



Adapting to extreme weather events: the importance of perceptions

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Climate change adaptation is becoming a focus in international climate negotiations, and national contexts. Because of the inertia of the climate system, our societies have to deal with, and adapt to climate change, even in the unlikely scenario that we would stop CO₂ emissions tomorrow. Climate change is also expected to have an impact on the likelihood of the occurrence and duration of extreme weather events: extreme precipitation, heat waves, extreme drought. Unlike mitigation, adaptation – and especially adaptation to extreme weather events – has a more regional, or even local focus: securing adequate water resources in areas that are projected to suffer from extreme drought; creating green zones in cities to diminish the impact of heat waves; river-basin management to limit vulnerability in cases of extreme precipitation. Some of the measures and plans that need to be taken address (and need to involve) specific sectors: drought-resistant crops for the agricultural sector; new guidelines for the crisis-management sector; public health plans to address extreme heat waves. In this paper we explore the perceptions of different sectors in the Netherlands with respect to adaptation to extreme weather events.

The paper is part of a wider project which aims to link climate modelers and stakeholders in order to co-produce robust adaptation measures to extreme weather events for specific sectors in the Netherlands. Our starting point is that robust adaptation measures should be explored together with the stakeholders involved in each sector, taking stock of the local and technical knowledge that the stakeholders have, but also scientific knowledge produced by climate modelers on projections of extreme weather events. For this to take place, we first need to identify the different perceptions that stakeholders hold with respect to adaptation to changes in extreme weather events: for instance, are current adaptation measures perceived as adequate or not? Should we focus on extreme weather events we are likely to suffer (in the case of the Netherlands: flooding), or extreme weather events that we don't have any experience in (in the case of the Netherlands: heat waves)? The paper reports on a set of 50 in-depth interviews with stakeholders involved in the following sectors in the Netherlands: crisis management (police, fire brigade etc), water sector, public health sector, tourism and recreation sector, and urban transportation. We used the repertory grid technique, from social psychology, in the interviews. The aim of the technique is to identify underlying bipolar constructs that people use to perceive different topics. For instance, the construct "we can prevent – we cannot prevent" was one of the ways in which interviewees perceived extreme weather events. The results were statistically analyzed. The paper reports the findings on the following questions:

1. Which constructs are perceived as most important for adaptation to extreme weather events?
2. To what extent can we identify differences between sectors with respect to the perceived adaptation priorities?
3. Which are the determinants of different perceptions on extreme weather events?