



Submission to the Senate Inquiry into the adequacy of Australia's infrastructure assets and capability in Antarctica

Joint Standing Committee on the National Capital and External Territories

The Australian Maritime Safety Authority (AMSA) is a statutory authority established under the *Australian Maritime Safety Authority Act 1990* with the primary role to minimise the risk of shipping incidents and pollution in Australian waters, through ship safety and environment protection regulation and services, and maximise people saved from maritime and aviation incidents through search and rescue coordination.

AMSA's submission is structured around the terms of reference for the inquiry, namely:

1. maintaining national interests;
2. international engagement, including collaboration and resource sharing with other countries; and
3. environmental considerations.

AMSA's submission is in relation to four principal areas of interest - the International Maritime Organisation Polar Code, National Plan for Maritime Environmental Emergencies, Search and Rescue arrangements and Safety of Port Facilities.

1. International Maritime Organization – Polar Code

The International Maritime Organization (IMO) has developed a mandatory Polar Code to increase the safety of vessel operations and mitigate the impact of shipping on the people and environment in the isolated waters in both the Arctic and Antarctic regions. Australia was actively involved in the development of the Polar Code from the time work commenced at the IMO in 2010. The Polar Code came into force internationally on 1 January 2017 and covers the full range of design, construction, equipment, operational, training, search and rescue and environmental protection matters relevant to vessels operating in polar waters.

The Polar Code has mandatory and recommendatory measures for safety and pollution prevention. Mandatory safety requirements include those relating to:

- vessel structure;
- stability and subdivision;
- watertight and weather-tight integrity;
- machinery installations;
- operational safety;
- fire safety/protection;
- life-saving appliances and arrangements;
- safety of navigation;
- communications;
- voyage planning;

- manning; and
- training.

Mandatory pollution prevention measures include prescriptive requirements for the prevention of pollution by oil, noxious liquid substances, sewage and garbage from vessels.

The Polar Code applies to both new and existing vessels regulated by the International Convention for the Safety of Life at Sea (SOLAS). However, it does not apply to warships, naval auxiliaries and vessels owned or operated by a state and used on government non-commercial service. Vessels operating in polar waters will be required to be surveyed and issued with a Polar Ship Certificate and carry a Polar Water Operational Manual, which will provide information regarding the vessel's capabilities and limitations to support operational decision-making. Vessels constructed before 1 January 2017 have delayed timelines to meet the safety requirements of the Polar Code.

Whilst the Polar Code applies to those vessels which are required to comply with SOLAS, it does not apply to non-SOLAS vessels (including fishing vessels). A proposal for the application of the Polar Code to non-SOLAS vessels is currently under consideration by the IMO.

Currently there are two registered Australian vessels that frequent Antarctic waters. The *Aurora Australis* is chartered by the Australian Antarctic Division (AAD) and is expected to continue to operate until the end of 2018/19. A new icebreaker will replace the *Aurora Australis* and is expected to be delivered in 2020. The Polar Code has a transition period for vessels built before 1 January 2017. Vessels built before that time, including the *Aurora Australis*, will have to comply with all requirements of the Polar Code by the first intermediate or renewal survey whichever comes first after 1 January 2018. This may mean that there could be a period between the delivery of the new vessel and the completion of one of the above mentioned surveys where the vessel will be required to comply with the Polar Code. The CSIRO operates the RV *Investigator*, which is a government-owned vessel on non-commercial service.

AMSA is aware there are five Australian fishing vessels operating in the Antarctic area and two of those are active in polar waters south of 60 degrees. AMSA expects that in the coming years the number of vessels operating in polar waters will increase rather than decrease.

2. Pollution Response Initiatives

The National Plan for Maritime Environmental Emergencies (the National Plan) provides a single comprehensive and integrated response arrangement to minimise the impacts of marine pollution arising from a maritime environmental emergency. The National Plan arrangements apply to all incidents occurring within the Commonwealth marine area, the high seas or state and territory jurisdictions, which have the potential to impact upon Australian Government interests.

Under the National Plan, AMSA works closely with the Department of the Environment and Energy, in particular AAD, to protect and manage the environment from pollution incidents south of 60 degrees.

AMSA, in conjunction with AAD, has recently developed the Australian Antarctic Marine Pollution Contingency Plan which describes the responsibilities of the Australian Government and other agencies able to provide advice in the event of a marine pollution incident in the Australian Antarctic Territory, the subantarctic and Southern Ocean.

