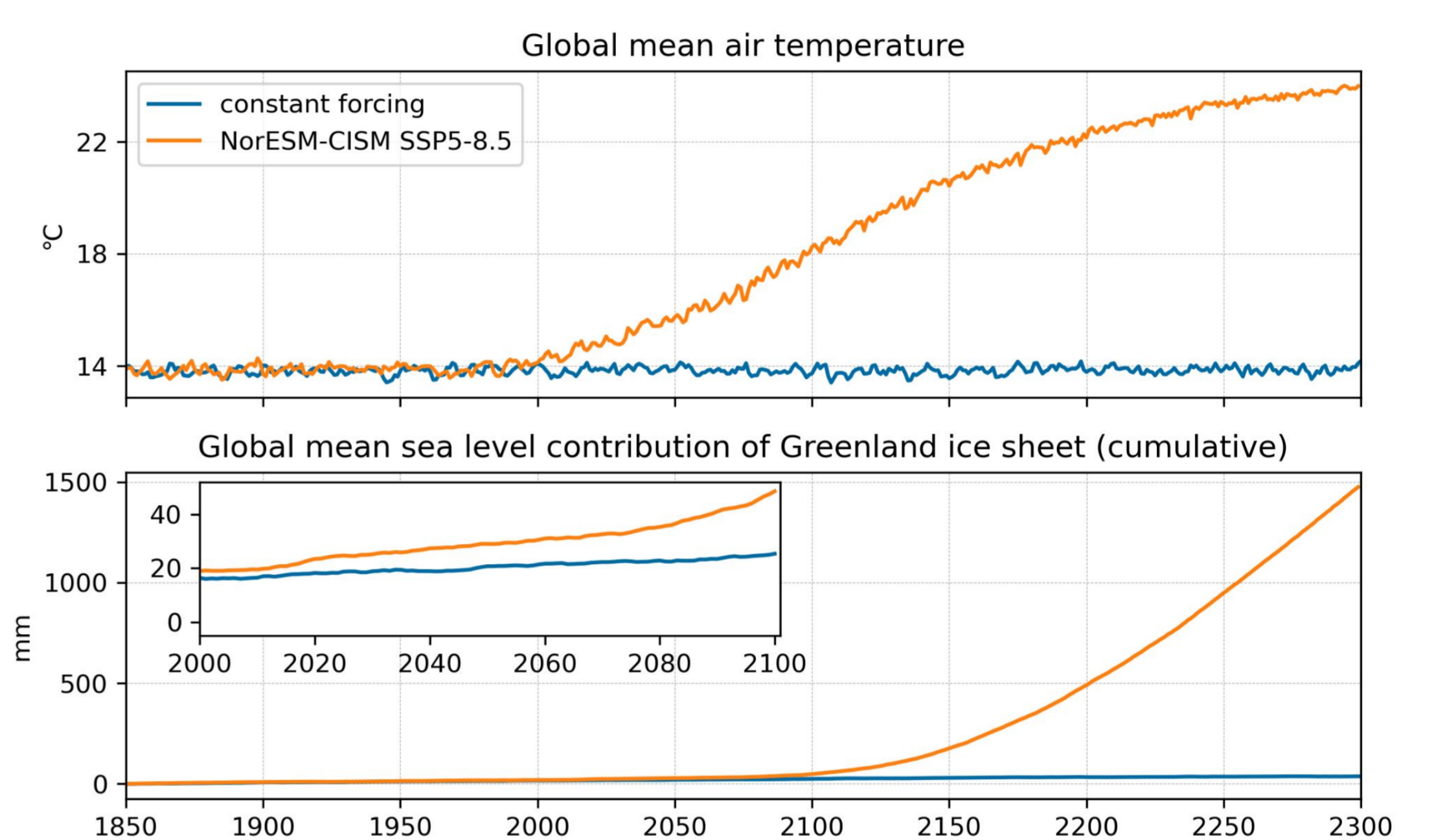
Sea level and the retreating Greenland ice sheet impact tides, open ocean and sea ice which again shape the life of people living in coastal regions. I want to learn what topics concern local communities - like transportation paths, fishing/hunting, traditions, drinking & waste water, urban planning.

## Highlighted activities

- Attended sea level workshop
- Stay at "ILLU - science and art hub" in Ilulissat, Greenland

## Next:

- 4 months research stay at McGill University, Montreal, Canada
- Learn from other SEAS fellows, discuss and start interdisciplinary collaboration
- Get insight from local communities (like in Ilulissat, Greenland) about their experiences and questions around sea level change



## Supervisory and mentor team



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SEAS

