

# Geostrategic Futures in the Southern Ocean and Antarctica: Executive report



Climate and  
Sustainability  
Policy Research  
Group

## **Acknowledgments**

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## **For further information**

Associate Professor Cassandra Star  
Director, Climate and Sustainability Policy Research Group  
T: +61 8 8201 2074  
E: [caspr@flinders.edu.au](mailto:caspr@flinders.edu.au)

## **Climate and Sustainability Policy Research Group**

Sturt Road Bedford Park  
Flinders University  
South Australia 5042 Australia

GPO Box 2100  
Adelaide SA 5001

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# Executive summary

This report provides an overview of the key outcomes of a Defence Strategic Policy Grant funded project: *Geostrategic Futures in the Southern Ocean and Antarctica*.

The key deliverable of the project was a two-day symposium and professional development short course, which was held in Canberra in December 2019. It provided evidence-based, policy-relevant expertise derived from managing challenges in the Arctic, and explored how this might be applied in Antarctica and the Southern Ocean. The symposium highlighted the academic and applied research of 23 experts from six countries and incorporated formal presentations, interactive workshops and informal networking opportunities. The event was highly rated by the 50 attendees, including Australian and US Defence personnel; government advisers; embassy officials; think tank representatives; and academic experts from universities around Australia and from Canada, the US, the UK, Finland and Sweden.

The short course highlighted the strategic implications of recent developments in Antarctica and the Southern Ocean, and the potential renegotiation of the Antarctic Treaty in 2048. It addressed increased competition in the Pacific, Indian and Southern Oceans, particularly in relation to competition for Antarctic resources under conditions of climate change. It considered the evolving relationship between China, Russia and the United States in the Southern Ocean and Antarctica, which is central to Australia's strategic defence interests as defined by the 2016 White Paper. It also addressed the effects of climate change on national security and the implications for defence planning in Australia and in the Indo-Pacific region.

Focusing on cross-cutting themes in relation to southern circumpolar policymaking, the project promoted a whole-of-government coordination approach to national and military mobilisation, and was particularly concerned with Defence's role in building whole-of-nation resilience.

The recommended directions for future dialogue and further professional development on Antarctica and the Southern Ocean include investigation of the implications of polar tourism, the role of science diplomacy, the exploration of additional international perspectives including from the UK, Russia and China, and more detailed elaboration of military perspectives on the issues covered by the symposium.

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# Introduction

Rapid political, social and environmental change presents challenges for the management of the Antarctic region. Climate change is already affecting national security and has implications for defence planning in Australia and the Antarctic region. With funding from the Department of Defence's Strategic Policy Grants Program (SPGP), the Climate and Sustainability Policy Research Group (CASPR) at Flinders University organised dialogue among academics, policymakers, defence personnel and scientists to identify political, scientific, economic and environmental challenges for managing future maritime operations in Antarctic territories. This is a strategic interest in line with Australia's 2016 Defence White Paper. In 2048, the existing Antarctic Treaty System – to which Australia belongs – will be open for potential renegotiation. The Antarctic region has grown in geopolitical prominence due to interest in and competition from and between Russia and China. However, states inherently pursue their self-interests, and Russia and China are not universally aligned with each other: Russia's interest in the poles is well established, in part because it has long-standing real estate on both poles. Although China has been involved in Antarctic scientific missions and other activities since the 1970s, the last decade has seen a significant expansion of Chinese presence and activities on the ice. China is a relative latecomer to Antarctic governance, only joining CCAMLR in 2007. It may also seek to increase its influence when the current Antarctic Treaty regime becomes open to renegotiation. China is likely to exert economic pressure through fishing in the Southern Oceans, with attendant impacts on current efforts to establish marine protected areas in Antarctica.

An international symposium and professional development short course were held in Canberra on 5 and 6 December 2019. This pair of events harnessed learning from international research and policy, including comparative lessons from Arctic experts, to address strategic challenges in Antarctica and the Southern Ocean. The symposium and short course were designed to inform multidisciplinary, comparative and evidence-based strategic policy. Presentations and interactions enhanced domain awareness, addressed challenges and informed policy options by reviewing the state of strategic thinking concerning the Southern Ocean and Antarctica in light of experience in the circumpolar North. The discussion identified strategic issues for policymakers, eliciting input and discussion from participants. This report summarises findings from the event and outlines directions for future collaborations and ongoing dialogue in relation to the Antarctic Treaty System.



# The project

In 2048, the existing Antarctic Treaty System – to which Australia belongs – may end or renegotiation may take place. Management of the circumpolar South and North under conditions of rapid political, social and environmental change poses comparable challenges to Antarctic and Arctic states. This project added value against currently available options by advancing an under-developed yet crucial understanding of reciprocal lessons from the Arctic to identify future strategic challenges in the Antarctic. Dialogue among academics, policymakers, defence experts and scientists is necessary to identify the nature of similar challenges for managing maritime operations and national interests in the Antarctic, as acknowledged in the 2016 Defence White Paper. There is a real need for key defence personnel and polar researchers to compare experiences.

The project analysed strategic implications of Antarctic and Arctic geopolitics in light of a broad spectrum of domain changes. It was concerned with the implications of increased competition in the Pacific, Indian and Southern Oceans, particularly in relation to potential competition for Antarctic resources under conditions of climate change and with the potential renegotiation of the Antarctic Treaty. It considered the future relationship between China and the United States in the Southern Ocean and Antarctica, which is central to Australia's strategic defence interests as defined by the 2016 White Paper. It addressed strategic priorities: the impact of climate change on national security and the implications for defence planning in Australia and in the Indo-Pacific region.

Focusing on cross-cutting themes in relation to southern circumpolar policymaking, the project promoted a whole-of-government-coordination approach to national and military mobilisation, and was particularly concerned with Defence's role in building whole-of-nation resilience. A one-day short course offered professional development to Defence's strategic policy workforce to support acquisition of knowledge and skills for shaping strategic thinking, policy and strategy development. Our report and workshop activity sought input, dialogue, critique and consolidation of knowledge to enhance policymaking.

Preceding the symposium, an international symposium took a comparative approach to harness learning from international policies and institutions that have been developed to manage a changing the Arctic, and to synthesise lessons to be learnt for the Antarctic and Southern Ocean. In so doing, this project facilitated dialogue among academics, policymakers, defence personnel and

scientists to identify political, scientific, economic and environmental challenges for managing future maritime operations in Antarctic territories.

Taking a clear, long-term view for defence decision-making and planning, our workshop engaged 50 participants, including leading Antarctic and Arctic interdisciplinary geostrategic experts from Australia, Canada, US, UK, Finland and Sweden, to address these challenges. The two-part workshop provided an overview of key domain awareness challenges and policy options in the circumpolar North, and reviewed the state of strategic thinking concerning the Southern Ocean and Antarctica. It identified strategic issues for policymakers, soliciting input, data and discussion from participants, which has been incorporated into this report. The project directly satisfied the SPGP's goals of increasing the amount and quality of discourse, debate and research on Australian Defence strategic policy issues of priority interest and strategic relevance. This activity delivered unique Antarctic–Arctic professional development opportunities and multidisciplinary, comparative, evidence-based policy expertise to the strategic policy workforce.

