

GAP Proposal

Proposed GAP Partner Institution: Exeter

USF PIs: Linda M. Whiteford and Graham A. Tobin

Proposed Exeter PI: Paul Cloke

Health, Home, and Hazard: An Integrated Approach Post-Disaster Risk Perception

Aim of the Proposal:

We plan to bring together three researchers to create an externally fundable proposal to study how people respond to disaster by studying their perceptions of risk related to their health and well-being, the role of place and home in their lives, and their concerns about their surroundings and environment. Individual risk perception may well be related to what makes communities more or less resilient and/or vulnerable after being exposed to a crisis that challenges their worldview and sense of well-being. We propose to work with Dr. Paul Cloke from our GAP Partner, Exeter University. Previous experience with the USF GAP Program (although none of us has applied for GAP award previously), has provided the USF PIs (Whiteford, and Tobin) with knowledge of Exeter University and contact with their proposed co-PI, Dr. Paul Cloke. Our proposal is to work with Dr. Cloke at Exeter in order to develop a proposal that reflects the strengths of universities, their strategic plans, and skills and histories of the researchers.

Our focus is to develop a proposal that integrates research on individuals' perceptions of how their health is compromised or at risk following exposure to an environmental catastrophe such as a flood; how their sense of home and its attendant loss or the loss of land is shaped by environmental forces, and finally, how their perception of their environment is shaped following a disaster.

All three PIs are experts in their fields and have conducted community-based research. The innovative contribution we wish to develop in this proposal working with our Exeter partner is the positioning of concerns for health, home, and the hazard itself in the center of the discussion post disaster response. The probable site for the research is Cumbria, England where one of the USF PIs (Tobin) has experience researching floods. The other USF PI (Whiteford) has extensive research experience with health and well-being, particularly relevant to this flood-related proposed research is her experience with water-borne and water-washed diseases, diseases frequently associated with post flooding conditions. In addition, mental health measures will be incorporated such as PTSD or other scales that measure depression or lack of affect (such as the Hopkins scales). Dr. Cloke focuses on loss of home, homelessness and nature-place relationships which provide a secondary strength to the research by incorporating peoples' perceptions of the risk to losing their homes or livelihoods, and how their inability to control nature-place relationships may shape a sense of vulnerability. And finally, the third component critical to the proposed research is how people perceive the risks that they face in the environment surrounding them; how they perceive the potential or real hazards that exist in their locale.

In combination, we believe that these three interdisciplinary perspectives will contribute to the current body of research on disasters and risk perception, themselves components of the discussions of what constitutes community resilience and community vulnerability. Our aim is to spend several days working with Dr. Cloke to develop an appropriate methodology for the proposed research. We can imagine several potential research scenarios such as a comparative study of two communities, one that has been flooded and the other comparable community that has not been flooded. On the other hand, another potentially valuable research methodology might be to focus on a single community that has extensive and recurring experience with flooding and to assess their perceptions of risk over time.

The GAP funding would make it possible to spend the time needed together to ascertain what kind of methodological research design would best reflect the local sites and the skills of the three researchers to create an externally fundable proposal and seek funding from the US, the UK, and the EU. We hope to secure funding from multiple sources with the aim of employing graduate and undergraduate students from both USF and Exeter in the research.

This pilot study will be undertaken in Cumbria, England. Cumbria is the third largest county, but the second least densely populated in the country. Geologically, Cumbria forms a dome with glaciated valleys radiating out to the Irish Sea. At the confluence of two rivers, the Cocker and Derwent, is the town of Cockermouth, the site of three floods over the past decade (CIO 2010). To the north, Carlisle, the region's major city, has suffered major flooding in 1968 and 2005. Meanwhile, many other communities have had battles with floods (Tobin 1979a). Thus, the history of disastrous floods provides policy makers with an opportunity to anticipate the recurrence of events and generate innovative policies for recovery. In this regard, Tobin has extensive experience both in the subject of flooding (Tobin 2005, 1999, 1996, 1995, 1992), and in the geographic area of Cumbria (Tobin 1979a, 1979b). In addition, Whiteford is a well-known specialist in water borne-diseases that are often associated with flooding (Whiteford 2010, 2009, 1999; Whiteford and Tobin 2009, 2004; Whiteford and Whiteford 2005a, 2005b; Whiteford and Vindrola Padros 2011; Whiteford et al. 2009). Our Exeter partner, Dr. Paul Cloke, is an expert on homelessness (Cloke et al. 2012; Dewsbury, JD and Cloke P, 2009, and Cloke et al. 2009).

