

# Australian Antarctic Strategy and 20 Year Action Plan



Australian Government



## Prime Minister's Foreword



Australia has inherited a proud legacy from Sir Douglas Mawson and the generations of Australian Antarctic expeditioners who have followed in his footsteps - a legacy of heroism, scientific endeavour and environmental stewardship.

Mawson's legacy has forged, for all Australians, a profound and significant connection with Antarctica. The Australian Antarctic Territory occupies a unique place in our national identity.

Australia's Antarctic science programme is one of our most iconic and enduring national endeavours. Antarctica is of great importance to Australians, and Antarctic science will continue to be one of our national priorities.

Antarctica is an extreme and hostile environment. Modern and effective Antarctic operations and logistics capabilities are the lifeline of Australia's activities and presence in Antarctica.

Providing new operational funding and the modernisation of our Australian Antarctic programme is critical to enabling Australia to continue our strong support for the Antarctic Treaty system, deliver world-class science, and run our Antarctic operations safely and efficiently.

The Government will bring Australia's Antarctic presence and science into the next generation through the acquisition of a new world-class icebreaker, restoration of our inland traverse capability, preliminary work to develop year-round aviation access and revitalising Antarctic science infrastructure.

The icebreaker represents the biggest single investment by an Australian Government in the Australian Antarctic programme. Reliable access to Antarctica and a modern, sophisticated and multidisciplinary science platform in the Southern Ocean is essential to Australia's scientific research and leadership in Antarctica. The efficient and effective use of the new icebreaker will be maximised by the delivery of associated infrastructure in Antarctica.

Delivery of an overland traverse capability with associated ice core drilling and mobile research station infrastructure will enable Australia to take a lead role in major research projects including the search for a million year ice core.

Significant progress has already been made by the Government on improving aviation access to Antarctica. We have undertaken C-17A trial flights to provide an option for a new heavy-lift cargo capability. Work will continue across Government to further build support for the Australian Antarctic programme.

The Government's investment in Antarctic capability, in support of Antarctic science, represents a step change in our Antarctic programme and will equip us to be a partner of choice in East Antarctica and to work even more closely with other countries within the Antarctic Treaty system.

A strong and effective Antarctic Treaty system is in Australia's national interest. The Government will use our international engagement to build and maintain strong and effective relationships with other nations in support of the Antarctic Treaty system.

Our proximity to Antarctica provides valuable opportunities. Tasmania boasts one of the world's leading Antarctic gateway sectors for science and logistics and hosts the world's largest and most vibrant concentration of Antarctic and Southern Ocean expertise, drawing in research and logistical capabilities from around the world. This inspires world-leading innovation and technological development. Through ongoing work between the Commonwealth and State Governments and industry, Tasmania's status as an Antarctic Gateway and research hub will be further enhanced.

The Government is delivering a new era of Australian Antarctic endeavour. It is timely to reaffirm our national Antarctic interests, and to set out a plan to protect and promote them.

This Australian Antarctic Strategy and its accompanying Action Plan will guide Australia's Antarctic engagement into the future and build on our past century of leadership. It will ensure that Antarctica remains valued, protected and understood.

A handwritten signature in blue ink, reading "Malcolm Turnbull".

The Hon Malcolm Turnbull MP, Prime Minister of Australia

## Introduction

The Australian Antarctic Strategy sets out Australia's national Antarctic interests and our vision for Australia's future engagement in Antarctica.

The accompanying Action Plan details the steps the Government will take to fulfil the Strategy. The Action Plan is staged over a 20 year period to achieve and assess progress against the desired outcomes from this ambitious Strategy.

Under the Action Plan, the Government is committing to the most significant package of measures ever developed by an Australian Government to build Australia's role as a leader in Antarctica.



## Key actions the Government will deliver are:

- A new world-class research and resupply Antarctic icebreaker.
- New and stable funding to support an active Australian Antarctic programme.
- Establish Australia's position of science leadership in Antarctica through:
  - developing modern and flexible infrastructure, including
    - restoring traverse capabilities and establishing mobile stations in the Antarctic interior
    - further scoping options for expanded aviation capabilities to establish a year-round aviation capability between Hobart and Antarctica
    - progressing options for more efficient and flexible use of existing research stations
  - a revitalised science programme, including
    - coordinated and effective funding of Antarctic science
    - opportunities for public-private partnerships to conduct new and iconic scientific research endeavours
  - greater collaboration and resource-sharing with other nations active in East Antarctica.
- Strengthen the Antarctic Treaty system and our influence in it, by building and maintaining strong and effective relationships with other Antarctic Treaty nations through our international engagement.
- Build Tasmania's status as the premier East Antarctic Gateway for science and operations, including through:
  - streamlined Government regulatory and approval processes to facilitate increased use of Hobart as an Antarctic Gateway port
  - agreeing priority proposals with industry to enhance Tasmania's status as an Antarctic Gateway, including expanded infrastructure in Hobart for the new icebreaker
  - a major review on building research infrastructure in Hobart to establish Australia as the world's leader in krill research.

## Australia in Antarctica

Much has changed over Australia's century of involvement in Antarctica. Technology, logistical capabilities and international engagement in the continent have developed apace since Australia's early Antarctic forays. But the challenge of operating in the world's most extreme and unforgiving environment remains constant.

A viable Antarctic programme requires the means to cross thousands of kilometres of the world's stormiest seas, to navigate through Antarctica's formidable sea ice barrier, and to live and work for extended periods on the coldest, driest and windiest continent on earth.

