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Imprex risk outlook tool - demonstration of use of (semi)-operational products

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Europe has a high dependency on inland water, namely its rivers, lakes, soil- and ground-water, snowpack and glaciers, which together make an integrated and closely inter-related water system. This system is of course crucial for a vast water-related economy, including domestic, agricultural and industrial water usage as well as for transport and leisure. At the same time, its natural fluctuations (albeit often moderated by human interventions) create vulnerabilities to society and the economy through hazards such as drought (leading to water scarcity, poorer water quality, agricultural losses and transport disruption) and flooding (leading to threats to life, health, property and infrastructure, and economic disruption). In IMPREX, we have sought to improve the way in which extreme (and therefore high impact) European hydrological events such as those described above are managed. The means to achieve this is through better predictions of these events, leading to improved awareness and preparedness, allowing adoption of actions to mitigate negative impacts, and to better exploit positive ones. The timescales over which improved hydrological information could be helpful are very diverse, and we have examined a range of horizons from short-range forecasting (a few days ahead) to climate change assessment (up to 100 years ahead). A particular focus has been the seasonal timescale (1-6 months ahead), as this provides the necessary time to plan and implement actions in many operating environments, and is well matched to the timescale of droughts.

For this presentation, we focus on the exploitation of water-relevant predictions from meteorological and hydrological prediction systems at seasonal timescales. The predictions on this timescale is currently not explored by the society, partly due to lack of visibility of the predictions, but an additional part is the difficulty in understanding and applying the type of information that is routinely produced.

The Imprex Risk Outlook Tools demonstrates the provision of seasonal forecast guidance to address the water-relevant concerns of end users. In the activity presented here we address semi-expert users (e.g. water management professionals and applied hydrologists). This group comprises those who have the understanding and capability to utilise the seasonal prediction information produced routinely by meteorological and hydrological centres, but may not be aware of how to obtain it. For this group we will provide a demonstration of openly available European hydrometeorological forecast data resources, including a tool developed as part of the Outlook demonstrating predictions of seasonal meteorological and hydrological conditions. We use forecasts issued over a one year period to show how the forecasts would have been interpreted from a hydrometeorological perspective.