The dialogue, capacity-building and consultation that arose from the two-day symposium and short course have been turned into publications and audiovisual resources designed to increase the capacity of the Department of Defence's strategic policy workforce to deliver high-quality advice to Defence and Government leadership. In addition, the project continues to engage with a broad international audience through project partners' social media and through the promotion of outcomes by our Polar Research and Policy Initiative partners in the UK. Project outcomes have been promoted through partner institutions in Australia (University of Tasmania, University of Wollongong, Flinders University), North America (Trent University–University of Alaska partnership), UK (Polar Research and Policy Initiative), and Europe (University of the Arctic). Publications and workshop products are being disseminated through all of these international locations. The core team will continue to use the workshop's international participant network to build awareness and engagement with international audiences.

# Key messages

The key messages to emerge from the symposium and professional development short course covered five main points of comparison between the Arctic and Antarctica.

## Physical

The physical inaccessibility of Antarctica creates challenges for the building, supply, maintenance, staffing and safety of installations on ice and in the Southern Ocean. More favourable accessibility in parts of the Arctic leads to greater ecological and resource development pressures. The greater accessibility in the Arctic highlights potential future challenges that will come with climate change, though the remoteness of Antarctica from other land masses will ensure that physical challenges remain. However, the impact of climate change in Antarctica and the Southern Ocean is likely to be significant overall, leading to changed conditions for on-ice installations and for ecological systems, affecting both scientific and Defence activities.

## Economic

Fisheries present considerable economic opportunity in the Southern Oceans. Currently, such fisheries are highly regulated through treaties. However, depletion of fish stocks elsewhere is likely to drive growing interest in fishing in the Southern Oceans. The greatest immediate opportunity and risk in this regard is Antarctic krill, a keystone component of the ecosystem and a source of cheap and abundant protein. Although krill fisheries are monitored by the Commission for the Conservation of Antarctic Marine Living Resources, control and enforcement is problematic. A decline in protein supply inside the sovereign jurisdictions of regional hegemony such as China due to disease outbreak among conventional protein supply, such as pork, may have a displacement effect whereby Chinese vessels may start harvesting krill more aggressively, ostensibly under the guise of research. Given the fragility of the Antarctic ecosystem, short-term pressure on krill risks having a destabilising effect on krill stocks, with cascading consequences for the rest of the Antarctic aquatic ecosystem, including fish and marine mammals. Robust intelligence about approaching commercial fishing vessels, dissuasion, international attention and multilateral reinforcement of the current Antarctic fishing regime will help mitigate this risk.

## Governance

The governance challenges for the two poles present different sets of dilemmas with some common underlying drivers. The Arctic regime is constituted by the Arctic Council and has resident populations with a local Indigenous presence; the Antarctic regime is governed by a treaty system and does not include a local resident population. This presents starkly different governance dynamics to consider between the two poles. In the case of Antarctica, without a local population to consider, governance is limited to ongoing negotiation and the national interests of the partners in the Antarctic Treaty System, as well as those with interests in the Southern Ocean and Antarctica. There have been discussions about comparative advantages of each type of governance model and their relative application to polar regions, but in general there is agreement that each is well suited to its unique polar constituency and the current geopolitical context.

## Geostrategic

Geostrategic pressures in the Antarctic include Russia, China and the Treaty Regime. Russia has long been suspected of engaging in military-related research and activity, in contravention of the current Antarctic Treaty Regime. Suspicion is heightened by its refusal to adhere to the current inspection and overflight regime that is intended for verification and to build mutual trust. China is a new contender in the Antarctic. Although it appears to have adhered to established rules and norms, China could exert economic pressure through fishing in the Southern Oceans, by challenging the Antarctic status quo, and/or through disruption after 2047 when the current Antarctic Treaty regime may become open to renegotiation. To this effect, two key geostrategic challenges include maintaining the rules, norms and order under the Antarctic Treaty Regime and to work towards prolonging the regime. There should be considerable interest by current regime stakeholders, including Russia, in preserving the status quo regime. Failure to ensure an extension or renewal of the regime would likely give rise to considerable contestation and disruption.

Competition among great powers in Antarctica will remain constrained by the current treaty for at until at least 2047. However, the Arctic region is already seeing rising tensions between nations aligned to the North Atlantic Treaty Organization (NATO), Russia and China. Contrasted against the backdrop of the Cold War between the Soviet Union and NATO, the current Arctic tensions are not a NATO challenge per se, but nations aligned and oriented in the NATO defence agreement have become the principal actors in advancing mechanisms

for peaceful cooperation in the Arctic. These include the Arctic Council and the considerable number of aligned collaborations that have been established to support protections and preservation of the Arctic environment and Arctic Indigenous peoples, for example. The array of existing collaborations among nations, organisations and groups in the Arctic provide 'soft power' for peaceful purposes (this includes Russia as an Arctic nation). However, non-Arctic nations, particularly China, are seeking entry into these same mechanisms to advance legitimacy of their actions across the Arctic.

## Future challenges

The Arctic and Antarctica both face significant challenges, including from climate change. While climate change will present challenges for both poles, the nature of these challenges will be significantly different. The challenges for the Arctic will include the infrastructure, management and resourcing of new settlements enabled by more favourable conditions; further resource extraction; and potential bacterial and disease vectors. The challenges for Antarctica will come from the management of increased tourist traffic and the availability of search and rescue services in the Southern Ocean region.



# Symposium and short course

50 people attended the two-day event in Canberra in December 2019, and several others participated via video link. Participants included Australian and US Defence personnel; government advisers; embassy officials; academic experts from universities around Australia and from Canada, the US, the UK, Finland and Sweden; and think tank representatives.

## Expert presenters

### **Professor Sascha Dov Bachmann, University of Canberra**



Professor Sascha Dov Bachmann is an international scholar and former Lieutenant Colonel with operational experience, and a career professional in law and higher education. In the last 20 years he has worked in various capacities and functions in the USA, the Middle East, South Africa and various European countries. Professor Bachmann has been an associate professor at Bournemouth University (UK) since 2013 and docent (reader) in war studies at the Swedish Defence University. In November 2017 he was appointed (Professorial)

Research Fellow at CEMIS, Faculty of Military Science, Stellenbosch University. Professor Bachmann was educated in Germany (Ludwig-Maximilians-Universität München), South Africa (Stellenbosch University and University of Johannesburg) and the United Kingdom (University of Portsmouth). He has presented to NATO, US CENTCOM, US AFRICOM, the Austrian Ministry of Defence, the Swedish Defence University, the Royal Danish Defence College, the South African National Defence Force and the Australian Defence College on the subjects of hybrid war/threats, lawfare, info ops and targeting. He is the author of over 70 academic publications and is a regular contributor to NATO's Legal Advisor Web with his publications often being used as NATO reference documents. He is a Fellow NATO SHAPE Asia-Pacific (hybrid threats and lawfare). Professor Bachmann joined Canberra School of Law, University of Canberra in September 2019.

