

Access Antarctica

Gateway Antarctica, Centre for Antarctic Studies and Research

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Antarctic Season Opening 2025: Together we shape the Antarctic future

Under that motto, this year's Antarctic season opening was kicked off at the University of Canterbury, recognising our significant role in the Christchurch Antarctic strategy. Prof Lucy Johnston (Deputy Vice Chancellor Research) and the mayor of Christchurch (Phil Mauger) formally greeted guests and over 20 diplomatic officials representing countries including the USA, China, Korea, Italy, Germany, France, India, Japan, Switzerland, Belgium, and Austria. For us it

was an opportunity to showcase on campus our leadership in Antarctic teaching, research, and technology. The morning was a variation of poster presentations, virtual reality demonstrations, and a COMNAP round table discussion. The highlight of the afternoon was a tour through the newly opened Kōawa film studios. A visit to the HALO South aircraft next day was another highlight, as was the exclusive screening of National Geographic's "Secrets of the

Penguins" in UC's new Jack Mann Theatre on Friday evening as part of Gateway Antarctica's 25 year celebration. Overall, it was a great opportunity for us to highlight both the university's contributions and aspirations to international visitors and stakeholders. The events concluded with the traditional wreath laying at the Scott Memorial, during which three of our postgraduate students were laying one of three wreaths in commemoration of those who have lost their lives in Antarctica.



Director's Report

Welcome to the end-of-year issue of Access Antarctica and the last 2025 update on UC's Antarctic activities in our 25th year of Gateway Antarctica. Once the university starts winding down for summer, Antarcticans get really busy with their field season, which is now in full swing. In fact, when this newsletter is published, some of UC's field events have already been concluded. Well done everyone contributing to the collection of field data,



data analysis and publication, being also mindful that a lot of research does not require travelling south but data collection back home.

We were fortunate to celebrate again many successes with our postgraduate students: Congratulations to **Alexa Hasselman** on her PhD thesis about the potential impact of killer whales predation on endangered Steller sea lions in the Aleutian Islands of the North Pacific. Congratulations also to **Paula Brown, Zoe de Surville** and **Kiera Clements-Ponting** for passing their Masters in Antarctic Studies, as well as **Lizzy Skelton, Jessica MacFarquhar, and Georgia Gwatkin** for excelling in their Masters in (Environmental) Science and Engineering in a wide range of topics. Two postdoctoral fellows started their Antarctic Science Platform research: welcome **Rachel Hickcox** and **Skye Davis**, who will further strengthen our Marine science team. Although preparations for field work filled many hours since our last newsletter in July, we were also successful with the

Antarctic season opening and teaching, and many other activities. Special thanks to our US and German Erskine fellows for their splendid contribution to our ANTA101 summer course. Thanks everyone who contributed to the the Antarctic season opening and COMNAP activities, and our second Gateway Antarctica/COMNAP Kōrerorero, as well as HALO South. As the year draws to a close, I would like to thank our wonderful team and supporters. Every success is enabled by many cogs in the wheel box – researchers, students, general staff, as well as national and international collaborators, and stakeholders. Have a well-deserved Christmas and summer break. I am looking forward working with you all in 2026.

Wolfgang Rack

[Professor Wolfgang Rack](#)



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COMNAP Secretariat Update

(Council of Managers of National Antarctic Programs)



The COMNAP Secretariat and COMNAP Member National Antarctic Programs have been very busy since the last update in June 2025. We convened the COMNAP Annual General Meeting (AGM) 37, in Warsaw, Poland, in August 2025. One hundred and sixty-six attendees from thirty-five COMNAP Member and Observer programs, and three invited stakeholder organisations, attended the meeting. The AGM welcomed the Colombian National Antarctic Program as the 34th Member National Antarctic Program of COMNAP. It was the first time that the Polish National Antarctic Program hosted a COMNAP AGM and what a fantastic meeting it was.

