

Characterization of snow processes and their implications on runoff generation. Semi-arid Andes - Central Chile

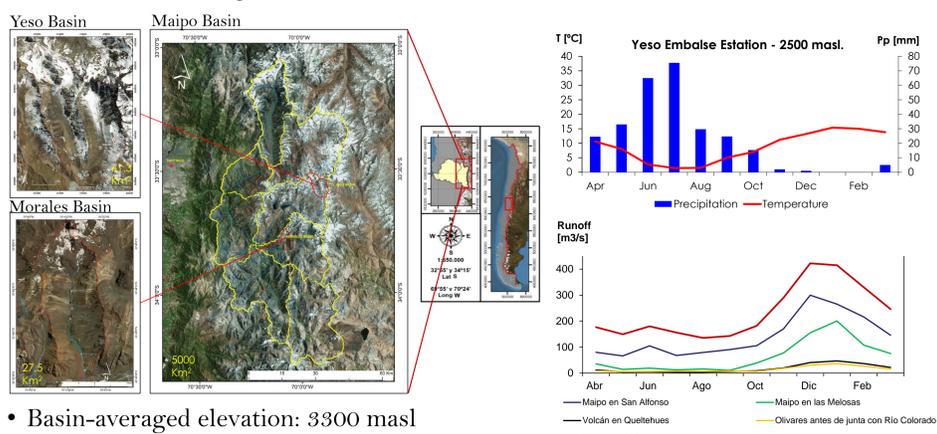
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Abstract

Understanding the role of physical processes on the volume and residence time of extratropical Andean snowpack is critical for successful water resources management in Central Chile. The lack of direct, long term observations, motivates the use of hydrological modeling for hypothesis testing and process understanding, with the aim to achieve robust hydrological predictions under global change scenarios. To this end, we force the CRHM model with data from the Era-Interim re-analysis for the 2000-2017.

