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Subseasonal and seasonal climate forecast applications

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Substantial progress has taken place in the development of subseasonal and seasonal climate forecast systems. Operational systems now provide a comprehensive set of forecast products, often using the multi-model approach, and a consistent set of forecast quality metrics. However, there are still important gaps in illustrating the applicability of the forecast information. While the advent of climate services has opened an avenue for the participation of social sciences and humanities in the co-production of action-oriented climate information at subseasonal and seasonal time scales, the engagement of climate forecasters and analysts in this exercise has been disappointing. This presentation will describe some of the challenges the co-production of user-oriented climate information using subseasonal and seasonal forecasts needs to address.

The challenges will be considered in an operational context. The definition of relevant indicators, user-oriented verification, the relevant merits of the forecast post-processing and the communication of forecast uncertainty will all be illustrated using some simple user-driven applications. The discussion will focus on how these challenges can be addressed jointly by user and forecasting communities.

The discussion will also deal with the tension appearing between the quality measures communicated by forecast providers and the quality of the actual information reaching the applications. Such tension is the result of the imperfect representation of the quality of real-time forecasts by forecast quality measures based on hindcasts, the skill degradation intrinsically associated with bias adjustment practices and the mismatch between what the forecasters often provide and the actual user needs.

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