



SAN DIEGO
COASTKEEPER

Happy *Earth* Hour

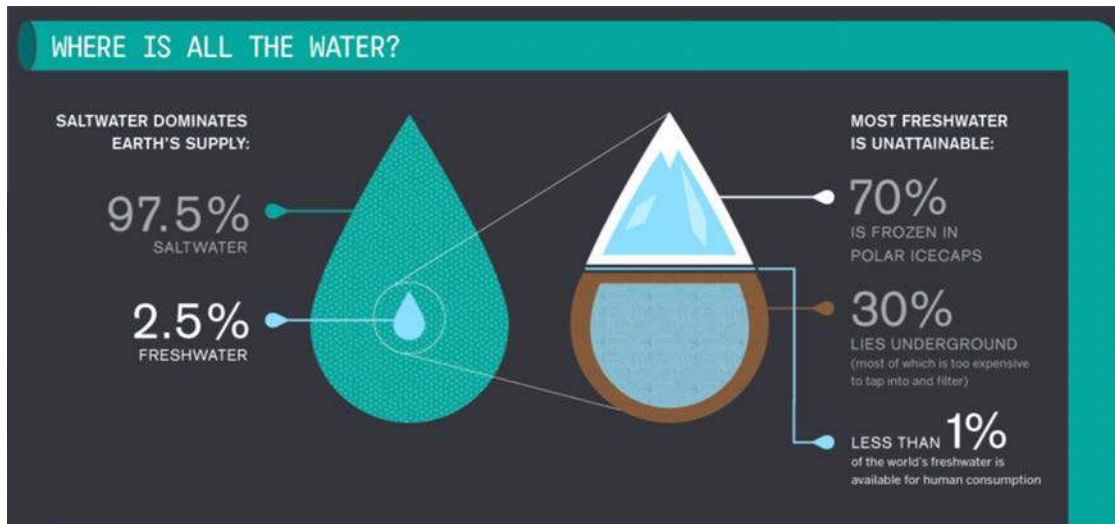
Where does our water
come from and where
does it go?





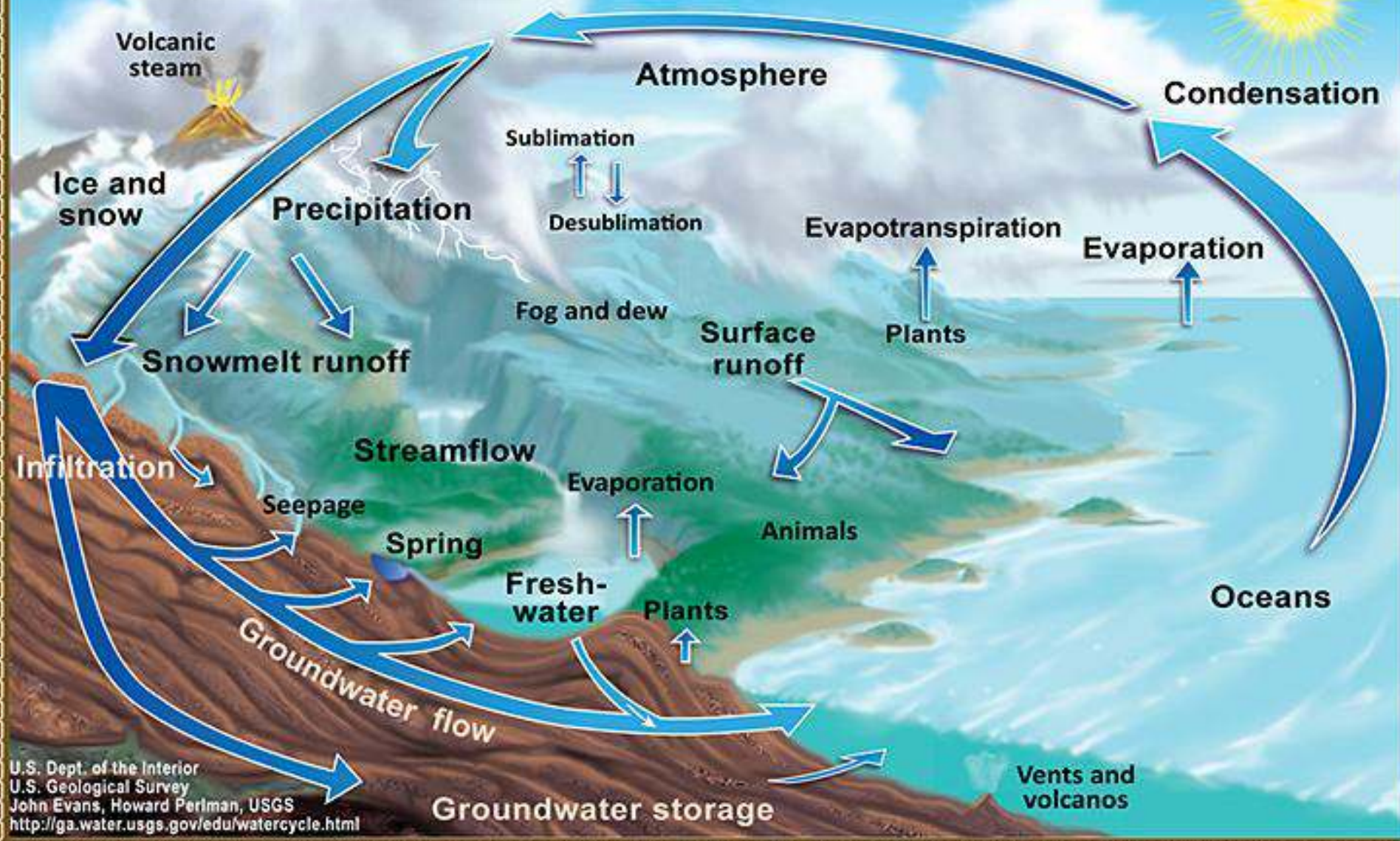
Earth: The Blue Planet

- 70% of the Earth's surface is water.
- The ratio of salt water to fresh water on Earth is ~ 50:1
- Of the fresh water available, only 0.3% is in liquid form on the surface.



