

What does drought mean for the 100 Mile Circle?

FEB 2023

2023 MSSC Annual Salinity Summit



Harrison Co.
MERGERS | ACQUISITIONS | CAPITAL

Intro to Harrison Co.

We are an investment banking firm dedicated to advising family-owned businesses in the food and ag industries on mergers, acquisitions, and capital raises, as well as strategic business decisions





























We take a consultative, data-driven approach to help business owners navigate complex transactions and structure the best deal for our clients

We have completed some of the largest ag transactions in California over the last few years

We see the impact of drought and water policy has had on the family's decision to sell

We also see strong ongoing interest from private equity firms in acquiring land and operations in the 100 Mile Circle

Select Harrison Co. agriculture transactions

<div>ACTIVE ENGAGEMENT</div> <div>PROJECT FRESH</div> <div>Premium organic salad brand</div> <div>SELL-SIDE ADVISOR </div>	<div>ACTIVE ENGAGEMENT</div> <div>PROJECT FORTRESS</div> <div>Largest block of trees/vines in market</div> <div>SELL-SIDE ADVISOR </div>	<div>ACTIVE ENGAGEMENT</div> <div>PROJECT GENESIS</div> <div>Commercial nursery</div> <div>SELL-SIDE ADVISOR </div>	<div>ACTIVE ENGAGEMENT</div> <div>PROJECT BODHI</div> <div>Ready-to-cook vegan meals and salads</div> <div>SELL-SIDE ADVISOR </div>	<div></div> <div>HAS BEEN ACQUIRED BY</div> <div></div> <div>SELL-SIDE ADVISOR </div>	<div></div> <div>HAS BEEN ACQUIRED BY</div> <div></div> <div>SELL-SIDE ADVISOR </div>
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An aerial photograph of a flooded agricultural field. A winding road or canal cuts through the water, which is filled with rows of submerged crops. The surrounding landscape is lush green with trees and shrubs. In the background, a range of mountains is visible under a sky with scattered white clouds. The entire image has a dark blue overlay.

What is the 100 Mile Circle?

If the point of a compass was centered on Fresno, California, and a 100-mile radius was drawn, the circle formed would reach across the most vital and productive growing region in the world



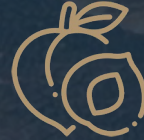
Although this 100 Mile Circle covers less than 1% of the total land mass of the U.S., it produces nearly one-half of its fresh fruits, vegetables and nuts



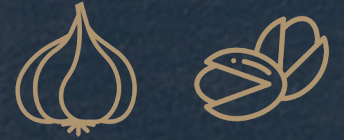
74% of the world's almond supply



More milk than the entire state of Wisconsin



18x more peaches than the "Peach State" of Georgia



More than **95%** of all garlic and pistachios grown in the U.S.



100% of U.S. raisins (from 2,000 growers within a 60-mile radius of Fresno)



10x more fresh oranges than Florida, where most oranges are for processing



Over **75%** of nectarines, mandarins, table grapes, artichokes, kiwifruit and figs grown in the U.S.

An aerial photograph of a winding river flowing through a dry, brownish landscape. The river is surrounded by sparse vegetation and some small pools of water. The text "What does drought mean for the 100 Mile Circle?" is overlaid in white, bold font in the center of the image.