## **Professor Roger Bradbury, Emeritus Professor of Complex Systems Science, The Australian National University**



Professor Roger Bradbury leads the strategy and statecraft in cyberspace research program for the National Security College at The Australian National University. He is a complex systems scientist, trained originally as a zoologist. His research interests lie in the modelling and simulation of the dynamics of coupled social and natural systems. In recent years he worked in the Australian Intelligence Community on the strategic analysis of international science and technology issues. He is particularly interested in cyberspace as a strategic

domain.

He was Chief Scientist in the Bureau of Resource Sciences in the 1990s and leader of the Marine Systems Group and Deputy Director at the Australian Institute of Marine Science in the 1980s. He is a Fellow of the CSIRO Centre for Complex Systems Science and, in the past, has held adjunct positions at the Fenner School of Environment and Society, the Resource Management in Asia-Pacific Program (both at ANU), the School of Integrative Biology at the University of Queensland, and the Faculty of Architecture, Building and Planning at the University of Melbourne.

## **Dr Elizabeth Buchanan, Research Fellow, The Australian National University**



Elizabeth Buchanan is a Lecturer in Strategic Studies at Deakin University and former research fellow at the ANU Centre for European Studies. Her areas of expertise are Russian foreign energy strategy and Russian polar geopolitics. Dr Buchanan is a non-resident fellow at the Modern War Institute at The US Military Academy WestPoint. She is co-managing editor of the Institute for Regional Security's *Security Challenges* journal –

Australia's sole academic journal for the study of future security issues. Dr Buchanan was recently the visiting maritime fellow at the NATO Defense College, working on alliance capabilities in the high north. She has published widely on polar geopolitics, most recently with the NATO Defense College, *Foreign Policy*, *Foreign Affairs*, *The Australian* and the Lowy Institute. Dr Buchanan is a non-resident fellow of the Institute of the North, Alaska, and is a polar analyst for *The Moscow Times*. Dr Buchanan has been a visiting scholar

with The Brookings Institution and has work experience in the global oil sector. In 2018, she was an Australian Institute of International Affairs Early Career Research Awardee and in 2019 was listed as a 'young woman to watch in international affairs'.

### **Dr Joe Burton, The University of Waikato**



Dr Joe Burton is a senior lecturer in the political science and public policy program and the New Zealand Institute for Security and Crime Science, and Marie Curie Fellow at Université Libre de Bruxelles. His research focuses on regional responses to transnational security challenges, most notably cyber security, with a focus on the Euro–Atlantic and Asia–Pacific regions. His doctoral research analysed NATO’s durability in the post-Cold War era and how the alliance was able to adapt to a changing security environment.

### **Brigadier-General JBP (Patrick) Carpentier, CD Commander, Joint Task Force North**



Brigadier-General Carpentier was commissioned in the Canadian Forces in 1986, following the Basic Air Weapons Control Course in North Bay, Ontario. Throughout his career, he has served in various positions across the globe, including AWACS postings in Canada, the United States, Greenland, Germany and France.

Over five tours with NATO, the French Air Force and the United States Air Force, Brigadier-General Carpentier has amassed over 3480 flying hours and 186 combat and combat support missions in the Balkans, Afghanistan and Iraq.

Having served twice before North of 60, in 2018 Brigadier-General Carpentier was honoured to assume command of Joint Task Force North located in Yellowknife, Northwest Territories, where he currently resides with his wife.

Brigadier-General holds a BA in political science, an MSc in aerospace administration and is a graduate of the Canadian Armed Forces Joint Command and Staff Program and of the United States Air Force Air War College.

## **Professor Douglas Causey, Director, The Causey Lab, University of Alaska**



Professor Douglas Causey is Professor of Biological Sciences and principal investigator of the Department of Homeland Security Arctic Domain Awareness Center of Excellence. He is a Global Fellow of the Wilson Center for Diplomacy (Washington, DC) and a research fellow of the Belfer Center (Harvard University), and serves as senior adviser on Arctic policy to the Chancellor at the University of Alaska Anchorage. From 1996 to 2000, he represented the National Science Foundation at initial organisational meetings of the Arctic Council and was NSF's Arctic representative during the Gore–Chernomyrdin negotiations on US–Russian science policy.

An ecologist and evolutionary biologist by training, Professor Causey has authored over 190 publications on topics as diverse as the biology of Arctic marine birds, high Arctic coastal systems and bat-borne diseases. His research focuses on the environmental correlates of Arctic climate change, and he and his students are conducting research in the Aleutian Islands, the northern Bering Sea and Northwestern Greenland. He has published extensively on policy issues related to the Arctic environment, Arctic environmental security, and bioterrorism and public health. He and Maj Gen (ret.) Randy Kee jointly offer the policy course Arctic Environmental Security through the University of Alaska and the UArctic, with students throughout the Arctic region.

## **Dr Jamie Ferrill, Lecturer, Charles Sturt University**



Dr Jamie Ferrill is a lecturer at the Australian Graduate School of Policing and Security in Canberra. Dr Ferrill has previously held various lecturing roles in Canada, the United Kingdom and Australia in the fields of criminal justice and business studies. Her research focuses on governance at private, public and global levels. She is especially interested in the role of human actors in organisational processes, and in transnational cooperation and collaboration.

Prior to her academic career, Dr Ferrill worked for the Canadian federal government with Canada Border Services Agency. She worked at a number of locations throughout Canada in both customs and immigration roles. Dr Ferrill project managed emergency preparedness portfolios for the agency and had several appointments as an acting superintendent.

Dr Ferrill has a PhD in organisational behaviour and policing from Loughborough University in the UK. Her ethnographic study addressed conceptualisations of wellbeing in a police organisation and addressed associated managerial and front-line decision-making processes. Jamie also has a master's in homeland security leadership from the University of Connecticut, and an undergraduate degree in criminal justice from Mount Royal University in Canada.

### **Professor Craig Johnson, Head, Ecology and Biodiversity Centre, Institute for Marine and Antarctic Studies, University of Tasmania**



Professor Craig Johnson is head of the Ecology and Biodiversity Centre at the Institute for Marine and Antarctic Studies (IMAS), and associate Director of IMAS. He completed his PhD in Nova Scotia, Canada, and subsequently worked at the Bedford Institute of Oceanography in Canada, University of Cape Town, Australian Institute of Marine Science, Griffith University and University of Queensland before moving to take up the Chair in Zoology at the University of Tasmania in 1997. He moved to IMAS when the Institute was first established in 2010. His research is broadly concerned with the space-time dynamics of marine ecosystems, encompassing interactions among suites of organisms spanning bacteria, algae, invertebrates and fish. Most of his work has focused on temperate and tropical reefs. It is now expanding to include the ecological dynamics of the Southern Ocean. His research is published in over 180 peer-reviewed publications including several edited books, and his work has been cited over 10,000 times. He maintains a productive lab of postdoctoral researchers and graduate students. Professor Johnson maintains a strong interest in ensuring open access to publicly funded scientific data through initiatives such as Seamap Australia (a publicly available website). He has played leading roles in a range of national and international initiatives including the Partnership for Observation of the Global Oceans, Global Ocean Observing System, Australian Integrated Marine Observing System, Australian National Data Service, National Environmental Science Program Marine Biodiversity Hub, the Modelling and Decision Support Working Group of the World Bank Coral Reef Targeted Research Program, and development of Australia's Marine Science and Technology Plan.