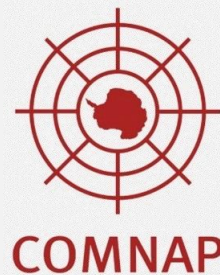
We elected new EXCOM officers at the AGM. This included a new COMNAP Chair Agnieszka Kruszevska, Manager of the Polish National Antarctic Program. On 6 August COMNAP held its 21st Symposium titled "Out Antarctic Future" showcasing the National Antarctic programs

collective efforts that shaped the way programs operate, support science, and respond to the ever-changing conditions of the Antarctic region while looking ahead to the challenges, opportunities, and responsibilities that lie before us. The EXCOM officers met together in-person in Alexandria, Virginia, USA, near the headquarters of the US Antarctic Program, in October, to take forward outcomes from the AGM set the strategy for the next 12 months. In October, COMNAP presented the Early-Career Award to Stephen Smith, from the British Antarctic Survey (United Kingdom), who will join colleagues from the Norwegian Polar Institute (Norway) for his project titled 'UK-Norway Antarctic Aviation Safety Collaboration: Joint Operational Training and Knowledge Exchange of Aircraft Rescue and Firefighting Procedures in Antarctica'. Since 2011, the yearly award supported twenty-three early career persons to work with a project team from another country, opening

up new opportunities and often creating partnerships that last for many years and over many Antarctic field seasons.

Once again, COMNAP was an official supporter of the Summer Science Lecture Series in partnership with the New Zealand Antarctic Society and Gateway Antarctica. Dr Abigail Viereggs, US Antarctic Program and Professor at the University of Chicago, gave a fascinating presentation on "Observing the Beginning of the Universe with Telescopes at the South Pole, and other Adventures in Astrophysics in Antarctica". In mid-November, we welcomed a new part-time staff member to the COMNAP Secretariat, Fiona Hopkins. Fiona is a geographer and will take up the role of Administration and Project Assistant here at the Secretariat. Welcome Fiona. Finally, from 10 to 21 November, COMNAP, through Andrea Colombo, had the opportunity to participate in COP30 as part of the University of Canterbury delegation. The work led by the COP process and the UNFCCC, through the Subsidiary Body for Scientific and Technological Advice (SBSTA), on sustainable and alternative fuels, amongst other topics, is of particular interest to COMNAP, as it aligns closely with the efforts underway within our Membership.

www.comnap.ag and now on LinkedIn.



Fieldwork

HALO South – Understanding the effects of clouds on global climate

The HALO-South campaign saw the German HALO instrumented research aircraft deploy from Christchurch International Airport in September to October. This bilateral research project was led by Prof. Mira Poehlker from the Leibniz Institute for Tropospheric Research (TROPOS) with the New Zealand effort led by Prof. [Adrian McDonald](#). More than 40 visitors from 7 different international research organisations supported the campaign. On the majority of the 21 research flights, aerosol and cloud properties over the pristine Southern Ocean environment were measured. This information is important to solve current issues in climate models struggling to simulate this region accurately. Impressively, the mostly southerly flights also passed over the marginal sea ice zone around Antarctica, unprecedented of their type to examine aerosol-cloud interactions. The campaign was also supported by ground



measurements at the Tāwhaki National Aerospace Centre (south of Christchurch) and at the Invercargill airport in a partnership between Adrian and German colleagues; Dr. Patric Seifert (TROPOS) and Prof. Heike Kalesse-Los (Univ. of Leipzig). Despite the busy flight and ground measurement schedule, Heike still found the time to contribute outstanding weather lectures to ANTA101 as part of her Erskine fellowship. HALO-South also played an important role during the Antarctic Season opening showcasing UC expertise plus the aircraft to a

range of VIPs. The New Zealand effort connected to HALO-South is supported by a MBIE Strategic Catalyst award (NZ \$415K) and a MBIE Smart Idea project (\$1M) both led by Adrian.

Tracking Emperor Penguins & Weddell Seals

[Michelle LaRue](#) and her team of six deployed to Scott Base and then Cape Crozier for the month of November. Camping on the sea ice in the Antarctic Specially Protected Area, Michelle and her team captured emperor penguins and Weddell seals and placed tracking devices on them. The plan is to understand where the animals forage while they are using the same place at the same time- a theory called "niche partitioning". The fieldwork went off without a hitch, and the team weathered two wind storms very well. The project is funded by the Rutherford Discovery Fellowship and the Antarctic Science Platform. Team members include Michelle LaRue (PI), Dan Costa, Rachel Holser, Sarah Flanagan, Rachel Hickcox and Billy Wallace.



