June 8, 2022 – SUPPLEMENTAL CORRESPONDENCE PACKET

BAY AREA WATER SUPPLY AND CONSERVATION AGENCY
BOARD OF DIRECTORS MEETING

June 7, 2022

Correspondence and media coverage of interest between June 1, 2022 and June 7, 2022

Correspondence

From: Peter Drekmeier, Policy Director, Tuolumne River Trust
To: Randy Breault, Chair and Members of the Board Policy Committee
Date: June 7, 2022
Subject: Uncovered Document Regarding Design Drought Return Period

From: Sydney Pitcher
To: BAWSCA Board of Directors
Date: June 4, 2022
Subject: Bay Area Water Supply and Conservation Agency (BAWSCA), please drop your Lawsuit blocking environmental protections for the Bay

From: Randi Reiremo
To: BAWSCA Board of Directors
Date: June 4, 2022
Subject: Bay Area Water Supply and Conservation Agency (BAWSCA), please drop your Lawsuit blocking environmental protections for the Bay

From: Coalition of California Water Utilities
To: The Hon. Gavin Newsom
The Hon. Toni Atkins, President Pro Tempore, California State Senate
The Hon. Anthony Rendon, Speaker, California State Assembly
Date: June 1, 2022
Subject: California Water System Infrastructure

Press Release

From: Department of Water Resources
Date: June 2, 2022
Press Release: State Federal Water Managers Prepare for Dry Summer Conditions

Media Coverage

Water Policy:

Date: June 6, 2022
Source: Associated Press
Article: California lawmakers mull buying out farmers to save water

Date: June 6, 2022
Source: CBS Sacramento
Article: 'This is Give A Little To Save A Lot': California Water Rights Buyback Proposal Met With Enthusiasm, Resistance

Water Use Restrictions:

Date: June 3, 2022
Source: San Jose Spotlight
Article: Experts advise South Bay residents remove lawns to fight drought

Tuolumne River Trust

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June 7, 2022

Chair Randy Breault and Directors
BAWSCA Board Policy Committee
155 Bovet Road, #650
San Mateo, CA 94402
Via email

Re: Uncovered Document Regarding Design Drought Return Period.

Dear Chair Breault and Directors:

I'd like to bring to your attention a surprising result from a recent Public Records Act request of the SFPUC. It appears that SFPUC staff were withholding valuable information from their Commissioners, BAWSCA and the public that is key to managing risk, planning alternative water supplies and holding down water rates. As you know, open communication and transparency is vital to the effectiveness of key stakeholders.

It is clear from the document – titled "Hydrological Drought Frequency Analysis for the Upper Tuolumne River" that was presented on December 8, 2020 by researchers working on the Long-Term Vulnerability Assessment (LTVA) – that a considerable amount of time was spent determining the projected return period (likelihood of occurrence) of the Design Drought. Yet this information never made it into the LTVA. Given the important role the length of drought planning plays in rationing, it is unexplainable why this information was not made available to all parties involved in SFPUC policy decisions.

The following table shows that at the time the report was presented, the projected return period for a drought as severe as the Design Drought was a little over 25,000 years. To put this in perspective, the advent of agriculture and beginning of early human civilization began approximately 12,000 years ago.

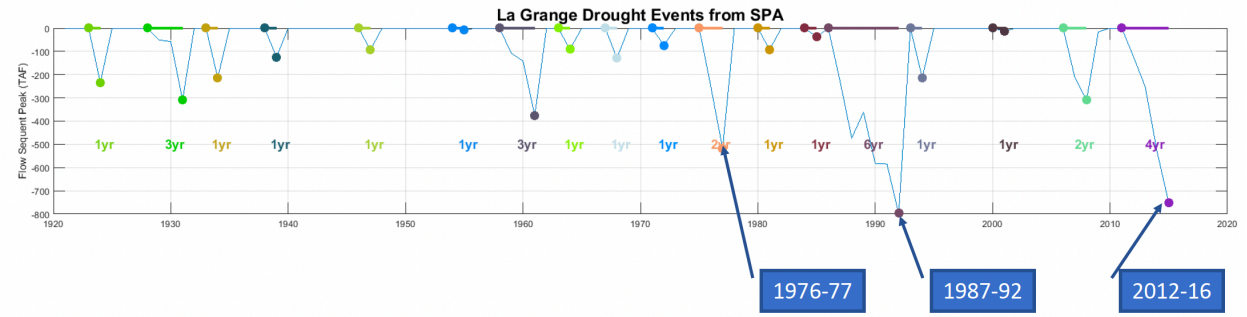
Return periods of historical drought

Drought Event	Deficit (TAF)	Duration (Year)	Return Period (Year) (best estimate and 95% confidence interval)		
			Deficit	Duration	Deficit and Duration
1976-77	517	2	217 (188; 255)	30 (29; 31)	316 (273; 371)
1987-92	797	6	1,456 (1,031; 2,140)	486 (422; 563)	20,406 (14,589; 29,851)
2012-16	752	4	1,093 (820; 1,520)	121 (110; 133)	4,250 (3,190; 5,899)
Design Drought	1,309	8	25,293 (12,940; 56,679)	1,954 (1,620; 2,376)	1,371,578 (720,390; 2,997,390)

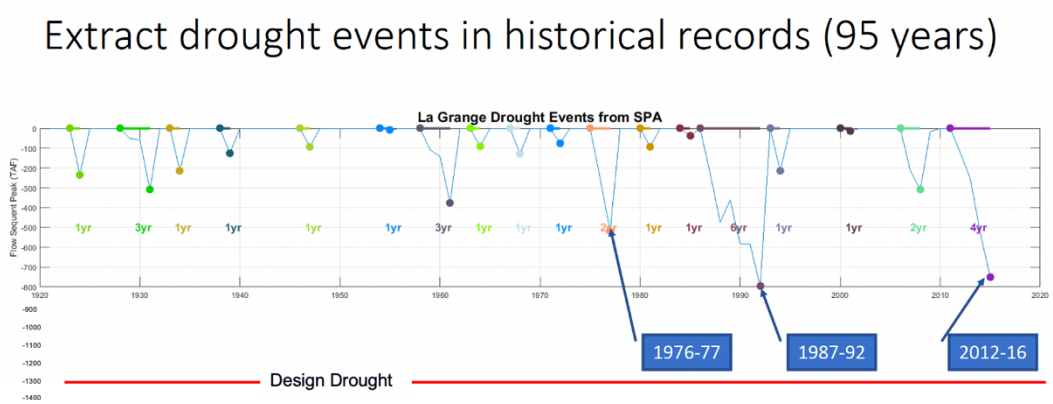
Perhaps the authors of the LTVA updated their projections, but the information is nowhere to be found in the LTVA.

The following graph from the uncovered document shows water supply deficits (from full storage) caused by known droughts. At full storage, the SFPUC has more than 1.4 million acre-feet of water. We have not been given a presentation on the document, but assume the graph suggests that if the historical record were to repeat, and water demand was 227 mgd (the baseline figure used in the LTVA, which is 16% higher than current demand of 195 mgd), a repeat of the most severe drought (1987-92) would result in full storage being reduced by 797 thousand acre-feet.

Extract drought events in historical records (95 years)



Below, TRT added the Design Drought to the graph for comparison.



It is clear from the document that the Design Drought is extremely unlikely to occur. Therefore, overspending on unnecessary alternative water supplies to manage the Design Drought would be an extremely poor investment, raising rates and leading to stranded assets.

The big question is why this information was not made available to the SFPUC Commissioners, BAWSCA and the public. I hope you will vigorously pursue pressing to understand the root causes that led to the omission.

Sincerely,

Peter Drekmeier

Peter Drekmeier
Policy Director

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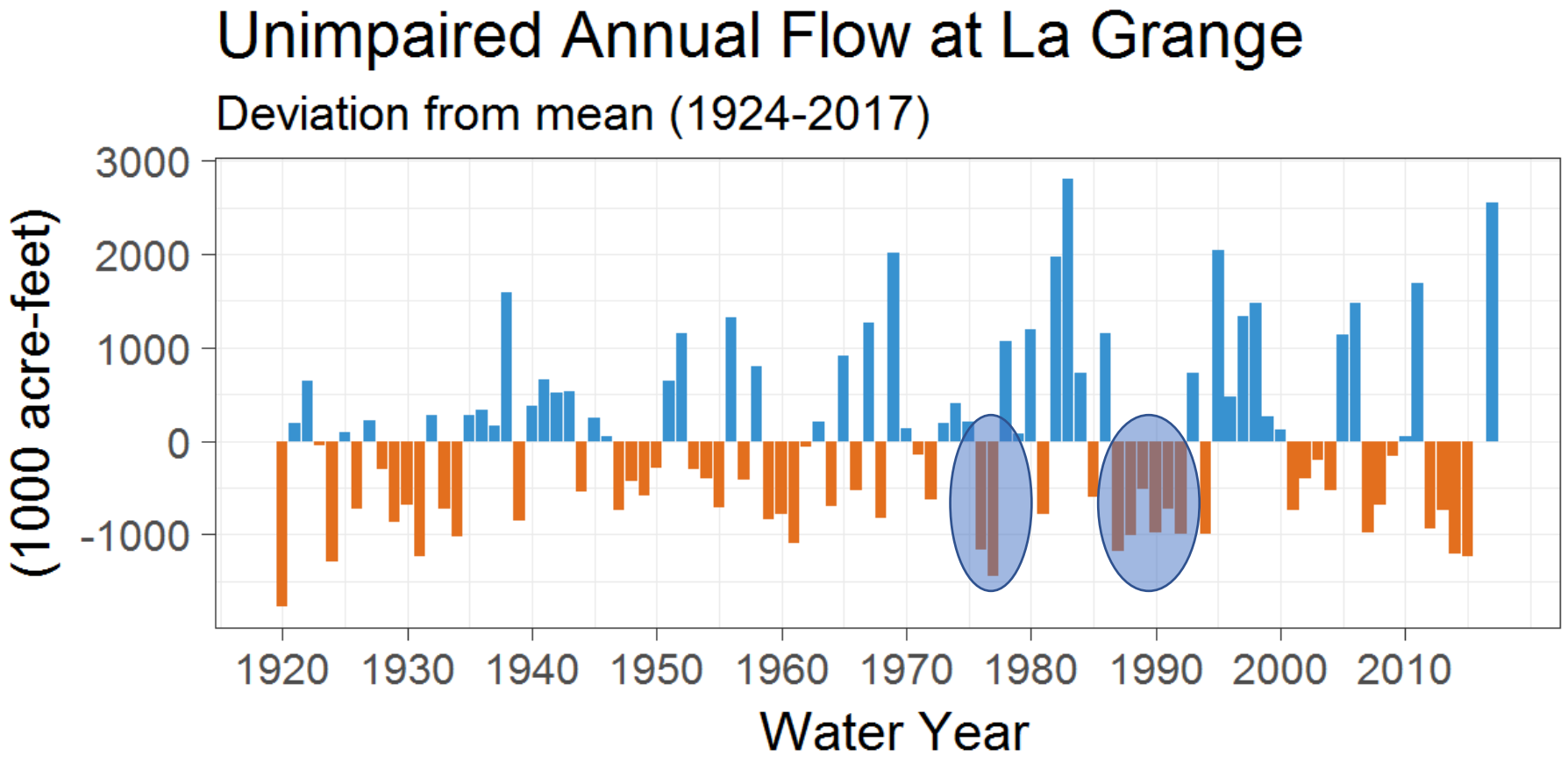
Hydrological Drought Frequency Analysis for the Upper Tuolumne River

December 8th, 2020

Design Drought: it's an hydrological drought



Design Drought is a synthetic event that combines two observed droughts 1987-1992 followed by 1976-1977

Defining Deficit and Drought

- Definition of Annual Deficit

$$d(t) = \text{La Grange Natural Flow}(t) - \text{District Entitlement}(t) - \mathbf{Threshold}$$

- Definition of Cumulative Annual Deficit

$$D(t = 0) = 0$$

$$D(t+1) = \min \begin{cases} 0 \\ \text{D(t)} + \text{La Grange Flow(t)} - \text{District Entitlement(t)} - \mathbf{Threshold} \end{cases}$$

- **Threshold**
  - So far, we used SJPL Flow in 2013 of 240 MGD (269 TAF) as the baseline diversion needed for SFPUC (highest historical value)
- Extract the **maximum deficit** and **duration** in each drought

What threshold do we want to use?

