



08/09
EVENTS

ANTARCTICA NEW ZEALAND



Antarctica New Zealand – What we stand for

Vision:

Antarctica and the Southern Ocean: valued, protected and understood.

Purpose:

Advancing appreciation, conservation and knowledge of Antarctica and the Southern Ocean for the benefit of New Zealand and the world community through leadership, partnership and involvement in high quality Antarctica and Southern Ocean-related activities.

Values:

People are the key to Antarctica New Zealand's success to date and in the future. This includes permanent staff; fixed term and contract staff; seconded staff from the New Zealand Defence Force and our many strategic partners in Government, the science community and other national Antarctic programmes. We seek to create a high performing organisation by a culture of shared beliefs through:

Teamwork: We recognise each other's expertise in a wide range of areas and succeed by working together.

Trust: We have confidence in one another.

Caring for the Environment: We recognise the intrinsic value of the natural environment and are committed to its protection.

Quality: We strive to deliver ever-improving value to our stakeholders.

Safety: We will ensure that high safety standards are fundamental to the planning and conduct of all our activities.

Customer Service: We aim to meet all realistic expectations with professional standards and proactive behaviour.

2008/2009 Research Season - Events

Antarctica New Zealand

International Antarctic Centre

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New Zealand

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Antarctica New Zealand

2008/2009 RESEARCH SEASON

EVENT SUMMARIES AND CONTACT INFORMATION

Event K002 Latitudinal Gradient Project (LGP)

Nov-08
Logistics
build up
Jan-09
Darwin
Glacier region

**Antarctica New Zealand, Christchurch. Shulamit Gordon (Project Manager),
Phone: (03) 358 0200, Fax: (03) 358 0211 E-mail: s.gordon@antarcticanz.govt.nz**

The Latitudinal Gradient Project (LGP) is aimed at increasing the understanding of the coastal marine, freshwater and terrestrial ecosystems that exist along the Victoria Land coastline in the Ross Sea region, and describing potential environmental variability that may occur in the future. Antarctica New Zealand is providing the logistical capabilities for research camps to be located at specific sites along the Victoria Land coast. K002 covers the terrestrial work that will be undertaken in the Darwin Glacier region under the LGP. The following events will be visiting the Darwin Glacier region this season: K024A & B, K056A, B, C K066, K072, K081B, (see individual event entries for research summary).

Event K003 Latitudinal Gradient Project (LGP)

Nov-08 to
Dec-08
Granite Harbour

**Antarctica New Zealand, Christchurch. Shulamit Gordon (Project Manager),
Phone: (03) 358 0200, Fax: (03) 358 0211 E-mail: s.gordon@antarcticanz.govt.nz**

See above for LGP abstract. K003 covers the marine studies that will be undertaken at Granite Harbour area under the LGP. The following events will be undertaking research here: K018, K043A, K082 (see individual event entries for research summary).

Event K018 The Meroplankton Community of Granite Harbour

11-Nov-08 to
11-Dec-08
Granite Harbour

**School of Biological Sciences, Auckland University, Private Bag 92019, Auckland.
Dr Mary A Sewell, Phone: (09) 373 7599 Ext: 83758, Fax: (09) 373 7417,
E-mail: m.sewell@auckland.ac.nz**

The pelagic community of the Ross Sea consists of a permanent component (= holoplankton) and a temporary component which is primarily made up from the larval stages of benthic marine invertebrates and fish (= the meroplankton). As part of the Latitudinal Gradient Project we are examining the distribution and abundance patterns of the meroplankton in the Ross Sea. Our research describes the meroplankton biodiversity along the Victoria Land coast and, through a molecular sequencing approach, allows linkage to the benthic adults from which they are derived.

Event K020 Predicting Biocomplexity in Dry Valley Ecosystems

05-Nov-08 to
30-Jan-09
Miers Valley,
Garwood Valley
and Marshall
Valleys

**Department of Biological Sciences, University of Waikato, Private Bag 3105,
Hamilton. Professor Craig Cary, Phone: (07) 838 5493, Fax: (07) 838 4324,
E-mail: caryc@waikato.ac.nz**

This research focuses on describing and interpreting biocomplexity of terrestrial ecosystems in the Ross Sea region delivering a GIS/biodiversity database model linking biodiversity, landscape and environmental factors in a form that is easily understood and taken up by end users. It will provide improved capacity for New Zealand to meet its current and future obligations in managing Antarctic terrestrial ecosystems in an international community. This is a NZ International Polar Year project.

Event K024 Terrestrial Biodiversity in Southern Victoria Land**A & B**

06-Jan-09 to
27-Jan-09 (A)
02-Jan-09 to
03-Feb-09 (B)
Central Valley (A)
Bartrum Basin,
Lake Judith (B)

Department of Biological Sciences, University of Waikato, Private Bag 3105, Hamilton. Professor T G Allan Green, Phone: (07) 838 4225, Fax: (07) 838 4324, E-mail: greentga@waikato.ac.nz

This research focuses on describing and interpreting biodiversity of terrestrial ecosystems in the Ross Sea region and continues previous research based on a successful mixture of classical and molecular taxonomy. Antarctic terrestrial research is about to go through several paradigm shifts. Rather than a decline in biodiversity at higher latitudes with increasingly extreme environments it seems more likely that we have a contraction to sites with better microclimates with actual species present determined by a colonisation lottery. The organisms present may not all be recent colonists but, rather, have expanded from refugia; endolithic systems, supposedly thousands of years old, are dated to less than a century. We intend to continue to test these new ideas by sampling (lichens and mosses) in the Darwin region in association with the LGP (Latitudinal Gradient Project).

Event K026 Improved Ability to Predict Cumulative Effects and Rates of Recovery from Human Impacts on the Antarctic Soil Environment

29-Dec-08 to
20-Jan-09
Cape Evans,
Cape Royds

University of Waikato, Department of Earth Sciences, Private Bag 3105 Hamilton 3240. Megan Balks Phone: (07) 856 0115, Fax: (07) 856 0155, Email: m.balks@waikato.ac.nz

There is limited understanding of cumulative impacts and recovery rates in the Antarctic soil environment. With projections of tourist numbers topping 30,000 in the next few years, concerns about cumulative impacts, and the ability of the most frequently visited sites to recover after human disturbance, are increasing. This project seeks to quantify the cumulative impacts of human activities on Antarctic soils, identify areas of greater vulnerability, increase our predictive environmental impact assessment abilities, and make way for informed management decisions in the future.