## **Major General (ret.) Randy 'Church' Kee, Executive Director, Arctic Domain Awareness Center, University of Alaska**



Major General Randy 'Church' Kee, United States Air Force (ret.), is the executive director of the Arctic Domain Awareness Center at the University of Alaska, a DHS Center of Excellence. Since January 2016, General Kee has led a distributed team in a comprehensive program of science and technology, research and development. General Kee has commanded at the squadron, group and wing levels. He served as the Vice Commander of the USAF's Global Air Mobility Center. General Kee's staff assignments include US Transportation Command, Headquarters USAF, and the US Joint Staff in both operations and strategic plans and policy directorates. He has contributed to US Arctic Strategy, supported domain awareness technology development, and contributed to Defense Support on Arctic planning initiatives. He culminated his military service as the Director of Strategy, Policy, Planning and Capabilities for US European Command in Stuttgart, Germany.

## **Professor Timo Koivurova, Research Professor, the Arctic Centre, University of Lapland**



Professor Timo Koivurova is director and research professor at the Arctic Centre, University of Lapland, Finland. He has specialised in various aspects of international law applicable in the Arctic and Antarctic regions. In 2002, Professor Koivurova's book *Environmental impact assessment in the Arctic: A study of international legal norms* was published by Ashgate. His research work addresses the interplay between different levels of environmental law, legal status of Indigenous peoples, law of the sea in the Arctic waters, integrated maritime policy in the EU, the role of law in mitigating/adapting to climate change, the function and role of the Arctic Council in view of its future challenges and the possibilities for an Arctic treaty. He has been involved as an expert in several international processes including in the Arctic region, and has published on the above-mentioned topics extensively.

### **Dr Peter Layton, Visiting Fellow, Griffith University**



Peter Layton is a visiting fellow at the Griffith Asia Institute, Griffith University. He has extensive aviation and defence experience and, for his work at the Pentagon on force structure matters, was awarded the US Secretary of Defense's Exceptional Public Service Medal. He has a doctorate from The University of New South Wales on grand strategy and has taught on the topic at the Eisenhower College, US National Defense University. For his academic studies, he was awarded a fellowship to the European University Institute, Fiesole, Italy. He contributes regularly to the public policy debate on defence and foreign affairs issues and is the author of the book *Grand Strategy*.

### **Professor Christian Leuprecht, Royal Military College, Canada, and Charles Sturt University, Australia**



Christian Leuprecht (PhD Queen's) is Class of 1965 Professor in Leadership, Department of Political Science and Economics, Royal Military College and Eisenhower Fellow at the NATO Defence College in Rome. He is cross-appointed, Department of Political Studies and the School of Policy Studies, Queen's University, where he is affiliated with both the Queen's Centre for International and Defence Policy and the Institute of Intergovernmental Relations. He is Adjunct Research Professor, Australian Graduate School of Policing and Security, Charles Sturt University as well as at the Centre for Crime Policy and Research, Flinders University. He is also Munk Senior Fellow in Security and Defence at the Macdonald Laurier Institute. An expert in security and defence, political demography, and comparative federalism and multilevel governance, he has held visiting positions in North America, Europe and Australia, and is regularly called as an expert witness to testify before committees of Parliament.

Professor Leuprecht's publications have appeared in English, German, French and Spanish and include 12 books and scores of articles. His editorials appear regularly across Canada's national newspapers and he is a frequent commentator in domestic and international media.

## **Dr Jeffrey McGee, Associate Professor in Climate Change, Marine and Antarctic Law, University of Tasmania**



Dr Jeff McGee is focused on strategies that can help us respond to climate change. He is an expert in global environmental law and governance. Dr McGee analyses the strategies and structures of global and regional institutions that seek to solve problems like climate change and the international laws that affect them. He provides critical analysis and commentary on the development and policy of institutions such as the United Nations Framework Convention on Climate Change and the legal frameworks that bind them. Dr McGee also suggests new laws and institutions that should be formed to more effectively tackle climate change and the solutions that are needed for us to adapt.

## **Dr Dwayne Menezes, Managing Director, Polar Research and Policy Initiative**

Dr Dwayne Ryan Menezes is the founder and managing director of Polar Research and Policy Initiative (PRPI), a London-based international think tank dedicated to Arctic, Nordic, North Atlantic, North Pacific and Antarctic affairs.



Dr Menezes is also the founder and managing director of two other London-based foreign policy think tanks: Human Security Centre and Commonwealth Policy Development Centre, which supports policy development within and between the 53 member states of the Commonwealth.

Over his policy career, Dr Menezes has served as head of the Secretariat of the All-Party Parliamentary Group for Yemen in the UK Parliament (2015–present); consultant to the Secretary-General of the Commonwealth (2014–2016); principal consultant to the European Parliament Intergroup on the Freedom of Religion or Belief (2015–2016) and research associate to a UN Special Rapporteur (2013–2014). He has held visiting or postdoctoral fellowships at the Universities of Cambridge, Oxford and London. At present, he is an honorary fellow at the UCL Institute of Risk and Disaster Reduction at University College London and an associate fellow at the Institute of Commonwealth Studies, University of London. Dr Menezes is a board member of *Arctic Today* and *JONAA*, and co-chair of Arctic Encounter London.

## **Ms Jeannette Menzies, Foreign Service Officer, Global Affairs Canada**



Jeannette Menzies is a career Foreign Service Officer at Global Affairs Canada. She recently completed an assignment as the Director of Knowledge Management and Engagement at Polar Knowledge Canada, a federal agency responsible for advancing polar research and managing the Canadian High Arctic Research Station in Cambridge Bay, Nunavut. Ms Menzies has been involved in Arctic policy development, including with respect to Canada's 2013–2015 chairmanship of the Arctic Council. She has also been involved in the negotiation of an Arctic Search and Rescue Agreement and an agreement on enhancing international Arctic scientific cooperation. She was instrumental in the policy development and intergovernmental coordination that led to Canada ratifying the Environmental Protocol to the Antarctic Treaty (Madrid Protocol) in 2003. Ms Menzies was previously the Head of the Canadian International Arctic Centre located at the Embassy of Canada in Norway. She has also worked at the Canadian Embassy in Ankara, Turkey, and has held assignments at Global Affairs Canada in areas of consular services and emergency management, humanitarian affairs and disaster response.

## **Professor Heather Nicol, Trent University**



Professor Heather Nicol's research explores the dynamics that structure the political geography of the circumpolar North, with a specific focus on the North American Arctic and Canada–US relations. Her work addresses cross-border relations, tensions, geopolitical narratives and mappings of power and sovereignty. She is currently exploring both the history of circumpolar geopolitics in relation to globalisation and post-global world paradigms, and the related issue of the dynamic of the Arctic Council North American chairmanship, which began in Kiruna Sweden 2013 when Canada assumed the chair, and which continued to 2017 when the American chairmanship concluded. Nicol was the 2015–2016 Visiting Fulbright Chair to the University of Washington at the Centre for Canadian Studies and the Henry M. Jackson School of International Studies.