Threshold to define hydrological drought

The threshold can be based on:

- WAC: average
- SJPL diversion: average, maximum
- Other

Historical SJPL annual diversion

Table J-1
Base Usage (mgd) and Allocation Rates

(1) Usage	(2) Definition	(3) 2014-15	(4) 2015-16	(5) 2016-17	(6) 2017-18	(7) 2018-19	(8) 2019-20
1. Gross S.F. Co. line[1]	B.1	64.0	61.8	61.6	64.3	63.5	62.8
2. Daly City portion	B.2	0.1	0.1	0.1	0.2	0.1	0.1
3. Net S.F.	(1-2)	63.9	61.7	61.5	64.1	63.4	62.7
4. Other suburban raw water	B.4	0.4	0.4	0.2	0.2	0.2	0.3
5. Other suburban treated water	B.5	2.6	2.2	2.5	2.8	2.6	2.6
6. Total other suburban	(4+5)	3.0	2.6	2.7	3.0	2.8	2.9
7. Total City usage	(3+6)	66.9	64.3	64.2	67.1	66.2	65.6
8. Total wholesale usage[2]	B.8	128.0	110.8	115.5	128.9	125.0	131.8
9. Total system usage	(7+8)	194.9	175.1	179.7	196.0	191.2	197.4
10. Wholesale alloc. rate	(8/9)	65.67%	63.28%	64.27%	65.77%	65.38%	66.77%
11. City alloc. rate	(100%-10)	34.33%	36.72%	35.73%	34.23%	34.62%	33.23%
12a. HHWPD input (Oakdale)	B.12	187.6	150.2	128.9	210.2	167.5	207.2

Table J-1
Base Usage (mgd) and Allocation Rates

(1) Usage	(2) Definition	(3) 2008-09	(4) 2009-10	(5) 2010-11	(6) 2011-12	(7) 2012-13[6]	(8) 2013-14
1. Gross S.F. Co. line	B.1	74.1	71.6	71.7	71.6	71.2	68.4
2. Daly City portion	B.2	0.2	0.2	0.2	0.3	0.3	0.1
3. Net S.F.	(1-2)	73.9	71.4	71.5	71.3	70.9	68.3
4. Other suburban raw water	B.4	0.6	0.4	0.6	0.6	0.5	0.5
5. Other suburban treated water	B.5	3.8	2.9	3.0	3.1	3.1	2.8
6. Total other suburban	(4+5)	4.4	3.3	3.6	3.7	3.6	3.3
7. Total City usage	(3+6)	78.3	74.7	75.1	75.0	74.5	71.6
8. Total wholesale usage[1]	B.8	164.0	149.4	143.7	144.4	148.3	149.6
9. Total system usage	(7+8)	242.3	224.1	218.8	219.4	222.8	221.2
10. Wholesale alloc. rate	(8/9)	67.69%	66.67%	65.68%	65.82%	66.56%	67.63%
11. City alloc. rate	(100%-10)	32.31%	33.33%	34.32%	34.18%	33.44%	32.37%
12a. HHWPD input (Oakdale)	B.12	226.2	173.6	165.9	192.3	205.2	239.7

Exhibit J

Table J-1 Current Base Usage (mgd)

(1) Usage	(2) Definition	(3) 2007-08	(4) 2006-07	(5) 2005-06	(6) 2004-05	(7) 2003-04	(8) 2002-03	(9) 2001-02	(10) 2000-01	(11) 1999-00
1. Gross S.F. Co. line	B.1.1	75.5	75.7	78.3	79.5	78.8	81.6	84.7	84.8	83.9
2. Daly City portion	B.1.2	0.2	0.2	0.2	0.2	0.4	0.3	0.5	0.6	0.6
3. Net S.F.	(1-2)	75.3	75.5	78.1	79.3	78.4	81.3	84.2	84.2	83.3
4. Other subs raw water	B.1.4	0.6	0.7	0.5	0.4	0.5	0.5	0.5	0.5	0.5
5. Other subs treated water	B.1.5	4.2	3.9	3.4	4.1	4.7	4.0	4.5	4.3	4.3
6. Total other suburban	(4+5)	4.8	4.6	3.9	4.5	5.2	4.5	5.0	4.8	4.8
7. Total City usage	(3+6)	80.1	80.1	82.0	83.8	83.6	85.8	89.2	89.0	88.1
8. Total suburban usage	B.1.8	172.9	175.8	164.4	167.4	180.8	169.4	171.3	174.9	173.1
9. Total system usage	(7+8)	253.0	255.9	246.4	251.2	264.4	255.2	260.5	263.9	261.2
10. Suburban alloc. rate	(8/9)	68.34%	68.70%	66.72%	66.63%	68.38%	66.38%	65.76%	66.28%	66.27%
11. City alloc. rate	(100%-10)	31.66%	31.30%	33.28%	33.37%	31.62%	33.62%	34.24%	33.72%	33.73%
12a. HHWPD input (Oakdale)	B.1.12	228.6	227.3	202.6	194.7	214.3	221.9	228.8	217.9	200.0

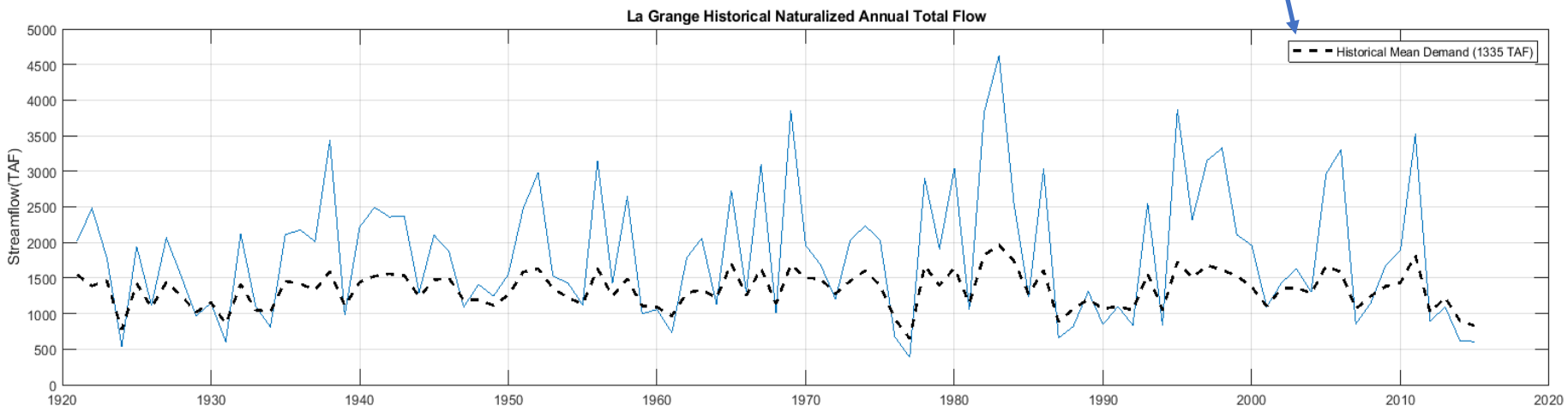
1 mgd = 1.12 TAF/year

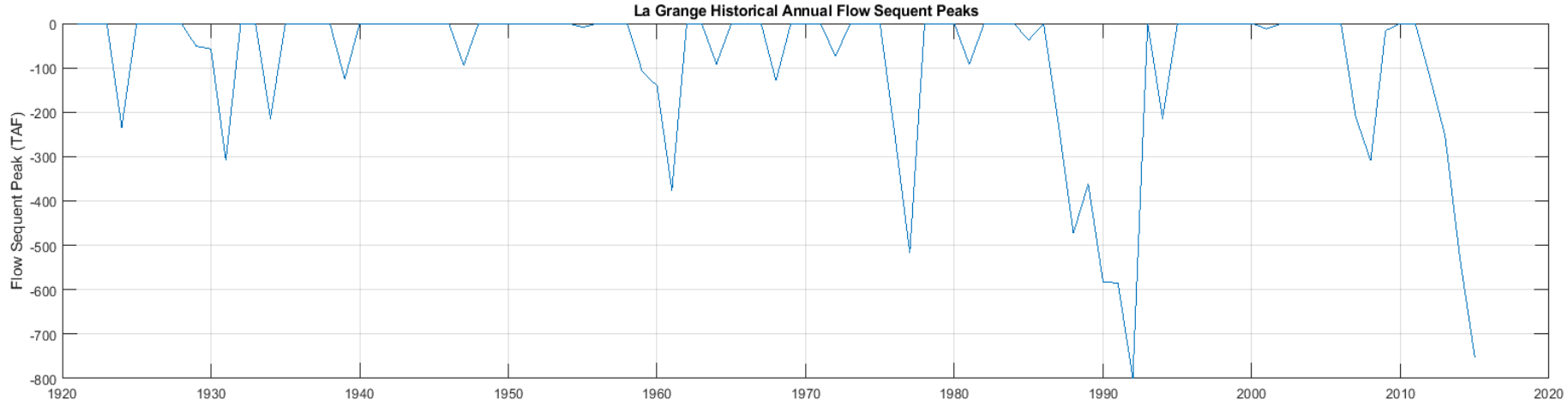
Methodology

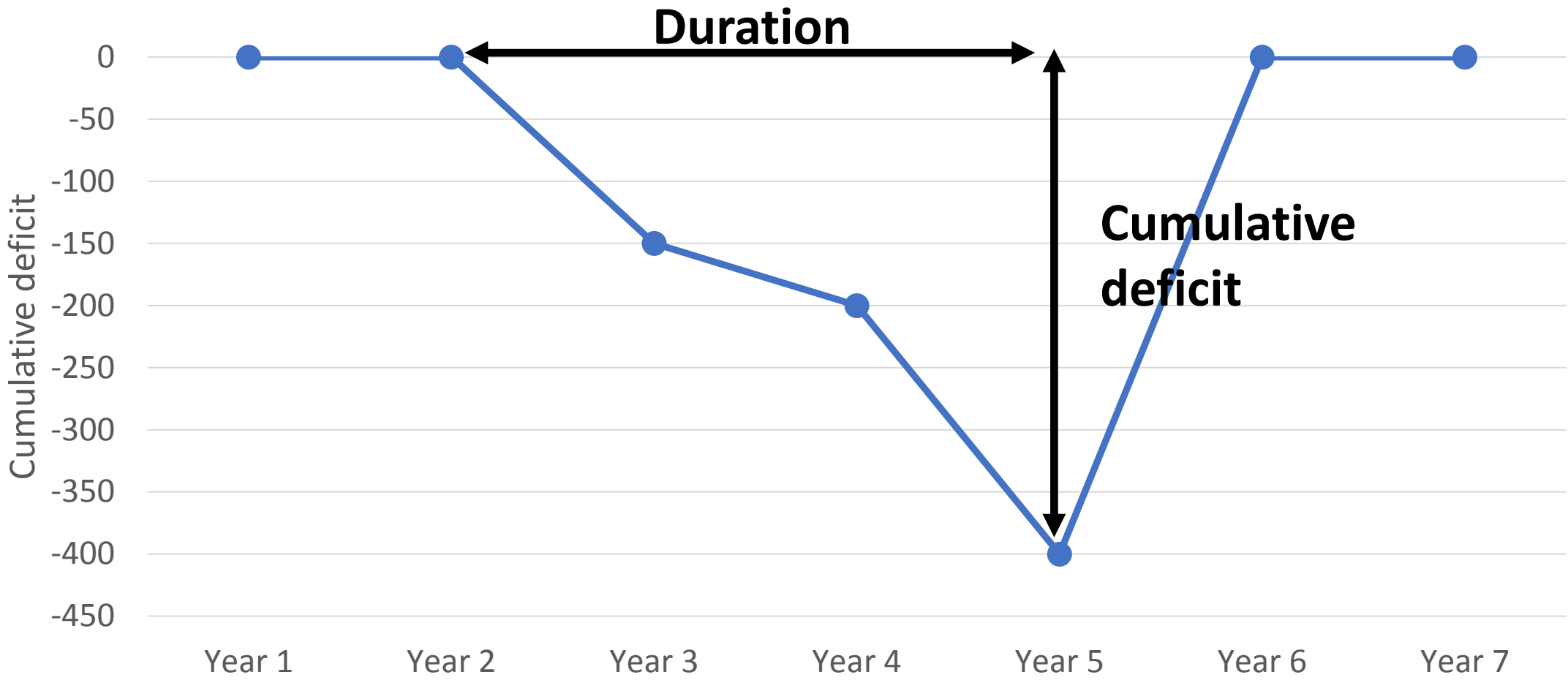
1. Run Up Country hydrology models for 500 climate realizations
2. Extract maximum deficit and duration of drought events from observed and simulated streamflow (Sequent Peak Algorithm)
3. Calculate return period
    1. Fit two probability distribution for: maximum deficit and duration
    2. Define a copula function that represents the dependence structure of deficits and duration
    3. Calculate return periods

Application of Maximum Deficit to La Grange observed streamflow

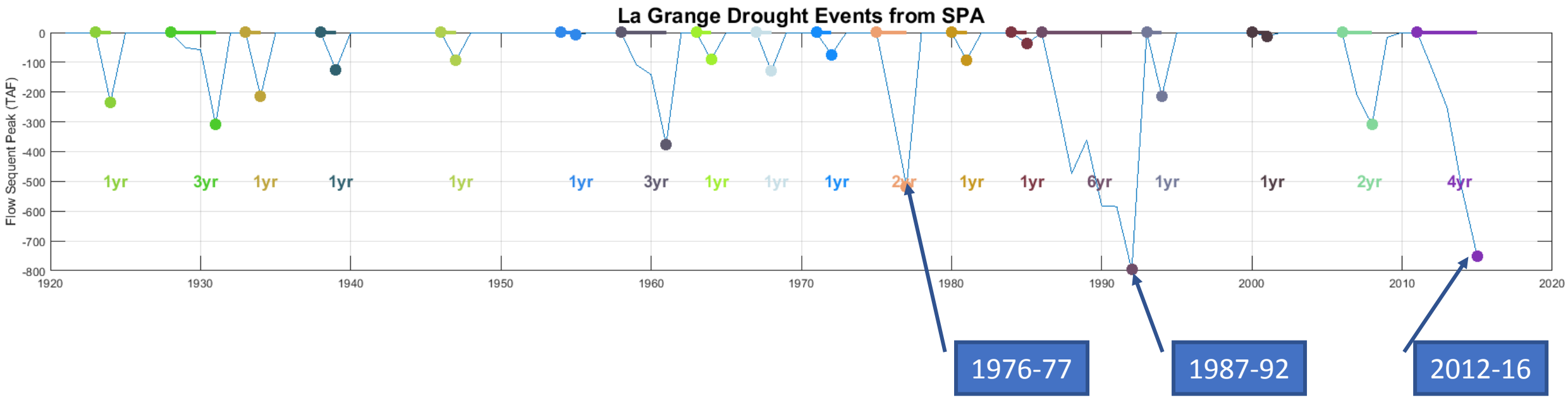
"historical mean demand" = historical irrigation district entitlement + 269TAF



