



Role-play games to advance probabilistic forecasting in hydrology

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Since 2012, HEPEX, the international initiative on hydrologic ensemble prediction, has been fostering the development and application of several publicly available role-play games. There are already six games developed, of which five are freely available at the HEPEX Portal (www.hepex.org; Resources page) for teaching and training on the use of probabilistic and ensemble predictions in hydrology: (1) Flood control game (Ramos et al., 2013), (2) Water management game (Crochemore et al., 2015), (3) the Peak Box game (Zappa et al., 2013); Pay for a forecast game (Arnal et al., 2016), (4) The Shopkeepers dilemma: a decision-making game using probabilistic forecasts (designed by M. Werner, 2016), (5) Pathways to running a flood forecasting centre: an adventure game (designed by L. Arnal, 2017).

These games are simplified representations of reality and do not intend to reproduce the full context of operational environments. Nevertheless, they have been successfully used as support material during teaching and training activities. We have also learned that games are an excellent way to introduce complex forecasting concepts and create a relaxed atmosphere for discussion during training or workshops (all of them have been played during EGU sessions and HEPEX workshops). Additionally, within HEPEX, this activity has also prompted the engagement of early career scientists to communicate hydrological forecasting science achievements and foster applications.

In this presentation, we share our collective experience through the steps of designing, building, playing and writing about the results of the games we have prepared under the HEPEX umbrella.

* HEPEX is an unfunded/volunteer effort since 2004