



The game of making decisions under uncertainty: How sure must one be?

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Probabilistic hydrometeorological forecasting is now widely accepted to be more skillful than deterministic forecasts, and is increasingly being integrated into operational practice. Provided they are reliable and unbiased, probabilistic forecasts have the advantage that they give decision maker not only the forecast value, but also the uncertainty associated to that prediction. Though that information provides more insight, it does now leave the forecaster/decision maker with the challenge of deciding at what level of probability of a threshold being exceeded the decision to act should be taken. According to the cost-loss theory, that probability should be related to the impact of the threshold being exceeded. However, it is not entirely clear how easy it is for decision makers to follow that rule, even when the impact of a threshold being exceeded, and the actions to choose from are known.

To continue the tradition in the “Ensemble Hydrometeorological Forecast” session, we will address the challenge of making decisions based on probabilistic forecasts through a game to be played with the audience. We will explore how decisions made differ depending on the known impacts of the forecasted events. Participants will be divided into a number of groups with differing levels of impact, and will be faced with a number of forecast situations. They will be asked to make decisions and record the consequence of those decisions. A discussion of the differences in the decisions made will be presented at the end of the game, with a fuller analysis later posted on the HEPEX web site blog (www.hepex.org).