

Access Antarctica

Gateway Antarctica, Centre for Antarctic Studies and Research

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15 years SOOS - The Southern Ocean Observing System

The recently published annual SOOS report 'Breaking the Ice' is a good reminder to showcase the University's contribution to improve our understanding of the least explored region of the world. Launched in 2011, SOOS is a joint initiative of the Scientific Committee on Antarctic Research (scar.org) and Scientific Committee on Oceanic Research (scor-int.org). The SOOS vision for sustained observations is based on two flagship programs: SOOSmap – uniting globally curated datasets, and DueSouth, enabling sharing of plans for upcoming cruises and much more.

The vision

"Sustained observations of dynamics and change of the physics, chemistry, biology and geology of the Southern Ocean system should be readily accessible to provide a foundation for enabling the international scientific community to

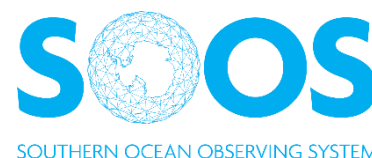
advance understanding of the Southern Ocean and for managers to address critical societal challenges"

Equally important are the coordinating efforts of five regional working groups, including the Ross Sea, as well as capability working groups and the Polar Technology Task Team. The work of SOOS relies on international sponsorships (institutions in Australia, Europe/EU/Sweden, and Türkiye) and service providers such as COMNAP, or UC's own Gateway Antarctica through the director's role as a co-chair in the SOOS executive committee. The recently concluded SWOS expedition (see page 3) was aligned with the future priorities for observations of the ice-covered Southern Ocean, which is a priority in the current UN Decade of Ocean Science and for Antarctica Insync. The SOOS annual report can

be downloaded from
<https://soos.aq/impact/annual-highlights/>



Scientific steering committee members on the research vessel Polarstern in 2026: Stefanie Arndt, Markus Janout, Alexander Haumann, Fritz Weith, and Wolfgang Rack (left to right)



Director's Report



Welcome to another exciting edition of Access Antarctica after a 'record

breaking' summer field season for some. Read about Alexandra Strang's amazing 106 days on the ice for her PhD study on Adelie penguins; as part of an US team, she visited such iconic Antarctic places like Cape Crozier. I spent myself two months on the German research icebreaker Polarstern in the Weddell Sea. Contributing our own 'Kiwi' technology, it offered me a unique opportunity and experience. My special thanks to all colleagues filling in for teaching and the day-to-day work back home: Prof Michelle LaRue as an acting director, Erskine fellows Dr Jamin Greenbaum and Prof Jon Harbor supporting ANTA102 and

ANTA201, adjunct fellow Dr Ursula Rack coordinating ANTA102, and Prof Marwan Younis supporting GISC406. Thank you all! Before I left, however, we had a special highlight to celebrate: the signing of the renewed MoU between the University and COMNAP. It is the university's commitment to support all national Antarctic programs until the 5th International Polar Year 2032/33 and beyond. And there is much more- enjoy the read!

Wolfgang Rack

[Professor Wolfgang Rack](#)



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COMNAP Secretariat Update

(Council of Managers of National Antarctic Programs)

Renewed MOU Formally Signed

On 23 January 2026, the Vice-Chancellor Professor Cheryl de le Rey, signed a renewed memorandum of understanding (MOU) with the Council of Managers of National Antarctic Programs (COMNAP) that will see the COMNAP international headquarters continue to be based at the University of Canterbury through September 2033. The formal signing ceremony took place in Matariki with invited external guests, UC and COMNAP staff, and online participants from the international COMNAP community. Agnieszka Kruszewska, the Head of Poland's national Antarctic program and the elected Chair of the COMNAP Executive Committee joined virtually from Warsaw and expressed COMNAP's gratitude for the long-term collaboration between UC and COMNAP on Antarctic matters. Gifts were exchanged with UC gifting the COMNAP Secretariat a Piko Iti

desktop sculpture, symbol of eternal friendship and the bringing together of cultures. COMNAP gifted the University a Nothofagus tree, symbolising ancient, untouched nature, resilience, and the deep, enduring connection between the landmasses of the Southern Hemisphere. We are delighted that the tree is now planted in the SEE Earth Science garden.