Australia's first Antarctic expedition, the Australasian Antarctic Expedition of 1911-1914, was led by Sir Douglas Mawson aboard the wooden ship, SY Aurora. This was Australia's first large-scale scientific programme after Federation in 1901. Early Antarctic exploration was arduous and relied on hauling sledges with the assistance of dogs. Australia's early explorers constructed two temporary wooden bases, one at Cape Denison (now Mawson's Huts Historic Site) and a second on the Shackleton Ice Shelf. Mawson's expedition used then ground-breaking intercontinental radio communications, enabling them to transmit meteorological reports back to Australia by relaying messages via Macquarie Island.

Australia established its first research stations in the subantarctic at Heard Island in 1947 and Macquarie Island in 1948. In 1954, under the leadership of Antarctic explorer and scientist Dr Philip Law, Australia chartered its first ice-capable ship and established the first year round and permanent research base on the Antarctic continent – Mawson station. This station is the longest continually operated station south of the Antarctic Circle. Davis station, established in 1957, was soon to follow and in 1959 Australia took over Wilkes station, built by the United States of America, on Clark Peninsula. Wilkes was succeeded by the nearby Casey station in 1969.

In the 1970s and 1980s, Australians completed some of the greatest land-based expeditions ever made in Antarctica, traversing several thousands of kilometres across East Antarctica. The use of dog sleds continued for decades as a significant means of transporting precious cargo such as food and other supplies and scientific samples. Over time, small aircraft, tractors and over-snow vehicles were used to increase the range and efficiency of Australia's traverse operations.

A step-change in Australia's Antarctic capabilities occurred with the introduction in the 2005-06 Budget of funding for the Hobart-Antarctic Airlink, providing the first ever intercontinental aviation link between Australia and Antarctica for the transport of personnel and small cargo. Australia today operates a network of aircraft landing sites in Antarctica, including the Wilkins glacial ice runway which supports the wheeled Airbus A319 intercontinental operations and skiways for ski-equipped air operations between stations. Helicopters have succeeded older methods of transport, playing a critical role in ship-to-shore operations and in field activities in close proximity to stations.

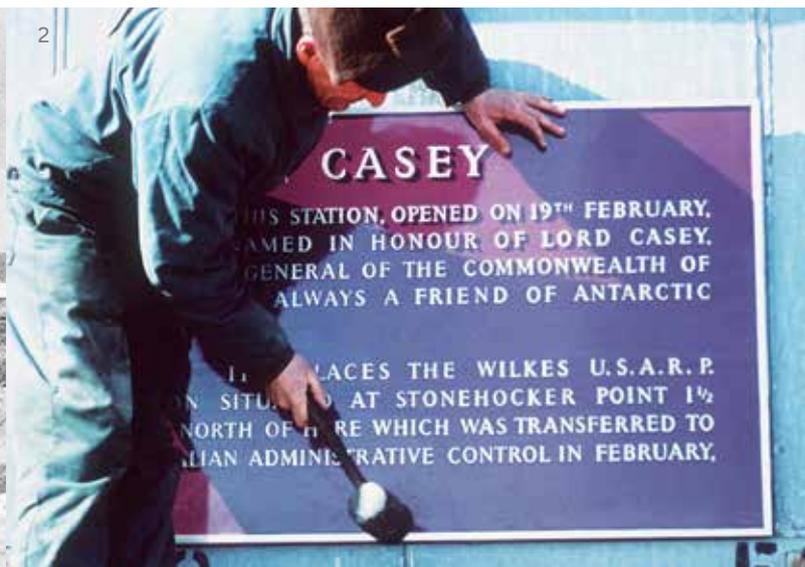
Australia asserts sovereignty over 42 per cent of the Antarctic continent – the Australian Antarctic Territory.

Australia is an original signatory to the 1959 Antarctic Treaty, and is staunchly committed to maintaining its strength and effectiveness.

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Aviation today plays a critical role in sustaining Australia's operations in Antarctica, but shipping remains the backbone of the Australian Antarctic programme. The Aurora Australis came into service in 1990, and has since provided essential fuel and supplies to Australia's Antarctic stations, personnel transfer and a capable platform for marine scientific research.

The next-generation successor to the Aurora Australis will again provide a step-change in Australia's Antarctic capabilities, providing greater icebreaking and cargo capacity, increased endurance, and a state-of-the-art suite of science capabilities. The new ship will sustain the next generation of Australian Antarctic science and operations in Antarctica.

Today's Antarctic scientific research programme has evolved dramatically from the curiosity-driven individual endeavours of the past. Modern Antarctic science is big science: resource-intensive, focused on questions of global significance, and incorporating multi-national collaborations driven by leading nations.

Australia's future investment in Antarctic science will place it at the forefront of those nations, enabling major new research programmes focused on key emerging challenges. These challenges include the quest for a million-year old ice core and its records of eras past, and the responsible management of krill, the cornerstone of the Southern Ocean ecosystem.

Advances in technology and innovation continue to bring opportunities and challenges for Antarctic operations. Improved safety and environmental performance, and rapid advances in areas such as Antarctic telecommunications, telemedicine, and energy generation and management, have enabled Australia to build on our past experience and improve the way we live and work in Antarctica.

Australia's future in Antarctica will be defined by further evolution: leading shipping, aviation and overland traverse capabilities, a world-class science programme focused on answering fundamental questions and advancing key national interests, and a continuing strong contribution to the peaceful international governance of Antarctica. The Australian Antarctic Strategy and Action Plan prepares Australia for a new era of opportunity.

