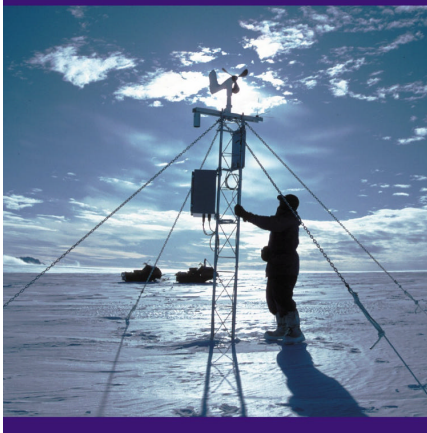


In Brief...

The International Antarctic Weather Forecasting Handbook

J Turner and S Pendlebury (Eds.)



Although weather forecasts have been issued for various parts of the Antarctic since the early expeditions, there has not been a great deal of international cooperation regarding the dissemination of knowledge about forecasting techniques. A number of nations have produced forecasting handbooks for their areas of operation but these have often not been widely disseminated. To try and aid the exchange of information on forecasting the First International Symposium on Operational Weather Forecasting in the Antarctic was held in Hobart, Australia between 31 August and 3 September 1998. This meeting brought together participants from eight nations, who included forecasters, administrators, users of forecasts and researchers with an interest in the development of improved forecasting techniques. One of the major outcomes of the meeting was the decision to prepare *The International Antarctic Weather Forecasting Handbook*, which was seen as a good way of providing a reference volume of material on forecasting methods used in the Antarctic. The handbook has now been prepared under the auspices of the British Antarctic Survey, the Australian Bureau of Meteorology, the Scientific Committee on Antarctic Research, the World Meteorological Organisation, the International Commission on Polar Meteorology and the Council of Managers of National Antarctic Programs.

The handbook consists of two parts. The first provides information on the physical characteristics of the continent, the nature of high latitude weather systems, the forecasting requirement, analysis and forecasting techniques used in the Antarctic and the means by which specific elements are forecast. The second part described forecasting techniques used at specific locations across the Antarctic.

The handbook is now at version 1.1 and consists of nearly 700 pages of information on all aspects of forecasting in the Antarctic. It is available for download from the British Antarctic Survey FTP site at: <http://www.nerc-bas.ac.uk/public/icd/jtu/ftpinst.html>

and through the Operations/Meteorology links at the Council of Managers of National Antarctic Programs (COMNAP) site at <http://www.comnap.aq/comnap/comnap.nsf>

John Turner (British Antarctic Survey) & Steve Pendlebury (Australian Bureau of Meteorology)



The Australian Antarctic Foundation Subantarctic Plant House

In the great Southern Ocean, approximately 1500 km southeast of Tasmania, lies a small island few people will ever have the opportunity to visit. Known as Macquarie Island, this relatively young landmass emerged approximately 600,000 years ago as a piece of deep ocean crust thrust above sea level by massive continental plate activity.

The Australian Antarctic Foundation Subantarctic Plant House was opened on October the 13th, 2000 by Sir Ninian Stephens in his capacity as the former chairman of the Australian Antarctic Foundation. The Subantarctic Plant House at the Royal Tasmanian Botanical Gardens displays the unique flora of Macquarie Island against a panoramic mural of the area. Painted by renowned Tasmanian artist, John Lendis, the mural reflects the rugged terrain and bleak beauty of the island and its vegetation.

The project is a world first, being the first purpose-built display environment designed to grow the flora of a subantarctic island. Measuring 14 x 6 metres the House is designed in the shape of a tear drop, with high curving walls and a clear polycarbonate roof. Internally it is cooled by piped cold water, air conditioning and a misting unit.

Visitors will not only have the opportunity to learn about the unique flora of the Island but will gain a better understanding of what it actually feels like to be there, as the cold, wet and windy conditions have been recreated in the Subantarctic Plant House with the aid of a fogging system and fan-driven chiller unit.

