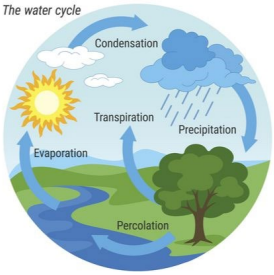
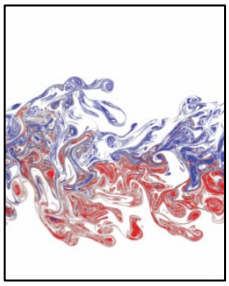
Boase Seminar Series in Hydrology and Water Resources Engineering

Department of Civil, Environmental and Architectural Engineering





Changes in the precipitation extremes and challenging hydroclimate impacts over the Western US

Dr. Xingying Huang

Project Scientist

Climate and Global Dynamics Laboratory

National Center for Atmospheric Research (NCAR)

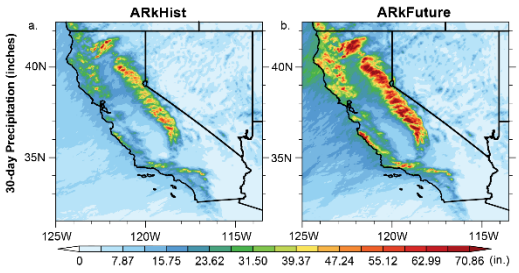
Boulder, CO

Wednesday, October 19, 2022 | 11:15 AM | ECCE 1B41 &

Zoom: https://cuboulder.zoom.us/j/95668504496

(passcode: water)

Abstract:



Climate change has already doubled the likelihood of an event capable of producing catastrophic flooding, but larger future increases are likely due to continued warming. In this talk, I will present my work on predicting atmospheric rivers and storms over California, with an eye toward future changes and potential hydroclimate impacts. The questions involve how to better understand the evolution of extreme storms and how to develop an effective modeling framework to study event occurrences and their future changes under projected continuous warming. Importantly, how to link large-scale atmospheric patterns and mesoscale landfalling features and the implications for water and flood management?

Most recently, we investigated the physical characteristics of "plausible worst-case scenario" extreme storm sequences capable of giving rise to "megaflood" conditions, in the context of disaster resilience planning and emergency. Collectively, the findings from previous work and this recent study illustrate the growing urgency of planning for and mitigating the hazards from potentially catastrophic floods in California and other regions worldwide in a warming climate. Ultimately, the hope is that the analysis described here can serve as a geographically portable framework for scenario-based emergency response and regional adaptation endeavors in the climate change era, both within and beyond California.

Speaker Bios: Dr. Huang is a project scientist at NCAR in the division of climate and global dynamics. She did her postdoc research at UC Los Angeles and UC Santa Barbara, after her Ph.D. study in Atmospheric Science from UC Davis. Her research background focuses on earth system modeling, hydroclimate extremes, and risk impacts across multi-scales and regions