Other news

In other news, COMNAP awarded a second Early Career Award to Tim Fern from the British Antarctic Survey who will work with colleagues from Antarctica New Zealand on the project titled 'Decarbonisation through High Voltage: Overcoming Challenges in deploying HV faced by National Antarctic Programs'. Tim will investigate the challenges to deploying high voltage systems in Antarctica, investigating alternative operating models and producing a set of

recommendations for National Antarctic Programs to realise the opportunities and mitigate the risks involved with High Voltage on station.

We welcomed visitors from the US Antarctic Program, from Wuhan University, from the British Antarctic Survey, from the Norwegian Polar Institute, from the Italian Antarctic Program, from the Belgian Ministry for the Environment and from the World Meteorology Organisation.

We also hosted an online presentation on 10 March 2026, by Dr Nina Purvis, European Space Agency's Biomedical Research MD and Search & Rescue MD, as part of the COMNAP "Welcomed | Safe | Respected" Project. Her talk provided real insight into what wintering-over at the French/Italian Concordia Station was like. Watch the recording on the COMNAP You Tube Channel. Also join us on LinkedIn and subscribe to our newsletter.

www.comnap.aq and now on LinkedIn.



Fieldwork

106 days in Antarctica

One of Gateway Antarctica's doctoral candidates, [Alexandra Strang](#), was fortunate enough to spend just over 100 days on Ross Island, Antarctica, during the 2025-2026 Antarctic summer season. Alexandra began studying Adélie penguins during her Masters with Gateway Antarctica in 2021, and until November 2025, had never seen one before. Through collaborations with Point Blue Conservation Science in California, Alexandra joined a team of US scientists to spend a field season on Ross Island studying Adélie penguins at Cape Crozier. The work

contributed to the long-term demographic study that has been conducted there since 1996, monitoring the breeding success of known-age individuals. Other activities included deploying geo-locating devices on

both adults and chicks to understand factors influencing early life success, as well as colony surveys conducted via Uncrewed Aerial Vehicles (drones). During her time in the field, Alexandra was also able to visit the other two Adélie penguin colonies on Ross Island: Cape Bird and Cape Royds. The penguins sure lived up to their reputation and provided tons of entertainment during long days in the field. The season was very successful, and Alexandra returns to Gateway Antarctica to continue her doctoral research on Adélie penguin populations in the Ross Sea with gained insights.



A new mode of tourism in Antarctica is gaining momentum:

[Gabriela Roldan](#), postdoctoral fellow at Gateway Antarctica is in the Antarctic Peninsula collecting data for the research project GUIDE-BEST Growing Understanding of Individual Drivers of Expectations and Behaviours to Enhance Sustainable Tourism in Antarctica.

Post Covid-19 pandemic, Antarctic tourism continued its upward trend; over 100,000 tourists visit Antarctica every season during the summer months. For decades, the most popular way to visit Antarctica has been by cruise ship, but in the last few years another mode of transport has been gaining much attention: the Antarctic fly-cruise. Tourists fly on a commercial airline from the southern tip of South America to King George Island, South Shetland Is (Antarctica), where a cruise ship awaits to sail around scenic and wildlife-focused voyages. The fly-cruise reduces approximately four traveling days from the traditional 10 days cruise to Antarctica.

Summer Weddell Sea Outflow Study (SWOS)

In support of the Marsden project 'How is sea ice defying the odds of climate change', [Wolfgang Rack](#) has been undertaking research from the German Research Vessel R/V *Polarstern* in the Weddell Sea for SWOS 2026. The vessel departed from Punta Arenas, Chile, for the two-month (February/March) voyage. Voyage leader was Prof. Christian Haas, Head of the Sea Ice Physics Section at the Alfred Wegener Institute and Marsden collaborator. Above average sea ice conditions were successfully mapped with the helicopter EM-bird, which was equipped with the 'Kiwi snow radar' developed by the University of Canterbury and Lincoln Agritech. One of the highlights, apart of very successful science, was the discovery of an unmapped island just at the north of the Antarctic Peninsula. A day-by-day diary can be accessed at <https://onexpedition.awi.de/polarstern/>. While in Punta Arenas, Wolfgang met with the director of the Instituto Antártico Chileno (INACH) Gino Casassa and other members from the INACH team. Also joining the discussions was Dongmin Jin from the Korean Polar Research Institute (KOPRI). A highlight was a tour of *Polarstern* organised by the voyage leader.



