



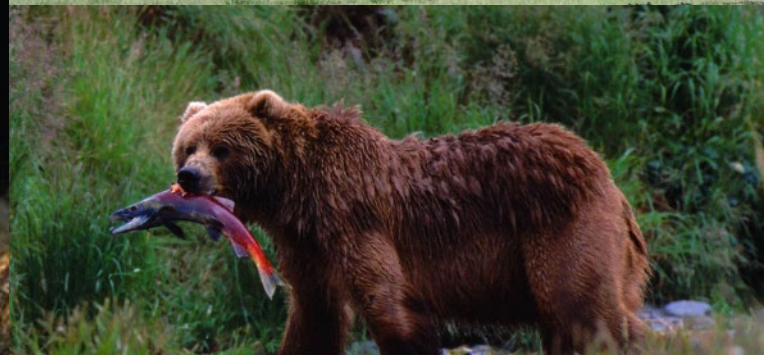
RIVER  
PARTNERS

# Agreements for Healthy Rivers and Landscapes – NGO Perspective

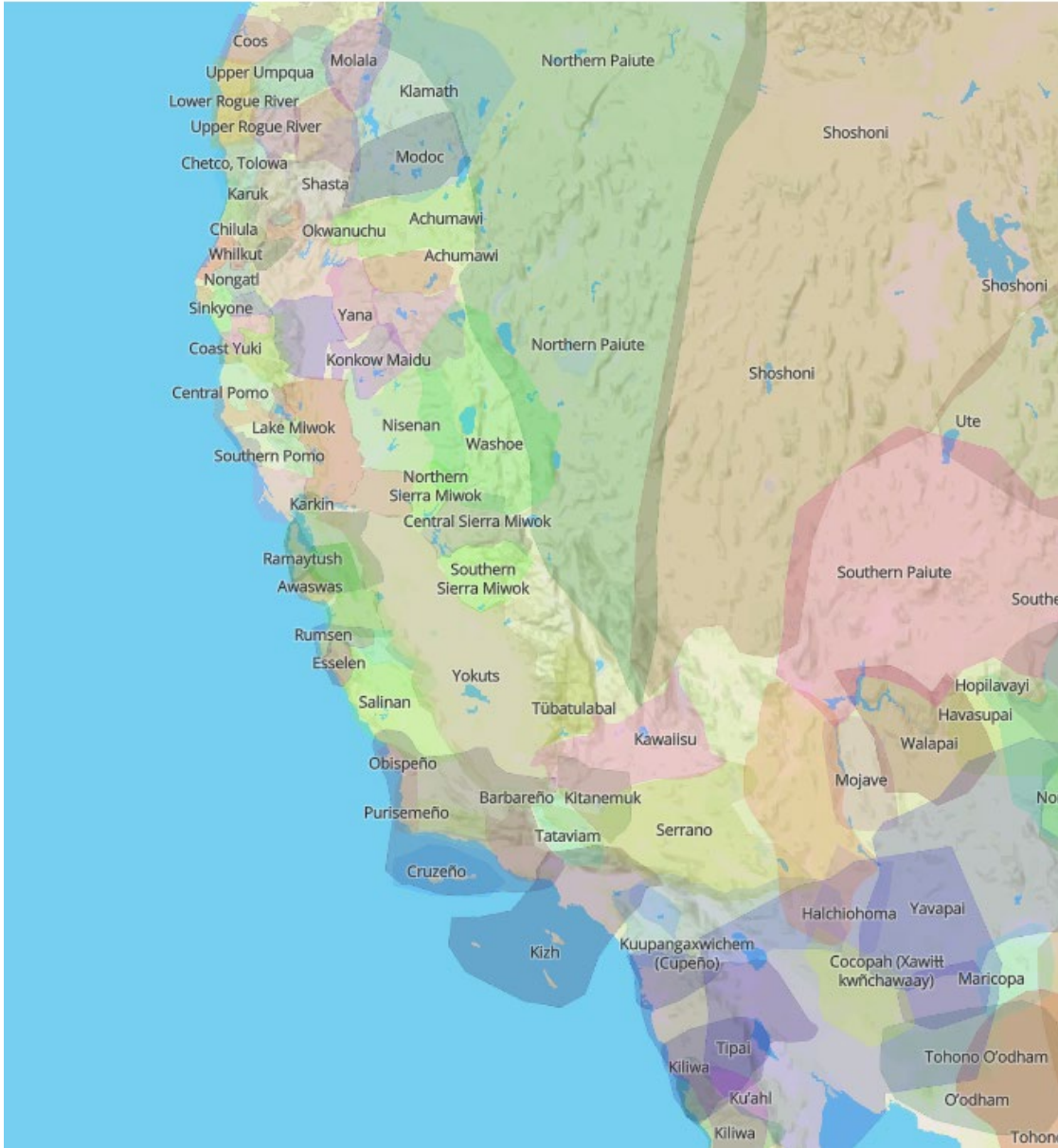
