



NCCARF
National
Climate Change Adaptation
Research Facility

NCCARF Newsletter

Director's message

Professor Jean Palutikof, NCCARF Director



Interface of adaptation and mitigation

The recent papers¹ which have appeared in the scientific literature on the near-linear relationship between tonnage of carbon added to the atmosphere and the amount of warming is appealing to those of us with a mandate to communicate climate change issues to the interested layperson. They provide a simple arithmetic of climate change:

- The threshold for dangerous climate change = +2°C
- Adding 1 trillion tonnes of carbon to the atmosphere = a warming of 2°C
- Amount emitted in the last 250 years = 500 billion tonnes
- Amount remaining to be emitted before +2°C reached = 500 billion tonnes
- Projecting current patterns of emissions, time to emit this amount = 40 years.

The simplicity of this arithmetic, independent of timing considerations, has immediate resonance with the public, and indeed with me. And it allows policy people to consider emissions reductions in the very real units of number of tonnes of carbon.

We can take it a little further, and consider what impacts result from different amounts of global warming. We currently don't have the literature to support such an analysis, but some early steps were taken in a recent *Nature* paper.² It's perhaps easiest to do with well-constrained phenomena such as sea-level rise, and the clear need for engineering solutions in high-population low-lying regions. And most difficult where climate change interacts intimately with social and economic changes, for example in the area of human health.

But where it can be done, it again has the great virtue of simple arithmetic: the number of people displaced, the number of tonnes reduction in crop yields. This gives the underpinning information to decision-makers to allow them to think, in real terms, about adaptation strategies.

And this brings us to the final piece of the jigsaw, which is costs. In our simple arithmetic, if global temperature increases by x , threatening the livelihoods of y people, what is z , the cost of preserving the livelihoods of these same people? And then come the policy questions – if z_1 is the cost of the impact, and z_2 is the cost of adaptation, then if $z_2 < z_1$, and other things being equal, it's likely worth spending the money to adapt.

But, if $z_2 > z_1$, are we prepared to spend the money to adapt for welfare or other aesthetic reasons? These are the big questions in climate change, and only a substantial research effort will bring us close to answering them.

¹Allen, M.R., et al., 2009, *Nature*, 458, 1163-1166; Matthews, H.D., et al., 2009, *Nature*, 459, 829-832.

²Parry, M.L., et al., 2008, *Nature Reports Climate Change*, Online 29 May 2008.



2010 International Climate Change Adaptation Conference

Climate Adaptation Futures

Preparing for the unavoidable impacts of climate change

29 June-1 July 2010, Gold Coast Convention Centre, Gold Coast, Queensland, Australia

Registration and Call for Abstracts open

Abstracts and registrations are invited for the *Climate Adaptation Futures: Preparing for the unavoidable impacts of climate change* conference to be held on Queensland's Gold Coast from 29 June-1 July 2010.

Co-hosted by NCCARF and the CSIRO Climate Adaptation Flagship, this conference is among the first international forums to focus solely on climate impacts and adaptation. Keynote presentations will be given by speakers from across the climate change adaptation community, including Steve Schneider (Stanford University) R.K. Pachauri (Chair, IPCC) Chris Field (Carnegie Institution for Science) and Mark Howden (CSIRO Climate Adaptation Flagship).

Who should attend?

- The community of researchers in climate change impacts, adaptation and vulnerability seeking to present and discuss the latest science developments.
- Representatives of government, business, industry and vulnerable communities seeking to interact with that science.

To register or submit an abstract see www.nccarf.edu.au/conference2010 If you would like to be added to the contact list to receive information updates for the Conference email nccarf-conf2010@yrd.com.au

Conference sessions

Abstracts are invited for presentations addressing the following themes:

- Adaptation and the community
- Adaptation and development
- The economics and costs of adaptation
- Human security
- Climate extremes and disaster management
- Trans-boundary cooperation for adaptation
- The interface of adaptation and mitigation
- National and international adaptation activities
- National and sub-national case studies of adaptation
- Climate information for users
- Communication of information for adaptation
- Risk communication and behavioural change
- New technologies for adaptation
- Impacts and adaptation in the tropics
- Ecosystems
- Human health
- Water
- Adapting agriculture to climate change
- Coasts, deltas and small islands
- Tourism
- Adapting to climate change in cities
- Scenarios of the future for adaptation

International Conference Steering Committee:

