##  CURRICULUM VITAE: David Andrew POST

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**EMPLOYMENT AND EDUCATION**

November 2012 – December 2018: Senior principal research scientist, CSIRO Land and Water, Canberra, assessing the impacts of coal resource development on water resources.

July 2010 – November 2012: Principal research scientist, CSIRO Land and Water, Canberra, assessing the impacts of climate and landuse change on hydrology.

November 2006 – June 2010: Senior research scientist, CSIRO Land and Water, Canberra, carrying out large-scale assessments of water availability in the Murray-Darling Basin and Tasmania.

February 1999 – November 2006: Research scientist, CSIRO Land and Water, Townsville, deriving relationships between landuse and the hydrology and water quality of tropical catchments.

July 1996 – January 1999: Post-doctoral research fellow, Oregon State University, carrying out research into the factors influencing hydrologic response within the United States long-term ecological research (LTER) network.

April 1992 - June 1996: Ph.D, Centre for Resource and Environmental Studies, Australian National University, ACT. 1997. *Identification of relationships between catchment-scale hydrologic response and landscape attributes.*

April 1990 - April 1992: Experimental Scientist, CSIRO Atmospheric Research, carrying out research into the coupling of ocean and atmospheric general circulation models.

December 1988 – December 1989: B.Sc (Hons.), University of Newcastle, NSW. 1990. *A preliminary study of fog and rainwater quality in the Barrington Tops and New England regions of NSW.*

**KEY PROJECT LEADER ROLES**

November 2012 – December 2018: *Bioregional Assessments*. Assessing the impacts of coal seam gas and coal mining on water resources. $62m (Commonwealth Department of the Environment and Energy).

April 2010 – June 2012: *South Eastern Australian Climate Initiative (SEACI)*. Understanding climate variability and climate change in south-eastern Australia. $9.4m (MDBA, DCCEE, Vic. DSE, BoM).

June 2008 – March 2010: *Tasmania Sustainable Yields Project*. Deriving current and future (2030) water use and availability for Tasmania. $4.2m (DEWHA).

July 2003 – November 2006: *Bowen water quality study*. Determine water quality condition and trends in the Bowen River, North Queensland. $175k (NAPSWQ).

July 2001 – November 2006: *Ecological Monitoring of the Townsville Field Training Area*. Ongoing monitoring of ecological condition and trends in the Townsville Field Training Area, North Queensland. $907k (Department of Defence).

September 2002 – September 2006: *Sustainable grazing for a healthy Burdekin catchment.* Developing sustainable grazing management practices for the Burdekin catchment, North Queensland. $2.3m (Meat and Livestock Australia).

July 2002 – June 2006: *ICRAF-SE Asia study*. The impact of changing agroforestry mosaics on catchment water yield and quality in Southeast Asia. $102k (ACIAR).

## PROFESSIONAL AFFILIATIONS

President, *Modelling and Simulation Society of Australia and New Zealand*, 2013-.

Member, *European Geosciences Union*, 2015-.

Management Committee, *Modelling and Simulation Society of Australia and New Zealand*, 2001-2013.

Member, *Modelling and Simulation Society of Australia and New Zealand*, 1993-.

Member, *American Geophysical Union*, 1996-.

Member, *International Association of Hydrological Sciences*, 2005-.

Co-leader, Top-Down Modelling Working Group, *International Association of Hydrological Sciences* Decade of Prediction in Ungauged Basins (PUB), 2004-2012.

Adjunct Fellow, Centre for Resource and Environmental Studies, Australian National University, 2005-2008.

Theme Leader, *International Association of Hydrological Sciences* Decade of Prediction in Ungauged Basins (PUB), 2005-2007.

Visiting Fellow, Integrated Catchment Assessment and Management Centre, Australian National University, 2004-2005.

## AWARDS AND HONOURS

2018: CSIRO Chairman’s medal for leadership of the Bioregional Assessment Project.

2018: $7,500 CSIRO Land and Water cash reward for outstanding project leadership of the Bioregional Assessments Project.

2013: Finalist, Australian Museum Eureka Prize for Environmental Research for SEACI.

2012: CSIRO Land and Water *Excellence in Research Award* as Director of the South Eastern Australian Climate Initiative (SEACI).

