

Forces of Nature and Cultural Responses

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Editors

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 Springer

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*This volume is dedicated to
J. Donald Hughes
on the occasion to celebrate his 80th birthday.*

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Key Publications

- Blampied, N. M.: Single-case research designs and the scientist-practitioner ideal in applied psychology. In G. Madden (Ed.). *Handbook of Behavior Analysis*, Vol 1. Washington, DC: American Psychological Association, 2012, 177–197.
- Henderson, J. M. T., France, K. G., Owens, J. L. and Blampied, N. M.: Sleeping through the night: The consolidation of self-regulated sleep across the first year of life. *Pediatrics* 126(5) 2010, 1081–1087.
- Blampied, N. M. and France, K. G.: A behavioral model of infant sleep disturbance. *Journal of Applied Behavior Analysis* 26(4) 1993, 477–492.

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Key Publications

- Bolin, B., Hegmon, M., Meierotto, L., York, A. and Declat, J.: Double exposure in the Sunbelt: The sociospatial distribution of vulnerability in Phoenix, Arizona. In Boone, C. and Fragkias, M. (Eds.) *Linking Urban Ecology, Environmental Justice and Global Environmental Change: A Framework for Urban Sustainability*. Berlin, Heidelberg: Springer, forthcoming.
- Bolin, B., Seetharam, M. and Pompeii, B.: Water resources, climate change, and urban vulnerability: A case study of Phoenix, Arizona. *Local Environment* 15(3) 2010, 261–279.
- Bolin, B., Collins, T. and Darby, K.: Fate of the Verde: Water, environmental conflict and the politics of scale in Arizona's Central Highlands. *Geoforum* 39(3) 2008, 1494–1511.

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Key Publications

- Doe, R. K.: *Extreme floods: A history in a changing climate*. Stroud: Sutton Publishing, 2006.
- Sioutas, M., Doe, R. K., Michaelides, S., Christodoulou, M. and Robins, R.: Meteorological conditions contributing to the development of severe tornadoes in southern Cyprus. *Weather* 61(1) 2006, 1, 10–16.
- Doe, R. K.: Extreme precipitation and run-off induced flash flooding at Boscastle, Cornwall, UK – 16 August 2004. *Journal of Meteorology* 29(293) 2004, 319–333.

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Key Publications

- Grimshaw, M.: Encountering religion: Encounter, religion, and the cultural cold war 1953–1967. *History of Religions* 51(1) 2011, 31–58.
- Grimshaw, M.: My name was Christian: C. K. Stead, religion, culture, and national identity. *Commonwealth Essays and Studies* 32(2) 2010, 61–74.
- Grimshaw, M.: Responding not believing: Political theology and post-secular society. *Political Theology* 10(3) 2009, 537–557.

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Key Publications

- Helton, W. S. and Head, J.: Earthquakes on the mind: Implications of disasters for human performance. *Human Factors* 54(2) 2012, 189–194.
- Helton, W. S. and Russell, P. N.: The effects of arousing negative and neutral picture stimuli on target detection in a vigilance task. *Human Factors* 53(2) 2011, 132–141.
- Helton, W. S. (Ed.) *Canine ergonomics: The science of working dogs*. Boca Raton: Taylor and Francis, 2009.

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- Hughes, J. D.: *Pan's travail: Environmental problems of the ancient Greeks and romans*. Baltimore: Johns Hopkins University Press, forthcoming, 2012. (First edition published in 1996).
- Hughes, J. D.: Ancient deforestation revisited. *Journal of the History of Biology* 44(1) 2011, 43–57.
- Hughes, J. D.: *An environmental history of the world: Humankind's changing role in the community of life*. Second edition. London: Routledge, 2009.

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- Hutanuwatr, K.: A Preliminary review on frameworks for Thai climate risk and approaches in social/economic vulnerability in Bangkok. In *Scientific Capacity Building for Climate Impact and Vulnerability Assessments (SCBCIA) Final Report: Climate Change Vulnerability Assessment and Urban Development Planning for Asian Coastal Cities (CIA2009-01-SNIDVONGS)*, 2010. Online: http://cc.start.or.th/climateChange/Document/Doc.eng_20.pdf.
- Quay, R. and Hutanuwatr, K.: Visualization of sustainability indicators: A conceptual framework. In Steinebach, G., Guhathakurta, S. and Hagen, H. (Eds.) *Visualizing Sustainable Planning*. Berlin, Heidelberg: Springer, 2009, 203–213.

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- Kemp, S.: Public goods and private wants: A psychological approach to government spending. Cheltenham, U. K.: Edward Elgar, 2002.
- Kemp, S.: Cognitive psychology in the Middle Ages. Westport, Conn.: Greenwood, 1996.
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- Keul, A. G.: Zur Akzeptanz des Passivhauses im Massenwohnbau. Evaluation (POE) acht österreichischer Siedlungen und Vergleich mit konventionellen Bauten. *Umweltpsychologie* 14(1) 2010, 66–88. (Paper on the acceptance of passive housing estates.)
- Keul, A. G., Sioutas, M.V. and Szilagyi, W.: Prognosis of Central-East Mediterranean waterspouts. *Atmospheric Research*, 93(1–3) 2009, 426–436.
- Keul, A. G. (Hrsg.): Wohlbefinden in der Stadt. Umwelt- und gesundheitspsychologische Perspektiven. Weinheim: Beltz, 1995. (Edited book on environmental and health psychological perspectives on well-being in the city.)

