

Amy L. Griffin – WAS*IS interest statement

I am currently a lecturer at the University of New South Wales-Australian Defence Forces Academy in the School of Physical, Environmental and Mathematical Sciences. Broadly, my research is focused on health-environment interactions and methodological issues in geographic information science.

My research has engaged with human-weather interactions in my work on modeling risk of contracting Hantavirus Pulmonary Syndrome (HPS), an infectious disease that is endemic to the western hemisphere. In my work, I have implemented a GIS-based simulation model of HPS that can be used to identify weather patterns recorded in remotely-sensed satellite imagery that are likely to precede a build-up of Hantavirus infection in rodents. I am currently attempting to validate this model using data provided from trapping studies conducted by researchers affiliated with the Centers for Disease Control (CDC) in the US. The ultimate aim of this research is the development of a predictive system that can identify times and places of increased risk of transmission to humans, which can then be used as the basis for making decisions on how and when to warn members of the community of the increased risk and suggest strategies for minimizing that risk. In my PhD thesis, I used this model to look at how different types of GIS-derived visualizations of the results influenced how scientists thought about the problem of HPS risk.

At UNSW-ADFA, I teach Environmental Hazards to our undergraduate officer cadets and midshipmen. In this course, I try to help my students to develop a holistic understanding of environmental hazards by considering both the social characteristics of those impacted by the hazard as well as the physical characteristics of the hazard itself. It is highly likely that my students will have direct experience with mitigating hazards and/or assisting communities within Australia and overseas with their recovery from a hazards event at some point in their careers, and I feel it is important that they develop a conceptual basis from which to consider the implications of different potential courses of action on the populations they are tasked to assist. In the course, we consider the interaction of people with hazard events from a number of perspectives through a series of exercises that I have designed to engage students in reflection on the multiple lenses through which they can view hazard-society interactions. Some of these include:

- Their own personal feelings and emotions (through considering their own experiences with hazards);
- Socioeconomic differences within and between populations (through a case study comparison of Cyclone Larry and Hurricane Katrina);
- The influence of media coverage on the development of hazard perceptions (through a media analysis of the coverage of a particular event);
- The influence of intercultural differences and personal characteristics on hazard perception (by conducting a survey of hazard risk perception);
- Commercial perspectives (by examining the insurance industry's position on global climate change and its potential impacts on their business).

I am interested in attending the WAS*IS workshop for two primary reasons. First, as I am still a relatively new migrant to Australia, I am in the process of learning about the local governmental and non-governmental organizations that are involved in hazard mitigation and response. I hope that participating in this workshop will enable me to widen my network of contacts within relevant organizations as well as with other academics who teach and do research in the human dimensions of hazards. Second, I am eager to further develop a research portfolio which could be used as a springboard for teaching the environmental hazards course. I believe it greatly enriches the student experience when lecturers can involve students in research as a part of their classroom experience. To that end, I am keen to find some potential collaborators for such work. An area in which I have a particular interest is in the hazard perceptions that individuals develop based on the way in which information is presented to them (i.e., how the format of information helps to influence an individual's decision-making processes).