Conferences

SCAR Ant-ICON workshop

Dr Gabriela Roldan, postdoctoral researcher at Gateway Antarctica received a travel bursary to attend the workshop "The Future of Antarctic and Southern Ocean Conservation in a Changing Climate, organized by Ant-ICON, the Integrated Science to Inform Antarctic and Southern Ocean Conservation, a research group of the Scientific Committee on Antarctic Research (SCAR).

Antarctic Cryosphere Change – Observations and Global Relevance

That was the title of [Wolfgang Rack's](#) presentation for the Presbyterian Schools' conference in St Andrew's College. In attendance were mostly principals and chaplains of Presbyterian schools across New Zealand, and a selected group of year 11-13 students at St Andrew's College. The presentation was followed with a Q&A session, with questions also from students around Antarctic treaty, climate tipping points, ice melt, and New Zealand's role in Antarctic research and businesses. The students' supervisor is Ellen Hampson (Leadership of Academic Extension and Enrichment), a 2000 GCAS (Graduate Certificate in Antarctic Studies) graduate.

Adaptation Futures Conference 2025

The 8th Adaptation Futures Conference was held in Te Pae Convention Centre and co-hosted by the University of Canterbury and the United Nations World Adaptation Science Programme (WASP). [Wolfgang Rack](#) supported the conference convenor Prof Bronwyn Hayward as a steering committee member. 1,800 scholars, scientists, policymakers, and indigenous leaders (including 10% UC academic staff) participated.

GIScience Conference

[Michelle LaRue](#) gave the first keynote address at the international GIScience conference in August. Michelle's talk was entitled, "GIScience in action: penguins, imagery and conservation in Antarctica", where she showcased the multitude of ways that GIScience has advanced our knowledge about wildlife in Antarctica, using emperor penguins as a case study.



Polar Data Forum

Hosted by the Australian Antarctic Data Centre 20-24 October, [Ursula Rack](#) attended this conference on data gathering focused on human impact.

Antarctic Parliamentarians Assembly 2025

[Michelle Rogan-Finnemore](#) and [Daniela Liggett](#) were invited by the Ministry of Foreign Affairs and Trade to present to the Antarctic Parliamentarians Assembly (APA) in the Legislative Chamber of the Houses of Parliament in Wellington (8 and 9 December). Michelle presented on international cooperation and the role of COMNAP (her presentation can be accessed [here](#)). Daniela moderated a panel on Antarctic environmental protection and tourism and also gave a presentation on these topics. [Gabriela Roldan](#) presented in Daniela's panel on the topic of Antarctic tourism operations and governance challenges by joining online all the way from the Antarctic Peninsula.

The APA2025 brought together members of parliament and officials from 12 different countries, a range of ambassadors and embassy staff based in New Zealand, and Antarctic experts (across governance, management and science) to share information about the importance of the Antarctic and Southern Ocean in the earth



system and about the achievements of the Antarctic Treaty system. All invited experts and panellists stressed the crucial importance of investments in Antarctic science and governance.



Southern Ocean Observing System (SOOS)

The annual SOOS Scientific Steering Committee Meeting was held at the Danish Meteorological Institute (Copenhagen) from 22-23 September. Prof [Wolfgang Rack](#) took part in his role as one of two co-chairs of the executive committee. Important progress was made for the update of the SOOS science and implementation plan 2026-30 in view of the rapid changes seen for ocean and sea ice. Sign up to the SOOS Newsletter to learn more!

<https://soos.ag/resources/newsletters>

International Geoscience and Remote Sensing Symposium 2025 (Brisbane) – One Earth

Antarctic researchers with [Wolfgang Rack](#), Adrian Tan, [Pauline Barras](#) (PhD student), and [Rodrigo Gomez Fell](#) spent the week from 3-8 August in Brisbane. With about 3000 registrations, the conference is the largest in applied remote sensing. In the student paper competition with 350 participants, Pauline presented as one of 10 finalists her paper "Validation of a new airborne snow radar on Antarctic sea ice".



New to Gateway

We welcome a new PhD student [Guangpeng Weng](#) from China. He is supervised by Daniela Liggett. [Rachel Hickcox](#) joined the Gateway team as a post doc working with Mia Wege. Rachel will divide her time with Gateway Antarctica and Pōhātu Penguins at Flea Bay, Banks Peninsula. Also, we welcome [Sky Davis](#), a post doc working with Michelle LaRue and Sarah Flanagan.