Event K043 Microbial Biodiversity in Land-Fast Sea Ice in the Ross Sea**A & B**

04-Sept-08 to
03-Oct-08 (A)
11-Nov-08 to
02-Dec-08 (B)
Hut Point,
Granite Harbour,
Terra Nova Bay

School of Biological Sciences, Victoria University of Wellington, Private Bag 600, Wellington. Dr Ken Ryan, Phone: (04) 463 6083, Fax: (04) 463 5331, E-mail: ken.ryan@vuw.ac.nz

Changing patterns of microbial diversity along a latitudinal gradient in the Ross Sea are sensitive indicators of climate change. This research will generate a bio-inventory of the micro-organisms in sea ice using both conventional methods and molecular technology, and will quantify abundances to generate community fingerprints for sea ice biodiversity. Each fingerprint will summarise the biodiversity at one of three sites along the coast of the Ross Sea that will allow temporal and geographical comparisons. This event contributes to the Latitudinal Gradient Project and is a NZ International Polar Year project.

Event K049 NZ ITASE: Climate Change along the Victoria Land Coast

07-Nov-08 to
18-Nov-08
Evans Piedmont
and Victoria
Lower Glacier

Antarctic Research Centre, Victoria University of Wellington, PO Box 600, Wellington. Dr Nancy Bertler, Phone: (04) 463 5233 ext 8391, Fax: (04) 463 5186, E-mail: nancy.bertler@vuw.ac.nz

Unprecedented changes are occurring in the Earth's climate. The 1990s were the warmest decade in the last 2000 years and average global temperature is projected to rise between 1.4°C and 5.8°C by 2100 [IPCC, 2001]. Although the

scientific evidence of global warming is now widely regarded as incontrovertible, predicting regional impacts is proving more problematic. Especially, conclusions of the Southern Hemisphere record are limited by the sparseness of available proxy data at present. We propose to use ice cores from the Antarctic margin to address the lack of longer-term, high-resolution climate observations in the Southern Hemisphere. We will recover a series of ice cores from glaciers along a 14 degree latitudinal transect of the climatically sensitive Victoria Land coastline and thereby directly contribute a critical dataset of ITASE, AGCS, ACE, and the Latitudinal Gradient Project, as well as providing essential reference records for the NZ-led ANDRILL objective to obtain a high-resolution sedimentary archive of Ross Ice Shelf stability. Our results will help to improve our understanding of regional patterns of climate behaviour, leading to more realistic regional climate models. Such models are needed to sensibly interpret Antarctic climate records and for the development of appropriate mitigation strategies for New Zealand.

Event K053 Investigation of Snow and Ice Properties at Land and Sea to Improve

31-Oct-08 to
19-Dec-08
McMurdo Ice
Shelf, Erebus
(lower slopes)

Remotely Sensed Mass Balance Observations

Gateway Antarctica, University of Canterbury, Private Bag 4800, Christchurch.

Dr Wolfgang Rack, Phone: (03) 364 3166

E-mail: wolfgang.rack@canterbury.ac.nz

The overall aim of this proposal is to carry out research in the Antarctic that will improve the accuracy of remotely sensed, satellite-derived, snow and ice data. Satellite-derived data from Antarctica currently provide significant information on snow and ice properties. This information is critical to understanding climate, climate change and the response of Antarctica to such change. But snow and ice properties are extremely complex, and the quality and reliability of the satellite-derived data depends on algorithms developed and tested with robust ground truth data, that is, with data derived on the ground in the Antarctic. The accuracy of satellite-derived snow and ice parameters such as surface height, sea ice thickness and accumulation rates - all key components to understanding cryosphere mass balance - can only be assured when coupled with good ground-truthed information. More and more information on snow and ice is coming from satellites. This information is worthless until we understand how accurate it actually is.

Event K055 Assessment of the Current State of the Antarctic Middle Atmosphere and Climate Model Validation

04-Dec-08 to
16-Dec-08
Arrival Heights,
Scott Base

Department of Physics and Astronomy, University of Canterbury, Private Bag

4800, Christchurch. Dr Adrian McDonald, Phone: (03) 364 2281,

Fax: (03) 364 2469, E-mail: a.mcdonald@phys.canterbury.ac.nz

This research programme will underpin improvements in key components of middle atmosphere climate models. We will produce an integrated high resolution database, formed from a wide variety of remote sensing and in-situ measurements, which will elucidate the current state of the Antarctic middle atmosphere. Production of this database will make it possible to validate climate model outputs, produced using the University of Canterbury Super Computer (UCSC), and feed forward the resultant improved fundamental physical understanding of this region to improve these climate model components.

Event K056 Dynamics and Change of the Darwin-Hatherton Glacial System**A, B & C**

03-Nov-08 to
10-Nov-08 (A)
21-Nov-08 to
19-Dec-08 (B)
06-Jan-09 to
03-Feb-09 (C)
Road end
Nunatak,
Diamond
Hill - Darwin
Gl/Hatherton
Glacier regions

Gateway Antarctica, University of Canterbury, Private Bag 4800, Christchurch.
Professor Bryan Storey, Phone: (03) 364 2368, Fax: (03) 364 2197,
E-mail: bryan.storey@canterbury.ac.nz

The Darwin-Hatherton glacial system offers a unique opportunity to investigate the response of the Antarctic Ice Sheet to future climate change. As well as draining the East Antarctic Ice Sheet into the Ross Ice Shelf, there is plenty of evidence of its past glacial history preserved in marginal moraine sequences. Earlier research has produced differing estimates of the amount and rate of recent change in the system, partly because of the absence of measurements of key controlling parameters including ice thickness, mass balance and climate. This research takes an integrated earth systems approach by combining glacial, geomorphological and climatological methodologies to obtain a set of information that will enable the system to be characterised and understood. This will include the collection of field data on glacier dynamics and thickness, the origin, nature and age of moraine sequences and the key characteristics of the mesoscale and local climate regimes. Remote sensing will be used to develop preliminary geomorphological maps of the area that will aid the field interpretation of its recent glacial history as well as determine the surface velocity field of the glacial system. Numerical modelling will then be employed to describe the past history of the system and to predict how it might respond to different future scenarios of climate change. This event contributes to the Latitudinal Gradient Project.

