



THE AFRICAN CLIMATE & DEVELOPMENT INITIATIVE

**Director and Pro Vice-Chancellor:
Professor Mark New**

Initiative Profile

The African Climate & Development Initiative (ACDI) is UCT's active response to the climate change and development challenge. A one-stop shop for all the activities happening around climate change at the University, the ACDI was set up in 2011 by Vice-Chancellor Max Price as one of four strategic initiatives, along with the Safety and Violence Initiative, the Schools Improvement Initiative, and the Poverty & Inequality Initiative. The ACDI is also one of the Vice-Chancellor's signature themes which are chosen to drive research in a strategic manner, are grounded in existing areas of internationally-recognized excellence at UCT, and are aligned to institutional, regional and national priorities.

Although the ACDI draws on membership from across all faculties at UCT, it is hosted by the Science Faculty, which provides administrative (HR and Financial) and academic (Student Administration) support, as well as office space.

The ACDI's vision is to promote a developing world that has transitioned to a sustainable growth trajectory and has the capacity to mitigate and adapt to climate change and its related issues. To achieve this, the ACDI focuses its efforts on collaboration and inter-disciplinarity, and is working to coordinate and grow what is already the largest concentration of expertise on climate change and sustainable development within Africa.

The ACDI supports research in four broad thematic areas, namely: mitigation, sustainable development, vulnerability and adaptation, and climate science. Within UCT, the ACDI merges these climate change issues with development issues, bringing together UCT's breadth and depth of research and teaching in these areas, which were previously conducted largely in isolation within a variety of departments and research centres. Beyond UCT, the ACDI brings together academics, NGOs, business and government to collectively tackle Africa's climate and development challenges.

Since its inception in 2011 the ACDI has grown at a rate of ~95% per annum, with the number of ACDI staff nearly doubling each year. Starting as a small working group of five people in 2011, the ACDI now employs

24 staff members who engage in research, teaching, support and management. Research students, and Masters by coursework students (for their dissertations), are registered in the department of their main supervisor, and are spread across all faculties.

Initiative Statistics

Permanent and Contract Staff

Professors	1
Administrative and Support Staff	9
Contract Research Staff	1
Total	11

Affiliated Researchers

Research Chairs and Fellows	4
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Postdoctoral Fellows

Postdoctoral Fellows	10
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Research Fields and Staff

PROFESSOR MARK NEW

Director and Pro Vice-Chancellor
Observed climate change detection and attribution, Climate model evaluation and climate scenario development, Climate impacts assessment and adaptation planning, Water resources, agriculture, biodiversity and nexus issues, Decision making under uncertainty, Interdisciplinary research methodologies and approaches

Administrative and Support Staff

DR LORENA PASQUINI

Research Coordinator
Climate change adaptation, climate change engagement (including behaviour change and communication), climate change decision-making and policy-making

KAREN FOSSEUS

Administrative Manager

RABIA KARRIEM

Administrative Assistant

KIRSTY NORTJE

Assistant Research Coordinator

LEIGH COBBAN

Project Development and Research Officer

CHRISTOPHER BRODRICK

Research Assistant

LUCIA SCODANNIBIO

Research Consortium Manager

DR TALI HOFFMAN

Communications Officer

DR STEPHANIE MIDGLEY

Project Manager

Contracted Research Staff**DR DIAN SPEAR**

Research Fellow

Research Chairs and Fellows**PROFESSOR RALPH HAMANN, GRADUATE SCHOOL OF BUSINESS**

Organisational transformative change and sustainability

PROFESSOR MARTINE VISSER, DEPARTMENT OF ECONOMICS

Environmental Economics

DR BRITTA RENNKAMP, ENERGY RESEARCH CENTRE

Climate technology and policy in developing countries, mitigation and poverty

ASSOCIATE PROFESSOR RES ALTWEGG, DEPARTMENT OF STATISTICS

Statistics in Ecology, Environment and Conservation

Postdoctoral Research Fellows**DR MUHAMMAD RAHIZ**

Climate Change, Agriculture and Food, Climate Modelling

DR MARIKO FUJISAWA

Climate Change, Agriculture and Food

DR BASTIEN DIEPPOIS

Climatology and Hydrology, evaluation of climate projections on decadal timescales

DR ADMIRE NYAMWAZA

Climate change adaptation

DR FARAI TERERAI

Resource limits and sustainable development

DR NEIL MACKELLAR

Land surface modelling

DR SALMA HEGGA

Climate change adaptation

DR MODATHIR ZAROUG

Climate change adaptation

DR MARIE-ANGE BADUOIN

Climate Change Adaptation in Southern Africa

DR NADINE MENTHER

Natural resource management, climate change adaptation and mitigation in the agricultural sector

RESEARCH OUTPUT**Book chapters**

Altwegg, R., West, A., Gillson, L. and Midgley, G.F. 2014. Impacts of climate change in the greater Cape Floristic Region. In N. Allsopp, J.F. Colville, and G.A. Verboom (eds), *Fynbos: Ecology, Evolution and Conservation of a Megadiverse Region*, pp. 299-320. Oxford University Press. ISBN 9780199679584.

Hamann, R. 2013 Cross-sector partnerships in areas of limited statehood,' pp. 60-78, in M.M. Seitanidi and A. Crane (eds.), *Social Partnerships and Responsible Business: A Research Handbook*, pp.60-78. London: Routledge. ISBN 9780415678643.

Hamann, R. 2014. Partnerships Are Not Forever: The limits to collaborative governance in diamond mining in Namaqualand, South Africa. In M. Sowman and R. Wynberg (eds) *Governance for Justice and Environmental Sustainability – Lessons across Natural Resources Sectors in Sub-Saharan Africa*, pp. 263-278. Oxford: Earthscan. ISBN 9780415523592.

