



Joint Antarctic Research Institute (JARI)

1st Glacier & Climate Modelling Workshop

Monday 2nd November, 2009
Victoria University, Cotton Building, Room 217

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|-------------|---|
| 8.45-9.15 | <i>Coffee</i> |
| 9.15-9.30 | Introductory words – Peter Barrett
Background - Andrew Mackintosh, Brian Anderson and Nick Golledge |
| 9.30-11.10 | Session 1. New Zealand Past (Chair – Brian Anderson) |
| 9.30-9.50 | Duncan Ackerley, NIWA
Changes in Southern Hemisphere atmospheric variability in the mid Holocene from the PMIP2 model ensemble |
| 9.50-10.10 | Drew Lorrey, NIWA
A disturbing onset to the Little Ice Age in New Zealand |
| 10.10-10.30 | Rebecca O'Donnell, VUW
Modelling Quaternary glacier extent and climate in Tasmania, Australia |
| 10.30-10.50 | Andrew Mackintosh, VUW
Reconstructing climate from glacier modelling and multi-proxy palaeoclimate records |
| 10.50-11.10 | Discussion: Priorities for funding applications |
| 11.10-11.30 | <i>Coffee and snacks</i> |
| 11.30-1.30 | Session 2. New Zealand Future (Chair – Nick Golledge) |
| 11.30-11.50 | Nicolas Cullen, U. Otago
Atmospheric controls on summer ablation over Brewster Glacier, New Zealand |
| 11.50-12.10 | Abha Sood, NIWA
Temperature and precipitation downscaling and RCM bias corrections for alpine glaciers: a case study for New Zealand glaciers |
| 12.10-12.30 | Suzanne Poyck, NIWA
Combined snow and streamflow modelling to estimate impact of climate change on water resources and floods |
| 12.30-12.50 | Jordy Hendrix, NIWA
Regional modelling of future New Zealand climate: linked environmental models |
| 12.50-1.10 | Brian Anderson, VUW
Future challenges in assessing the response of New Zealand glaciers to climatic change |
| 1.10-1.30 | Discussion: Pathways for collaborative research and future of Brewster Glacier mass balance programme |
| 1.30-2.30 | <i>Lunch (own arrangements)</i> |



2.30-4.00 **Session 3. Antarctica, past and future (Chair – Andrew Mackintosh)**

2.30-2.50 **Jeremy Fyke, VUW**

This talk will be held by video conference in the Main Library (RB 106)

Simulation of ice sheet evolution in a coupled climate model of intermediate complexity

2.50-3.00 *Return to Cotton Building, Room 217*

3.00-3.20 **Mette Riger-Kusk, U. Canterbury**

Dynamics of the Darwin-Hatherton glacial system, Antarctica

3.20-3.40 **Nick Golledge, VUW**

East Antarctic Ice Sheet response to local and far-field forcings since the Last Glacial Maximum

3.40-4.00 **Tim Naish, VUW**

Growth and collapse of the West Antarctic Ice Sheet over the last 5 million years, from data-modelling integration

4.00-5.00 **Keynote - Olga Sergienko, Princeton University/GFDL**

Antarctic abrupt changes: Modelling challenges

The catastrophic break-up of several ice shelves located in the Antarctic Peninsula, speed up of the Pine Island Glacier and widening of the Thwaites Glacier over last few decades clearly demonstrated an ability of large, continental ice sheets to act abruptly. These events introduced an entirely new set of time scales in ice-sheet dynamics that are much faster than the thermodynamic time scales traditionally thought of as governing ice-sheet behavior. Simulation of Antarctic evolution requires identification and understanding of mechanisms and physical processes controlling such a fast ice-sheet response. Among possible candidates for such mechanisms are interaction with the ocean as well as internal ice-dynamic processes. Understanding and modeling of such processes is challenging and requires developing new approaches and techniques.

5.00-6.00 **Reception sponsored by JARI**

Cotton Building, Room 304