This proposal builds on the USF PIs' current and recently NSF-funded research (Whiteford and Tobin NSF 0751264/0751265 and 0620212/0620264) that were developed to test a sophisticated computer assisted methodology used to measure social network characteristics in post-disaster settings in Mexico and Ecuador. That research involved more than 450 in-depth interviews incorporating questions on health, well-being, perception of risk, and their relationships with other people (Tobin *et al.* 2010; Whiteford and Tobin 2009). Our purpose is to bring our previous research on disasters into a new frame, to move to an investigation of post-disaster risk perceptions about health, home, and hazards. Our research on networks and disasters in Mexico and Ecuador, examined social networks for their contribution to individual well-being in disasters and chronic hazards. Specifically, we were interested in the degree to which personal networks are associated with the outcomes of people who face chronic hazards, and acute disasters. There were two main thrusts. First, we looked at personal network structures, including network density or diffuseness, homogeneity, subgroup structures, and roles of social relations. It appears that having a variety of people in one's network who are connected to other parts of the networks is associated with mental health and some physical health symptoms, and household conditions, but not with perceived social support. The finding suggests that structure and

function of social networks are associated with different kinds of dynamics and probably predict dissimilar aspects of well-being (Jones *et al.* in press). Also, education and age were not associated with network measures or mental or physical health symptoms; some demographic characteristics are not major intervening variables between networks and well-being (Whiteford *et al.* submitted). These results emphasize the importance of local context and resource distribution (Jones *et al.* In Press; Tobin *et al.* 2011). Homelessness (or fear of loss of homes) and health are critical to understanding disaster perception and behavior.

Alignment with USF Strategic Goals: This proposal supports USF's goals of encouraging:

1. Interdisciplinary Inquiry by our integration of the disciplines of anthropology, geography, and environmental science.
2. Global Engagement through the development of international research (USA and the UK).
3. Student Success as we will include students in any research fully funded by external sources.

Literature Cited

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Budget Justification

The PIs will make two trips to England, one to establish a detailed methodological approach to the research, and the second to collaborate on actually writing the proposal. Brief visits to the field-work sites will also be made at this time to collect preliminary data. The requested funding for the international trips is based on current airfares, per diem and hotel costs. Every attempt has been made to trim expenses and by advanced booking on some hotels there are considerable savings. In addition, one PI (Dr. Tobin) is familiar with the research site and will be in charge of local arrangements.

The first trip (eight days) in early summer will be used to discuss the formal structure of the research, the methodology and the analytical techniques as detailed in the narrative. In addition, preliminary data will be collected from a brief visit to the field-work sites, particularly the towns of Cockermouth and Carlisle in the county of Cumbria. Consultations will also be held with academic colleagues working on hazards and flooding at other British universities. One or two nights, depending on schedules, will be spent in London collecting data from the UK Environmental Agency. (Note, per diem rates are averaged for the different locations.)

Trip One – Exeter and Cumbria, England for eight days:

Airfare (2 at \$1,000)	\$2,000
Car Rental	\$700
Gas	\$450
Hotel - (Advance booking) 5 days total per room \$500 x 2	\$700
Hotel - 3 days at \$120 per room x 2	\$720
Per diem - 8 days at \$100 per day x 2	\$1,600
Total	\$6,170

The second trip (seven days) will take place later in the fall to work collaboratively with Dr. Cloke to finalize the research proposal to an external funding agency. Additional data on the field work sites will be collected at this time.. (Note, per diem rates are averaged for the different locations.)

Trip Two – Exeter and Cumbria, England for seven days:

Airfare (2 at \$1,000)	\$2,000
Car Rental	\$700
Gas	\$450
Hotel - (Advance booking) 5 days total per room \$500 x 2	\$700
Hotel - 2 days at \$120 per room x 2	\$480
Per diem - 7 days at \$100 per day x 2	\$1,400
Total	\$5,730

Total estimated expenditure \$11,900