REKLIM Helmholtz-Verbund Regionale Klimaänderungen

Helmholtz Climate Initiative
Regional Climate Change

HELMHOLTZ RESEARCH FOR GRAND CHALLENGES

Topic 6 and 7: Regional Risk Cultures of Weather Extremes

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Motivation

Extreme weather events (EWEs) such as severe storms, storm surges, hail, floods, heat waves or droughts represent substantial hazards and dangers for the population, buildings and infrastructure. Although research in the natural sciences recently started to investigate the causes of extreme weather conditions and their relation with climate change, research about the socio-cultural dimensions of problematic weather conditions is still scarce. The project takes this gap of research as a starting point for an interdisciplinary investigation of extreme weather events on a regional scale.

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Research question and aims

How are EWEs regionally framed and how do these experiences impact on regional risk interpretation?

The following sub-questions addressed are:

- What paradigmatic experiences with EWEs exist?
- Is there a historical tradition of dealing with EWEs?
- How are EWEs socially perceived and culturally assessed?
- Do patterns of perception and interpretation of EWEs regionally differ?
- Is climate change used as an interpretative repertoire to understand EWEs?
- Do risk perception, risk assessment and risk action regionally differ?
- What protection measures were, are or will be taken and why?
- How are these influenced by the regional interpretation of risk, risk assessment and risk actions?

The project aims at a structural identification of so-called regional risk cultures to provide socially grounded advice for risk prevention in the context of EWEs.

Methods applied

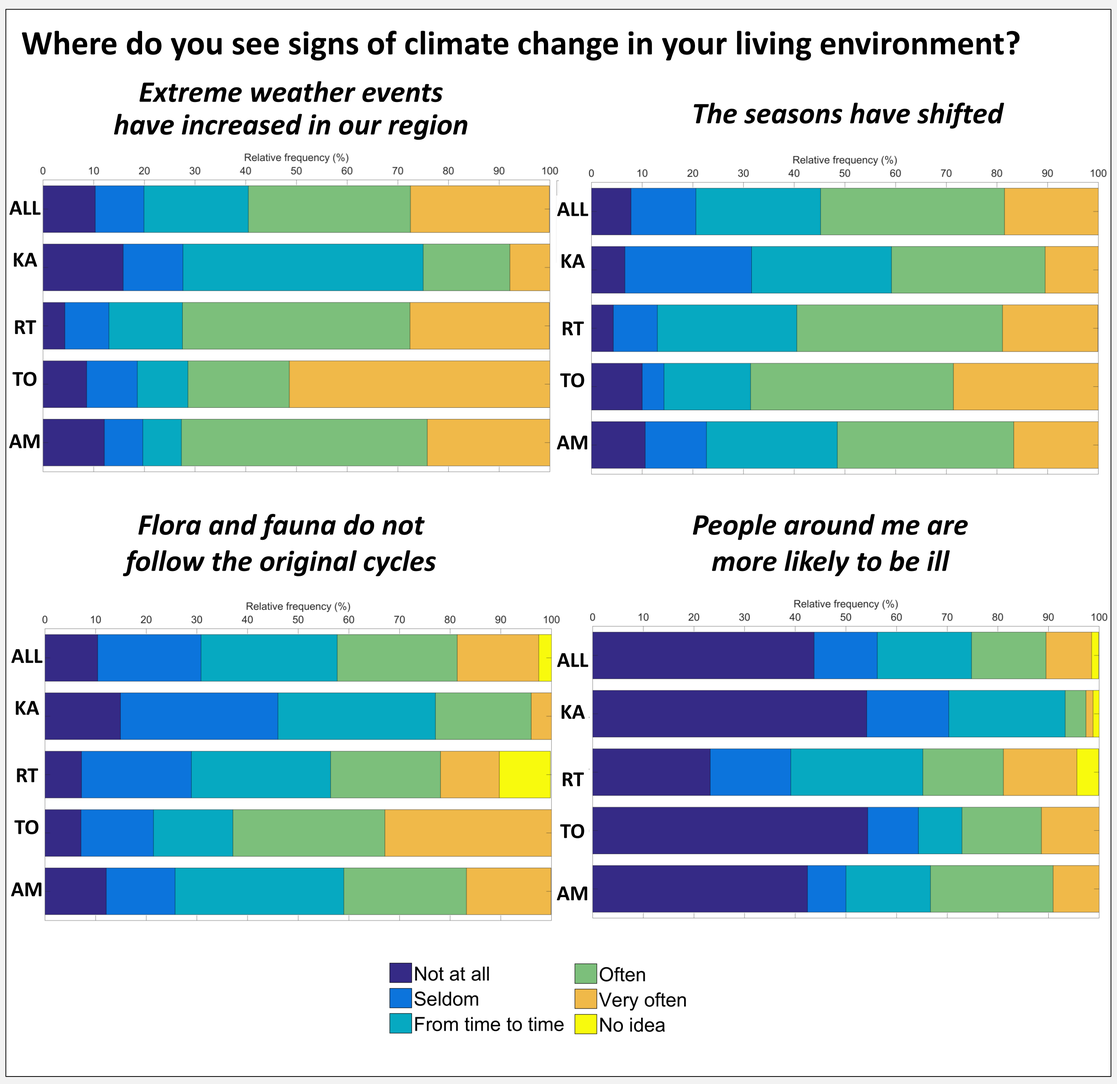
We conducted and will conduct quantitative street surveys and in-depth interviews in:

