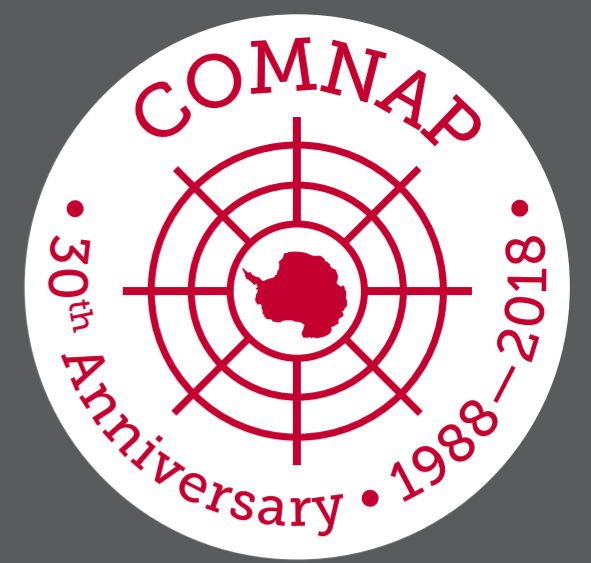




INFORMATION EXCHANGE: How COMNAP Productises Data for Members & the Community



Introduction

The Council of Managers of National Antarctic Programs (COMNAP) often requests information from its Member National Antarctic Programs. Once collected, the information is housed in the COMNAP database and is used and exchanged in a range of COMNAP products. Those products support the work of COMNAP Member National Antarctic Programs in regards to international co-operation in science, science support, operations, logistics, and in Search and Rescue (SAR) situations to name only a few examples. COMNAP has produced procedures for such information exchange and there are also information exchange requirements which are obligations on Antarctic Treaty Parties (e.g. Articles III and VII (5) of the Antarctic Treaty, 1959), in several articles of the Protocol on Environmental Protection to the Antarctic Treaty, 1991, and in a number of Recommendations, Measures, and Resolutions as adopted by the Parties. The COMNAP database was developed as a source of information primarily for use by Member National Antarctic Programs and the COMNAP Secretariat. However, advances in technology coupled with good planning in development mean that information exchange into duplicate fields in separate databases is now possible.



Figure 1: Screenshot of the COMNAP database showing some of the thematic

Information Exchange

Providing information in relation to the capabilities of National Antarctic Program is a significant responsibility, and one that all programs take very seriously. It is also an obligation that places a burden on already busy National Antarctic Program staff, who must provide the information into multiple databases and systems, and must ensure that the provision of data into each is done in a timely manner that addresses the need for currency in the data. The task is often complicated and time-consuming, since many of the databases ask for the same data to be input across multiple organisations, and some of the databases require specific expertise in order to contribute to them. For example, the air operations database in support of the COMNAP Antarctic Flight Information Manual (AFIM) requires that someone with in-depth knowledge of aviation infrastructures and operations be responsible for understanding AFIM data requirements and for providing the relevant data. Some National Antarctic Programs have such expertise in-house, but many others do not.

There is potential for duplication of some of the information that is being exchanged in the different databases and systems across the range of Antarctic organisations (Figure 2). This creates duplication of efforts, ultimately more work for those entering the data into multiple systems and creates a risk that some important information is not being directed to where it will be of most benefit or at a time when it would be of most critical use. Especially in SAR situations, information should be readily available, reliable and current. These up-to-date information can be automatically served with a higher frequency than previously possible to the other Antarctic organisations.

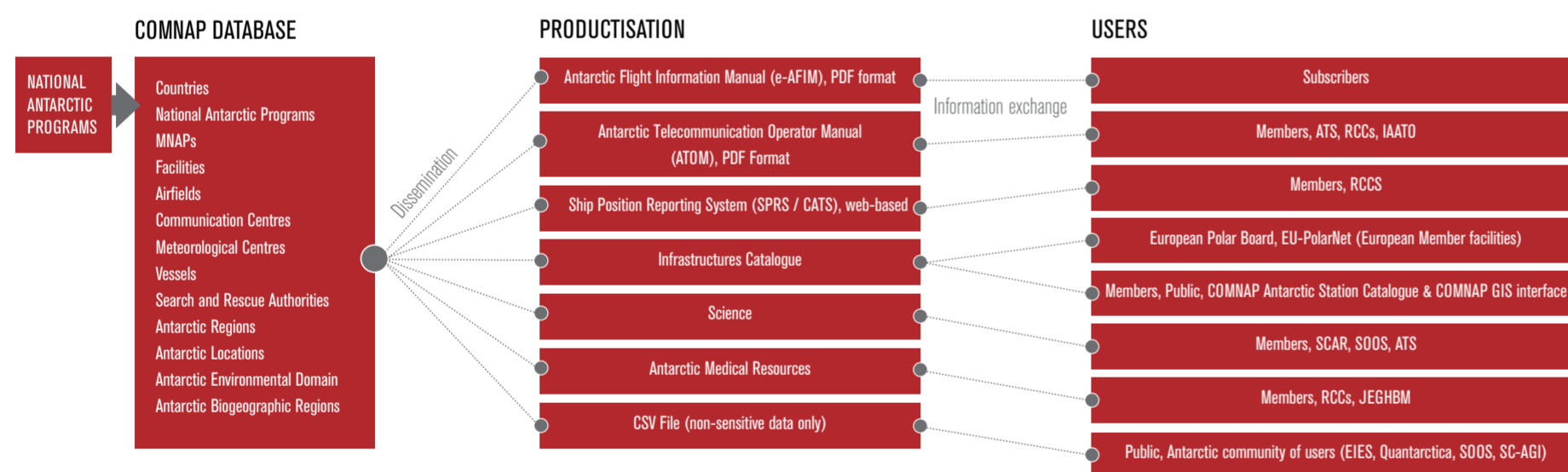


Figure 2: Example of exchange of information across Antarctic organisations

COMNAP Antarctic Facilities

The COMNAP Antarctic Facilities data serves two products available for the wider community: the COMNAP GIS interface and the COMNAP Antarctic Station Catalogue. The data provided are a subset of the COMNAP database which automatically populated these products.