In addition, AMSA is responsible for the delivery of a national emergency towage capability (ETC) within Australia's eleven designated ETC regions. AMSA manages the ETC with the support of jurisdictional arrangements which manage the risks within each jurisdiction.

Response arrangements can be activated outside of Australia's Exclusive Economic Zone if required.

As a party to the International Convention of the Prevention of Pollution from Ships (MARPOL), Australia has a number of measures in place to prevent the discharge of pollution from ships into the sea. In particular, the Antarctic area is recognised as a Special Area in Annexes I and V of MARPOL prescribing additional requirements related to the discharge of oil and garbage into the sea in this area. These prevention measures are a key element in minimising the need for pollution response.

3. Search and Rescue

In accordance with international search and rescue conventions, Australia's coordination of both aviation and maritime search and rescue responsibilities for the Australian Search and Rescue Region (Australian SRR), are delivered by AMSA, through Australia's Joint Rescue Coordination Centre. The Australian SRR includes a significant area of the Antarctic and Southern Ocean (Attachment A).

International Conventions

Three international conventions deal with search and rescue and the obligations to render assistance to persons in distress in maritime and aviation incidents. These conventions are applicable to the Southern Ocean and the Antarctic and include:

- The International Convention for the Safety of Life at Sea 1974 (as amended) (the SOLAS Convention);
- The International Convention on Maritime Search and Rescue, 1979 (the SAR Convention); and
- The Convention on International Civil Aviation 1944 (as amended) (the Chicago Convention).

National and International Arrangements

AMSA provides a national search and rescue service in a manner consistent with Australia's international obligations. Australia's Inter-governmental Agreement on National Search and Rescue Arrangements, and the National Search Manual, describe Australia's national search and rescue service responsibilities, national plan framework and standard reference procedures.

In addition, a memorandum of understanding (MOU) between AMSA and AAD defines the division of responsibilities in relation to search and rescue coordination in the Antarctic region, and implements operational procedures to effectively coordinate a response to a search and rescue incident.

In recognition that both agencies may have a role in Antarctic search and rescue coordination, the MOU defines responsibilities for both coordination and response roles and includes details on:

- the division of responsibilities between each organisation;
- coordination and operational procedures;
- sharing of asset and communications information; and
- other resources including support for ice navigation (imagery and analysis), mapping support and Antarctic weather forecasting.

AMSA also maintains numerous search and rescue agreements with neighbouring countries. This includes both South Africa and New Zealand which have adjoining SRRs in the Southern Ocean and the Antarctic. The search and rescue agreement is an arrangement between countries implemented in accordance with both the SAR and Chicago Conventions and outlines procedures to effectively conduct search and rescue response across SRR boundaries and sets out coordination arrangements.

Search and Rescue Regions

Both the IMO and the International Civil Aviation Organization (ICAO) sponsor global search and rescue plans, allocate SRRs so that a national search and rescue authority is identified as having responsibility for the coordination of search and rescue of any person within every region on earth. SRRs were developed by the IMO and ICAO in consultation with member parties and often reflected existing flight regions and proximity to countries as a basis for establishment.

In relation to the Southern Ocean and Antarctic, Australia's SRR is vast, and includes a large proportion of Antarctic mainland with an area covering 4,796,700 square kilometres, with an additional smaller 3,719,300 square kilometres of sea area from the Antarctic coast to 60 degrees south latitude.

Search and Rescue Coordination and Collaboration

Like all countries with responsibilities in the Southern Ocean and Antarctic, Australia faces particular challenges in coordinating and responding to a search and rescue incident in this region:

- A demanding environment with freezing temperatures, permanent and shifting ice, extreme wind and sea conditions, all affect survival time and can seriously delay rescue operations.
- Long distances from search vessels or aircraft mean that the time for search resources to reach the search area is extended and reduces the number of resources available for the incident.
- The region's remoteness from passing maritime and aviation traffic means that there are often no assets of opportunity that can be used in a search and rescue incident.

Close coordination between Australian Government agencies, including AAD and AMSA, is essential to effectively coordinate search and rescue responses. In addition, the capacity to coordinate through AAD with other National Antarctic Programs (NAP) active in the Australian SRR and the Southern Ocean is essential and majority of ships and aircraft operating in the area are operated by NAPs.

There has also been recent collaborative work with the Council of Managers of National Antarctic Programs (COMNAP) to discuss the importance of search and rescue in the Antarctic and the need for continued cooperation of search and rescue authorities and NAPs. This includes further development of the COMNAP web-based tools to share information and a best practice and lessons learned facility for the five search and rescue authorities¹ with responsibility in the Antarctic. This capacity gives an overall view of asset location, communication and equipment on a near time basis and is fundamental to ensuring a more effective search and rescue response.