*Julie Rentner*  
*April 16, 2024*



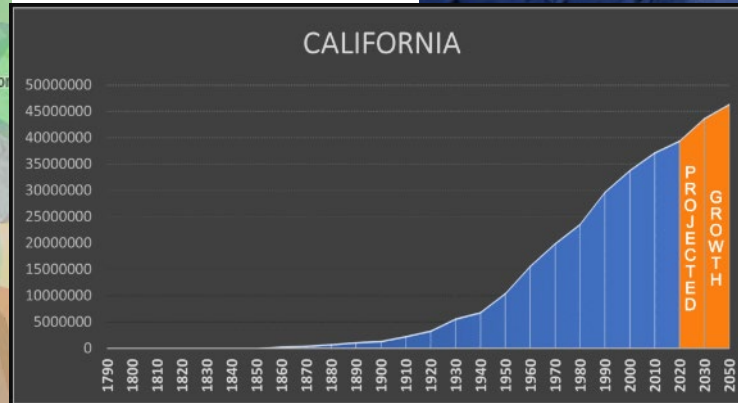
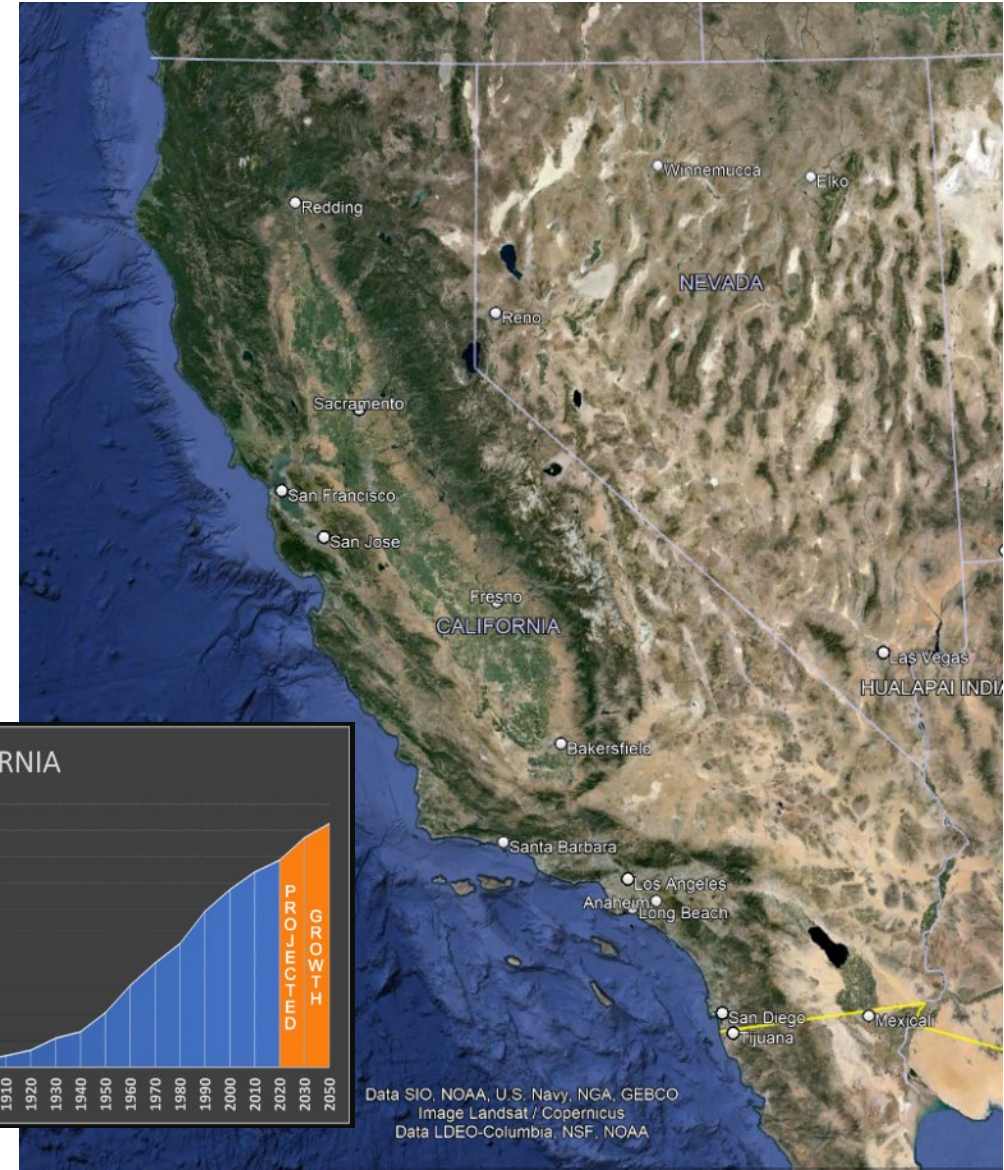
# Rewilding the Heart of California