Display plants include *Poa foliosa*, a grass tussock which can reach two metres in height and is the dominant plant on the island, and the two mega-herbs: the famous Macquarie Island Cabbage, *Stilbocarpa polaris*, which was used against scurvy by whalers of yesteryear and a large silver grey leafed member of the daisy family, *Pleurophyllum hookeri*.

Other species may look familiar including cushion plants *Azorella macquariensis* and *Colobanthus* sp., grasses *Festuca contracta* and *Agrostis* sp., and the fern *Polystichum vestitum*. The common buzzy *Acaena* sp., whose seed heads stick to our socks, also grows on Macquarie Island. The buttercup family is represented in the form of *Ranunculus crassipes*. The

Heard Island plant, *Pringlea antiscorbutica* will also be on display.

The house has been largely funded through the generosity of the Australian Antarctic Foundation as the major sponsor with significant contributions from a number of other Tasmanian businesses. The development of the house has been greatly facilitated



ROYAL TASMANIAN BOTANICAL GARDENS

by valuable assistance from scientists and staff from the University of Queensland, The Australian Antarctic Division and Tasmanian Parks and Wildlife.

As the newest plant display at the Botanical Gardens, the Subantarctic Plant House provides a fascinating glimpse of plant life on Macquarie Island and for most people it will be their only opportunity to experience first-hand the subantarctic flora of 'under, down under'.

Mark Fountain,
Royal Tasmanian Botanical Gardens



(from left) Robb Clifton (Macquarie Island), Meg Dugdale (Mawson), Paul Cullen (Casey) and Jeremy Smith (Davis).
GLENN JACOBSON

Station Leaders for 2001

A university professor, two Army officers and an executive chef have been selected to lead teams of scientists and support staff at Australia's three continental Antarctic stations at Mawson, Davis and Casey and on subantarctic Macquarie Island. They will spend the winter of 2001, the fifty-fourth year

of Australia's modern Antarctic program, in charge of between 15 and 20 men and women at Australia's isolated Antarctic outposts.

Jeremy Smith is an Associate Professor in Biogeography at the University of New England at Armidale, NSW. He was the Station Leader at Macquarie Island in 1996 and this time will go to Davis, the busiest station for Australia's antarctic scientific research program.

Meg Dugdale, Station Leader for Mawson, is on leave from the Australian Army where she was until recently a Visiting Military Fellow at the Australian Defence Force Academy and a Senior Instructor at the Australian Technical Staff Wing of the Australian Command and Staff College. A communications engineer with a Masters in International Relations, her military service includes command of a contingent of 117 combined services personnel in both the UK and Germany.

Paul Cullen has been the Executive Chef at the Hotel Grand Chancellor in Hobart, where he was responsible for all aspects of the catering operation, which included a team of 50 staff. He has some 20 years experience in the hospitality industry and has worked in a range of positions throughout Australia, but his posting to Casey is likely to be the most challenging yet.

Robb Clifton, who will be the station leader for Macquarie Island, has recently returned from climbing Big Ben, the 2745 m active volcano that towers over the remote Australian territory of Heard Island. He has recently left the Australian Army where he served in the Special Air Service Regiment. He has a BSc in Computer Science and is currently studying for a Graduate Diploma in Environmental Management.



HARVEY MARCHANT

Visitors to the AAD

Dr Akira Ishikawa

Australia has strong links with Japan in Antarctic research. Both nations structure their Antarctic programs similarly and

over the last fifteen years there has been an increase in the working collaboration between the two. Last year the Australian Antarctic Division (AAD) and the National Institute of Polar Research (NIPR) formally recognized this close association with the signing of a document by the directors of both organisations.

The Japanese biologist who is presently working in the AAD as a visiting scientist is Dr Akira Ishikawa from Mie University. He is on a two year postdoctoral fellowship funded through a bilateral program between the Japanese Society for the Promotion of Science and the Australian Academy of Science. He is working with Harvey Marchant and Graham Hosie to investigate the ecological role of the smallest (but the most abundant) species of phytoplankton in the Antarctic Ocean. He is looking at the interactions between them,

their role as food for grazers, and the ways in which grazing influences the community composition of these organisms. This involves participating in marine science voyages (for the 1999–2000 and 2000–01 seasons) as well as experimental studies in the AAD's laboratories.