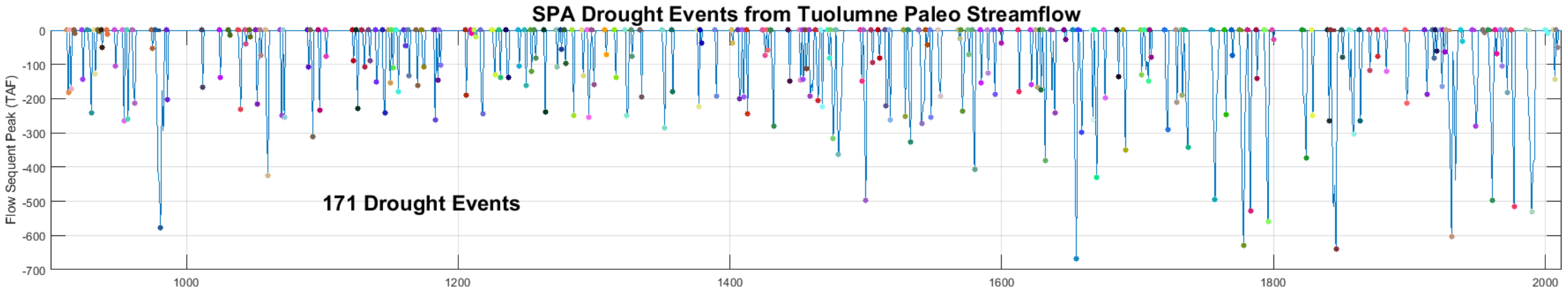



Duration
Cumulative deficit
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
Cumulative deficit
Year 1
Year 2
Year 3
Year 4
Year 5
Year 6
Year 7

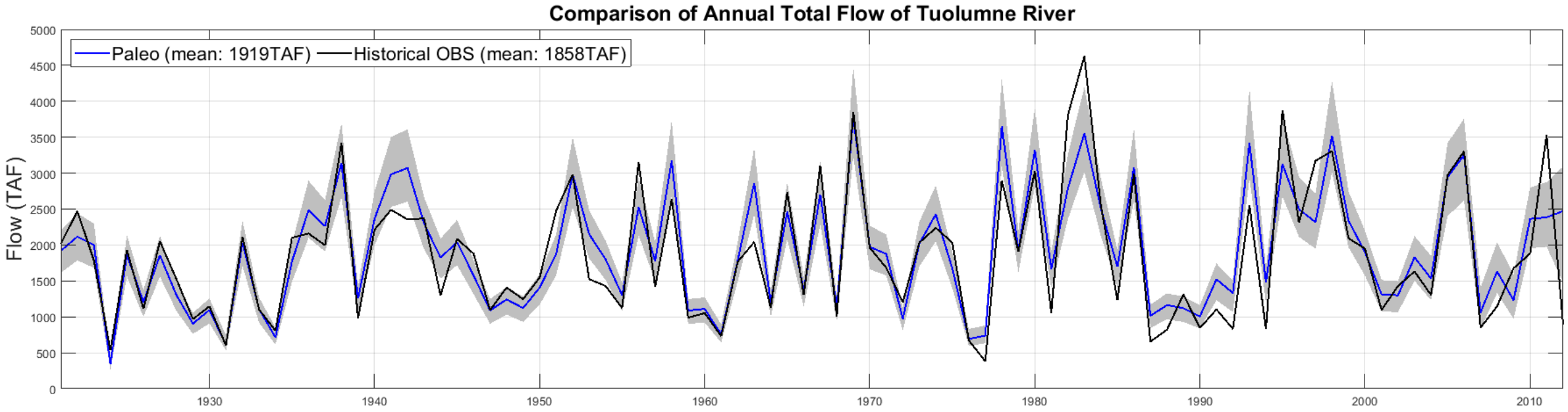
Extract drought events in historical records (95 years)



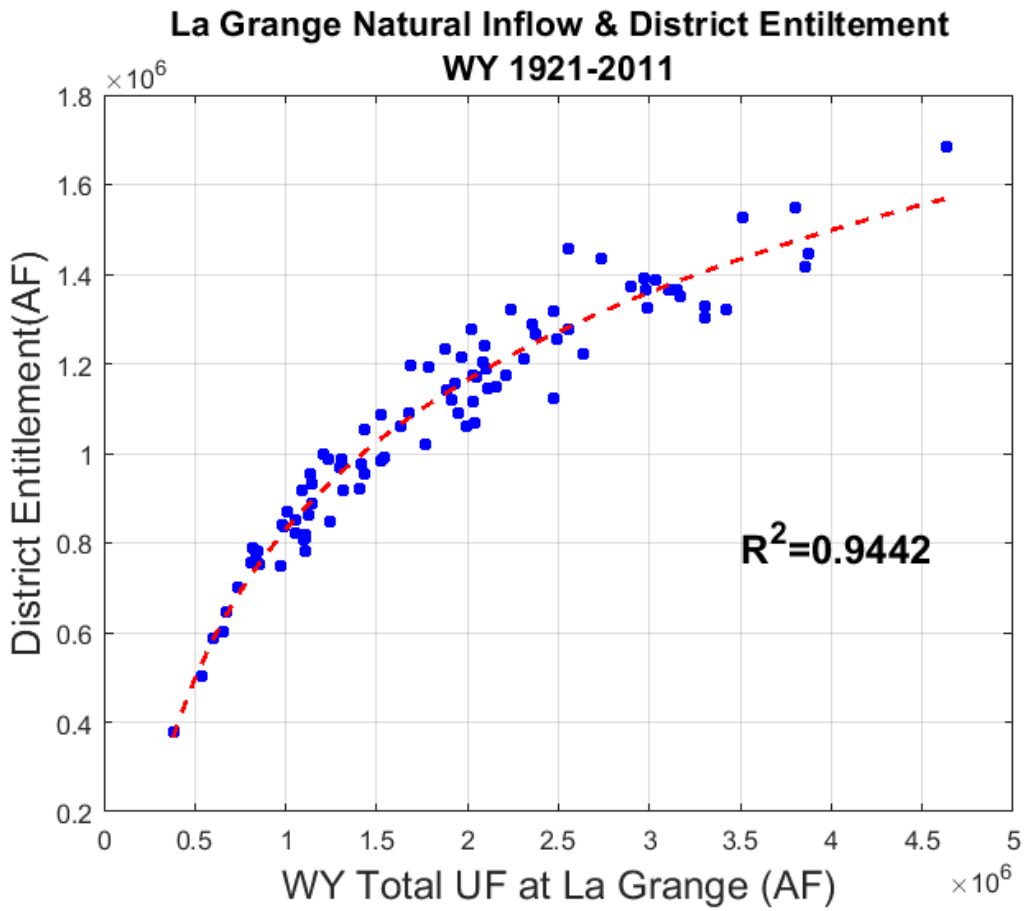
Extract drought events in paleo record (1100 years)



Bias correction of paleo record based on error in historical record

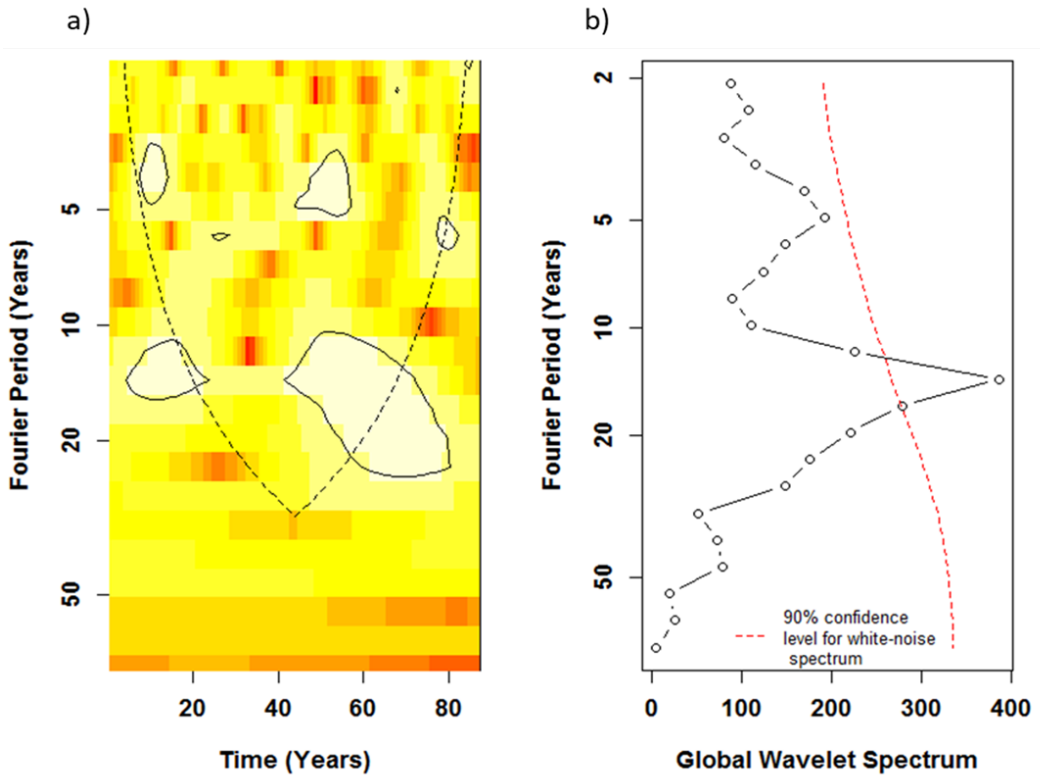


Extract annual WAC in paleo record

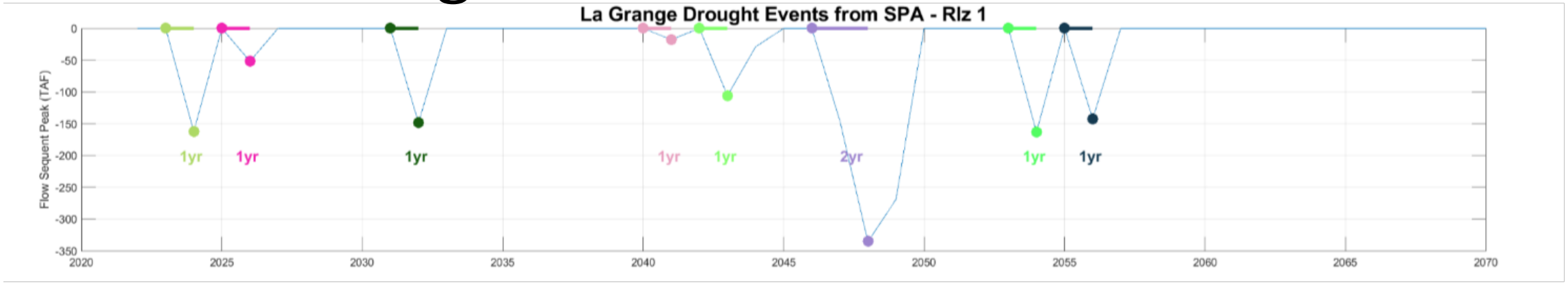


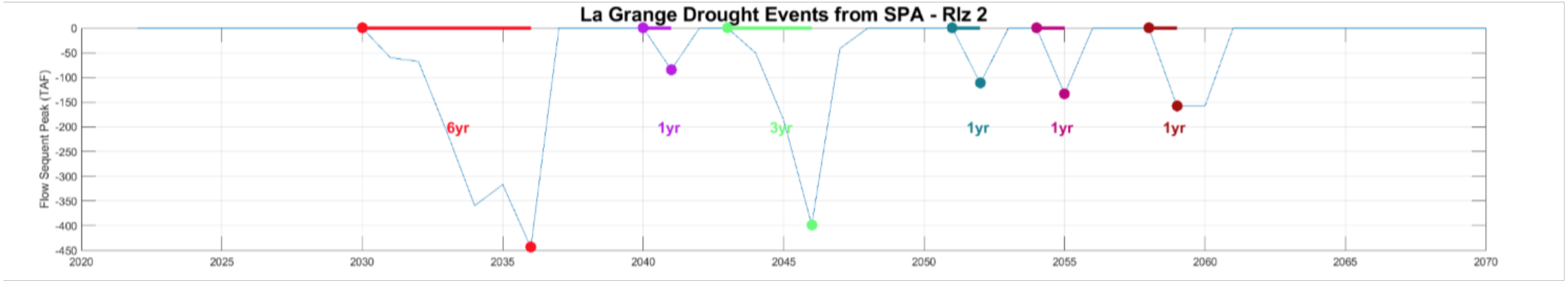
Simulated streamflow using a weather generator and hydrologic model