**What does drought mean for
the 100 Mile Circle?**

FIRST: When water is scarce, agriculture is blamed

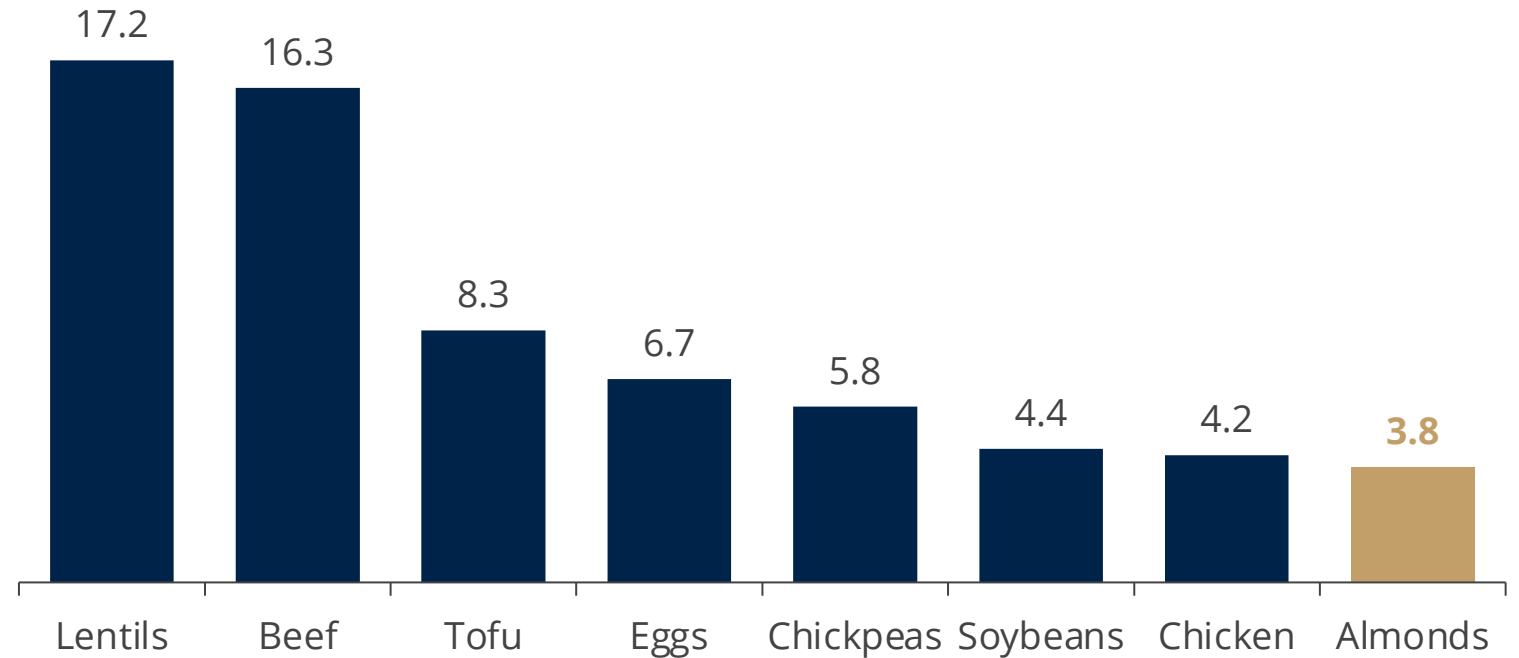
The media often uses ill-informed statistics and misconceptions to warp the narrative and blame the farmer for California's water problems

PERCEPTION

“It takes a gallon of water to grow an almond.”

REALITY

GALLONS OF WATER PER GRAM OF PROTEIN¹



1) “Value of Water Research Report” Water Footprint Network vs 1 gallon per almond

SECOND: The general public is disconnected from food production

Some people believe California’s ag industry can simply be moved “elsewhere” and are not aware of the 100 Mile Circle’s unique growing characteristics

PERCEPTION

“California is a desert. Farmers should grow food where the water is.”

REALITY

There are areas in the U.S. that receive more rain, but they tend to be more humid. Too much rain and humidity can wreak havoc on crops, impacting yield

