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Environmental Systems Science Centre
National Centre for Earth Observation
University of Reading

An established research scientist, specialising in Earth Observation, radiative processes and climate modelling; numerous peer-reviewed publications and strong links with the Met Office and the Intergovernmental Panel on Climate Change.

Career Outline

2005-present: NERC Advanced Fellow, ESSC, University of Reading
2003-2005: Research Fellow, ESSC, University of Reading
1999: Visiting scientist, Geophysical Fluid Dynamics Laboratory, Princeton, NJ, USA
1998-2003: Research Scientist, Hadley Centre, Met Office: Climate Change Group (2002-2003), Earth Observation Team (2000-2002), Model Parametrization Section (1998-2000)
1995-1998: PhD, Meteorology Department, University of Reading (CASE award, Hadley Centre)
1992-1995: BSc (First Class Honours) Environmental Sciences, University of East Anglia

Current Professional activities

Associate Editor, Journal of Climate, since 2008
Member of NERC Peer Review College, since 2007
Contributing author and expert reviewer for Intergovernmental Panel on Climate Change Fourth Assessment Report
Member of Geostationary Earth Radiation Budget International Science Team, since 1998
Affiliate of GEWEX Radiative Flux Assessment and Clouds and the Earth's Radiant Energy System Science Team
Met Office HadGEM3 Radiation Budget Assessment Team, 2007-2008
National Centre for Earth Observation, Climate-Atmosphere sub theme investigator since 2008
Environmental Research Letters, Special Focus Issue Co-organizer
Reviewer for numerous international scientific journals and funding agency grant proposals
Societies: Royal Meteorological Society; American Geophysical Union (session organiser)

Grants awarded

NERC Advanced Fellowship, 2005-2010 (£282k)
Royal Society Incoming Short Visits grant, 2008 (£3785)
JCRP Co-I with Met Office, HadIR project, 2009-2012
FENNEC NERC consortium grant, Co-I, 2010-2013 (£370k)
PREPARE NERC standard grant, PI, 2009-2012 (£318k)

Awards

2008, Outstanding reviewer, JGR-Atmospheres
2003, Reid award, NASA Langley Research Center (for authors of Wielicki et al. 2002)
1992-3, First Year prize and Cann prize for Environmental Science, University of East Anglia.

Teaching and Outreach

Interviews with BBC and German radio, Guardian, Telegraph, Financial Times, Earth magazine, Global Re-insurance, European Commission/Environment Policy following Science paper on precipitation extremes

Schools Outreach lecture to Guildford Geophysical Association (Royal Meteorological Society)

Business Outreach seminar on Climate Change and Earth Observation, Lloyds of London, 2009

Adult Education Lecturer, School of Continuing Education, University of Reading (Modules: Weather and Climate; Climate Change, Past, Present and Future) 2006-2009

Undergraduate Teaching, Climate Change, Randolph College (overseas students), University of Reading, 2007-present; Science of Climate Change year 2 undergraduate module (MT2CC1A with Prof. Arnell and Dr. Inness), Autumn 2009, University of Reading

MSc supervision: dissertation (Iain Hissett) and Team Projects, 2009

External PhD lectures, Climate Processes and Modelling PhD course, Sweden, 2008

Summer school lecturer, Water Vapour in the Climate System, Corsica, September 2009

PhD examiner: L. Read, Imperial College, 2004; N. Clerbaux, RMIB, 2008; R. Holley ESSC, 2009

PhD supervisor: Ross Maidment (Meteorology), Claire Barber (ESSC), Nicky Chalmers (Meteorology Department), Ruth Comer (ESSC, now Met Office)

PhD advisory committee: Adrian Champion (ESSC), Peter Hill (Met Office), Peter Henderson (ESSC, now NCAR), Helen White (ESSC)

Selected Scientific Meetings

2009 Invited Speaker, Royal Meteorological Society Conference, Reading

EUMETSAT Meteorological Satellites Conference, Bath

Invited Speaker, NCEO National Conference, Oxford

2008 Co-convenor, AGU Fall meeting, Dynamic/Thermodynamic Controls of the Hydrological Cycle

Keynote, Met Office Workshop, Improving Predictions of the Large-scale Hydrological Cycle

GERB/CERES joint science team meetings, GISS, New York

Invited speaker, AGU Chapman Conference on water vapour, Hawaii

Keynote, EUMETSAT-LANDSAF workshop, Instituto de Meteorologia, Lisbon

Solicited talk, EGU conference, Surface Radiation Budget session, EGU, Vienna

2007 WGNE workshop on systematic errors in climate and NWP models, San Francisco, CA, USA

2006 GEWEX Radiative Flux Assessment workshop, Williamsburg, VA, USA

2004 Invited Speaker, GEWEX Water Cycle Trends Workshop, Paris

Invited Speaker, Session Chair, International Radiation Symposium, Busan, South Korea

