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Communicating uncertainty in seasonal climate predictions: End-user perceptions and preferences

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To successfully communicate uncertainty in any context one must ascertain both the information required by users and how this can be presented in a way that facilitates understanding and appropriate use of this information.

Work Package 33 of the EUPORIAS project has been undertaken with the objective of developing best practice in communicating uncertainty in seasonal to inter-annual climate predictions in Europe. Here we discuss the findings of a cross sector user needs survey undertaken during the first phase of the project to establish user needs with respect to information regarding confidence and uncertainty. Forty-five respondents completed the survey, which examined perceptions of forecast accessibility, understandability and usefulness; and preference for different ways of visually representing uncertainty.

It was found that even amongst current users, seasonal predictions were perceived to be both less accessible and less understandable than more familiar forecasts, such as those for weather, indicating a need for more user friendly methods of communication. A need for clearer methods of communicating reliability was also highlighted. With respect to preferences with regard to visual representations of uncertainty, maps emerged as the most highly favoured form of representation, followed closely by the representations of spread offered by fan graphs and error bars. However, it was also found that these representations of spread were less favoured by those reporting lower comfort with using statistics.

We discuss the findings of this study with reference to the methods of communicating uncertainty currently utilised to represent seasonal climate predictions, and outline directions for further investigation.