

WP&S Committee

Item 6c

Subject: Day Zero: Cape Town's Water Crisis

Purpose: The purpose of this presentation is to explain Cape Town's Water Crisis. It has been making headlines the past few months and many are asking: Is Southern California Next?

WP&S Committee (ORAL REPORT required, hide slide)

Item 6c

Summary: This presentation describes Cape Town's Water Crisis. It has been making headlines the past few months and many are asking: Is Southern California Next? The presentation gives a brief description of Cape Town and its water supply, what "Day Zero" is, what the city is doing to resolve the problem, and the prospects of a Day Zero for Southern California and Metropolitan.



Day Zero

Cape Town's Water Crisis

Water Planning and Stewardship Committee

Item 6c

March 12, 2018

We Have Seen The Future Of Water, And
It Is Cape Town

Why Cape Town Is Running Out of
Water, and Who's Next

Could a major California city run dry like drought-stricken Cape
Town?

Cape Town Grabs World Attention as
1st City in the World To Run Out of
Water Possibly

These American Cities Are Running
Out of Water

In Cape Town, 'Day Zero' is coming very soon — the day the water runs
out

Cape Town's Water Crisis Should
Be a Warning to the World

**Cape Town dreads 'Day Zero' when the
taps will run dry**

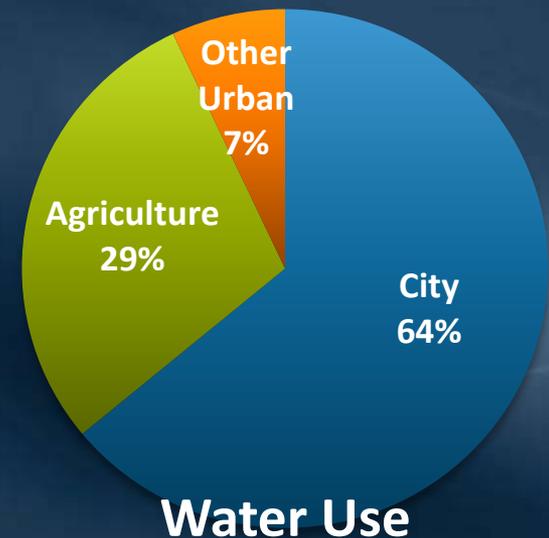
Chronic drought has resulted in hundreds of residents being forced to queue overnight to stock up
on water in South Africa's second largest economic hub and tourism attraction

