

Agenda Item 13

Related Statewide Water Issues

- 1. Drought Update**
 - 2. FloodSAFE Update**
- 

California's Drought

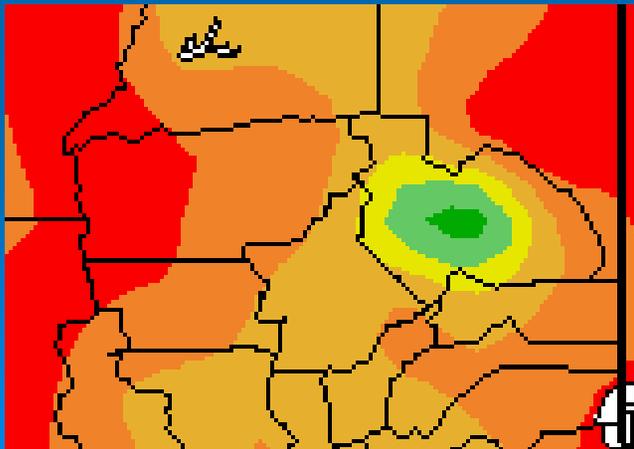
Precipitation

Percent of Average

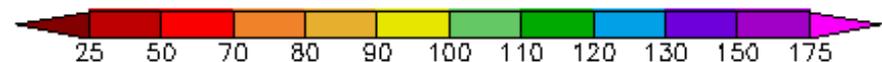
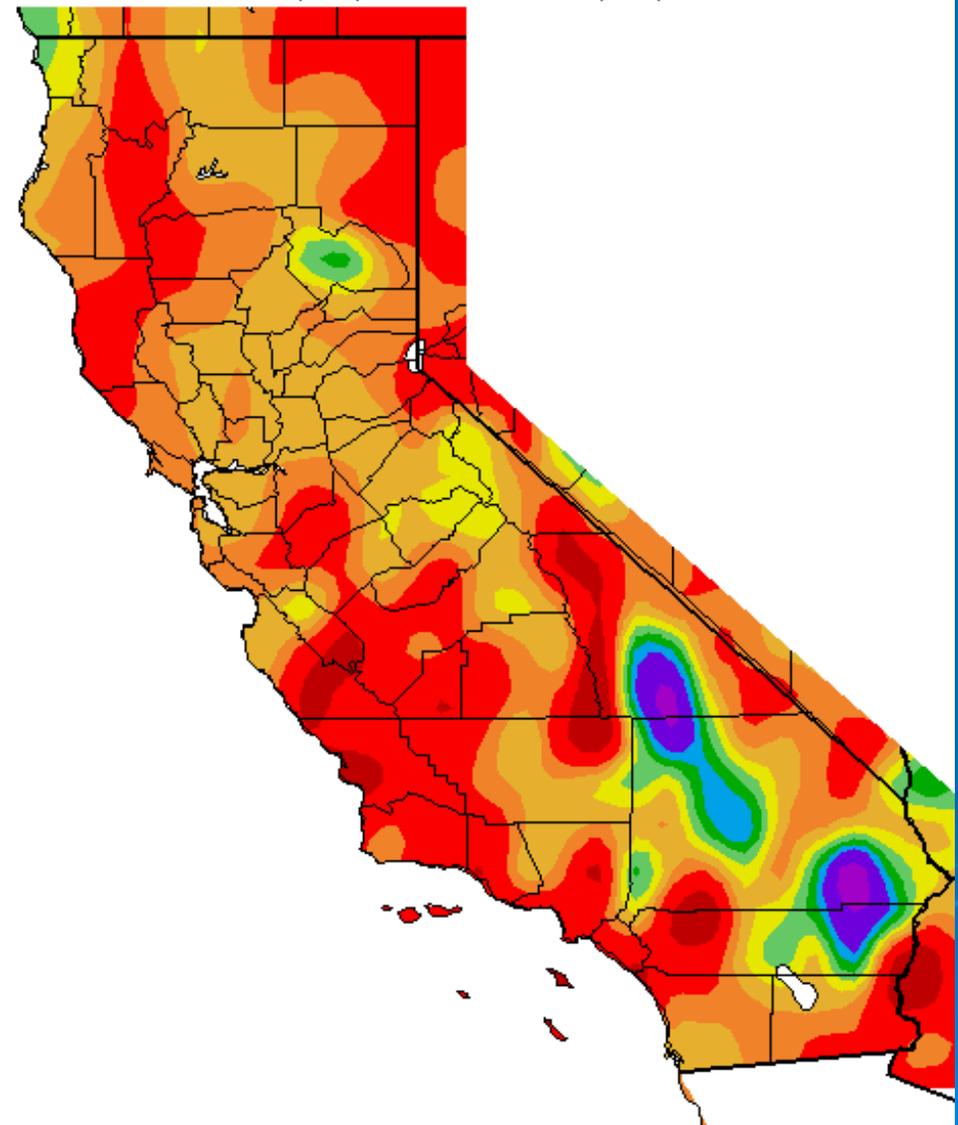
Water Year

2008 – 2009

Updated 5-6-09



Percent of Average Precipitation (%)
10/1/2008 – 5/6/2009

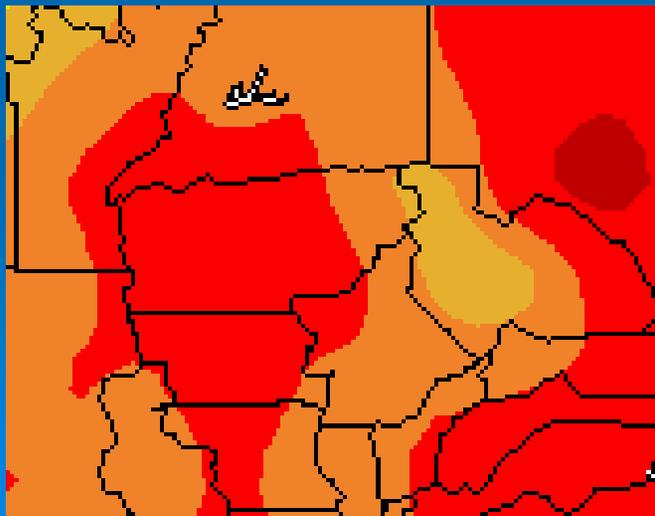


Generated 5/07/2009 at WRCC using provisional data.
NOAA Regional Climate Centers

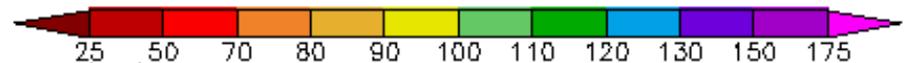
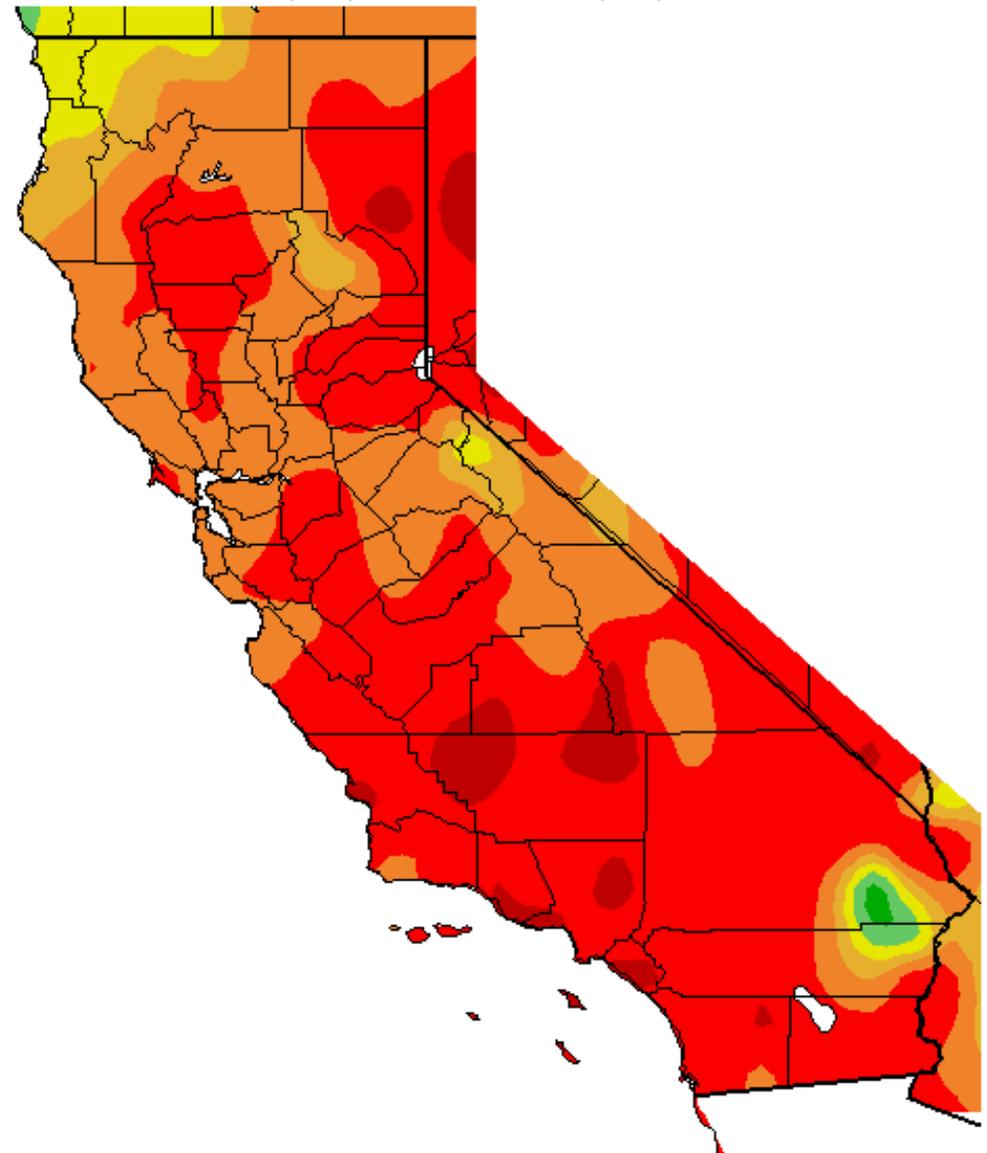
California's Drought

