

## **Benjamin Preston, Director, Infrastructure Resilience and Environmental Policy; Senior Policy Researcher**

### **Professional Summary**

Benjamin Preston is a Senior Policy Researcher and Director of RAND's Infrastructure Resilience and Environmental Policy Program. Prior to joining RAND, he served as the Deputy Director of the Climate Change Science Institute at Oak Ridge National Laboratory. While working at ORNL, he engaged in research on vulnerability and resilience of U.S. energy systems to climate variability and change as well as opportunities and constraints associated with climate risk management. In addition, he contributed to national and international scientific assessments including the *National Climate Assessment* and the Intergovernmental Panel on Climate Change's *Fifth Assessment Report*. Previously, he served as a research scientist in Australia with the CSIRO's Division of Marine and Atmospheric Research and as a Senior Research Fellow at the Pew Center on Global Change. He received a BS in biology from the College of William and Mary and a PhD in environmental biology from the Georgia Institute of Technology, where he also minored in public policy.

### **Education and Certifications**

Ph.D., Environmental Biology, Georgia Institute of Technology  
B.S., Biology, College of William and Mary

### **Relevant Projects**

#### *Resilience of the U.S. Electricity System: A Multi-Hazard Perspective*

Dr. Preston led a 1 year effort involving multiple Department of Energy national laboratories to undertake a comprehensive assessment of the resilience of the U.S. electricity system to a broad range of natural and anthropogenic hazards. This assessment formed the foundation for DOE's second Quadrennial Energy Review, specifically the QERII's analysis of electricity resilience.

#### *Multi-Criteria Approaches to Adaptive Coastal Development*

Dr. Preston led a two year efforts funded by the Australian Department of Environment and Climate Change to develop multi-criteria analytic methods to evaluate coastal adaptation policies and practices. The project focused on three case study communities along Australia's East Coast and generated GIS-based tools for integrating coastal risk analyses, community preferences for adaptation options, and adaptation decision constraints to enable property-scale prioritization of adaptation interventions.

#### *Evaluation of Climate Adaptation Planning*

Dr. Preston used early career award funding to undertake a 1 year project that developed

and applied process criteria for the evaluation of local and national climate adaptation planning. That work was one of the first efforts that attempted to evaluate adaptation planning and the methods have subsequently been used in other studies including, most recently, and evaluation of adaptation planning in Indonesia.

*Regional Climate Change Risk Assessment and Adaptation Planning*

Dr. Preston was a member of consortium of researchers that executed community-based risk assessments and adaptation planning activities in partnership with Australian local governments. Working in two different regions of Southeast Australia, the research teams developed and applied participatory methods for climate change risk assessment, vulnerability mapping, and adaptive capacity assessment.

*Climate Change Vulnerability Assessment for the Asia/Pacific Region*

Dr. Preston led an assessment of climate change in the greater Asia/Pacific region on behalf of a consortium of Australian environmental organizations. The assessment included analysis of seasonal climate change projections for the region as well as a sectoral analysis of climate change vulnerabilities.

**Work History**

Director, Infrastructure Resilience and Environmental Policy Program, RAND Corporation, Santa Monica, CA	2017 – present
Deputy Director, Climate Change Science Institute, Oak Ridge National Laboratory, Oak Ridge, TN	2010 – 2016
Research Scientist, Division of Marine and Atmospheric Research, CSIRO, Melbourne, Australia	2005 – 2010
Senior Research Fellow, Pew Center on Global Climate Change, Arlington, VA	2001 – 2005
Postdoctoral Fellow, Carolina Environmental Program, University of North Carolina – Chapel Hill	2000 – 2001

**Publications and Presentations**

- “Adaptation opportunities and constraints in coupled systems: evidence from the U.S. energy-water nexus,” *Environmental Science & Policy*, 2017. (w/ Ernst, K.)
- “How are coastal households responding to climate change,” *Environmental Science & Policy*, 2016 (w/ Elrick-Barr, C.E., Thomsen, D.C., Smith, T.F.)
- “Resilience of the U.S. Electricity System: A Multi-Hazard Perspective,” Energy Policy and Systems Analysis, U.S. Department of Energy, 2016. (w/ Backhaus, S.N., Ewers, M., Phillips, J.A., Silva-Monroy, C.A., Dagle, J.E., Tarditi, A.G., Looney, J., King Jr., T.J.)
- “Extending the Shared Socioeconomic Pathways for use in regional impacts, adaptation, and vulnerability studies,” *Global Environmental Change*, 2015. (w/ Absar, S.M.)

- “Evaluation of national adaptation planning: a case study in Indonesia,” *Climate Change Policies and Challenges in Indonesia*, 2015. (w/ Kawanishi, M., Ridwan, N.A.)
- “Climate risk management for the U.S. cellulosic biofuels supply chain.” *Climate Risk Management*, 2014. (w/ Langholtz, M., Webb, E., Turhollow, A., Eaton, L., Breuer, N., King, A.W., Sokhansanj, S., Surendran Nair, S., Downing, M.)
- “Improving the usability of integrated assessment for adaptation practice: insights from the U.S. Southeast energy sector. *Environmental Science & Policy*, 2014. (w/ de Bremond, A., Rice, J.)
- “A geospatial dataset for U.S. hurricane storm surge and sea-level rise vulnerability: development and case study applications,” *Climate Risk Management*, 2014. (w/ Maloney, M.C.)
- “Limits to adaptation,” *Nature Climate Change*, 2013. (w/ Dow, K., Berkhout, F., Klein, R.J.T., Midgley, G., Shaw, R.)
- Climate change vulnerability assessments as catalysts for social learning: four case studies in south-eastern Australia,” *Mitigation and Adaptation Strategies for Global Change*, 2013. (w/ Yuen, E.J., Stone-Jovicich, S.)
- “Adapting to climate change through local municipal planning: barriers and challenges,” *Mitigation and Adaptation Strategies for Global Change*, 2011. (w/ Measham, T.G., Smith T.F., Brook C., Gorddard, R., Withycombe, G., Morrison, C.)
- “Putting vulnerability to climate change on the map: A critical look at approaches, benefits, and risks,” *Sustainability Science* 2011. (w/ Yuen, E.J., Westaway, R.M. )
- “Climate adaptation planning in practice: an evaluation of adaptation plans from three developed nations,” *Mitigation and Adaptation Strategies for Global Change*, 2011. (w/ Westaway, R.M., Yuen, E.J.)
- “*A Guide to Monitoring and Evaluating Coastal Adaptation*,” Sydney Coastal Councils Group, 2012. (w/ Thomsen, D.C., Smith, T.F., Jacobson, C., Mangoyana, R.B., Maloney, M.C., Withycombe, G., Armstrong, I.)
- “Adaptation and risk management,” *WIREs Climate Change*, 2011. (w/ Jones, R.N.)
- “Igniting change in local government: lessons learned from a bushfire vulnerability assessment,” *Mitigation and Adaptation Strategies for Global Change*, 2009.
- “Screening climatic and non-climatic risks to Australian catchments,” *Geographical Research*, 2008. (w/ Jones, R.N.)
- “Mapping Climate Change Vulnerability in the Sydney Coastal Councils Group,” CSIRO Climate Adaptation Flagship, 2008. (w/ Smith, T., Brooke, C., Gorddard, R., Measham, T., Withycombe, G., McInnes, K., Abbs, D., Beveridge, B., and Morrison, C.)
- “*Climate Change in the Asia/Pacific Region*,” Climate Change and Development Roundtable, 2006. (w/ Suppiah, R., Macadam, I., and Bathols, J.M.)

## Contact Information

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