Sources: GOOD, Column Five Media, Wikipedia

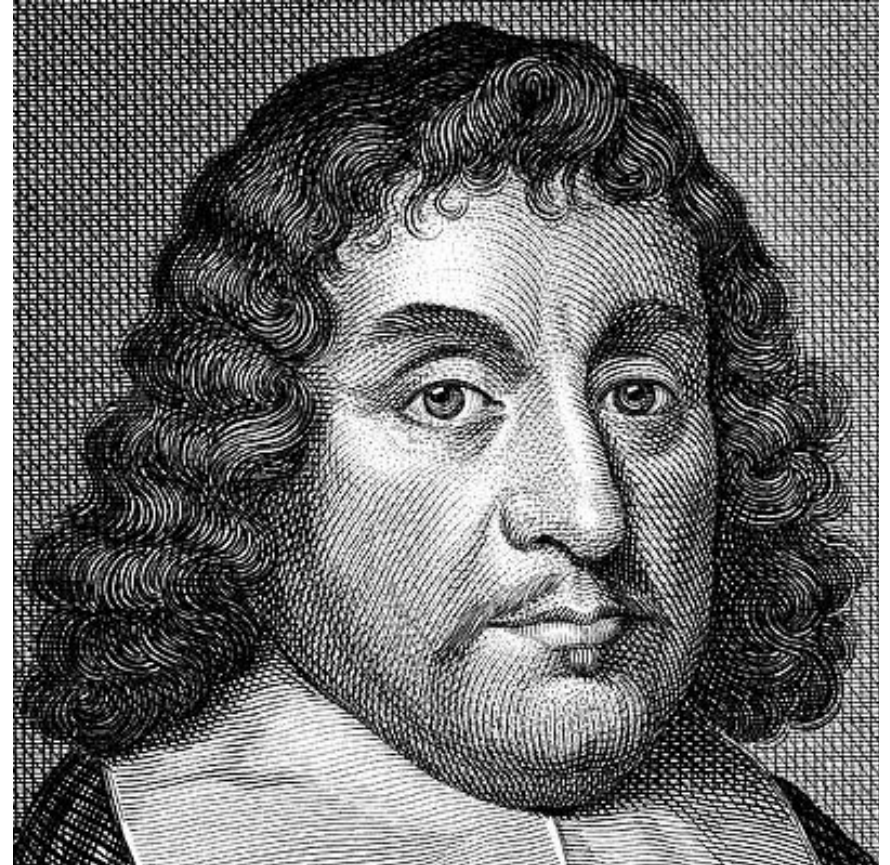
The Water Cycle



Our Most Precious Resource

“We never know the worth of
water till the well is dry”

- *Thomas Fuller, 1608-1661*



A man in a dark suit and tie is shown from the waist up, looking directly at the camera with a confused expression. His hands are held out to his sides, palms up. The background is a plain, light-colored wall.

**WELL.
HOW DID I GET HERE?**



**What does our water
come from?**

We're at the End of a Very Long "Pipeline"

Sources of San Diego County's Water Supply (2015-2019 five-year average)

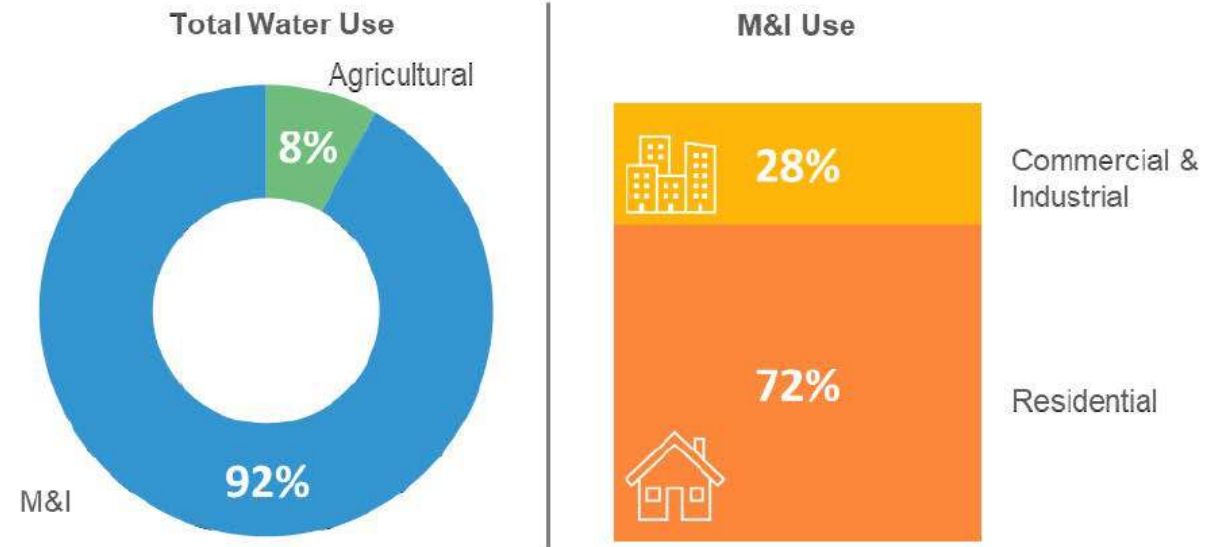


Source: San Diego County Water Authority

San Diego County Regional Water Usage

- 130 gallons per person per day
- 50-60% of residential use is irrigation, overall 30% of regional use
- Think: turf and grass!

Figure 2-1. Estimated Type of Water Use Fiscal Year 2020



**California Department of Water Resources
State Water Project**

● Reservoir
— Aqueduct or canal
■ Hydroelectric station
▲ Pumping station
Purple indicates shared features with the federal Central Valley Project (CVP)
Light blue indicates other federal or private facilities
Only principal features are shown