Event K064 Understanding the Interactions Between Glaciers and Permafrost: Implications for Landscape Development

14-Nov-08 to
19-Dec-08
Garwood Valley,
Lower Wright
Valley

Department of Geography, University of Otago, PO Box 56, Dunedin. Associate Professor Sean Fitzsimons, Phone: (03) 479 8786, Fax: (03) 479 9037,
E-mail: sjf@geography.otago.ac.nz

The goal of this research is to develop an understanding of the interactions between glaciers and permafrost that will permit models of glaciers to realistically parameterise ice motion. Improvement of such models is central to their success in predicting glacier response to climate change. We aim to achieve this by undertaking a multi parameter investigation into the formation of ice-rich permafrost and the principal controls of permafrost deformation at the margins and beneath cold-based glaciers.

Event K065 Implications of Climate Change for Flux of Organic Matter in Antarctic Coastal Ecosystems

14-Oct-08 to
01-Nov-08
Cape Armitage,
Sea Ice,
Cape Evans

Department of Biochemistry, University of Otago, PO Box 56, Dunedin.
Dr Stephen Wing, Phone: (03) 479 9038, Fax: (03) 479 8336,
E-mail: steve.wing@stonebow.otago.ac.nz

The primary objective of this research is to quantify implications of climate change (i.e. sea ice reduction) and exploitation on Antarctic coastal ecosystem functioning and resilience. We will provide a vehicle for defining and quantifying the role of sea ice for ecosystem functioning in Antarctic coastal ecosystems, and specifically, the interaction between sea ice, pelagic and benthic communities. A quantitative understanding of ecosystem function also allows the effects of over-exploitation to be fully appreciated (i.e. by illuminating the role of top predators in community regulation and food web structure). Ecosystem functioning will be quantified using state-of-the-art environmental chemistry analyses of the biological components

of the coastal food web. These analyses will quantify sources and pathways of energy flux, and in particular focus on links between sea ice, pelagic and benthic communities. Once energy pathways are identified, we will be able to model the implications of the decline or loss of key species on ecosystem functioning.

Event K066 Physiological and Phylogenetic Relationships Among Antarctic Organisms

02-Jan-09 to
03-Feb-09
Bartrum Basin,
Lake Judith
- Darwin Gl/
Hatherton Gl

Department of Biochemistry, University of Otago, PO Box 56, Dunedin. Dr Craig Marshall, Phone: (03) 479 7570, Fax: (03) 479 7866, E-mail: craig.marshall@stonebow.otago.ac.nz

This research aims to understand how terrestrial organisms have adapted to changes in the Antarctic climate during the last 35 million years. To do this, we will conduct physiological and phylogeographic studies of freezing tolerant and freezing resistant invertebrates. This research contributes to the Latitudinal Gradient Project.

Event K068 Effects of Climate Change on Antarctic Marine Invertebrate Embryo and Larval Physiology

14-Oct-08 to
07-Nov-08
Scott Base

Department of Marine Science, University of Otago, PO Box 56, Dunedin. Dr Miles Lamare, Phone: (03) 479 7463, Fax: (03) 479 8336, E-mail: miles.lamare@stonebow.otago.ac.nz

Our research aims to examine the effects of future climate change on marine organisms, and specifically their larval stage. At the same time, we question if the effects of these changes will be greater in polar species compared to non-polar equivalents, because of their cold adaptations and evolutionary history. The climate change processes that we will explore are increases in UV-R penetration, increases in sea temperature and associated viscosity changes, and reduction in ocean pH. Such changes will affect marine ecosystems at all levels, but may be more influential at certain times in a species life-history. This may include the embryonic and larval stages, whose development and survival are substantially affected by environmental conditions. Antarctic larval forms may be especially sensitive due to their polar adaptations and evolutionary history. Because of this, we hypothesise that the effects of these changes will be greater in polar species compared to non-polar equivalents. To answer this, our research approach will examine and contrast how fundamental physiology and biology processes in polar and non-polar species respond to these environmental changes.

Event K069 Monitoring Magnetosphere-Ionosphere Coupling and Space Weather in the Polar Region

05-Dec-08 to
12-Jan-09
Arrival Heights,
Scott Base

Department of Physics, University of Otago, PO Box 56, Dunedin. Professor Richard Dowden. Department of Physics, University of Newcastle, NSW 2308, Australia. Professor Brian Fraser, Phone: (+61) 2 4921 5445, Fax: (+61) 2 4921 6907, E-mail: bhbjf@cc.newcastle.edu.au

This project will provide a better understanding of the volatility of near-Earth space, a plasma region populated by ionised gas embedded in the geomagnetic field. Energy from the Sun must pass through many important regions and boundaries to reach Earth, including the magnetosphere and the ionosphere. The dynamic behaviour of this plasma system, now referred to as "space weather" is of vital importance to life on our planet, and its effects are best studied at high latitudes, e.g. the aurora. Space weather can disrupt the operation of satellites, radio and GPS navigation and power distribution systems. The results of this project will provide important

input parameters to global magnetospheric circulation models currently under development for space weather forecasting. In particular, it will study the dynamics and topology of the southern high latitude cusp and polar cap, geomagnetic field regions open to direct solar influence. Ultra-low frequency (ULF) waves will be used as tracers to study plasma dynamics and magnetosphere-ionosphere coupling. The Scott Base magnetometer and optical imager data, in conjunction with international observations from Australian bases, USA-UK-Japan-China polar cap remote sites will provide the basic dataset.

Event K072 Paleoclimate Reconstruction from the Terrestrial Record in Antarctica: the Use of Pedogenic Carbonate in the McMurdo Dry Valleys
12-Dec-08 to 03-Feb-09
Taylor Valley, Lake Judith
Lincoln University, PO Box 84, Cnr Ellesmere Junction & Springs Road, Lincoln 7647. Carol Smith, Phone: (03) 325 2811, Fax: (03) 325 2944, E-mail: smithc2@lincoln.ac.nz

Our research will derive a new terrestrial paleotemperature proxy based on the isotopic composition of pedogenic carbonate in soils of the McMurdo Dry Valleys and Darwin region of Antarctica. The proxy will allow us to test hypotheses of climatically influenced changes in hydrology and glacier dynamics, provide corroboration of ice-core based isotopic paleotemperature proxies, and potentially allow reconstruction of past atmospheric CO₂ isotopic composition.