Precipitation

Percent of Average
36-Month Total
Updated 5-7-09

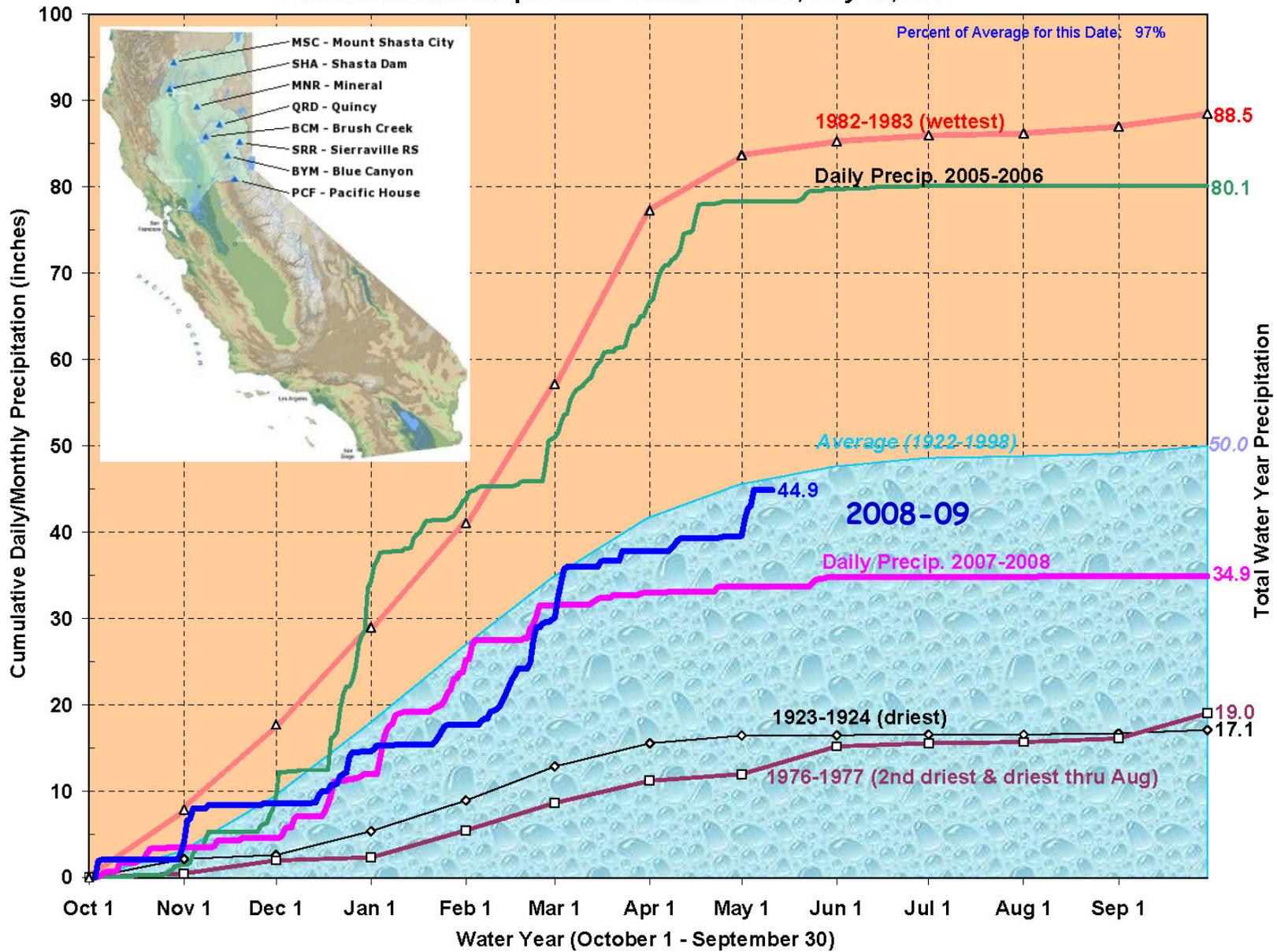


Percent of Average Precipitation (%)
5/8/2006 – 5/7/2009



Generated 5/08/2009 at WRCC using provisional data.
NOAA Regional Climate Centers

