

47th Session of the World Climate Research Programme
Joint Scientific Committee

Climate and Cryosphere (CliC)



CliC

Climate and
Cryosphere

CliC SSG Chair: Edward Hanna (University of Lincoln, UK)

JSC-47 • Online • April 2026

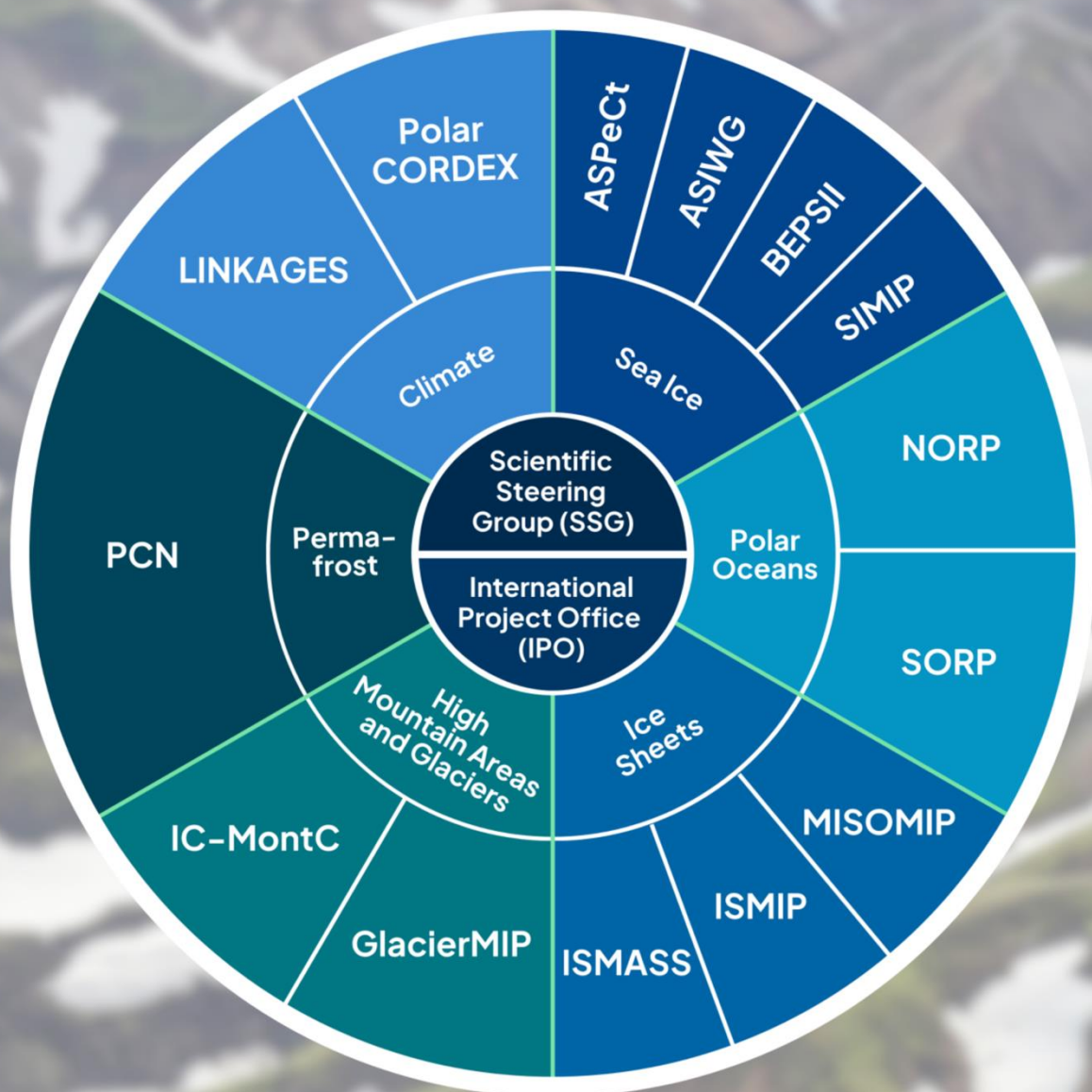
Our Mission

To advance understanding of climate-driven changes in the frozen parts of our planet and to support efforts to mitigate and adapt to their impacts on ecosystems and human society.