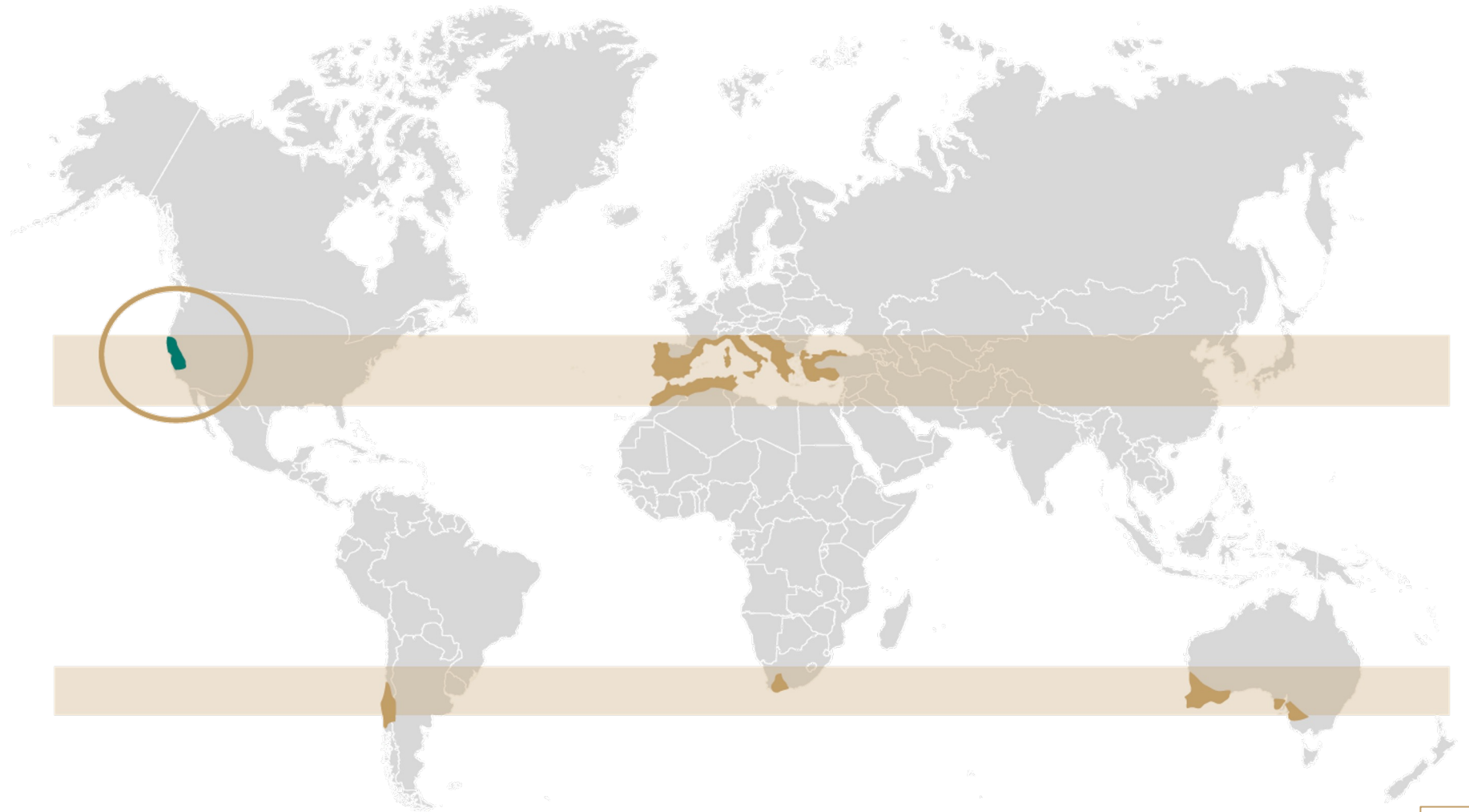
<i>Sweet Potatoes</i>	<i>Strawberries</i>	<i>Peaches</i>
<i>CA 330 cwt</i>	<i>CA 620 cwt</i>	<i>CA 13.7 tons</i>
<i>NC 175 cwt</i>	<i>FL 240 cwt</i>	<i>GA 4.3 tons</i>
1.9x	2.6x	3.2x

OUR OPINION: The 100 Mile Circle is a key resource that must be protected

If agriculture leaves California, food production will migrate to other countries, not to other regions in the U.S.

Mediterranean climates are characterized by:

- Long summers that are warm and dry
- Short, wet winters, with snow at higher elevations
- Cool, offshore currents that moderate air temperatures
- One of the most biologically diverse ecosystems
- Locations on the west side of continents, between 30° and 40° latitude



OUR OPINION: Protecting agriculture is a matter of national security

An important lesson learned from history – and from the COVID-19 pandemic and war in Ukraine – is that food-supply disruptions often lead to food protectionism, with countries banning or restricting major exports to safeguard their own food supplies

Indonesia

The world's largest edible-oils exporter declared that a domestic shortage of cooking oil prompted it to **impose a blanket ban on the export of palm oil** ¹