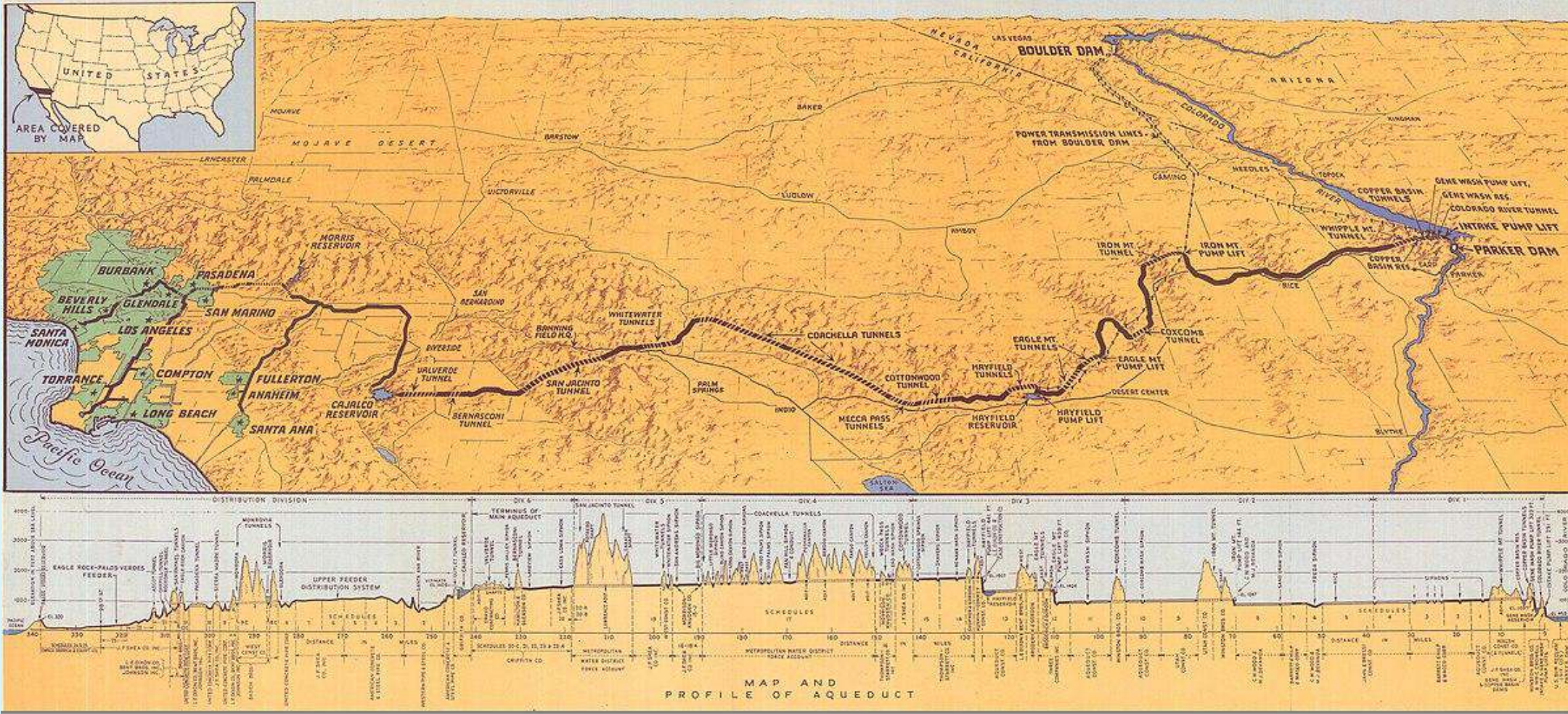
State Water Project – 1960s

- California Department of Water Resources
- 27 million people and 750,000 acres of farmland
- Largest state-financed water project ever built!
- Single largest consumer of power in the state!

Central Valley Project – 1930s

- U.S. Bureau of Reclamation
- 3 million acres of farmland with some municipal & ecological use
- “Competes” for water allocations with SWP

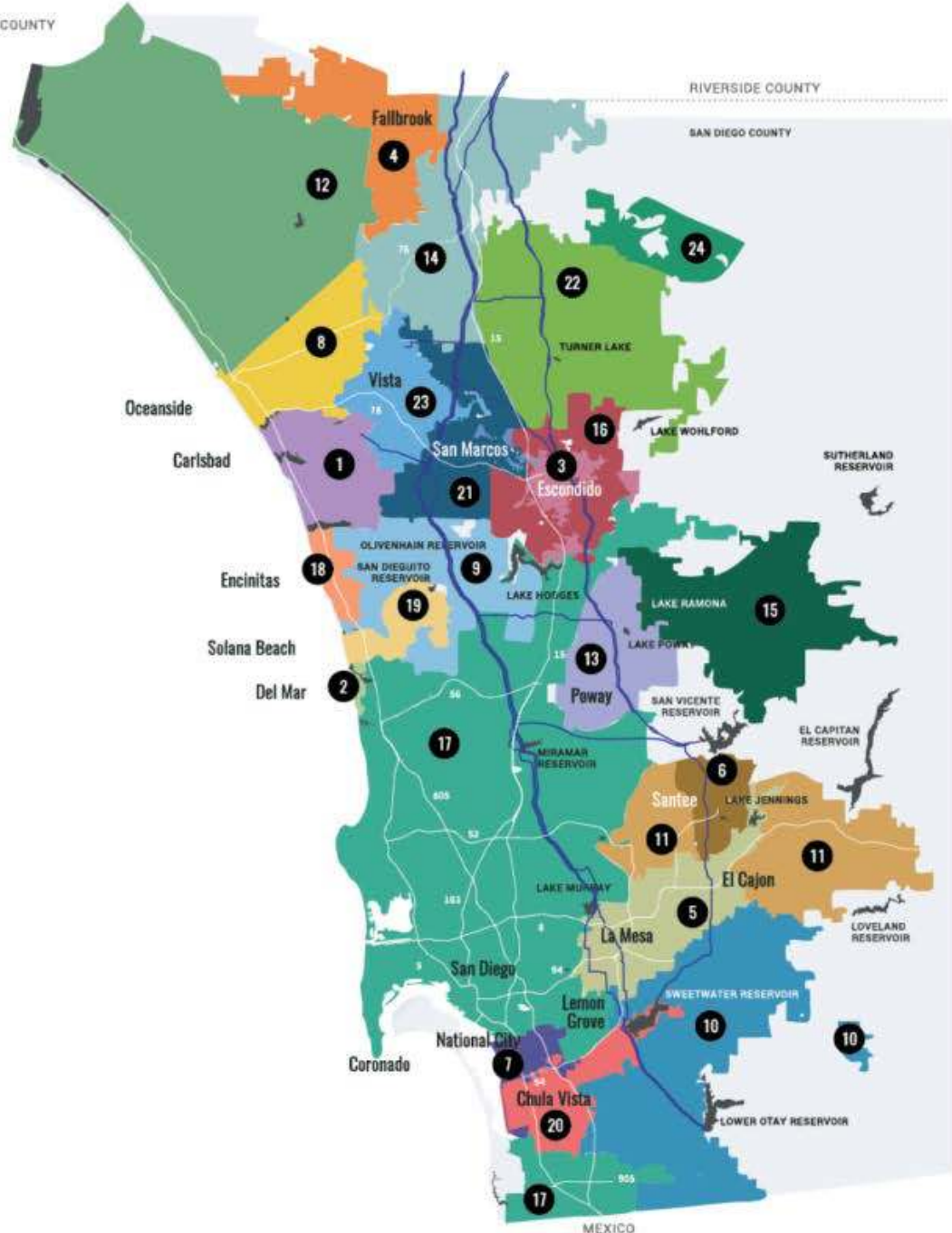
Colorado River Aqueduct



Metropolitan Water District of Southern California

- AKA 'MWD' or 'the Met'
- Established in 1928
- Serving 19 million people
- Largest water wholesaler in the U.S.
- 26 "member agencies" including the San Diego County Water Authority