Event K073 Sleep and Physical Activity Patterns in a Polar Environment
(no logistics support needed)
Lincoln University, PO Box 84, Cnr Ellesmere Junction & Springs Road, Lincoln 7647. Dr Gary Steel, Phone: (03) 325 3820, Fax: (03) 325 3857, E-mail: steelg@lincoln.ac.nz

This project's primary aim is examine the deep theoretical relationships between circannual patterns of psychological and physical activity in Antarctica. As a result of this examination, the project will generate recommended countermeasures for any decrements in health, safety, and job performance that may arise due to low periods of human activation while on deployment to Antarctica.

Event K081 Antarctic Inland Aquatic Ecosystems
A, B & C
13-Oct-08 to 29-Dec-08 (A)
06-Jan-09 to 03-Feb-09 (B)
17-Oct-08 to 12-Dec-08 (C)
Bratina Island, Darwin Glacier, Diamond Hill
NIWA, PO Box 8682, Christchurch. Dr Brian Sorrell, Phone: (03) 348 8987, Fax: (03) 348 5548, E-mail: b.sorrel@niwa.co.nz

This programme will provide information on Antarctica's inland aquatic ecosystems, focusing on ponds and lakes. It will determine how climate (temperature, wind, and irradiance) influence physical and chemical characteristics of these habitats, and how these characteristics in turn affect diversity and productivity of biological communities. This will be done by linking climate-driven models that describe the physical and chemical processes that in turn determine key biological processes (photosynthesis, respiration, nutrient transformations) within the dominant microbial communities. As part of the Latitudinal Gradient Project, we will use natural environmental gradients to provide a range of conditions within which to further develop and test these models. As part of the US Long Term Dry Valleys Ecological Research project we will also use the long-term datasets to examine inter-annual variability. The ultimate goal is to assess the resistance and resilience of aquatic ecosystems to climate variability and other disturbance. This is a NZ International Polar Year project.

Event K082 Coastal Benthic Ecosystem Structure and Function

24-Oct-08 to
16-Dec-08
Cape Evans,
Granite Harbour

**NIWA, Private Bag 14-901, Wellington. Dr Vonda Cummings,
Phone: (04) 386 0300, Fax: (04) 386 0574, E-mail: v.cummings@niwa.co.nz**

Characterising the structure and function of benthic communities and determining their relationships to key environmental factors is essential to an improved understanding of Antarctic ecology and wise management of the Antarctic coastal zone. This programme will investigate the environmental processes that influence community dynamics and the spatial structure of populations, and hence the potential for climate variability and anthropogenic influences to impact ecosystem structure and function. Natural gradients in environmental conditions and productivity within the latitudinal range of the Ross Sea will be used to address how the structure, diversity, trophic interactions and productivity of communities relate to site-specific physical variables. This research builds on our previous research and will enable us to link disturbance and primary production regimes to patterns of resource utilisation by benthos and the biodiversity of benthic communities over different spatial scales. This research provides fundamental information on the structural and functional biodiversity of Antarctic coastal ecosystems. It also establishes a baseline for distinguishing natural environmental variability, occurring over short ecological time and space scales, from larger scale phenomena, such as changes in ice cover and disturbance regimes associated with climate variability. This work contributes to the Latitudinal Gradient Project and is a NZ International Polar Year project.

Event K085 Drivers of Global Change in the Antarctic Atmosphere: Atmospheric Remote-Sensing

04-Sep-08 to
02-Feb-09
Arrival Heights,
Scott Base

**NIWA, Private Bag 50061, Omakau. Dr Stephen W Wood, Phone: (03) 440 0426,
Fax: (03) 447 3348, E-mail: s.wood@niwa.co.nz**

The Antarctic atmosphere with its unique physical and chemical attributes is an important part of the global system. This research aims to improve understanding of how the Antarctic atmosphere drives and responds to global change and its interaction with New Zealand. It focuses on Antarctic ozone depletion, the effect of that depletion beyond Antarctica, and the Antarctic's influence on global greenhouse gas (GHG) concentrations. Antarctic stratospheric air, depleted in ozone as a result of anthropogenic interference, is transported to southern mid-latitudes in summer, decreasing ozone and increasing UV radiation over the New Zealand region. Although ozone-destroying chlorine is declining, it may take several years to detect a consistent decrease in Antarctic ozone depletion. Natural variability complicates this detection and increasing GHG concentrations may delay the recovery. Changes in GHG concentrations, including ozone, affect the radiative balance of the atmosphere in ways that are not fully understood. The Antarctic provides a unique opportunity to measure global trends in atmospheric trace gases at sites isolated from anthropogenic sources, assess human impacts on a pristine environment, and quantify the Southern Ocean uptake of CO₂.

Event K087 Drivers of Global Change in the Antarctic Atmosphere: Atmospheric Air Sampling

21-Nov-08 to
25-Nov-08
Arrival Heights,
Scott Base

**NIWA, PO Box 14 901, Wellington. Mr Gordon Brailsford, Phone: (04) 386 0308,
Fax: (04) 386 2153, E-mail: g.brailsford@niwa.co.nz**

The Antarctic region provides a vast area that is not influenced by man, and therefore the atmosphere is unaffected by local anthropogenic activity. The main

goals of our programme are to study trace gas species in the Antarctic troposphere and lower stratosphere to better understand the way in which the global changes impact on the Antarctic region. Our studies include collections of whole air at Arrival Heights and in the free troposphere between Christchurch and Ross Island; these samples are later analysed for mixing ratio of trace gases such as methane, carbon dioxide, nitrous oxide and carbon monoxide, as well as the isotopic composition of H₂O, CH₄, CO₂, and CO. The information obtained from these analyses can assist in determining the transport of these species from other locations and the way in which they are produced or removed from the atmosphere. Our programme also includes the collection of air samples in the lower stratosphere; these samples are then later analysed to better understand the interaction of trace gas species within the Antarctic vortex, and the way in which these interactions change with the development of the ozone hole in spring. Part of this work involves the study of water vapour and its role in the formation of polar stratospheric clouds; these clouds provide sites for the destruction of ozone.