Argentina

The world's fifth-largest beef exporter **banned all beef exports** due to inflation concerns ²

India

The world's second-largest producer of wheat, **halted wheat exports** after initially announcing it would help ease a global supply crunch created by the war in Ukraine ³

1) April 2022 – lasted three weeks

2) May 2021 – still in place

3) May 2022 – still in place

An aerial photograph of a vast landscape featuring a large, winding body of water, likely a reservoir or a series of connected lakes. The water is a deep blue color. Surrounding the water are various types of land, including green agricultural fields, some of which appear to be planted in rows, and areas of brown, possibly dry or undeveloped land. A prominent dam or levee structure is visible in the lower center of the image, separating the water from the land. The overall scene suggests a water management or storage area in a rural or agricultural region.

**California does not have a water
problem – it has a storage problem**

Why did we write the water storage report?

Prior to last December, headlines only focused on drought...

2022 Is California's **Driest Year on Record** So Far – An Ominous Sign for Summer and Fall

The Weather Channel logo, featuring the text "The Weather Channel" in white on a blue square background.

California Is Rationing Water Amid Its **Worst Drought in 1,200 Years**

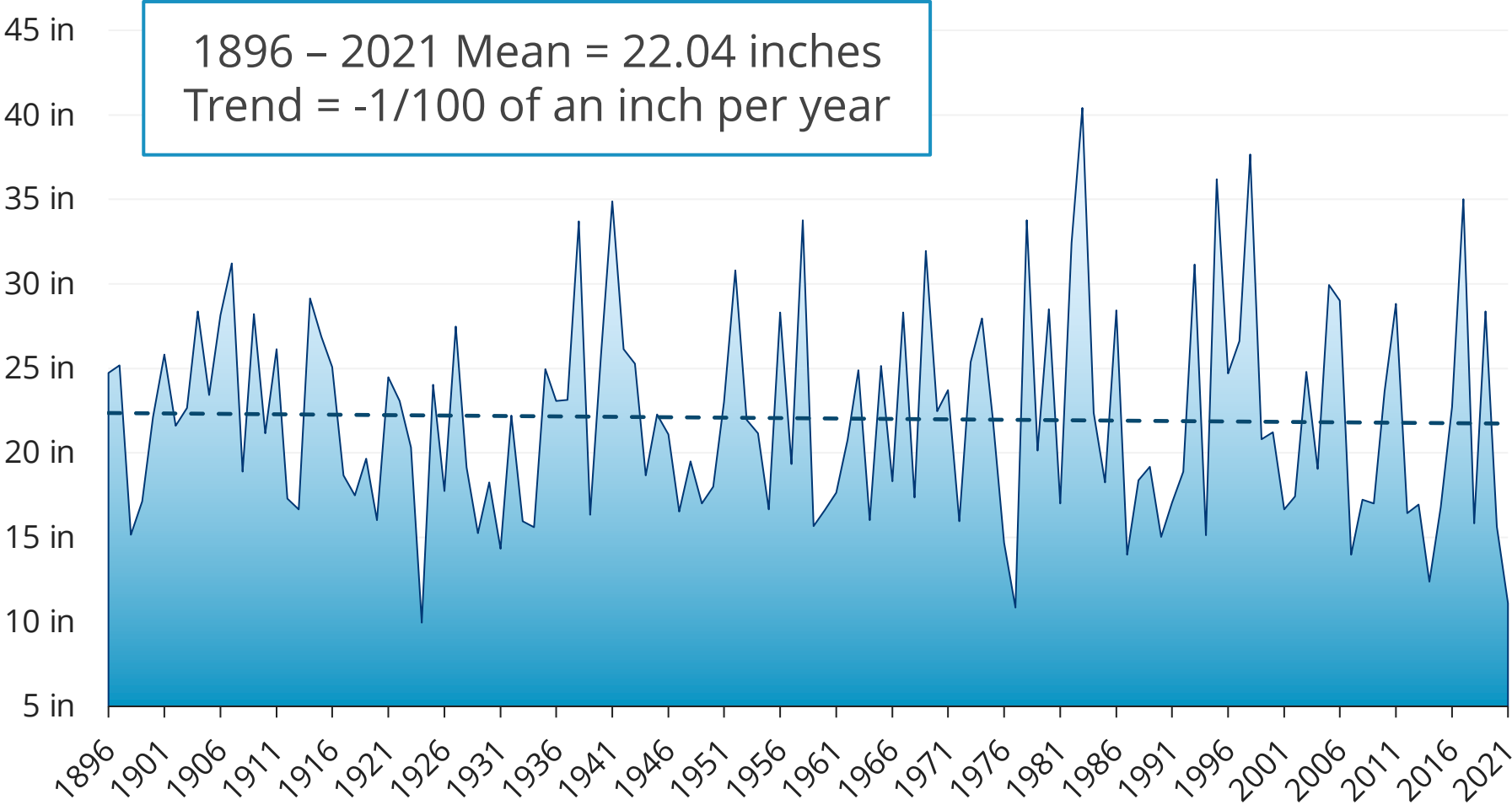
CBS News logo, featuring the CBS eye icon followed by the text "CBS NEWS" in bold black capital letters.

