

National Report Germany CWG 2025

- **ArcticPulse and the PAP-27 expedition** – The PAP-27 expedition is a collaborative mission between the German RV Polarstern and the Canadian Coast Guard Ship Amundsen. This joint effort is part of the broader international, Canadian-led research initiative, ArcticPulse. The ArcticPulse initiative will synchronize a series of extensive research campaigns across various environments, including at sea, nearshore, on land, and in the air, within the Canadian Arctic region. The comprehensive field season in 2027, will also lay the groundwork for the upcoming International Polar Year in 2032/33.
- **EastGRIP East Greenland Ice Core Project** (<https://eastgrip.org/> cooperation of 12 nations under Danish lead, German National representative: I. Weikusat, <https://blogs.helmholtz.de/eisblog/tag/eastgrip/>) has finalized the first deep ice core (2668m long) drilled into the NorthEast Greenland Ice stream. It shows localized high ice flow velocities towards the ocean, where major solid ice discharge happens. The dynamics' processes, still poorly understood, are tackled with this project. For example it was found that it is far less old (only a few millennia) than assumed before.
- The DFG “(AC)³ - Arctic Amplification: Climate Relevant Atmospheric and Surface Processes, and Feedback Mechanisms” collaborative research centre of 3 German universities and 2 research institutes established in 2016 has successfully finished the first year of the 3rd Phase → **In 2027 international Arctic system science conference in Leipzig (jointly with MOSAiC)**
- **MOSAiC** - Multidisciplinary drifting Observatory for the Study of Arctic Climate: one year ice drift expedition with RV Polarstern in 2019/2020; data analysis is ongoing → **In 2026 conference in Potsdam, Germany, and in 2027 international Arctic system science conference in Leipzig (jointly with (AC)³)**
- The **new EU HORIZON permafrost project “ILLUQ – Permafrost-Pollution-Health”**, coordinated by AWI, started in January 2024. <https://www.illuq.eu/>
- The **new EU-project POLARIN (Polar Research Infrastructure Network)** has started in March 2024 with a budget of 14,7 Mio Euro and more than 50 partners. POLARIN is an international network of polar research infrastructures and their services, aiming at addressing the scientific challenges of the polar regions. In the next 5 Years, POLARIN will provide trans-national (in-person and remote) or virtual access to these infrastructure to science for understanding and predicting key processes in the polar regions.
- **Running EU Horizon 2020 projects: Arctic PASSION** (integrated Arctic observing system: “Pan-Arctic Observing System of Systems - pan-AOSS”), **CRiceS** (Climate

Relevant interactions and feedbacks: the key role of sea ice and snow in the polar and global climate system), **PolarRES** (Polar Regions in the Earth System)

- **ERC-STG FRAGILE: Next generation framework for global glacier forecasting.**
Has some Arctic component and test sites in Svalbard
- An **ERC Synergy Grant** was awarded to Gerrit Lohmann (**AWI and University of Bremen**) together with Jochen Knies and Stijn De Schepper from Norway for the project "**i2B - Into the Blue**" (<https://in2blue.eu>), which aims at answering the questions **What are the global impacts of an ice-free Arctic? How will the Arctic develop with increasing climate warming? What does an ice-free Arctic mean for our environment and our society?**
- **ESA**: involved in several **Polar Science Cluster** and **Climate Change Initiatives (CCI)** projects; contribute to EU/ESA Copernicus polar missions **CRISTAL** (altimeter) and **CIMR** (microwave radiometer), for example, algorithm development for sea ice parameters in **CIMR L2 PAD** project.
- Several **DFG** (German Research Foundation) funded projects. In addition to the (AC)³ research centre (see above), for example **LASSI**: Arctic glaciers calving front and ablation analysis, **InSAR Greenland Ice Sheet Penetration Bias**, **RECONNECT**: Reconstruction of sea-ice, water temperature, and ice sheet runoff into Disko Bay, Greenland, **SPACE EPIC**: Saline permafrost in Arctic coastal environments, **Pingo3D**: Investigation of open- and closed-system Pingos in northwestern Canada
- **M³OCCA: International Doctorate Program "Measuring and Modelling Mountain Glaciers and Ice Caps in a Changing Climate"** => has also some Arctic glaciology component. Funded by the Elitenetzwerk Bavaria, Bavarian State Ministry of Science and Arts
- **Relaunch**: <https://meereisportal.de> (<https://seaiceportal.de>) has a new website and more interactive graphics: dissemination of sea ice news, graphics and knowledge for the general public and scientists. Data portal for buoy and satellite data covering both Arctic and Antarctic sea ice