Mediterranean Climates

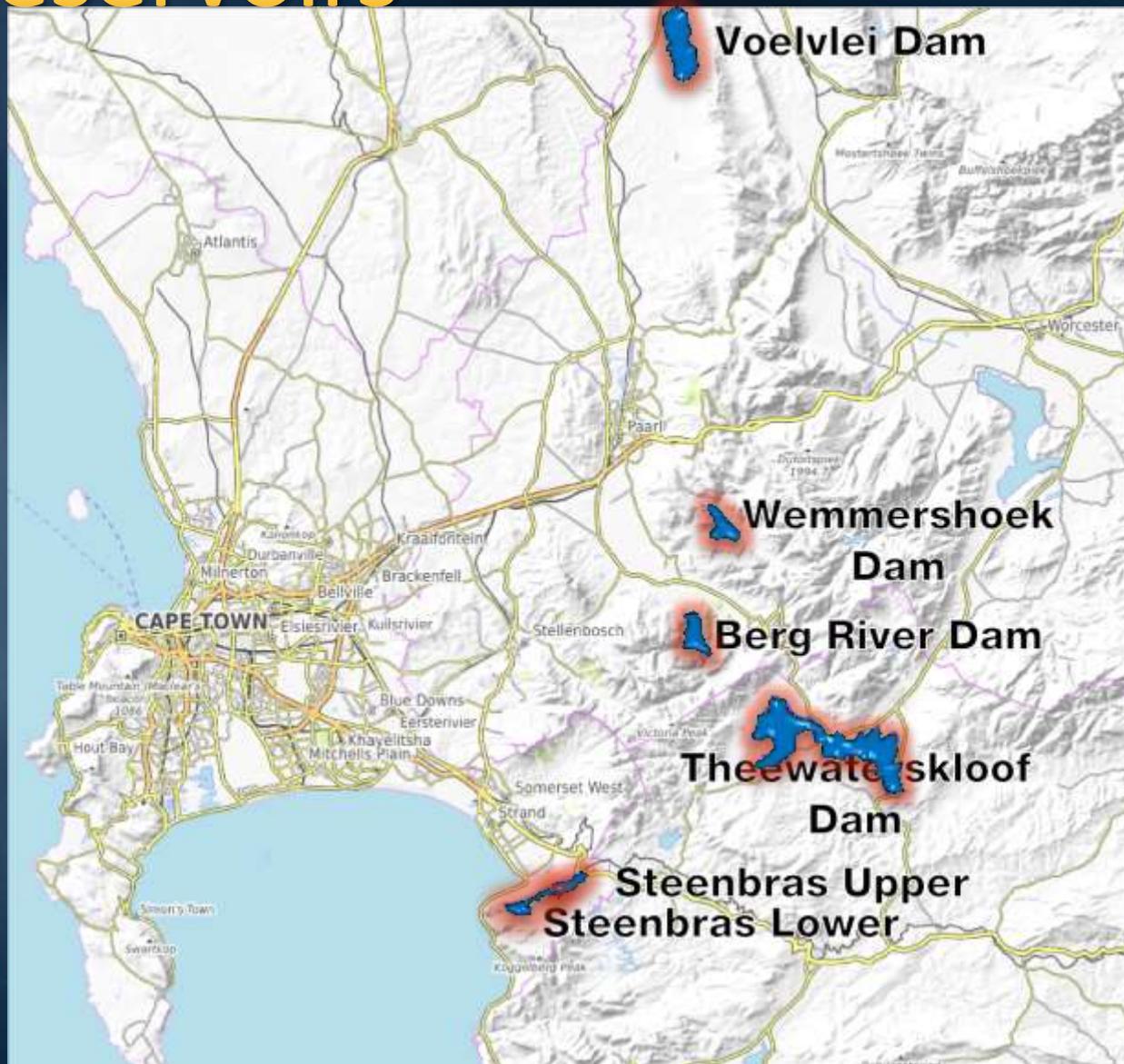


Cape Town, South Africa

- 948 square miles
- Population: 4.0 million
- Households: 1.2 million
- 1.5 million tourists a year



Cape Town's Water Supply: Six Reservoirs



What is Day Zero?

- Pushed back to August 24 (from July) water to households and businesses will be cut off
 - On March 7 Cape Town government said Day Zero will not happen in 2018
- Residents will be allocated 6.5 gallons per person per day from one of 200 distribution stations (currently allocated 13 gallons a day)
- Residents should be prepared for it to last anywhere from 3-6 months

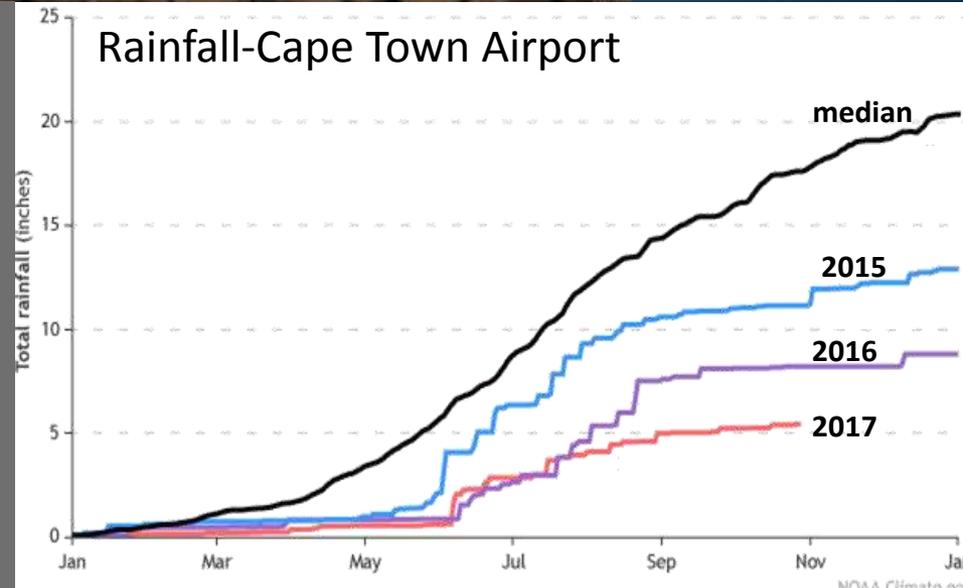
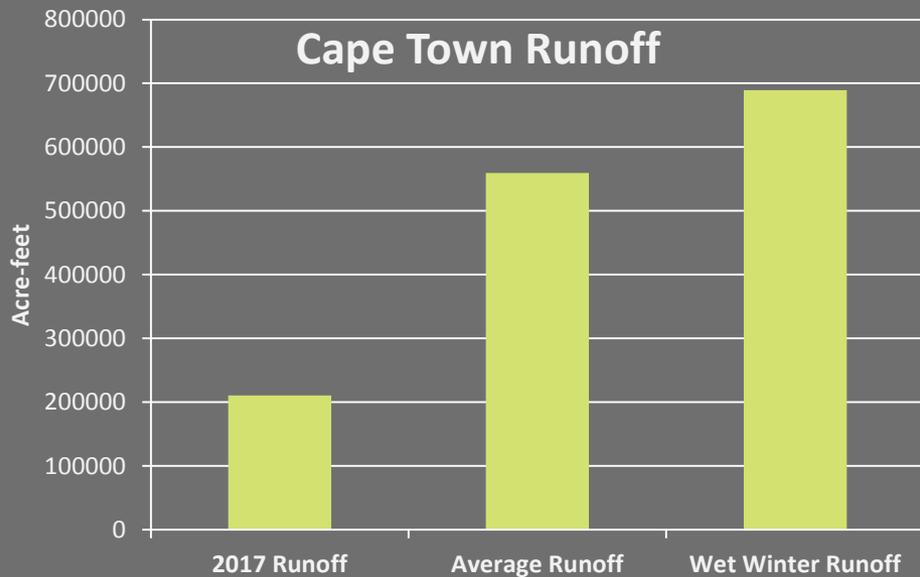