Alumni Corner



Paul Bealing was employed along with Michelle Finnemore in 1999 before they even had a director. Paul was originally employed to complete a number of outstanding contracts from the company ICAIR, which was purchased by UC in order to setup Gateway Antarctica. He was promised a couple of weeks work but ended up staying as the GIS (Geographical Information Science) technician until 2004. During his time he was involved in a number of mapping missions in Antarctica, mainly of Antarctica Specially Protected Areas (ASPAs). He then moved to the Geography department, which was in the same building, to do similar things as a technician there. Many years later the School of Earth and Environment was created and Gateway Antarctica and Geography were merged. Having thought he would never return to the ice, Paul was again involved in a number of mapping projects in Antarctica, mainly in the Dry Valleys. He also participated in the first Weddel Sea expedition, alongside Wolfgang Rack, to conduct science and find Shackleton's ship Endurance in 2019. His role in this expedition was as drone pilot and his job was to help the ship navigate through the sea ice to reach the wreck site. While the expedition failed to locate the Endurance, it was still the trip of a lifetime. Paul has been involved with many varied aspects of mapping since his early introduction at Gateway Antarctica. He has conducted Helicopter lidar missions around NZ, bathymetry mapping of lakes, rivers and estuaries from boats, and many drone mapping missions around the world. He has mapped fire spreads, glacier extents, faultline exposures, landslides, floods, and even chased whales with drones in Rarotonga. His latest project has been setting up a new Rigid Hull Inflatable Boat for multibeam bathymetry mapping, and it is currently on display at the UC Ernest Rutherford building.

Scholarships/Awards

Lizzy Skelton won second place (\$100) in the 3-MT competition. The VYT competition, now in its fifth year, challenged students to create a 1-minute

audio-visual presentation summarising their thesis. **Lizzy Skelton** took first place with 'Mapping the Sub-ice Platelet Layer in Antarctica', winning \$1,000 and entry to the international competition.



Visitors & Visits

Gateway hosted Dr. Matthew Lazzara, our Erskine visitor. He is a Senior Scientist and Research Meteorologist at the Antarctic Meteorological Research and Data Center (AMRDC), Space Science and Engineering Center (SSEC), University of Wisconsin–Madison (UW–Madison). He currently serves as the Principal Investigator of the US Antarctic Automatic Weather Station Program and Antarctic Meteorological Research and Data. Matthew supported our summer course ANTA101 and worked with technician Gorden Jiang and John Southward in setting up a permanent Antarctic weather display at Gateway Antarctica.

Outreach

Ursula Rack presented for the University of Third Age (3A) Malven: "Operation Deep Freeze". In November **Wolfgang Rack** was presenting in the Christchurch Hospital to a group of about 30 medical physicists and radiologists about new remote sensing technologies in Antarctic Science and similarities to medical physics. He also presented to about 145 year 8 students at Kahikatea Kirkwood Intermediate school on his experience in Antarctica.

Celebrations

We congratulate **Michelle LaRue** and **Laura Revell**, who have been promoted to full Professor in recognition of their excellence in teaching, research, and community engagement. We also congratulate **Craig Herbold** and **Shelley MacDonell** to their promotion to Associate Professor. We had **Ken Livingston** (PCAS), **Hubertha Wichers** (Masters of Antarctic Studies), **Geoff Falkenmire** (PCAS) and **Georgia Gwatkin** (Masters of Science) attending their wonderful Graduation Ceremony!

2nd Antarctic Kōrerorero

'Visibility of our Antarctic Network'

For this informal get-together on 20th August, the Vice-Chancellor Cheryl de la Rey and UC leaders (the Faculty of



Science Executive Dean, two Heads of Schools, and the director R&I), as well as several key-academics across the faculties joined us. Our intention was to better connect teaching and research within UC and with key-partners and stakeholders outside. We were delighted to welcome Neil Gilbert (Constantia Consulting, Board of Directors Antarctica NZ), Duncan Sanderman (CCC, Manager Office of the Mayor and Civic Services), Daeyeong Kim (Principal Research Scientist KOPRI), Mark Rocket (Kea Aerospace, CEO & company director), and Eva Anton (Lincoln Agritech, Chief scientist and Team Leader). This new Kōrerorero will help us shaping our Antarctic strategy. Thanks to the COMNAP team for hosting us on their premises.



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