

CLIMATE CHANGE ADAPTATION STRATEGIES IN WATER MANAGEMENT

Michelle Selmon, Regional Climate Change Specialist, CA Department of Water Resources

Abstract: Climate change has serious implications for the management of California's water resources. Many impacts are already being observed, including changing precipitation patterns, reduced snowpack, and accelerated sea level rise. The diverse hydrologic, ecological, and socio-economic conditions in the State need to be accounted for in regional and local-level planning. California's Integrated Regional Water Management (IRWM) planning process provides a critical framework for considering issues such as water supply and water quality in the context of current and future stressors, including climate change. IRWM funding supports collaborative strategies to improve water supply and quality, flood management, and ecosystem protection in 48 regions across the state. IRWM regions involve diverse water stakeholders and cover 87 percent of the state's area and 99 percent of the population, offering an important opportunity for climate change adaptation planning at multiple scales. Climate change vulnerability assessments are being conducted by IRWM groups in response to a new requirement that regions consider climate change in planning and prioritizing water management strategies and projects. The *Climate Change Handbook for Regional Water Planning*, developed cooperatively by the California Department of Water Resources (DWR) and others, serves as a roadmap for many IRWM groups that are considering the implications of climate change in their region for the first time. Vulnerability assessments conducted thus far range from basic qualitative discussions of potential vulnerabilities to more detailed analyses that incorporate regionally-downscaled climate data into hydrologic models. The vulnerability assessment process is providing a foundation for IRWM groups to address climate change adaptation within their regions, and incentives to collaborate across regional boundaries to tackle the issue at a landscape level. Regionally appropriate adaptation strategies of increased water use efficiency, integrated flood management, and sustaining and enhancing ecosystems are common adaptation approaches identified by many IRWM groups.