Day Zero

- When total reservoir storage reaches 13.5%



Drought



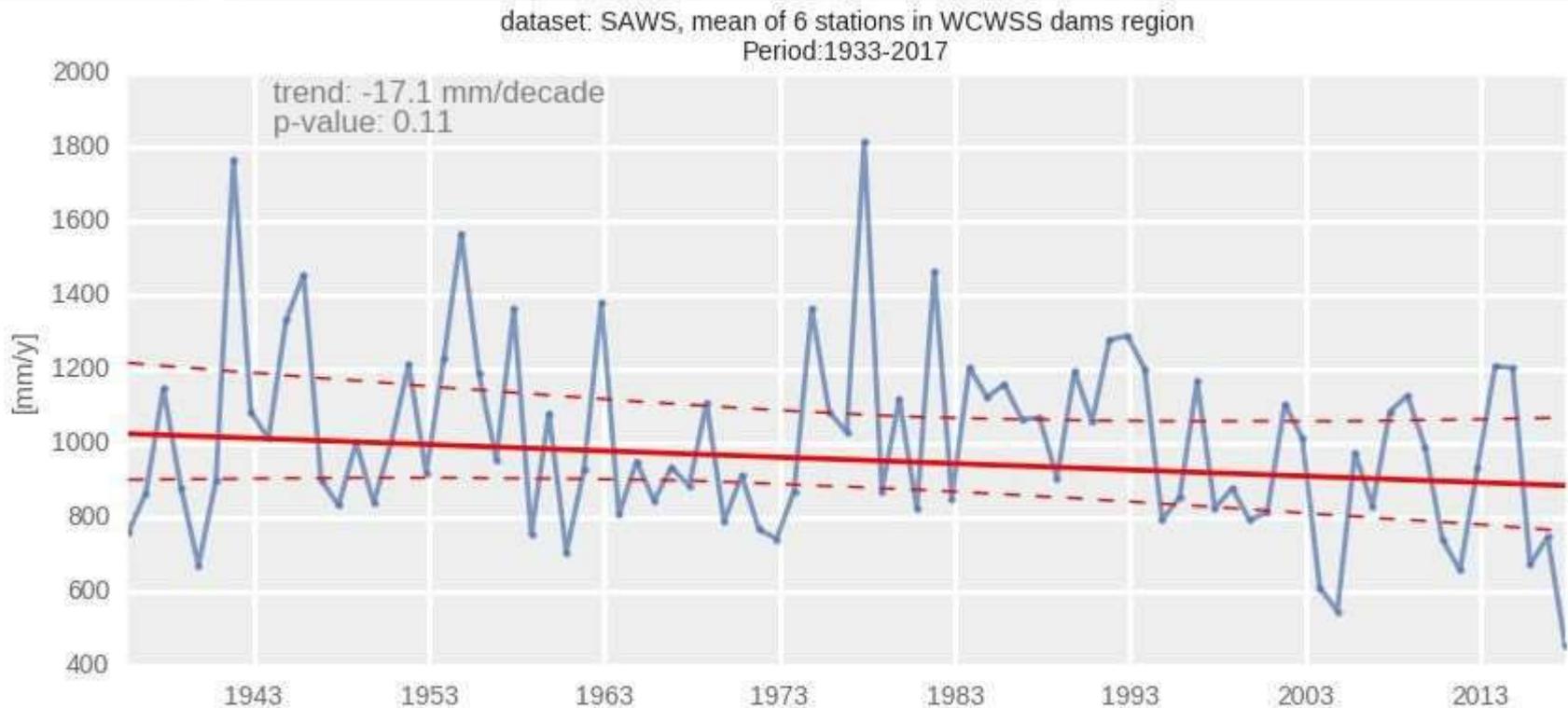
Drought



Theewaterskloof Reservoir

Climate Change and Cape Town

- Decreasing precipitation over the past 84 years
- Potential shortening drought interval, rains falling later in year
- Drought more likely in future climate scenarios



Focusing only on the drought and climate change is a simplification of the emergency...



