



# SCAR and US-SCAR Update

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*Scientific Committee on Antarctic Research*

*Polar Research Board Briefing*

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*U.S. Delegate to SCAR*

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# Looking Ahead: 12th SCAR Open Science Conference

*“Diving into Antarctic Science: Making Waves for the Future”*



## Oslo, Norway

August 10-14, 2026

## Support and U.S. Participation

US-SCAR will be providing approximately 100 travel awards to support U.S. scientist attendance. This is a substantial commitment, totaling about \$120,000 in participant support costs from our **NSF** grant.

These awards are particularly targeted toward early career researchers, graduate students, postdocs, and early-stage faculty. We're excited that US attendance has been increasing at recent conferences, reflecting the growing engagement of our Antarctic community.

*SCAR Fellowship opportunities are also available including:*

- The 2026 SCAR Fellowships, which provide funding for collaborative research visits
- The Visiting Scholar Scheme, which facilitates international exchanges
- The AntClimNow Dataset Stewardship program, which supports data management and climate research

# Selected SCAR Strategic Initiatives and News

## 5th International Polar Year Planning

SCAR is actively involved in planning for the 5th International Polar Year, which is scheduled for 2032-2033. This is a major international effort that occurs roughly every 50 years and represents a coordinated surge in polar research activities.

SCAR submitted an Information Paper to the Antarctic Treaty Consultative Meeting outlining our plans for IPY5. This demonstrates the close coordination between SCAR as the scientific advisory body and the Antarctic Treaty System

## Monaco Polar Symposium

In recent months, SCAR participated in the Monaco Polar Symposium, which brought together scientists from both Arctic and Antarctic communities, policymakers, and indigenous representatives.

The symposium strengthened relationships between Arctic and Antarctic research communities and helped coordinate international planning efforts. It also provided an important forum for discussing policy implications of polar science.

## Gender Equality and Inclusion

SCAR was recently featured in an International Science Council case study highlighting our work to advance gender equality and inclusion in polar science. This recognition reflects SCAR's ongoing commitment to diversity and equitable participation in Antarctic research.

# SCAR Position: Polar Geoengineering

**SCAR Conclusion: No current polar geoengineering methods meet criteria for safe, responsible deployment in Antarctica**

## Methods Assessed (May 2025)

- Stratospheric Aerosol Injection
- Sea curtains for ice shelves
- Sea ice management
- Basal water removal
- Ocean iron fertilization

## Key Concerns

- Cost estimates in the trillions
- Unknown environmental risks
- Does not address ocean acidification
- Could distract from emissions reduction

## SCAR Recommendations to Antarctic Treaty

- Large-scale deployment should **NOT** be considered at this time
- Develop governance framework for any future research requests
- Geoengineering must **NOT** replace emissions reduction priorities
- Focus on rapid decarbonization and adaptation (IPCC AR6)

# AI in Antarctic Research

*Follow-up from previous PRB meeting*

## Current Status

**No formal SCAR policy position on AI, but AI is actively being used as a research methodology in Antarctic science. SCAR 2024 OSC featured dedicated sessions on AI and machine learning applications.**

## Active AI Use in Antarctic Research

Seafloor biodiversity monitoring (BAS, 2025):  
Analysis time reduced from hours to seconds  
Earth observation and satellite imagery processing  
Wildlife monitoring from space (whales, penguins)  
Species distribution modeling

## SCAR Engagement with AI

2024 OSC parallel sessions on AI/ML methods  
Ant-ICON program includes data science and ML  
AI treated as emerging research methodology  
No governance framework yet developed

## Potential Areas for Future SCAR Guidance

Data governance, sharing, and ethical frameworks • Capacity building and equitable access • Standards for AI/ML reporting in Antarctic research • Integration with Antarctic Treaty data-sharing obligations • Coordination of AI applications across national programs

# Thank You

## Acknowledgments

US-SCAR wants to acknowledge NSF's Office of Polar Programs for providing funding for US-SCAR. This support enables us to facilitate US participation in international Antarctic research and to provide travel support for early career researchers.

We also want to thank the Polar Research Board for serving as the US National Committee to SCAR, and all the members of the US-SCAR team who represent the US community in SCAR science groups.