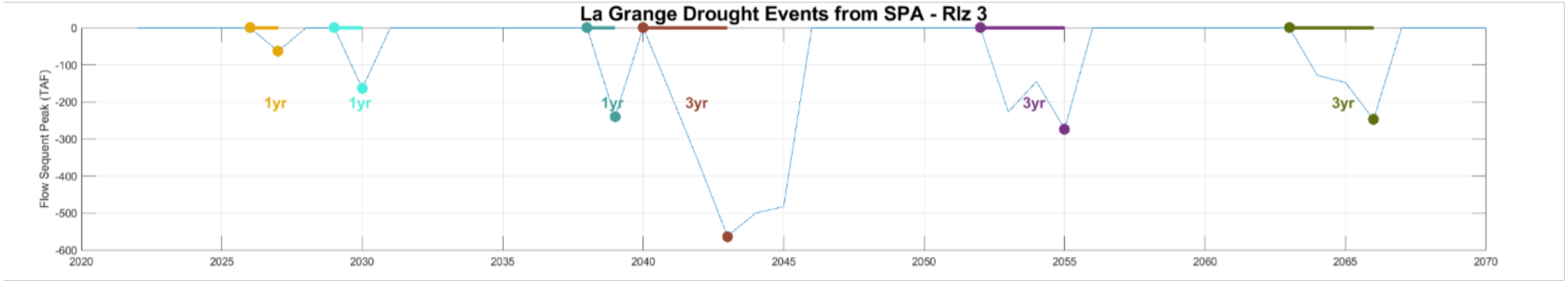
- Weather generator trained on precip and temp data from 1956-2011 for 13 gage stations
- 15-year periodicity to precipitation was included (but unexplained in the literature)
- (500 + 9) realizations x 50 years = 25,450 years



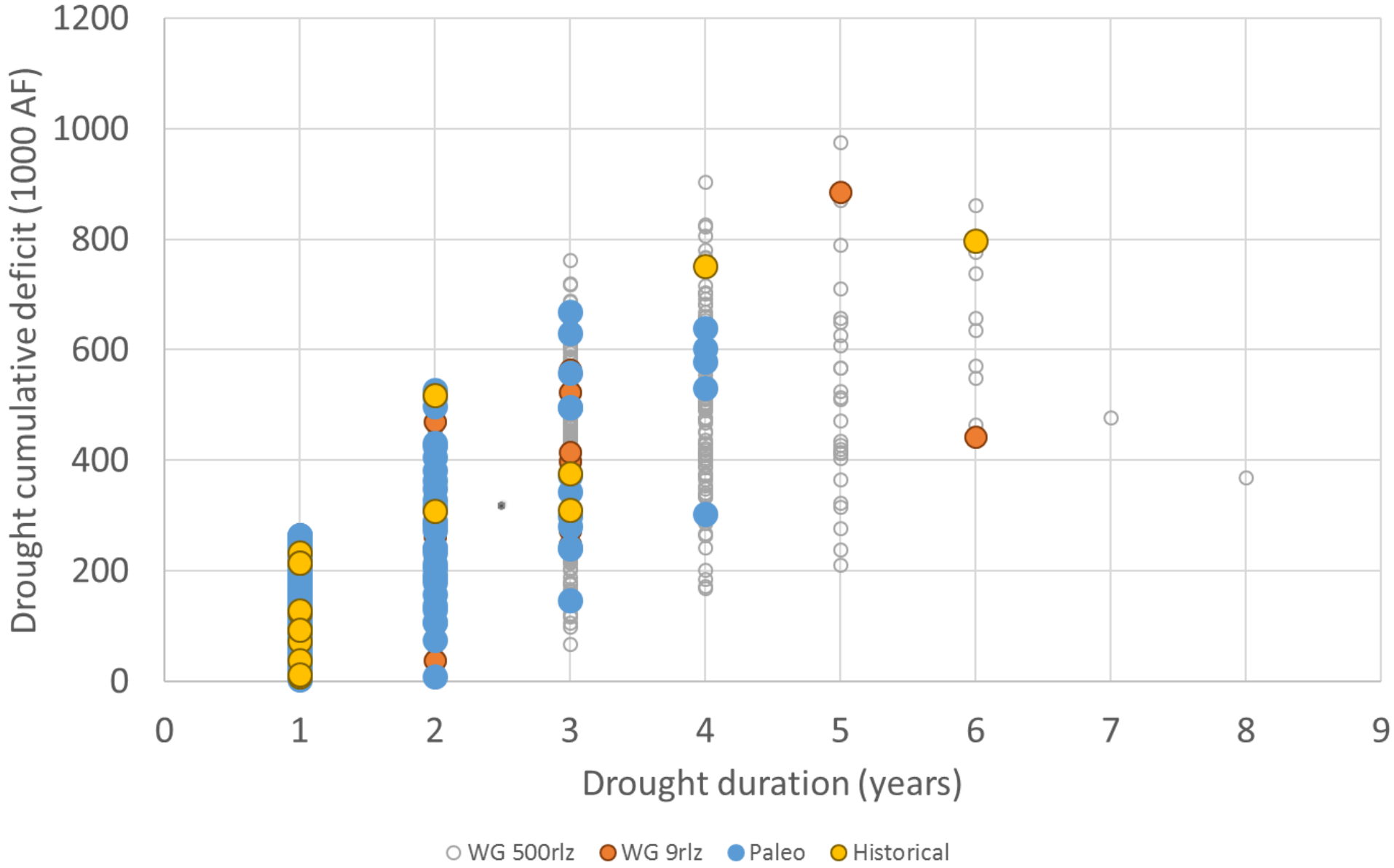
Extract drought events in the simulated data







Drougth events cumulative deficits and durations for SFPUC on the Tuolumne River at La Grange

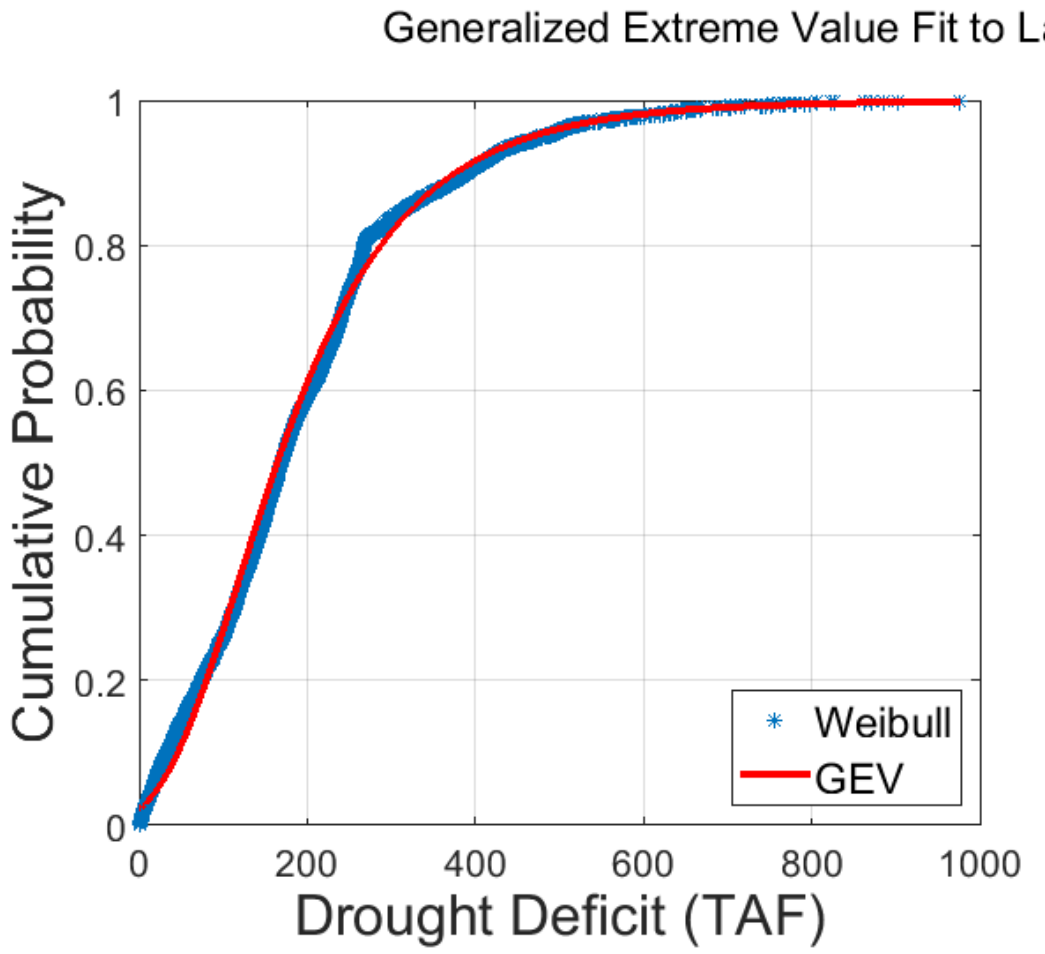


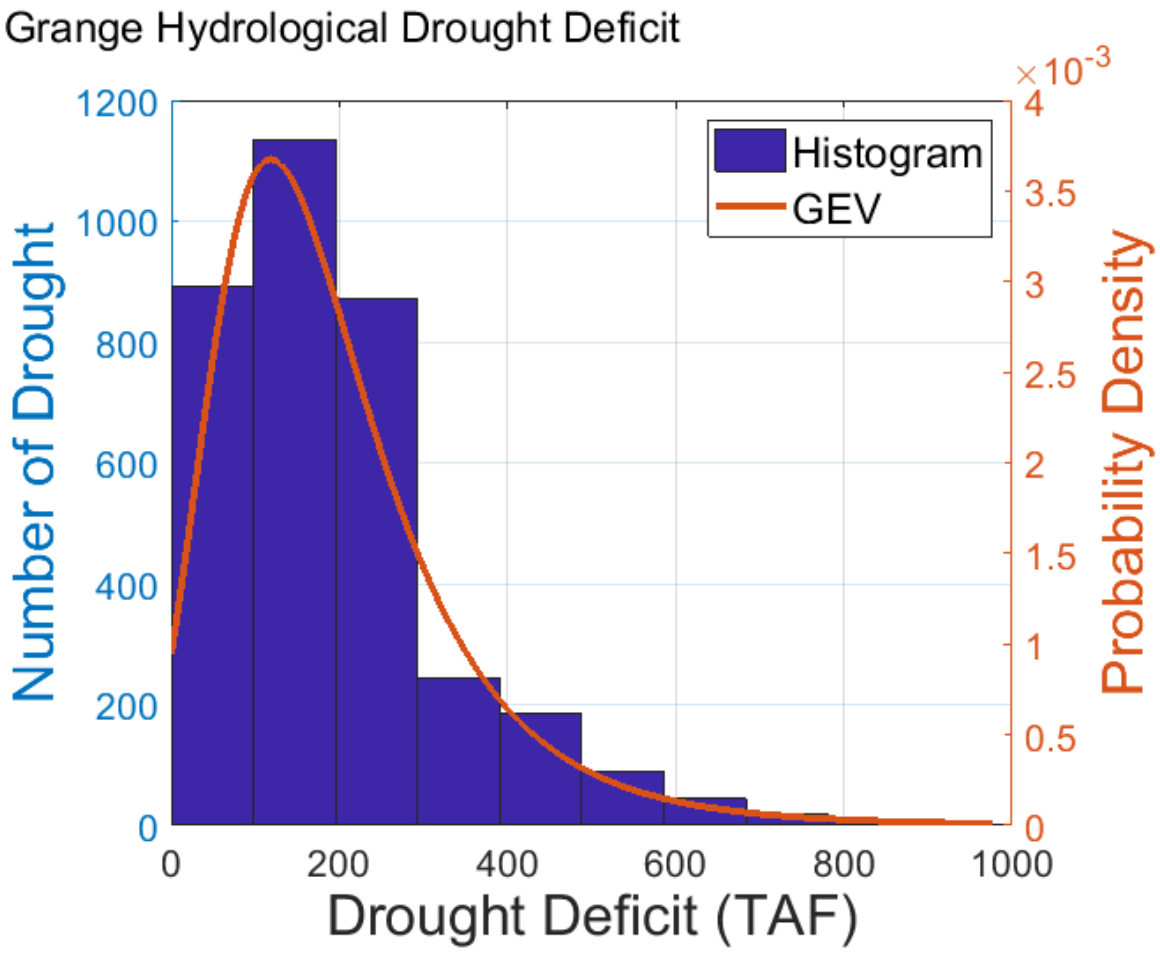
Joint Return Periods of Deficit and Duration

- Three sources of hydrological data:
  1) 95-year-long historical natural flow at La Grange (1921-2015)
  2) 9 representative climate realizations of 50-year long streamflow simulated using PRMS model plus 500 other stochastic realizations using PRMS
  3) paleo record at La Grange reconstructed from tree rings for the period 900-2012.
- Total number of drought events identified by the SPA is 3,490:
  1) 18 from the historical streamflow
  2) 3,316 from the PRMS streamflow realizations
  3) 156 from the paleo streamflow