¹ The SAR authorities are from Chile, Argentina, South Africa, Australia and New Zealand

AMSA uses Australian Defence Force and commercial providers for the provision of long range aviation assets and, although used for Antarctic SAR in the past, neither have significant experience in conducting operations in this region. It is important that when asset requirements are developed for operating in the Southern Ocean or Antarctic, possible search and rescue usage be considered.

Maritime Communications

The importance of effective communications to facilitate coordination is also essential and AMSA is responsible for the provision of shore facilities for the Global Maritime Distress and Safety System (GMDSS) and all distress and safety traffic in the Australian SRR are handled by JRCC Australia. The basic premise of the GMDSS is that search and rescue authorities ashore, as well as shipping in the immediate vicinity of a distress, will be rapidly alerted so they can assist in a coordinated search and rescue³ operation with the minimum of delay. Australia has declared itself Sea Area A3 and meets its obligation through the provision of satellite and High Frequency radio communications services to an area that encompasses the entire SRR to approximately latitude 70 degrees south.

Summary

In Australia's experience, the search and rescue system and the present coordination arrangements have proven effective for incidents in Antarctica. While Australia continues to look for opportunities to improve coordination and supporting arrangements, the system is fundamentally sound. It does rely on extensive preparations for communications and survival by those that may need rescue. It is anticipated that with increased activity the need to ensure continued and strengthened collaboration, exchange of information and cooperation between both national and international organisations will be essential.

Australia recognises that search and rescue response capabilities for Antarctic areas (in particular land/ice areas) are limited, and places a high priority on proper planning and avoidance of incidents. There will be a continued reliance on NAPs providing their own search and rescue cover and other expeditions having adequate contingency plans to reduce the need for outside assistance to be mobilised.