Northern Sierra Precipitation: 8-Station Index, May 11, 2009





DEPARTMENT OF WATER RESOURCES

2009 Snow Sensor Data April - July Forecast Unimpaired Snowmelt Runoff

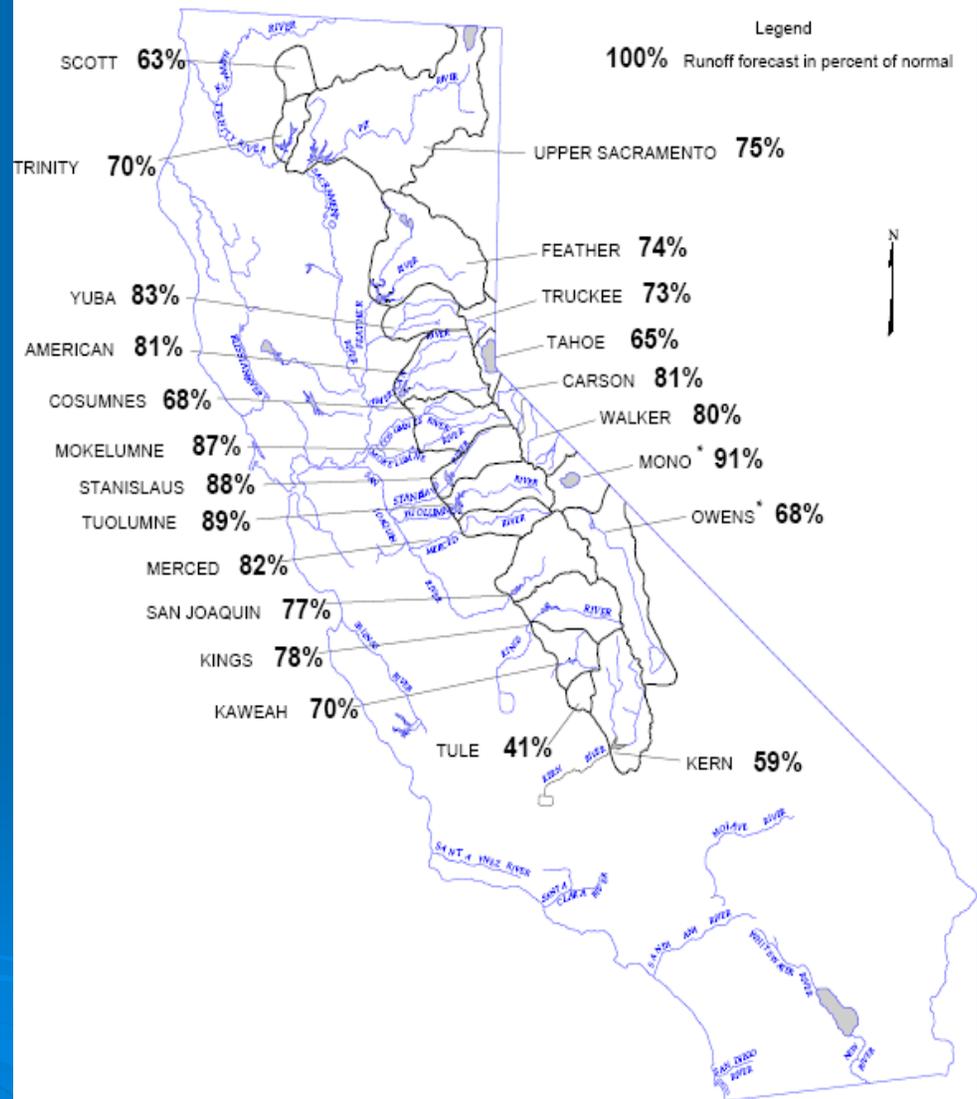


DWR Bulletin 120
DWR Division of Flood Management,
Snow Survey Section

DEPARTMENT OF WATER RESOURCES CALIFORNIA COOPERATIVE SNOW SURVEYS

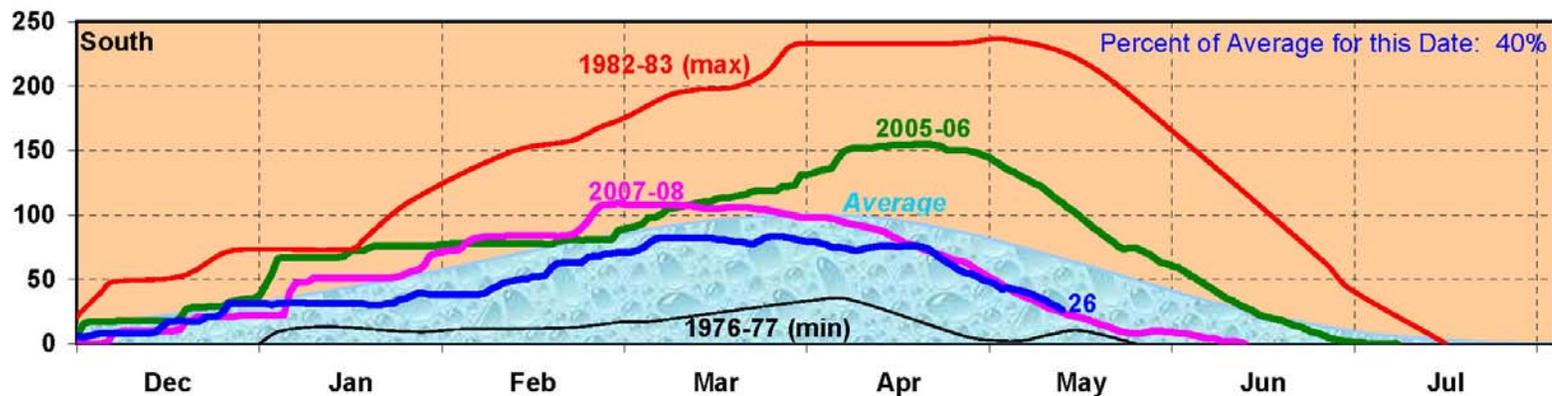
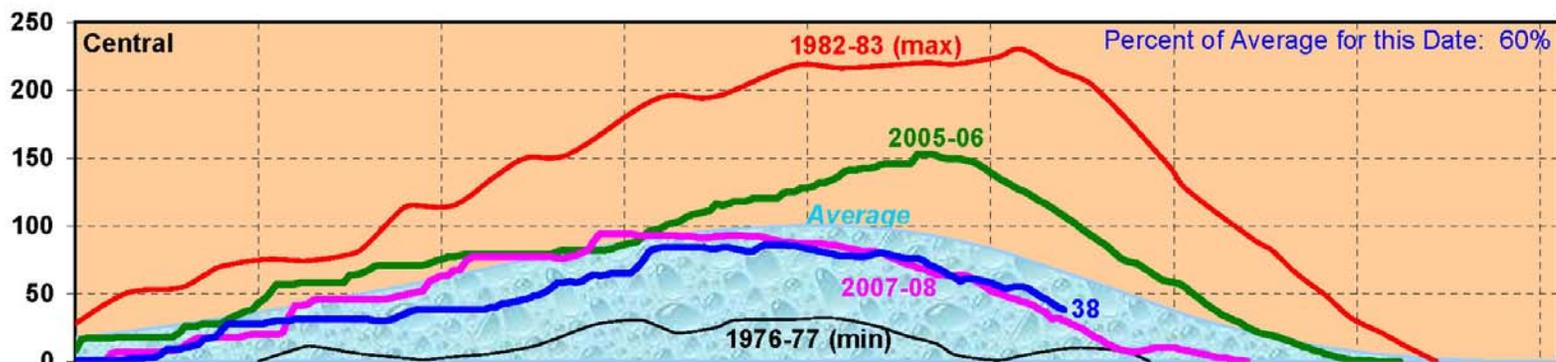
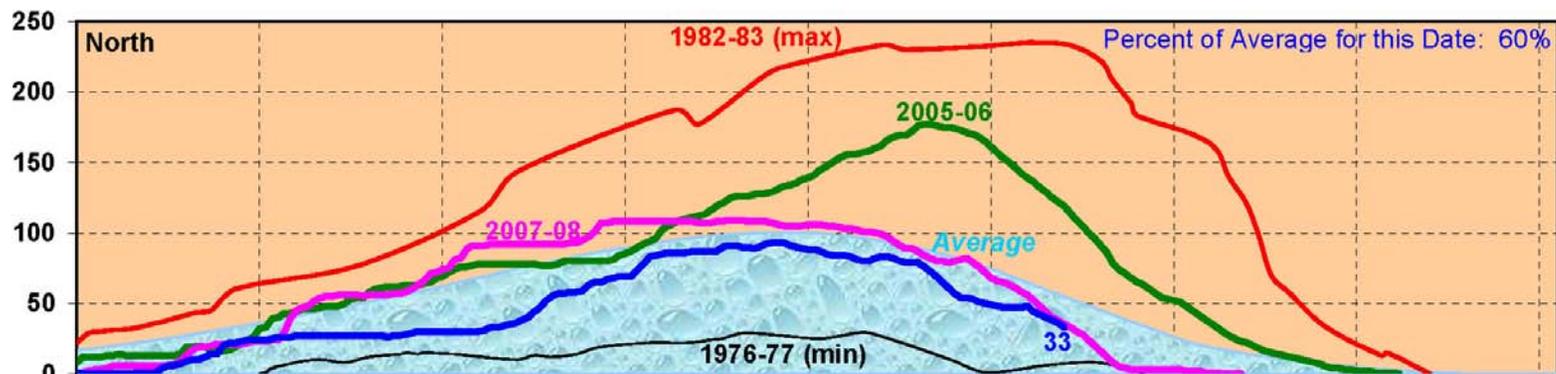
FORECAST OF APRIL - JULY
UNIMPAIRED SNOWMELT RUNOFF

April 1, 2009



* FORECAST BY DEPARTMENT OF WATER AND POWER, CITY OF LOS ANGELES

California Snow Water Content, May 11, 2009, Percent of April 1 Average



Statewide Percent of April 1: 35%

Statewide Percent of Average for Date: 55%

Current Reservoir Conditions

As of 5-11-09



	% Avg	% Cap
Shasta	80	70
Oroville	75	64
San Luis	50	54

- Oroville 2008 - lowest carryover storage since 1977, lowest Jan 1 storage level ever
- San Luis 2009 – lowest high point