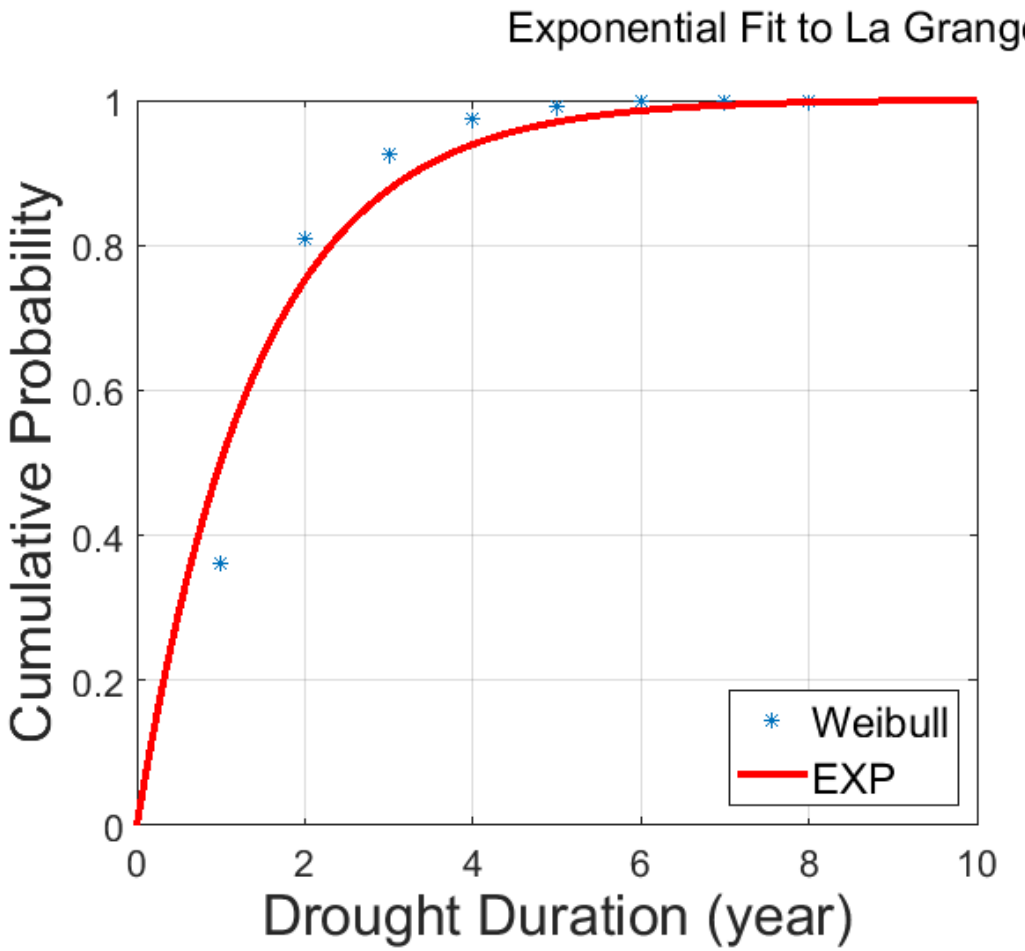
- Fitting probability distributions to deficit and duration.
- **Frank Copula** for copula-based bivariate frequency analysis

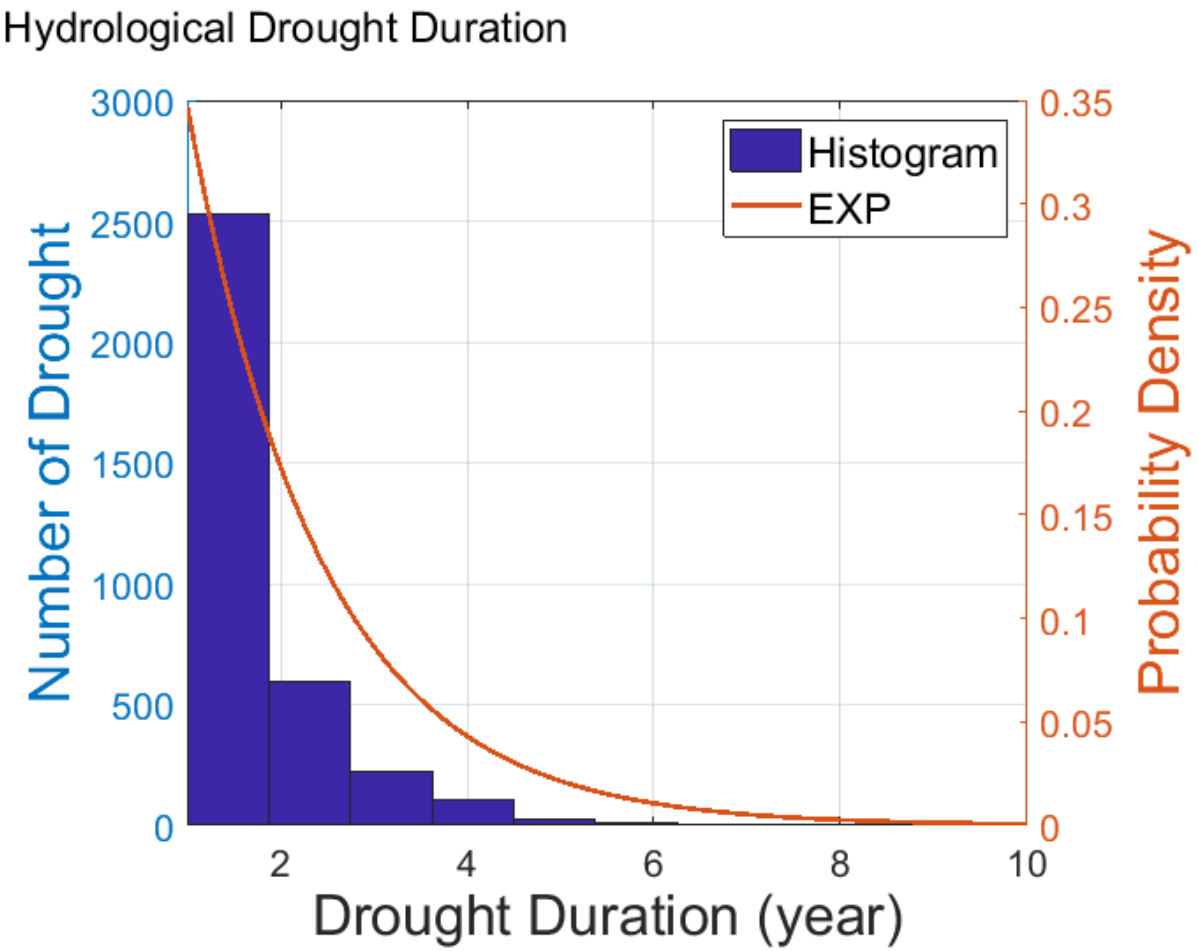
Fitting probability distribution for Deficit