**Mr Tony Penikett, Senior Associate, Morris J. Wosk Centre for Dialogue,  
Simon Fraser University**



Tony Penikett spent 25 years in public life, including two years at the Canadian House of Commons as Chief of Staff to federal New Democratic Party Leader Ed Broadbent, five terms in the Yukon Legislative Assembly, and two terms as Premier of Canada's Yukon Territory. His government negotiated settlements of Yukon First Nation land claims; passed pioneering legislation in the areas of education, health and language; and organised Yukon 2000, a unique bottom-up economic planning process. After serving as Premier of the Yukon, Mr Penikett acted as Senior Aboriginal Policy Advisor for the Premier of Saskatchewan (1995–1997) and Deputy Minister for Negotiations, and later Labour, for the Government of British Columbia (1997–2001). He is the author of three books: *Breaking trail: A northern political journey* (Trafford, 2004); *Reconciliation: First Nations treaty making in British Columbia* (Douglas & McIntyre, 2006) and *Hunting the northern character* (UBC Press, 2017), and two films: *The mad trapper* (BBC TV/Time Life Films) and *La patrouille perdue* (ORTF France). As a mediator and negotiator, Mr Penikett has worked on devolution in the Northwest Territories, Nunavut and Yukon. He has lectured on the history of Aboriginal treaty negotiations at Simon Fraser University, Queen's University and the University of Washington. In 2013, Mr Penikett became Fulbright Visiting Research Chair in Arctic Studies at the Henry M. Jackson School of International Studies at the University of Washington. In September 2014, Simon Fraser University's Public Policy School appointed him visiting professor. Penikett serves as a Mentor for the Walter and Duncan Gordon Foundation's Jane Glassco Northern Fellows, Trudeau Mentor at The Pierre Elliott Trudeau Foundation and member of the Advisory Board at the Polar Research and Policy Initiative.

## **Ms Karine Pontbriand, Doctoral Researcher, The University of New South Wales, Canberra**



Karine Pontbriand is a doctoral candidate in cyber security and international relations and a member of the Research Group on Cyber War and Peace at UNSW Canberra. She is also a research fellow at the Research Group on Cyber Diplomacy and Cyber Security at the Montreal Institute of International Studies (IEIM), affiliated with the University of Quebec in Montreal. Her research focuses on international cyber security and diplomacy, cyber warfare and on national

strategies and foreign policies for cyber security. She has made appearances in the media to discuss burning issues related to her field of expertise. Previously, Ms Pontibrand worked as a policy analyst for the Digital Inclusion Lab at Global Affairs Canada (Government of Canada), focusing on supporting policy development related to how digital technology can be used in innovative ways to advance Canada's foreign policy priorities. She also worked for six years as a broadcast journalist for the television network TVA in the province of Quebec, Canada.

Ms Pontibrand holds a BA in international relations and international law and an MA in international and intercultural communication (with distinction), both from the University of Quebec in Montreal.

## **Ms Alice Rogoff, Publisher, *Arctic Today***



Alice Rogoff is publisher and owner of *Arctic Today*. From 1985 to 1997, she was chief financial officer of *US News and World Report*. She served at *The Washington Post* as assistant to publisher Donald Graham, and was the creator of the Post's national weekly edition. Earlier in her career, Ms Rogoff served in President Jimmy Carter's administration as special assistant to the director of the US Office of Management and Budget. Alice Rogoff is also the founder of Arctic Imperative, a lecture series dedicated to raising awareness of

circumpolar north issues. She is the former publisher and owner of *Alaska Dispatch*, and co-founder of a number of other organisations, including the Alaska Native Arts Foundation. Alice pilots her Cessna 206.

## **Dr Cassandra Star, Associate Professor of Public Policy, Flinders University**



Dr Cassandra Star is Associate Professor of Public Policy in the College of Business, Government and Law at Flinders University. She is leader of the Climate and Sustainability Policy Research Group (CASPR) and research theme leader for Flinders Government. Cassandra has an Honours degree from Griffith University and a PhD from Monash University.

Dr Star's research is concentrated on the interface between politics and the policy process and the subsequent impact of these dynamics on policy formulation. In particular, the ways in which stakeholders shape and manipulate the climate policy agenda is the current focus of Dr Star's work.

Dr Star is highly sought after to provide advice and professional development services to state and federal government agencies. She provides significant leadership within political science nationally and internationally, including convening the Environmental Politics and Policy Standing Committee for the Australian Political Science Association.

## **Dr Joanna Vince, Senior Lecturer, University of Tasmania**



Dr Joanna Vince is a senior lecturer in the politics and international relations program at the School of Social Sciences in the College of Arts, Law and Education at the University of Tasmania. She is also co-director of the Marine, Antarctic and Maritime theme at the University of Tasmania. Her research focuses on international, domestic and comparative oceans governance; marine resource management; marine

plastic pollution and governance solutions; IUU fishing; and third-party certification. Dr Vince is co-author of the book *Oceans governance in the twenty-first century: Managing the blue planet* (Edward Elgar, 2008) and co-editor of *Marine resources management* (Lexis/Nexis, 2011). She has published in top international journals such as *Marine Policy*, *Environmental Science and Policy*, *Ocean and Coastal Management*, *Policy Sciences*, *Journal of Environmental Management and Coastal Management*, and other key marine-based journals such as *Ocean Yearbook* and the *Australian Journal of Maritime and Ocean Affairs*. In 2016, Dr Vince was awarded the Harold D Lasswell prize for her contribution to theory and practice in the policy sciences.

## Professor Robin Warner, Australian National Centre for Ocean Resources and Security, University of Wollongong



Professor Robin Warner is deputy director and head of postgraduate studies at the Australian National Centre for Ocean Resources and Security, University of Wollongong, Australia. She was formerly assistant secretary of the International Crime Branch in the Commonwealth Attorney-General's Department from 2002 to 2007, and director of international law for the Australian Defence Force from 1997 to 2000. She is a member of the advisory board for the Oceans Coasts and Coral Reefs Specialist Group of the IUCN World Commission on Environmental Law. Her research interests include the law of the sea, oceans governance, marine environmental law and climate law. She is the author of more than 80 publications on ocean law and policy including *Protecting the oceans beyond national jurisdiction: Strengthening the international law framework* (Martinus Nijhoff, 2009).

## Selected presentations

A number of original papers were presented during the symposium. These and other papers will be included in an open-access book currently under consideration with University of Calgary Press. Abstracts for many of these papers, grouped by theme, are presented below. The table of contents for the forthcoming book is provided in Appendix 1.

### **The Antarctic in geostrategic, treaty and legal contexts**

#### **Antarctic environmental security: Status and challenges | Professor Robin Warner, University of Wollongong**

Antarctica is one of the most pristine and environmentally sensitive habitats in the world, and hosts a variety of threatened species. The sparse human habitation and limited range of human activities has reinforced the innate environmental value of this remote polar region. With the increase in human activities in Antarctica and external threats such as climate change, the need for effective environmental protection has become even more urgent. The law and policy framework for environmental protection in Antarctica has been regulated by the constellation of international law instruments in the Antarctic Treaty System. This paper discusses the development of some key principles and approaches in the global environmental law framework, including the principle of sustainable development, ecosystem-based management, the precautionary principle and environmental impact assessment, and their application to Antarctica, particularly the marine environment. These four interrelated international environmental law principles or approaches have become embedded in global environmental practice and management over the past four decades. The paper includes an analysis of how these principles and approaches have been incorporated in the governance regime for Antarctica through the Antarctic Treaty System.