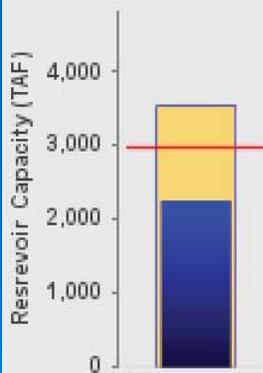
Reservoir Conditions - Lake Oroville



Lake Oroville

Lake Oroville Conditions

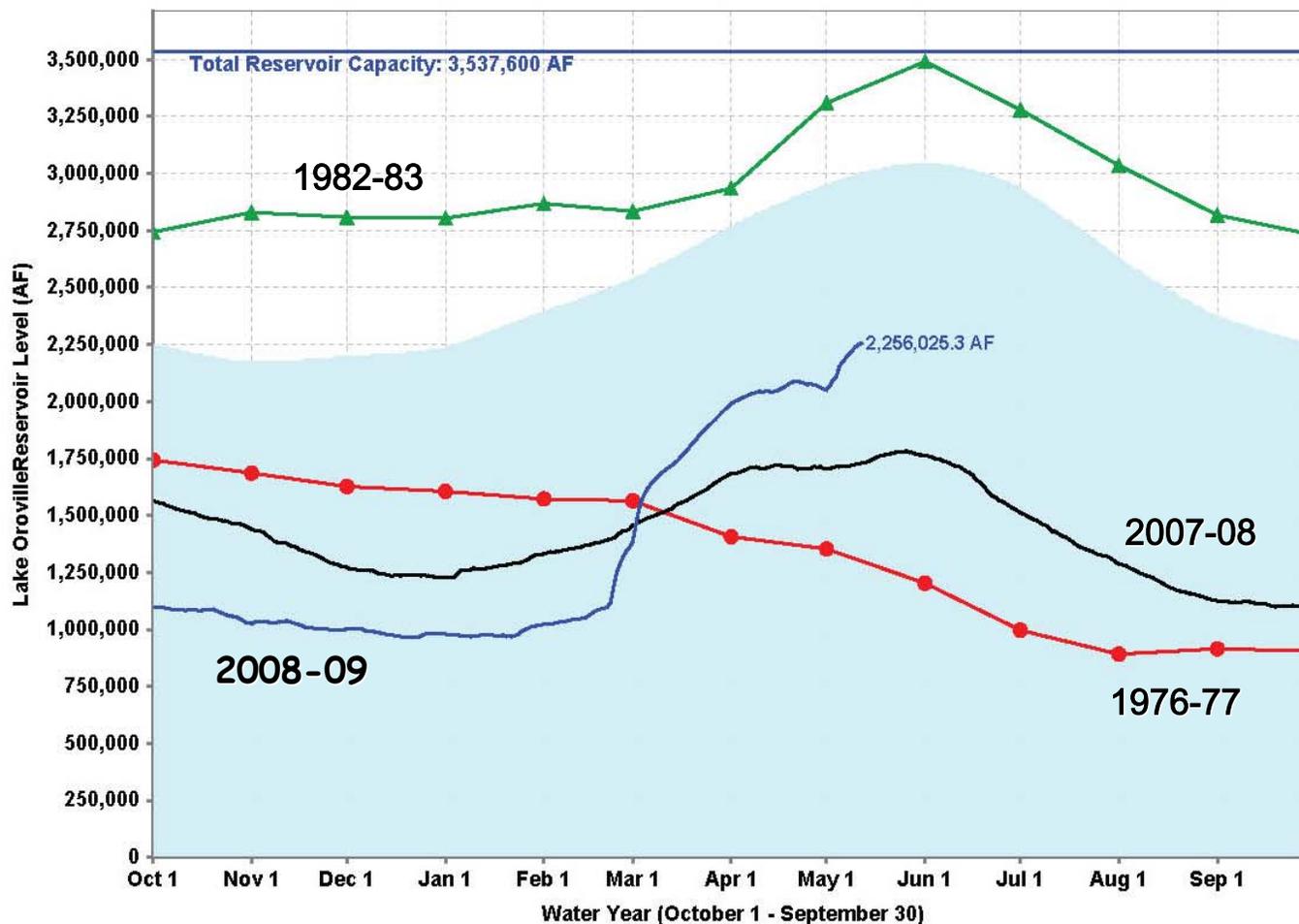
(as of Midnight - May 12, 2009)



Current Level: 2,256,025.3 AF

64% (Total Capacity) | 75% (Historical Avg.)

Lake Oroville Levels: Various Past Water Years and Current Water Year, Ending At Midnight May 12, 2009



Historical Average — Total Reservoir Capacity ● 1976-1977 (Driest) ▲ 1982-1983 (Wettest) — 2007-2008 — Current: 2008-2009

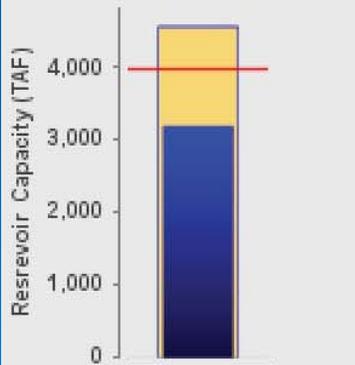


Reservoir Conditions - Shasta Reservoir



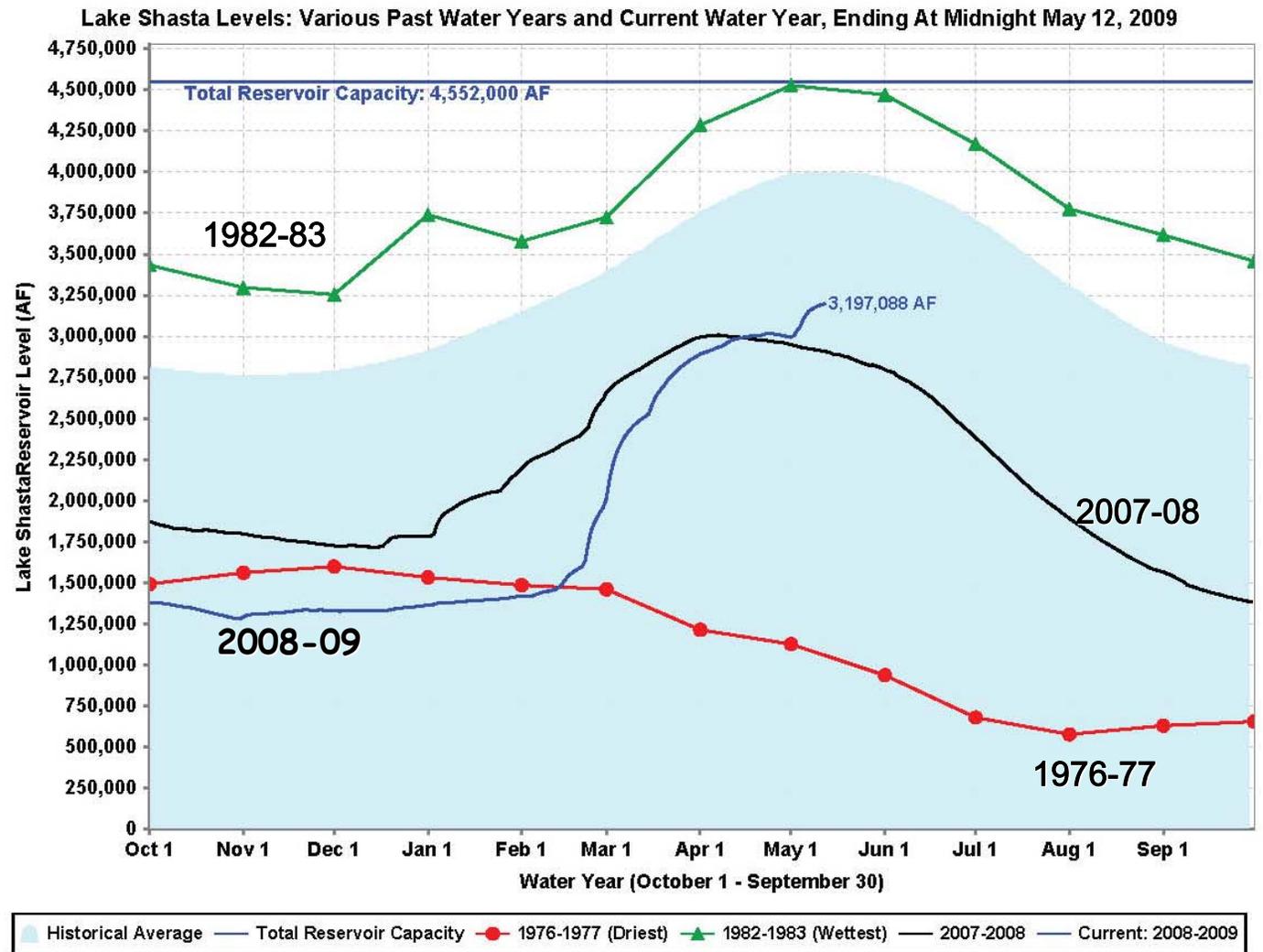
Lake Shasta Conditions

(as of Midnight - May 12, 2009)



Current Level: 3,197,088 AF

70% (Total Capacity) | 80% (Historical Avg.)