What We Do

CliC identifies key research priorities pertaining to climate and the cryosphere and coordinates international activities to address them. We highlight emerging issues, facilitate scientific exchanges, cooperate with stakeholders, and promote early career researcher development. We also communicate cryosphere-related science to policymakers, funding agencies, and the general public.





Working Groups

ASIWG: Arctic Sea Ice Working Group

ASPeCt: Antarctic Sea Ice Processes and Climate

BEPSII: Biogeochemical Exchange Processes at Sea-Ice Interfaces

GlacierMIP: Glacier Model Intercomparison Project

IC-MontC: Impacts of Changes in the Mountain Cryosphere

ISMASS: Ice Sheet Mass Balance and Sea Level

ISMIP: Ice Sheet Model Intercomparison Project for CMIP6 and CMIP7

LINKAGES: Arctic-Midlatitude Climate Linkages

MISOMIP: Marine Ice Sheet Ocean Model Intercomparison Project

NORP: Northern Oceans Regional Panel

PCN: Permafrost Carbon Network

Polar CORDEX: Coordinated Regional Downscaling Experiment - Polar Domains

SIMIP: Sea Ice Model Intercomparison Project

SORP: Southern Ocean Region Panel

Key Highlights

CLIC Open Science Conference (OSC) 2026

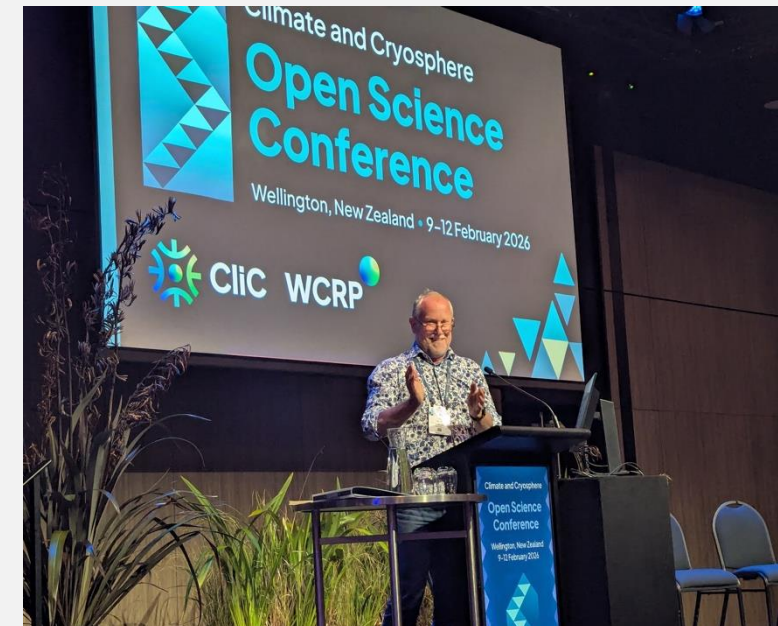
February 9-12 • Wellington, New Zealand • clic2026.com

- **423** participants from **32** countries
- **100** student registrants
- **70** registrants identified as Early Career Researchers



Climate and Cryosphere
**Open Science
Conference**

Wellington, New Zealand • 9–12 February 2026



Key Highlights

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Climate and Cryosphere
**Open Science
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Many partner organizations sponsored the CliC OSC, including but not limited to...

New Zealand	Australia	SCAR-INSTANT
Victoria University of Wellington Antarctic Research Centre	Korea Polar Research Institute (KOPRI)	International Association of Meteorology and Atmospheric Sciences (IAMAS) International Commission on Climate (ICCL)
Securing Antarctica's Environmental Future (SAEF)	International Association of Cryospheric Sciences (IACS)	International Glaciological Society (IGS)