The data doesn't support these headlines

We analyzed NOAA ⁽¹⁾ data and found the following...

A trendline of California's average annual precipitation has not changed in 125 years

CALIFORNIA'S AVERAGE ANNUAL PRECIPITATION ⁽¹⁾



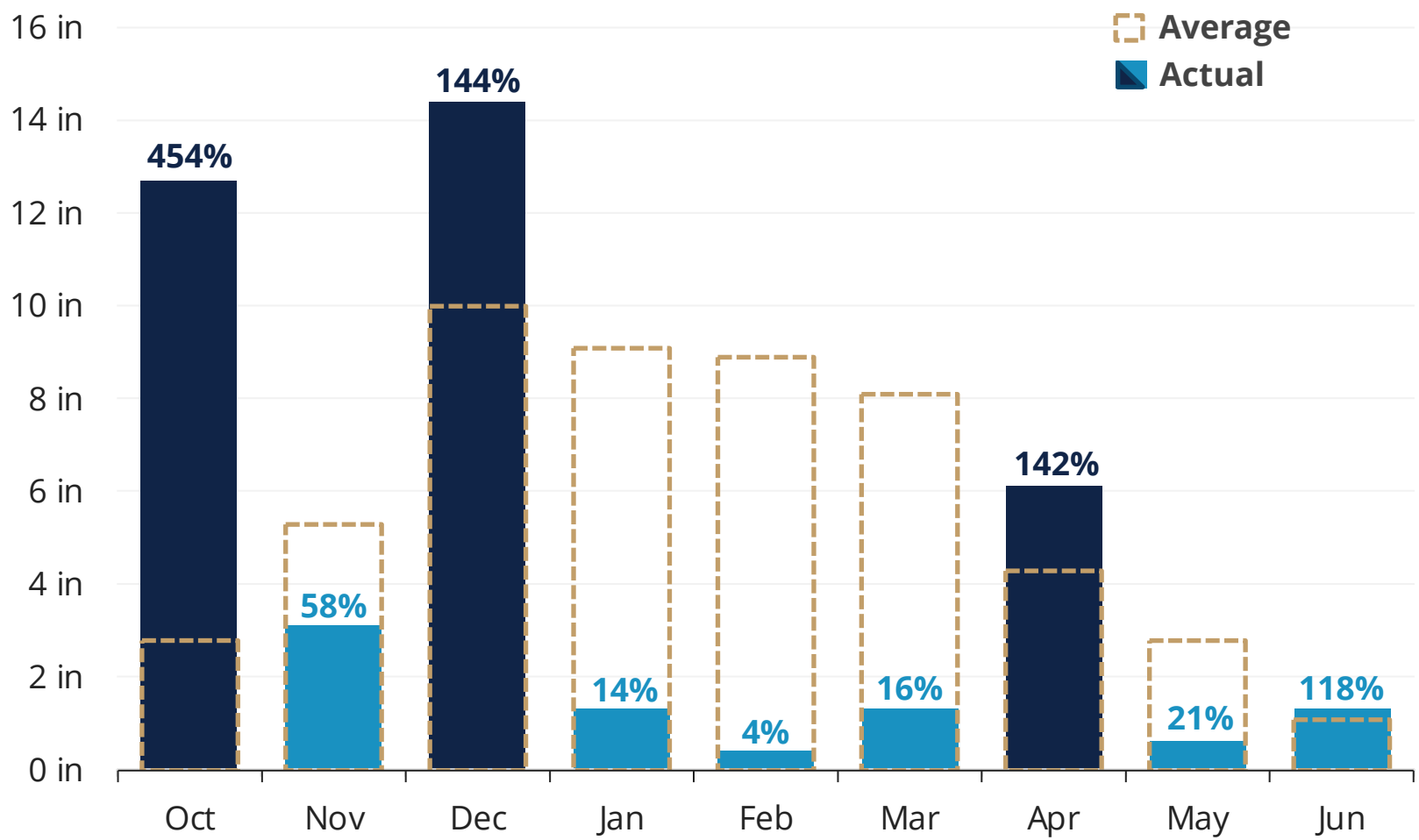
¹⁾ National Oceanic and Atmospheric Administration ("NOAA")