- Jean Palutikof** (Chair), NCCARF
- Andrew Ash**, CSIRO Climate Adaptation Flagship
- Neil Adger**, Tyndall Centre for Climate Change
- Joseph Alcamo**, UNEP Chief Scientist, University of Kassel
- Tim Carter**, Finnish Environment Institute
- Kris Ebi**, Head, Technical Support Unit, IPCC Working Group II
- Chris Field**, Carnegie Institution for Science
- Kathy Hibbard**, National Centre for Atmospheric Research
- Saleem ul Huq**, International Institute for Environment and Development
- Kathy Jacobs**, Chair, Study in Adapting to the Impacts of Climate Change, U.S. National Academy of Sciences
- Rik Leemans**, Earth Systems Partnership and Wageningen University
- Jian Liu**, Chief of Climate Change Adaptation Unit, UNEP
- Antonio Magalhaes**, Director, Second International Conference on Climate, Sustainability and Development in Semi-Arid Regions
- Carlos Nobre**, Centre for Water Forecasting and Climate Studies, Brazilian Institute for Space Research
- Balgis Osman-Elasha**, Sudanese Higher Council for Environment and Natural Resources
- Martin Parry**, Co-Chair, IPCC Working Group II for the Fourth Assessment
- Cynthia Rosenzweig**, NASA Goddard Institute for Space Studies
- Mark Stafford-Smith**, CSIRO Climate Adaptation Flagship
- Will Steffen**, ANU
- Coleen Vogel**, University of the Witwatersrand
- Jean-Pascal van Ypersele**, IPCC Vice Chair, Universite catholique de Louvain
- Marie Waschka**, NCCARF

NCCARF Seminar Series

NCCARF hosts regular public seminars featuring speakers from across the international climate change research community. These are a popular information sharing and networking opportunity for public- and private-sector professionals, researchers and students of climate change adaptation.

Seminars are presented in Brisbane or at Partner and Research Network host institutions across Australia. Where possible, seminars are later made available for download on the NCCARF website. If you have seminar suggestions or would like to host a seminar contact Jeannette Langan on j.langan@griffith.edu.au

Upcoming seminars:

Tuesday 29 September, Brisbane 'The Legal Dimensions of Climate Change Adaptation' Professor Jan McDonald, Director - Griffith Climate Response Program.

Thursday 22 October, Brisbane 'Managing the Unavoidable: Natural Catastrophes' Dr Sandra Schuster, Research Analyst, Munich RE Insurance.

Tuesday 17 November, Brisbane 'Enhancing Adaptive Capacity in Coastal Communities' Professor Tim Smith, Director - Sustainability Research Centre, USC.

RSVP: Bookings essential to Kerry Fitzgerald on k.fitzgerald@griffith.edu.au For more upcoming seminars or to view past events see www.nccarf.edu.au/seminarseries

Comment invited on National Climate Change Adaptation Research Plans

The Drafts for both Terrestrial Biodiversity and Settlements & Infrastructure have been released for public review.

The Plans are part of a suite of National Climate Change Adaptation Research Plans (NARPs) being developed by NCCARF and the Australian Government Department of Climate Change to identify climate change adaptation research priorities in Australia and guide investment over the next five to seven years.

The Plans identify the research required to assist decision-makers prepare for the consequences of climate change.

They identify critical gaps in the information available to governments, industry and the community to support their response to climate change and identifies research priorities based on these gaps.

Developing the Plans

The Plans were developed by expert writing teams comprising national leaders in each field of expertise.

Find out more

The draft Plans are now available

on the NCCARF website www.nccarf.edu.au

Anyone wishing to comment on either Plan should download a copy of the draft document and its accompanying Feedback Form. Please use this form to submit your comments.

- Enquiries regarding the draft NARP for Terrestrial Biodiversity should be directed to Frank Stadler on (07) 5552 7268 or f.stadler@griffith.edu.au
- Enquiries regarding the draft NARP for Settlements & Infrastructure should be directed to Florence Crick on (07) 5552 7225 or f.crick@griffith.edu.au

Please note all comments must be received by **Friday, 30 October 2009**.



Update: National Climate Change Adaptation Research Plans

Completed and released: Human Health.

In final stages pending release: Emergency Management; Marine Biodiversity & Resources.

Draft open for consultation: Terrestrial Biodiversity; Settlements & Infrastructure.

Preparing draft for consultation: Social, Economic & Institutional Dimensions; Water Resources & Freshwater Biodiversity; Primary Industries.