# Central Valley Communities



40M people  
\$3.89T GDP

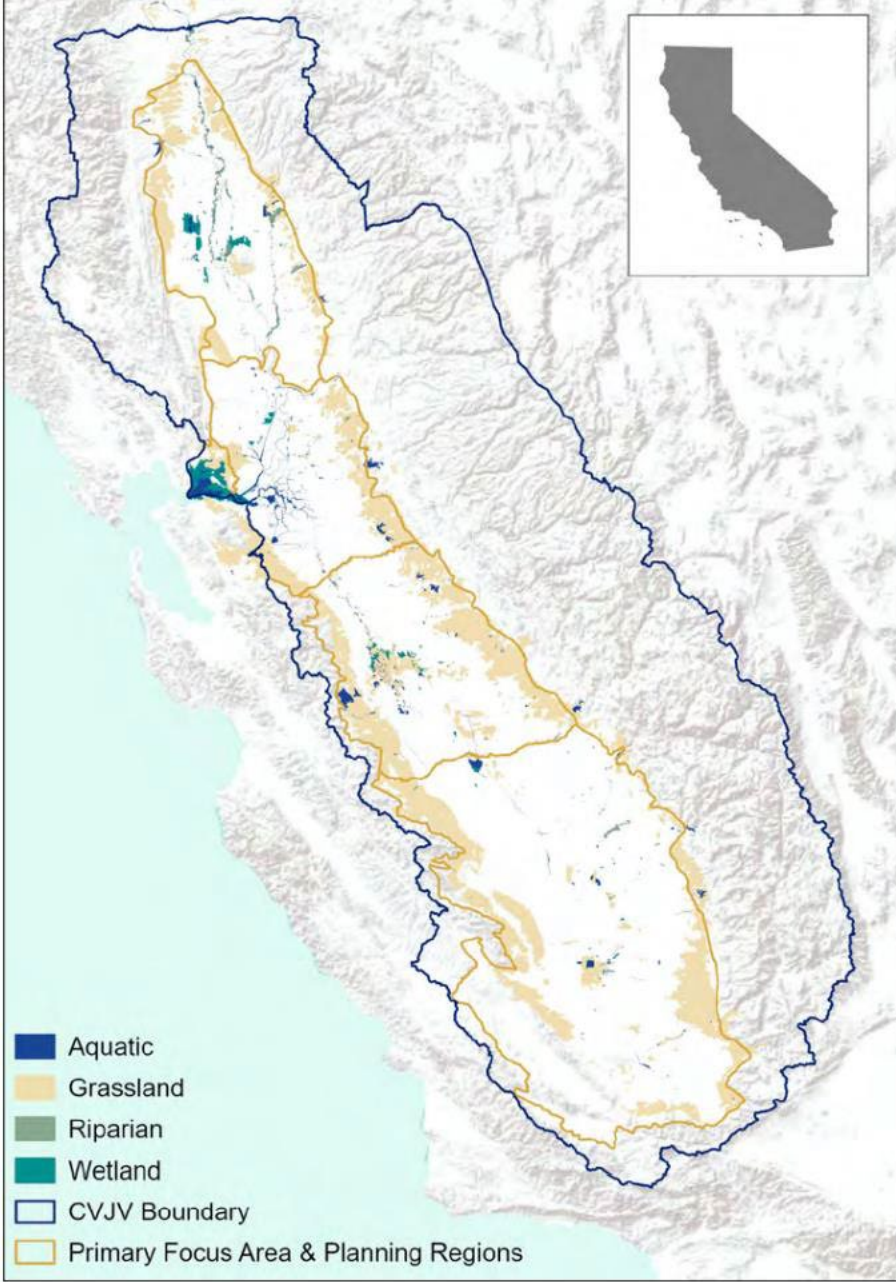
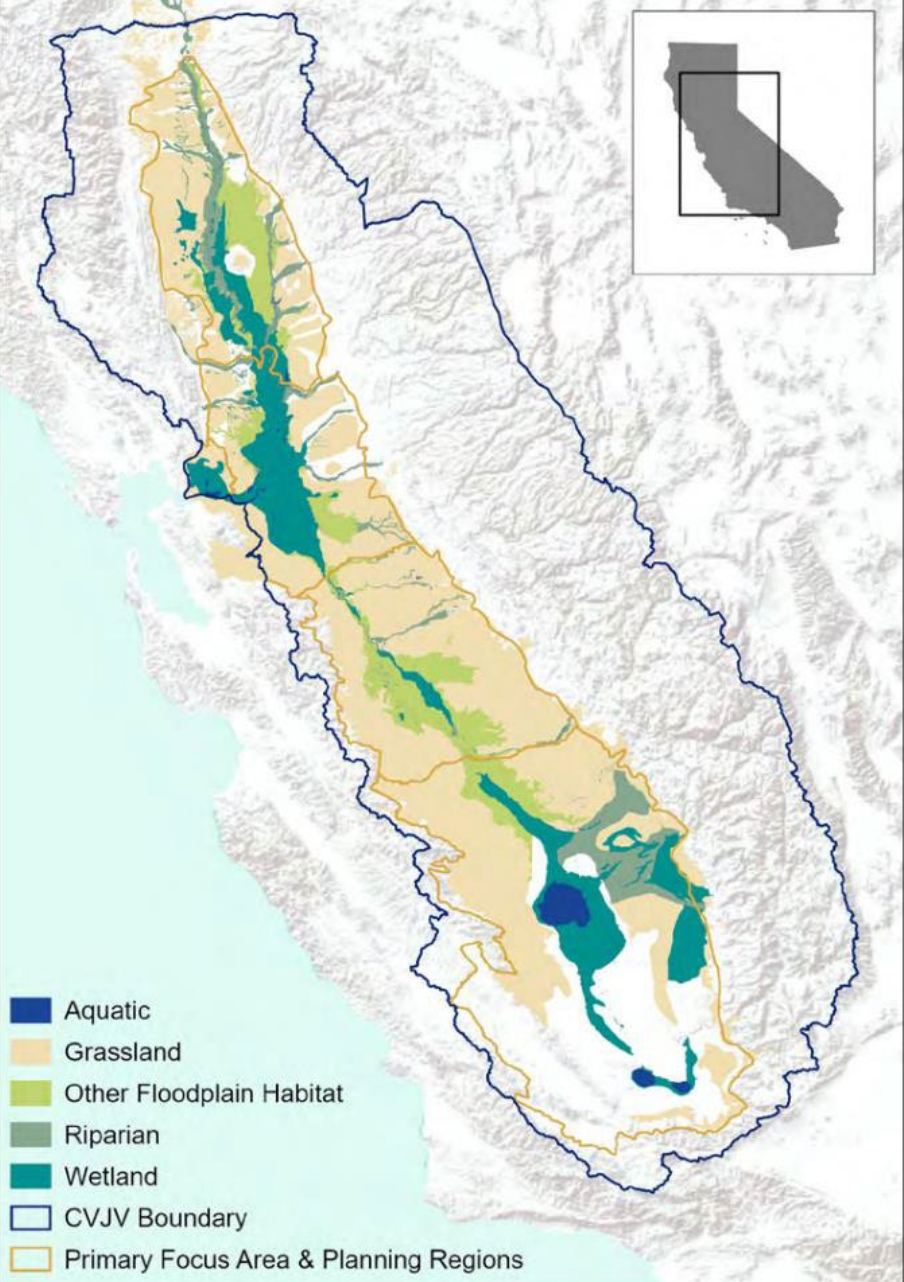


Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
Image Landsat / Copernicus  
Data LDEO-Columbia, NSF, NOAA