The data doesn't support these headlines (cont.)

We analyzed NOAA ⁽¹⁾ data and found the following...

- Headlines fail to report on the entire water year*
- December 2021 was one of the wettest Decembers on record*
- 2021-2022 water year was 75% of normal*
- 20 of the last 125 years have been drier*

MONTHLY PRECIPITATION FOR THE 2021-2022 WATER YEAR AS A PERCENT OF AVERAGE ⁽²⁾

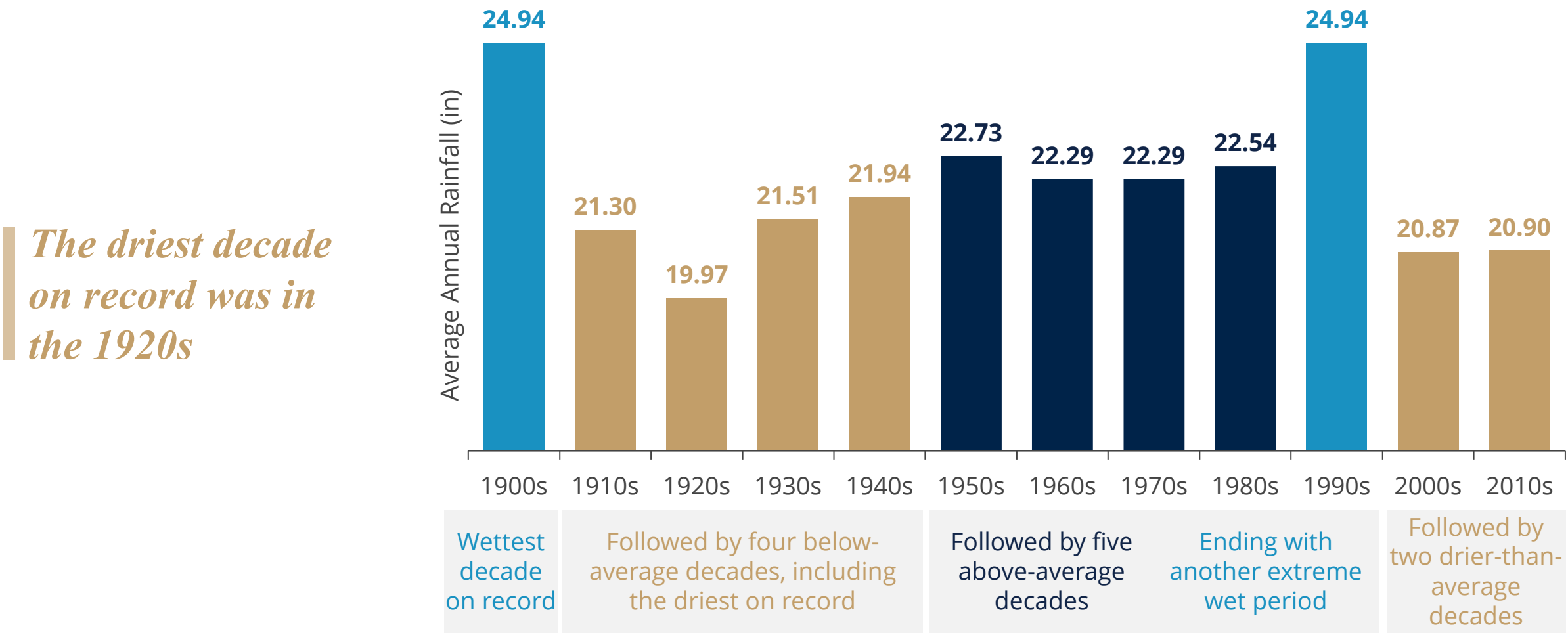


1) National Oceanic and Atmospheric Administration ("NOAA")
2) Department of Water Resources, State of California, Northern Sierra 8-Station as of July 9, 2022