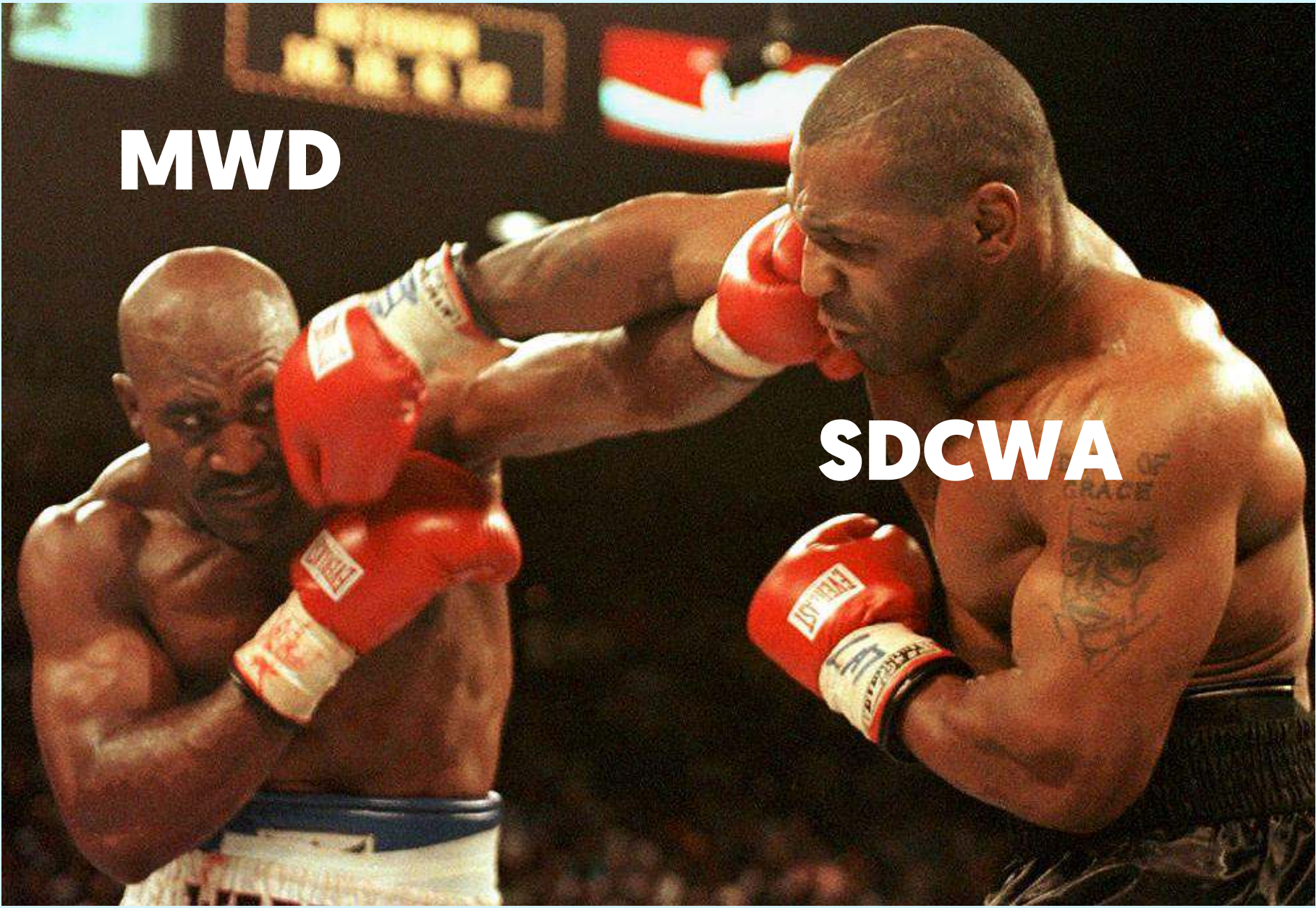


- 1 Carlsbad MWD
- 2 City of Del Mar
- 3 City of Escondido
- 4 Fallbrook Public Utility District
- 5 Helix Water District
- 6 Lakeside Water District
- 7 City of National City*
- 8 City of Oceanside
- 9 Olivenhain MWD
- 10 Otay Water District
- 11 Padre Dam MWD
- 12 Camp Pendleton Marine Corps Base
- 13 City of Poway
- 14 Rainbow MWD
- 15 Ramona MWD
- 16 Rincon del Diablo MWD
- 17 City of San Diego
- 18 San Dieguito Water District
- 19 Santa Fe Irrigation District
- 20 South Bay Irrigation District*
- 21 Vallecitos Water District
- 22 Valley Center MWD
- 23 Vista Irrigation District
- 24 Yuima MWD

* The Sweetwater Authority is a service organization for City of National City and the South Bay Irrigation District

San Diego County Water Authority

- AKA ‘SDCWA’ or ‘the Water Authority’
- Established in 1944
- Serving 3.3 million people
- 24 member agencies
 - City of San Diego is the largest
- 36 voting board members, weighted voting system



MWD

SDCWA

Water Authority + Met = “It’s Complicated”

- Prior to the early 2000s, the Water Authority relied heavily on the Met
 - San Diego especially vulnerable due to lack of diversified supply
 - **1991:** 95% MWD, 5% local surface water.
 - **1987-1992 drought:** MWD approved 50% cut in deliveries to SDCWA. Ultimately only a 31% cut.
- Note: entire state of CA affected by drought, not just San Diego. Outrage still ensued.
 - What is fair?!?!?
 - Led to resentment, and SDCWA to begin taking steps to diversify supply

Never Again!

