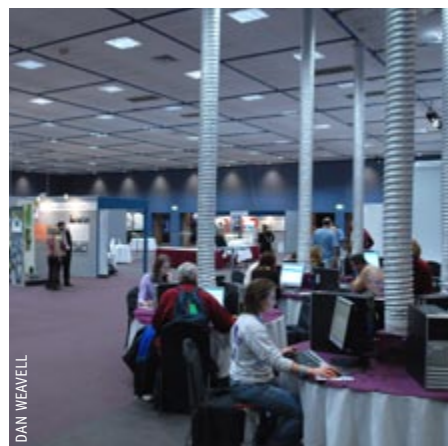


BRINGING ANTARCTIC INTERESTS TOGETHER.

The world event of Antarctic science and logistics came to Hobart last July with the first joint meeting of the Scientific Committee on Antarctic Research (SCAR) and the Council of Managers of National Antarctic Programs (COMNAP).



Posters lined the halls and walls of the SCAR/COMNAP venue.



Conference delegates check their emails and browse the trade display.

Some 900 delegates from around the world converged on Hobart for a range of business meetings, the SCAR Open Science Conference – on the broad theme *Antarctica in the Earth System* – and a concurrent symposium of COMNAP’s advisory committee – the Standing Committee on Antarctic Logistics and Operations (SCALOP) – which addressed the theme *Going forward together, efficiently and safely*.

Australian Government Antarctic Division scientists were well represented at the SCAR and SCALOP events. Of some 625 talks and posters presented during the week the Division contributed 15 (24%) of the 62 SCALOP presentations and 89 (13%) of more than 560 SCAR presentations. Overall, Australia was responsible for approximately 30% of the presentation effort.

The SCAR Open Science Conference covered 45 themes, including evolution, climate, glaciology, atmospheric, astronomy, marine ecosystems, ecology, geology, environmental impacts, human health and oceanography. Keynote speakers also provided an overview of each of SCAR’s five recently established scientific research programmes (page 3).

The SCALOP symposium featured talks on safety and new directions in stations, infrastructure, shipping and energy reduction. Leading international oil expert, Dr Ali Samsam Bakhtiari of the University of Tehran, painted a worrying picture of the inevitable decline in oil production and rising fuel prices (page 10). A number of lightweight, energy efficient station designs were

also previewed, including the British Antarctic Survey’s replacement for Halley V, which will be the first Antarctic station on skis (page 17).

COMNAP delegates also participated in a range of working groups and workshops covering shipping, air transport, energy management, medicine, environmental issues, tourism, expeditioner training, waste management, incident reporting, and safety. Over the coming year COMNAP agreed to develop a range of initiatives including an information paper on contingency planning and emergency response, reducing the environmental footprint in Antarctica, and a working paper on best practice energy management. Throughout the year working groups will also focus on supporting initiatives to enhance hydrographic surveys of Antarctic waters, conducting a workshop on improved weather forecasting in Antarctica, developing guidelines for training, response to emergencies and fuel handling and storage, and taking advantage of communications technologies such as Iridium telephony.

The combined meetings provided delegates with an important opportunity to discuss future collaborative ventures as they approach the start of the International Polar Year in March 2007. The following pages provide a snapshot of some of the topics covered at the meetings by the Australian Government Antarctic Division and other Antarctic institutions.



The Scientific Committee on Antarctic Research initiates, develops and coordinates high quality international scientific research in Antarctica, and on the role of Antarctica in the Earth system.

PETER BOWEN

SCAR makes its mark in Antarctic science



Australia was a founding member of SCAR when it was established in 1958 to advance international scientific activity in Antarctica during the International Geophysical Year of 1957-58. Since then Australia has played an active role in the key SCAR activities of initiating, developing and coordinating international scientific research in Antarctica.

In 2004 SCAR defined five new strategic scientific programmes that will provide a research focus in the coming decade. The programmes are also playing a leading role in the research planned for the International Polar Year beginning in March 2007. Australian scientists are involved in all five programmes.

Antarctica and the Global Climate System

This programme investigates the atmospheric and oceanic linkages between the Antarctic climate and global climate. It has four closely linked themes of research investigating Antarctic climate variability over decadal time spans, global and regional climate signals in ice cores, natural and human influences on the Antarctic climate, and the influence of Antarctic climate processes on global climate (*Australian Antarctic Magazine* 9: 4).

Antarctic Climate Evolution

The *Antarctic Climate Evolution* programme promotes the exchange of data and ideas between research groups focussing on the evolution of Antarctica’s climate system and ice sheet.

Information on climate change and ice thickness variation will come from cores drilled through the ice sheet and through rocks and sediments under the ice, from cores in offshore marine sediments and from changes in the landscape (such as the exposure of past moraines, when ice melts). Data will be used in models to improve our understanding of how climate changed in the past and to better forecast how climate may change in the future.

Evolution and Biodiversity in the Antarctic

Evolution and Biodiversity in the Antarctic: the response of life to change will explore the evolutionary history of selected modern Antarctic biota, how biological diversity in the Antarctic influences ecosystem function, and how the biota will respond to environmental change. The programme will integrate work on marine, terrestrial and freshwater systems and bring together a wide range of disciplines such as plate tectonics, climatology, glaciology, molecular biology, palaeontology and ecology. The programme incorporates the five-year Census of Antarctic Marine Life, being led by the Australian Government Antarctic Division.

Inter-Hemispheric Conjugacy Effects in Solar-Terrestrial and Aeronomy Research

Also known as ICESSTAR, this programme investigates the effects of the solar wind and radiation on the structure and dynamics of the upper atmosphere at the poles.

Research focuses on the interaction between the magnetosphere (the Earth’s magnetic field), the ionosphere (the layer of the Earth’s atmosphere that is ionized by solar radiation) and the solar wind. A network of ground-based instruments will be used to study the similarities and differences between these interactions at each pole. The research will help improve predictions of space weather phenomena that adversely affect spacecraft operations, radio communications and satellite-based positioning systems, and provide scientists with new insights into, and ways of studying, the near-Earth space environment.

Subglacial Antarctic Lake Environments

More than 150 subglacial lakes have been discovered under the Antarctic ice sheet, the largest being Lake Vostok in the Australian Antarctic Territory, four kilometres below the ice. The *Subglacial Antarctic Lake Environments* programme is coordinating several efforts to drill through the ice sheet into some of these subglacial lakes, which appear to be part of a much larger subglacial hydrological system. The programme will advance understanding of the evolution of subglacial environments and processes, their physical, chemical and biological characteristics and the interconnectivity of subglacial networks.