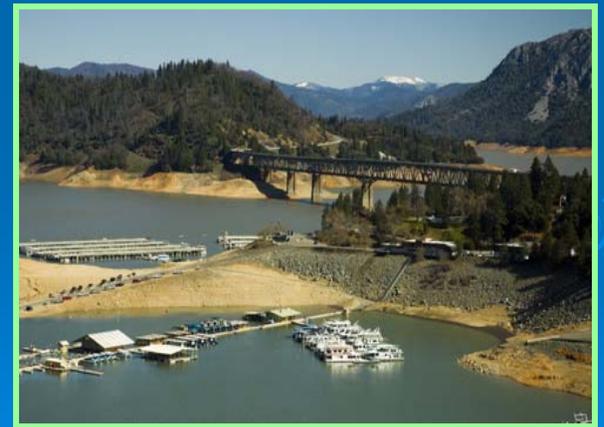
Surface Water Allocations

Year	Type	CVP Allocation	SWP Allocation
2006	Wet	100% Ag / 100% M&I	100%
2007	Dry	50% Ag / 75% M&I	60%
2008	Critical	40% Ag / 75% M&I	35%
2009	Dry	10% Ag / 60% M&I (south of Delta)	30%
		15% Ag / 65% M&I (north of Delta)	

Note: 2009 Allocations as of 4-21-09

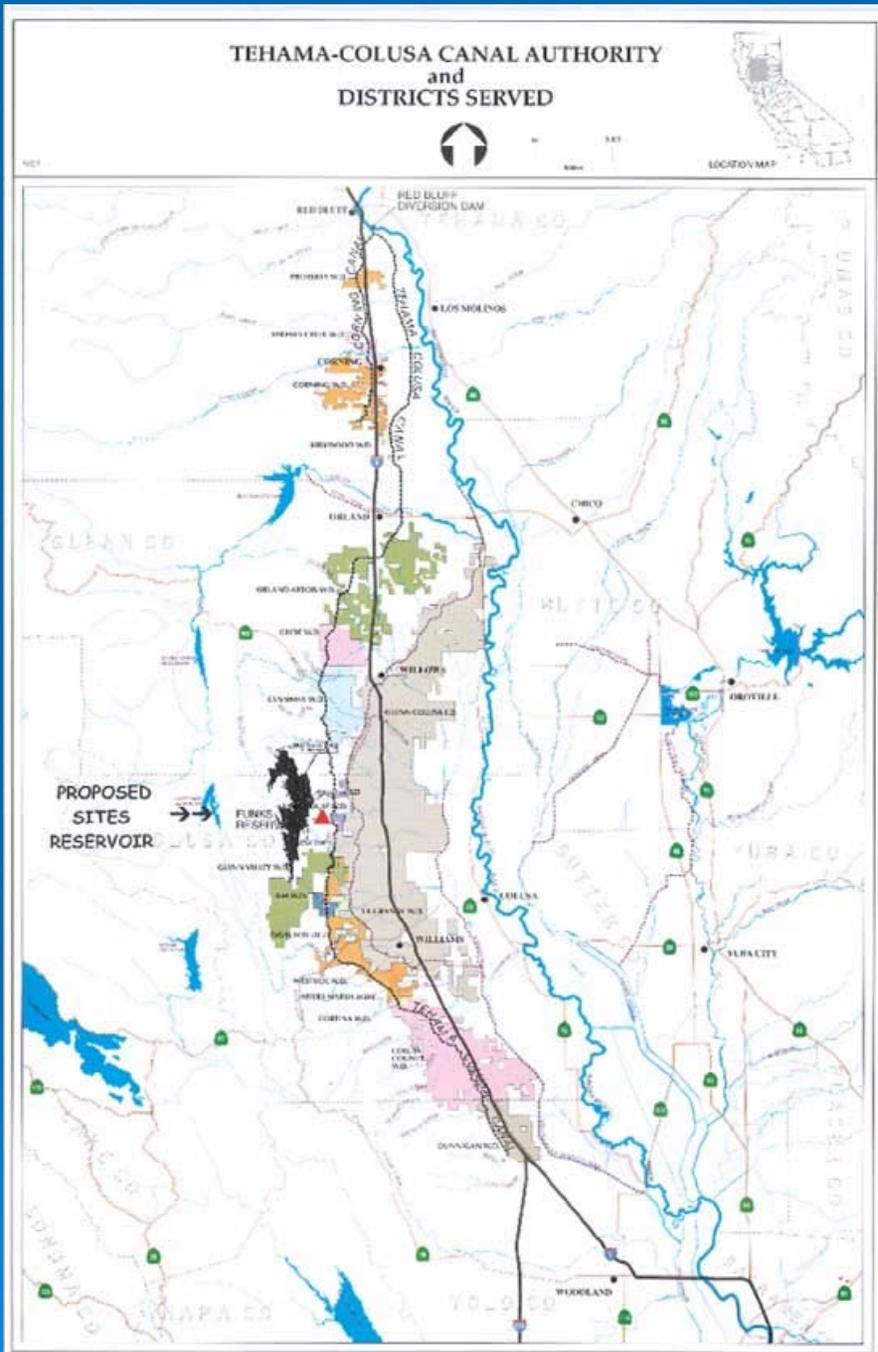


Lake Oroville, Bidwell Bar