The data doesn't support these headlines (cont.)

We analyzed NOAA ⁽¹⁾ data and found the following...

CALIFORNIA'S AVERAGE ANNUAL PRECIPITATION BY DECADE ⁽¹⁾



¹⁾ National Oceanic and Atmospheric Administration ("NOAA")

Focusing on drought implies that conservation is the only tool we have

Not only is this untrue, but it is dangerous

Climate change is increasing the risk of extreme flood events in California¹

Droughts on par with California's worst will be

2x

as frequent

Extreme wet years similar to 2017 will be

2.5x

as frequent

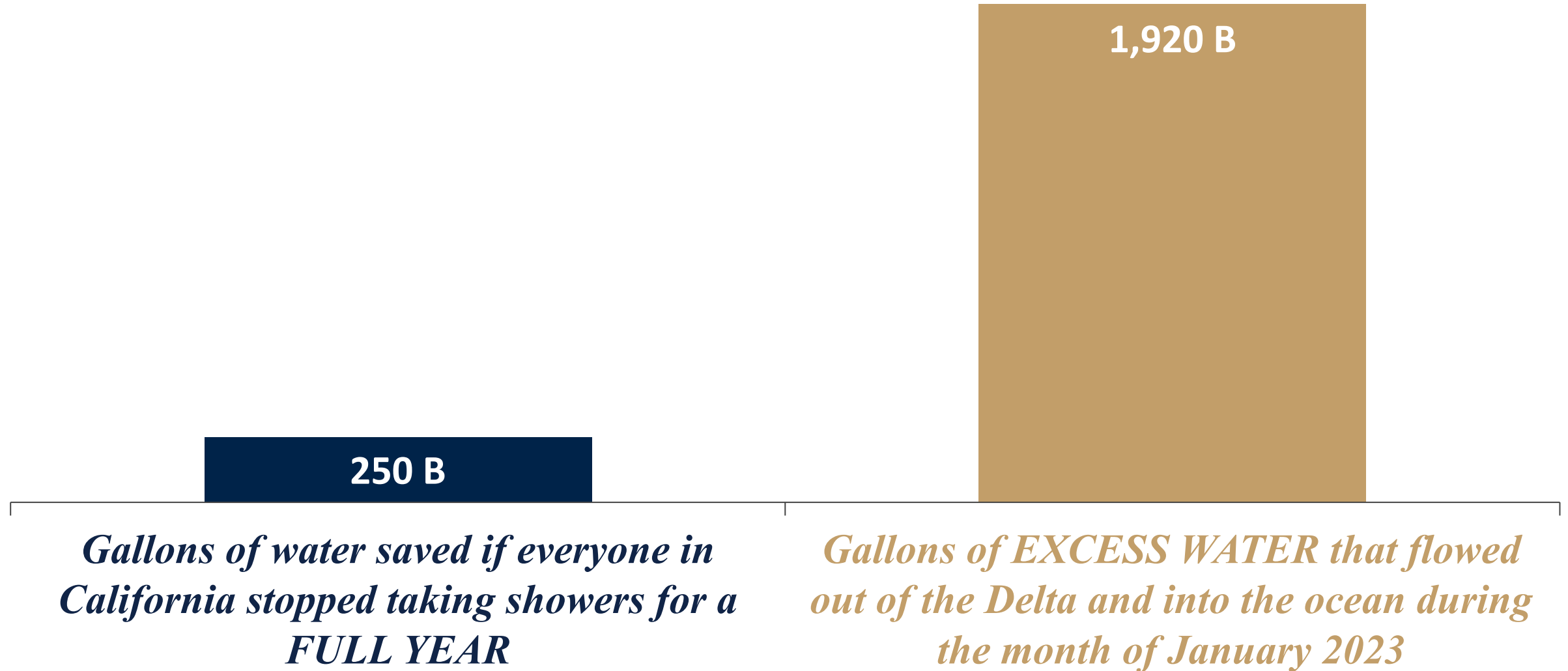
Floods as severe as those in 1862 will be