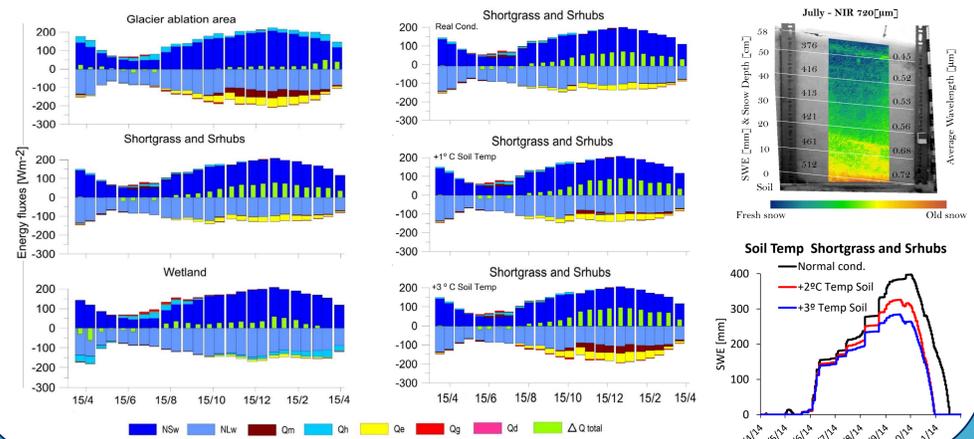
Material and Methods

Study Area: Morales & Yeso Basins

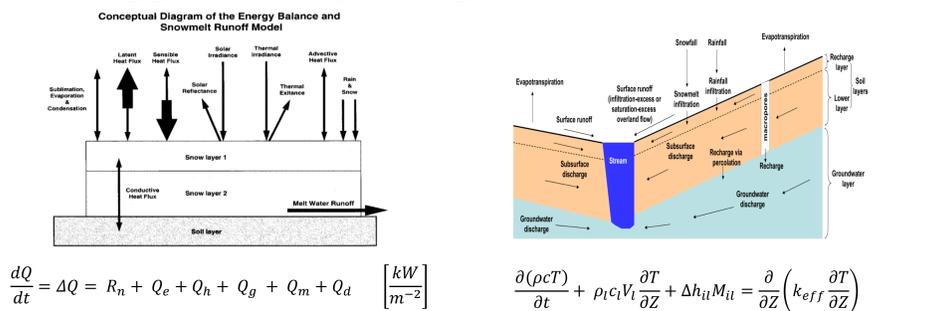


Results

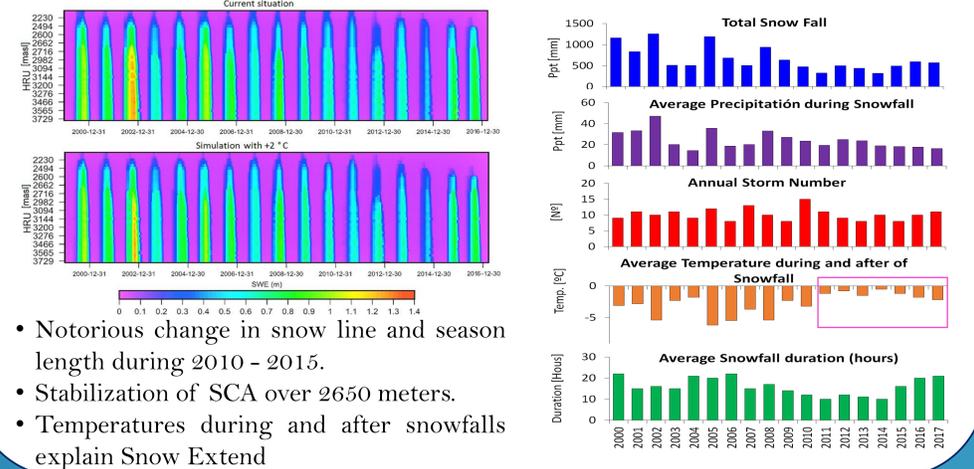
Energy Balance: Climate sensitivity



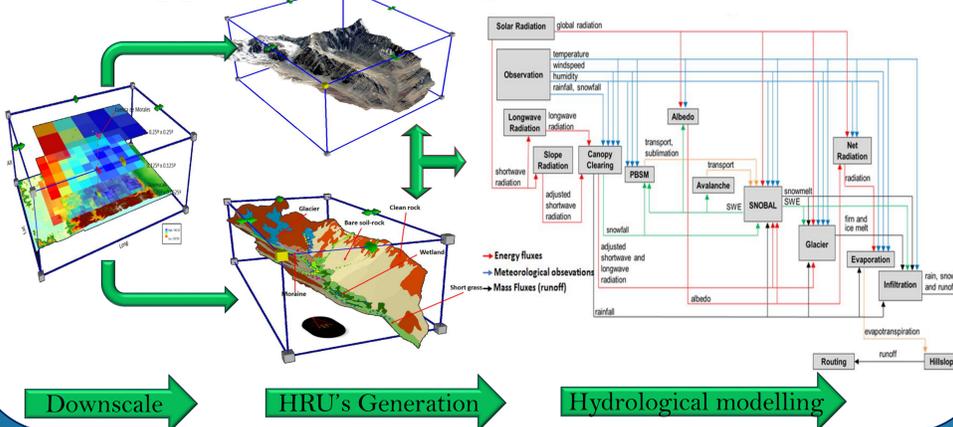
Approach: Hydrological model - CRHM



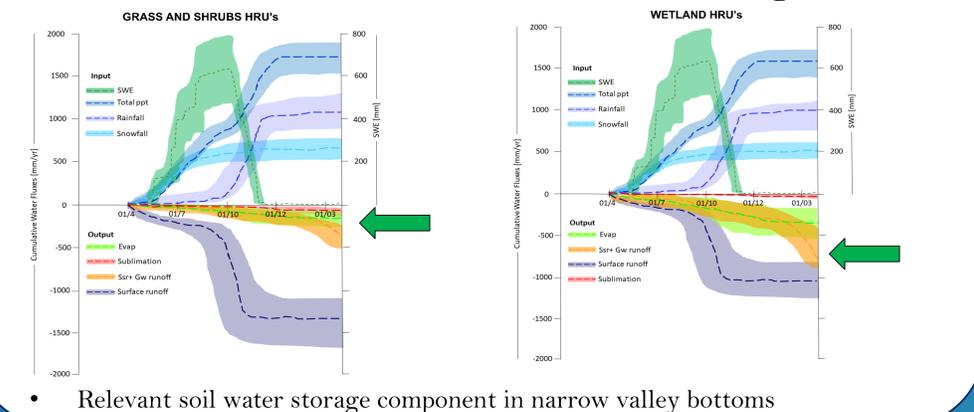
SWE: Snow cover & Snow Extent



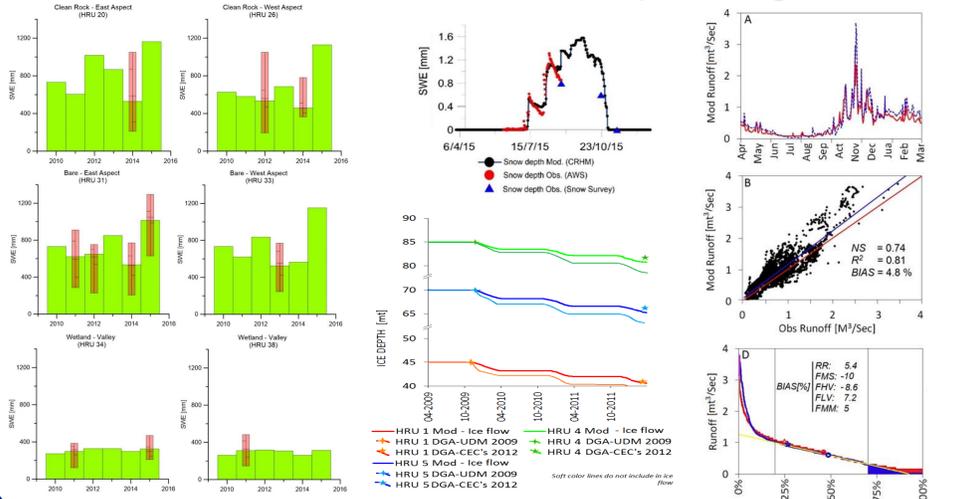
Approach: Hydrologic Model Structures



Runoff: Water Fluxes & Storage



Performance: SWE, IWE & Hydro-Signatures



Conclusions