Population Growth

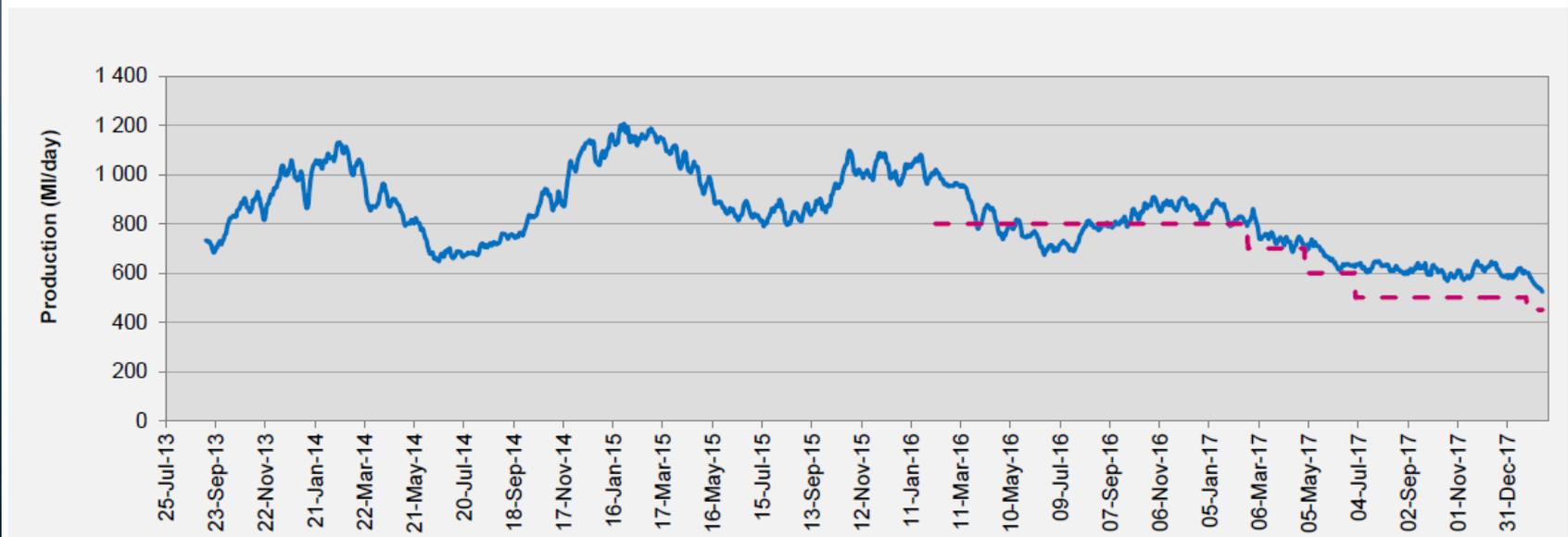


- Cape Town has almost doubled its population in the past 30 years
- Only addition to water supply was the Berg River Reservoir which increased total supply by 15%

Insufficient Demand Reduction

- As of December only half of residents were obeying restrictions
- Conservation almost solely behavioral
- Agricultural allocation remained high

Cape Town Daily Water Use (7 Day Average)



Lack of Regional Coordination

- The Western Cape is ruled by the Democratic Alliance, the only provincial government not ruled by the African National Congress
- Finger pointing and the blame game between the City of Cape Town, the state and the National Department of Water and Sanitation



Lack of Diversified Portfolio

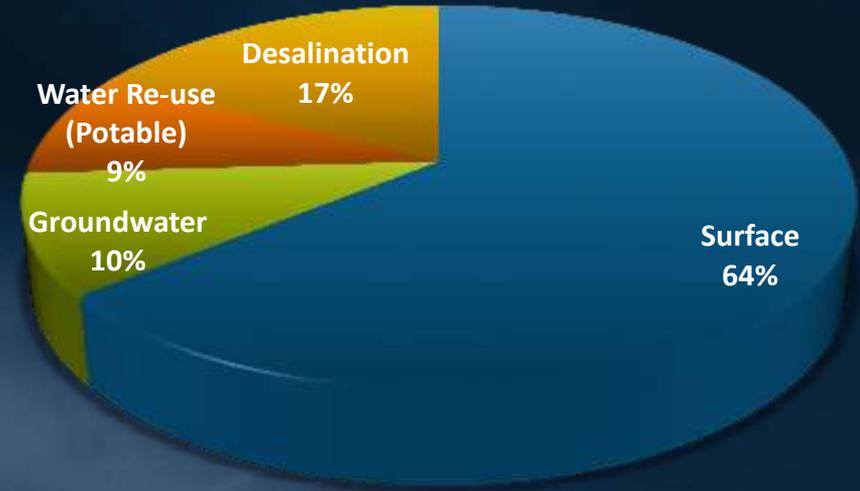
- All surface water storage
- Within the same geographic area, catchment



What Next?