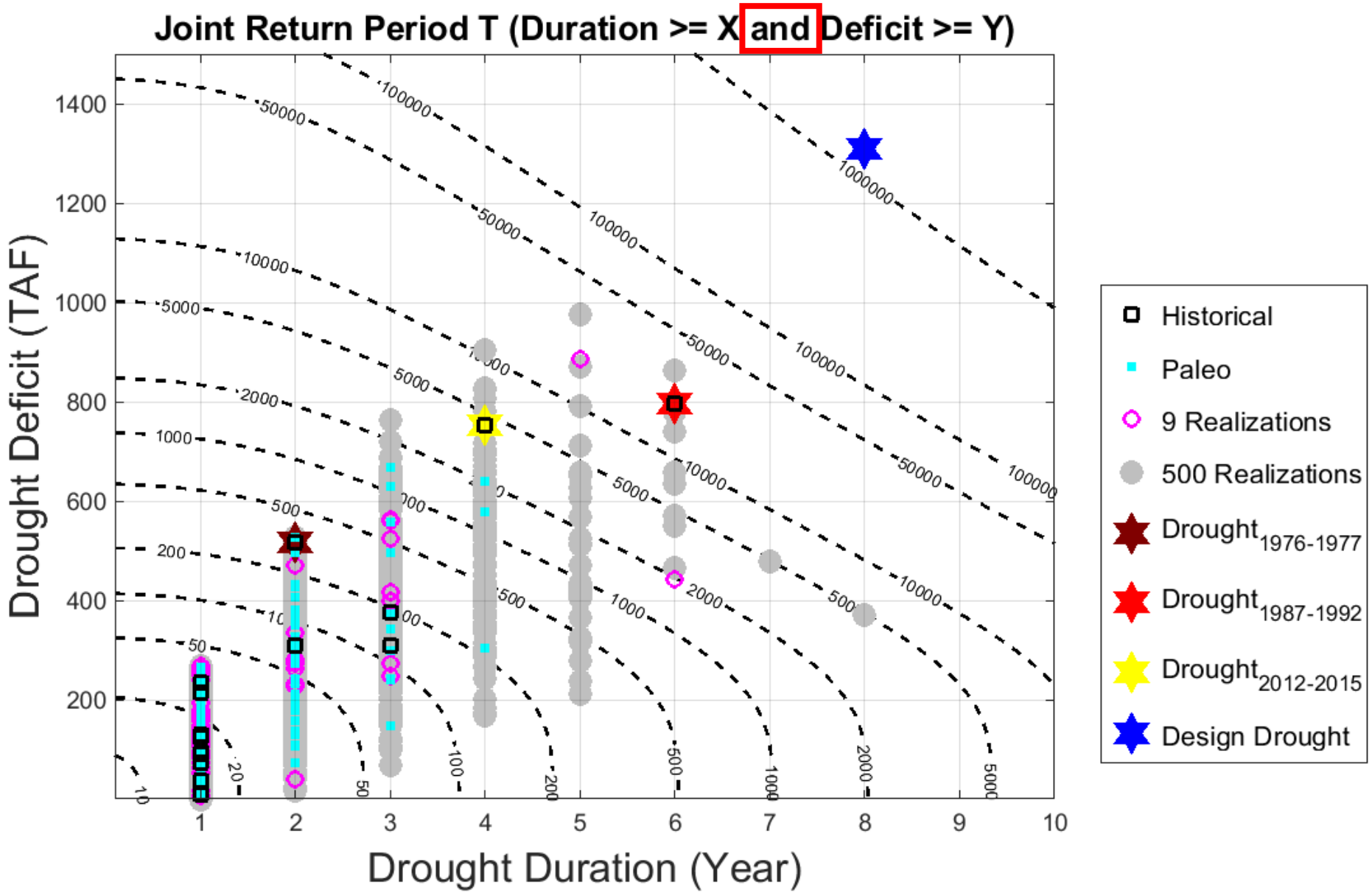


Fitting probability distribution for Duration

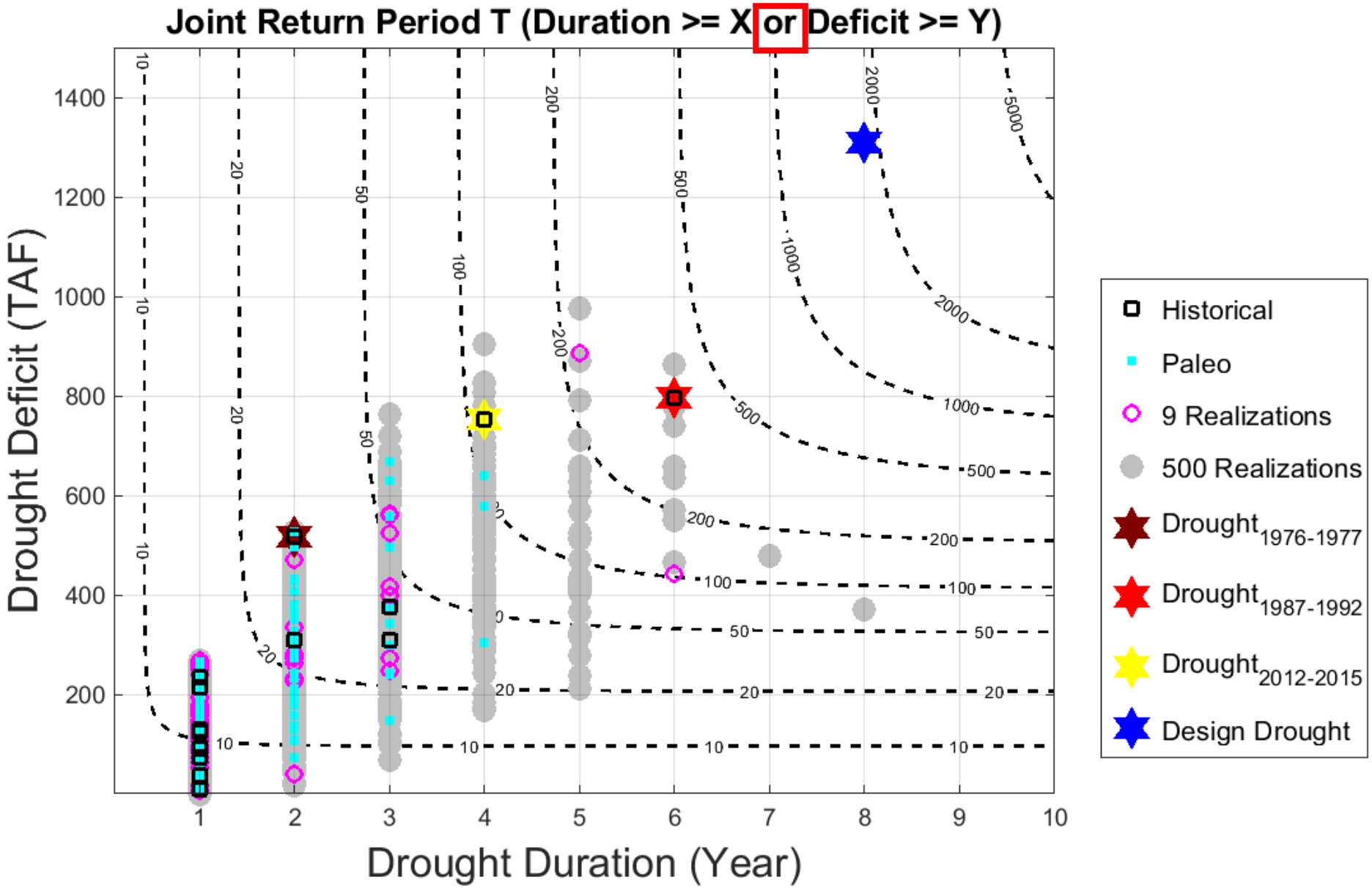




Return periods of historical drought



Return periods of historical drought



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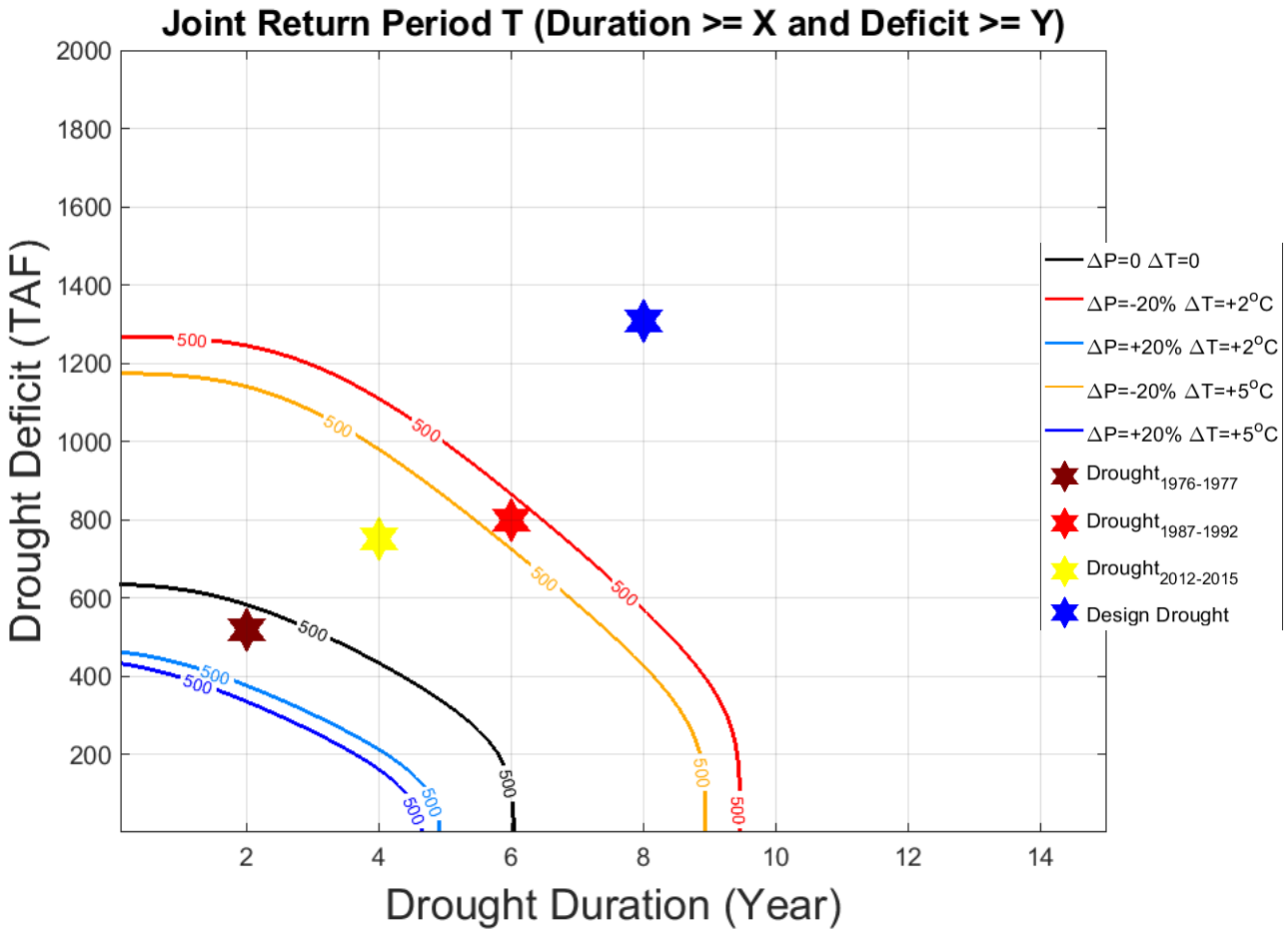
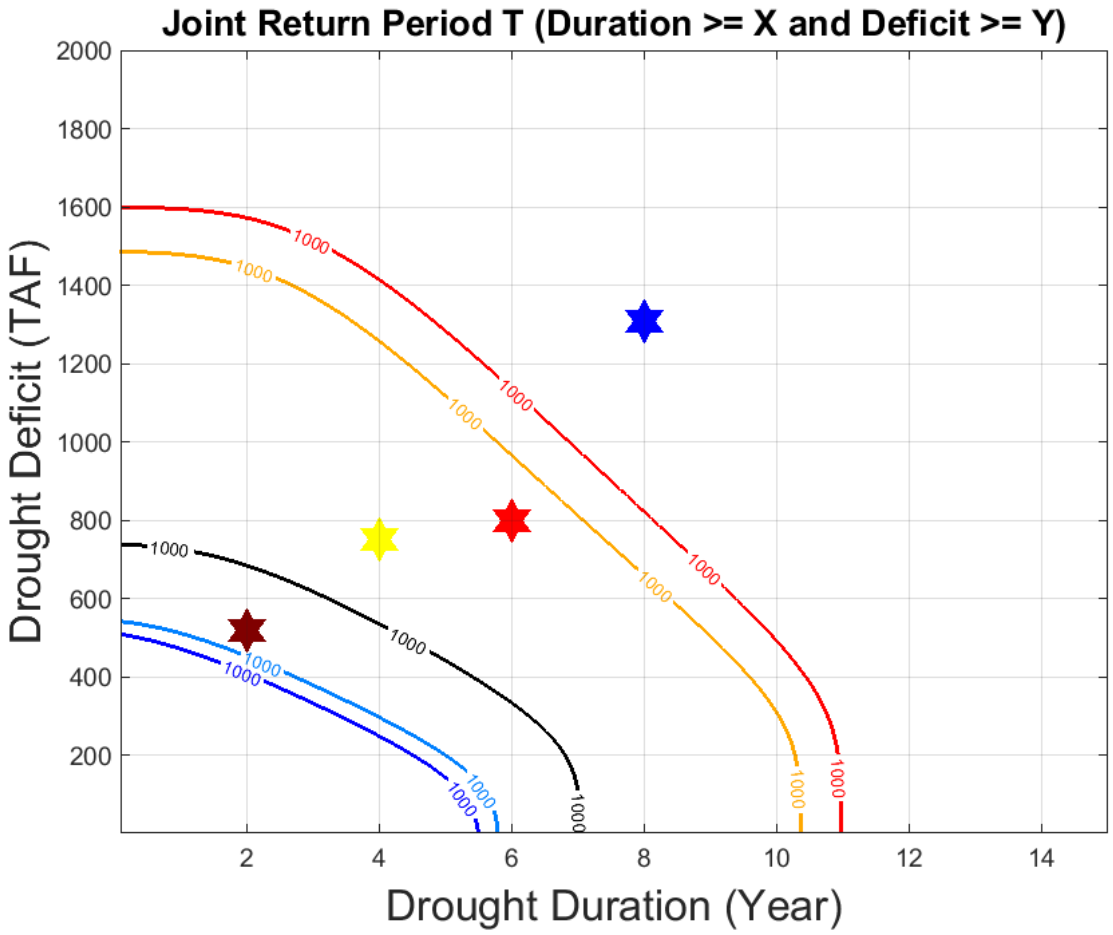
Design Drought	1,309	8	25,293 (12,940; 56,679)	1,954 (1,620; 2,376)	1,371,578 (720,390; 2,997,390)

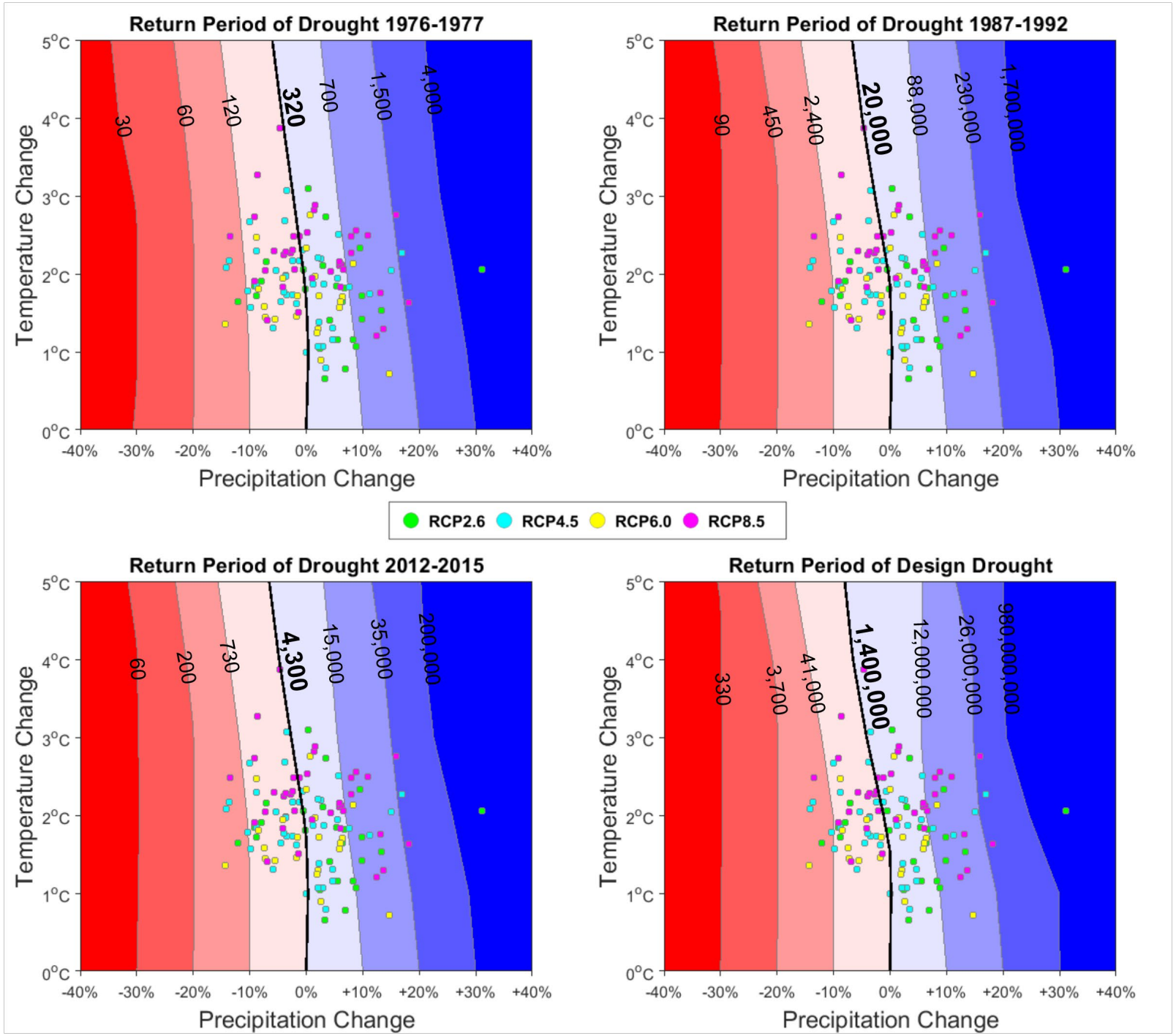
Change in Return Period with Climate Change

500-year Return Period



1000-year Return Period




Return Period of Drought 1976-1977
Temperature Change
Precipitation Change
30
60
120
320
700
1,500
4,000
Return Period of Drought 1987-1992
90
450
2,400
20,000
88,000
230,000
1,700,000
RCP2.6
RCP4.5
RCP6.0
RCP8.5
Return Period of Drought 2012-2015
60
200
730
4,300
15,000
35,000
200,000
Return Period of Design Drought
330
3,700
41,000
1,400,000
12,000,000
26,000,000
980,000,000
0°C
1°C
2°C
3°C
4°C
5°C
-40%
-30%
-20%
-10%
0%
+10%
+20%
+30%
+40%

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Christiane Barth

From: Sydney Pitcher <syditude@cox.net>
Sent: Saturday, June 4, 2022 6:51 PM
To: BAWSCA2
Subject: Bay Area Water Supply and Conservation Agency (BAWSCA), please drop your lawsuit blocking environmental protections for the Bay

Dear Bay Area Water Supply and Conservation Agency,

Dear BAWSCA Directors:
I am writing to ask you to drop your lawsuit against the State Water Board's Bay-Delta Water Quality Control Plan. The state is seeking to better balance water use in order to protect the Bay-Delta, the Central Valley rivers that flow into it, and the fish and wildlife that live there. Your ratepayers do not want to fund anti-environmental lawsuits. They strongly support environmental protections.