- RT: Reutlingen (hail storms, floods, heat waves)
- KA: Karlsruhe (heat waves)
- TO: Tönning (storms, storm surges)
- AM: Island of Amrum (storms, storm surges)
- COC: Cochem on the Moselle river (floods, storms)

These will be correlated with climate data of the German Weather Service (DWD) and other meteorological parameters describing the climatological background of the respective weather extremes on site. Also insurance data (Southwest Germany) will integrated in the analysis.

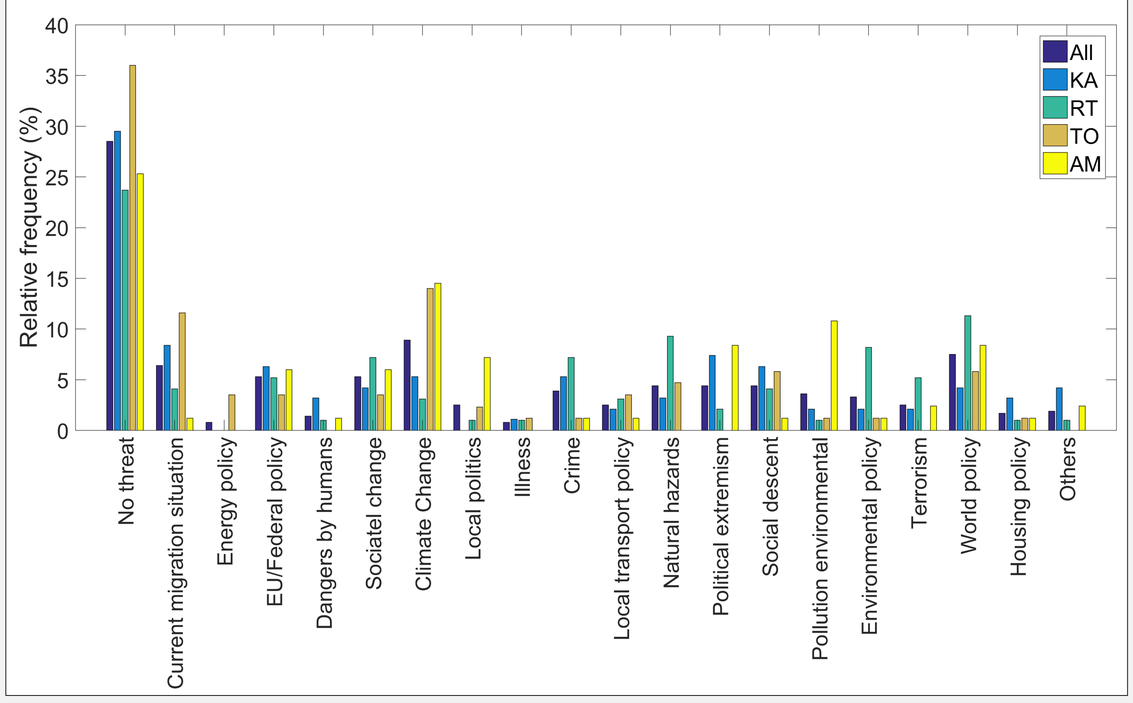
Consequences of climate change

Where do you see signs of climate change in your living environment?

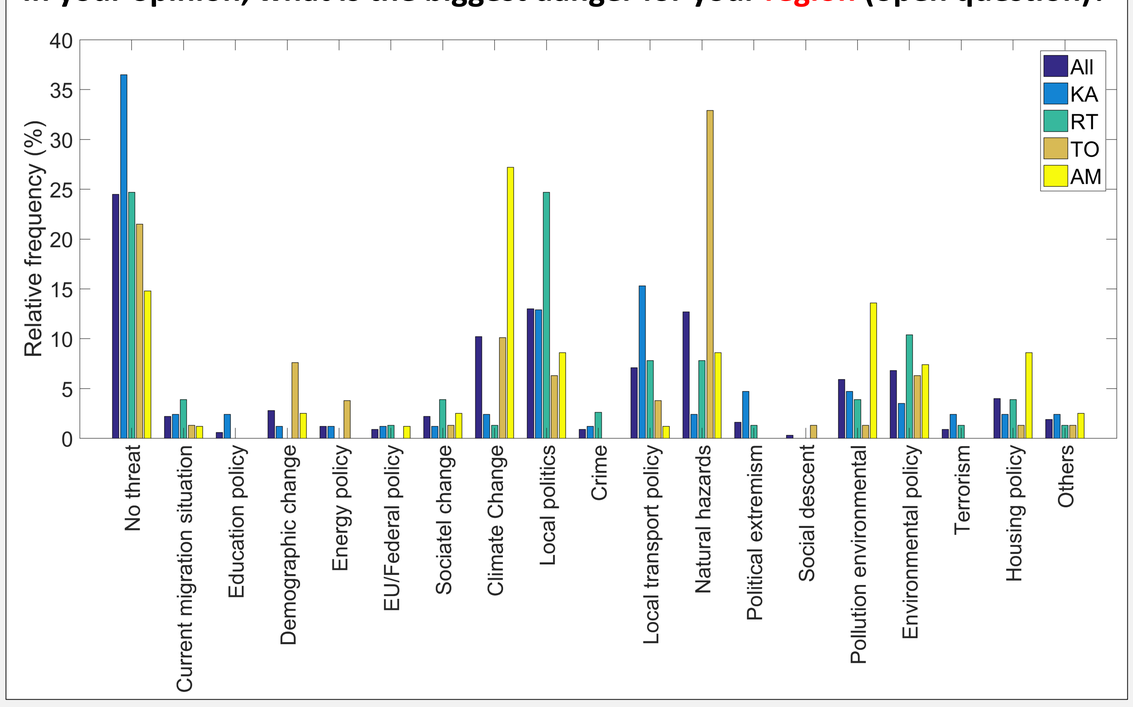


Personal fears & dangers for the regions

What do you personally feel threatened by (open question)?



In your opinion, what is the biggest danger for your region (open question)?



Provisional conclusion

- The experience of EWEs plays a relevant role for perceiving and assessing specific dangers and risks on a local and regional level.
- People experience that the impact of climate change is more significant on EWEs compared to seasons, flora/fauna or – fewest of all – illness.
- Experiencing nature “more directly” and in situ seems to bear an impact on the question whether climate change already exists or not.
- Local and regional impacts will raise awareness about climate change (see for example sea-level rise in North Frisia).
- Further investigation will address age, education and the living environment in relation to answers given to “consequences of climate change”.

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