



**JOINT MEDIA RELEASE ISSUED BY THE
DEPARTMENTS OF SCIENCE AND TECHNOLOGY AND
ENVIRONMENTAL AFFAIRS AND TOURISM**

**Antarctica: Natural Reserve Devoted To Peace And Science
Antarctica Month celebrates SA involvement, research and protection**

The Department of Science and Technology (DST) has declared June 2005 to be Antarctica Month to make South Africans more aware of the unique and exciting research done by our scientists on this frozen continent and the sub-Antarctic islands. The mission of the South African Antarctic Programme (SANAP) is to increase our understanding of the natural environment and life in the area through appropriate research, science and technology. SANAP research is undertaken in Antarctica, on the Prince Edward Islands (including Marion Island and Prince Edward Island), Gough Island and in parts of the Southern Ocean.

Two government departments are joining hands in managing South Africa's Antarctic initiative. DST, through the National Research Foundation (NRF), is responsible for science research while the Department of Environmental Affairs and Tourism (DEAT) takes care of logistical management. According to Dr Tshepo Seekoe, Manager of the Science Platforms Unit at DST, an Antarctic Research Strategy for South Africa (ARESSA) has been completed recently. 'South Africa increasingly recognises the importance of Antarctic research to understanding global scientific problems,' he says. ARESSA aims to create a demographically balanced Antarctic research programme that strives for high quality international research, links to other African countries and interdisciplinary research.

According to Dr Seekoe, the implications of SANAP research for South Africa and Africa are monumental. Much of the proudly South African effort on Antarctica and the Southern Ocean Islands is aimed at protecting them not only for future generations, but also for the entire planet. 'During this month, DST aims to inform South Africans why our researchers work in Antarctica, what their research entails, and what the benefits are to our country of having a base on this continent. Not only is this region a huge living laboratory, but it may hold the key to stopping global climate change, planetary weather and untainted biology,' he adds. This month furthermore marks the 45th anniversary of the first South African National Antarctic Expedition (SANAE) team to over-winter on the ice.

South Africa's Antarctic research focuses on five main themes covering the geosciences, physical sciences, life sciences, the impact of human presence in Antarctica and the history, sociology and politics of our long term presence in the region.

DST, through the NRF, co-ordinates, evaluates and funds the research projects. SANAE IV, the South African base in Antarctica, offers a well-resourced facility for the observation of various natural phenomena occurring in the cosmos, in the atmosphere or the electromagnetic field surrounding the earth, as well as in the crust of the earth itself. Auroras, solar winds and the ozone layer are some of the subjects of this research – with direct relevance to the navigation and communication systems upon which we have become so dependent. Geological investigations help to unravel the evolution of Gondwanaland, while meteorological and oceanographic observations provide clues to the process of global climate change. These are just some of the ways in which Antarctica offers us a window on the past, present and future of our world.

True to Antarctic tradition, the nine members of the SANAE 44 overwintering expedition team will celebrate the winter solstice, which marks the mid-point of almost three months of polar night, when the sun never rises above the horizon. As part of the Antarctica Month programme and in a spirit of solidarity with these dedicated team members so far from home, DST will host a media event on the eve of the solstice (20 June 2005) aboard DEAT's research and supply ship, the SA Agulhas, currently moored in Cape Town harbour.

History

South Africa's connection with the southern-most continent actually dates back to early Cretaceous times, some 115 million years ago, when the land masses which today make up Africa and Antarctica formed the Gondwana supercontinent. Continental drift eventually resulted in Gondwanaland breaking up to form the pieces of the global jigsaw puzzle seen on today's maps. This has led to the ironic situation that South Africa's current Antarctic base (SANAE IV) is perched atop a gigantic outcrop of Karoo Dolerite, almost 5 000 kilometres from home!

In the years prior to the First World War, South Africa was a staging post for some of the voyages made during the heroic era of Antarctic exploration, but our country's direct involvement began when meteorologist J J la Grange participated in the first successful Trans-Antarctic Expedition (1955 – 58). Truly an Antarctic pioneer, Hannes la Grange went on to lead the first South African National Antarctic Expedition (SANAE), which established a permanent South African presence on the continent in 1960.

The SANAE 1 team took over "Norway Station" in Dronning Maudland (Queen Maud Land) after the Norwegian Antarctic Expedition had vacated it. A new base (SANAE I) was constructed in 1962, with SANAE II being completed in 1971 and SANAE III in 1979. This base was in use until the end of 1994, by which time the construction of SANAE IV had commenced. Unlike the first three bases which had been located on the Fimbulisen Ice Shelf, SANAE IV is located some 200 kilometres inland on the continent itself, and represents an entirely new design, standing above the surface on a nunatak, or rocky outcrop, known as Vesleskarvet. The base was commissioned in 1997, with SANAE 36 being the first team to overwinter there.

South Africa has the distinction of being one of the 12 original signatories to the Antarctic Treaty adopted in 1959, as well as being a founder member of the Scientific Committee on Antarctic Research (SCAR). In accordance with the treaty, all military activities on the continent are prohibited, scientific investigation and co-operation are encouraged and territorial claims are placed on hold indefinitely. The Protocol on

Environmental Protection to the Antarctic Treaty has established Antarctica as a “natural reserve devoted to peace and science” and all activities on the continent are subject to strict environmental management.

Some facts about Antarctica:

- It is the fifth largest continent on earth but has no permanent population.
- Around 80 % of the world’s fresh water lies frozen in the ice sheet covering the continent. Were it to melt, global sea levels would rise by about 75 metres.
- It is the continent with the highest average altitude above sea level: 2 500m.
- Average winter temperatures are around -40°C, although the coldest temperature ever recorded was -89°C at Vostok Base.
- Antarctica is technically speaking a desert, having very little precipitation, even in the form of snowfall. The continent also has the world’s lowest average humidity.
- Static electricity poses a major hazard as far as sensitive electronic equipment is concerned.
- Considering its name, there are no polar bears in Antarctica (*arktos* being the Greek for bear)
- There are no longer any sledge dogs on the continent. All dogs were withdrawn as an environmental safeguard in the early 1990s.
- At consultative meetings of the Antarctic Treaty members, all decisions are made by consensus and not by vote.

More information is available on www.saasta.ac.za/antarctica

Journalists are encouraged to contact any of the spokespersons on the attached list for more information and exciting stories.

The following young scientists can be contacted for profile stories and role-model angles:

- Azwianewi Makhado (DEAT, 082 796 4630; amakhado@deat.gov.za)
- Lakhanyiso Vumazonke (Rhodes University, 046 – 603-5843; 073 247 4311; l.vumazonke@ru.ac.za.)

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