Akira has received significant recognition early in his career in the form of two awards: the "Okada", a prize from the Oceanographic Society of Japan for excellence in oceanography by a young scientist and the "Shorei-sho" from the Plankton Society of Japan for excellence in research by a young scientist. We are particularly fortunate that such a promising scientist has chosen to work as part of our program

Mr Xiaoliang (Granty) Ling from the Polar Research Institute of China is visiting the Australian Antarctic Data Centre (AADC) in 2001. He will be learning how the AADC operates, and will be briefing us on Antarctic data management activities in China. He will work on a number of data management initiatives in the AADC, the most significant of which will be to assist with the development of an Antarctic Biodiversity Database for the SCAR project, Regional Sensitivity to Climate Change (see articles on p 16 and 17). This database promises to be by far the most complex that the AADC has developed to date.

Antarctic policy studies developed

The policy arm of the Australian Antarctic program is developing strong links with the research and tertiary teaching programs in the Australian academic community.

A prime example is the Antarctic CRC's Law, Policy and International Relations sub-program based at the University of Tasmania. The sub-program conducts research on the management of Antarctica and the southern oceans within the fields of international law, public policy and international relations. A recent review, conducted in consultation with the AAD, identified four research themes to guide the strategic development of the sub-program:

- operation of the Antarctic Treaty
- protection of the Antarctic environment
- management of Antarctic resources
- Australia's policy interests in Antarctica.

The research program for the next two years includes work on illegal for Patagonian toothfish and assessment of influence within the Antarctic Treaty system. These projects are being undertaken in close consultation with policy officers of the AAD and other government agencies. The partnership between the AAD and the Antarctic CRC on law and policy issues benefits academia by providing access to current policy issues—and the policy and legal practitioners gain from independent and rigorous academic input to their work.

The Law, Policy and International Relations program is guided by a reference group which includes representatives of the AAD and the Department of

Foreign Affairs and Trade. Research outputs take the form of advice to Government, POLAR (Policy, Law and International Relations) Working Papers and contributions to the Antarctic and Southern Ocean Law and Policy Occasional Papers produced by the University of Tasmania Law School.

The Institute of Antarctic and Southern Ocean Studies (IASOS) at the University of Tasmania has developed a strong teaching program that also draws on participants in the Australian Antarctic program. The institute offers an Honours Degree and Graduate Diploma in Antarctic Studies which involve multi-disciplinary course work and a thesis. The core teaching program, which is run as an intensive series of lectures and seminars runs over the first half of the academic year, covers the life sciences, physical science and Antarctic operations. The social sciences stream addresses the critical law and policy issues and includes comprehensive attention to the Antarctic Treaty system, international law and environmental protection issues. AAD policy staff have contributed to the teaching program over several years.

IASOS also provides Masters and PhD programs in a range of research areas, and supports international visiting scholars. Much of this work is conducted in close collaboration with science and/or policy staff of the AAD and has made significant contributions in a number of policy related areas. The AAD has also developed links with other Australian and overseas institutions studying Antarctic law and policy.



Bernadette Hince at the launch of The Antarctic Dictionary at the Australian Antarctic Division in December 2000.

Glenn Jacobson

Antarctic Dictionary launch

The Antarctic Dictionary, a unique work on the English language spoken by 'Antarcticans', was published in December 2000. Compiled by Canberra-based scholar Ms Bernadette Hince, the book covers the English spoken by Australians, New Zealanders, US, British (including Falkland Islanders) and others throughout Antarctic and subantarctic regions.

It took Ms Hince 11 years to compile the 500-page dictionary, and involved extensive research in all the countries concerned, including visits to Antarctica and the subantarctic islands.

The Antarctic Dictionary is published by CSIRO Publishing of Melbourne, in association with the Museum of Victoria.

