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## **Understanding Argentine farmers' perceptions of the utility of seasonal climate forecasts**

### **Climate Change as Hazard**

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The Argentine Pampas is one of the world's most productive agricultural regions. The region's sensitivity to El Niño-Southern Oscillation-driven climate variability and changing decadal precipitation trends support growing interest in farmers' use of seasonal climate forecasts in agricultural decision-making. While progress in climate prediction has provided skilled forecasts for the Pampas, lack of understanding of users' perceptions of climate forecasts hinders optimal forecast design. I contend that understanding these perceptions – that is, how individuals evaluate forecasts and judge their utility in decision-making – fosters increased compatibility between forecast design and user needs. Furthermore, I argue that features of place (i.e., crop-climate suitability) distinguish farmers' forecast preferences. I examine Argentine farmers' perceptions of seasonal precipitation forecasts. First, conjoint analysis evaluation exercises determine how farmers trade off forecasts' attributes (e.g., spatial resolution, lead-time) when judging their utility in on-farm management decisions. Regression analyses of farmers' responses provide individual and group utility functions that express attribute preference structures. Next, I ask what differences exist, if any, between farmers' trade-offs and preferences in Pergamino and Pilar, locales that represent a contrast between near-optimal versus relatively marginal agricultural conditions. I investigate and characterize observed differences, emphasizing important links between place and user needs. To conclude I discuss how the adaptation of forecast design to complement users' perceptions and needs encourages greater utility in future climate forecasts.

**Key Words:** climate forecasts-seasonal, forecast design, agricultural decision-making, Argentina, Pampas, conjoint analysis, perceptions, user needs