5x

as frequent by 2100

1) ARkStorm 2.0: Climate change is increasing the risk of a California mega flood" by Daniel Swain, August 11, 2022

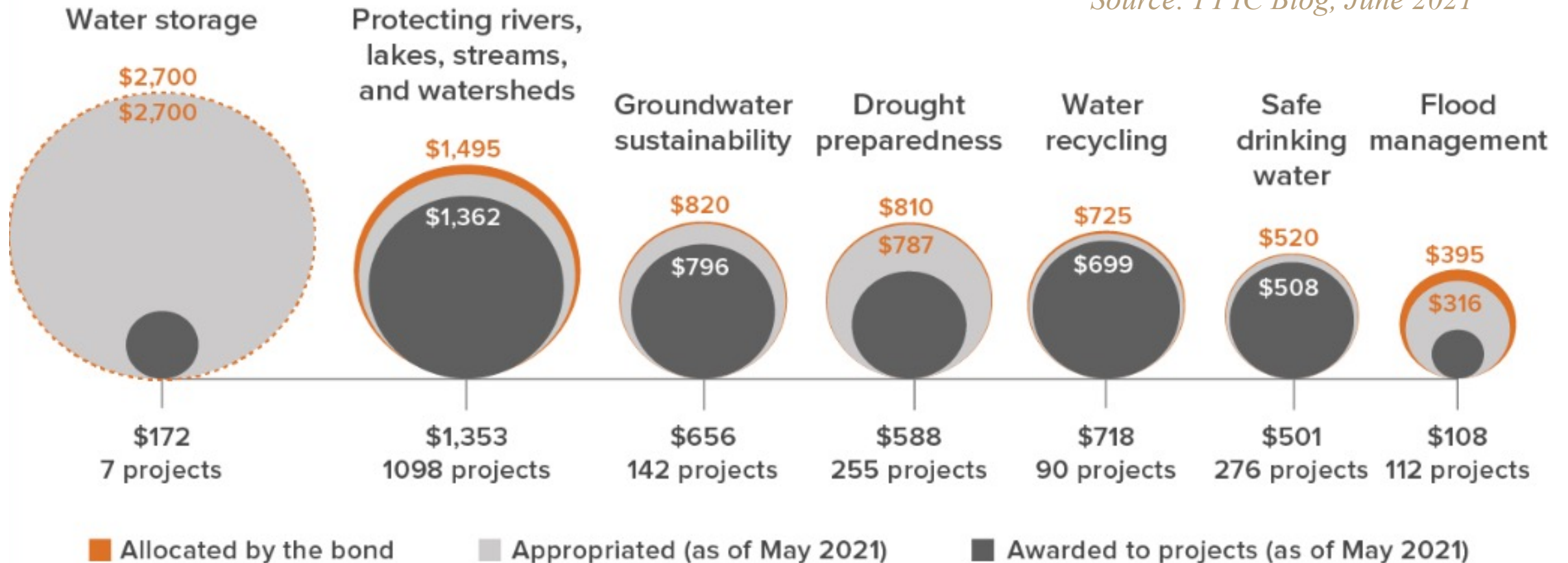
Conservation alone will not solve California's water problem



California has failed to develop new storage

Since 2000, California voters have approved eight water bonds dedicating \$27 billion to various water projects, including \$2.7B specifically allocated to water storage in 2014

Source: PPIC Blog, June 2021




So, what does drought mean for the 100 Mile Circle?

If the U.S. wants to remain food independent, California's water must be managed in a way that looks beyond drought

PERCEPTION

- *New reservoirs*
- *Improved infrastructure*
- *Water banking*
- *On-farm recharge*
- *Desalination*

REALITY





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