Event K089 Climate Data Acquisition – Scott Base and Arrival Heights, Antarctica

13-Jan-09 to
20-Jan-09
Arrival Heights,
Scott Base

NIWA, PO Box 8602, Christchurch. Mr Andrew Harper, Phone: (03) 343 7890, Fax: (03) 343 7891, E-mail: a.harper@niwa.co.nz

The goal of this programme is to obtain a high-quality continuous climate record for Scott Base and Arrival Heights in Antarctica, and archive it in NIWA's publicly accessible climate database. Scott Base is one of 47 reference climate stations for the New Zealand region managed by NIWA, and climate observations (wind speed and direction, air temperature, relative humidity, barometric pressure, global solar radiation, diffuse solar radiation and direct solar radiation) are recorded there daily. This climate record began in 1957 and is one of the longest continuous records in Antarctica. Wind speed and direction, air temperature, relative humidity and global solar radiation are also recorded at Arrival Heights. The measurements are needed for characterising the local climate and state of the environment, identifying climate variations and changes, and in research on climate-sensitive processes and ecosystems. This programme also includes measurements from the sea level recorder installed at Scott Base.

Event K105 Southern Victoria Land Geological Mapping

31-Oct-08 to
12-Dec-08
Kukri, Bettle,
Blue Glacier,
Mt Lister

**Institute of Geological & Nuclear Sciences,
PO Box 1930, 764 Cumberland Street, Dunedin 9011. Dr Ian Turnbull,
Phone: (03) 479 9678, Fax: (03) 477 5232, E-mail: i.turnbull@gns.cri.nz**

After 100 years of geological investigations in Southern Victoria Land, no modern regional map or database of its geology exists. Fifty years of high quality, detailed work by New Zealand, American, Australian and Italian geologists completed since the International Geophysical Year in 1957/58 remain unsynthesised. This project will produce a modern 1:250,000 geological map and web-accessible GIS database of the area encompassed by Ross Island and the Transantarctic Mountains (TAM) between the Convoy Rand and the Skelton Glacier. The map and digital data will provide, in one place and for the first time, essential data from basement rocks, Beacon Supergroup strata of the TAM, and from Cenozoic and Holocene glacial and volcanic deposits which bridge the Ross Sea Basin and Terror Rift. This is a NZ International Polar Year project.

Event K106 Scott Base Gravity Base Station

17-Nov-08 to
12-Dec-08
Taylor, Cape
Chocolate,
Ferrari Snout

**Institute of Geological & Nuclear Sciences,
PO Box 1930, 764 Cumberland Street, Dunedin 9011. Dr Ian Turnbull,
Phone: (03) 479 9678, Fax: (03) 477 5232, E-mail: i.turnbull@gns.cri.nz**
Re calibration of the gravity base station at Scott Base.

Event K122 Adélie Penguin Population Responses Mediated by Climate Change

10-Nov-08 to
03-Feb-09
Cape Bird,
Cape Crozier,
Cape Royds

**Landcare Research, PO Box 69, 40 Gerald Street, Lincoln 8152. Dr Phil Lyver,
Phone: (03) 325 6700, Fax: (03) 325 2418, E-mail: lyverp@landcareresearch.co.nz**
Our programme will maintain an internationally significant long-term database by continuing the annual aerial census of three Adélie penguin populations on Ross Island (e.g. Capes Crozier, Bird and Royds) and along the Victoria Land coast approximately every 3 years. In collaboration with the US Adélie penguin team, demographic rates (e.g., survival, productivity, breeding rates) and provisioning strategies (e.g., foraging behaviour, dietary composition, chick condition) will be recorded annually at the Ross Island colonies. Variation in demographic rates and provisioning strategies will be used to predict population trajectories and plausible sea-ice and krill abundance scenarios that may be mediated by climate change. Differences between demographic and provisioning strategies across a latitudinal gradient will be compared and linked to sea-ice scenarios and/or atmospheric-oceanic patterns. Ecosystem and food-web models will be developed in collaboration with NIWA to inform Antarctic managers (e.g. Antarctica New Zealand, CCAMLR) of potential population changes related to human-related pressures such as tourism and commercial fishing in the Ross Sea.

Event K123 B Environmental Protection of Soils of the Ross Sea Region

13-Jan-09 to
23-Jan-09
Bull Pass,
Marble Point,
Minna Bluff,
Mt Fleming,
Granite Harbour,
Victoria

**Landcare Research Ltd, Private Bag 3127, Hamilton 3240. Dr Jackie Aislabie,
Phone: (07) 858 3700, Fax: (07) 585 4964,
E-mail: AislabieJ@Landcareresearch.co.nz**

The goal of this research is to support environmental protection and management of ice-free areas of the Ross Sea region, Antarctica by: increasing fundamental knowledge and understanding of Antarctic soils including soil distribution and climate, bacterial diversity, and vulnerability to human impacts. Soil maps will be developed and with underlying soils data will be added to the Antarctic soils database in our On-line Ross Sea region GIS (<http://gis.massey.landcare.cri.nz/rsr/soils/>). Soil climate stations at 7 locations in the Ross Sea region will continue to be maintained.

Event K131 Sea Ice and Southern Ocean Processes

K131B
Winter Sea Ice
4-Sept-08 to
15-Oct-08
K131
20-Oct to
12-Nov-08
K131C
Mooring
deployment
15-to-30
Jan-09

**Industrial Research Ltd, PO Box 31-310, Lower Hutt, 5040. Dr Timothy G Haskell,
Phone: (04) 569 0000, Fax: (04) 569 0754, E-mail: t.haskell@irl.cri.nz**

This programme consists of a consortium of the Universities of Auckland, Wellington and Otago and the Crown Research Institutes the National Institute of Water and Atmosphere and Industrial Research Ltd. The programme aims to characterise the relationship between the sea ice, ocean and atmosphere of Antarctica in order to better understand and predict high-latitude coupled climate variability, and to underpin the management of Antarctica and the Southern Ocean in the context of the global climate system. It concentrates on the climate-related processes occurring within McMurdo Sound to the marginal ice zone. It covers a range of scales, from microns in structure of sea ice, to the order of thousands of kilometres

in the process of sea ice dispersal in the Southern Ocean, and the relationships linking Antarctica to global climate variability and change. Part of this programme is a NZ International Polar Year project with a winter-over component.