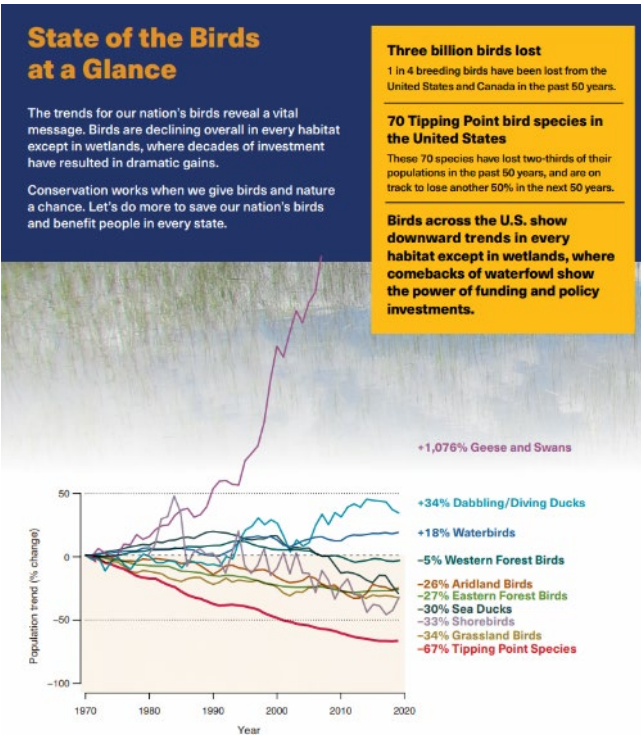
# This is one large watershed



# Central Valley Historical Ecology



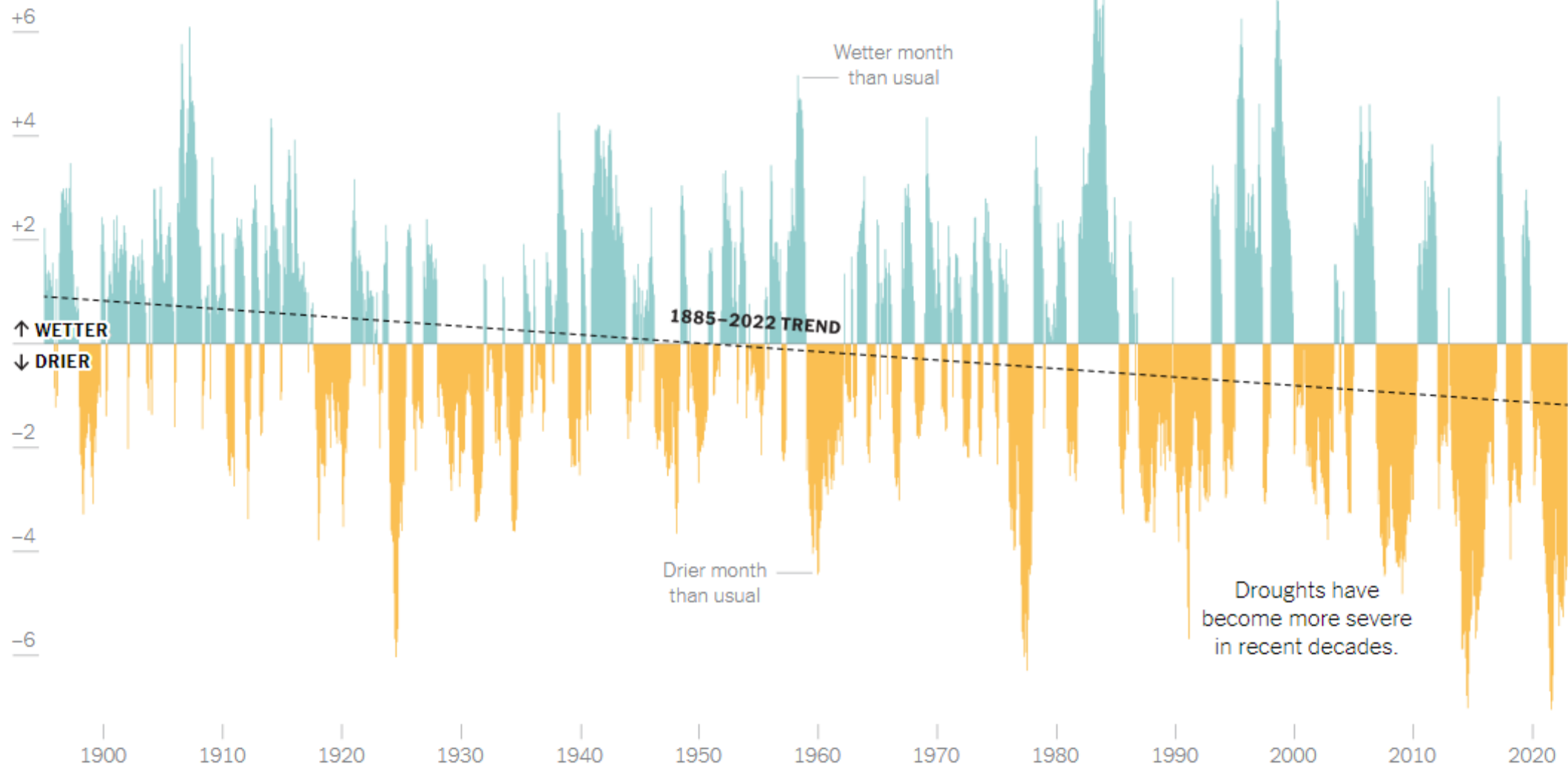
“When California was wild, it was the floweriest part of the continent.”  
**John Muir**



## California's Water Whiplash

Recent storms come amid one of the worst droughts the state has seen. Intense rainfall during droughts is dangerous because parched ground becomes less absorbent and more prone to runoff and landslides.

