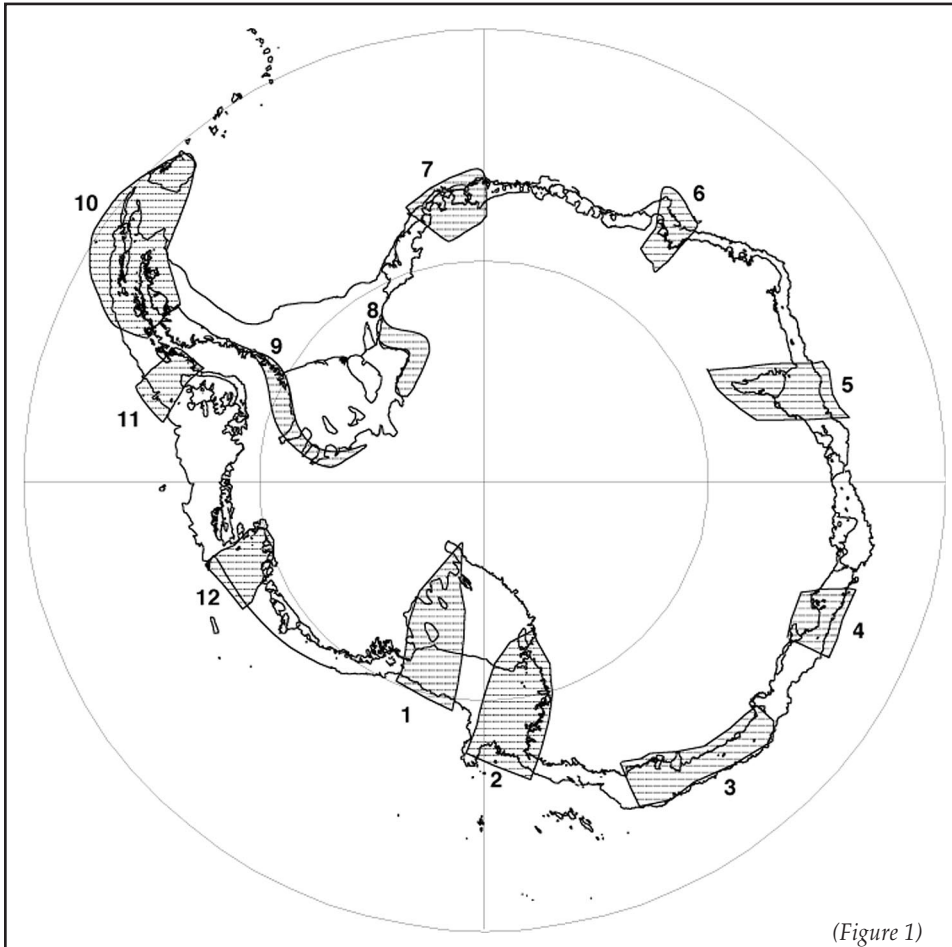


ANTIME

Late Quaternary sedimentary record of Antarctic ice margin evolution

HOBART, AUSTRALIA, JULY, 6-11, 1997



(Figure 1)

This first ANTIMÉ workshop was held in parallel with the SCAR-ANTOSTRAT (Antarctic Offshore Stratigraphy) workshop. There were 65 participants from Australia, USA, UK, Italy, Spain, Japan, Sweden, Germany and Russia. The participants included representatives of PAGES, IMAGES, INQUA and the International Arctic Science Committee (IASC).

The workshop included three scientific sessions on:

- Extent, timing and regional differences during Glacial Stage 2 (10-30 kyr BP) in Antarctica, from the terrestrial and marine records;
- Climatic, environmental and glacial events during the Holocene;
- Late Quaternary geochronological problems in Antarctica.

An abstract volume was published prior to the workshop. The participants agreed to prepare a special issue of the Antarctic Science on the most recent developments in Late Quaternary research in Antarctica. The journal

issue will be edited by Ian Goodwin and Carol Pudsey from the British Antarctic Survey, and is scheduled for publication in September, 1998. An outline of the ANTIMÉ implementation plan for fieldwork 1998-2000 was also completed and a Scientific Steering Committee was chosen from the participants. In addition, 3 sub-working groups were established on:

- the stratigraphic correlation of Antarctic circumpolar coastal sediments;
- the Late Quaternary Antarctic geochronology;
- glacial and sedimentological process studies.