- Wait for Rain
- Expand Voelvlei Reservoir
- Diversify Water Portfolio

2022 Planned Water Portfolio



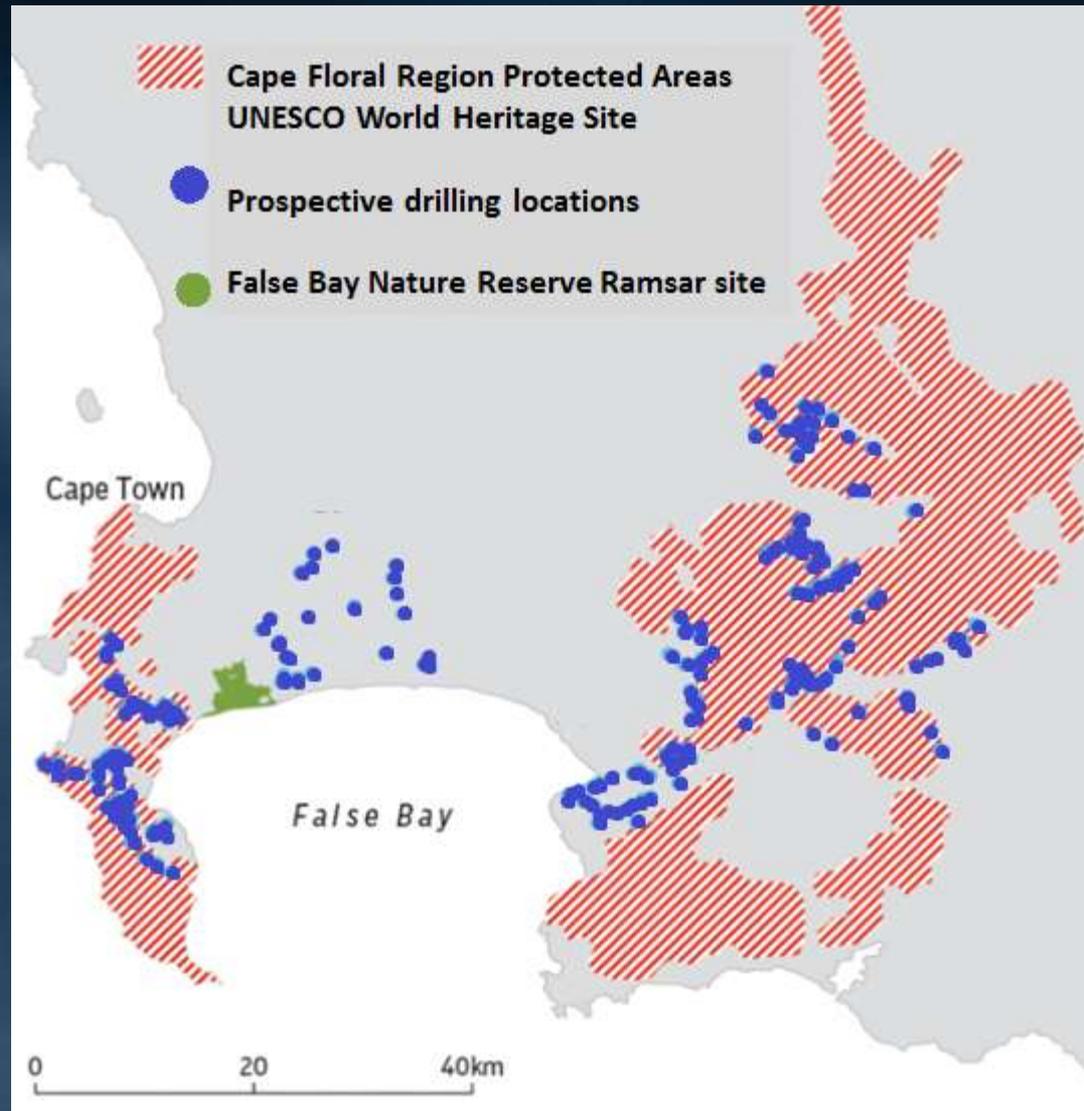
City of Cape Town Priorities

1. Demand Management
2. Groundwater
3. Re-Use
4. Desalination



Concerns

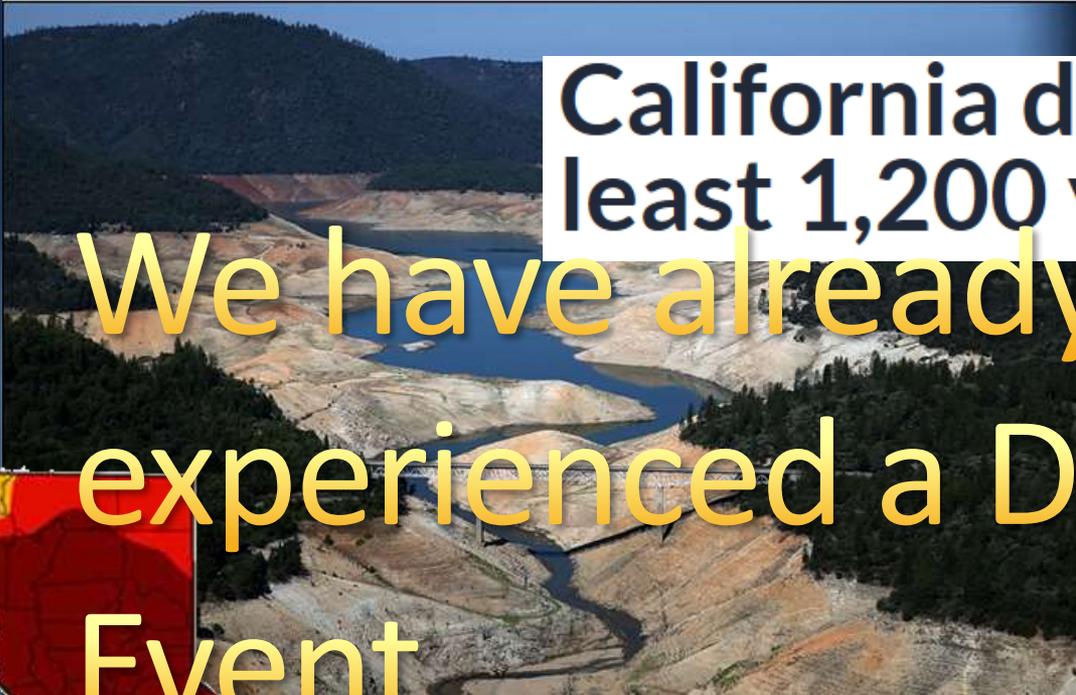
- Projects behind schedule/unrealistic
- Groundwater Issues
- Financial Implications of the crisis
- Tourism



When is Southern California's Day Zero?