Invited Speaker, IPCC Workshop on Climate Sensitivity, Paris

2003 Invited Speaker, Royal Meteorological Society National Meeting, London

2001 Invited Speaker, ERA-40 Workshop on reanalyses, ECMWF, Reading

Invited Speaker, Session Chair, IAMAS Conference, Innsbruck, Austria

Selected Publications on following page

See www.nerc-essc.ac.uk/~rpa/publications.html for full list

- John, V.O., R.P. Allan and B.J. Soden (2009) How robust are observed and simulated precipitation responses to tropical ocean warming? *Geophys. Res. Lett.* 36, L14702, doi:10.1029/2009GL038276
- Allan, R.P. (2009) Examination of Relationships between Clear-Sky Longwave Radiation and Aspects of the Atmospheric Hydrological Cycle in Climate Models, Reanalyses, and Observations, *J. Climate* 22, 3127-3145
- Allan, R.P., B.J. Soden (2008) Atmospheric Warming and the Amplification of Precipitation Extremes, *Science* 321, (5895) p.1481-1484
- Allan, R.P., A. Slingo, S.F. Milton, M.A. Brooks (2007) Evaluation of the Met Office global forecast model using Geostationary Earth Radiation Budget (GERB) data, *Q. J. Roy. Meteorol. Soc.* 133, 1993-2010
- Allan, R.P. and B.J. Soden (2007) Large discrepancy between observed and simulated precipitation trends in the ascending and descending branches of the tropical circulation, *Geophys. Res. Lett.* 34, L18705, doi:10.1029/2007GL031460
- Slingo, A., T.P. Ackerman, R.P. Allan, E.I. Kassianov, S.A. McFarlane, G.J. Robinson, J.C. Barnard, M.A. Miller, J.E. Harries, J.E. Russell, and S. Dewitte (2006) Observations of the impact of a major Saharan dust storm on the Earth's radiation balance, *Geophys. Res. Lett.* 33, L24817, doi:10.1029/2006GL027869
- Allan, R.P. (2006) Variability in clear-sky longwave radiative cooling of the atmosphere, *J. Geophys. Res.* 111, D22105, doi:10.1029/2006JD007304
- Bony, S., R. Colman, V.M. Kattsov, R.P. Allan, C.S. Bretherton, J.-J. Dufresne, A. Hall, S. Hallegatte, M.M. Holland, W. Ingram, D.A. Randall, B.J. Soden, G. Tselioudis, and M.J. Webb (2006) How well do we understand and evaluate climate change feedback processes?, *J. Climate* 19, 3445-3482
- Uppala, S.M., and coauthors (including R.P. Allan) (2005) The ERA-40 Re-analysis, *Q. J. Roy. Meteorol. Soc.* 131, 2961-3012
- Allan, R.P., A. Slingo, S.F. Milton I. Culverwell (2005) Exploitation of geostationary Earth radiation budget data using simulations from a numerical weather prediction model: Methodology and data validation, *J. Geophys. Res.* 110, D14111, 10.1029/2004JD005698
- Harries, J.E. and coauthors (including R.P. Allan) (2005) The Geostationary Earth Radiation Budget (GERB) Experiment, *Bull. Amer. Meteorol. Soc.* 86, 945-960
- Haywood, J.M., R.P. Allan, I. Culverwell, A. Slingo, S. Milton, J.M. Edwards and N. Clerbaux (2005) Can desert dust explain the outgoing longwave radiation anomaly over the Sahara during July 2003? *J. Geophys. Res.* 110, D05105, doi:10.1029/2004JD005232
- Allan, R.P., M.A. Ringer, J.A. Pamment and A. Slingo (2004), Simulation of the Earth's radiation budget by the European Centre for Medium Range Weather Forecasts 40-year Reanalysis (ERA40) *J. Geophys. Res.* 109, D18107, doi:10.1029/2004JD004816
- Ringer, M.A. and R.P. Allan (2004) Evaluating climate model simulations of tropical cloud, *Tellus* 56A, 308-327
- Allan, R.P., M.A. Ringer and A. Slingo (2003) Evaluation of moisture in the Hadley Centre Climate Model using simulations of HIRS water vapour channel radiances, *Q. J. Roy. Meteorol. Soc.* 129, 3371-3389
- Allan, R.P. and M.A. Ringer (2003) Inconsistencies between satellite estimates of longwave cloud forcing and dynamical fields from reanalyses, *Geophys. Res. Lett.* 30, 1491, doi:10.1029/2003GL017019
- Allan, R.P., V. Ramaswamy and A. Slingo (2002) A diagnostic analysis of atmospheric moisture and clear-sky radiative feedback in the Hadley Centre and Geophysical Fluid Dynamics Laboratory (GFDL) climate models, *J. Geophys. Res.* 107(D17), 4329, DOI: 10.1029/2001JD001131
- Allan, R.P., A. Slingo and V. Ramaswamy (2002) Analysis of moisture variability in the European Centre for Medium-Range Weather Forecasts 15-year reanalysis over the tropical oceans, *J. Geophys. Res.* 107(D15), 4230, DOI 10.1029/2001JD001132
- Allan, R.P., A. Slingo and M.A. Ringer (2002) Influence of dynamics on the changes in tropical cloud radiative forcing during the 1998 El Niño, *J. Climate* 15, 1979-1986
- Allan, R.P. and A. Slingo (2002) Can current climate forcings explain the spatial and temporal signatures of decadal OLR variations? *Geophys. Res. Lett.* 29, 1141, doi:10.1029/2001GL014620
- Wielicki, B.A., T.M. Wong, R.P. Allan, A. Slingo, J.T. Kiehl, B.J. Soden, C.T. Gordon, A.J. Miller, S.-K. Yang, D.A. Randall, F. Robertson, J. Susskind and H. Jacobowitz (2002) Evidence for Large Decadal Variability in the Tropical Mean Radiative Energy Budget, *Science* 295, 841-844
- Allan, R.P. (2000) Evaluation of Simulated Clear-sky Longwave Irradiance at the Surface using Ground-based Radiometric Observations, *J. Climate* 13, 1951-1964
- Allan, R.P., K.P. Shine, A. Slingo, J.A. Pamment (1999) The dependence of clear-sky outgoing longwave radiation on surface temperature and relative humidity, *Q. J. Roy. Meteorol. Soc.* 125, 2103-2126