PRESS RELEASE

SnowPI

SNOW IN FOCUS: NEW EU PROJECT SNOWPI TACKLES HIDDEN DRIVER OF CLIMATE CHANGE

Climate change is transforming the coldest regions of our planet at an unprecedented pace. Yet one of the key drivers of how ice sheets, glaciers and permafrost respond remains largely overlooked: snow.

SnowPI (*Polar Snow, Permafrost and Inland Ice in a Changing World*), a newly launched Horizon Europe research project, is putting snow at the centre of climate science. Uniting 14 partners from across Europe, the project will shed light on how it shapes polar environments – and what that means for the rest of the world.

A new approach to climate science

Snow processes remain insufficiently understood, observed and represented in models, particularly in remote polar regions. This knowledge gap limits the accuracy of climate projections and the ability of policymakers to prepare for future change.

SnowPI aims to address this challenge by combining field observations, satellite data, advanced climate models and emerging technologies such as machine learning. The project will improve how snow processes are represented in climate models and provide new insights into their role within the global climate system.

"One of the biggest challenges in climate science today is reducing uncertainty in projections. Snow is a major part of that uncertainty, with implications for how accurately we can predict sea-level rise and wider climate impacts." — Priscilla Mooney, Project Coordinator of SnowPI

At the core of the research is an innovative "two-pathway" framework, which enables new scientific insights to be translated more rapidly into practical information for policymakers. One pathway advances scientific understanding through improved observations and models, while the other translates these advances into actionable knowledge for policymakers and society.

Key objectives for impactful climate action

SnowPI will focus on six key objectives:

1. Improve understanding of how climate change, as well as natural and socio-economic drivers, affect snow, ice sheets, polar glaciers and permafrost
2. Advance knowledge of the regional and global impacts of these changes on oceans and ecosystems
3. Provide new observations and datasets on key snow processes in data-sparse polar regions
4. Improve the representation of snow and related processes in climate models used for international climate assessments
5. Support communities in adapting to changing polar environments, particularly in vulnerable polar regions such as Svalbard, Greenland, and the Antarctic Peninsula.
6. Ensure open access to novel modelling tools and observational data.

The results will feed into next-generation climate projections and provide policymakers with evidence-based information. By improving our understanding of the polar cryosphere, SnowPI will help strengthen Europe's leadership in climate research and support a more effective global response to environmental change.

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SnowPI

Investigating Polar Climate Change

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