Event K141 Malaysian Antarctic Programme

A & B Antarctica New Zealand, Private Bag 4745, Christchurch. Lou Sanson,

141A

20-Oct-08 to

27-Oct-08

141B

27-Nov-08 to

08-Dec-08

Willies Field,

McMurdo Sound,

Cape Evans,

Cape Mackay,

Hoopers

Shoulder

Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: l.sanson@antarcticanz.govt.nz

Supporting the Malaysian Antarctic Programme.

Event K150 Land Information New Zealand

4-Nov-08 to

09-Dec-08

Capes Royds

and Evans,

Darwin Glacier,

Cape Roberts,

Kukri Hills,

Asgard Range

Land Information New Zealand (LINZ), PO Box 5501, Wellington, 6145.

Graeme Blick, Geospatial Data Analyst, Phone: (04) 460 0191, Fax: (04) 498 3837,

E-mail: gblick@linz.govt.nz

LINZ and its predecessor agencies have operated surveying, charting and mapping programmes in the Ross Sea region, as well as place naming administration, for some 30 years. The Department has an agreement with the United States geological Survey, which provides for co-operation in these activities and in particular joint topographic mapping, geodetic surveying and place naming programmes.

Event K160 Postgraduate Scholarships

6-Dec-08 to

23-Jan-09

Garwood Valley

Postgraduate Scholarships Antarctica New Zealand, Christchurch. Shulamit

Gordon,

Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: s.gordon@antarcticanz.govt.nz

The four current scholarships are:

a) Sir Robin Irvine Doctoral Scholarship: awarded to Angela McGaughan from the Allan Wilson Centre for Molecular Ecology and Evolution, Massey University for her PhD research. Determining Unique Evolutionary Patterns for Terrestrial Invertebrates in Antarctic Environments. This project aims to decipher the evolutionary history of polar invertebrates by investigating energetic (activity) budgets of the springtail *Gomphiocephalus hodgsoni*. This project will provide information on the theoretical 'metabolic rate elevation' that has been proposed for polar species, and look at how activity varies across a range of temporal and scales to help determine some of the unique evolutionary patterns that prevail for terrestrial invertebrates in Antarctic environments.

b) Helicopters New Zealand Doctoral Scholarship: awarded to Fiona Shanhun from Lincoln University to study the use of soil carbonate to reconstruct terrestrial paleotemperatures. Associated with K072.

c) New Zealand Post Scholarship: awarded to David Dempsey from the University of Otago. David's thesis is on platelet ice in McMurdo Sound, Antarctica. Associated with K131.

d) Kelly Tarlton's Scholarship: awarded to Kathryn Lister at the University of Otago. Kathryn's research is on the oxidative stress in Antarctic and non-Antarctic sea urchin larvae. Associated with K068.

Event K170 Antarctic Heritage Trust (AHT).

Oct-08 to
Feb-09
Cape Evans,
Cape Royds,
Scott Base

**AHT. Al Fastier, Programme Manager. Phone: (03) 358 0212, Fax: (03) 358 0244.
E-mail: aht@nzaht.org**

AHT cares for the expedition bases associated with the early Antarctic explorers Captain Robert Falcon Scott, Sir Ernest Shackleton and Carsten Borchgrevink. AHT's Ross Sea Heritage Restoration Project (RSHRP) aims to conserve the sites and their contents for future generations. With the work programme for Sir Ernest Shackleton's base at Cape Royds almost complete, AHT's team of employees and contractors will be spending the majority of the season working onsite at Captain Scott's base at Cape Evans.

Event K172 Antarctic Heritage Trust (AHT).

10-Feb-09 to
6-August-09
Cape Evans,
Cape Royds,
Scott Base

**AHT. Al Fastier, Programme Manager. Phone: (03) 358 0212, Fax: (03) 358 0244.
E-mail: aht@nzaht.org**

The AHT Artefact Conservation Programme (part of the AHT's Ross Sea Heritage Restoration Project) aims to conserve the thousands of artefacts associated with the expedition bases of Captain Scott, Sir Ernest Shackleton and Carsten Borchgrevink. AHT's conservators are based year round in Antarctica conserving the artefact collections. This summer the conservators will be working from both Scott Base and onsite at Cape Royds and Cape Evans.

Event K175 Antarctic Heritage Trust (AHT).

13-Jan-09 to
20-Jan-09
Cape Evans,
Cape Royds,
Hut Point,
Scott Base

**AHT. Al Fastier, Programme Manager.
Phone: (03) 358 0212, Fax: (03) 358 0244. E-mail: aht@nzaht.org**

Familiarisation visit for key AHT stakeholders.

Event K200 Communications Staff Visits

08-Dec-08 to
16-Dec-08
Scott Base local

**Antarctica New Zealand, Private Bag 4745, Christchurch. Matt Vance,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: m.vance@antarcticanz.govt.nz**

The purpose of this event is to familiarise new staff member(s) with Scott Base and Antarctic field operations and provide support for media, education and outreach events including the 50th Anniversary celebrations.

Event K215 LEARNZ

18-Nov-08 to
01-Dec-08
Scott Base

**Antarctica New Zealand, Private Bag 4745, Christchurch. Matt Vance,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: m.vance@antarcticanz.govt.nz**

LEARNZ is an online education programme specialising in virtual field trips designed to meet New Zealand Curriculum objectives. This season will see LEARNZ focus on IPY science projects directly linking the scientists in the field with students in New Zealand classrooms.

Event K220 University of Canterbury Graduate Certificate in Antarctic Studies

15-Dec-08 to
29-Dec-08
Windless Bight,
Scott Base

**Gateway Antarctica, University of Canterbury, Private Bag 4800, Christchurch.
Professor Bryan Storey, Professor of Antarctic Studies & Director Gateway
Antarctica. Phone: (03) 364 2368, Fax: (03) 364 2197,
E-mail: bryan.storey@canterbury.ac.nz**

The goal of the Graduate Certificate in Antarctic Studies is to engage participants in a critical examination of the contemporary scientific, environmental, social and policy issues and debates facing the Antarctic region. The Antarctic field component incorporates field studies at Scott Base and its environs. Students will complete Antarctic Field Training, participate in base activities and undertake supervised studies related to geology, ecology, art, glaciology and meteorology.

