

Scientists forecast economic impacts of the drought on Central Valley agriculture

Kat Kerlin, UC Davis News Service



California's drought will deal a severe blow to Central Valley irrigated agriculture and farm communities this year, and could cost the industry \$1.7 billion and cause more than 14,500 workers to lose their jobs, according to preliminary results of a new study by the Univ. of California, Davis (UC Davis) Center for Watershed Sciences.

Researchers estimated that Central Valley irrigators would receive only two-thirds of their normal river water deliveries this year because of the drought.

The preliminary analysis represents the first socio-economic forecast of this year's drought, said lead author Richard Howitt, a UC Davis prof. emeritus of agricultural and resource economics.

"We wanted to provide a foundation for state agricultural and water policymakers to understand the impacts of the drought on farmers and farm communities," Howitt said.

The Central Valley is the richest food-producing region in the world. Much of the nation's fresh fruits, nuts and vegetables are grown on the region's 7 million acres of irrigated farmland.

The center plans to release a more comprehensive report of the drought's economic impact on the state's irrigated agriculture this summer.

The analysis was done at the request of the California Dept. of Food and Agriculture, which co-funded the research along with the Univ. of California.

“These estimates will help the state better understand the economic impacts of the drought and target its drought relief,” said CDFA Secretary Karen Ross. “The research confirms where emergency drought assistance will be needed most, and efforts are already underway.”

The UC Davis researchers used computer models and the latest estimates of State Water Project, federal Central Valley Project and local water deliveries and groundwater pumping capacities to forecast the economic effects of this year’s drought.

The analysis predicted several severe impacts for the current growing season, including:

- Reduced surface water deliveries of 6.5 million acre-feet of water, or 32.5% of normal water use by Central Valley growers. An acre-foot is enough water to cover an acre of land in a foot of water, or enough water for about two California households for a year.
- Fallowing of an additional 410,000 acres, representing 6% of irrigated cropland in the Central Valley.
- The loss of an estimated 14,500 seasonal and full-time jobs. About 6,400 of these jobs are directly involved in crop production.
- A total cost of \$1.7 billion to the Central Valley’s irrigated farm industry this year, including about \$450 million in additional costs of groundwater pumping.
- About 60% of the economic losses will occur in the San Joaquin Valley and Tulare Lake Basin.

Growers are expected to replace much of the loss in project water deliveries with groundwater, California’s largest source of water storage during drought years, said co-author Jay Lund, director of the Center for Watershed Sciences and a UC Davis professor of civil and environmental engineering.

“Without access to groundwater, this year’s drought would be truly devastating to farms and cities throughout California,” Lund said.

The additional pumping will cost an estimated \$450 million and still leave a shortage of 1.5 million acre-feet of irrigation water, about 7.5% of normal irrigation water use in the Central Valley, according to the forecast.

While the current drought is expected to impose major hardships on many farmers, small communities and the environment, it should not threaten California’s overall economy, Lund said. Agriculture today accounts for less than 3% of the state’s \$1.9 trillion a year gross domestic product.

Source: [Univ. of California, Davis](#) [1]

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