2010: $20,000 CSIRO Land and Water cash reward for outstanding project leadership of the Tasmania Sustainable Yields Project.

2008: CSIRO Chairman’s medal for contributions to the Murray-Darling Basin Sustainable Yields Project.

2004: Elected a Fellow of the Modelling and Simulation Society of Australia and New Zealand.

1994: Awarded the *Robert Hill Memorial Prize* at the Australian National University, presented to a PhD student for ‘Outstanding and Innovative Research in the Earth Sciences’.

1993: ‘Highly Commended’ as part of the Best Student Presentation Competition, *International Congress on Modelling and Simulation, 6-10 December 1993*, Perth, Australia.

**INVITED PRESENTATIONS**

“Using surface and groundwater models to conduct cumulative impact assessments”. Keynote address at the *Australian Geoscience Council Convention*, 14-18 October 2018, Adelaide, Australia.

“Bioregional Assessments: Using groundwater, surface water and ecological models to determine the impacts of coal mining and coal seam gas extraction on water resources”. Keynote address at the *Australasian Groundwater Conference,* 11-13 July 2017, Sydney, Australia.

“Water’s strategic role in the resources industry”. Invited panellist at the *IWA World Water Congress and Exhibition*, 9-14 October, 2016, Brisbane, Australia.

"Regionalising hydrologic response under a changing climate".  *IAHS PUB Workshop: P3, Putting PUB into Practice,* 10-14 May 2011, Canmore, Canada.

"Use of GCM projections in water resource management". *CMIP5 Science Workshop,* 28-29 April 2011, Melbourne, Australia.

“Impact of climate change on water availability in the Murray-Darling Basin”. *9th International Conference on Southern Hemisphere Meteorology and Oceanography*, 9-13 February 2009, Melbourne, Australia.

“Modelling and monitoring catchment-scale fluxes of water, sediment and nutrients: an example from North Queensland’. *Water Resources Monitoring and Modelling Workshop, CSIRO,* Canberra, 8-9 February 2007.

“The impact of landuse change on hydrologic response in a variety of hydro-climatic regimes”. *AGU Fall Meeting, San Francisco, California,* 11-15 December 2006.

“Top-down modelling”. *USA PUB Workshop,* Corvallis, OR, 16-19 October 2006.

## “Recent advances in the data-based modelling and analysis of hydrological systems”. Keynote address at the *International Association of Water Quality Watermatex,* 17-20 June 1997, Quebec City, Canada.

## EDITORIAL ROLES

2018: Guest Editor of special issue of *Journal of Hydrology* “Cumulative impacts of mining developments on water resources: theory, data analysis, modelling, and implications”.

2006: Guest Editor of Special Issue of *Environmental Modelling and Software* **21 (9)** “Integrative Modelling of Climatic, Terrestrial and Fluvial Systems”.

2005: Guest Editor of two Special Double Issues of *Mathematics and Computers in Simulation* **68 (5-6), 69 (1-2)** “Selected papers from MODSIM 2005”.

2003: Guest Editor of Special Double Issue of *Environmental Modelling and Software* **18 (8-9)**, “The Modelling of Hydrologic Systems”.

1995: Guest Editor of Special Issue of *Environment International* **21(5)**, “Water Modelling”.

**CONVENER ROLES**

2013: Co-stream leader of the “Water Resources” stream, *MODSIM 2013 International Congress on Modelling and Simulation*, 1-6 December 2013, Adelaide, Australia.

2012: Convener of special session H093 “Hydrological Modelling under non-stationarity”, *AGU Fall Meeting*, San Francisco 3-7 December 2012.

2011: Convener of special session I4 “Regionalising Hydrologic Response to Improve Predictions of Large-scale Water Availability”, *MODSIM 2011 International Congress on Modelling and Simulation*, 12-16 December 2011, Perth, Australia.

2011: Co-convener of special session I6 “Understanding and Modelling Climate-water Relationships and Dominant Processes in a Changing Climate”, *MODSIM 2011 International Congress on Modelling and Simulation*, 12-16 December 2011, Perth, Australia.

2010: Co-convener of special session S20 “Model development: the role of uncertainty and model diagnostics”, *iEMSs 2010 International Congress on Environmental Modelling and Software*, 5-8 July 2010, Ottawa, Canada.