A strong linkage between the Southern Ocean component of the IMAGES deep ocean drilling programmes was developed, to extend the sedimentary record of palaeoclimate and palaeoceanography from the polar front to the Antarctic margin.

A framework for an ANTIMÉ Science and Implementation Plan was developed at the

workshop. The plan is currently in development and should be published towards the end of 1998.

ANTIME Priority Research

The workshop participants recognised that there was an immediate need to depict the present status of knowledge on the maximum extent of the Antarctic Ice Sheet during the last Glacial cycle, and the nature of the retreat to the present ice sheet margins. It was agreed that this should be completed for priority regions, which characterised the range of ice morphologies and climatologies that exist in the circum-Antarctic. These priority regions will also be used to plan future fieldwork and data correlation, and involve the linking of onshore glacial and coastal projects with marine projects on the continental shelf and slope, together with deep ocean coring projects administered through the IMAGES programme.

12 regional transects were selected as a priority for ANTIMÉ research (Figure 1). Extensive data sets have already been collected in many of these regions, and future research is planned with national and/or international logistic support for each of these regions, over the period 1998 to 2003. The transects comprise:

Region 1: Includes the Siple Coast and Siple Dome ice core record with the sedimentary record on the eastern Ross Sea continental shelf;

Region 2: Consists of glacial and coastal records in Victoria Land, Transantarctic Mountains, western Ross Sea coast and continental shelf;

Region 3: Covers the sedimentary record from the coastal rock nunataks, promontories and islands, and continental shelf along George V Land, Adelie Land and eastern Wilkes Land, from Cook Ice Shelf to Porpoise Bay;

Region 4: Includes the Law Dome ice core record, and the sedimentary record from coastal rock nunataks, promontories and islands along the Budd Coast together with the Vincennes Bay and Totten Glacier embayments on the continental shelf;

Region 5: Includes sedimentary record from the Prince Charles Mountains, Amery Ice Shelf and Embayment, Vestfold Hills lakes and fjords, Prydz Bay, and the outer continental shelf where a series of Ocean Drilling Program (ODP) drill holes are planned for the 1999-2000 season;

Region 6: Links the ice core record at Dome Fuji with sedimentary record from the Lutzow-Holm Bay coast, and the continental shelf in the Cosmonaut Sea;

PAGES/GLOCHANT ACTIVITIES

Region 7: Links the sedimentary record in the Maudheimvidda, and offshore on the continental shelf in the Haakon VII Sea, with the potential ice core record from the planned EPICA ice cores;

Region 8: Links the sedimentary record in the Shackleton Mountains with the record in the Thiel Trough, Filchner Embayment and in the eastern Weddell Sea, together with the ice core record from Berkner Island;

Region 9: Covers the sedimentary record in the Ellsworth Mountains, and along the Orville and Lassiter Coasts,

Region 10: Covers the sedimentary record together with the Antarctic Peninsula ice core records from two transects; the east-west meridional record across the Antarctic Peninsula in Graham Land, and; the north south zonal record along the Antarctic Peninsula from the South Orkney Islands, South Orkney Rise, South Shetland Islands, and down the Davis and Danco Coasts. A series of ODP drill cores is planned in the Palmer Deep from which a high resolution sedimentary record is expected to cover the Late Quaternary;

Region 11: Covers the sedimentary record from the eastern end of Alexander Island, with that from Marguerite Bay, and the continental shelf in the Bellingshausen Sea;

Region 12: Covers the sedimentary record from the inner continental shelf in the Pine Island Glacier trough, and offshore in the Amundsen Sea.

Research in these regions will include:

- the delineation of glacial extent and volume;
- the stratigraphy of glacial retreat;
- development of chronological control between continental shelf and onshore records;
- depiction of palaeo ice sheet and ice stream morphology, the relationship between ice sheets and continental shelf banks, and similarly between ice streams and shelf troughs;
- the interpretation of high resolution event stratigraphy for the Holocene, from: sedimentary investigations in lake, coastal, fjord, and shelf sequences; together with the high resolution ice core records from coastal ice domes.