Research Update: Kaikōura Kekenos

[Mia Wege](#)

New Zealand fur seals (kekenos) are often overlooked because their populations have long been assumed to be thriving. However, long-term monitoring data from the South Island West Port and Kaikōura tell a different story. These important ocean sentinels of environmental change have shown substantial population declines since the 1990s at West Port, and Kaikōura suffered an unusual mortality event in 2024, which tells us all is not well.

To better understand what might be driving these changes, I brought together a small team of University of Canterbury and Department of Conservation scientists through a new Gateway Antarctica project to investigate what is happening offshore. Working closely with Robyn Hetem (School of Biological Sciences) and DOC colleagues Jody Weir, Al Hall, and Lydia Uddstrom, we initiated fieldwork during last summer at Kaikōura.

During the field season, we equipped eight lactating females with satellite tracking and dive-logging devices to follow where and how mothers forage while their pups wait ashore. Early insights from the data show that females regularly spend around a week to ten days at sea on a single foraging trip, travelling hundreds of kilometres offshore into pelagic waters. While they forage over deep ocean habitats, females dive repeatedly through the upper water column and, on occasion, to much greater depths, underscoring the energetic costs of provisioning for a pup while pregnant. The project was supported through a combination of repurposed tracking equipment, supplemented by tags purchased through the Department of Conservation, and a SEE IDEA Grant. This is just the start for our team, and we aim to continue this collaboration and build on this data to understand how changing ocean conditions are affecting kekeno survival and reproduction.



Photo credit and copyright: Zac Penman

Conferences

Polar Symposium

In late February, [Daniela Liggett](#) visited Monaco on invitation – and funded – by the University of the Arctic and the Prince Albert I of Monaco Foundation for the 3rd Monaco Polar Symposium and a pre-event on Antarctic academic collaboration. The latter

saw the formal relaunch of the International Antarctic Institute (IAI), a consortium of universities and other institutions interested in supporting cross-institutional mobilities of students and staff.

The pre-event was followed by the Polar Symposium, which brought together over 200 Arctic and Antarctic stakeholders from science, policy and practice to explore the future of polar science-policy knowledge exchange as highlighted by the symposium's title: "From Arctic to Antarctic: Enabling the Legacy: Translating Polar Research into Action".

Climate and Cryosphere (CliC) Open Science Conference

A group of staff and students attended the 2026 CliC Conference in Pōneke/Wellington. CliC is a Core Project of the World Meteorological Organization's World Climate Research Programme (WCRP), dedicated to advancing understanding of climate-driven changes in Earth's frozen regions. Our early-career researchers, led by **Alex Aves**, who currently serves as President of APECS (Association of Polar Early Career Scientists) Oceania, played a prominent role throughout the week. They delivered excellent conference presentations, organised well-attended side events (such as the plenary discussion "From Priorities to Action: Next Steps for ECR Involvement in IPY-5"), and participated in the closing panel session.



Photo (© Mathias Albert) showing the majority of the SEE CliC conference participants

New to Gateway

We welcome two new PhD students **Indu Vinayagam** from India and **Min Zhang** from China. They are supervised by Daniela Liggett. Indu is working on environmental history of Antarctic tourism governance. Min's research topic is Monitoring assessment of the environmental sustainability of Antarctic tourism and the past, present and potential futures of Antarctic tourism management.

Katrina Hall, former Gateway Antarctica administrator, has been employed as the Research Co-ordinator for the Antarctic Science Platform. Welcome back Katrina!