March 12, 2009



Lake Shasta, Bay Bridge
March 12, 2009



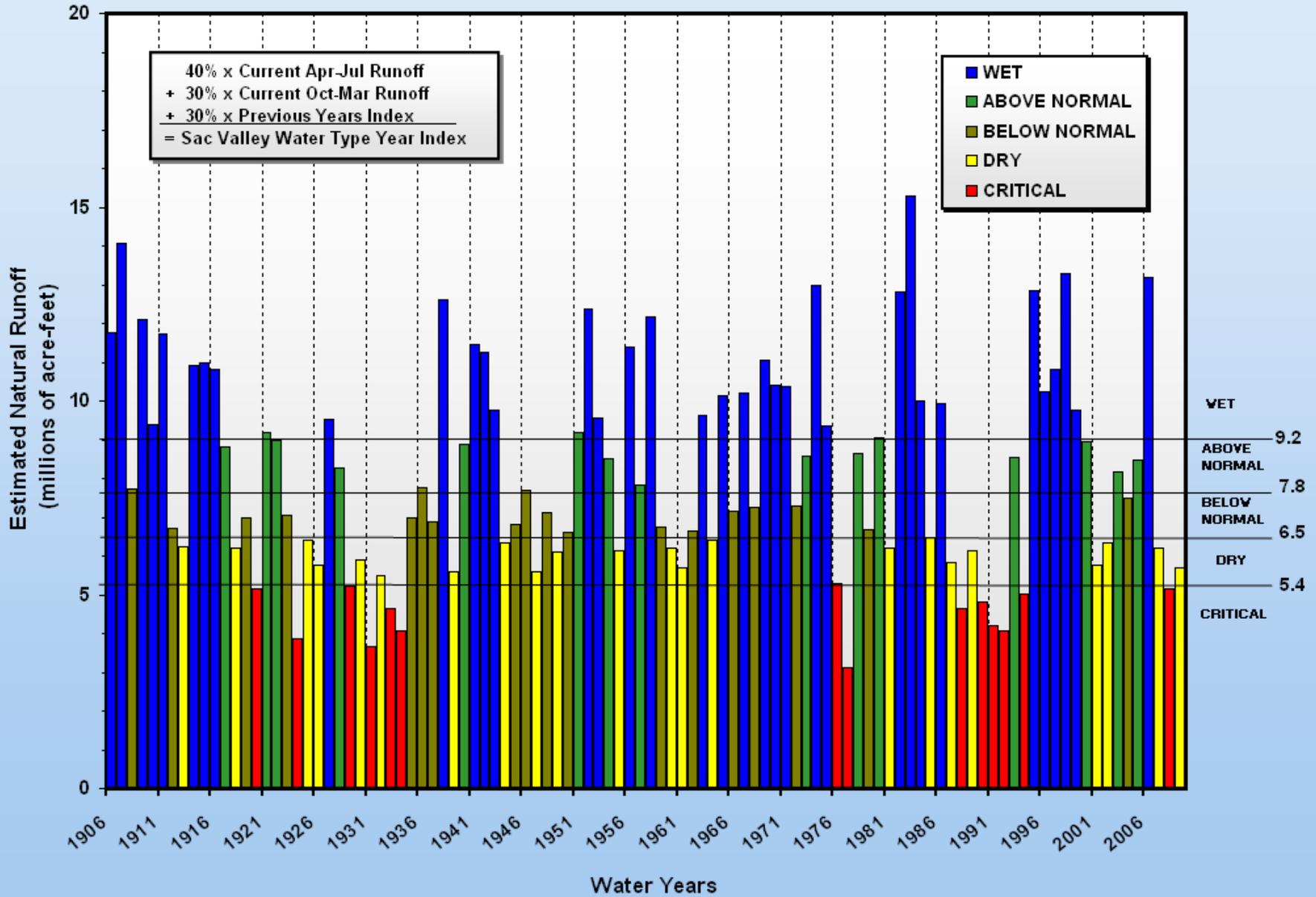


2009 Sac Valley CVP Cutback Areas

TCCA: 15% Allocation

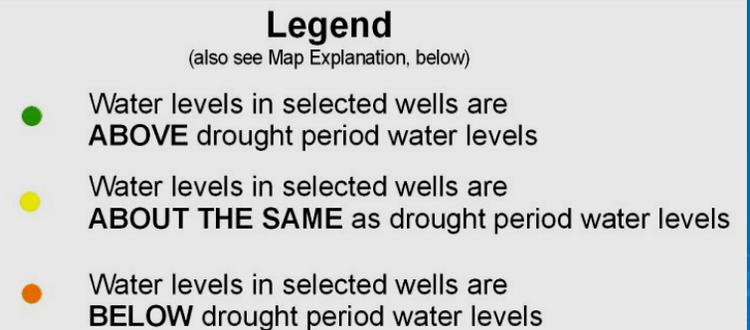
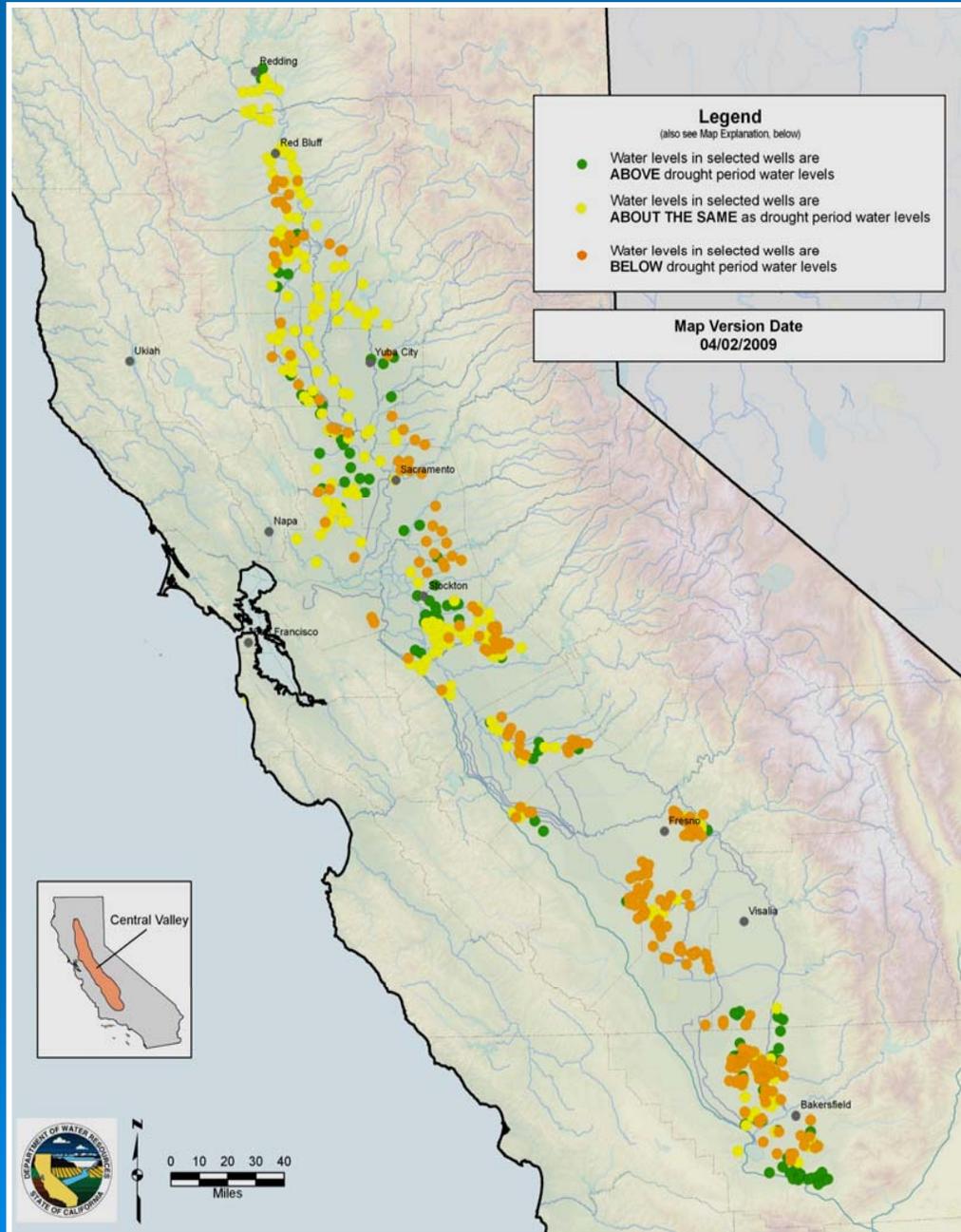


SACRAMENTO VALLEY WATER YEAR INDEX 1906 - 2009



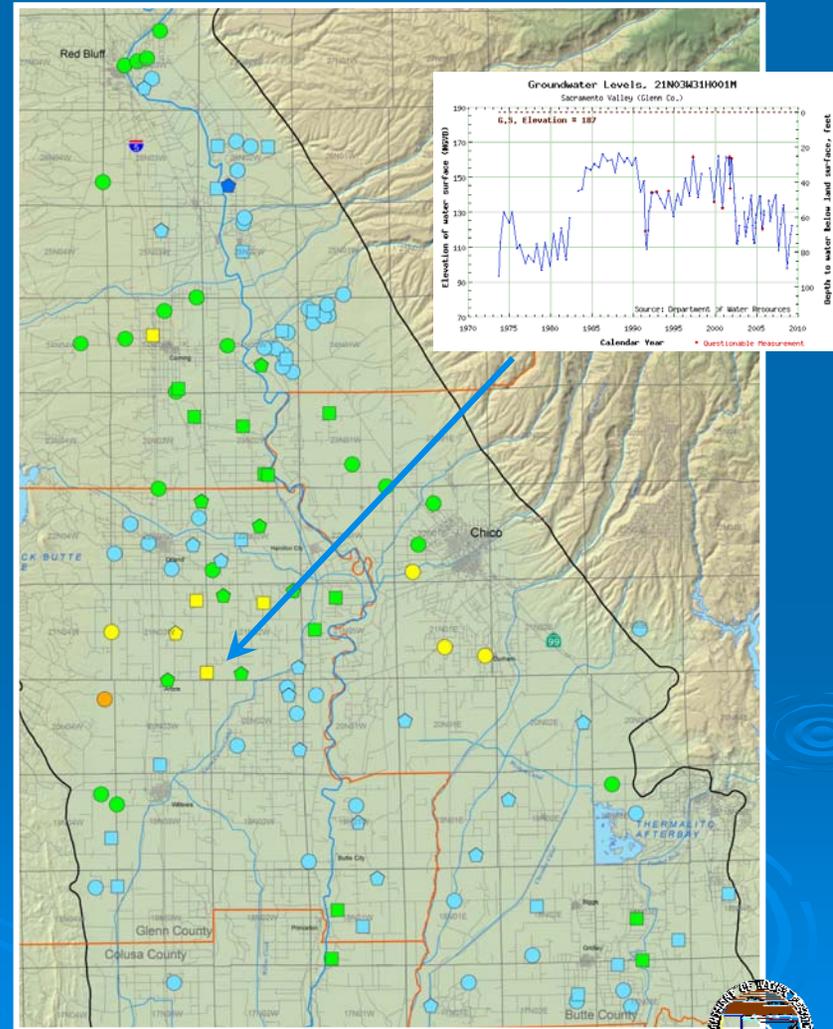
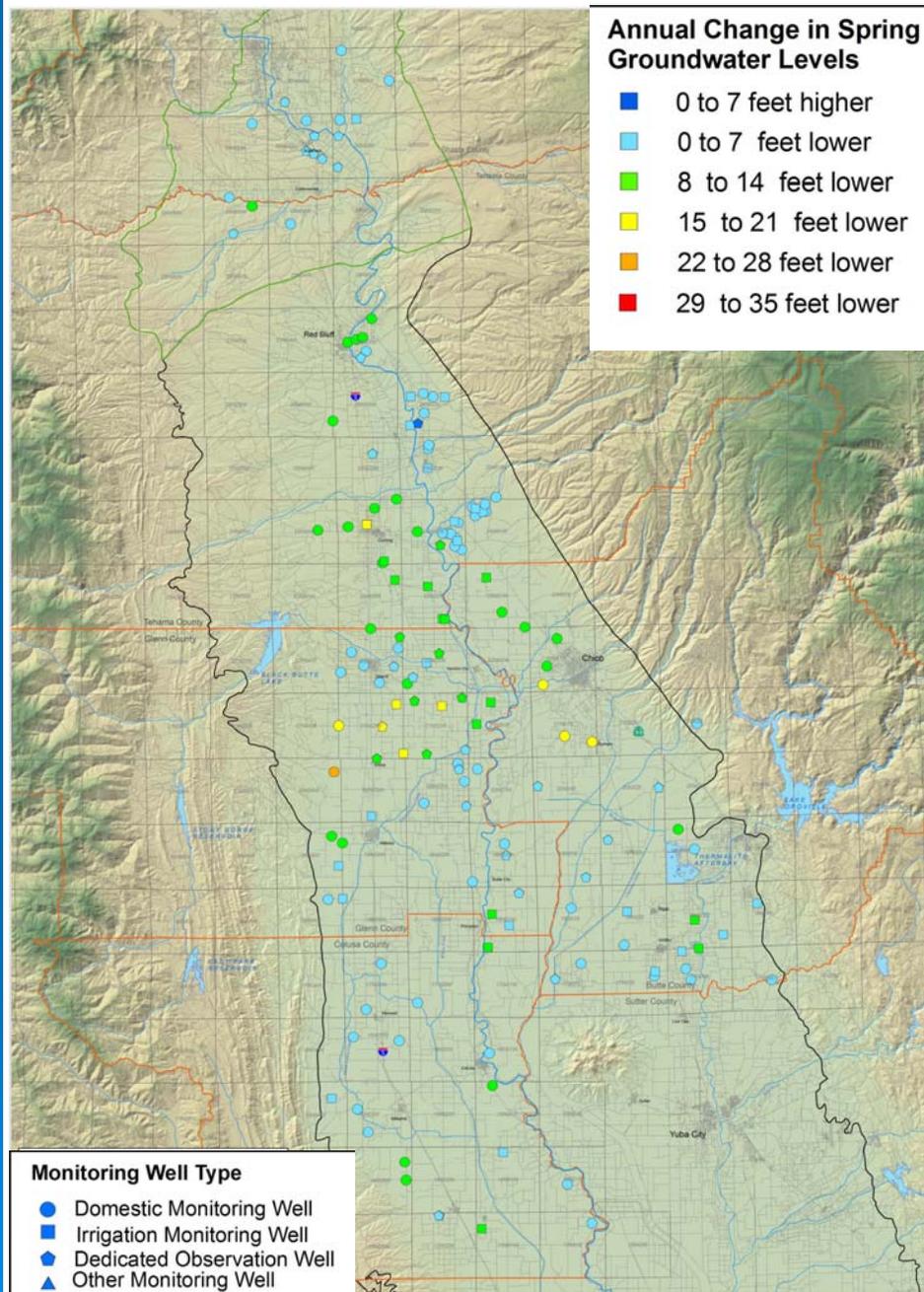
Statewide Groundwater Conditions

