Ann-Sofie Priergaard Zinck

Climate and remote sensing scientist

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ResearchGate

PROFILE

As a Climate and Remote Sensing Scientist, I work at the intersection of Earth observation, data science, and environmental modelling. My expertise spans satellite altimetry, stereo-imagery, SAR, and optical imagery, combined with strong Python-based data analysis. I have applied these tools to study ice, ocean and climate processes in both polar and temperate regions, often working with big geospatial datasets, cloud computing and machine learning. Whether in research or application, I focus on developing transparent, reproducible methods that turn complex environmental data into actionable insight.

SKILLS

Earth observation

- Geospatial data wrangling, analysis and visualization
- Ice, ocean and coupled ice-ocean modelling
- Optical imagery, radar- and laser-altimetry
- Basic stereo imagery, SAR and passive microwave

Data science

- Python, basic bash and JavaScript
- Machine learning
- Big data analysis
- Code upscaling and automation
- Version control (git)

Transferable

- Perseverance
- Problem solving
- Project management
- Scientific storytelling and communication

EMPLOYMENT

Postdoctoral Researcher – University of Copenhagen, DK 2025 –

- Data fusion and modelling of ice thickness and bedrock topography in the Canadian Arctic.
- Radar (airborne and ground), SAR and altimetry data.
- Physics-informed machine learning.

Ph.D. Candidate – Delft University of Technology, NL 2021 – 2025

- DEM co-registration using satellite altimetry.
- Interplay between modelling and remote sensing of ice shelf basal melting.
- Geospatial data analysis in Google Earth Engine, python, and QGIS.

Doctoral dissertation: Revealing hidden patterns - A study on ice shelf basal melting 2020 – 2021

Research Assistant – University of Copenhagen, DK

- Exploring the potential of using machine learning on rover roughness data to assess surface mass balance of the Greenland Ice Sheet

Student Research Assistant – Danish Meteorological Institute, DK 2018

- Assessing marine heat waves from sea surface temperatures in the Baltic Sea.
- UNIX, Climate Data Operator, Matlab and Python.

EDUCATION

Master of Science in Physics – University of Copenhagen, DK 2018 – 2020

- Using optical satellite imagery for ice flow velocities and lake detection.
- Machine learning of passive microwave measurements for sea surface temperature estimates.
- Ice flow modelling on HPC systems.

Master thesis: Surface velocity and ice thickness of the Müller Ice Cap, Axel Heiberg Island

Bachelor of Science in Physics – University of Copenhagen, DK 2014 – 2017

- Exchange program in Arctic Geophysics at the University Centre in Svalbard

Bachelor thesis: Greenland Ice Sheet evolution and contribution to sea level

VOLUNTEERING

Faculty Work Council Member – Faculty of Civil Engineering and Geosciences, Delft University of Technology 2023 – 2025

- Improving social and psychological safety in the workplace.
- Improving the recognition of PhD candidates as employees rather than students, and strengthening their inclusion within the department and faculty.

Division Early Career (Co-)Representative – European Geoscience Union 2023 –

- Cryospheric Divison: planning, coordination, networking.

HOBBIES

In my free time, I enjoy cooking and especially love making homemade pasta from scratch. I find it relaxing to work with my hands, whether it's in the kitchen or tackling small DIY projects at home. I'm always up for trying out new crafts or building something practical, and I'm looking forward to one day having a garden where I can really dive into growing my own vegetables and herbs.