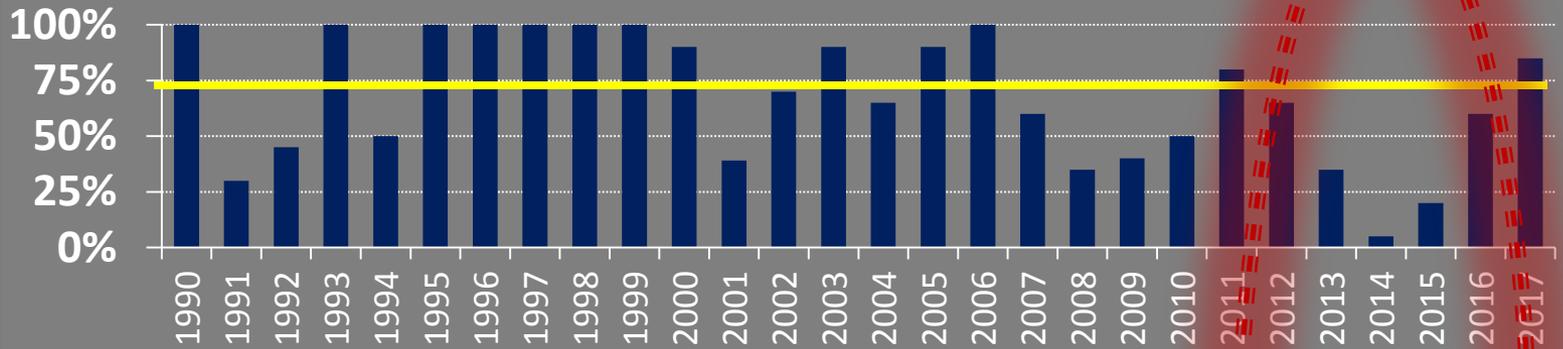
California drought worst in at least 1,200 years

We have already experienced a Day Zero Event...

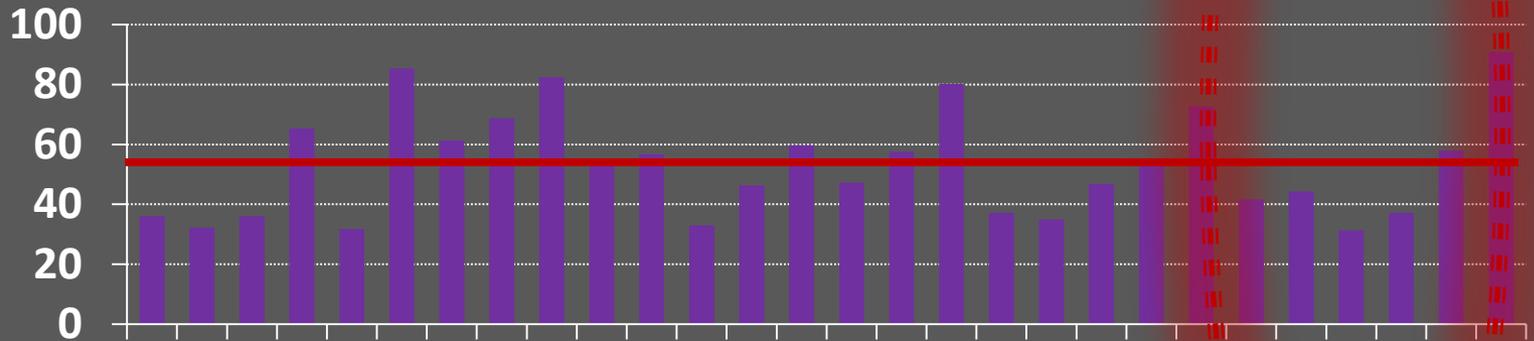


Record-Breaking Drought...

SWP
Table A
Final
Allocation



Eight
Station
Index
(Inches)