Fall 2008 Groundwater Levels
Relative to Groundwater Levels
During Drought Periods
1977-1978 and 1991-1992



Sac Valley GW Conditions

Spring 2006 - Spring 2009
Change
Wells: 0 - 200 ft



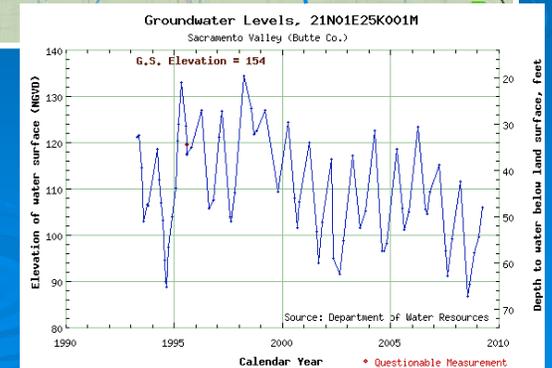
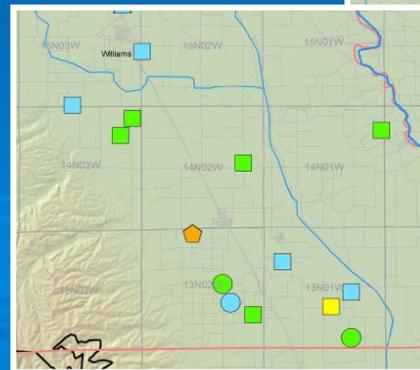
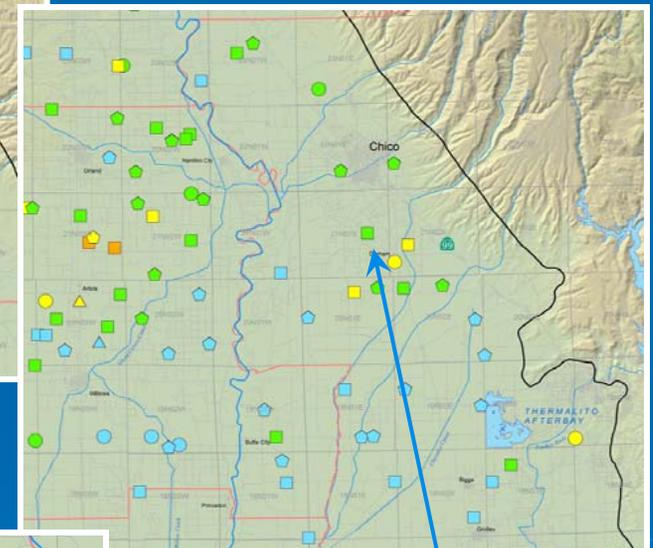
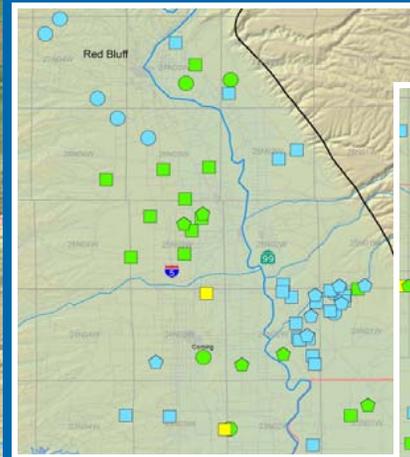
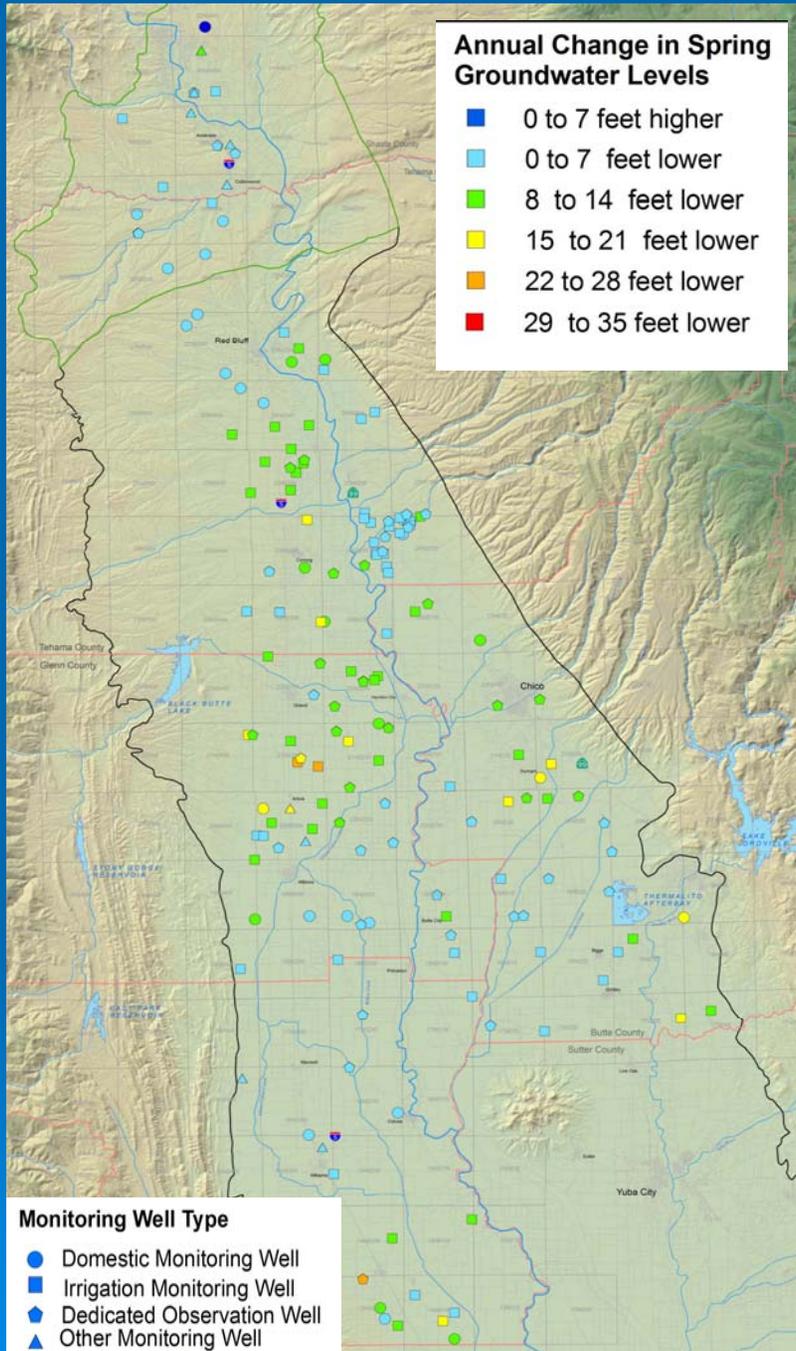
Sac Valley GW Conditions