WATER: Authority to Vote Today on Mandatory Restrictions

50% Water-Delivery Cut Will Be Blow to San Diego

Water Dependence Bodes a Dry San Diego Future

Reliable Water Sources Dwindle

S.D. Faces 31% Cut in Imported Water Supply

Companies cringe at 50 percent cut in water

How The Drought Will Kill Big Chunks Of Business

Water cutbacks threaten loss of lush lawns

Limits on tap water use urged by staff

State Water Project cuts off water to farms; urban slash expected

MWD raises water rates 23%

Supervisors Call Water Emergency

Grim water outlook is getting even worse

L.A. Ready to Battle San Diego Over Water

In Drought, Fair May Not Always Mean Equal

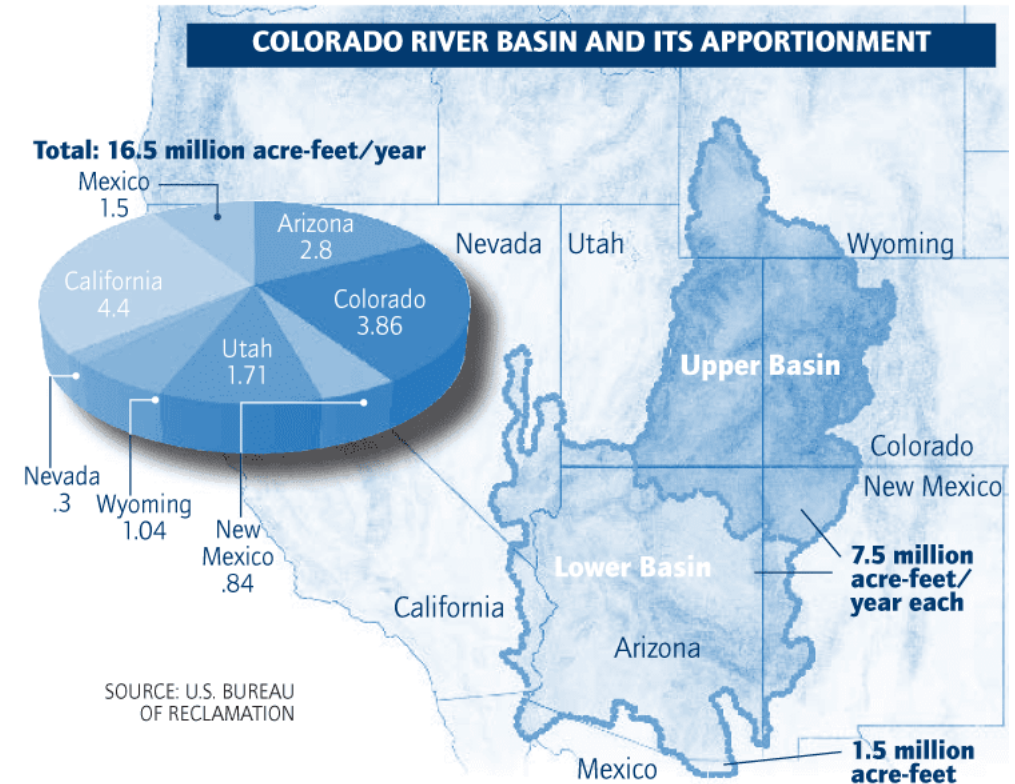
State to Shut Off Water Delivery to Southland

No More Water Shortages!

Source: San Diego County Water Authority

Current Imported Supply Sources

- Colorado River Quantification Settlement Agreement (QSA) - 2003
 - Water Authority
 - The Met
 - Imperial Irrigation District (IID)
 - Coachella Valley Water District
 - State of California
 - U.S. Department of Interior
 - **California: 4.4 million acre-feet/year**
- Allocations/rights have varying priority levels



Colorado River Water Battle Royale

Lower Basin:

Arizona
California
Nevada



Bureau of Reclamation

Upper Basin:

Colorado
New Mexico
Utah
Wyoming



Congress



Mexico
Native American Reservations

Canal Lining Agreement

- Water Authority replaced the earthen All-American and Coachella canals with concrete to reduce seepage and water loss
 - Conserves **77,000 acre-ft./yr.**
- Provides Water Authority with “high priority rights” for next **110 years**





Imperial Irrigation District Transfer Agreement

- SDCWA provided conservation equipment and called for some agricultural land fallowing
- Provides SDCWA “high priority” rights to **200,000 acre-ft./yr.** for 45 years, with optional extension of additional 75 years.

Salton Sea

- 1905, man-made disaster
- Was once a booming tourist attraction
- Abandoned as waters grow increasingly toxic
- An issue of environmental justice