Ratepayers reject use of our money to pursue a doomed lawsuit aimed at preserving excessive diversions from the Tuolumne River, the source of our drinking water. The state notified you in October, 2021 that these excessive diversions are unacceptable, in light of the environmental damage they're causing. Rather than work with the state to restore the environment, you are suing.

The Tuolumne is one of the Sierra Nevada rivers that feeds the San Francisco Bay-Delta. This entire ecosystem is on the brink of ecological collapse. Six fish species are now listed as threatened or endangered, and once-bountiful wild salmon populations are on the verge of extinction. Toxic algae blooms that flourish in the stagnant cesspool left after excessive upstream diversions threaten people, pets, and wildlife. The salmon fishing industry, and coastal communities they support, are struggling to survive. Salmon runs that are central to tribal culture and spirituality are in danger of being lost forever.

The Tuolumne River has among the worst flows of any Central Valley salmon river, particularly in dry years. It is not a surprise that over the past 30 years, mismanagement by the SFPUC, which supplies water to BAWSCA, as well as the Modesto and Turlock irrigation districts that also syphon from the Tuolumne, have produced the worst salmon recovery record of any major Central Valley river.

Your constituents on the SF Peninsula strongly support the environment. In 2016, more than 70% of Bay Area voters supported Measure AA, agreeing to tax themselves to restore the Bay's wetlands.

A peer review of your faulty restoration plan, commissioned by the National Marine Fisheries Service, confirmed that the plan is not supported by credible science.

We appreciate that BAWSCA agencies are committed to ensuring reliable water supplies to residents. We want reliable water too. The evidence shows that BAWSCA can maintain highly reliable water supplies while taking needed steps to protect the Tuolumne River and the Bay-Delta. It is time for BAWSCA and the SFPUC to catch up with communities like Los Angeles and Orange County, which are far ahead when it comes to investing in alternative water supplies like water recycling.

Again, we strongly encourage you to drop your lawsuit over the Bay-Delta Plan and support real environmental protections. We are confident that investments in proven water management tools, currently not being used, can ensure a reliable water supply, while supporting a healthy Tuolumne River and Bay-Delta.

Sincerely,
Sydney Pitcher

Christiane Barth

From: Randi Reiremo <randi.reiremo@gmail.com>
Sent: Saturday, June 4, 2022 12:23 PM
To: BAWSCA2
Subject: Bay Area Water Supply and Conservation Agency (BAWSCA), please drop your lawsuit blocking environmental protections for the Bay

Dear Bay Area Water Supply and Conservation Agency,

Dear BAWSCA Directors:
I am writing to ask you to drop your lawsuit against the State Water Board's Bay-Delta Water Quality Control Plan. The state is seeking to better balance water use in order to protect the Bay-Delta, the Central Valley rivers that flow into it, and the fish and wildlife that live there. Your ratepayers do not want to fund anti-environmental lawsuits. They strongly support environmental protections.

Ratepayers reject use of our money to pursue a doomed lawsuit aimed at preserving excessive diversions from the Tuolumne River, the source of our drinking water. The state notified you in October, 2021 that these excessive diversions are unacceptable, in light of the environmental damage they're causing. Rather than work with the state to restore the environment, you are suing.

The Tuolumne is one of the Sierra Nevada rivers that feeds the San Francisco Bay-Delta. This entire ecosystem is on the brink of ecological collapse. Six fish species are now listed as threatened or endangered, and once-bountiful wild salmon populations are on the verge of extinction. Toxic algae blooms that flourish in the stagnant cesspool left after excessive upstream diversions threaten people, pets, and wildlife. The salmon fishing industry, and coastal communities they support, are struggling to survive. Salmon runs that are central to tribal culture and spirituality are in danger of being lost forever.

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Sincerely,

Randi Reiremo
148 Stetson Ave.
Corte Madera, CA 94925

June 1, 2022

The Honorable Gavin Newsom
Governor, State of California
1021 O Street, Ste. 9000
Sacramento, CA 95814

The Honorable Toni Atkins
President Pro Tempore, California State Senate
1021 O Street, Ste. 7730
Sacramento, CA 95814

The Honorable Anthony Rendon
Speaker, California State Assembly
1021 O Street, Ste. 8330
Sacramento, CA 95814

Dear Governor Newsom, Pro Tem Atkins and Speaker Rendon:

As water managers from across the state, who have the responsibility to plan and provide for our customers' water future, we have an urgent message: We need new water now. Our collective ability to provide water supply and supply reliability for your constituents, and California's economy, is collapsing and in a crisis that extends beyond the current drought.

California's existing water system can no longer deliver the water necessary to maintain Californians' quality of life that the world's fifth largest economy demands. You must act to change this trajectory. Maintaining the status quo is a recipe for deeper and perpetual disaster.

Later this year, it is likely that some water agencies will be forced to cut back, or completely cut off, water supplies to commercial and industrial customers. How will a beverage plant make soda or a brewery make beer without water? They won't. This is more than a drought; it is a water crisis.

This is a crisis brought about by not investing in adapting our infrastructure to the new hydrology climate change has already wrought. Without such investments in restoring the capability to meet the needs of society, public health, and the economy, we will not have the luxury to devote already too thinly stretched water resources to address California's environmental management challenges.

The Governor just proposed $2 billion in this year's budget on water related funding, with a mere $500 million for strategic water storage over multiple years, which barely scratches the surface of what's needed. The Senate's proposed $7.5 billion over three years on water related issues is an improvement, but indicative of misplaced priorities in the face of the water supply crisis, the biggest Senate investment would be spending $2.5

billion to increase permanent dedications of water to the environment. These budget priorities demonstrate the chasm between California's pressing water supply needs and Sacramento's current water priorities.

California needs a new strategy to invest in adapting water systems to the new hydrologic realities and increase water supply capabilities as quickly as humanly possible. We need a bold solution. Adapting to this challenge requires infrastructure that can store surplus water when it is available, while reducing increasing flood risks, and deploy it for human uses when water is not available. It is time to fund water infrastructure aligned with the new climate reality of significantly reduced snowpack and increased precipitation volatility.

As water managers from across the state, we know what it will take to start investing in the future of our water infrastructure – we simply ask you to listen. It starts with understanding that our current water capture and delivery system is archaic, designed and built before the impacts of climate change, as evidenced by the stark reality of the dangerously low levels in all reservoirs across the state. The response can't be to keep taking away supplies necessary to meet the needs of your constituents and the economy. It is time to have an honest and difficult discussion about what it will take to solve the problem. There can be no sacred cows.

How could things be different today if we had already followed the course we are suggesting? The Department of Water Resources recently noted that if the Delta Conveyance Project was operational at the end of 2021, the State Water Project would have captured about 236,000 acre-feet of additional water - enough water for over 2.5 million people, or nearly 850,000 households, for a full year. Another project, Sites Reservoir, will increase the resiliency of water supplies because it will not rely on spring snowmelt for filling but instead will capture storm runoff and some related flood water. Were Sites online, nearly 1-million-acre feet of additional water would have been available to support the environment, farms and cities in 2021.

An "all of the above" strategy is necessary, including improvements in water use efficiency. However, telling people to use less and hoping for rain is not a strategy – it's a capitulation to social and economic disaster. We need to go BIG. We need more of everything, and we need a bold plan for it now. We are ready to help.

Sincerely,

Craig Miller
General Manager
Western Municipal Water District

Jeffrey Kightlinger
Interim General Manager
Pasadena Water and Power

Paul Helliker
General Manager
San Juan Water District

Jeff Sims
General Manager
Rubidoux Community Services District

Matthew Litchfield
General Manager
Three Valleys Municipal Water District

Kimberly Thorner
General Manager
Olivenhain Municipal Water District

Allison Febbo
General Manager
Mojave Water Agency

Jim Abercrombie
General Manager
El Dorado Irrigation District

John Bosler
General Manager/CEO
Cucamonga Valley Water District

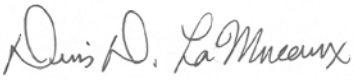
Miguel J. Guerrero, P.E.
General Manager
San Bernardino Municipal Water Department

Greg Thomas
General Manager
Elsinore Valley Municipal Water District

Gary Arant
General Manager
Valley Center Municipal Water District

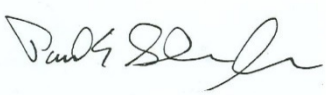
Chris Berch
General Manager
Jurupa Community Services District

J. M. Barrett
General Manager
Coachella Valley Water District



Dennis LaMoreaux
General Manager
Palmdale Water District

Jeff R. Pape
General Manager
Temescal Valley Water District



Paul E. Shoenberger, P.E.
General Manager
Mesa Water District

Tom Coleman
General Manager
Rowland Water District

Heather Dyer, MS, MBA
CEO/General Manager
San Bernardino Valley Municipal Water District

Erik Hitchman
General Manager
Walnut Valley Water District

Stephan Tucker
General Manager
Water Replenishment District of Southern California

CC: The Honorable Nancy Skinner, Chair, Senate Budget and Fiscal Review Committee
The Honorable Philip Ting, Chair, Assembly Budget Committee

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CALIFORNIA DEPARTMENT OF
WATER RESOURCES

NewsNews Releases
Published: June 02, 2022

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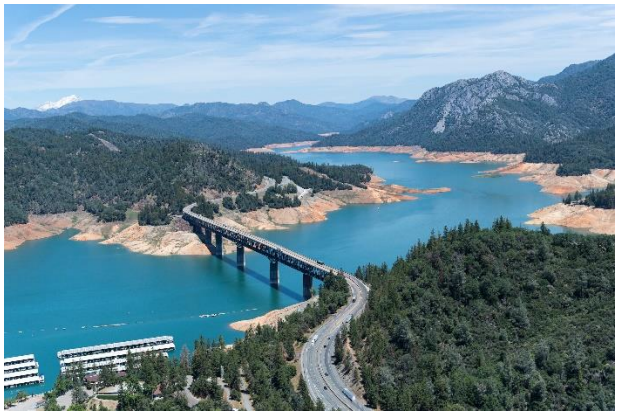
State Federal Water Managers Prepare for Dry Summer Conditions



The Pit River Bridge spans Lake Shasta in this aerial view of low water conditions when on this date, the storage was 1,820,933 AF (Acre Feet) which is 40 percent of Total Capacity. Photo taken May 24, 2022.

SACRAMENTO, Calif. – The Department of Water Resources (DWR) and the U.S. Bureau of Reclamation (Reclamation) are gearing up for the hot and dry summer months as the state experiences a third consecutive year of severe drought.

California will enter the dry summer months with below-average reservoir storage and with the state's largest reservoir, Shasta Lake, at critically low levels. The Sierra snowpack is essentially gone, and runoff into the state's streams and reservoirs has largely peaked for the year.

"The overall water supply for California is still critical going into the dry summer months," said DWR Director Karla Nemeth. "DWR and its federal partners at the U.S. Bureau of Reclamation will continue to take a conservative approach to water management decisions to maintain storage, water quality, and water deliveries for millions of Californians. We need to be prepared for a hotter, drier future brought on by our changing climate."

DWR and Reclamation are coordinating closely on water project operations and actions to address expected low river flows and temperature challenges this summer.

As a result of the ongoing severe drought conditions, DWR has finalized its decision earlier this year to deliver 5 percent of requested State Water Project (SWP) supplies in 2022. DWR will also provide water for any unmet critical health and safety needs of the 29 water agencies that contract to receive SWP supplies.

Reclamation is taking a similar approach to water supply allocation this year, given the critical conditions at Shasta Lake, the primary source of water for the Central Valley Project (CVP). Reservoir levels in Shasta were the second lowest on record on May 1 this year.

Most agricultural water service contractors will receive a zero percent allocation from the CVP this water year (with Friant Division Class 1 at 15 percent) and municipal water supplies for communities at the minimum levels for health and safety needs only.

“As the cornerstone of the Central Valley Project, we are working to conserve as much storage in Shasta Reservoir as possible, which is currently only at 40 percent capacity,” said Reclamation Regional Director Ernest Conant. “As such, we will be relying heavily on Folsom Reservoir to help with Delta water quality needs this summer. We are also working closely with state and federal partners to help protect endangered winter-run Chinook salmon.”

Among the actions to benefit winter-run Chinook is the installation of chilling units at Shasta Dam that will further cool the water coming into the Livingston Stone National Fish Hatchery.

DWR recently conducted aerial observations of Shasta Lake, Lake Oroville and Folsom Lake to capture still photos and aerial video of the lake levels at their seasonal peak. These photos and videos are available for use by media outlets.

DWR will continue to preserve as much storage as possible in Lake Oroville, the SWP’s largest reservoir. Water releases from Lake Oroville will be prioritized to maintain Delta water quality, protect endangered species, and meet senior water right needs.

DWR and Reclamation have been operating the State Water Project and Central Valley Project under a Temporary Urgency Change Order since April that allowed for the flexibility to release less water into the Delta through June 30 and conserve limited stored water in Shasta, Oroville, and Folsom reservoirs. DWR and Reclamation currently project that both systems have available water supply to maintain Delta water quality through the summer.

