

**CLIMATE CHANGE VULNERABILITIES IN THE USCR REGION**

<b>Watershed Characteristics</b>	<b>General Overview of Vulnerabilities</b>
Water Supply	<p><b>SWP Imported Water</b> - SWP water is an important portion of the water resources available to the Region. Potential impacts on SWP water availability resulting from climate change directly affect the amount of imported water supply delivered to the Region.</p> <p><b>Groundwater</b> – Changes in local hydrology could affect natural recharge to the local groundwater aquifers and the quantity of groundwater that could be pumped sustainably over the long-term. Decreased inflow from runoff, increased evaporative losses, warmer and shorter winter seasons can alter natural recharge of groundwater. In addition, additional reductions in the SWP imported water imposed by climate change would lead to more reliance on local groundwater.</p>
Water Quality	<p><b>SWP Imported Water</b> – Sea level rise could result in increases in chloride and bromide (a disinfection byproduct precursor). Increased temperature could result in increases in algal blooms and taste and odor events.</p> <p><b>Regional Surface Water</b> – Increased temperature could result in lower dissolved oxygen in streams. Decreases in annual precipitation could result in higher concentrations of contaminants in streams during droughts. Increased wildfire risk and flashier storms could increase turbidity loads for water treatment.</p>
Water Demand	<p><b>Urban and Agricultural Water Demand</b> – Changes of hydrology in the Region as a result of climate change could lead to changes in water demand, both in quantities and patterns. Increased irrigation (outdoor landscape or agricultural) is anticipated to occur with temperature rise, increased evaporation losses with warmer temperature, and a longer growing season.</p>
Ecosystem and Habitat	<p>Increased temperature and potential decreases in annual precipitation could put stress on sensitive ecosystems and alter habitats. In addition, the Region may be subject to increased wildfire risk, which could alter habitat.</p>
Flooding	<p>Local surface flows could change as a result of more frequent and intense storm events, leading to more areas susceptible to flooding, and increasing risk of direct flood damage in the Region.</p>
Sea Level Rise	<p>The Region is not directly subject to sea level rise. However, potential effects of sea level rise would affect SWP water supply conditions. The principal concern is the potential for sea water intrusion to increase Delta salinity.</p>
Hydropower	<p>Currently, the Region does not produce hydropower; thus, climate change effects on hydropower are not likely to occur.</p>