**Images:**

- 1 Raising the flag at Commonwealth Bay - Frank Hurley, 1912
- 2 Afixing the sign at Casey Research Station © Gordon McInnes, 1970
- 3 Aurora Australis in the Southern Ocean © Sandra Zicus, 2007
- 4 A319 at Wilkins Runway © Micky Loedeman, 2016

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## Australia in the Antarctic Treaty system

Australia is a staunch supporter of the Antarctic Treaty system. The three pillars of that system are the Antarctic Treaty, the Protocol on Environmental Protection to the Antarctic Treaty and the Convention on the Conservation of Antarctic Marine Living Resources.

The Antarctic Treaty system establishes Antarctica as a natural reserve devoted to peace and science and puts in place principles for the governance of the region. These include freedom of scientific investigation, free exchange of scientific information, protection of the positions of Antarctic Treaty Parties on issues of sovereignty, and the non-militarisation of Antarctica and the Southern Ocean.

Australia was a key architect and one of the 12 original signatories to the 1959 Antarctic Treaty. Between 1959 and 2016, 41 other countries have acceded to the Treaty. All countries with an active interest in Antarctica are Parties to the Antarctic Treaty and science binds them together in peaceful collaboration and common purpose. Increasing international engagement in Antarctica, consistent with the pillars of the Antarctic Treaty system and its principles, is welcome.

We continue to play a leading and influential role in international Antarctic affairs. Australia works closely with fellow Antarctic Treaty Parties to ensure the effective governance of the region, to undertake important scientific investigation, and to conserve and protect Antarctica's unique environment. Australia has been, and continues to be, a leader in environmental stewardship, comprehensive environmental protection and ecosystem conservation in Antarctica.

In 1991, Australia and other Antarctic Treaty Parties signed an historic pact to protect the Antarctic environment. The Protocol on Environmental Protection to the Antarctic Treaty provides for the comprehensive protection of Antarctica's environment and bans mining and oil drilling.

The Protocol outlines a system of environmental principles, measures and standards, which require that care for the environment is a fundamental consideration in the planning and conduct of all activities in Antarctica. The result is a legally binding and comprehensive environmental protection regime tailored for the special environmental and geographical characteristics of the Antarctic region. This regime is informed and underpinned by scientific research and advice provided by Antarctic Treaty Parties working together in close cooperation and collaboration.

Antarctic Treaty Parties have committed to the comprehensive environmental protection regime enshrined in the Protocol, including its enduring mining prohibition. This year, 2016, marks the 25th anniversary of the signing of the Protocol and Australia will join the international community in celebrating its achievements and its ongoing relevance.

Australia is also an original party to the Convention on the Conservation of Antarctic Marine Living Resources, and Hobart hosts its secretariat. The Convention's objective is the conservation of Antarctic marine living resources, where the definition of conservation includes rational use.

### Images:

- 1 Delegates at the Antarctic Treaty Consultative Meeting, Hobart 2012 - Richard Jupe
- 2 Prime Minister Menzies and Minister for Navy, John Gorton at the Antarctic Treaty Consultative Meeting, Canberra 1961 - National Archives of Australia
- 3 Emperor penguins and chick, Auster Rookery © Gary Miller, 2008





The Convention was the first international agreement to apply an ecosystem approach to marine living resources conservation. It requires that consideration is given to all species in the ecosystem and to conserving ecological relationships. Krill, finfish and all other living resources of the Southern Ocean, are treated as an integrated system where the effects on predator, prey and related species are considered, and decisions on sustainable harvesting levels are made on the basis of sound scientific advice. This approach is particularly important for krill which are the keystone species of the Southern Ocean ecosystem.

Australia has a strong reputation as a responsible manager of and participant in Antarctic fisheries and works with other countries to ensure ecologically sustainable fisheries and to prevent, deter and eliminate illegal, unreported and unregulated fishing. Australia's Heard Island and McDonald Islands toothfish fishery is one of Australia's most valuable Commonwealth fisheries and has Marine Stewardship Council Certification.

The Antarctic Treaty system has been a hallmark of international cooperation for more than 50 years and supporting it will remain a key priority for Australia into the future. The Australian Antarctic Strategy reaffirms Australia's engagement in Antarctica and recognises the continued importance of valuing, studying, conserving and protecting its unique environment.



**Images:**

- 1 Biologists sorting specimens aboard Aurora Australis, Kerguelen Axis Marine Science Voyage © Nick Roden, 2016
- 2 Antarctic Free Ocean Carbon Enrichment experiment © Jonny Stark, 2015
- 3 Blizzard at Mawson © Robyn Mundy, 2008
- 4 Scientist Mana Inoue processing an ice core, Aurora Basin North © Tony Fleming, 2013
- 5 Krill biologist Dr So Kawaguchi - Glenn Jacobson, 2015
- 6 Dr Natalie Schmitt holding a biopsy during the six week Aus/NZ Antarctic Ecosystem Voyage © Dave Allen, 2015
- 7 Drilling ice cores, Aurora Basin North © Tony Fleming, 2013



# Australia's Antarctic programme

The Department of the Environment, through its Australian Antarctic Division, is responsible for leading, coordinating and delivering the Australian Antarctic programme and administering the Australian Antarctic Territory and, in the subantarctic, the Territory of Heard Island and McDonald Islands. The programme is focused on conducting world-class science of critical national importance and global significance that delivers on Australian Antarctic policy and operational priorities.

The Australian Antarctic programme is highly collaborative – comprising partnerships across government and with more than 150 national and international research institutions. Together, these partnerships contribute to advancing Australia's interests in Antarctica and the subantarctic region. Australia also works with other countries' Antarctic programmes to run joint international scientific and logistical support operations.