The complete list of CliC OSC partners is available here:

www.clic2026.com/partners/

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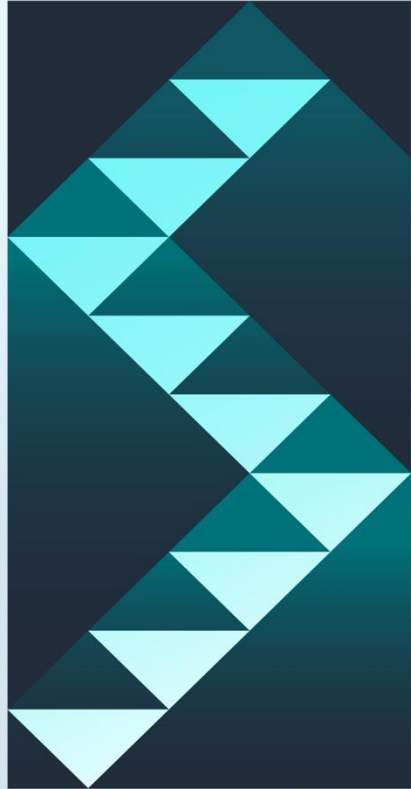
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More CliC OSC highlights:

Scientific Committee on Antarctic Research's (SCAR) INSTabilities and Thresholds in ANTarctica (INSTANT) Research Programme convened for a one-day symposium with more than 60 participants, alongside the CliC OSC. The symposium had a series of invited talks and panel discussions in plenary to progress the agenda of the INSTANT Programme and its priorities.

The CliC Working Group on Antarctic Sea Ice Processes and Climate (ASPeCt) also convened for a one-day symposium on sea ice with more than 60 participants, alongside the CliC OSC. Sea Ice Day featured a series of invited presentations.





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clic2026.com

Highlights: Key Outputs

(assessments, high level papers, databases, products etc.)

- **CliC's Arctic Sea Ice Working Group (ASIWG) is involved in the production of the annual [Sea Ice Outlook \(SIO\) initiative](#), as part of the **Sea Ice Prediction Network**. This report provides an open process for those interested in Arctic sea ice to share ideas about the September minimum sea ice extent. SIO produces reports in June, July, and August containing a variety of perspectives on Arctic sea ice — from observations of current conditions, to advanced numerical models, to qualitative perspectives from citizen scientists. ASIWG is actively seeking to establish linkages with other working groups to optimize the usefulness of the SIO activity.**
- **CliC scientists co-authored the [NOAA Arctic Report Card for 2025's Sea Ice and Surface Air Temperature](#) chapters, as well as the [Sea Ice section of "The Arctic"](#) in the *Bulletin of the American Meteorological Society (BAMS) State of the Climate in 2024* reports, published in August 2025.**

Highlights: Key Outputs

(assessments, high level papers, databases, products etc.)

- **SORP member and incoming co-chair Channing Prend was one of the lead organisers of the February 2026 InSync workshop “Observing the physics and biogeochemistry of a changing Antarctic sea ice zone”** which focused on coordinating ocean and sea-ice observations in advance of Antarctica InSync and the 5th International Polar Year (IPY-5).
- **May 29, 2025: GlacierMIP working group published the 3rd phase of GlacierMIP that focused on the long-term stabilization of glaciers under a range of climatic conditions in *Science*: [Glacier preservation doubled by limiting warming to 1.5°C versus 2.7°C](#).** This paper led to interviews for New York Times, The Guardian, CNN, Agence France Presse, CBC, VRT NWS & VRT Radio 1, NOS & NOS Radio 1, NOS Nieuwsuur, Nieuwsblad, Algemeen Dagblad, Le Soir, La Libre, Mongabay, Glacier Media, Science Daily, GlacierHub, and Today’s Science.

Highlights: Key Outputs

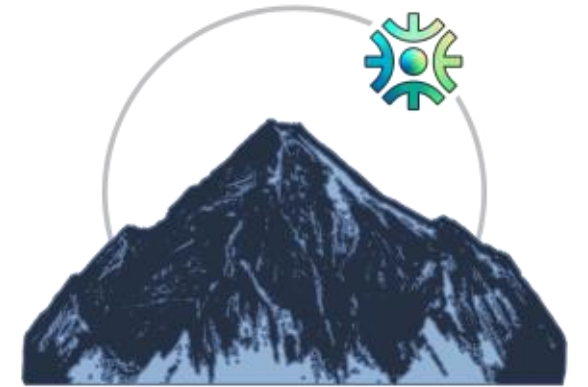
(assessments, high level papers, databases, products etc.)