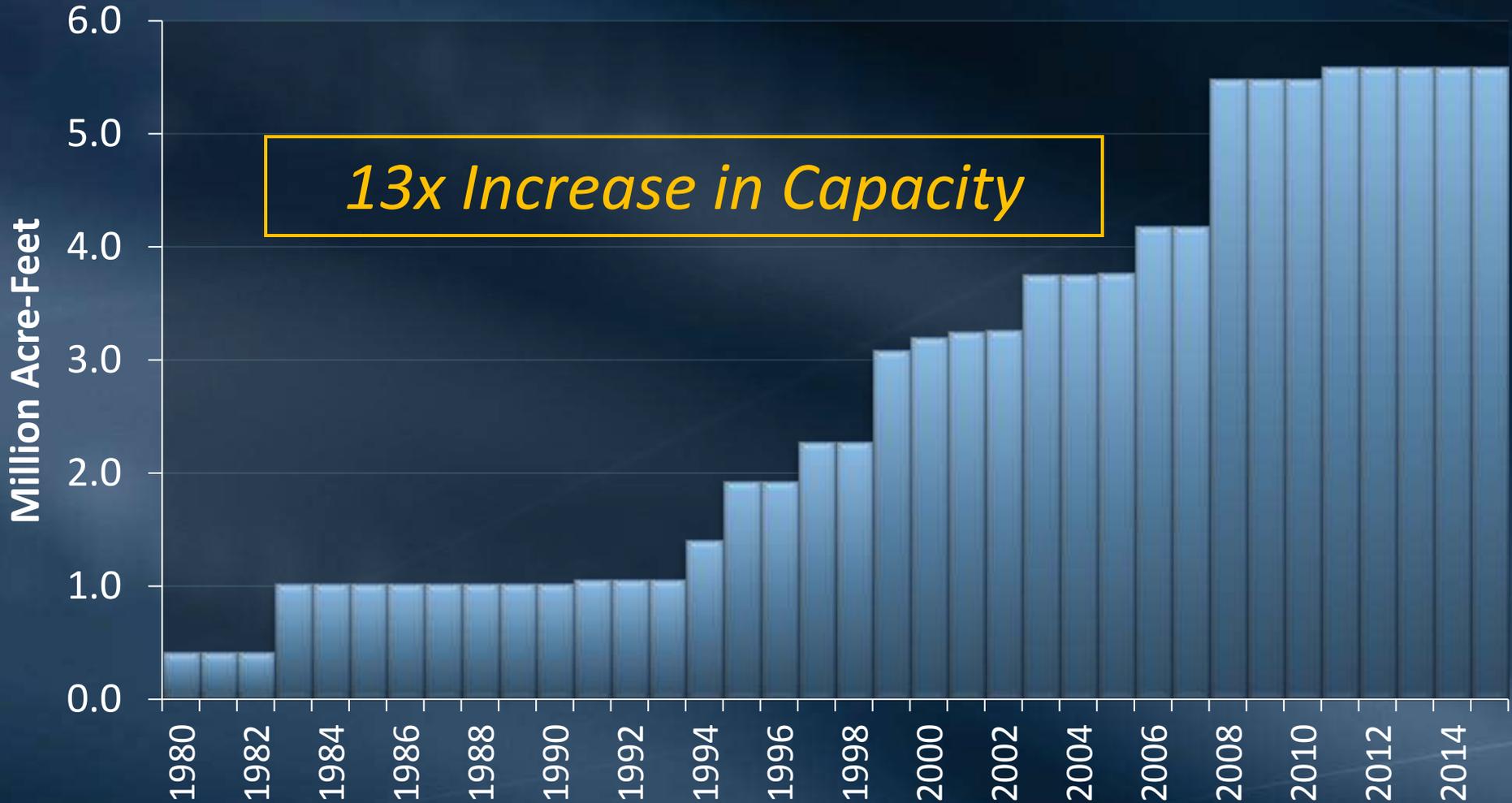
March
Temp (f)
Downtown
Los Angeles



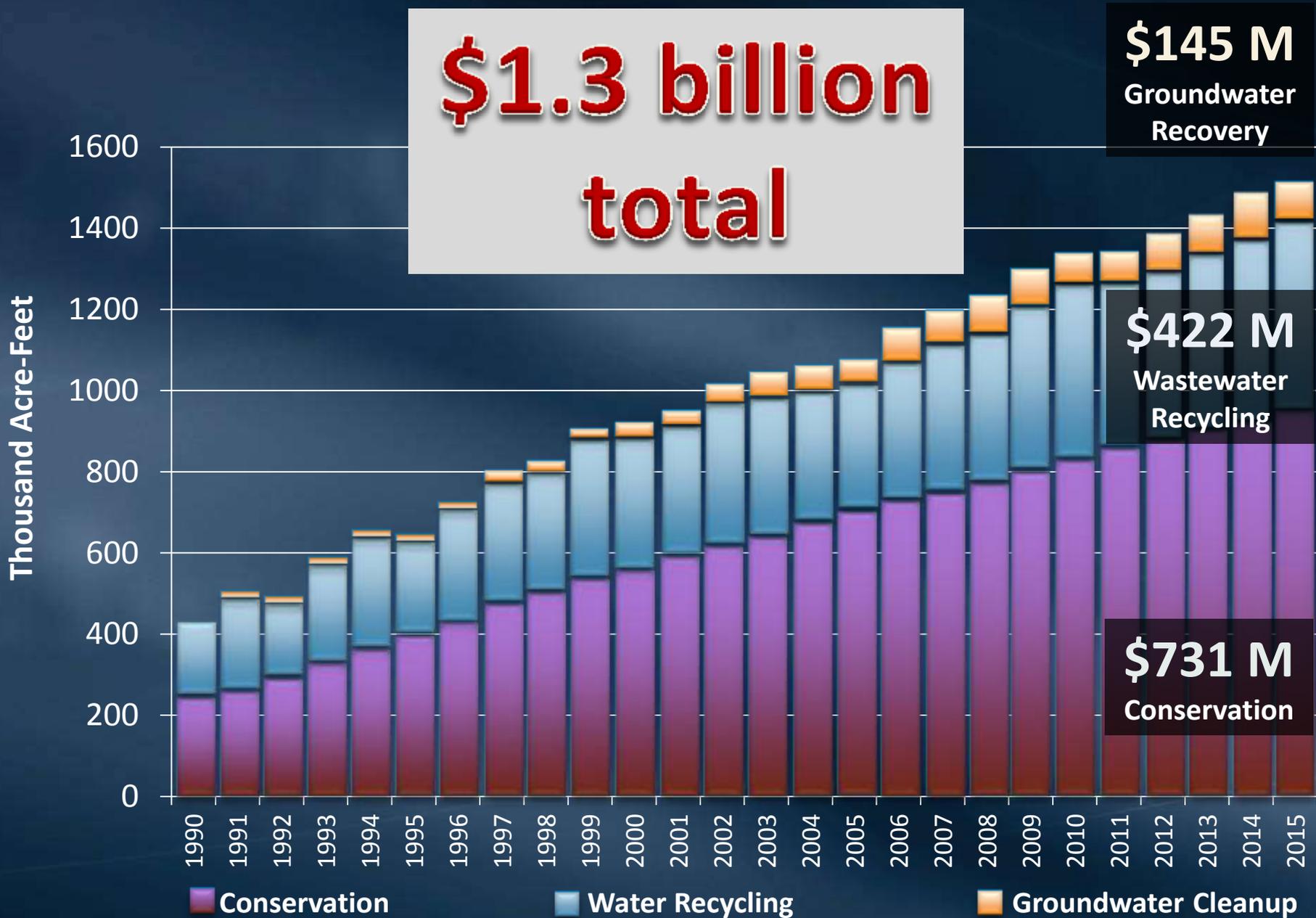
Southern California has developed a diverse water supply



