

WP4 COMMUNITY RESILIENCE

WP 4.2 - Risk perception



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WP 4.2 studies natural hazard and risk communication and perception in order to improve/develop emergency response plan and emergency mitigation strategies. All in order to make communities more resilient to natural hazards.

Hazards and risk studied are linked to volcanic eruptions, coastal erosion, forest fires, weather issues and climate change.

Target groups are national and local authorities, various stakeholder groups and local population and **tourists** in Iceland, Norway, Sweden and Finland.

The work package links to other WPs



ARE YOU AWARE OF THEIR
INCREASED RISK OF DEHYDRATION?



The EFSA adult recommendations for the daily intake of water from all sources* (water, beverages and food) do not fall with age under conditions of moderate environmental temperature and moderate physical activity levels. But age-related changes can lead to an increased risk of dehydration with consequent effects on health and wellness.

2.5 L for men

2 L for women



The work of task 4.2 has focused on:

- Research
- Development of interactive online system for monitoring and warning of potential climate hazard risk
- Collaboration with local and national civil protection agencies and various stakeholders
- Preparation and participation in workshops and special sessions at international conferences
- Meetings with colleagues within and outside the Nordic countries
- Writing research proposal (local and national level)

Knowledge progress:

1. Response of individuals and communities to various hazards
2. Factors that affect people's understanding of natural hazards and decision making during crises
3. Factors that affect people's perception of services provided by civil protection agents and other disaster response organisations
4. Communicating hazard information to the general public and other stakeholders

General outcome:

1. Communities differ significantly in how they address and prepare for natural hazards.
2. Efforts to strengthen community resilience should be place-specific, focusing on community-led disaster risk reduction planning, recognising the importance of empowering local residents with knowledge, resources and techniques to reduce their own risks and develop strategies suited to local needs.
3. Together, scientists and end users have developed strategies to meet various risks, visualise exposure and vulnerability, develop adaptive measures for various sectors and social groups.

Journal/book publications (1 published/accepted for publication in 2017)

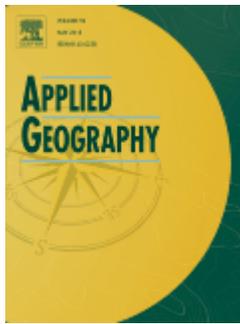
1. Bird, D.K., Jóhannesdóttir, G., Reynisson, V., Karlsdóttir, S., Gudmundsson, M.T., Gísladóttir, G., 2017. *Crisis coordination and communication during the 2010 Eyjafjallajökull eruption*. In: Fearnley C., Bird, D., Jolly G., Haynes, K., and McGuire, B. (eds). *Observing the Volcano World*. Volcano Crisis Communication. Series: Advances in Volcanology.

Journal manuscripts – prepared / under review (6).

1. Anderson-Berry, L., Achilles, T., Panchuk, S., Mackie, B., Canterford, S., Leck, A., Bird, D.K., 2018. Sending a message: How significant events have influenced the warnings landscape in Australia. Published online in *International Journal of Disaster Risk Reduction*.
2. Bird, D.K., Gísladóttir, G. Responding to volcanic eruptions in Iceland: from the small to the catastrophic. *Aimed for Applied Geography*.
3. Guðmundsdóttir, B. Gísladóttir, G., Eriksson, M. “Best Practice” in Crisis Communication: Icelandic Experiences from the Holuhraun Volcanic Eruption. Prepared for the *Journal of Contingencies and Crisis Management*.
4. Harjanne A., Haavisto, R., Tuomenvirt, H., Gregow, H. Risk management perspective for climate service development Results from a study on Finnish organizations. *Aimed for Copernicus journal*.
5. Heimisdóttir, Þ. The sublime attraction of active volcanoes: an exploration of tourists experiences during a long distance hiking route in Iceland. *Tourism Studies*.
6. Van Well, L., van der Keur, P., Harjanne, A., Pagneux, E., Perrels, A., and Henriksen, H.J. Resilience to natural hazards: an analysis of territorial governance in the Nordic countries. *International Journal of Disaster Risk Reduction*, Special issue on “Nordic Models of Coping”. (based on work done in WP6.1).

Book editing (2)

1. Fearnley C., Bird, D., Jolly G., Haynes, K., and McGuire, B. (eds). *Observing the Volcano World*. Volcano Crisis Communication. Series: Advances in Volcanology. Springer. Due for publication mid 2018
2. Karácsonyi, D., Taylor, A., Bird, D., (eds). *The Demography of Disasters*. Springer. Will be published late 2018 or early 2019.



Postgraduate students (completed in 2017)

1. Jasmine Hayes (MS). Vulnerability to jökulhlaup hazards: A case study of the Þjórsá floodplain, Southern Iceland. Faculty of Life and Environmental Sciences. University of Iceland.
2. Þórhildur Heimisdóttir (MS). The sublime attraction of volcanoes - A case study about a hike close to Katla. Faculty of Life and Environmental Sciences. University of Iceland.

