

The 2010 Chile Mega-drought and its impacts on snow and glacier hydrology.

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Abstract: since 2010, a series of below-average hydrometeorological conditions in southwestern south America has come to be labeled the “Chilean Mega-drought”. Although none of the individual years has been drier than the driest year on record, the extent and duration of the drought make it unprecedented in modern times. Snow and glacier regimes in the semiarid Andes of central Chile and Argentina have been affected, and this presentation attempts to summarize these effects by providing an overview of meteorological precursors, observations and modeling results. We show how Atmospheric Rivers have a significant role in explaining interannual snow accumulation variability, present observations from experimental catchments in the region, and discuss modeling results that attempt to predict the impact of drying conditions on snow dynamics and glacier mass balance.