

Adapting to Global Climate Change

Water Facts

Rapid and drastic increases in temperature are predicted to affect every aspect of life much sooner than the public realizes. In California statewide average temperature increases on the order of 5°F in winter and 2°F in summer are expected by 2030-2050.

As water is the source of life, impacts of climate change on the timing, quality, and quantity of our water resources will be felt by humans and wildlife alike. Below are some of the water-related topics to be covered in the SSU global climate change workshop "Creating a Climate of Change, Adapting to Climate Change: The Case of Water."

Northern California Water Flow

Overview of our regional water systems. Where our resources are, how they are replenished and depleted – and where our water goes.

California Water Plan – Update 2003

The California Department of Water Resources is preparing an update of the State's Water Plan which will provide an assessment of California's current water supplies and uses for urban, agricultural, environmental, and other purposes, forecast a range of future water needs and identify and evaluate strategies and options to meet future needs, mindful of the various statewide regions and possible "futures" that take account of predicted climate change.

Drinking Water Supplies

Changes in the timing, frequency, and severity of rain storms and diminishing snowpack in the Eel River basin will affect our drinking water supplies. Politically there may be increased pressure on the North Coast to export water from coastal rivers to the water-scare metropolises in the South.

Coastline and Estuary

Thermal expansion of the Pacific Ocean will cause sea-levels to rise by over 0.5 feet by 2050, and 1.5 feet by 2100 (each with with a probability of 50%), resulting in the inundation of low-lying coastal areas and wetlands, including those in the Tomales Bay, the Esteros, Bodega Harbor, the Bodega Dunes, and the Estuary at the mouth of the Russian River, and in greater erosion on the Sonoma Coast. Increased seawater intrusion would significantly affect fresh water quality on the coast. the odds are fifty-fifty that greenhouse gases Collapse of the West Antarctic Ice Sheet is a concern. It contains enough ice to raise sea level 6 meters (20 feet),

Agriculture

Higher temperatures and drier soils will tend to reduce crop yields, while longer growing seasons would increase crop yields for suitable crops. The combined effect may be significant but is still uncertain. Availability of irrigation water will be affected.

Water as Habitat

The mix of fish species in our creeks and rivers is likely to change as a result of global warming and it will be increasingly difficult to provide habitat for some commercially important saltwater species that breed in fresh water, such as Chinook salmon.

Extreme Events

Changed hydraulic and El Niño patterns will trigger more frequent and intense floods, mudslides, extreme tides, and convective storms.

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