The Emergency Drought Salinity Barrier along the West False River in the Delta will remain in place to help conserve storage and reduce the amount of saltwater intrusion into the Delta through the summer and fall. The barrier is expected to remain in place until November 30, however its continued need into 2023 will be reassessed in the fall.

Uncertainty still remains as summer approaches. Hotter temperatures, longer heatwaves, and wildfires could impact water management decisions. DWR and Reclamation will continue to monitor conditions and adjust as needed to navigate the severe drought conditions and plan for another dry fall and winter to come.

With that in mind, California is continuing to respond with a series of drought actions:

- Governor Newsom has called on all Californians to voluntarily reduce their water use by 15 percent. He has also urged local water agencies to take more aggressive action to reduce water use through their locally developed Water Shortage Contingency Plans. Local agency decisions on water conservation are key to successful management of water resources.

- The State Water Resources Control Board has voted to require water agencies to move to Level 2 of their contingency plans, meant to address up to a 20 percent shortage
- ·of water supplies. The Water Board also voted to ban the watering of non-functional turf or decorative grass found around commercial buildings, industrial parks, and along roadways. DWR estimates that the ban will save hundreds of thousands of acre-feet a year, enough to supply water to more than half a million households for a year.
- DWR is providing direct community assistance for drought relief projects and to communities who need it most to address water supply challenges and help build local resilience. To date, DWR has awarded more than $406 million in drought relief funding to communities throughout the state. Additionally, the state recently announced $150 million in funding for groundwater sustainability projects in communities that rely on groundwater for their water supply.

Californians can now access current water conditions in real time at California Water Watch, a new website launched by DWR. This website will help Californians see their local hydrological conditions, forecasts, and water conditions down to their address or their local watershed. The site presents data from a variety of sources and allows the public to obtain a quick snapshot of local and statewide water conditions.

# # #

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California lawmakers mull buying out farmers to save water
Associated Press | June 6, 2022 | Adam Beam

People fish in the Sacramento-San Joaquin River Delta's Elk Slough near Courtland, Calif., Tuesday, March 24, 2020. A proposal in the California state Senate aims to keep more water in California's rivers and streams to benefit endangered species of fish. Under the plan the state would spend up to $1.5 billion to buy up "senior water rights" that farmers use to take water from the state's rivers and streams to grow their crops. (AP Photo/Rich Pedroncelli, File)

SACRAMENTO, Calif. (AP) — After decades of fighting farmers in court over how much water they can take out of California's rivers and streams, some state lawmakers want to try something different: use taxpayer money to buy out farmers.

A proposal in the state Senate would spend up to $1.5 billion to buy "senior water rights" that allow farmers to take as much water as needed from the state's rivers and streams to grow their crops. If state officials owned those rights, they could leave the water in the rivers to benefit endangered species of salmon and other fish.

California has been mired in drought for most of the last two decades, prompting intense scrutiny of the state's complex water system and how it might be modified to ensure steady supplies during exceptionally dry periods — including a separate state proposal that would pay farmers to grow fewer crops to save water.

Current readings show about 98% of the state has severe drought conditions as California heads into summer months that rarely produce any significant precipitation. Many areas have begun restricting water use for homeowners, largely by reducing outdoor use such as lawn irrigation. And farmers have had their allocation from the two major state-owned water systems reduced — in some cases down to zero.

Legally, all of the water in California is the property of the government. But farmers have "water rights" that let them take water for agriculture. Farmers have used those rights — governed by a complicated system based on seniority and other factors — to turn California's Central Valley into an agricultural powerhouse that provides much of the nation's fruits, nuts and vegetables.

But siphoning off all that water also has disrupted the fragile ecosystem of the San Joaquin/Sacramento river delta, the largest estuary on the West Coast and home to endangered salmon and other fish. Environmental groups and farmers have battled for years over state and federal rules governing just how much water can be diverted for agriculture, which uses far more water than any other sector of the economy.

Now, with California having a record budget surplus of nearly $100 billion, Democrats in the state Senate have proposed using up to $1.5 billion to buy senior water rights — by either buying the land associated with the rights, buying just the right itself, or putting an easement on the land that requires the water to be used for fish and other fauna and flora.

The proposal is part of budget negotiations between lawmakers and Gov. Gavin Newsom's administration that should wrap up by the end of this month.

"It's like we're taking a page from corporate America and we're buying back stock," said state Sen. Bob Wieckowski, a Democrat who represents the San Francisco Bay Area and is chair of a budget subcommittee overseeing environmental spending.

While $1.5 billion sounds like a lot of money, it wouldn't buy that much water. Regulators measure water by "acre foot," defined as enough water to cover 1 acre (0.4 hectares) of land to a depth of 1 foot (30 centimeters). That's the equivalent of 325,851 gallons (1.2 million liters).

A typical household uses 1 acre foot of water each year. Farmers collectively use up to 35 million acre feet of water each year, according to the Water Education Foundation.

The $1.5 billion would be enough to buy about 200,000 acre feet of water, based on an average price of $7,500 per acre foot, according to Tom Birmingham, general manager of Westlands Water District, the largest agricultural water district in the country.

Still, Birmingham says the idea "makes an awful lot of sense" because "it is a means by which conflict can be avoided."

Right now, the only way to get more water flowing in rivers and streams is to get state and federal regulators to change the rules. They can do that by requiring more water be left in rivers and streams, but that means less water for farmers. Those rule changes often prompt lawsuits, which can take a decade or longer to resolve, said Lester Snow, a former secretary of the California Natural Resources Agency and regional director of the U.S. Bureau of Reclamation.

“We need a way to take much quicker action. And I think acquiring water rights for that purpose is one of the ways to do that,” he said. “With climate change, we just don’t have that kind of time.”

For this to work, farmers would have to voluntarily sell their valuable water rights — something Birmingham says shouldn’t be a problem. Lots of farmers try to sell their water rights to Westlands Water District every year, Birmingham said.

“For many farmers ... their children simply are not interested in continuing to farm,” Birmingham said.

But state Sen. Brian Dahle, a republican running for governor whose family has been farming in California for 92 years, said the only reason farmers would be willing to sell is because state officials are driving them out of business with burdensome regulations.

“This makes my blood boil. It’s ridiculous,” Dahle told his colleagues during a legislative hearing on the proposal. “You are forcing them into a corner where they have no other option.”

John McManus, executive director of the Golden State Salmon Association, said as with any legislative proposal “the devil will be in the details.” He said he’d want to see rules that make sure any additional water purchased by the state will remain in the rivers and not be removed by someone else with water rights farther downstream.

But he is hopeful the program will work because he said there are about six native fish species that are “on life support right now because we don’t have enough water flowing through the Delta.”

“So anything that can be done to address that problem is appreciated,” he said.

# # #

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‘This Is Give A Little To Save A Lot’: California Water Rights Buyback Proposal Met With Enthusiasm, Resistance

CBS Sacramento | June 6, 2022 | Andrew Haubner

SACRAMENTO (CBS13) — A new proposal in the California Senate includes using taxpayer money to buy out farmers’ water rights.

The $1.5 billion plan would see the government purchase “senior water rights” for the purpose of benefitting endangered fish species in the state.

Proponents argue it’s an opportunity to conserve not just water but types of salmon that are rapidly facing possible extinction while possibly paving the way for environmental water rights. Opponents believe it could force farmers to give up their long-held rights and potentially set a precedent for further rollbacks of those rights.

“This is give a little to save a lot because once we lose species we can never get them back,” says John McManus, executive director of Golden State Salmon.

While details are relatively light on the specifics of the proposal, McManus argues that $1.5 billion doesn’t equate to any large-scale takeback against the agricultural sector.

“This is no threat to irrigated agriculture in California. It’s not going anywhere. The $1.5 billion may sound like a lot of money but it’s not a lot in the grand scheme of things,” he said. “We’re talking about the possibility of providing a small amount of additional water to keep species currently on life support from going extinct and hopefully to rebuild the population.”

The salmon industry is currently a $900 million a year industry in the state of California but multiple different species of California coast and seasonal run salmon are either threatened or on the endangered list. McManus sees the proposal and land rights buybacks as a way to not only save some species but allow the numbers to grow and continue to be a viable industry within the state’s food sector.

“The Salmon industry in California is one of those rare industries that relies on a natural product that needs to be sustainably managed.”

“This is really a plan that’s aiming in that direction of having and farms on the landscapes simultaneously in a more sustainable way,” says Andrew Rypel, co-director of the UC Davis Center for Watershed Services. “The trick is how do we give people a thriving economy on the landscape that is in cooperation with nature rather than opposed to it. And that’s a really hard thing to figure out.”

Democratic house representative Josh Harder said in a statement: “My priority is making sure the Central Valley’s voice is heard in every conversation on water and we always have a seat at

the table. I'm open to this plan, but it has to be done in a way that protects our Valley farmers, ranchers and families."

Some that are familiar with the proposal express concern about the plan of what it could mean for farmers and families that sit on land or possess water rights that the state may covet. Mike Wade, executive director of the California Farm Water Coalition, believes a collaborative approach may be a better solution than one that has the potential to put farmers at odds with the government. He argues that buying back rights can mean a permanent end to some farms which can in turn have unintended consequences on agriculture in the state long term.

"We're buying farmland to retire it and use that water for environmental purposes when we have other options," Wade explains. "Investing in water storage is one thing. Investing in our habitat to protect salmon is another."

With 98 percent of the state facing severe drought conditions, some farmers have seen their water allocation cut significantly. Opponents of the proposal see buybacks as backing farmers into a corner. With the offer of money and water allocations cut so significantly, Republican state Senator and Gubernatorial candidate Brian Dahlie sees the proposal as a potential death knell to a new generation of some farmers.

"Those are private water rights that are owned by farmers and if we don't have water we're not gonna have food," Dahlie says. "So you're not a willing seller until they take your water away from you and you can't make a living on your land."

The $1.5 billion will be included in budget discussions revolving around the state's surplus. Dahlie thinks that the money could be used for other types of water storage that he argues can be used for conservation. The state Senator pointed to the proposed Sites Reservoir in Colusa as a potential solution for water storage that wouldn't demand farmers give up their land or water rights. The project is on track to break ground in 2024 with a substantial portion of the project going to environmental uses.

"We have $97 billion in a budget surplus here at the Capitol and we're not putting money toward building reservoirs," Dahlie said.

The discussion will likely continue and intensify as more details of the proposal are brought to the table. Rypel, back at UC Davis, poses the question that everyone is looking to answer.

# # #

Experts advise South Bay residents remove lawns to fight drought
San Jose Spotlight | June 3, 2022 | Natalie Hanson

Experts advise South Bay residents remove lawns to fight drought
San Jose is tightening water restrictions for landscaping in new developments. File photo.

Santa Clara County residents are being asked to reduce water usage and local water authorities are offering incentives to help homeowners and businesses achieve this goal.

In mid-May, Valley Water officials said county residents are going in the wrong direction in their use of water. Valley Water reported residents reduced water by 15% last October and November, but then went the other direction and increased water usage by a 30% during March. To curb the problem, Valley Water's board of directors voted in April to restrict outdoor watering to two days a week. The San Jose City Council voted in May to require new developments to install drought-tolerant landscapes.

To incentivize residents and businesses to do so, Valley Water has a number of rebate programs. Its Landscape Rebate Program offers rebates for homeowners, HOAs, businesses and institutions to help them replace high-water use lawns with drought-resistant plants, remove swimming pools and replace irrigation equipment with high-efficiency equipment.

Qualifying residents can apply for up to $3,000 in rebates until June 23, 2023. Work done on commercial or multi-family properties with five or more units can qualify for up to $50,000.

Dennis Murphy, a director at the nonprofit water use think tank Sustainable Silicon Valley, said San Jose struggles with residential water use because many people have yards that need watering.

“Basically, Californians should not have lawns,” he told San José Spotlight. “This is not going to get any better. The impacts of climate change are more and more obvious.”

He said people should select plants native to California’s dry climate to create a drought-tolerant landscape, and get advice from a local nursery or landscaper.

With water bills rising, and rebates available, landscapers expect an influx of business. Ozzy Marquez, who owns Quality Green Landscaping and Gardening Services in San Jose, said he’s received numerous requests to remove lawns. The price to remove lawns can cost anywhere between $1,500 to $2,500 for an average-sized residential lawn of 1,200 to 2,000 square feet.

For people who do not want to remove their lawns, experts say there are options to keep plants on a property without wasting water.

Alessandro Ossola, assistant professor of urban plant science at UC Davis, said while people may be concerned with the cost of removal, traditional lawns are more costly over time with maintenance and watering. He advised replacing old irrigation systems and adding mulch, which reduces water loss through evaporation, to save money over time by reducing water waste.

‘’Replacing your lawn with a diverse landscape composed by native grasses, shrubs and trees can ensure your water bill is dramatically reduced,” Ossola told San José Spotlight.

Samuel Sandoval, associate professor in water resources at UC Davis, said people should stretch water usage to prevent any trees from dying.

“Keep the trees alive,” he said. “Do a once-a-week deep irrigation. Make sure you are irrigating around the trees and the soil is very moist, so it will last for an entire week.”

This is not the year to grow a garden, Sandoval said.

“Let’s leave it to the farmers, let’s save that water and use it for saving the trees,” he said.

Residents can research Cal Water’s drought-resistant plant species list and San Jose Water’s GardenSoft website or contact a volunteer master gardener consultant in their area by searching their ZIP code at https://mg.ucanr.edu/FindUs.

# # #