

Human-caused climate change is expected to increase temperatures and alter precipitation regimes across the Pacific Northwest through the 21st century. These changes will impact the hydrology of the Columbia River, a system which is extensively managed by stakeholders with a variety of competing interests. While very high and low flows occur by definition only rarely, the hazards associated with these extreme hydrologic events pose significant risk to the river's stakeholders. Thus, hydrologic extremes require special attention when evaluating impacts of climate change. One way to conceptualize changes in streamflow is through a climate sensitivity approach: we calculate the percentage change in streamflow of an extreme event in response to a percentage change in precipitation or degree change in temperature. In this presentation, we will present sensitivities of hydrologic extreme events across a range of basins throughout the Columbia River Basin. We will base our findings on a 160-member ensemble of hydrologic model simulations spanning 150 years at a daily timestep and 1/16th degree resolution (~6 km). We will highlight how sensitivities depend on basin size, hydrologic regime, and the extremity of the metric of interest (e.g. 99p, annual max). We will summarize our findings in a user-friendly way for the broader stakeholder community.