NASA's Airborne Snow Observatory: Overview and Opportunities for Model Forcing and Validation

McKenzie Skiles

Since 2013 the Airborne Snow Observatory (ASO), a novel partnership between NASA and California Division of Water Resources, has been mapping spatial and temporal distributions of both snow water equivalent and snow albedo across key basins in the Western US. The ASO is a coupled lidar and imaging spectrometer platform that measures snow reflectivity (directly) and snow depth (through differential mapping), the two most critical properties for understanding snowmelt runoff and timing, over entire mountain basins in near real time to improve water resource management decisions. I will present an overview of ASO and ASO data products, a brief description of hydrologic model integration efforts in terms of both model forcing and model updating, and further opportunities for model forcing and validation.