The protection of the Antarctic environment has been a prominent feature in the evolution of the Antarctic Treaty System. It has developed in a more integrated way due to the existence of a treaty system that takes into account the whole of the Antarctic region and is empowered to introduce conservation and management measures on a holistic basis. While slow to emerge in a consensus based decision-making regime, the implementation of the ecosystem-based management approach in the conservation and management of Antarctic marine living resources is now becoming evident in measures such as the designation of the Ross Sea marine protected area, but more conservation measures are

needed. With the threats posed by climate change, the associated impacts of ocean acidification and increased human activities in Antarctica, the ongoing implementation of international environmental law principles and approaches will continue to be challenging for this remote but critical region.

### **Challenges and opportunities for Southern Ocean and Antarctic governance | Dr Joanna Vince, University of Tasmania**

Surrounding the vast Antarctic continent is the treacherous Southern Ocean, which is rich in marine life. The Antarctic region is governed by the Antarctic Treaty System, which is made up of international agreements that manage marine resources and protect the Antarctic environment. Governance of this marine space is further complicated by other regimes outside of the Antarctic Treaty System such as the Law of the Sea Convention, which gives Antarctic Treaty claimant states the ability to assert claims to adjacent offshore areas. In Australia's case, the Australian Antarctic Territory and its adjacent exclusive economic zone are not recognised by all states involved in the region. Consequently, these governance issues have resulted in political tensions for claimant states over maritime boundaries, the use of marine resources in the Southern Ocean, and the level of environmental protection. This paper analyses these tensions and the ongoing challenges that are faced by states involved in activities in the Southern Ocean. It also addresses the opportunities that these governance arrangements can provide in this era of environmental and political uncertainty.

### **New and emerging security challenges and threat vectors: Environmental security and domain awareness**

#### **Polar environmental security: Challenges, threats and realities | Professor Douglas Causey and Major General (ret.) Randy 'Church' Kee, University of Alaska**

At the end of the Cold War, in the 1990s, conflict nonetheless still existed, and subsequently environmental change was considered by some to be the cause of acute human conflict. Environmental degradation and scarcity were directly associated with conflict among groups and nation states, and thus the concept of environmental security was developed. This encompassed relative inequalities in environmental resources as a source of envy, disagreement and ultimately conflict by human groups, for example those in 'poor' regions vs those in 'rich' regions, or 'resource wars'. From this rather simplistic view, we focused on understanding how the dynamics of environmental change underly strong three-factor interactions among environmental conditions, human security or resilience,

and defence security. That is, the natural ecology of the environment drives the centre of a complex of interactions, some of which are two-factor interactions that have been previously described (i.e., environmental status and human resource actions), and others not previously recognised in this context (i.e., intra- and international prerogatives in environmental protection, acquisition of resources, and their use).

The effects of global warming on polar regions are now quite evident, and the consequential effects on human systems, within regional, national and international settings, are now widely recognised as having potentially profound impacts on multistate actions) The topic concept of environmental security as a three-factor interaction complex – environmental stability, human security, defence security – that structures activities within the polar regions is now receiving greater attention from all interested parties, but there is much to be done.

We propose a transformational approach that will utilise an ecological approach to understand this complex system in order to discover and discern the nature of the interactions among these factors and their constituent components, and to describe and to quantify what effects that environmental status – whether stable or moving to a new regime state – has on the other interacting components of environmental security. We show that delineating the interaction framework for the Arctic and Antarctic in these contexts will provide a clearer understanding of next-stage change in the polar regions.

## **Geostrategic futures**

### **What makes the changing Antarctic environment a strategic issue? | Professor Heather Nicol, Trent University**

Environmental cooperation has formed the basis of successful polar cooperation for several decades. The Arctic Treaty System (ATS) establishes the Antarctic as 'a natural reserve devoted to peace and science', and rests upon the Antarctic Treaty as well as the Protocol of Environmental Protection to the Antarctic, and the Convention on the Conservation of Antarctic Marine Living Resources. Although the potential for geopolitical competition is not seen as a near-term threat in the Antarctic region, some experts fear that it may be in the long term.

Similarly, the Arctic Council has also built on successful environmental pillars to establish a series of working groups that have fostered environmental cooperation and peaceful circumpolar coexistence for over two decades. It has

maintained the Arctic as a zone of peace in the face of a rising tide of fear concerning Russia's circumpolar ambitions and the potentially more aggressive role of China in polar lands and waters.

This paper explores, compares and evaluates the two regional forms of environmental cooperation and their common challenges. It suggests that environmental governance cannot be underestimated in terms of its geostrategic role. There are lessons to be learned from the Arctic Council experience that may be applicable to the Antarctic environmental project despite very different geopolitical contexts.

### **Canada's Arctic and Northern Policy Framework | Jeannette Menzies, Global Affairs Canada**

In December 2016, Canadian Prime Minister Trudeau announced that a new Arctic Policy Framework would be co-developed in collaboration with Indigenous, territorial and provincial partners to replace Canada's Northern Strategy (2009) and the Statement on Canada's Arctic Foreign Policy (2010). Canada's Arctic and Northern Policy Framework was publicly launched on 10 September 2019.

Co-development of the framework took place over more than two years with territorial and provincial governments and Indigenous governments and groups with asserted or established rights in the region. Extensive public engagement processes also informed co-development.

The Arctic and Northern Policy Framework sets out a long-term vision to 2030 for the Canadian and circumpolar Arctic. The framework includes a policy statement with a comprehensive set of eight co-developed domestic and international goals. Other components of the framework include an international chapter; a safety, security and defence chapter; and partner chapters for Inuit Nunangat, Northwest Territories and Nunavut.

The international chapter positions Canada as a global leader that can drive international priorities and agendas in the Arctic. The chapter articulates Canada's goals and objectives for the circumpolar Arctic in three key areas:

1. Strengthening the rules-based international order in the Arctic by bolstering Canadian leadership and engagement in the Arctic Council and other multilateral forums as well as bilateral cooperation with Arctic and key non-Arctic states and actors. International engagement should be carried out in an inclusive manner that enhances the representation and participation of Northerners.

2. More clearly defining Canada's Arctic boundaries including by determining the outer limits of Canada's continental shelf in the Arctic Ocean and by seeking appropriate opportunities to resolve boundary disputes and continental shelf overlaps.
3. Broadening Canada's international engagement to contribute to the priorities of Canada's Arctic and north, which includes closing socioeconomic gaps, enhanced knowledge of the North, protection of the Arctic environment and reconciliation with Indigenous peoples.