The operational and logistical building blocks of the Australian Antarctic programme are highly capable people, our four research stations, multipurpose icebreaker, aviation and field support capabilities. Australia currently has three permanent research stations on the Antarctic continent, Casey, Davis and Mawson, as well as a research station on Macquarie Island in the subantarctic.

The Australian Antarctic Division manages and implements combined sea, air and continental transport capabilities to undertake wide-ranging marine, ice and aviation-based research activities, personnel transfer and station resupply and waste removal. Personnel include scientists and medical doctors, tradespeople to run and maintain our stations, logistics specialists to resupply our stations by ship, aviation teams to support our varied aviation needs, and policy and communications experts.

The Australian Antarctic Division's headquarters in Hobart is the foundation stone of Tasmania's role as a gateway for Antarctic science and logistics.

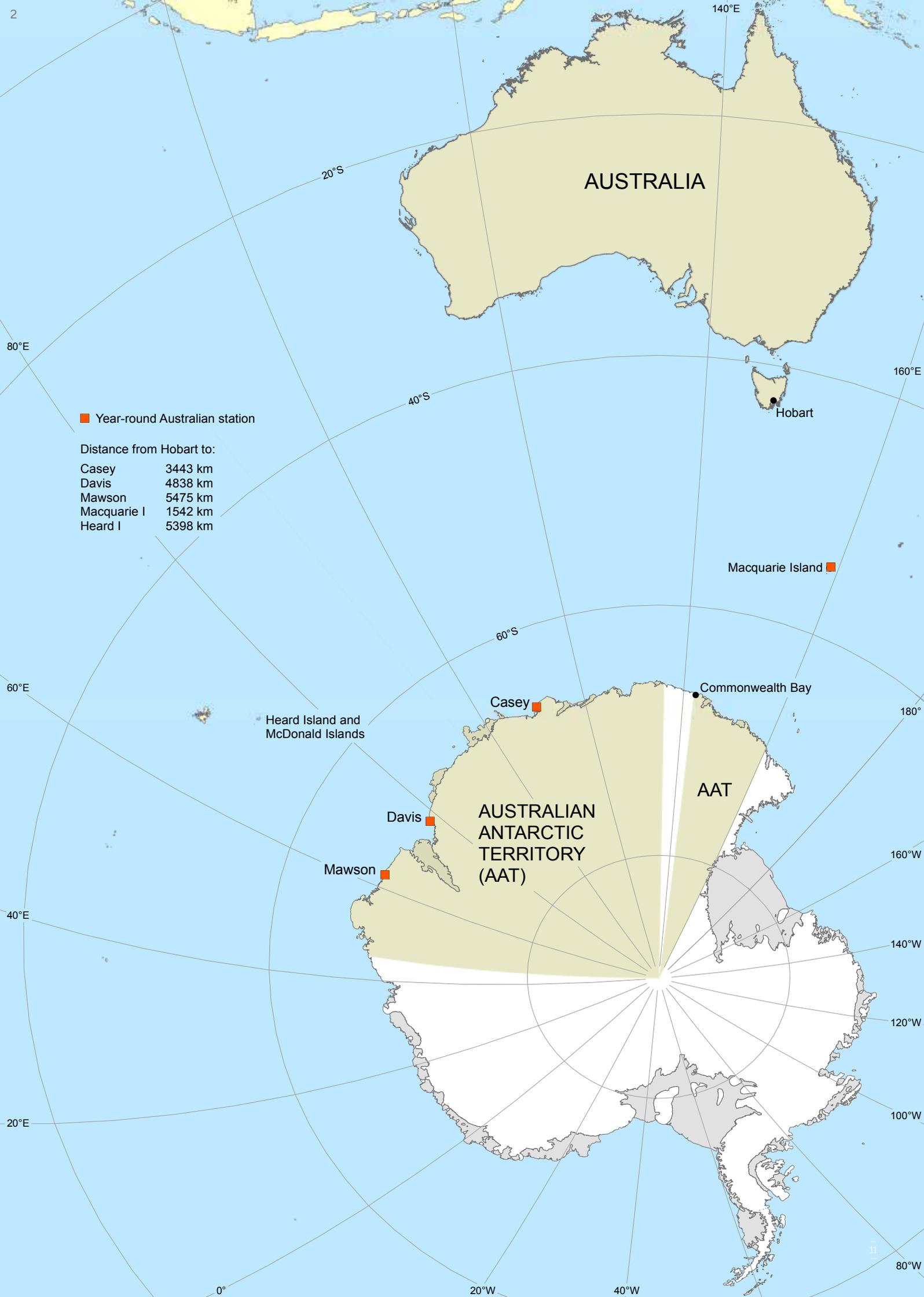
#### Images:

1 Mawson Research Station © Chris Wilson, 2012

2 Australia and Australian Antarctic Territory,

Cat. No: 14508 - Australian Antarctic Data Centre





Antarctica plays a central role in the global weather and climate system. The Southern Ocean is the engine room for global weather and climate and has far reaching influence on oceanic and atmospheric circulation. Antarctica teaches us about our past and current climate, and informs us of the nature, extent and consequences of future climate change. The science we conduct in Antarctica also provides the essential evidence through which we can ensure a resilient environment to our south through responsible international environmental stewardship of the region.

Antarctic science, aligned with our policy interests and integrated with our operational capabilities, is at the heart of the Australian Antarctic programme. Australian and international scientists participate in the inclusive programme to deliver world-class scientific research consistent with Australia's Antarctic science strategic priorities.

