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Introducing seasonal hydro-meteorological forecasts in local water management. First reflections from the Messara site, Crete, Greece.

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Seasonal prediction is recently at the center of the forecasting research efforts, especially for regions that are projected to be severely affected by global warming. The value of skillful seasonal forecasts can be considerable for many sectors and especially for the agricultural in which water users and managers can benefit to better anticipate against drought conditions. Here we present the first reflections from the user/stakeholder interactions and the design of a tailored drought decision support system in an attempt to bring seasonal predictions into local practice for the Messara valley located in the central-south area of Crete, Greece. Findings from interactions with the users and stakeholders reveal that although long range and seasonal predictions are not used, there is a strong interest for this type of information. The increase in the skill of short range weather predictions is also of great interest. The drought monitoring and prediction tool under development that support local water and agricultural management will include (a) sources of skillful short to medium term forecast information, (b) tailored drought monitoring and forecasting indices for the local groundwater aquifer and rain-fed agriculture, and (c) seasonal inflow forecasts for the local dam through hydrologic simulation to support management of freshwater resources and drought impacts on irrigated agriculture.