Welcome back to [Dr Rodrigo Gomez-Fell](#), who is an expert in cutting-edge technologies such as satellite imaging radar and lidar. He will be working alongside Prof. Wolfgang Rack on the NZ-USA Catalyst Rapid Sea Ice Decline project, looking at fast ice formation and thickness along the Victoria Land Coast. Rodrigo will also be involved in an EU Horizon Pillar II project related to Antarctica InSync, an international AWI-led initiative for synchronised observations. He will strengthen the remote sensing portfolio at Gateway Antarctica.

Alumni Corner



Narelle van der Wel completed the Postgraduate Certificate in Antarctic Studies and travelled to Antarctica during the 2004–05 season, an experience that sparked a long-term career in polar and climate science. She went on to complete a PhD in Polar Studies (Glaciology) and postdoctoral research at the Scott Polar Research Institute, University of Cambridge. Narelle now works at the World Meteorological Organization in Geneva, where she is Head of the Cryosphere Monitoring, Prediction and Services Unit. She leads international coordination of cryosphere observations, research and services, working across WMO programmes and with global partners to strengthen monitoring and prediction of the cryosphere. Prior to this, she spent nearly 10 years with the World Climate Research Programme (WCRP) Secretariat, supporting major international initiatives on cryosphere research, climate risk and tipping points. Her work brings together scientists, national agencies, policymakers and other stakeholders from around the world, helping translate research into actionable insights for global decision-making. She also supports WMO's contributions to the Antarctic Treaty System, the International Polar Year (IPY), and the Decade of Action on Cryospheric Sciences. Narelle remains passionate about international collaboration and advancing polar science to support informed action on global environmental challenges.

Outreach

Mia Wege was one of the panellists at Seaweed Talks – telling Ocean Stories at Turanga alongside Natalie Robinson, Matty Jordon and James Nikitine.

Visitors & Visits

Gateway Antarctica and COMNAP hosted 12 students from Wuhan University, led by Assoc Prof Jiachun An and Ms Yuxiao Zhao.

Andrea Colombo and **Mia Wege** gave presentations. The visit, part of an international exchange, allowed for inspiring discussions and sparked interest in the work that COMNAP does in Antarctica and Gateway's postgraduates study offering.



Amy Feakes spent three months with Gateway visiting from South Hampton University, England. She is a PdD student supervised by Mia Wege. **Hanxiao Yuan** is visiting from Wuhan University for six months, supervised by Songtai Ai. Prof. Jon Harbor was an Erskine fellow from Purdue University, USA. He taught into ANTA102. Jamin Greenbaum was an Antarctic Erskine fellow from Scripps Institution of Oceanography at UC San Diego, teaching into ANTA201. Prof. Marwan Younis visited from Karlsruhe Institute for Technology teaching into GIS406.

Celebrations

Congratulations to **Alexa Hasselman** and **Alex Aves** for receiving their PhD's at the recent UC Graduation Ceremony. Alexa's thesis title was 'The potential impact of killer whale (*Orcinus orca*) on endangered Steller sea lions (*Eumetopias jubatus*) in the



Aleutian Islands, Alaska'. Alex's thesis title was 'Analytical insights and remote observations of airborne and cryospheric micro- and nanoplastics'.

Gateway Antarctica and COMNAP celebrated Antarctica Day with presentations from three of our PhD students, **Kasuni Koswaththage**, **Khush Bakht Rauf** and **Wei Xing**, followed by a morning tea. Antarctica Day is the 1st December and it commemorates the 1959 signing of the Antarctic Treaty, which designates the continent for peace and science.

Gateway's Massive Bake-Off

There were a variety of entries from cakes, savoury muffins, focaccia and even melting icebergs in a blue ocean! Prizes went to Pauline Barras for her beautiful apple cake, Rodrigo for his outstanding skills making the melting icebergs in the ocean, and Mia Wege for her delicious cake with lemon icing.



Farewell to Gateway

We farewell **Adele Jackson** as she has completed her post-doc position with the University of Tasmania project 'Creative Antarctica', which Gateway Antarctica has hosted since 2023.

The project outputs include a sensational [exhibition](#) (which is showing at RMIT Melbourne until 2 May), a wonderful [website](#), a number of conference papers and journal publications, a number of artistic outputs and satellite events.

[Link to donate to support Gateway Antarctica research!](#)



Gateway Antarctica's Website