Geophysical Research Abstracts
Vol. 21, EGU2019-1414, 2019
EGU General Assembly 2019

Integrating stakeholder and scientific knowledge of future flood risk to inform climate change adaptation planning in a coastal region

Ulysse Pasquier (1), Roger Few (2), Marisa Goulden (2), Simon Hooton (3), Yi He (1), and Kevin Hiscock (4)

(1) Tyndall Centre for Climate Change Research, School of Environmental Sciences, University of East Anglia, United Kingdom, (2) School of International Development, University of East Anglia, Norwich, United Kingdom, (3) Broads Authority, Norwich, United Kingdom, (4) School of Environmental Sciences, University of East Anglia, Norwich, United Kingdom

Climate change poses a particular challenge for decision-makers due to the significant uncertainties that exist over its timing and magnitude. The potential impacts of this change, such as the increasing probability of flooding, are likely to threaten valuable human and natural systems. Scientific information, for instance derived from hydraulic models, has traditionally informed planners to help develop appropriate management strategies. There has however been growing concerns over the gap between science and policy on climate adaptation. The rising scrutiny over science's ability to match expectation of policy actors in this field has pushed for a paradigm shift towards more collaborative approaches. While participation on environmental issues has gained much popularity, few studies have looked at how to integrate scientific and stakeholder knowledge on flood risk in complex and vulnerable coastal regions. Looking at the Broads, the United Kingdom's largest protected wetland located on the eastern coast of England, this study combined different knowledge domains to assess flood risk in the area and consider potential adaptation measures. A hydraulic model was developed for the purpose of this project during an iterative participatory process based on stakeholder interviews and culminating in a collaborative workshop. This research's findings highlight the potential of this approach to not only create an interface for science and policy, but also to represent varied cross-sectoral interests and perceptions. Interactions between scientists and stakeholders led to a shared understanding and produced new knowledge on key processes dictating risk. Also discussed are the constraints that such participatory methods face as a result of limited resources as well as due to stakeholder representation. The implications of adopting an inclusive and transparent stance when carrying out hydraulic modelling are addressed, providing insight on ways to produce more usable knowledge and therefore help drive action on adaptation.