

THEME 4: SCIENCE LEADERSHIP AND SUPPORT

Principal Investigators

Bryson C. Bates. CSIRO Climate Adaptation Flagship, CSIRO Marine and Atmospheric Research, Private Bag No. 5, Wembley, WA, 6913 (Ph: 08 9333 6554; Email: Bryson.Bates@csiro.au)

Carsten S. Frederiksen. Centre for Australian Weather and Climate Research (CAWCR), Bureau of Meteorology, GPO Box 1289, Melbourne, VIC, 3001. (Ph: 9669 4566; Email: c.frederiksen@bom.gov.au)

Pandora Hope. Centre for Australian Weather and Climate Research (CAWCR), Bureau of Meteorology, GPO Box 1289, Melbourne, VIC, 3001. (Ph: 9669 4774; Email: p.hope@bom.gov.au)

I-Lyn Loo. Office of Climate Change, Department of Environment and Conservation, The Atrium Level 4 168 St George's Tce, Perth WA, Locked Bag 33, Cloisters Square, WA 6850 (Ph: (08) 6467 5471; Email: I-Lyn.Loo@dec.wa.gov.au)

Background

IOCI 3 is a major research programme. In addition to the results generated by each project against its own milestones, the Initiative is expected to deliver a holistic and integrated understanding of climate change and variability to State partners and stakeholders. This requires:

- Effective coordination of the programme across the research providers and with the State.
- Regular presentations to staff from State agencies and to public audiences.
- Synthesis of emerging messages into a policy-ready form that is useful for government and industry.

Achievements

Events

- BoM-CSIRO workshop, Research Ideas for IOCI 4, 24 September 2010
- 3rd IOCI 3 workshop, Perth, 26 October 2010
- IOCI 4 Planning Workshop 15 March 2011

Engagement

- Atmospheric Circulation Reconstructions over the Earth project (<http://www.met-acre.org/Home>)
- Department of Climate Change and Energy Efficiency
- National Water Commission

- NCCARF
 - Freshwater Biodiversity National Adaptation Research Plan
 - Water Resources and Freshwater Biodiversity Adaptation Research Network
 - International Climate Adaptation Futures Conference, Gold Coast, QLD, 29 June to 1 July 2010
- Western Australian Marine Science Institution
- Main Roads Department
- Climate Change Policy Interdepartmental Steering Group Science Sub-Committee
- College of Global Change and Earth system Science, Beijing Normal University

Overseas Invitations

- Dr Bates:
 - European Union Water and Global Change (WATCH) General Assembly, Amsterdam, The Netherlands, 1-5 November 2010.
- Dr Frederiksen:
 - College of Global Change and Earth system Science, Beijing Normal University, China, 30 April – 20 May, 2011 for collaborative research on IOCI 3 related projects

Points of Access for Data Retrieval

- Bureau of Meteorology – Project 1.4

List of IOCI-Related Presentations at National and International Conferences, symposia and Workshops

Bates, B.C., *Managing Water Resources under Climate Uncertainty: Challenges and Opportunities*, NCCARF 2010 Climate Adaption Futures Conference, Gold Coast QLD, 29 June to 1 July 2010.

Bates, B.C., *Assessment of apparent non-stationarity in hydroclimatic series: A case study from Western Australia*, 11th International Meeting on Statistical Climatology, Edinburgh, U.K., 12 to 16 July 2010.

Bates, B.C., *Climate Change & Environmental Management: Adaptation*, Society of Petroleum Engineers' Asia Pacific Oil & Gas Conference & Exhibition (APOGCE), Brisbane QLD, 20 October 2010.

Frederiksen, J.S., C.S. Frederiksen, J.M. Sisson and S.L. Osbrough, *Changes and projections in southern hemisphere climate and weather systems*, 19th Australian Institute of Physics Congress, Melbourne, Australia, Session 1D: Meteorology, Oceanography, Environmental Physics & Climate Change 1, 5-9 December, 2010.

Frederiksen, J.S. and C.S. Frederiksen, *Role of Dynamical Modes in Changing Southern Hemisphere Climate*, 15th Biennial Computational Techniques and Applications Conference, Univ. NSW, Sydney, Australia, 28 Nov. – 1 Dec. 2010.

Frederiksen, C.S., J.S. Frederiksen, J.M. Sisson and S.L. Osbrough, *Changes and projections in southern Australian winter rainfall and circulation*, Australia-New Zealand Climate Forum 2010 Conference, Hobart, Tasmania, Australia, 12-15 October, 2010.

Frederiksen, C.S., J.S. Frederiksen, J.M. Sisson and S.L. Osbrough, *Observed Changes and Projections in Southern Hemisphere Mid-latitude Storms, Rainfall and Circulation*, European Geosciences Union (EGU) General Assembly 2011, Vienna, Austria, 3-8 April, 2011.

3rd IOCI 3 Workshop, 26 October 2010

Bates, B.C., *Overview and Progress of Stage 3*.

Bates, B.C., *The Drying Hydroclimate of South West Western Australia*.

Bates, B.C., *Climate: An Extreme View*

Frederiksen, C.S., *Observed and projected changes in the large scale atmospheric circulation and impacts on weather systems affecting Western Australia winter rainfall*

Other

Bates, B.C., *Climate Change Impacts on Australia's Food Bowl Regions*, invited address, Main Roads Department, Perth WA, 14 September 2010.

Bates, B.C., *Adaptation under Climate Uncertainty: Challenges & Opportunities*, public address, Melbourne VIC, 21 September 2010.

Bates, B.C., *Introduction to Climate Change Science*, invited presentation, University of Western Australia Business School, Perth, 28 September 2010.

Bates, B.C., *The Drying Hydroclimate Of Southwest Western Australia: Why Is It So?*, invited address, National Water Commission, Canberra ACT, 9 March 2011.

Bates, B.C., *Climate Change: Present and Future*, invited address, Bank of America/Merrill Lynch, Sydney NSW, 23 March 2011.

Frederiksen, C.S., *Winter changes in southern hemisphere synoptic weather systems*, invited talk College of Global Change and Earth system Science, Beijing Normal University, 20 May, 2011.