Palmer Drought Severity Index











# Three River Levee Improvement Agency



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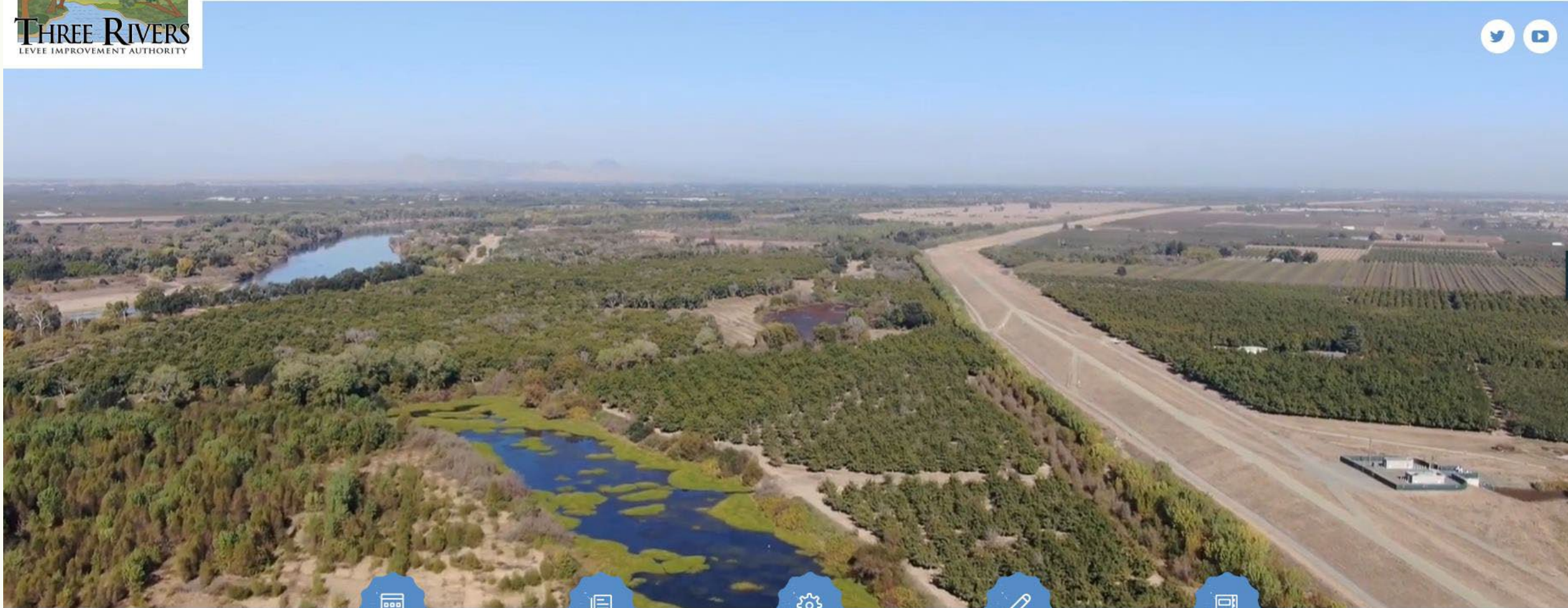
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# Hydraulic Roughness

An aerial photograph showing a river meandering through a vast, dense forest. The trees are in various stages of green, suggesting a spring or early summer setting. The sky is bright blue with scattered white clouds. The river is the central focus, curving from the lower left towards the upper right of the frame.