Hamann, R., Bonnici, F., Nwosu, E., and Holt, D. 2014. Sustainability Entrepreneurship, In Urban B. (ed), *Entrepreneurship and Society*. Pearson Education South Africa (Pty) Ltd: Cape Town.

Articles in peer-reviewed Journals

Altwegg, R., Doutrelant, C., Anderson, M.D., Spottiswoode, C.N., and Covas, R. 2014. Climate, social factors and research disturbance influence population dynamics in declining sociable weaver metapopulation. *Oecologia* 174: 413-425.

Altwegg, R., Jenkins, A. and Abadi. 2014. Nest boxes and immigration drive growth of an urban peregrine falcon population. *Ibis* 156: 107-115.

- Broms, K.M., Johnson, D.S., Altwegg, R., and Conquest, L.L. 2014. Spatial occupancy models applied to atlas data show southern ground hornbills strongly depend on protected areas. *Ecological Applications* 24: 363-374.
- Butt, N., Malhi, Y., New, N., Macia, M.J., Lewis, S.L., Lopez-Gonzalez, G., Laurence, W.F., Laurence, S., Luizao, R., Andrade, A., Baker, T.R., Almeida, S.S. and Phillips, O.L. 2014. Shifting Dynamics of Climate-Functional Groups in Old-Growth Amazonian Forests. *Plant Ecology & Diversity*, 7(1-2): 267-279.
- Cole, M.J., Bailey, R.M. and New, M.G. 2014. Tracking sustainable development with a national barometer for South Africa using a downscaled "safe and just space" framework. *PNAS*. 111(42): E4399-E4408.
- Collingham, Y.C., Huntley, B., Altwegg, R., Barnard, P., Beveridge, O.S., Gregory, R.D., Mason, L.R., Oschadleus, H.D., Simmons, R.E., Willis, S.G. and Green, R.E. 2014. Prediction of mean adult survival rates of southern African birds from demographic and ecological covariates. *Ibis* 156: 741-754.
- Duckworth, G.D. and R. Altwegg, R. 2014. Environmental drivers of an urban hadeda. Ibis population. *Ardea* 102: 21-29.
- Emaresi, G., Bize, P., Altwegg, R., Henry, I., van den Brink, V., Gasparini, J., and Roulin, A. 2014. Melanin-specific life history strategies. *American Naturalist* 183: 269-280.
- Hamann, R. 2014. Patient dialogue between mining companies and communities is tougher and scarcer than imagined: a response to Hodge. *Journal of Cleaner Production*, 84: 35-36.
- Jansen, D.Y.M., F. Abadi, F., Harebottle, D., and Altwegg. 2014. Does seasonality drive spatial patterns in demography? Variation in survival in African reed warblers *Acrocephalus baeticatus* across southern Africa does not reflect global patterns. *Ecology and Evolution* 4: 889-898.
- Lloyd, P., Abadi, F., Altwegg, R., and Martin, T.E. 2014. South temperate birds have higher apparent adult survival than tropical birds in Africa. *Journal of Avian Biology* 45: 493-500.
- MacKellar, N., New, M. and Jack, C. 2014. Observed and modelled trends in rainfall and temperature for South Africa: 1960–2010. *South African Journal of Science*. 110(6): 1-13.
- Nyamwanza, A. 2014. Bridging policy and practice for livelihood resilience in rural Africa: lessons from the mid-Zambezi Valley, Zimbabwe. *Journal of Rural and Community Development*, 9(4): 23-33.
- Nyamwanza, A. and Bhatasara, S. 2014. The utility of postmodern thinking in climate adaptation research. *Environment, Development and Sustainability*, November: 14pp. DOI: 10.1007/s10668-014-9599-5.
- Sherley, R.B, Abadi, F., Ludynia, K., Barham, B.J., Clark, A.E., and Altwegg, R. 2014. Age-specific survival and movement among major African penguin *Spheniscus demersus* colonies. *Ibis* 156: 716-728.
- Tererai, F. and Wood, A.R. 2014. On the present and potential distribution of *Ageratina adenophora* (Asteraceae) in South Africa. *South African Journal of Botany*, 95: 152-158.
- Tererai, F., Gaertner, M., Jacobs, S.M. and Richardson, D.M. 2014. Resilience of invaded riparian landscapes: the potential role of soil-stored seed banks. *Environmental Management*. 55(1): 86-99.
- Weller, F., Cecchini, L.-A., Shannon, L., Sherley, R.B., Crawford, R.J.M., Altwegg, R., L. Scott, L., Stewart, T., and Jarre, A. 2014. A system dynamics approach to modelling multiple drivers of the African penguin population on Robben Island, South Africa. *Ecological Modelling* 277: 38-56.
- Ziervogel, G., New, M., van Garderen, E.A., Midgley, G., Taylor, A., Hamann, R., Stuart-Hill, S., Myers, J. and Warburton, M. 2014. Climate change impacts and adaptation in South Africa. *WIREs Climate Change*. 5: 605-620.

Peer reviewed conference proceedings

Dieppois, B., Rouault, M and New, M. 2014. Austral summer relationship between ENSO and Southern African rainfall in CMIP5 coupled models. *South African Society for Atmospheric Science*. 30(1). Potchefstroom, South Africa.

Massei, N., Dieppois, B., Fritier, N., Laignel, B., Debret, M., Lavers, D. and Hannah, D. 2014. Hydrometeorological variability on a large french catchment and its relation to large-scale circulation across temporal scales. *Geophysical Research Abstracts*. EGU General Assembly, 12 – 17 April, 2015.

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