Postgraduate students started in 2017

3. Ingibjörg Lilja Ómarsdóttir (PhD). The focus of the research will focus on the capacity of residents and the welfare system to deal with and adapt to the societal consequences of natural disasters (volcanism). (Part of WP6.2 and links also strongly with WP4.1)

External postgraduate students supervised in 2017

4. Avianto Amri (PhD) - A cross-cultural investigation of child-centred disaster risk reduction and climate change adaptation in Indonesia and Australia, Macquarie University.
5. Bethune Carmichael (PhD) - A framework for the adaptation of Indigenous heritage sites to the impacts of climate change, Australian National University. Submitted December 2017.
6. Frances Taylor (PhD) - Adopting behaviour change programs in the emergency management sector, Monash University.
7. Tetsuya Okada (PhD) - Acknowledging local sociality in disaster recovery: a longitudinal, qualitative study, Macquarie University. Conferred September 2017.

Conference/workshop presentations (10):

1. Bird, D., Gísladóttir, G. Tourism survival? The balance of money and risk. 8th International Society for Integrated Disaster Risk Management, Reykjavik, Iceland, August 23-25 2017.
2. Bird, D. Gísladóttir, G., Jóhannesdóttir, G. 2017. Challenges and opportunities of adaptation: highlighting the importance of community networks and social capital through a natural disaster lens. ECCA Glasgow June 2017.
3. Cederbom, C., Van Well, L., Kiilsgaard, R. Input from municipalities exposed to debris flows - Optimizing the utilization of warning information for weather events with local knowledge. ECCA Glasgow June 2017.
4. Gísladóttir, G. 29-31 March 2017 NORDRESS presentation. EDUCEN conference Dordrecht NL. March 2017.
5. Gísladóttir, G., Bird, D. Coping with and recovering from disasters: the 2010 Eyjafjallajökull experience. 8th International Society for Integrated Disaster Risk Management, Reykjavik, Iceland, August 23-25 2017.
6. Harjanne, A., Pilli-Sihvola, K., Haavisto, R. A country without disasters? Managing disaster and climate risks in a Nordic welfare state. 8th International Society for Integrated Disaster Risk Management, Reykjavik, Iceland, August 23-25 2017.
7. Heimisdóttir, Þ. The attraction of active volcanoes in tourism. 8th International Society for Integrated Disaster Risk Management, Reykjavik, Iceland, August 23-25 2017.
8. Ruuhela, R., Punkka, A.-J., Hartonen, S., Luhtala, S., Fronzek, S., Carter, T. Experiences on weather warnings related to direct health impacts. 8th International Society for Integrated Disaster Risk Management, Reykjavik, Iceland, August 23-25 2017.
9. Setten, G., Lein, H. The temporality and spatiality of 'local' knowledge and its relevance for climate change adaptation and natural hazard management. ECCA Glasgow June 2017.
10. Van Well, L., Zetterlund. The needs-knowledge gap and geotechnical risk in Swedish local and regional planning. ECCA Glasgow June 2017.

Organised conference sessions (1):

1. Lisa van Well organized a Session at the ECCA 2017 conference in Glasgow: "Constituting Local Knowledge of Natural Disasters in Climate Adaptation" - Organised within 4.2 but with strong linkages and several common researchers to WP 5.3, 4.1 and 6.1.

Proposal writing and other activities

1. HOTSPOT - **H**olistic **T**ools and **S**imulation modelling for im**P**roving resilience **O**f smaller cities and rural **T**owns, in a call for proposal for prevention and preparedness projects in Civil Protection and Marine Pollution – DG ECHO, Projects focusing on improving urban resilience by addressing cascade effects and the resilience of urban infrastructure.
2. Enhancing tourists' safety in Iceland (ETSI). With the overall goal of enhancing tourists' safety in Iceland, the specific aims of this project (multidisciplinary) are to identify the most appropriate methods for (i) reducing tourists' risk taking behaviours; and (ii) generating a proactive response when hazard warnings are issued. The project encompasses multiple forms of inquiry, including participatory action research. Proposal being prepared for submission to RANNIS.
3. The project EVOKED “Enhancing the value of climate data – translating risk and uncertainty utilizing a Living Labs approach” has been inspired by much of the discussion taking place in WP4.2.

Planned activity 2018

- Analyse and prepare manuscripts for publication related to societal, economic, cultural and political factors affecting people's perception and understanding of hazards and their decision making during crisis and the perception of organisations' on risk.
- Community knowledge will remain an important part of WP plans.
- We will continue the already established collaboration with organizations and agencies in the Nordic countries and build on experienced gained in to improve community preparation for natural hazards and long term recovery plans in communities exposed to various natural hazards.
- SGI plans to engage in method development for charting and mapping "perceived" or "lived" vulnerability to sea-level rise in southern Sweden. This will be done within the project SEA RIMS which studies the ethical dimensions of sea-level rise in Sweden. We hope to be able to show an index of "perceived vulnerability" as a complementary index to "technical or infrastructure vulnerability" being developed within the project (and in connection with WP5.3). We hope to be able to draw inspiration from our NORDRESS network for this and to contribute to WP4.2 with our experience in this task.
- Co-write the 7th edition of the seminal book "Environmental Hazards" with Carina Fearnley of University College of London. This book was first authored by Keith Smith and is an important textbook for secondary and tertiary students, as well as research academics and practitioners.
- Present at the Cities on Volcanoes conference in Naples, Italy – 2-7 September 2018.