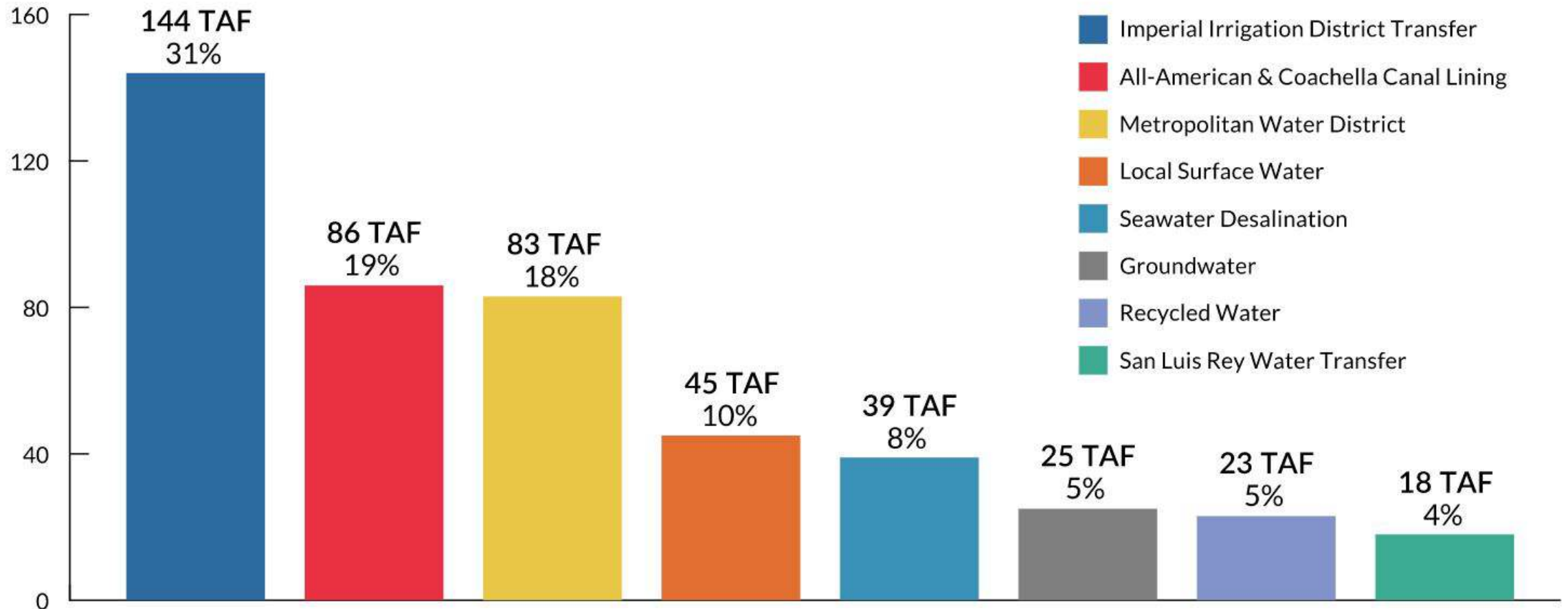




SDCWA Supply Sources

WATER AUTHORITY SERVICE AREA FISCAL YEAR 2020 DEMAND AND SUPPLY

Total Demand = 463 TAF



(TAF=Thousand Acre-Feet)

Climate Change

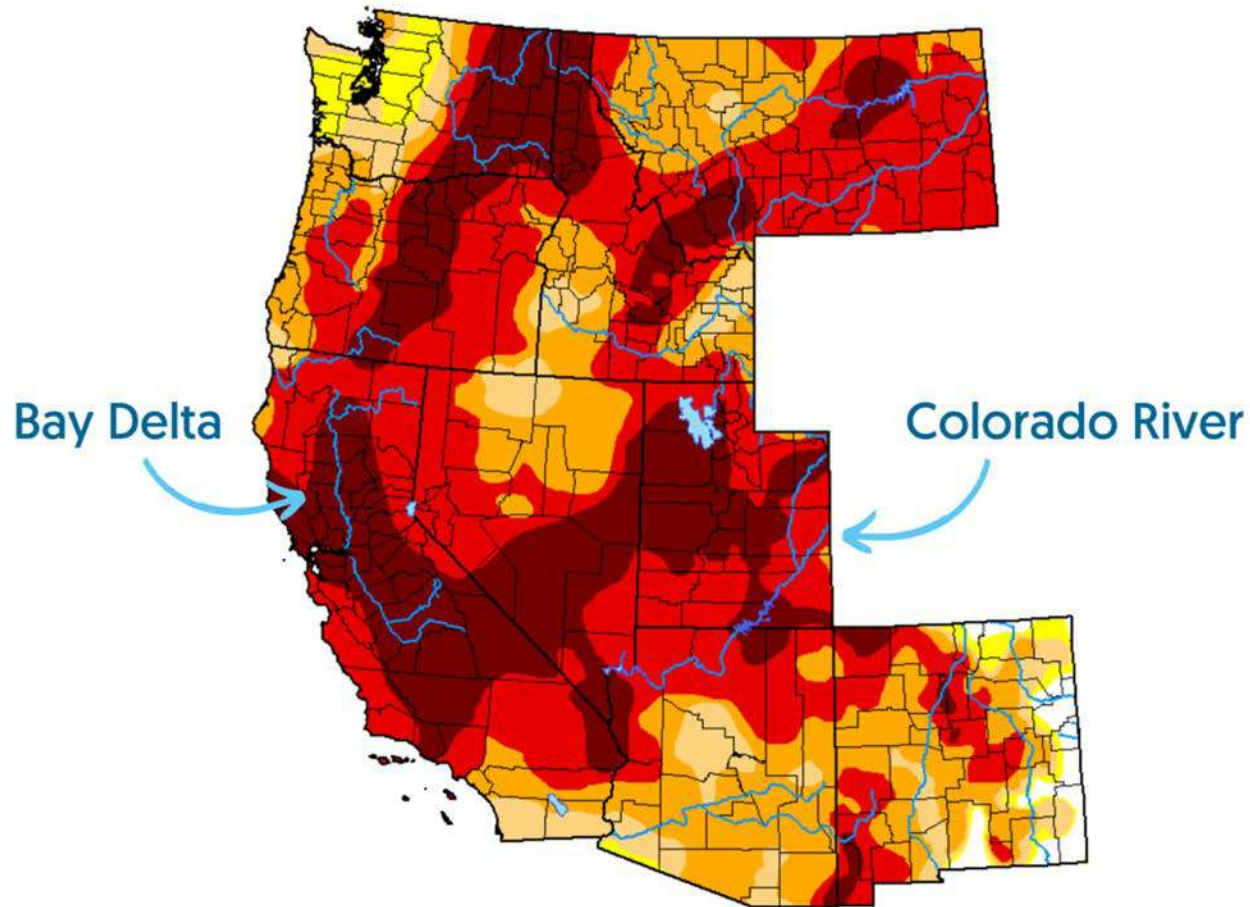
By 2070-2100 we will see...

- 10-20% decline in Colorado River
- 50% decline (“optimistically”) in average Sierra snowpack

FEEDBACK LOOP!

