7 September 2023

Senate inquiry into Australian Antarctic Division funding

The Academy values the enduring importance of Antarctic science for Australia's scientific legacy and global reputation. The Academy emphasises that Australian Antarctic science is important because of:

- Australia's long and enduring commitment and central role in the Antarctic treaty system and the scientific advisory mechanisms on which its operations depend
- The importance of Antarctica and the Southern Ocean to Australia's role in the world, including our geopolitical reputation
- Our understanding of the Southern Ocean and Antarctica and the implications for Australia and the world's climate and biodiversity
- The quality of research that the Australian Antarctic Division supports, which enables Australia's scientific, environmental, economic and strategic interests in Antarctica, and that contributes to policy outcomes in Australia and globally.

The importance of Antarctic science to Australia

Australia has a long history of contributing evidence-informed advice to the international Antarctic Treaty System. Australia is an original signatory to the Antarctic Treaty, and its leadership within these science-founded agreements is determined to a considerable degree by leading international Antarctic science capability. Australian Antarctic research contributes to Australia's leading role in the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR), the Committee for Environmental Protection (CEP), the annual deliberations of the Antarctic Treaty Consultative Parties, the International Whaling Commission (IWC), and the Agreement on the Conservation of Albatrosses and Petrels (ACAP).

Beyond the Antarctic Treaty System, Australia's Antarctic research is necessary for the policy-relevant climate assessments of the Intergovernmental Panel on Climate Change (IPCC) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). This international standing is recognised by Australian Antarctic researchers being selected as authors of recent IPCC and IPBES reports.

As Antarctica responds to global climate change, it is likely that scientific priorities will increasingly require access to remote continental and marine areas within Australia's Antarctic Territory. Unanticipated changes may also unfold, such as the exceptionally low sea ice event currently underway and the Antarctic heatwaves of 2022: these events will require agility in the scientific priorities of the Australian Antarctic Program. Antarctic scientists are seeing changes unprecedented in the recent instrumental record and extremes that will have regional and global consequences. Acceleration of our scientific understanding of the Antarctic is required to enable robust predictive capabilities to inform mitigation, management and adaptation.

Australia's strategic Antarctic science priorities are delivered through the Australian Antarctic Program, guided by the Australian Antarctic Science Strategic Plan[1] and its 2022 update[2]. The Australian Antarctic Program includes the scientific research and long-term monitoring efforts of multiple government agencies and universities. Coordination and logistics to enable the Australian Antarctic Program depend primarily on the capabilities of the Australian Antarctic Division.

A decadal plan to underpin this strategy is under development, with the continued engagement of the Australian Antarctic science community.

[1] https://www.antarctica.gov.au/site/assets/files/53908/australian-antarctic-science-strategic-plan.pdf
[2] https://www.antarctica.gov.au/about-us/antarctic-strategy-and-action-plan

Sustainable Antarctic science capability for Australia

The Australian Antarctic Division is fundamental to enabling, facilitating and delivering Australian Antarctic science. However, Australia's contributions to Antarctic science extend beyond the Antarctic Program. It complements and aligns with other ongoing investments in Australia's Antarctic science capability across the nation, including those from the Australian Research Council, the Department of Industry, Science and Resources, the National Collaborative Research Infrastructure Strategy and various university-led research efforts.

Recent major investments in infrastructure have strengthened Australia's research capabilities in Antarctica and the Southern Ocean, with new capabilities to study previously inaccessible parts of Australia's Antarctic Territory. Sustained commitment to Antarctic research will ensure that these infrastructure investments support delivery of Australia's Antarctic science priorities.

Despite the considerable challenges of operating in a remote and extreme environment, the Australian Antarctic Program retains a strong focus on world-class research in Antarctica and the Southern Ocean. This is exemplified by two major field programs that will be supported in 2023/24:

1. Following the successful traverse from Casey to Little Dome C in 2022/23, drilling will commence for Australia's Million Year Ice Core project this summer. This project is led from the Australian Antarctic Division and involves strong collaborations with European nations.
2. The Australian Antarctic Program is also supporting a large interdisciplinary field program to Denman Glacier in 2023/24. This program will involve a deep field team of 42 people—larger than the population of some of Australia's permanent Antarctic stations—with scientists from multiple universities studying all aspects of this glacier system that holds around 1.5 metres of sea level equivalent and is potentially very vulnerable to ocean warming.

Ambitious scientific programs such as these support Australia's scientific, environmental, economic and strategic interests in Antarctica. They provide scientific understanding to guide policy outcomes in Australia and globally, to mitigate and respond to global challenges.

Research in Antarctica requires planning and financial mechanisms that allow for planning over decadal horizons. Effective operations and logistics capacities, and robust policy and financial support mechanisms, are necessary, as Antarctic research takes place in an environment with limited access and rapidly varying conditions.

This submission has been prepared with the assistance of the National Committee for Antarctic Research. The Academy is grateful for its contributions. To discuss or clarify any aspect of this submission, please contact Mr Chris Anderson, Director Science Policy at