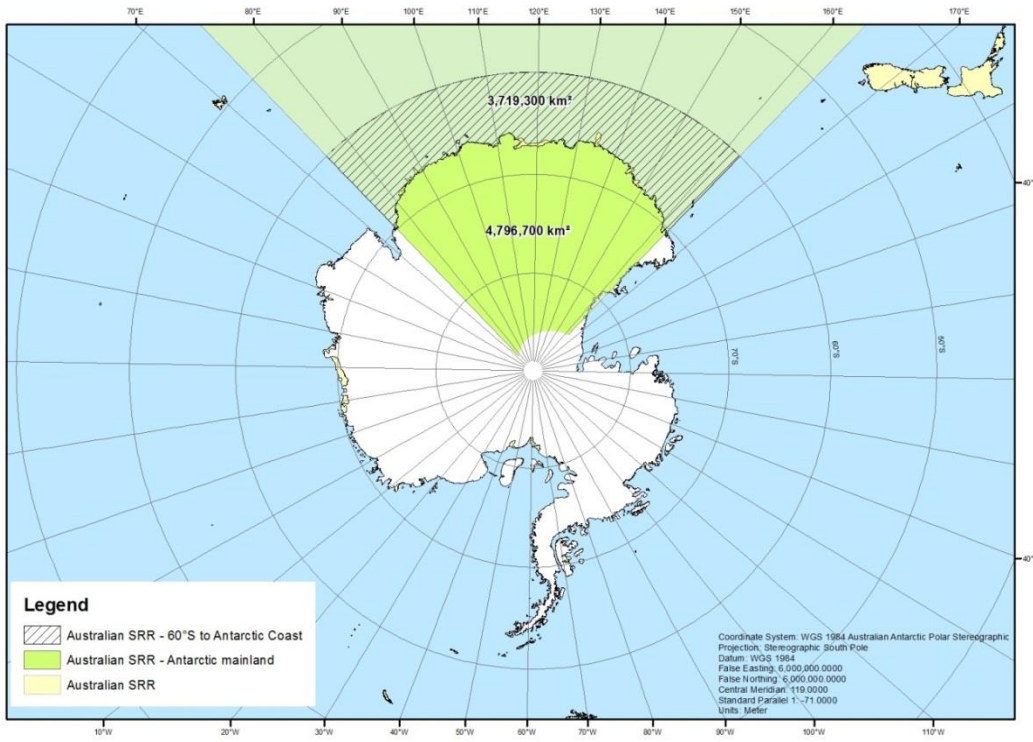


Figure 1: The Australian Search and Rescue Region - Southern Ocean & Antarctic

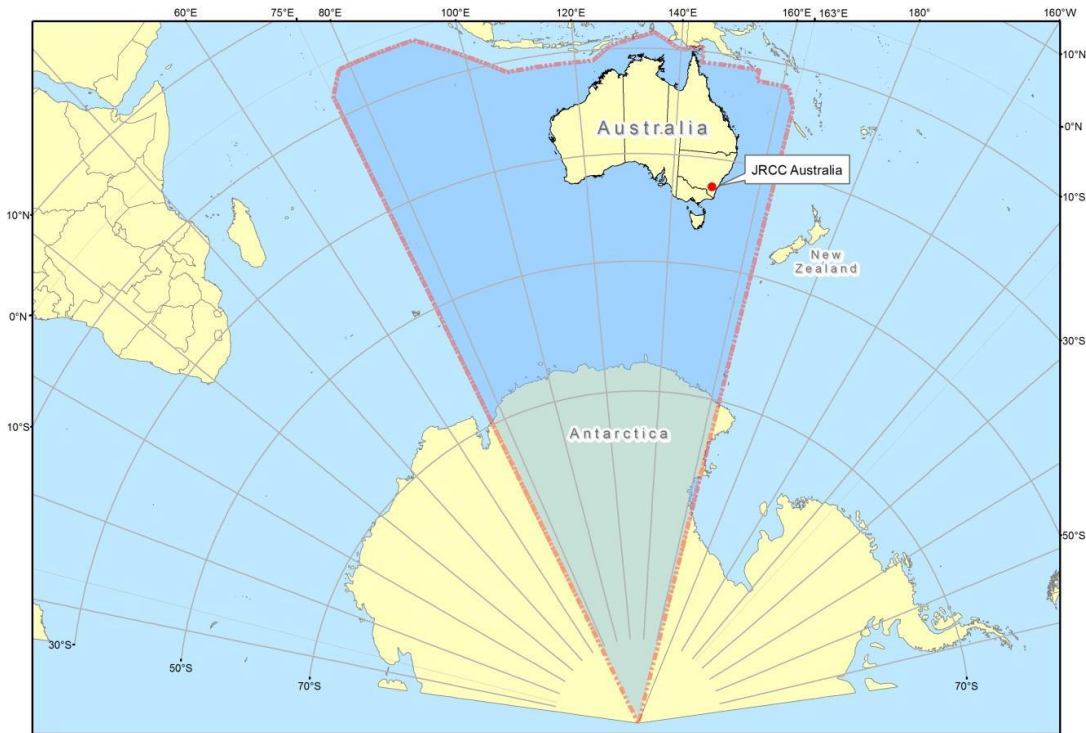


Figure 2: The Australian Search and Rescue Region