The COMNAP GIS interface is an interactive graphic providing information related to the capabilities of the 30 COMNAP Member National Antarctic Programs. The yellow dots indicate year-round facilities; the red dots indicate seasonal facilities. The COMNAP GIS interface can be directly accessed using the below QR code. Zooming in the map, the facilities names will appear; selecting any dots, a box opens up (Figure 4) to provide information, extracted from the COMNAP database, including a picture of the facility and a webcam link (if available).

The COMNAP Antarctic Station Catalogue serves as an useful tool to share information on the facilities, located below 60°S, operated by the COMNAP Members, supporting the Antarctic community in many tasks, especially those tasks related to international co-operation in science and science support. The COMNAP Antarctic Station Catalogue can be freely downloaded from COMNAP website (www.comnap.aq) under 'Our Members' tab.

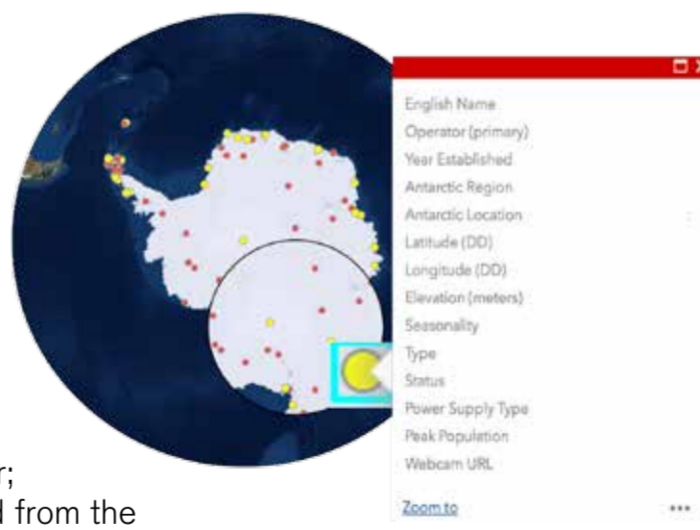


Figure 4 Screenshot of the COMNAP GIS interface

Acknowledgements

We acknowledge the contribution of all the 30 COMNAP Member National Antarctic Programs populating the database with information that serve different COMNAP products. In addition, COMNAP recognises the work of the US Polar Geospatial Center with the support and leadership of the US National Science Foundation Office of Polar Programs in developing the COMNAP database.

A. Colombo¹, B. Herried², M. Rogan-Finnemore¹

¹COMNAP Secretariat, Christchurch, New Zealand; ²Polar Geospatial Center, University of Minnesota, United States of America. sec@comnap.aq



COMNAP Database

COMNAP developed the database via the US Polar Geospatial Center with the support and leadership of the US National Science Foundation Office of Polar Programs, and with input from all COMNAP Member National Antarctic Programs. The database, based on a cloud application, is a relational one informing a range of COMNAP products and information exchange tools. Currently, the database consist of fourteen tables (Figure 1), plus three administrative ones and these are related one to the other by various linkages. For example, the National Antarctic Programs' table is related to Facilities' table, meaning many Facilities belong to one National Antarctic Program, and the Facilities' table is related to the Antarctic Environmental Domains and Antarctic Biogeographical Regions' tables, meaning many Facilities belong to one Antarctic Environmental Domains and Antarctic Biogeographical Regions. All the tables are easily searchable.



Figure 3: COMNAP Members science-support assets operating below 60°S on 16 February 2018



Antarctic Telecommunications Operators Manual (ATOM)

The ATOM is a directory which includes contact details (telephone, email and radio) for all national Antarctic programs vessels and Antarctic stations.

ATOM also includes details for points of contact (usually the Manager of National Antarctic Program and the Deputy Manager of National Antarctic Program) for each of the COMNAP Member National Antarctic Programs (Figure 5).

The directory also includes the contact details for the five Rescue Coordination Centres (RCCs) with SAR coordination and response responsibilities for parts of the Antarctic Treaty Area.



Antarctic Flight Information Manual (AFIM)

The Antarctic Flight Information Manual (AFIM) is published by COMNAP, by electronic means, as a tool towards safe air operations in Antarctica, originally as per ATCM Recommendation XV-20 (no longer current) and now under Resolution 1 (2013).

At ATCM XIV (1987), the Consultative Party representatives discussed their growing concern for the lack of measures to insure aviation safety, even though the volume and density of air traffic in Antarctica were known to be very low in comparison with other regions of the world. Recommendation XIV-9 was adopted, calling for a meeting of experts on air safety. The Antarctic Treaty Meeting of Experts (ATME) on Air Safety in Antarctica was held on 2-5 May 1989 in Paris, France, and many national Antarctic programs members were in attendance facilitating the discussion. Subsequently, at the October 1989 ATCM XV, the ATCM adopted Recommendation XV-20 "Air Safety in Antarctica" which embodied the ten proposals that were originated by the Meeting of Experts. AFIM is the result from the ATME; COMNAP has been tasked to prepare and continuously update this compendium.