Australian Antarctic science focuses the research effort to address the most pressing of our science needs, particularly around the role of Antarctica in the global climate system, the need to understand and conserve Antarctica's unique life forms, and to protect the Antarctic environment and support sound environmental stewardship in the region, with a particular focus on fisheries.

With the scientific and operational capability delivered through this Australian Antarctic Strategy and the Action Plan, Australia will be well placed to address the major science challenges of the next few decades. Among these are the challenges of playing a leading role in sourcing the globe's oldest ice (greater than one million years of age), exploring the unknown parts of the ocean below the sea ice and ice shelves, learning how a warming and acidifying ocean will affect Australia, and ensuring we can support the conservation and ecosystem-based management of Antarctic krill.

**Images:**

- 1 Prime Minister Malcolm Turnbull visited the Australian Antarctic Division in 2007 as then Minister for the Environment and Water Resources - Glenn Jacobson
- 2 Glaciologist, Dr Tessa Vance processing ice cores in the world-class IMAS laboratory in Hobart - Jillian Brown, 2014
- 3 Setting up a field camp © Frederique Olivier, 2007
- 4 Diver during the Antarctic Free Ocean Carbon Enrichment experiment - Kristin Raw, 2015
- 5 Davis Research Station © Russ Hepburn, 2016
- 6 Casey Research Station © Chris Wilson, 2014



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## Million Year Ice Core

Antarctic ice cores provide crucial information on past climate and climate processes that is key to understanding climate and predicting future change. Chemical constituents in the ice cores, such as carbon dioxide, sulfur, iron and ash, tell scientists about past temperature, sea ice extent, volcanic events and human activity, among other things.

Through the International Partnership in Ice Core Sciences Australia has contributed to an array of 2000 year-old ice cores across Antarctica. Some of these have helped identify important climate linkages between Australia and Antarctica.

The most ambitious priority for ice core science is to recover a core that extends to well over a million years ago – a time in Earth's history when ice age cycles shifted their pacing from 41 000 years' length to 100 000 years' length. We don't know what caused this shift. An ice core covering this period would allow us to extract a direct record of carbon dioxide and see what role, if any, it may have played.

Data collected from Australia's recent 2000 year-old ice core drilling programme at Aurora Basin in East Antarctica, as well as geophysical surveys across the region, are helping narrow the likely location of ice thick enough to contain a one million year climate record.

### Images:

1 Drilling ice cores at Aurora Basin North © Tony Fleming, 2013

2 Krill - Rob King, 2013





## The importance of Krill

Krill are the keystone species of the Antarctic ecosystem and the staple diet of many animals, including seals, whales, fish, squid, penguins and flying seabirds. Antarctic krill (*Euphausia superba*) are the dominant krill species found in Antarctic waters and the main species targeted by krill fishers.

Through the Commission for the Conservation of Antarctic Marine Living Resources, Australia and other Member states, are developing a krill management system, to enable sustainable harvesting and ensure large predators can continue to rely on krill as their main food source. This system enables the Commission to set and regularly review and revise precautionary catch limits based on the best available science. The Commission's approach to managing the krill fishery is to minimise the impact on the ecosystem while ensuring a sustainable fishery in the long term.

Australian Antarctic scientists conduct world-leading research on krill reproduction, development and physiology, and the response of krill to the effects of climate change on their environment. The Australian Antarctic Division's krill research aquarium plays a key role in this research, allowing scientists to maintain and work with both wild and captive-bred krill. This research informs krill fishery management decisions in the Commission.



## Australia's national interests in Antarctica

Australia has strong and longstanding national interests in Antarctica. These interests determine the underlying policy settings that frame Australia's engagement in Antarctica.

Australia's national interests in Antarctica are to:

- maintain Antarctica's freedom from strategic and/or political confrontation
- preserve our sovereignty over the Australian Antarctic Territory, including our sovereign rights over adjacent offshore areas
- support a strong and effective Antarctic Treaty system
- conduct world-class scientific research consistent with national priorities
- protect the Antarctic environment, having regard to its special qualities and effects on our region
- be informed about and able to influence developments in a region geographically proximate to Australia
- foster economic opportunities arising from Antarctica and the Southern Ocean, consistent with our Antarctic Treaty system obligations, including the ban on mining and oil drilling.



# Advancing our national Antarctic interests

Australia will pursue its interests in the following ways:

## Leadership and influence in Antarctica

Australia will strengthen its position as an international leader in Antarctica. It will:

- Maximise Australia's influence in the Antarctic Treaty system by engaging effectively with stakeholders, contributing world-class science and exercising leadership in the system's forums.
- Build strong and effective relationships with other Antarctic Treaty nations.
- Ensure that Australia's operations and activities in Antarctica reflect and advance the objectives and principles of the Antarctic Treaty system.
- Strengthen Australia's presence in Antarctica, improving access to East Antarctica, for our scientific research and operational needs.
- Be a logistics collaborator of choice for East Antarctica.

## Leadership and excellence in Antarctic science

Australia will have a flexible, efficient and reliable science support capability to undertake world-leading science that supports Australia's national interests in Antarctica. It will:

- Lead Antarctic science through an Antarctic science strategic plan.
- Build Tasmania's status as a global Antarctic research hub.
- Collaborate with industry and other nations on cutting-edge science projects.
- Lead an Australian Antarctic programme that responds to and delivers on national science and research priorities including:
  - protecting and understanding Antarctica, particularly its environmental resilience and its connection to global systems
  - Antarctica's influence on Australia, particularly its impacts on the wellbeing of Australians.
- Be the science collaborator of choice in East Antarctica.
- Be a lead collaborator elsewhere through our global leadership in climate and sustainability science and leading science support capability.