A scientific advisory committee was selected for the ANTIME programme at the Hobart workshop, such that all national programmes and Antarctic sub-regions were represented. The nominated scientific advisory committee is as follows:

Prof. Eugene Domack, Hamilton College, USA, Co-Chairman,

Prof. Ross Powell, Northern Illinois University, USA, Co-Chairman,

Dr. Ian Goodwin, SCAR Global Change Programme/Antarctic CRC, Australia, ANTIME programme coordinator,

Prof. John Anderson, Rice University, USA, West Antarctic Ice Sheet (WAIS rep),

Dr. Paul Berkman, Ohio State University, USA,

Dr. Peter Harris, Antarctic CRC, Australia
Dr. Kazuomi Hirakawa, Hokkaido University, Japan,

Prof. Christian Hjort, Lund University, Sweden,

Dr. Mike Bentley, University of Edinburgh, UK,

Dr. Carol Pudsey, British Antarctic Survey, UK, ODP representative Antarctic Peninsula sector,
Dr. Rainer Gersonde, Alfred Wegner Institute, Germany, ODP/IMAGES representative, Atlantic sector,

Dr. Will Howard, Antarctic CRC, Australia, ODP/IMAGES representative, Indian and Pacific sectors,

Dr. Miquel Canals, Universidad de Barcelona, Spain, and,

Dr. Marco Taviani, Instituto di Geologia Marina, Italy,

ANTIME Workshop Abstract Volume

Limited copies of the workshop abstract volume are available from the GLOCHANT office: Goodwin, I. D. (ed) 1997. Late Quaternary Sedimentary Record of the Antarctic Ice Margin Evolution (ANTIME), Workshop Abstracts, GLOCHANT-PAGES, Hobart, Australia, 6-11 July, 1997, 84 pp.

IAN GOODWIN

SCAR - Antarctic CRC, University of Tasmania, GPO Box 252-80, Hobart, 7001, AUSTRALIA
Tel: +61-3-6226 7544, Fax: +61-3-6226 7650,
e-mail: Ian.Goodwin@utas.edu.au

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GLOCHANT/PAGES workshop on palaeo-environments from ice cores

LANZHOU, CHINA, SEPTEMBER 1998

A GLOCHANT-PAGES sponsored workshop is proposed to be held in Lanzhou, China, in September 1998, in conjunction with the 6th International Symposium on Antarctic Glaciology, 5-9 September, 1998.

The workshop will focus on:

- Comparison of regional and bipolar palaeoclimatic records over glacial cycles and the Holocene from deep ice cores;
- Ice-core data sharing and coordination; and, possibly
- Comparative ice core and marine records.

For more information contact:

DR DOMINIQUE RAYNAUD

Laboratoire de Glaciologie et Géophysique de l'Environnement,
BP 96, 38402 Saint Martin d'Hères Cedex, France
Fax: +33 4 76 82 42 01
e-mail: domraynaud@glaciog.ujf-grenoble.fr

RECENT PROGRESS ON ANTARCTIC DEEP ICE CORING

The Japanese Antarctic Research Expedition's (JARE) deep drilling project at Dome F (77°19' 01" S, 39° 42' 12" E, 3,810 m) in central East Antarctica, has been completed over a 2 year period to a depth of 2,504 m. Ice core has been retrieved from the entire depth and analyses are in progress. The preliminary $\delta^{18}\text{O}$ oxygen isotope analyses indicate that the core covers the last Glacial cycle back to ~170,000 years B.P. The preliminary results were presented at the Antarctica and Global Change Symposium held at the Antarctic CRC, Hobart, Tasmania, Australia, from 13-18 July, 1997. The results confirmed that the higher snow accumulation rate at Dome F site than at Vostok, will enable a potentially higher resolution palaeoclimatic record from Dome F over the last Glacial cycle.

Further information can be obtained by contacting:

PR. OKITSUGU WATANABE

Dome F Ice Core Research Group, National Institute of Polar Research,
Kaga 1-910, Itabashi-ku, Tokyo 173, Japan
e-mail: glacier@nipr.ac.jp

(continued from page 2 - Ray Bradley's editorial)

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