**Australia's East Antarctic geostrategic futures: Nirvana or doom inbound? | Dr Peter Layton, Griffith University**

Antarctica is changing. Not just physically as climate change inexorably impacts, but also in relation to how countries and people perceive and act in the world's last uninhabited continent. More and more states are becoming engaged in Antarctic issues including through establishing research bases there. Given this, the future of Antarctica is becoming uncertain. This paper initially examines Antarctica today with a focus on activities in the large East Antarctic territory that Australia claims. This is then used to look 20 years ahead to discuss four plausible geostrategic futures. The future of Antarctica is uncertain, but seems to lie within definable boundaries; a range of possible alternative futures appears discernible. These potential futures could provide a backdrop against which to devise strategic responses to the changes now underway in the southern polar region. In so doing this article draws on Peter Layton, Travis Hallen and Lauren Bishop (2019), *Australia's Antarctica National Air Power Futures*, Canberra: Air Power Development Centre.

**The international community: Lessons for security and collaborative approaches**

**The new frontier: Mapping and advancing Australia's interests in the Arctic | Dr Dwayne Menezes, Polar Research and Policy Initiative**

As the Arctic and Antarctic become more accessible as a result of climate change, their rich resource potential and strategic importance widens the cohort of interested actors and makes these regions key geopolitical and geoeconomic hotspots marked by cooperation, competition and/or confrontation. With its territorial claim over 42% of Antarctica and its geographical proximity to the frozen continent, it is understandable that Australia has positioned itself as a custodian of the Antarctic Treaty System, defined clearly its strategic policy

interests vis-a-vis Antarctica, and deliberated at length about the implications of the treaty being open for review in 2048. However, what appears to have gone largely neglected is Australia's inadvertently growing footprint – and strategic interests – in the Arctic, driven by Australian businesses, citizens and research institutions, which opens up diverse challenges and threats that the Australian Government may not have clearly identified and which it may not be adequately prepared to address. Consequently, the Arctic has rapidly emerged as Australia's weakest and most vulnerable frontier. Mining, energy and tourism are three areas in which the interests and vulnerabilities are most evident, and these interests and vulnerabilities are considered and outlined further in this paper. As Australia is neither a member nor an observer of the Arctic Council, the principal intergovernmental forum in the region, Australia's ability to secure its interests or articulate its concerns through multilateral channels is limited. Australia's engagement with the Arctic occurs through bilateral channels as a result; however, these channels, too, fall short in tackling emerging challenges in the absence of clearly articulated Arctic interests or a well-defined Arctic strategy. Bearing this in mind, this paper also looks at how bilateral cooperation can be strengthened, and how multilateral cooperation through existing frameworks – such as the Commonwealth and the Five Eyes Alliance – can be utilised more effectively in the Arctic, as in the Antarctic. The paper, thus, will highlight the interplay between geoeconomics and geopolitics in the Arctic, explore how Australia can build and use national power and reinvigorate old alliances to shape its position and role in a multi-polar world, and lay the groundwork for the development of Australia's Arctic Strategy.

### **Great power competition in the Arctic: Hot spots or new Cold War? | Dr Joe Burton, The University of Waikato**

What is the nature of great power competition in the Arctic region? What are the hotspots and flash points that could lead to conflict? Will the emerging geopolitical competition in the region lead to protracted division and conflict or to new cooperative mechanisms? In addressing these questions, this paper maps the emerging geopolitical competition dynamics in the Arctic and traces their implications for regional security and stability. Traditionally, the Arctic has been regarded as a unitary region. The Arctic states and regional organisations such as the Arctic Council have focused on maintaining this approach with specific geographic, demographic and economic attributes. The return of great power competition, especially between the United States, China, Russia and the European Union, and the rise of geoeconomics as fundamental to the world order, has coincided with a number of transformations in the Arctic region that are challenging these long-held views of the region. On one hand, climate

change has opened the possibility of new geopolitically strategic sea routes between the Pacific and the Atlantic and across the Northeast Passage, which has focused the interest and investment potential of external actors like China. With a number of Arctic states continuing to have significant parts of their populations – often Indigenous populations – north of the Arctic Circle, the issue of sustainable economic development is also increasingly important. On the other hand, the Russian modernisation of its military installations in the Arctic has raised the spectre of military competition in the region – a novelty for a region where cooperation around common interests in search and rescue, research, fishing and exploration has traditionally been the norm. In light of these changes, the paper explores the segmentation of the Arctic along three geopolitical fault lines: 1) the North American sector – largely peaceful, with enduring US–Canadian cooperation on updating critical security infrastructure in the region to bolster situational awareness; 2) the High North Atlantic and the European sector – where the intensity of the geopolitical competition is building in both commercial terms (with increasing Chinese presence in the region) and military ones (Russia versus NATO particularly); and 3) the Russian sector – largely under the monopolistic rules of the Russian Federation, which nevertheless possesses limited resources to safeguard it.

## Thematic sessions

The short course included parallel facilitated sessions identifying key questions for the future of defence in the Antarctic.

These questions were used to guide discussion in each of four thematic parallel sessions:

- > geostrategic futures in the Antarctic
- > governance and treaty possibilities
- > climate impacts
- > current power positioning and potential points of conflict.

A summary of each of the facilitated discussion sessions is provided below.

### Geostrategic futures in the Antarctic

**Facilitator: Professor Christian Leuprecht, Royal Military College, Canada, and Charles Sturt University**

The geopolitical status quo seems likely to endure in Antarctica beyond 2048, largely due to the absence of incentives for states to disrupt the present state of affairs. Military action in and/ or regarding Antarctica would take place only if a party perceived an existential threat to its core strategic interests. Such a development seems unlikely; however, states will take military action in (or regarding) Antarctica if they deem it necessary to protect their vital interests, regardless of treaty stipulations regarding militarisation or use of force on the continent.

The following scenarios may challenge the future resilience of the ATS: establishment of illegal (e.g., military or quasi-military) bases in Antarctica; violations of protocols relating to fishing in Antarctic waters; commencement of mining or prospecting in Antarctica; and the presence of suspected military or quasi-military actors on the continent. However, states are unlikely to engage in large-scale, unilateral resource extraction in Antarctica because of the current financial costs and logistical challenges associated with such an undertaking.

Similarly, loopholes in the ATS would allow, in theory, for states to engage in militarisation, resource extraction and other activities in Antarctica. Even so, the ATS remains equipped to deal with most geostrategic challenges that might arise

on (or with relation to) the continent. Making changes to the ATS, if needed, would likely prove difficult in terms of ratification. On this basis, we might see a proliferation of non-ATS regimes to deal with governance issues not encompassed by the treaty system (for example, states may wish to limit use of surveillance and tracking technologies, such as GPS, on the continent).