## Leadership in environmental stewardship in Antarctica

Australia will be a leader and promote best practice in environmental stewardship in Antarctica across all aspects of its Antarctic programme. It will:

- Work to preserve Antarctica as a natural reserve, devoted to peace and science.
- Maintain the Environmental Protocol's ban on mining and oil drilling.
- Conserve Antarctic marine living resources, including ecologically sustainable fishing.
- Minimise the environmental impact of Australia's activities in Antarctica.
- Effectively manage the Australian Antarctic Territory and the Territory of Heard Island and McDonald Islands.

## Develop economic, educational and collaborative opportunities

Australia will build economic and educational opportunities and domestic and international support for the Australian Antarctic programme. It will:

- Develop and promote Tasmania as the leading international Antarctic research hub and logistics Gateway for East Antarctica, including through collaboration with industry.
- Promote understanding of the importance of Antarctica and the Antarctic Treaty system to Australia and the world.
- Support Australian commercial operations, including sustainable fishing and tourism, in Antarctica and the Southern Ocean within the framework of the Antarctic Treaty system.
- Build the professional reputation of the Australian Antarctic programme to ensure it continues to attract high calibre participants.
- Develop and support effective partnerships and joint ventures with business and other non-Government organisations.

# Australian Antarctic Strategy

## 20 Year Action Plan



Australian Government



**AUSTRALIAN  
ANTARCTIC  
PROGRAMME**



## An ongoing commitment to Antarctica: the next 20 years

Understanding, protecting and conserving Antarctica and the Southern Ocean is in the interests of Australians.

The Australian Government is committed to protecting Australia's national interests in Antarctica and maintaining Australian leadership.

This Action Plan sets out actions to support our national interests in Antarctica over the next 20 years, setting targets for year one, year two, year five and year 10.

In addition to the actions listed, this plan will provide a roadmap to guide Australian investment in this vast and unique continent.

Through this Action Plan, the Government is committing to the most significant package of measures ever developed by an Australian Government to build Australia's role as a leader in Antarctica.

The Action Plan is staged to achieve and assess progress against the Australian Antarctic Strategy.



# Current investment

The Australian Government recognises the strategic, scientific and environmental importance of Antarctica. The Action Plan builds on existing commitments, including:

- A full and open procurement process and funding to acquire a new world-class research and supply Antarctic icebreaker.
- Modernising essential infrastructure and equipment in Hobart and Antarctica to support the operation of the new icebreaker.
- Funding for Antarctic science, of \$24 million over three years to 2016-17 to fund an Antarctic Gateway Partnership, and \$25 million over five years to 2018-19 for the Antarctic Climate and Ecosystems Cooperative Research Centre, both based in Hobart.
- Funding of \$38 million to extend the runway at Hobart International Airport to stimulate international engagement, growth in Tasmania's Antarctic sector, and support for the Australian Antarctic programme.
- Establishing a joint Commonwealth, State and industry taskforce to develop proposals to further enhance Tasmania's status as an Antarctic Gateway.
- Signing a bilateral Memorandum of Understanding on Antarctic Cooperation with China during the November 2014 visit to Hobart by Chinese President Xi Jinping.
- Trialling and implementing United States Air National Guard ski equipped Hercules aircraft flights to Davis station in support of the Australian Antarctic programme under a collaborative arrangement with the United States of America.
- An active and successful fisheries compliance programme to eliminate illegal, unreported and unregulated fishing in the Southern Ocean.
- Completion and evaluation of trial flights of Australian Defence Force C-17A aircraft to Antarctica to provide an option for a new heavy-lift cargo capability.



## Year One

In the first year following the release of this Action Plan, the Government will have:

- Finalised the contract arrangements and commenced building Australia's new icebreaker – the most significant investment in the Australian Antarctic programme for a generation.
- Established sustainable and ongoing funding for the Australian Antarctic programme to ensure we continue as a global leader in Antarctic science, policy and operations.
- Commenced preliminary work to support investment decisions on major infrastructure and capabilities needed to support Australia's position of future science leadership in Antarctica, including overland traverse capability, year-round aviation access and krill research infrastructure.
- Established an arrangement for Department of Defence support to the Australian Antarctic programme, inclusive of a regular programme of flights to Antarctica using Australian Defence Force C-17A aircraft.
- Undertaken Australia's first formal management and scientific research visit to our Heard Island and McDonald Islands external territory since 2004.
- Streamlined Commonwealth and State regulatory and approval processes to facilitate increased use of Hobart as an Antarctic Gateway port by other nations.
- Agreed on prioritised proposals to further enhance Tasmania's status as an Antarctic Gateway through a joint Commonwealth, State and industry taskforce, including for roll-out of expanded infrastructure in Hobart to accommodate the new icebreaker.
- Launched a Centre for Antarctic, Remote and Maritime Medicine, jointly with the Tasmanian Government, to pool expertise and build an internationally recognised centre of excellence for the delivery of remote medical care.
- Assessed progress against achieving our national Antarctic interests and delivering on the Action Plan.