Check www.nccarf.edu.au for updates, especially information on opportunities to review.

Adaptation Research Network News

The eight NCCARF Adaptation Research Networks are key to the core NCCARF function of building collaborative research, identifying research opportunities and creating forums for open exchange of information and sharing of resources in the Australian research community.

They will also play a significant role in implementing the National Climate Change Adaptation Research Plans, and in coordinating collaborative research projects priorities identified in the National Climate Change Adaptation Research Plans, and in coordinating collaborative research projects.

The Human Health, Marine Biodiversity and Resources, Water Resources and Biodiversity and Terrestrial Biodiversity networks have now established websites to provide information to members and subscribers on theme-specific events, professional development and research scholarship opportunities. Websites for other Networks are in development. To access the network websites visit www.nccarf.edu.au For information on becoming involved with a Network contact the Network Convenors listed on p4, or Marie Waschka on m.waschka@griffith.edu.au

Call for Abstracts - Settlements & Infrastructure Forum & Workshop

The Adaptation Research Network for Settlements and Infrastructure will host its second National Forum and Workshop at UNSW, Sydney on 9-11 November 2009. Talented research students at Australian universities with an interest in climate change adaptation research related specifically to Settlements and Infrastructure are invited to apply to attend. Thirty successful applicants will be approved funding to cover the costs of travel and attendance. Application forms are online at www.nccarf.edu.au or click [here](#) to download a copy.

Congratulations!

NCCARF congratulates Dr Paul Beggs (Macquarie) who earned the coveted [Jamie Callachor Eureka Prize for Medical Research](#) for his work on the impact of climate change on the prevalence of asthma and allergies. Paul is a Network for Human Health node leader and served on the NARP for Human Health writing team.

Adaptation Research Network contacts:

Terrestrial Biodiversity hosted by JCU and co-convened by Assoc Prof Stephen Williams, and Prof Lesley Hughes (Macquarie). Contact: stephen.williams@jcu.edu.au
lhughes@rna.bio.mq.edu.au

Water Resources & Freshwater Biodiversity hosted by Griffith University, convened by Prof Stuart Bunn. Contact: s.bunn@griffith.edu.au

Marine Biodiversity & Resources hosted by UTAS, convened by Assoc Prof Neil Holbrook. Contact: Neil.holbrook@utas.edu.au

Human Health hosted by ANU, co-convened by Prof Tony Capon and Dr Liz Hanna. Contact: tony.capon@anu.edu.au or liz.hanna@anu.edu.au

Settlements & Infrastructure hosted by UNSW, convened by Assoc Prof Ron Cox. Contact: r.cox@unsw.edu.au

Primary Industries Applications to host this network are being assessed. In the interim please direct queries to Marie Waschka on m.waschka@griffith.edu.au

Emergency Management hosted by RMIT, convened by Prof John Handmer. Contact: john.handmer@rmit.edu.au

Social, Economic & Institutional Dimensions hosted by University of Melbourne, convened by Assoc Prof Jon Barnett. Contact: jbarn@unimelb.edu.au



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2009 NCCARF Symposium

Representatives of the NCCARF Adaptation Research Networks, partner institutions and Commonwealth, State and Territory governments gathered for the inaugural two-day NCCARF Symposium in Brisbane in July.

More than 150 delegates shared news on their current research and projects underway within their Networks and institutions. They explored opportunities for information exchange and collaboration across disciplines, geographic and sectoral boundaries.

Selected presentations, a summary of the Symposium, and a collection of abstracts from Symposium presentations will soon be available on the NCCARF Website. Please contact Jeannette Langan on j.langan@griffith.edu.au for further information.

NCCARF website review

NCCARF is currently conducting a review of the structure and functionality of its website at www.nccarf.edu.au and welcomes feedback from users. Please submit any comments or suggestions to Kathryn Wallis on k.wallis@griffith.edu.au

About NCCARF:

The National Climate Change Adaptation Research Facility was established by the Australian Government to lead Australia's research community in a national interdisciplinary effort to generate the information needed by decision makers to manage the risks of climate change impacts.

NCCARF Partners:



Australian Government
Department of Climate Change



National Climate Change Adaptation Research Facility

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If you have comments, feedback or news items you would like included in the next NCCARF Newsletter please contact Jeannette Langan j.langan@griffith.edu.au. To receive this newsletter please subscribe online at www.nccarf.edu.au/user/register

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