Event K225 Antarctic Youth Ambassador

6-Jan-08 to
23-Jan-08

**Antarctica New Zealand, Private Bag 4745, Christchurch. Neil Gilbert,
Phone: (03) 350 0200 Fax: (03) 358 0211, E-mail: n.gilbert@antarcticanz.govt.nz**

The Antarctic Youth Ambassador award is being run in conjunction with the Sir Peter Blake Trust. The aim of the scheme is to provide young New Zealanders with the opportunity to work with Antarctica New Zealand on an environmental project, including the chance to travel to Antarctica.

Event K230 Invited Artists

09-Dec-08 to
16-Dec-08
Cape Evans,
Cape Royds,
Scott Base

**Antarctica New Zealand, Christchurch. Matt Vance, Phone: (03) 358 0200,
Fax: (03) 358 0211, E-mail: m.vance@antarcticanz.govt.nz**

Internationally renowned photographer Boyd Webb and prize winning author Lloyd Jones are to experience Antarctica for the first time. They will focus their artistic explorations on contemporary science and the cultural interventions of McMurdo Sound.

Event K235 Invited Artist Programme

20-Nov-08 to
01-Jan-09
McMurdo
Station

**Antarctica New Zealand, Christchurch. Matt Vance, Phone: (03) 358 0200,
Fax: (03) 358 0211, E-mail: m.vance@antarcticanz.govt.nz**

Invited artist Anne Noble has been a previous recipient of the Artists to Antarctica Programme. This season Anne is the guest of the United States Antarctic Programme Artists and Writers Programme.

Event K245 Media Programme

24-Dec-08 to
20-Jan-09
Scott Base
Cape Royds
Cape Evans
Dry Valleys

**Antarctica New Zealand, Private Bag 4745, Christchurch. Matt Vance,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: m.vance@antarcticanz.govt.nz**

Prominent science journalist Bette Flagler and award winning photographer Jane Ussher are covering the stories and the people involved in the IPY science projects in and around Scott Base. Jane Ussher will also be accumulating a pictorial record of the historic huts of Cape Royds and Cape Evans.

Event K300 Chief Executive Visits

01-Dec-08 to
08-Dec-08
and January
2009 (TBC)
Helo
Contingency,
Scott Base

**Antarctica New Zealand, Private Bag 4745, Christchurch. Lou Sanson,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: l.sanson@antarcticanz.govt.nz**

Visits associated with organisational oversight, and 2008/2009 Invited Visitor programme.

Event K301 Antarctica New Zealand - Permanent Staff

07-Oct-08 to
14-Oct-08
Evans Cape,
McMurdo
Ice Shelf,
Royds Cape,
Scott Base

**Antarctica New Zealand, Private Bag 4745, Christchurch. Lou Sanson,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: l.sanson@antarcticanz.govt.nz**
Christchurch staff familiarisation trip.

Event K310 Antarctica New Zealand Board Sub-Committee Visit

04-Dec-08 to
08-Dec-08
Bird Cape,
Evans Cape,
Labyrinth,
Royds Cape,
Vanda Huts,
Scott Base

**Antarctica New Zealand, Private Bag 4745, Christchurch. Lou Sanson,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: l.sanson@antarcticanz.govt.nz**
Key focus area: Environmental Sustainability.

Event K320 Invited Visitor Visit

01-Dec-08 to
04-Dec-08
Evans Cape,
Labyrinth,
Royds Cape,
Vanda Huts,
Scott Base

**Antarctica New Zealand, Private Bag 4745, Christchurch. Lou Sanson,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: l.sanson@antarcticanz.govt.nz**
Invited Visitor programme for key stakeholders structured around New Zealand's strategic interests in the New Zealand Antarctic Programme.

Event K321 Invited Visitor Visit B - TBA

27-Jan-09 to
30-Jan-09

**Antarctica New Zealand, Private Bag 4745, Christchurch. Lou Sanson,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: l.sanson@antarcticanz.govt.nz**
Invited Visitor programme.

Event K400 Operations Staff Visits

30-Sep-08 to
20-Feb-09
Scott Base local

**Antarctica New Zealand, Private Bag 4745, Christchurch. Erik Barnes,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: e.barnes@antarcticanz.govt.nz**
The purpose of this event is to provide experience and familiarity with Scott Base and Antarctic field operations for Antarctica New Zealand staff, provide for hand-over and liaison with relevant Scott Base staff, and allow necessary on-site management, audit and inspection.

Event K400 A Winfly Operations Staff Visits

4-Sep-08 to
8-Sep-08
Scott Base local

**Antarctica New Zealand, Private Bag 4745, Christchurch. Erik Barnes,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: e.barnes@antarcticanz.govt.nz**

Event K401 Scott Base Summer Staff

2-Oct-08 to
20-Feb-09

**Antarctica New Zealand, Private Bag 4745, Christchurch. Erik Barnes,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: e.barnes@antarcticanz.govt.nz**

Event K402 Scott Base Winter Staff

03-Oct-08 to
15-Oct-09
Arrival Heights,
Scott Base

**Antarctica New Zealand, Private Bag 4745, Christchurch. Erik Barnes,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: e.barnes@antarcticanz.govt.nz**

Event K410 Operations General - Antarctica

TBC

Antarctica New Zealand, Private Bag 4745, Christchurch. Erik Barnes,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: e.barnes@antarcticanz.govt.nz

Event K411 Helicopters NZ

11-Nov-08 to
09-Feb-09
Ice Runway,
McMurdo
Station

Dennis Laird
Helicopter support for Antarctica New Zealand sponsored operations provided by
Helicopters (NZ) Ltd.

Event K412 NZDF Survival School

09-Jan-09 to
16-Jan-09

Antarctica New Zealand, Private Bag 4745, Christchurch. Iain Miller,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: i.miller@antarcticanz.govt.nz

Event K414 Facilities Visitors

08-Oct-08 to
09-Feb-09

Antarctica New Zealand, Private Bag 4745, Christchurch. Kevin Rigarlsford,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: k.rigarlsford@antarcticanz.govt.nz

Worker visitors who perform on site training/instruction at Scott Base for staff on a yearly basis, training subjects include vehicle operation and fire crew training. K414 also includes engineering worker visitors who shall provide a mixture of on site engineering staff training and inspections of Scott Base facilities.