- Through the EU-funded PolarRES project led by Priscilla Mooney, and involving Andrew Orr, members of our Polar CORDEX activity have downscaled two CMIP6 GCMs over the Arctic CORDEX and two CMIP6 GCMs over the Antarctic CORDEX domains using multiple regional climate models. The two CMIP6 GCMs for each polar region were chosen to represent a "storyline" approach, based on physically consistent future changes in atmospheric and ocean circulation. Results from Polar CORDEX are also being used for ISMIP7 (Ice Sheet Model Intercomparison Project for CMIP7). Plans to contribute to the downscaling of CMIP7 are under consideration.

Highlights: Key Outputs

(assessments, high level papers, databases, products etc.)

- **CliC's newest working group, Impacts of Changes in the Mountain Cryosphere (IC-MontC), held a workshop at the 2025 International Mountain Conference (IMC) in Innsbruck** for community discussion around improving high-resolution climate modeling in mountainous regions, with 25 participants. Workshop organizers have submitted a workshop report to the *Bulletin of the American Meteorological Society (BAMS)* entitled "Advances in High-Resolution Climate modelling and Cryosphere systems over Mountainous Regions."



Impacts of Changes in the Mountain Cryosphere



Highlights: Societal and Policy Benefits

(including links to climate “services”)

- Hanna et al. (2025) "Status Brief: Current understanding of global sea-level rise". WMO WCRP CliC. [Published on the WCRP website](#).
- Accompanying news article by T. Naish, E. Hanna and A. Lovecroft on behalf of the WCRP & WCRP CliC. [Published here by WMO](#).

STATUS BRIEF: Current understanding of global sea-level rise



Future Plans and Priorities: 2026

- CliC is spinning up a new, cross-cutting Impacts of Changes in the Mountain Cryosphere (IC-MontC) activity group that links nicely with GEWEX, ANDEX, MRI and other project activities.
- Looking into new permafrost working group to complement Permafrost Carbon Network.
- The CliC IPO at UMass Amherst has been invited to submit a full bid to host the IPY-5 project office.
- CliC IPO Director K. Alverson and SSG members M. Jackson, M. Islar and Y. Tandong will participate in the Paris opening of the UNESCO-led International Decade of Action for Cryosphere Sciences in March 2026 to showcase CliC's scientific leadership and strengthen linkages with UNESCO and its International Oceanographic Commission.
- ISMIP7 is a MIP of CMIP7 which will target IPCC 7th Assessment report, and will also be preparing datasets (atmosphere, ocean and ice-shelf fracture) for driving the ice-sheet models (ISMs) using CMIP6 Earth System Models for the component of ISMIP7 that uses CMIP6 dataset. ISMs will be asked to run various CMIP6-derived projections to explore uncertainty in sea-level projections.

Future Plans and Priorities: Beyond 2026

- We have appointees to the 4 subgroups of the [IPY planning taskforce](#).
- We are keen to help lead or advise a new cross-cutting WMO/WCRP sea-level activity that can build on the work of our recently sunset ISMASS (Ice Sheet Mass Balance & Sea-level Expert Group).
- GlacierMIP aims to develop new community-based global-scale future projections and ensure they are published in time for inclusion in the AR7 main report. For this, they are currently in close communication with other community efforts (e.g., CMIP7, ISMIP7, ISIMIP) to ensure a consistent setup that will allow, among others, for output to be compared and combined (e.g., forcing with same climate forcing).
- **Fundraising plans:** CliC IPO Director Keith Alverson is in discussion with Korean partners about potential IPO funding in the future.

Suggestions, Issues or Challenges

- We have completed our new Strategic Plan for next decade, which is currently undergoing final checks & copy-editing.
- CliC leadership up for renewal during 2026/27 following end of terms of current co-chairs. An [open call for co-chair nominations](#) is open now.
- The CliC IPO (funded by NSF/NASA) is likely funded until the end of 2027. The team is preparing a new grant proposal to extend support for another 5 years, but there is still some funding uncertainty given the political climate.



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