



## **Climate change impact studies – how reliable are they?**

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When two experts estimate the 100-year flood in a small ungauged catchment, chances are that their estimates are very different. When two groups predict the effects of future hydrological changes on stream flow and recharge for the same catchment, the results will hardly be consistent. Yet, climate change impact analyses have become a standard method in our tool box for addressing issues that seem to be of overwhelming concern to the society today. In this paper we argue that impact studies often tend to be overly optimistic about the reliability of their predictions, and overly pessimistic about the effects on society. Just as a medical doctor who, when in doubt, would say that his patient is going to die – to be on the safe side. We will contrast this assessment with our views on the current state of change prediction and outline the opportunities in this area of hydrologic research. Improving the understanding of hydrological processes under the current climate, focusing on why impact studies predict changes rather than on the magnitudes of the change, improving hydrologically-driven uncertainty methods, being more transparent about what we can and cannot predict and being realistic about the role of adaptation measures in the context of water management, we believe, are the cornerstones of more successful climate impact studies. We are truly optimistic that hydrologists will make progress in this important and exciting area of hydrology.

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