

<b>Personal details:</b>	
Name:	Ivan Charles Hanigan
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Email:	<a href="mailto:Ivan.Hanigan@cdu.edu.au">Ivan.Hanigan@cdu.edu.au</a>
<b>Qualifications:</b>	
1998-2005	Bachelor of Arts with Honours in Environmental Epidemiology: Australian National University.
<b>Employment:</b>	
April 2006–Current	Research Associate for the “Bushfire Smoke Relationship with Human and Landscape Health” project: Charles Darwin University School of Environmental Research and Menzies School of Health Research, the Northern Territory Government Department of Health and Community Services and the Bureau of Meteorology.  I provide data management and analysis support as well as contribute to writing research articles and literature reviews.
2001-2006	Research Assistant to the Environmental Epidemiology Group: National Centre for Epidemiology and Population Health (NCEPH), Australian National University.  I provided Geographical Information Systems (GIS) support, general data management and analysis assistance to several environmental epidemiology projects.
2006	Data Analyst: Community profiling for risk assessment. The Centre for Gambling Research, Regulatory Institutions Network, Australian National University.  I compiled social, economic, cultural and environmental datasets for local scale risk assessment of the impacts of gaming venues.
2003	Landscape Ecologist, ActewAGL/Ecwise Environmental Pty. Ltd., Canberra.  I was employed to design and undertake field survey, mapping and integration of environmental variables with administrative and remote sensed data for an Environmental Health Risk Assessment for drinking water pollution.
1999	Laboratory Assistant, John Curtin School of Medical Research: Australian National University.  I was responsible for data collection and management for a molecular biology project.
<b>Skills summary:</b>	I have skills in the integration of health, social and environmental data for spatiotemporal analysis. In particular I have experience reconciling health and population data based on incompatible spatial units, and overlaying these with environmental exposure maps.  My software competencies include: <ul style="list-style-type: none"> <li>• Data management using Microsoft Access.</li> <li>• Statistical analysis using S-Plus and R.</li> <li>• GIS software using ArcGIS and GeoDa.</li> </ul> I am adept in the management of large databases as well as analysis using modern statistical techniques such as Generalised Linear Modelling and Classification and Regression Tree analysis.
<b>Awards:</b>	January 2003 Cooperative Research Centre for Water Quality and Treatment Summer Scholar presentations prize for best presentation.  June 2003 NCEPH director’s prize for best presentation at the annual NCEPH student works in progress workshop.
<b>Education:</b>	
1998-2005	Bachelor of Arts majoring in Human Ecology with Honours in Environmental Epidemiology from the National Centre for Epidemiology and Population Health and School of Resource, Environment and Society: Australian National University  I attained First Class Honours for my thesis involving multi-level analysis of health, social and environmental data. Major fields of study included human ecology, systems dynamics theory, GIS, biogeography, natural resource management and landscape ecology.  I completed Special Topics in the use of GIS for assessment of landscape factors affecting the risk of human pathogen survival and transport for use in drinking water catchment management, and gained employment in this field.  Environmental science, chemistry and anthropology subjects at the University of Canberra in 1996 and 1997.

<b>Honours Thesis:</b>	<b>Hanigan I.</b> Cardiovascular Disease Mortality, Socio-Economic Status and Air Pollution: Understanding the Geographical Patterns. [Honours Thesis]. The National Centre for Epidemiology and Population Health and the School for Resource, Environment and Society, Australian National University, 2005.