2009: Co-convener of special session I7 “Prediction in Ungauged Basins — Review of Progress and Plans for the Future”, *MODSIM 2009 International Congress on Modelling and Simulation,* 13-17 July 2009,Cairns, Australia.

2008: Co-convener of special sessions H21K and H23C “Prediction in ungauged basins to solve real-world problems”, *AGU Fall Meeting,* San Francisco, 15-19 December 2008.

2008: Co-convener of workshop W2 at *iEMSs 2008 International Congress on Environmental Modelling and Software*, Barcelona, Spain, “Evaluating the impact of data and associated uncertainty on hydrological model predictions”.

2007: Co-convener of special session at the *MODSIM 2007 International Congress on Modelling and Simulation,* 10-13 December 2007, Christchurch, New Zealand, “PUB: Building Towards New Hydrological Models”.

2007: Convener of *Cutting edge science symposium: Hydrological consequences of climate change*, 15-16 November 2007, Canberra, Australia.

2006: Convener of Water for a Healthy Country workshop *The Past, Present and Future of Sediment and Nutrient Modelling in GBR Catchments*, 1-2 November 2006, Brisbane, Australia.

2006: Co-convener of special session S12 at *iEMSs 2006 Summit on Environmental Modelling and Software*, Burlington, USA, “Developing new hydrological models - towards merging top-down and bottom-up approaches”.

2005: Co-convener of special session at the *MODSIM 2005 International Congress on Modelling and Simulation, 12-15 December 2005*, Melbourne, Australia, “Top Down Modelling and PUB”.

2004: Co-convener of special session at *iEMSs 2004 The International Environmental Modelling and Software Society Conference*, Osnabruck, Germany, “Modelling Hydrological Responses in Ungauged Catchments”.

2003: Convenor of the *MODSIM 2003 International Congress on Modelling and Simulation, 7-10 July 2003,* Townsville, Australia.

2001: Convened four special sessions dealing with the “Modelling of Hydrologic Systems” at the *MODSIM 2001 International Congress on Modelling and Simulation, 10-13 December 2001,* Canberra, Australia.

1999: Co-ordinated special sessions “Surface Water Runoff Models”, “Streamflow Response Models”, “Evaluation of Surface Hydrological Models”, and “Hydrological Interaction Modelling” at the *MODSIM 1999 International Congress on Modelling and Simulation, 6-9 December 1999,* Hamilton, New Zealand.

1998: Convened special sessions H31E and H32G, “Regionalisation in Hydrology : The Role of Vegetation, Soils and Climate in Driving Catchment-Scale Hydrologic Response”, *AGU Spring Meeting, May 26-29 1998*, Boston, USA.

1997: Organised the first LTER Inter-site Hydrology Workshop, H J Andrews Experimental Forest, Oregon, USA, 20-21 November, 1997.

**STUDENTS SUPERVISED**

2013: James Bennett. *Impacts of future climate on Tasmanian rivers.* Masters, University of Tasmania, Australia.

2003: Mirjam Alewijnse. *Grazing and water infiltration in the savanna landscape.* Honours, James Cook University, Townsville, Australia.

2002: Anne-Katrin Heine. *Characterisation of gully erosion by airphoto interpretation and GIS techniques of rangelands in semiarid north-eastern Australia.* Graduate Diploma, University of Bochum, Germany.

2000: Christine Jurgensen. *Gully and sheet erosion in grazed areas in north-eastern Queensland, Australia.* Graduate Diploma, University of Osnabruck, Germany.

**REFEREES**

Professor Anthony Jakeman, Director, Integrated Catchment Assessment and Management Centre, Australian National University, Canberra, ACT 0200, Australia, Ph : +61-2 6125-4742, e-mail: tony.jakeman@anu.edu.au.

Professor Keith Beven, Emeritus Professor, Lancaster Environment Centre, Lancaster University, UK. Ph: +44-1524-593892, e-mail: k.beven@lancaster.ac.uk.

Professor Gunter Bloschl, Institute of Hydraulic Engineering and Water Resources Management, Vienna University of Technology, Ph: +43-1-58801-22315, e-mail: bloeschl@hydro.tuwien.ac.at.