Event K415 JASART

28-Oct-08 to
04-Nov-08

Antarctica New Zealand, Private Bag 4745, Christchurch. Simon Trotter,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: s.trotter@antarcticanz.govt.nz

Event K423 Telecom Riggers Maintenance

22-Jan-09 to
11-Feb-09
Scallop Hill,
Hoopers Shelter,
Newall Mt,
JJ Thomson Mt,
Cerberus Mt,
Scott Base

Antarctica New Zealand, Private Bag 4745, Christchurch. Peter Brookman,
Phone: (03) 358 0200, Fax: (03) 358 0211,
E-mail: p.brookman@antarcticanz.govt.nz

Annual maintenance of transmission lines and equipment, structures & antennae.

Event K425 ANDRILL Containers

13-Jan-09 to
27-Jan-09
Scott Base local

Antarctica New Zealand, Private Bag 4745, Christchurch. Iain Miller,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: i.miller@antarcticanz.govt.nz
Maintenance check of ANDRILL container camp.

Event K426 Energy Centre Upgrade

13-Feb-09 to
30-Sept-09
Arrival Heights,
Scott Base local

Antarctica New Zealand, Private Bag 4745, Christchurch. Iain Miller,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: i.miller@antarcticanz.govt.nz
Upgrade of the Scott Base energy centre, and electrical network reticulation.

- Event K427 Wind Turbine Project**
 27-Oct-08 to 20-Feb-09
Antarctica New Zealand, Private Bag 4745, Christchurch. Iain Miller
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: i.miller@antarcticanz.govt.nz
 Construction of 1 megawatt wind farm on Crater Hill.
- Event K428 Fire Upgrade**
 16-Dec-08 to 02-Jan-09
Antarctica New Zealand, Private Bag 4745, Christchurch. Iain Miller
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: i.miller@antarcticanz.govt.nz
 Upgrade of Scott Base fire protection system.
- Event K430 Armed Forces Canteen Council**
 30-Jan-08 to 10-Feb-09
 Scott Base local
Antarctica New Zealand, Private Bag 4745, Christchurch. Erik Barnes,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: e.barnes@antarcticanz.govt.nz
 Staff visit to oversee shop and bar operations.
- Event K501 Environmental IV guest**
 25-Oct-08 to 05-Dec-08
Antarctica New Zealand, Private Bag 4745, Christchurch. Neil Gilbert,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: n.gilbert@antarcticanz.govt.nz
 Familiarisation trip for Russian Environmental Officer. Inspections of Antarctic Specially Protected Areas, field audits, and general Scott Base environmental work.
- Event K502 Environmental Monitoring**
 06-Jan-09 to 23-Jan-09
Antarctica New Zealand, Private Bag 4745, Christchurch. Neil Gilbert,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: n.gilbert@antarcticanz.govt.nz
 Environmental monitoring around Scott Base, Crater Hill and Arrival Heights. Review of the waste system at Scott Base and fuel spill kits. Opportunistic field audits.
- Event K503 Environmental and Biosecurity**
 13-Jan-09 to 10-Feb-09
Antarctica New Zealand, Private Bag 4745, Christchurch. Neil Gilbert,
Phone: (03) 358 0200, Fax: (03) 358 0211, E-mail: n.gilbert@antarcticanz.govt.nz
 Conduct biosecurity risk assessment work at Scott Base during ship offload and at a field camp. VISTA monitoring at Cape Evans and Cape Royds. Opportunistic field audits.
- Event K600 Corporate Services Staff Visits**
 07-Oct-08 to 10-Feb-09
Antarctica New Zealand, Christchurch. Peter Smith, Phone: (03) 358 0209,
Fax: (03) 358 0211, E-mail: p.smith@antarcticanz.govt.nz
 IT maintenances, Scott Base focus groups and familiarisation visit for new staff.
- Event K601 Treasury Visit**
 18-Nov-08 to 25-Nov-08
Antarctica New Zealand, Christchurch. Peter Smith, Phone: (03) 358 0200,
Fax: (03) 358 0211, E-mail: p.smith@antarcticanz.govt.nz
- Event K605 Advanced Dynamics Visit**
 03-Feb-09 to 10-Feb-09
 Scott Base local
Antarctica New Zealand, Christchurch. Peter Smith, Phone: (03) 358 0209,
Fax: (03) 358 0211, E-mail: p.smith@antarcticanz.govt.nz

Event K700 Science Group Staff Visits

13-Oct-08 to
10-Nov-09
Scott Base local

Antarctica New Zealand, Christchurch. Phone: (03) 358 0200, Fax: (03) 358 0211

Visits to Scott Base by members of the Science Team - including familiarisation by the new Manager Science and Information.

Notes



New Zealand Antarctic Society Membership

Don't be left out in the cold!

The NZAS was formed in 1933. It comprises New Zealanders and overseas friends, many are Antarcticans and all are interested in some phase of Antarctic exploration, history, development or research.

Membership to the New Zealand Antarctic Society entitles members to the journal *Antarctic* which is published quarterly, i.e. April, July, October, December/January. It is unique in Antarctic literature in that it is the only periodical which provides regular and up-to-date news of the activities of all nations at work in Antarctica and the Sub-Antarctic. Meetings are held by the Auckland, Wellington, Canterbury and Otago branches.

**Full details on website:
www.antarctic.org.nz**



Visiting the expedition bases of Captain Robert Falcon Scott and Sir Ernest Shackleton?

At the turn of the twentieth century Captain Robert Falcon Scott and Sir Ernest Shackleton led the expedition parties which opened the Continent to the world in the name of science and exploration. Their expedition bases located at Hut Point, Cape Evans and Cape Royds stand as monuments to an extraordinary period of Antarctic history and have been listed on the World Monuments Fund 2008 List of the 100 Most Endangered Sites in the World.

The bases are cared for by Antarctic Heritage Trust who are undertaking a major, long-term heritage conservation project to ensure these sites remain for future generations.

You can help by:

1. Making the recommended donation to the Antarctic Heritage Trust on visiting the huts (via the Scott Base Coordinator);
2. Joining the Antarctic Explorers Club and be kept updated on our efforts to save the huts.

As a registered charitable organisation donations and memberships are tax deductible in New Zealand.

See the Scott Base Coordinator for details, see us in our offices in Christchurch or log on to:

www.nzah.org