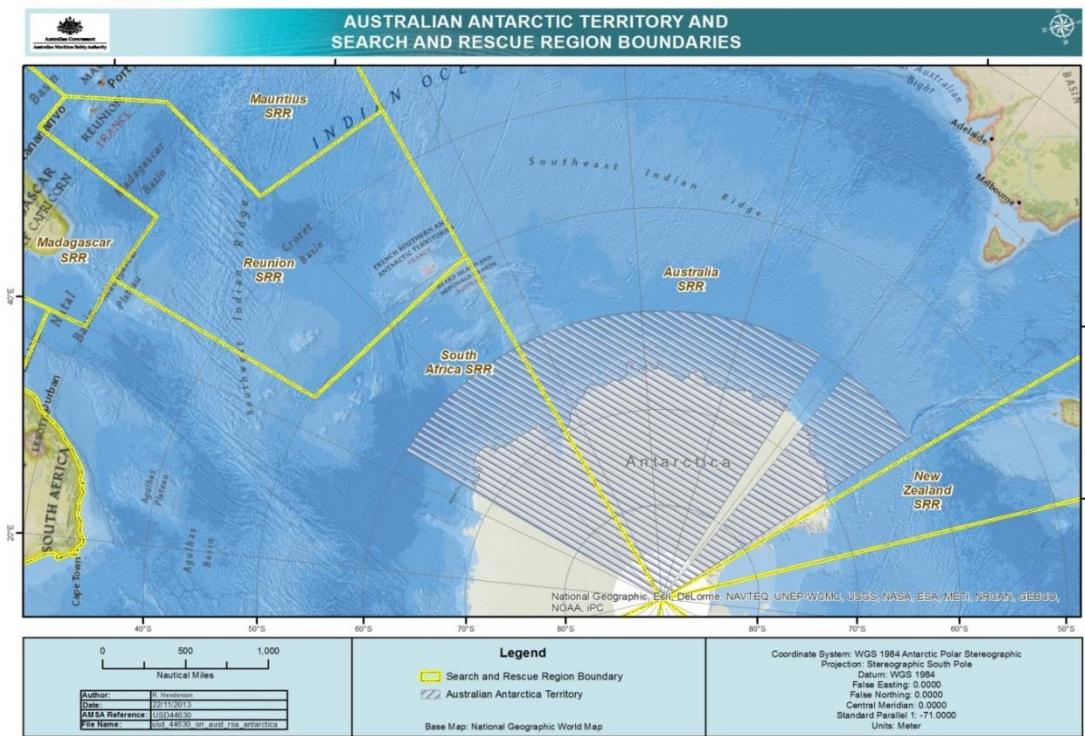


Figure 3: Australian SRR Antarctic Region and Australian Antarctic Territory

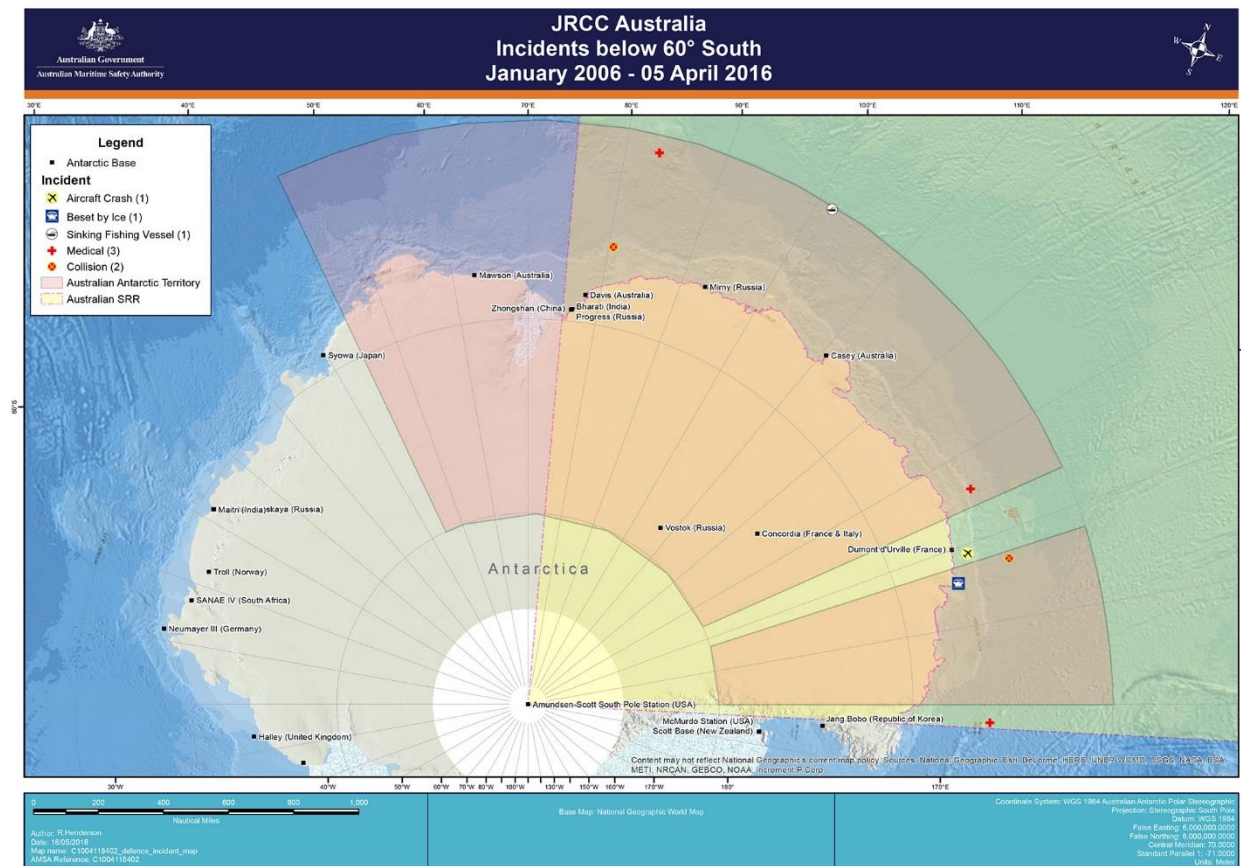


Figure 4: Search and Rescue incidents in Antarctic and Southern Ocean January 2006 – April 2016