### Images:

- 1 Heard Island landscape including Rogers Head  
© Matt Curnock, 2012
- 2 Aurora Australis in port, Hobart © Tourism Tasmania
- 3 Graphic of proposed new Antarctic icebreaker  
© Damen / DMS Maritime / Knud E. Hansen, 2015
- 4 Helicopter being loaded onto C-17A - Justin Hallock 2016
- 5 King penguins on the shores of Corinthian Bay, Heard Island  
© Matt Curnock 2012
- 6 Krill pump collecting krill from under the sea ice - Wendy Pyper, 2012



## Year Two

In the second year following the release of the Action Plan, the Government will have:

- Completed preliminary work to build Australia's science leadership in Antarctica, including:
  - o building an overland traverse capability, with associated ice core drilling and mobile station infrastructure and research support, to enable planning with international partners to retrieve a million-year ice core
  - o building research infrastructure in Hobart to establish Australia as the world's leader in krill research, including building on philanthropic funds
  - o further scoping options to deliver year-round aviation access between Hobart and Antarctica, in accordance with domestic and Antarctic Treaty system environmental approval requirements
  - o progressing options to modernise infrastructure at Australia's three Antarctic research stations.
- Revitalised Antarctic science, including by having:
  - o implemented a coordinated and effective Antarctic science funding model to increase Antarctic research by leading Australian institutions together with international and industry partners
  - o established an Antarctic Foundation to augment science funding with private funding to build opportunities for public-private partnerships to conduct new and iconic scientific research endeavours and build greater public understanding of Antarctica
  - o completed a review of the Australian Antarctic Science Strategic Plan 2011/12-2020/21, revising and extending the plan for a further five years.
- Developed, in collaboration with the Tasmanian Government, an agreed approach to the future of the ageing Macquarie Island research station infrastructure.
- Systematically set in place collaborative relationships with key international partners – including our major partners in East Antarctica – to share capabilities and facilitate more efficient science, operations and policy outcomes in Antarctica.
- Established a clear approach, in conjunction with key international partners, to prevent, deter and eliminate illegal, unreported and unregulated fishing in the Southern Ocean.
- Assessed progress against achieving our national Antarctic interests and delivering on the Action Plan.



## Year Five

By the fifth year following the release of the Action Plan, the Government will have:

- Delivered Australia's new Antarctic icebreaker and built a new science and operations model around its use in the Southern Ocean, including full integration with other national shipping assets, particularly Australia's National Marine Facility, the RV Investigator.
- Established an overland traverse and mobile inland station, and commenced involvement in a major scientific research undertaking to retrieve a million-year old ice core.
- Taken an investment decision on delivering year-round aviation infrastructure.
- Commenced implementation, as appropriate, of recommendations from the major infrastructure and capability reviews towards modernisation of the Australian Antarctic programme to support increased access to and within Antarctica and greater Australian science leadership.
- Delivered all the associated infrastructure in Tasmania and Antarctica necessary to maximise the efficient and effective use of the new icebreaker.
- Set in place a comprehensive policy and scientific research approach, in collaboration with other nations, to ensure the sustainable management of the Southern Ocean krill fishery.
- Developed our aviation operations to make best use of the upgraded Hobart International Airport, the major hub for air access to the region, including with Australian Defence Force C-17A support.
- Established an enhanced programme of mapping and charting of areas in East Antarctica.
- Maximised science funding with combined public and private sources to lead on the major science challenges of 2020 and beyond.
- Renewed the Mawson's Huts Historic Site management plan to ensure the continued preservation of this iconic national heritage site.
- Conducted a five-year review of progress against achieving our national Antarctic interests and delivering on the Action Plan, identifying next steps to 2035 and options on whether the plan requires revision.

### Images:

- 1 Senior Field Training Officer, Chris Gallagher with Station Leader, Jacque Comery, Macquarie Island © Lionel Whitehorn, 2015
- 2 Field party at Casey Research Station © Ian Phillips, 2006
- 3 Law Dome traverse © Todor Iolovski, 2007
- 4 Seals on ice floe © Paula Olson, 2007