**Bear River Levee Setback Project**  
April 2018

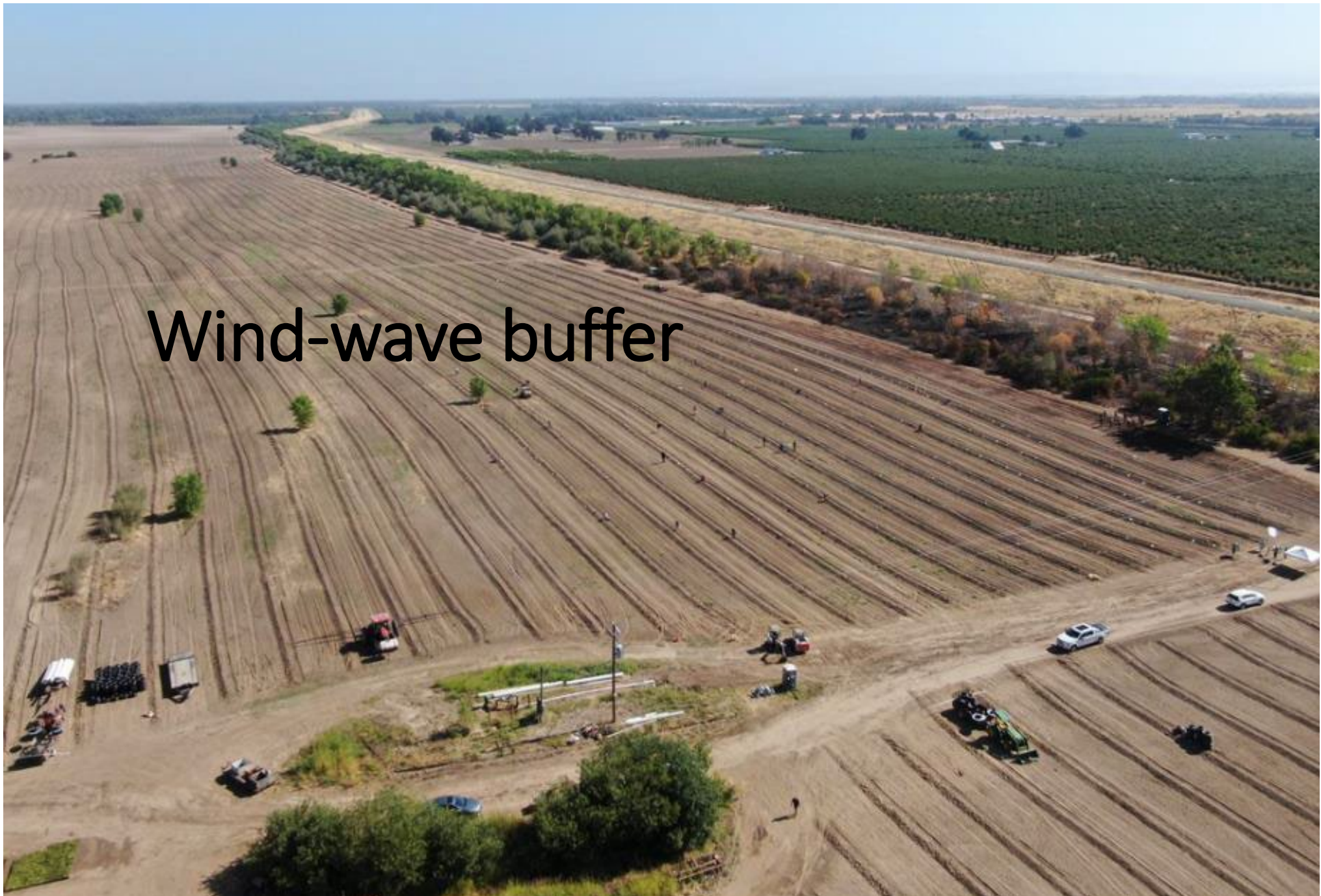


# Water Surface Elevation



Levee Freeboard