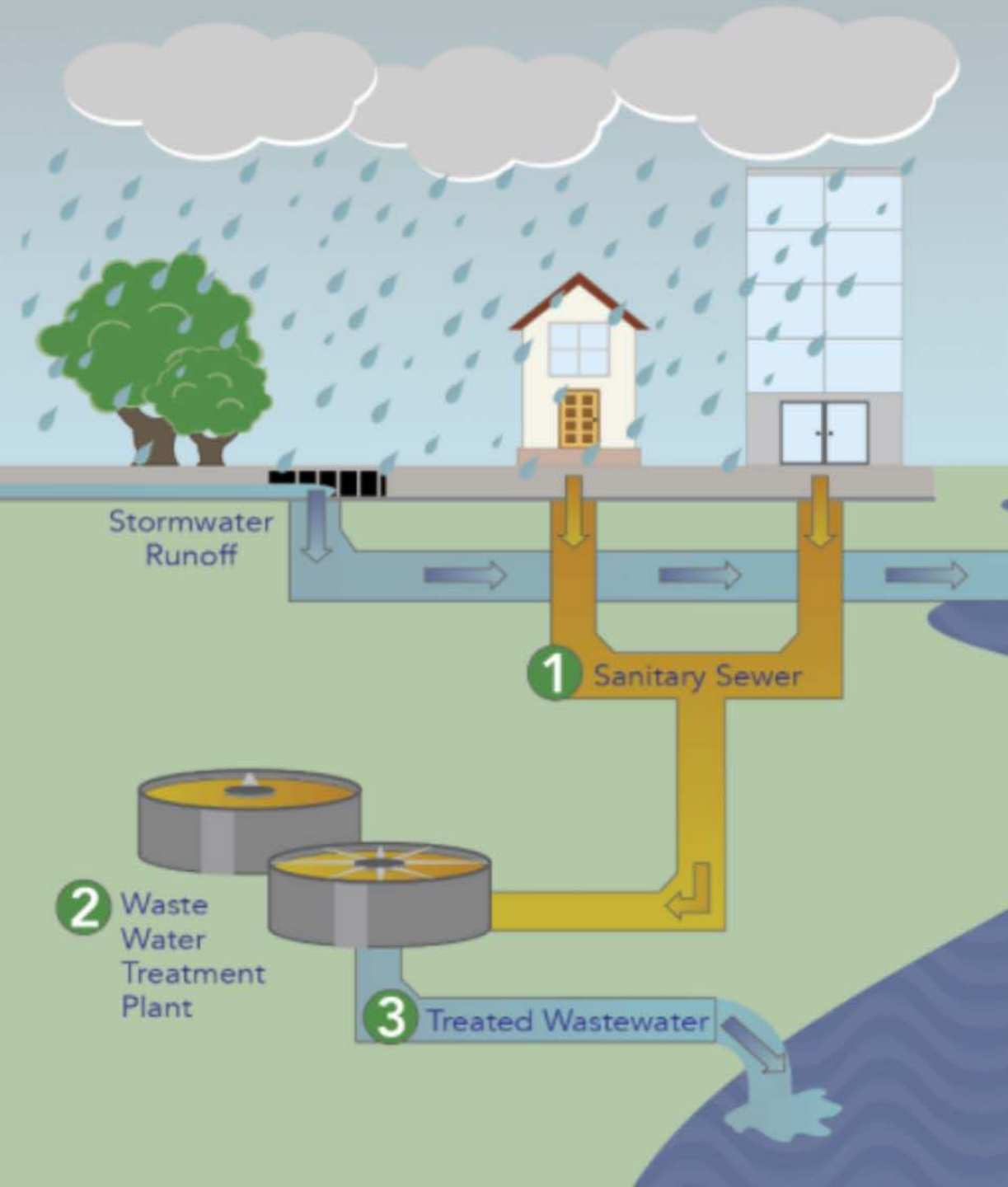
- Water transportation and treatment = 19% of California’s energy use

(But don’t sweat it... some solutions next week!)





**Where does our
water go?**



Municipal Separate Storm Sewer System (MS4)

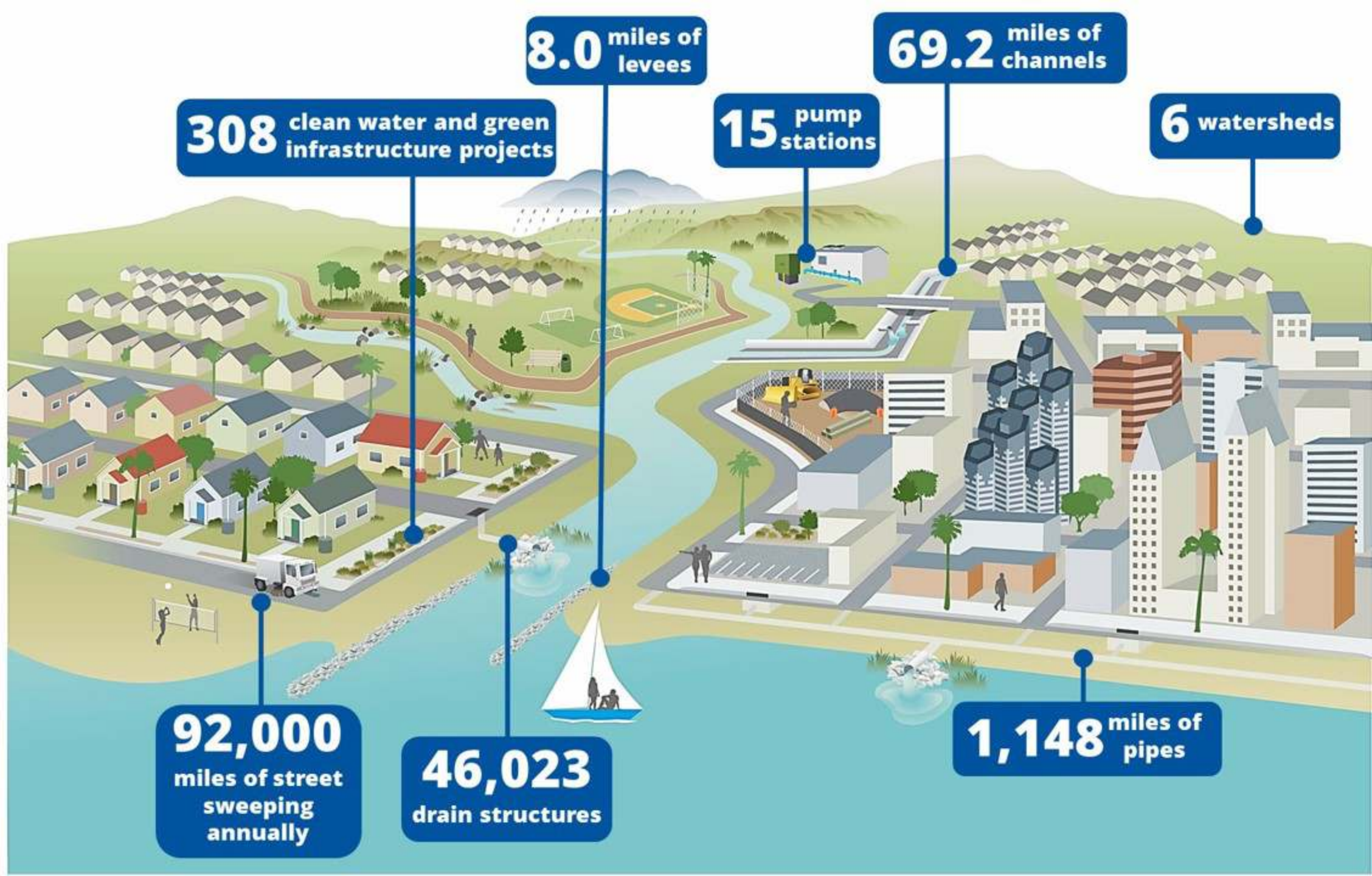
- Wastewater is treated
 - Sort of
- Stormwater is not treated
- 72-hour-rule

