California
Education and the Environment Initiative

Water for Life

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Water Supply

Dedicated Water Supplies, (in Million Acre-feet/MAF)
2001 (Dry Year) 64.8 MAF
2000 (Average Year) 82.5 MAF
1998 (Wet Year) 94.5 MAF

Recycled
Groundwater
- Net Withdrawal and Deep Percolation of Groundwater and Surface Water

Surface Water
- Colorado Project
- Instream Environment
- Local Projects
- State and Federal Projects

Mean Annual Precipitation (in Inches)
- More than 25
- 15-25
- 10-14.9
- 5-9.9
- 0-4.9

Total Dedicated Water Supply per Hydrologic Region, Water Year 2000 (in Thousand Acre-feet)
- Recycled
- Groundwater
- Surface

DEDICATED WATER SUPPLY: During average water years, California receives about 200 million acre-feet of water mainly from precipitation. About half of this supply is distributed for urban, agricultural, and environmental use. The other half is used by natural vegetation and processes including evaporation.

PRECIPITATION & NATURAL RUNOFF: The northern half of California receives most of the state's rain, snow, and runoff. This precipitation occurs mostly on the western slopes of the state's many mountain ranges. After replenishing aquifers, evaporation, and plant usage, about 71 million acre-feet of water enter streams and rivers.

Mean Annual Precipitation: PRISM Group at Oregon State University

Water Use

Applied Water Use (in Million Acre-feet)
2001 (Dry Year) 64.8 MAF
2000 (Average Year) 82.5 MAF
1998 (Wet Year) 94.5 MAF

Applied Water Use
Environmental
- Delta Outflow
- Instream Flow
- Managed Wetlands
- Wild and Scenic River
- Irrigated Agriculture
- Urban

Net Water Use per Hydrologic Region, Water Year 2000 (in Thousand Acre-feet)
- Environmental
- Agricultural
- Urban
- Built-up Area
- Irrigated Area

WATER USE: The many variations in California's landscape, population, and land use have an effect on how the water supply is distributed and used. The use map shows how water is used differently across the state during an average year.

FARM VS. CITY: In an average water year like 2000, about 34 million acre-feet of water were used for agricultural and about 9 million acre-feet were used for urban purposes. This pattern holds true in most parts of California. The San Francisco Bay area and the region that extends south of Los Angeles County are the two major exceptions.

Irrigated Area: Farmland Mapping and Monitoring Program

Impaired Waters

Lakes, streams, and rivers that do not meet the water quality standards set by the U.S. Clean Water Act are called impaired waterbodies. The standards vary with the usage of the water—drinking water, recreation, or health of aquatic ecosystems. Every two years the State Water Resources Control Board and U.S. EPA identify impaired waterbodies. California currently has over 500 bodies of water on this impaired list.

El Niño

The term El Niño refers to shifting trade wind patterns and changes in surface water temperatures in the equatorial Pacific Ocean. El Niño events are irregular and usually occur about every 2 to 7 years. They typically last from nine to twelve months and develop around spring and peak in the winter. During an El Niño winter, temperatures in California are usually warmer than average. At the same time, Southern California gets 106 to 137 percent more rain than normal. Rainfall in Central and Northern California is less affected by El Niño. The change in ocean temperature also influences marine ecosytems, global temperature, and precipitation elsewhere.

Sea-surface Height Anomaly
-5 -3 -2 0 2 3 5
(Inches Above or Below Sea-surface Height)
TOPEX/ Poseidon, NASA, Jet Propulsion Laboratory (JPL), California Institute of Technology

Precipitation Anomalies During El Niño Years
-10 -8 -6 -4 -2 0 2 4 6 8 10
(Inches Above or Below Average Precipitation by Climate Division)
NOAA-CIRES/Climate Diagnostics Center

Major Delivery and Water Quality

Major Water Project
Canal Pipeline
- Federal
- State
- Local
- Dam
- Other Canal

Wild & Scenic River System
- Federal & State Designation
- State Designation Only
- Federal Designation Only
- Hydrologic Region Boundary
- Impaired Water Area
- Tulare Lake Hydrologic Region
- Urban Area

Data for maps and charts provided by California Department of Water Resources

Impaired Water Area: U.S. Environmental Protection Agency, EnviroMapper for Water, www.epa.gov/waters/envirompper

Regional Water Transfers

Hydrologic Regions

Regional Water Transfers, 2000 (Average Water Year)
- 21,751 Water Transfer (in Thousand Acre-feet)

DMC=Delta-Mendota Canal (CVP)=Central Valley Project (SWP)=State Water Project

Water moves great distances within and between California's ten hydrologic regions, some through natural waterways and some through constructed water systems. Numbers shown are the regional inflows and outflows of water in thousand acre feet for 2000, an average water year.

Water Transfers/ Water Projects

Water is moved around California to match the supply with demands. There are many different water projects (dams, canals, and aqueducts) that provide storage, flood control and otherwise change the natural flow of water. The Central Valley Project and the State Water Project bring water to a large portion of California's Central Valley, San Francisco Bay area, Southern California, and the Central Coast.

Longitude West 119° of Greenwich

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