

Warming likely to push state's water systems to brink -- report

Colin Sullivan, Environment & Energy Publishing, 4-1-10

California rivers, canals, reservoirs, levees and lakes are likely to be profoundly stressed as global temperatures rise, the state's Department of Water Resources said in a report released yesterday.

The updated California Water Plan sees climate change pressuring a system that is the lifeblood of the state's agriculture industry, cities to the south and commercial fishers in the San Francisco Bay region.

Systemic adaptation to warming that includes regional coordination of water resources, the report cautions, will be crucial as changes in snowpack, river flows and sea levels affect a state likely to climb well past its current population of 40 million by 2050.

"California's reservoirs and water delivery systems were designed, and operating rules have been developed, using historical hydrology -- an assumption that the past is a good guide to the future," the water plan states. "With climate change, that assumption may no longer be valid."

The report goes on to cite evidence that the state's water supply is already taxed and warns that these points of stress will likely continue. The report said California's temperature has climbed by 1 degree Fahrenheit over the past century, seen early spring snowpack in the Sierra Nevada drop by 10 percent, felt sea levels increase by 7 inches on the coast and experienced higher flood peaks in its rivers.

Looking ahead to 2050, the Department of Water Resources warns that snowpack in the mountains could decrease by 25 to 40 percent, which means a loss of storage volume between 3.8 million acre-feet on the low end to as much as 6 million acre-feet on the high end.

Because seasonable snowpack is the state's largest source of surface water storage, that could mean severe threats to livelihoods that rely on the water. Also likely to be stressed as water dwindles and temperatures increase are the state's extensive hydroelectric plants and already troubled fish species that rely on plentiful flows of colder water from the mountains.

So what's to be done? The report recommends adopting a "stable and continuous" water finance plan to fund infrastructure, integrating management between regions to be overseen by state authorities, improving flood controls, mandating conservation and ecosystem management, and funding an effort to increase public awareness.