

## Report Warns of More Frequent Coastal Flooding and Rising Sea Levels

*Officials, Scientists Discuss Impacts of Global Warming and State's Plans to Take Action*

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The California Climate Action Team has released a summary report of 17 scientific studies examining the potential impacts of climate change on California. Today, officials discussed the report, the science and what the state is doing to take action on reducing heat-trapping gases that threaten to cause more frequent coastal floods, rising sea levels, beach erosion and disruptions to wetlands. The presentation was held at Scripps Institution of Oceanography at UC San Diego.

"The potential impacts of global warming are unmistakable, adding more days of deadly heat, more intense and frequent wildfires, shorter supplies of drinking water and serious public health risks," said Linda Adams, Secretary for Environmental Protection. "That's why Gov. Arnold Schwarzenegger set aggressive goals to reduce greenhouse gases. The actions we take today will impact the climate inherited by our children and grandchildren."

"Gov. Schwarzenegger is taking action by producing realistic goals that will allow us to manage global warming," said Secretary for Resources Mike Chrisman. "This report will educate the public in a clear way so that our natural resources will be protected for future generations."

The summary report titled "Our Changing Climate: Assessing the Risks to California" was a collaborative effort of the California Center for Climate Change, the only state-funded climate research center in the nation, a virtual center established by the California Energy Commission. The summary report is a compilation of the science included in the Climate Action Team report that was released in April.

"Scripps and UC San Diego have been at the forefront of climate change research for 50 years, beginning with Roger Revelle and Charles Keeling's groundbreaking studies of atmospheric carbon dioxide," said UC San Diego Chancellor Marye Anne Fox. "This university has a long-standing commitment to environmental initiatives, both through scientific research and the campus' many green practices. The contributions made by Scripps scientists to this report underscore our commitment to working in tandem with the State and other California partners to address the very serious challenges presented by climate change."

"The latest science suggests that if global warming is not addressed, the consequences for California's economy, health and environment could be severe," said Dr. Dan Cayan of Scripps Institution of Oceanography and a contributing author of the report. "Climate model projections and other information suggest that mean sea level will continue to rise and probably even rise faster, with projections ranging from the historical eight inches per century to as much as three feet in the 21st century. More global warming would be expected to produce more sea-level rise."

The report warns that as the effects of global warming continue, California's 1,100 miles of coastline - a major attraction for tourism, recreation and other important economic activities - will face increased threats of rising sea levels, aggravating impacts of coastal storms and runoff from upstream flooding.

"If heat-trapping emissions continue unabated and temperatures rise into the higher warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century," the report cautions. "Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems and disrupt wetlands and natural habitats."

The report also describes the shrinking state of many of California's beaches. As sea levels rise, the report warns, increasing volumes of replacement sand will be needed to maintain current beach width and quality.

"As coastal erosion has continued in Southern California, and both natural and artificial sources of sand supplies have been reduced, some beaches have eroded and are expected to continue to do so," said Reinhard Flick, a scientist with Scripps Oceanography and the state's Department of Boating and Waterways. "It's becoming clear that essentially the entire California coast is eroding at varying rates. The future cost of nourishing the state's beaches will be enormous as sea-level rise accelerates."

An aggravating factor is that storm-enhanced sea levels that penetrate into the San Francisco Bay/Delta, a nucleus of California's population and agriculture and a key hub in the State's water system, may be heightened greatly by Sierra Nevada freshwater floods, which could become more frequent as warming increases and upstream mountain watersheds yield more rainfall runoff and less snowpack.

The report is the first under an executive order signed in June 2005 by Gov. Arnold Schwarzenegger that calls for biennial studies on the potential impact on the state of continued global warming.

The California Climate Action Team was initiated by Gov. Arnold Schwarzenegger last year, and charged with developing suggested strategies to reach the governor's aggressive greenhouse gas-reduction targets. The report referenced above can be found at: [http://www.climatechange.ca.gov/biennial\\_reports/2006report/](http://www.climatechange.ca.gov/biennial_reports/2006report/).

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### **Climate Change Report**

