## Predicting the fate of our water: A look at the changing role of snow in water supply prediction

This presentation will explore several aspects of how changing snow conditions can affect our ability to predict water supplies. We'll start by looking at how climate change could make drought less predictable in places like the western U.S. where skillful forecasts rely on knowledge of spring snow information. For large populations across the globe, water supply prediction relies critically on knowledge of snow conditions. In many systems, snow represents a greater seasonal storage of water than man-made reservoirs. The future portends for reduced snowpacks, yet the most important question from a management perspective will be how this affects our ability to predict seasonal runoff in order to allocate resources—particularly critical during drought. A systematic evaluation will be presented into how this relationship is expected to evolve as temperatures rise through the end of this century. The contribution of snowpack to predictive skill is greatly reduced in key regions, particularly in maritime climates and lower elevation mountains, whereas predictive capabilities in cooler, higher elevation zones tend to show greater resilience to warming. To overcome these losses, the value of ancillary predictors are explored, like accumulated precipitation, but also soil moisture, demonstrating that some fraction of the lost skill can be recovered. This work serves as a call to action to explore new ways to make water supply predictions in the face of snow reductions.