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# Understanding Discrepancies in Projected Precipitation from GCMs to RCMs at the Subtropical Andes

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1-2 PM (MT) FL2-1001 or Virtual | [Watch Live](#)

The Andes Cordillera serves as a primary source of water for ecosystems and human populations, yet it is increasingly threatened by climate change. At the same time, it remains one of the regions with the largest uncertainties in projected precipitation changes among Regional Climate Models (RCMs) and Global Climate Models (GCMs). This study examines discrepancies in projections of seasonal precipitation and seasonal maximum daily precipitation (Rx1day) simulated by ten RCMs and their driving GCMs. We also investigate potential mechanisms underlying the spread of projections using a Potential Instability framework.

In this talk, I will contrast the stabilizing effect of enhanced upper-tropospheric warming with the increase in atmospheric instability associated with greater moisture availability. The results reveal a shift in precipitation seasonality and contrasting signals between seasonal precipitation and seasonal Rx1day. Overall, the robustness of projected precipitation changes across the Andes is low, in contrast to the strong drying signal consistently simulated by the driving GCMs. [Event Website](#)