## **Governance and treaty possibilities**

### **Facilitator: Professor Timo Koivurova, University of Lapland**

This session's discussion focused on compliance with the ATS, and the ad hoc means of enforcing its provisions. Initial suggestions were made proposing the creation of a high-level committee attended by the relevant government minister/s of each stakeholder country. The role of this committee would be to discuss issues arising in the practical application of the ATS and operate as something of a 'confidence-building forum' among stakeholder countries regarding ongoing compliance with the ATS. Over the course of the session, this proposal developed from a committee of government ministers to what was called a 'wise person's panel', or an 'intergovernmental forum'. This committee would be populated by well-known, well-respected individuals from each stakeholder country. These individuals would not be directly linked to government. Examples given were Mary Robinson, Richard Branson, Nelson Mandela and Jacques Cousteau. It was suggested that this would be a more moderate approach than engaging government ministers, while at the same time increasing public engagement with the ATS, and moving away from committees that were almost entirely populated by scientists. By constructing a committee or panel removed from government, it was also hoped that a more open dialogue could take place. This stems from the fact that committees populated by government ministers inevitably involve each government official putting forward their respective country's position, with little room for negotiation. It was also acknowledged that each country would (or should) be able to nominate their own representative to the 'wise person's panel', and other countries would have to be prepared for who other states would nominate.

## **Climate impacts – physical, political and operational**

### **Facilitator: Professor Roger Bradbury, Australian National University**

The group discussed scientific, engineering, policy, political and legal issues associated with climate change in Antarctica, spanning six topics. First, how geoengineering may work in the Southern Ocean to assist in fighting the impacts

of climate change, as well as the possible dangers and difficulties (both scientific and political) associated with geoengineering. Second, the need for further research on the impact of the melting Antarctic ice sheet on sea level rise, and the associated issues with the melting Greenland ice sheet. Third, the issues facing resourcing of research more broadly in Antarctica, both in terms of the difficulty in securing consistent long-term funding for data series and the difficulty in obtaining funding for humanities and social science research on Antarctica. Fourth, Antarctic ecosystems have intrinsic value outside of their value as resources, and this intrinsic value should be a driving factor behind protecting them. Fifth, climate change impacts in Antarctica will affect ecosystems in such a way that food security will be threatened, and this will have significant scientific and geopolitical impacts. Finally, there was discussion about how states might approach the Antarctic region, and of how burden sharing between states might be encouraged in relation to research in Antarctica (i.e. a system similar to the International Space Station). This final discussion included suggestion of developing an Australian–Canadian partnership between the Arctic and the Antarctic to facilitate burden sharing for researchers from each country looking to use existing resources in each region.

## **Current power positioning and points of potential conflict**

### **Facilitator: Professor Sascha Dov Bachmann, University of Canberra**

There is concern that China, a newcomer to Antarctica, may test the boundaries of the Antarctic Treaty System and of international law. For example, this could be achieved by using provisions for specially managed areas (designed to protect research projects from inadvertent interference) to claim areas around its bases for purposes other than research. The lack of enforcement of international law in relation to China's actions in the South China Sea is a concerning precedent. A strong process of international governance and a treaty-based approach may prevent a scramble for land; however, enforcement is necessary if international law is to be upheld. Countries seeking to maintain international agreements should seek to maintain a 'high moral ground' by ensuring their own adherence to international law and treaties. It's not clear what would be done if the treaty were broken, but a coordinating authority or international agreement on search and rescue could lay the groundwork for a response.

Public awareness of Antarctica as a location of geostrategic importance is very limited. There is a need for awareness raising, and for the use of soft power to influence China and other governments. Although it may raise awareness, tourism may also present an entry point to militarisation in Antarctica, either

through the construction of facilities that need to be defended, or through the need to respond to increased numbers of emergencies.

Comparisons between Antarctica and the Arctic need to be tempered by attention to their differences, including their different statuses as strategic locations: Antarctica does not share the Arctic's utility as a travel hub, it is inaccessible for exercises, and military use (other than for logistics) is precluded by the Antarctic Treaty.

# Directions for ongoing collaboration and dialogue

To enhance professional development goals, the symposium and short course aimed to increase the knowledge and sharpen the circumpolar policy skills of defence professionals. The workshop delivered unique Antarctic–Arctic professional development opportunities and multidisciplinary comparative evidence-based policy expertise to the strategic policy workforce. Based on feedback from workshop attendees, future directions for ongoing collaboration and dialogue could include some of the following themes:

- > polar tourism
- > the role of science diplomacy
- > military aspects and involvement
- > Indigenous perspectives
- > international perspectives from countries not covered in the workshop. Suggestions included China, Russia, France and the United Kingdom.



# Conclusions

The high calibre of experts, their contributions and the discussion during the symposium and short course, as well as oral and written feedback during and after the event show that the mutual awareness of the challenges and the potential for cooperation were reinforced. The project drew on world-leading scholars in Antarctic and Arctic geopolitics and engaged with a broad international audience through partner institutions' social media and through the promotion of outcomes by our PRPI partners in the UK. The outcomes of the symposium and short course have been promoted through partner institutions in Australia (University of Tasmania, University of Wollongong, Flinders University), North America (Trent University–University of Alaska partnership), the UK (Polar Research and Policy Initiative), and Europe (University of the Arctic). Publications, videos and other outputs will be disseminated in all of these international locations. The core team will use the workshop's international participant network to build engagement with international audiences. The project aims – to leverage an expert workshop and thematic dialogue to foster the transregional exchange of knowledge, and to network decision-makers from politics, science and think tanks to identify common ground – were achieved.

Although there is intentional multinational composition regarding this theme, this event made it clear how Australia, confronted with changing geostrategic conditions in the region, is taking up the challenge by increasingly orienting itself towards greater cooperation with partners that share its values: aside from traditional Anglosphere partners, notably the US, Canada, the UK, and also European partners. The workshop reinforced the extent to which that interest and orientation is shared by the partner countries represented at this workshop.

# Appendix 1: Table of contents for forthcoming open-access book arising from the project

## **Working title: Polar Cousins: Five Eyes Intelligence Perspectives on Antarctic and Arctic Geostrategic Futures**

### **Introduction**

Polar cousins: Geopolitical and environmental issues in the Arctic and Southern Oceans | Professor Christian Leuprecht and Professor Roger Bradbury

### **Arctic geopolitics**

1. Arctic domain awareness: Environmental security, climate change, and polar operations | Professor Douglas Causey and Major General (ret.) Randy 'Church' Kee
2. Climate Change – Physical, political and operational | Associate Professor Cassandra Star
3. Great power competition in the Arctic: Hot spots or new Cold War? | Dr Joe Burton
4. Polar disaster diplomacy | Dr Ilan Kelman
5. The new frontier: Mapping and advancing Australia's interests in the Arctic | Dr Dwayne Menezes

### **Antarctic geopolitics**

6. What makes the changing Antarctic environment a strategic issue? | Professor Heather Nicol and Professor Timo Koivurova
7. Challenges and opportunities for Southern Ocean and Antarctic governance | Dr Joanna Vince
8. Australia's East Antarctic geostrategic futures: Nirvana or doom inbound? | Dr Peter Layton

9. Antarctic environmental security: Status and challenges | Professor Robin Warner

10. Environmental co-management in Antarctica: Geostrategic lessons for the Arctic | Justin Barnes

11. Predicting the distribution of biodiversity on the Antarctic continental shelf and its relevance to policy development and spatial planning for Antarctica | Professor Craig Johnson

## **Conclusion**

The evolving geopolitics of polar regions | Professor Heather Nicol and Professor Lassi Heininen