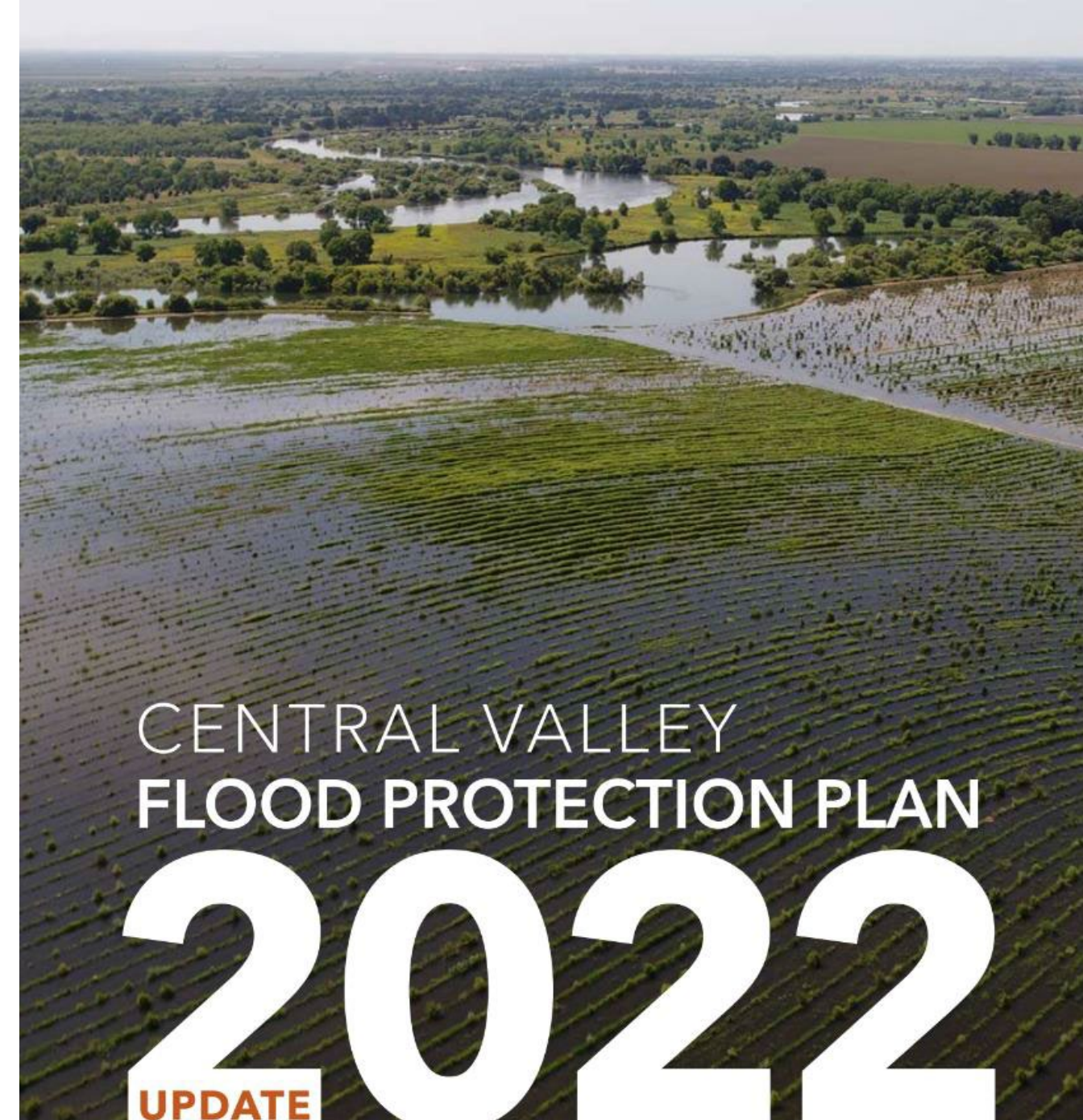
Wind-wave buffer







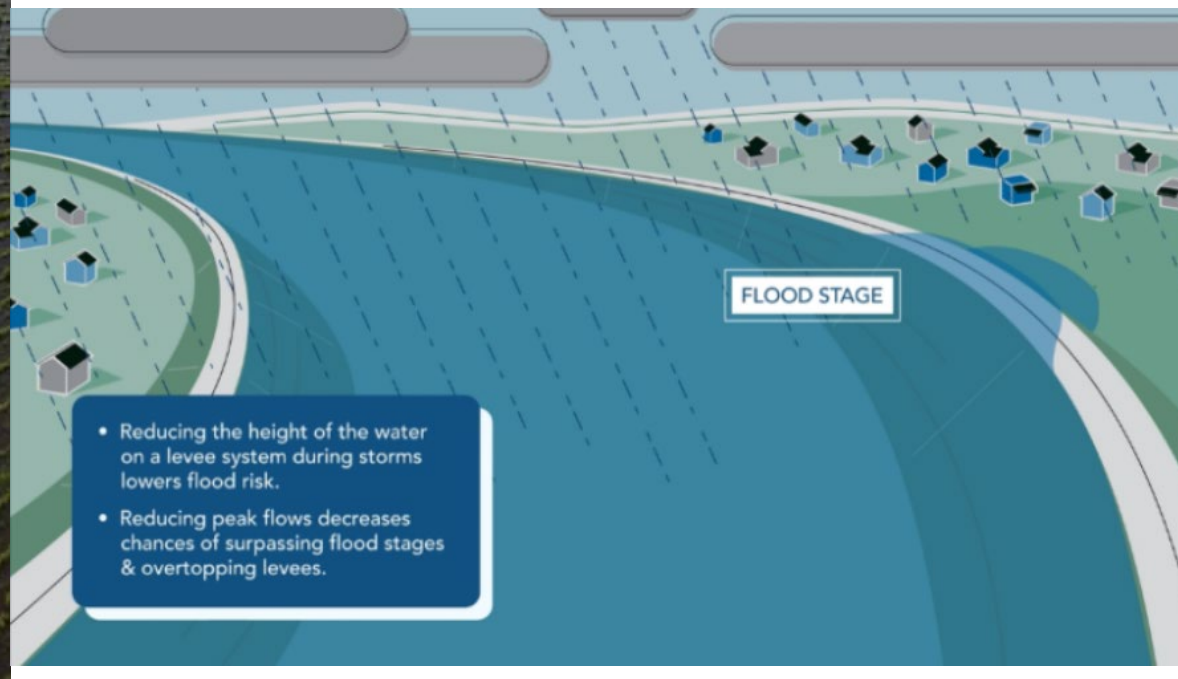
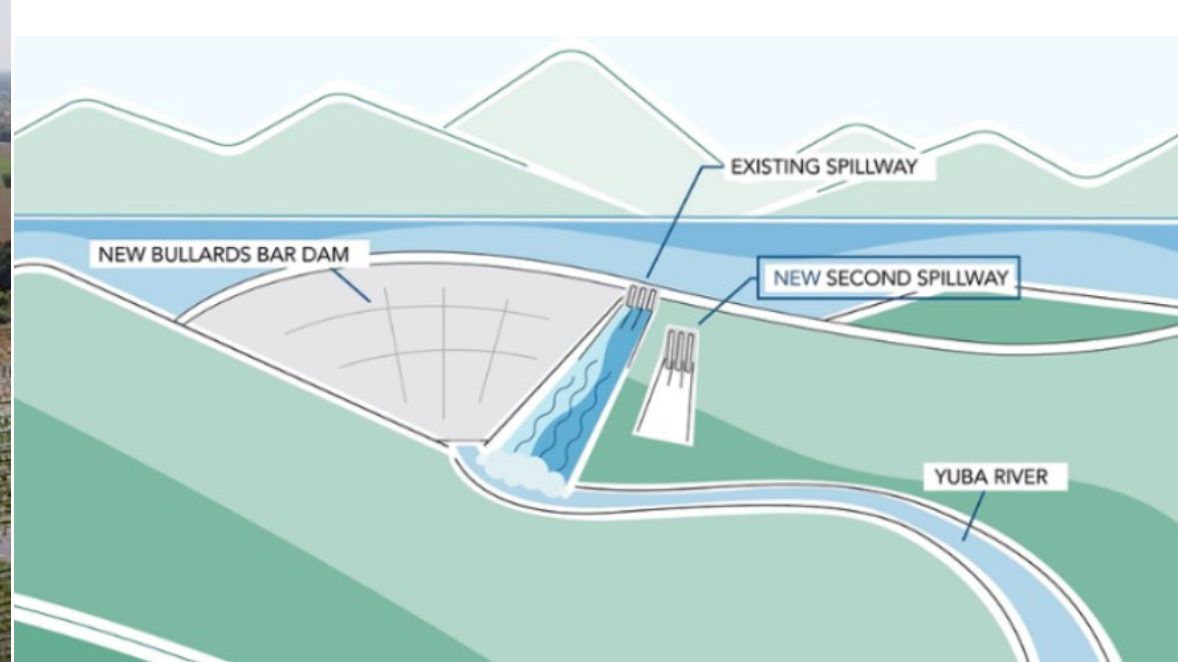