<b>Journal publications:</b>	<p><b>Hanigan I,</b> Hall G, Dear KBG. A comparison of methods for calculating population exposure estimates of daily weather for health research. <i>International Journal of Health Geographics</i> 2006;5(38).</p> <p>Nicholls N, Butler C, <b>Hanigan I.</b> Inter-annual rainfall variations and suicide in New South Wales, Australia, 1964-2001. <i>International Journal of Biometeorology</i> 2005;50(3):139-43.</p> <p>D'Souza RM, Becker NG, Hall G, Kjellstrom T, Bambrick H, Kelsall L, <b>Hanigan I,</b> Guest C. Climatic factors associated with hospitalisations and emergency room presentations for diarrhoea in children. <i>Epidemiology</i> 2005;16(5):S60.</p> <p>D'Souza RM, Becker NG, Kjellstrom T, Bambrick H, Woodruff R, Kelsall L, <b>Hanigan I,</b> Guest C. Influence of climatic factors on hospitalisations and emergency room presentations for asthma and other (non-asthma) respiratory conditions in children. <i>Epidemiology</i> 2005;16(5):S50.</p> <p>Dear KBG, Ranmuthugala G, Kjellstrom T, Skinner C, <b>Hanigan I.</b> Effects of temperature and ozone on daily mortality experienced in France during the August 2003 heat wave. <i>Archives of Environmental and Occupational Health</i> In press.</p> <p>D'Souza RM, Bambrick H, Kjellstrom T, Kelsall L, Guest C, <b>Hanigan I.</b> Seasonal variation in acute hospital admissions and emergency room presentations among children in the ACT. <i>Journal of Paediatrics and Child Health</i>. In press.</p>
<b>Reports:</b>	<p>D'Souza RM, Hennessy K, Cope M, McMichael AJ, Page C, Whetton P, Physick B, <b>Hanigan I.</b> A scoping study of the impact of climate change on air pollution over Sydney. Consultancy for NSW Environmental Protection Agency. 2003.</p> <p>Kjellstrom T, Kingsland S, <b>Hanigan I.</b> The Health Impacts of Smoke from the Canberra Bushfires of January 2003. Health Series No 38. Canberra: ACT Government, In press.</p> <p><b>Hanigan I.</b> Hotspots of Pathogens in Drinking Water Catchments: Case Study of Googong Catchment. Report for ECOWISE Environmental Pty. Ltd. and ActewAGL, Canberra. June 2003.</p>
<b>Conference proceedings:</b>	<p>Physick B, Cope M, Lee S, Hurley P, Dear KBG, D'Souza RM, <b>Hanigan I.</b> Optimum Exposure Fields for Epidemiology and Health Forecasting. 28th NATO/CCMS International Technical Meeting on Air Pollution Modelling and its Application. Leipzig, Germany. 15-19 May, 2006.</p> <p><b>Hanigan I.</b> Integrating health, population and environmental data across long time-series. The workshop on Environmental Stress and Impacts on Health. Australian National University, Canberra. November 24-25, 2005.</p> <p><b>Hanigan I.</b> Applying Geographical Information Systems (GIS) to Health and Demographic data: A Case Study of Sydney. The 2nd Innovations (Atmospheric Environment and Health Collaboration) Workshop: National and sub-national data sources in environmental health. The Australian National University, Canberra. May 5-6, 2003.</p> <p><b>Hanigan I,</b> Whiteway T, Balzer I, Wade A, Page D. Identifying potential "hotspots" for pathogens in the Googong Catchment, Australian Water Association 20th Convention, 6-10 April 2003, Perth.</p> <p>Page, DW, <b>Hanigan, I,</b> van Leeuwen, JA, Spark, KM, and Mulcahy, DE. Assessment of the treatability of dissolved organic matter (DOM) from terrestrial and freshwater sources, with alum, Australian Water Association 20th Convention, 6-10 April 2003, Perth.</p>
<b>Technical courses:</b>	<p>Spatial Analysis in Environmental and Social Epidemiology. 5th - 8 September 2005. The Australian National University, Canberra.</p> <p>Formatting long documents in Microsoft Word, 2004, The Australian National University Information Literacy.</p> <p>Endnote Referencing Software training, 2004, The Australian National University Information Literacy.</p> <p>Air Pollution Exposure: measurement, modelling and assessment. 2nd - 3rd December 2004, The Australian National University, Canberra.</p> <p>Climate Change and Health: Research Methods and Policy Issues. 29 September - 2 October 2003, The Australian National University, Canberra.</p>
<b>Referees:</b>	<p>Dr Fay Johnston, Epidemiologist, Menzies School of Health Research. Ph: 0407612247, Email: <a href="mailto:Fay.Johnston@cdu.edu.au">Fay.Johnston@cdu.edu.au</a></p> <p>Dr Robyn Lucas, Fellow, National Centre for Epidemiology and Population Health. Ph: 02 6125 3448, Email: <a href="mailto:Robyn.Lucas@anu.edu.au">Robyn.Lucas@anu.edu.au</a></p>