**Using Spatial Climate Change Data to Assess Vulnerability across Alaska**

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On a global scale, climate changes in Alaska are predicted to be among the most extreme. Across the state, changes will not be equally distributed, and some areas will experience multiple different types of effects simultaneously. In an effort to better understand and plan for the coming changes, we collected statewide spatial climate change prediction data for several variables including temperature, precipitation, active layer (permafrost) thickness, length of growing season, sea level rise, and fraction of precipitation falling as snow. We analyzed the data to detect change by comparing baseline data (defined as the current time period, 2010-2019) to future data (defined as the end-of-century time period, 2090-2099) using a measure of the absolute value of change in standard deviation from the baseline statewide mean for each time period. Next, for each climate variable, we summarized the mean change across 160 hydrologic basins (HUC8) covering Alaska, then prioritized basins using two measures. The first measure used a threshold of 1 standard deviation to classify basins as climate vulnerable based on any single variable, and allowed us to quantify where overlapping multiple types of significant change are expected. The second measure ranked the vulnerable basins from least to most predicted change to prioritize them for climate-related planning. The results of this assessment are useful for land managers in Alaska who will benefit from understanding which areas are expected to undergo significant change, and which are the highest priorities for action.