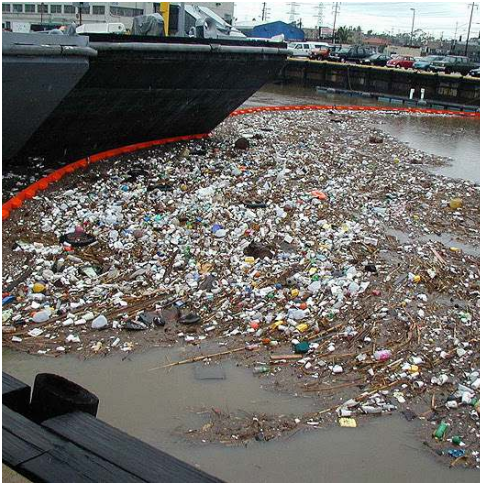
Pure Water San Diego

- Region's first large-scale wastewater recycling project
- San Diego Coastkeeper, Coastal Environmental Rights Foundation, Surfrider Foundation San Diego, San Diego Audubon Society
- 40% of San Diego's water supply locally by 2035



stormwater system.





Why should we care?

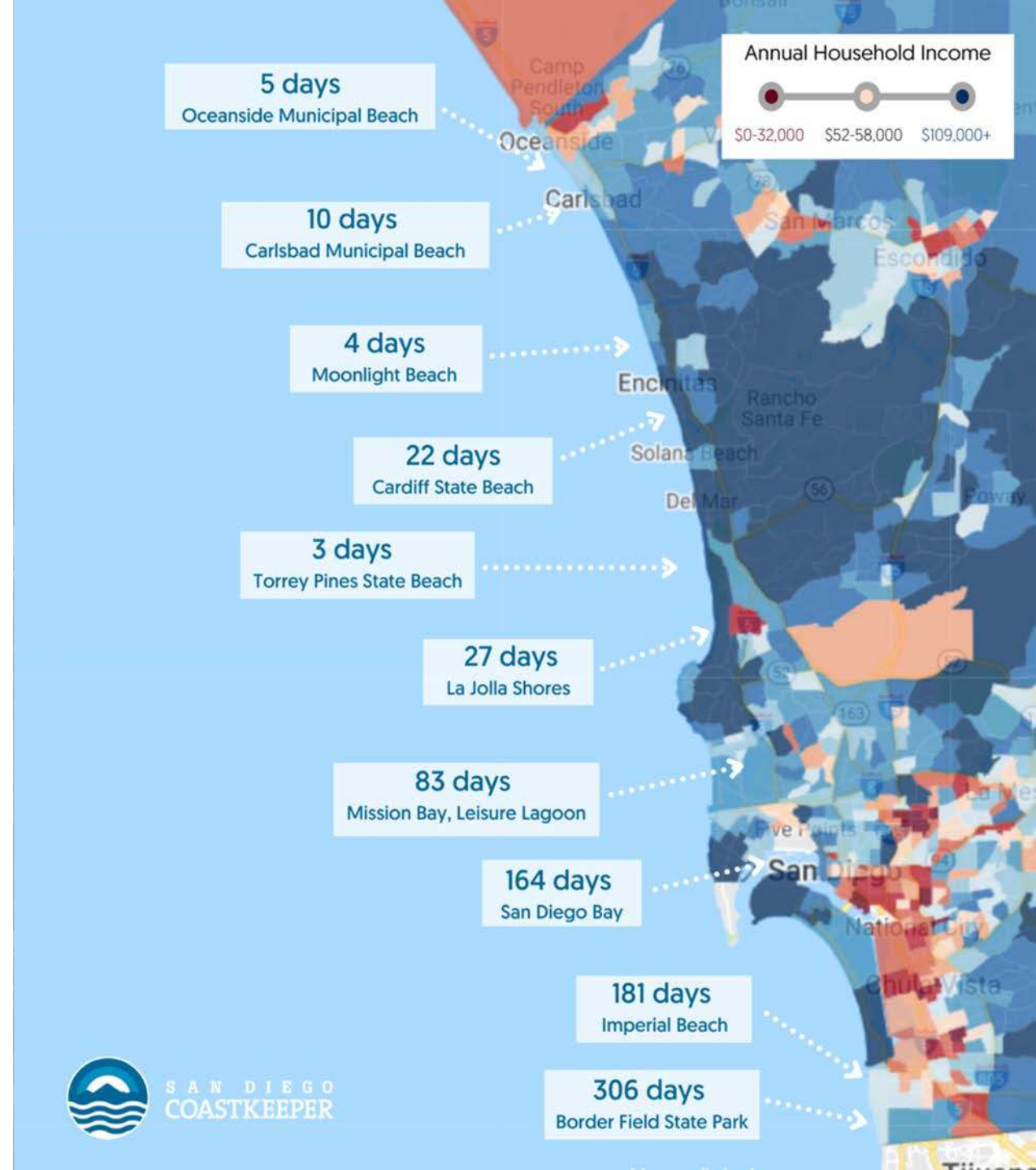
Mismanagement of water can lead to:

- Pollution
- Flooding
- Sinkholes
- Boil advisories
- Property damage

2020 Beach Advisories and Closures

High levels of bacteria, rainfall, and other factors can cause beaches to close.

San Diego County issued at least 51 days of county-wide beach advisories in addition to site-specific advisories and closures.



Climate Change + Aging Infrastructure

Tuesday, April 12, 2022

- Longer, drier droughts
- Intense, sporadic rains
- Sea level rise
- Funding deficits

The Future of Water in San Diego

Tuesday, April 26, 2022

- The good
 - Stormwater capture
 - Wastewater recycling
 - Green infrastructure
- The bad and the ugly
 - Desalination
 - Regional Conveyance System

Contact Us



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