

## **User and stakeholder involvement for relevant, reliable and robust local-scale climate projections in Norway**

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How can users and stakeholders be actively involved with providing input to and using output from local-scale climate projections? How can the scientific community better understand the needs of local actors? And how should communication and cooperation efforts be organized? These are critical questions we aim to answer in a climate services project funded by the Norwegian Research Council (R3: Relevant, Reliable and Robust local-scale climate projections for Norway). The project takes into consideration not only the scientific issues in establishing useful local-scale climate projections, but also addresses the “usability gap” between climate information and decision-making. The lack of effective communication between scientists and user communities often result in outputs and products that are not matched with decision-relevant climate information. In the R3 project, the scientific participants actively engage with a range of users that have quite different information needs: municipalities, infrastructure developers, agriculture, energy producers, insurance companies, and more.

In this particular presentation, we present our experiences concerning three specific issues that relate to the stakeholder-science interface:

- 1) Preferences are not clear-cut and pre-defined. In practice, this means that stakeholders often do not have precise information about their needs, nor precise information about how, where and whether their needs can be voiced. Similarly, science communities tend to presuppose that stakeholders are interested and have well-articulated needs, which is hardly the case. Collectively, that means that there is a need for an approach that guides the articulation and prioritization of preferences in a manner that integrates both scientific and stakeholder perspectives and takes the integrity of both perspectives seriously.
- 2) Technologies are unclear. Although information may be produced and used, past experiences, trial and error processes and pragmatic considerations often dominate actual knowledge dissemination and application processes. Involved actors have very diverse interests, and equally varying modes of knowledge application and logics of action. Timeframes vary, as do the formats that climate information needs have, if it is to be applicable and relevant. Farmers’ associations that formulate sector policies need information in a different form than municipalities engaged in urban planning.
- 3) Actor participation is fluid. All actors are marked by limitations in attention, engagement, resources, external demands and access to processes that are of (varying) relevance to them. Not all stakeholders (and not all scientists) can, will or wish to be equally active in co-production of knowledge. Similarly, the decision-making processes where information is put to use are subject to variation in engagement and participation.