# CENTRAL VALLEY FLOOD PROTECTION PLAN

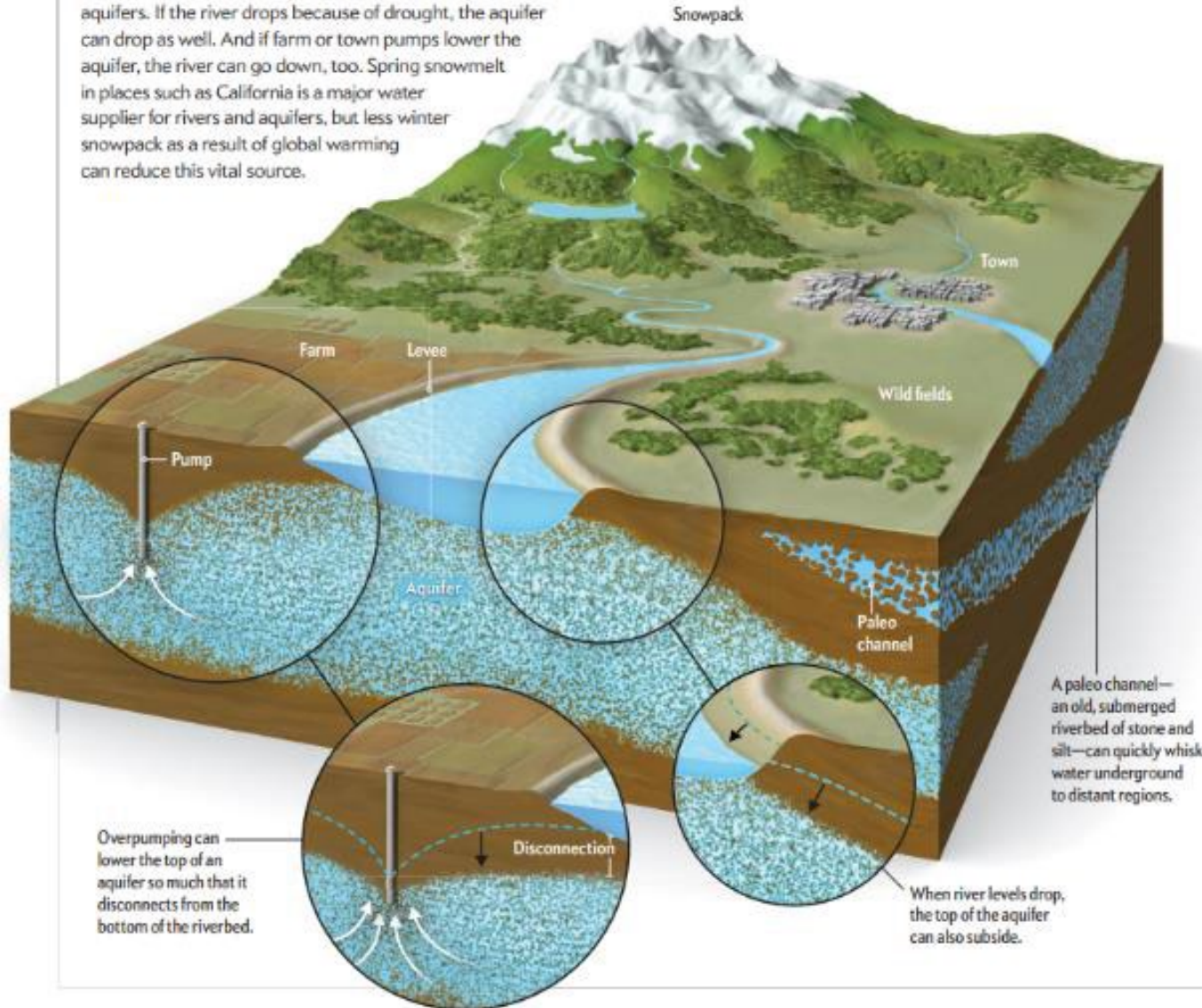
# 2022

UPDATE



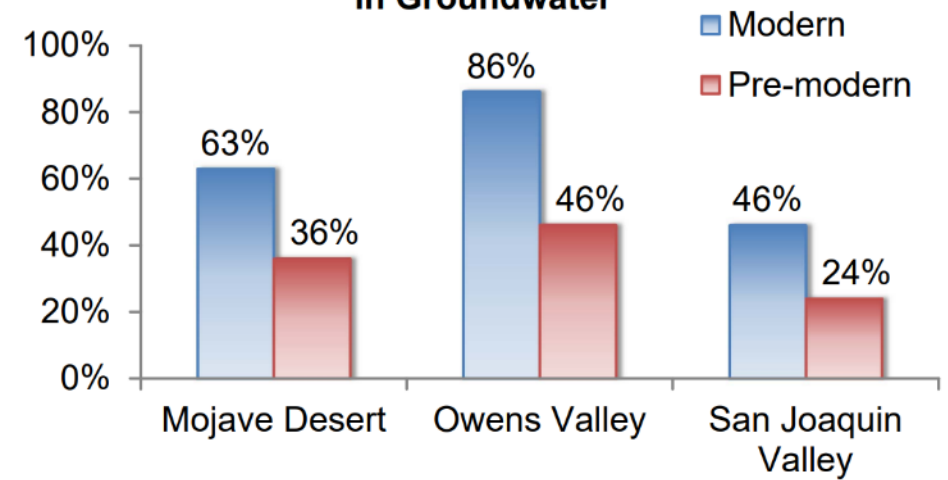
# One Big Water Supply

Surface water and groundwater are intimately connected. Water in rivers and creeks often percolates down into groundwater aquifers. If the river drops because of drought, the aquifer can drop as well. And if farm or town pumps lower the aquifer, the river can go down, too. Spring snowmelt in places such as California is a major water supplier for rivers and aquifers, but less winter snowpack as a result of global warming can reduce this vital source.



## Importance of River Water Recharge

Percentage River Water Isotope Signature in Groundwater







## Can you attribute this quote?

It was among the strongest feelings of grief I have ever encountered. The contrast between the vicious coldness of space and the warm nurturing of Earth below filled me with overwhelming sadness. Every day, we are confronted with the knowledge of further destruction of Earth at our hands: **the extinction of animal species, of flora and fauna... things that took five billion years to evolve, and suddenly we will never see them again because of the interference of mankind. It filled me with dread. My trip to space was supposed to be a celebration; instead, it felt like a funeral.**

~William Shattner  
2021



## Modesto area's new state park will open by summer. See what awaits where two rivers join

Story by John Holland, The Modesto Bee • 1 mo • 4 min read

Feb. 11—Opening day is a few months away for Dos Rios Ranch State Park, which the boss vows will be "stunning."

The park sits amid about 1,600 acres of restored floodplain where the Tuolumne River meets the San Joaquin.

Dos Rios, about 8 miles southwest of Modesto, will start out with picnic tables, trails, benches, temporary restrooms and basic parking. The next year will bring a welcome center and better parking. Future funding could add a campground, boat ramp and other amenities, guided by public input.











*Apprehending the imminent beauty of a successful restoration project is a transformative revelation. The clarion call effect of this experience floods my heart, presenting an actionable model of just how beautiful the future can be.*

Obi Kaufmann