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- de Kraker, Adriaan M. J.: Flood events in the southwestern Netherlands and coastal Belgium, 1400–195. *Hydrological Sciences-Journal* 51(5) 2006, 913–929.
- de Kraker, Adriaan M. J.: A method to assess the impact of high tides, storms and storm surges as vital elements in climatic history. The case of stormy weather and dikes in the northern part of Flanders, 1488 to 1609. *Climatic Change* 43(1) 1999, 287–302.

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Key Publications

- Burger, N. and Lynham, J.: Betting on weight loss ... and losing: Personal gambles as commitment mechanisms. *Applied Economics Letters* 17(12) 2010, 1161–1166.
- Costello, C., Lynham, J., Gaines, S. and Lester, S.: Economic incentives and global fisheries sustainability. *Annual Review of Resource Economics* 2 2010, 229–318.
- Costello, C. Gaines, S. and Lynham, J.: Can catch shares prevent fisheries collapse? *Science* 321 2008, 1678–1681.

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- Cavallo, E. and Noy, I.: The economics of natural disasters – A survey. *International Review of Environmental and Resource Economics*, 5(1) 2011, 63–102.

- Pantano, J., Cavallo, E., Noy, I. and Galiani, S.: Catastrophic natural disasters and economic growth Inter-American Development Bank Working paper series, IDB-WP-183, 2010.
- Noy, I.: The macroeconomic consequences of natural disasters. *Journal of Development Economics* 88(2) 2009, 221–231.

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Key Publications

- Hauer, K. *Der plötzliche Tod. Bergstürze in Salzburg und Plurs kulturhistorisch betrachtet*. Münster, Hamburg, Berlin, Wien, London, Zürich: LIT Verlag, 2009. (Book on the cultural history of rockfalls and rockslides in the cities of Salzburg (Austria) and Plurs (Switzerland).)
- Hauer, K. and Pfeifer, N.: Reporting on historical severe storms: Two examples of Utrecht (1674) and Abtenau (1796). *Atmospheric Research* 100(4) 2011, 580–585.
- Pfeifer, K. *Stürme über Europa. Eine Kulturgeschichte*. Münster, Hamburg, Berlin, Wien, London, Zürich: LIT Verlag, 2013. (Book on the cultural history of severe storms in Europe.)

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- Pfeifer, N.: On argument strength. In F. Zenker (Ed.), *Bayesian Argumentation*. Berlin, Heidelberg: Synthese Library (Springer), in press.
- Pfeifer, N.: Experiments on Aristotle’s Thesis: Towards an experimental philosophy of conditionals. *The Monist*, 95(2) 2012, 223–240.
- Hauer, K. and Pfeifer, N.: Reporting on historical severe storms: Two examples of Utrecht (1674) and Abtenau (1796). *Atmospheric Research* 100(4) 2011, 580–585.

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- Pijawka, K. D., and Shetter, K.: The environment comes home: Arizona Public Service's environmental showcase home. Tucson, Herberger Center for Design Excellence, and Arizona State University: University of Arizona Press, 1996.
- Yabes, R., and Pijawka, D.: Public participation in achieving sustainability in central city neighborhoods. In Opp, S., and Herberle, L. (Eds). Local pursuit of sustainability in a globalized world. Chapter 17. Aldershot, UK: Ashgate, 2008, 352–382.

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Key Publications

- Raeburn, B. B.: New Orleans style and the writing of American jazz history. Michigan: University of Michigan Press, 2009.
- Raeburn, B. B.: Stars of David and sons of Sicily: Constellations beyond the canon in early New Orleans jazz. *Jazz Perspectives* 3(2) 2009, 123–152.
- Raeburn, B. B.: They're tryin' to wash us away': New Orleans musicians surviving Katrina, *The Journal of American History* 94(3) 2007, 812–819.

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- Kemp, S., Richardson, J. and Burt, C. D. B.: A goat for Christmas: Exploring third-party gifts. *Journal of Managerial Psychology* 26(6) 2011, 453–464.
- Kemp, S., Helton, W. S., Richardson, J., Blampied, N. M. and Grimshaw, M.: Sleeplessness, stress, cognitive disruption and academic performance following the September 4, 2010, Christchurch earthquake. *Australasian Journal of Disaster and Trauma Studies* 2 2011, 11–18.

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- Tobin, G. A.: Sustainability and community resilience: The holy grail of hazards planning? *Environmental Hazards: Human and Policy Dimensions, Global Environmental Change, Part B*. 1(1) 1999, 13–25.
- Tobin, G. A. and Montz, B. E.: *Natural hazards: Explanation and integration*. New York: Guilford Publishing, 1997.

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- Whiteford, L. M. and Trotter, R. T.: *Anthropological ethics for research and practice*. Long Grove, Illinois: Waveland Press, 2008.
- Whiteford, L. M. and Whiteford, S. (Eds.): *Globalization, water and health: Resources in times of scarcity*. Santa Fe, New Mexico: School of American Research Press, 2005.

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