Significant Investment in Regional Storage Capacity



Investments in Local Resources



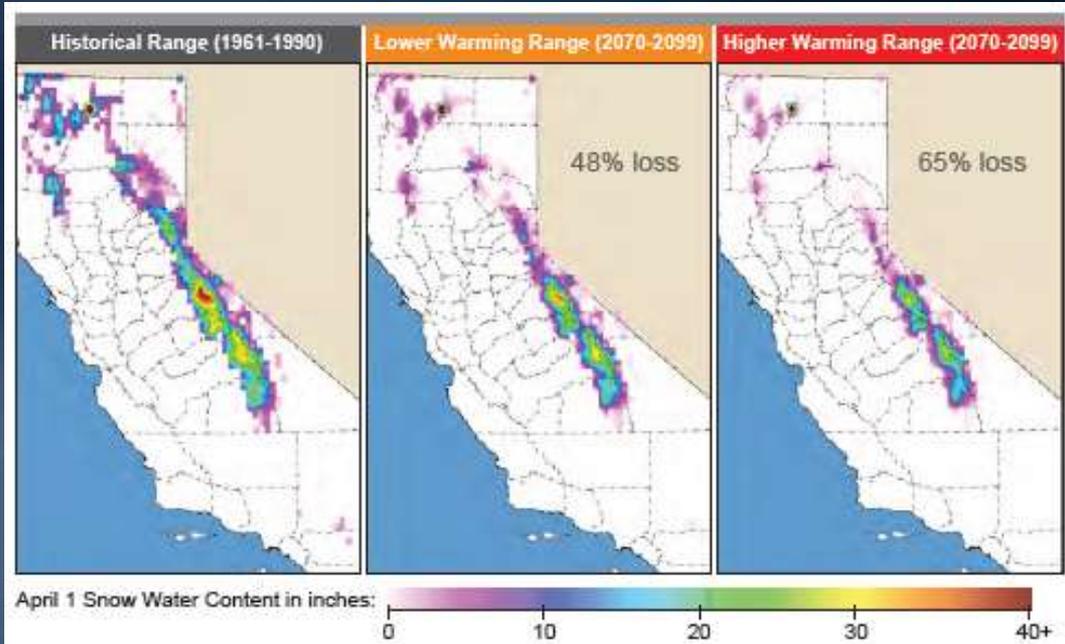
As the region grows, demands hold steady



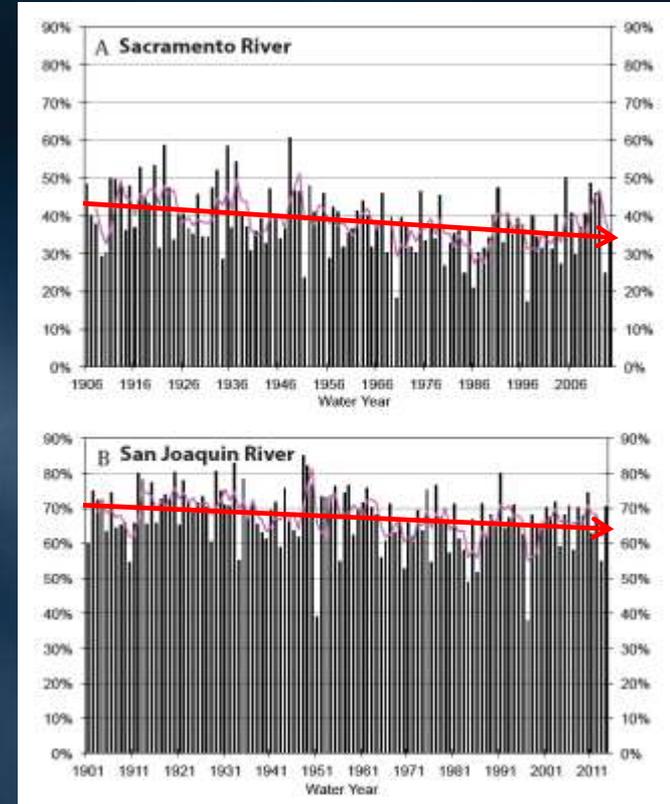
HOWEVER....

We Cannot Be Complacent...

Decrease in Sierra Snowpack

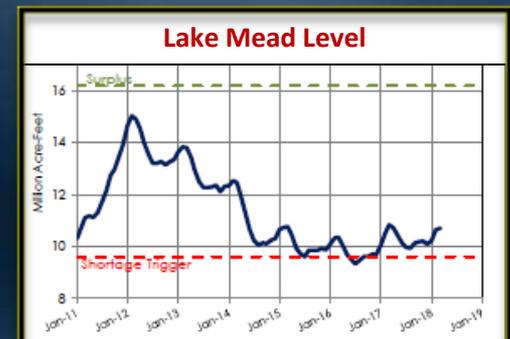


Change in Runoff Patterns



Further investment is needed to ensure resiliency in the face of more extreme conditions

- Regional Recycling Program
- Cal WaterFix



Summary

- California and South Africa have similar Mediterranean climates which present unique water management challenges
- Metropolitan and other water agencies in Southern California have made significant investments to diversify water resource portfolios
- Metropolitan's system allows our region to adapt to extreme variability
- Southern California's forward-thinking and commitment to a diversified resource portfolio has prevented a "Day Zero" and will continue to do so in the future

Questions?



