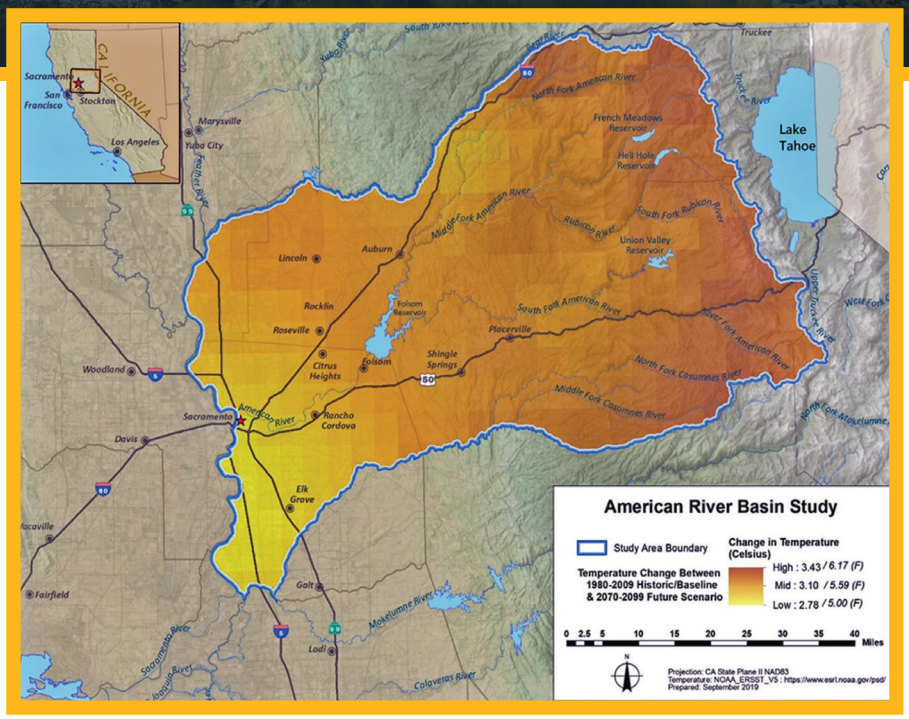
Climate Change Impacts and Adaptation Strategies for our Watershed



The American River Basin Study is a comprehensive watershed-level look at projected climate change impacts and strategies for addressing future water demands, flood risks and environmental impacts.

Key study findings include:

Significant increases in temperature of 4 to 7 degrees (F) by the year 2085. The most remarkable change is seen in the upper watershed, which will significantly impact snowpack, our largest storage reservoir.

Precipitation will fall more as rain and less as snow, creating a significant conflict between flood control and water supply. Runoff will peak in February through March (rather than in May) when Folsom Reservoir must maintain approximately 40 percent of its space for flood protection. Impacts to the current water management system and environment of the American River include:

- Reduced snowpack in the upper watershed, directly impacting water supply reliability, power generation, forest health, and recreation for communities above Folsom Reservoir from summer through fall.
- Increased flood risk in the winter, prompting more flood releases from Folsom Reservoir, and decreased runoff in spring. This will reduce water available in Folsom during summer and fall for drinking water, hydropower, irrigation and recreation, making the region more vulnerable to shortages.
- Increased risks for wildfires from drier soils.
- Decreased flows and increased temperatures in the Lower American River in summer and fall, threatening native Chinook salmon during future fall spawning.

The need for water, even with conservation measures in place, will grow by 7 percent to 8 percent due to more prolonged and hotter summers.

Adaptation Strategies for a 21st-Century Water System

Study partners evaluated potential strategies to address climate challenges, improve water supply reliability, and enhance The U.S. Bureau of Reclamation's flexibility in operating Folsom Reservoir to meet flow and water quality standards in the Delta and ensure environmental protection.

Each strategy addresses different sets of climate impacts in the watershed, because no one adaptation portfolio can address all of the identified vulnerabilities.

Key strategies include:

- **The Sacramento Regional Water Bank**—an innovative groundwater storage program utilizing the reservoir under our feet that can hold enough water to fill Folsom Reservoir twice and is expected to offset the loss of snowpack. Learn more: SacWaterBank.com.
- **RiverArc**—a transformative water reliability project, using an existing diversion point to offset demands on the American River and Folsom Reservoir by integrating surplus water from the Sacramento River for homes and businesses in Placer and Sacramento counties. Learn more at riverarcproject.com.
- **Alder Creek Reservoir and Conservation Project**—a high-elevation, off-stream storage project that would increase the total Upper American River watershed storage to 2 million acre-feet to improve water supply reliability in the Foothills and Central Valley Project water supply from Folsom Reservoir. Learn more at edcgov.us.
- **Folsom Dam Raise with Groundwater Banking**—a multi-benefit project leveraging the authorized Folsom Dam raise for forecast-informed reservoir operation that integrates the operation of upstream storage facilities to provide 500-level of flood protection for the Sacramento region and additional water supply benefits for Reclamation at Folsom Reservoir. Learn more at safca.org.

Regional water managers are currently evaluating and pursuing these strategies to maintain the region's economy, environment, and quality of life.

The American River Basin Study was produced in partnership by

The full American River Basin Study is available at usbr.gov/watersmart/bsp/arbs.