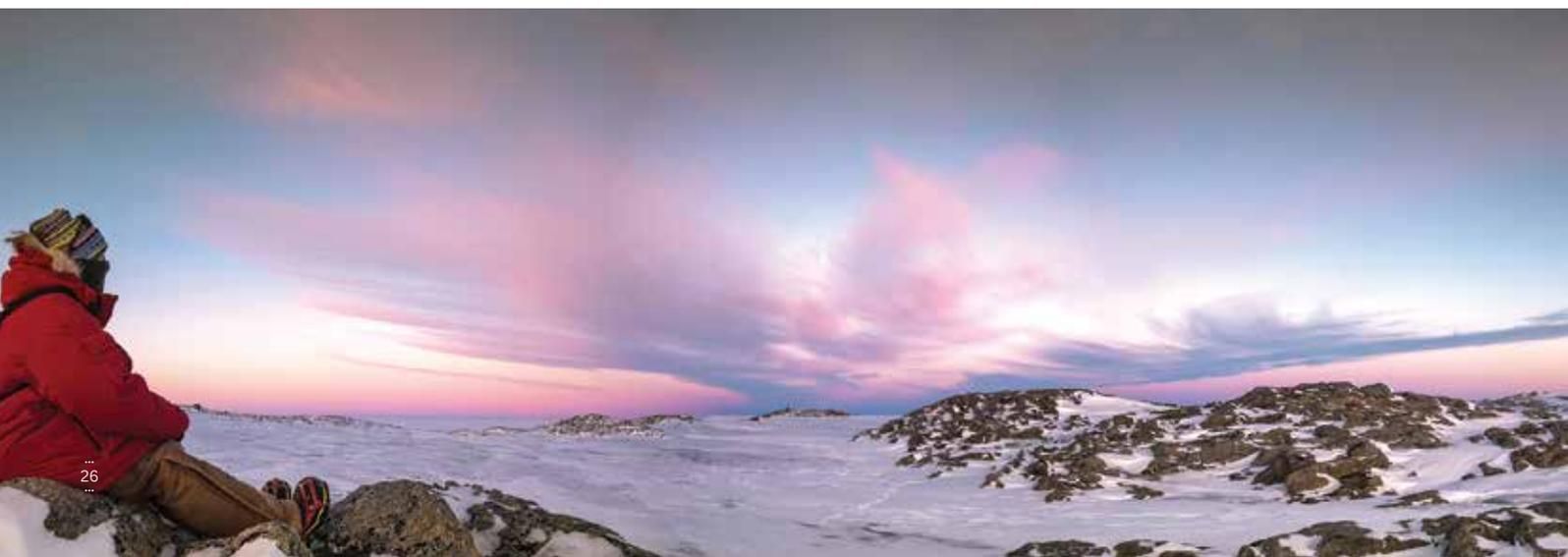


## Years 10-20

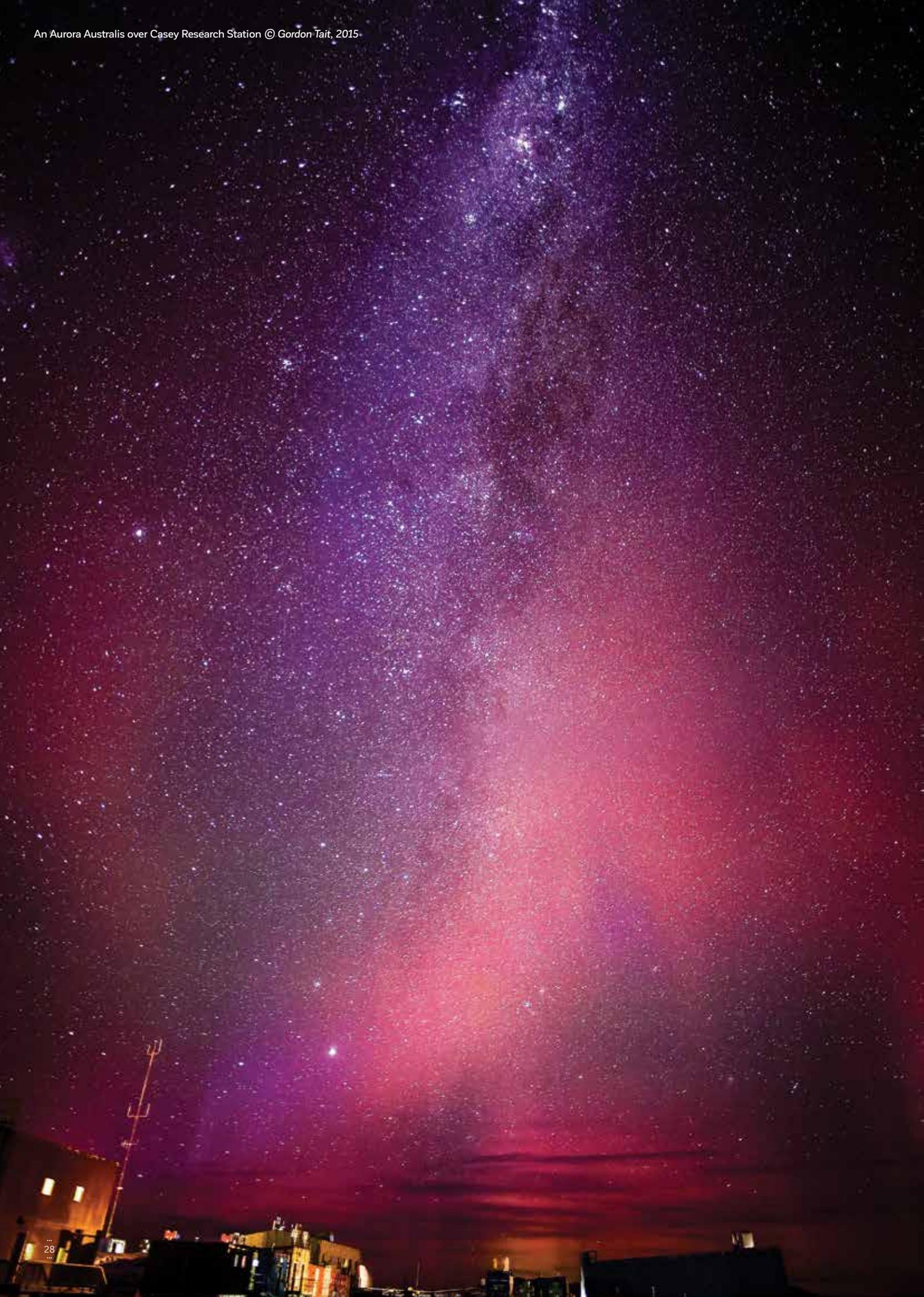
During the second decade of this Action Plan, the Government will:

- Work with international partners to interpret the findings from the completed project to retrieve a million-year ice core.
- Implement an overhaul, as needed, of the infrastructure of our Antarctic research stations to create a station network that is efficient, flexible and suited to our future needs.
- Develop an Antarctic Clean-up strategy for our legacy waste associated with cleaning up and remediating old waste and contaminated sites.
- Conduct a ten-year review of progress against achieving our national Antarctic interests and delivering on the Action Plan, identifying next steps to 2035 and options on whether the plan requires revision and extension.

Expeditioner enjoying the Antarctic vista, near Casey Research Station © Gordon Tait, 2015









# Australian Antarctic Strategy and 20 Year Action Plan

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**Cover image** - Hagglands with head lights probing along the fast ice at night, near Mawson Research Station  
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