Spring 2006 - Spring 2009 Change
Wells: 200 - 600 ft

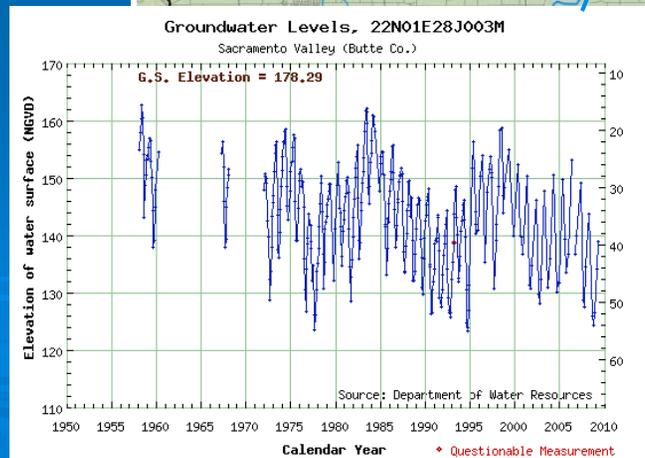
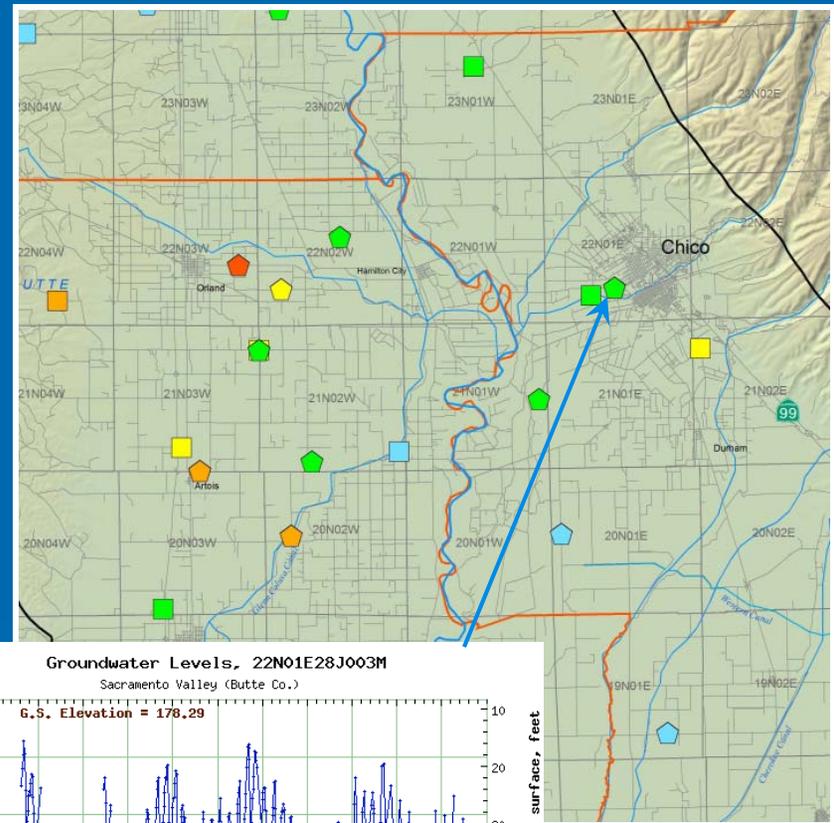
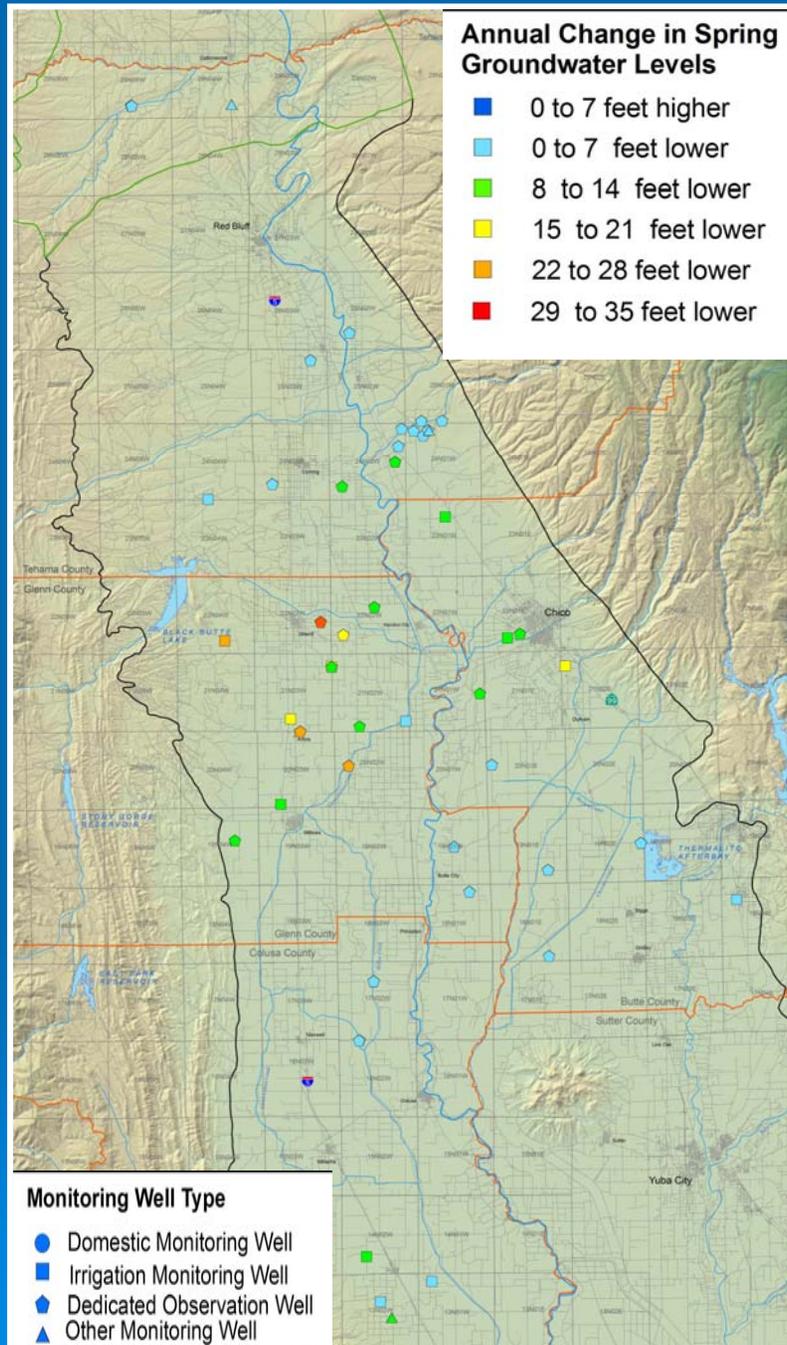
Tehama Co.

Butte & Glenn Co.

Colusa Co.



Spring 2006 - Spring 2009 Change Wells: > 600 ft



Drought 1991 vs. 2009

- 10 million new residents
- Shift from row crops to permanent crops
- Fish species at risk
- Restrictions reduce flexibility of water operations
- Climate change



Drought Impacts – Fire

2007 – 2008 Seasons



- More than **16,000** fires
- More than **1.6M** acres burned
- **13** lost lives
- State firefighting cost nearly **\$1B**
- More than **4000** structures destroyed
- Rainfall puts fire damaged areas at high risk

2009 Projected Economic Impacts

- **2009 job loss:**
16,200 - 23,700
- **2009 income loss:**
\$440 - 644 million
- **Farm revenue loss:**
\$325 - 477 million

**Excludes: livestock, dairies,
dryland range & pasture.**



Drought Impacts - Agriculture

2008 Agricultural losses – more than \$370M

- Rangeland \$108M, Cotton \$126M
- The San Joaquin Valley sustained the highest losses at \$280.9 million
- More than 107,000 acres unplanted or abandoned for lack of water
- All California counties (except San Francisco) were granted USDA Secretarial disaster declarations for drought



2009 Drought Emergency Proclamation

- Expedites drought water bank/other transfers
- Calls for immediate conservation and statewide campaign
- Requires state agency water use reduction
- Mobilizing CAL-EMA drought response actions
- Trigger emergency exemptions in CEQA for priority drought relief projects
- Calls for permit streamlining for drought projects



Other Drought Response

- \$240M in regional water grants (IRWM)
- Establish Drought Operations Center and hotline
- New easy-to-use drought website:
www.water.ca.gov/drought
- Regional drought workshops www.saveourH2O.org
- Request federal assistance and identify federal funds for



Drought Portal

<http://www.water.ca.gov/drought>

The screenshot shows the California Department of Water Resources Drought Portal. At the top, there is a navigation bar with the CA.GOV logo and the text "DEPARTMENT OF WATER RESOURCES". To the right of the logo is a search box with a "GO" button and radio buttons for "California" and "DWR". Below the navigation bar is a menu with links for Home, Newsroom, Flood & Safety, Planning, State Water Project, Funding, Environment, Supply & Use, and Data. A secondary menu below that includes Climate Change and California's Water, Delta Initiatives, Drought, and All Environment Topics... The main content area features a large banner with the text "California's DROUGHT Year 3" and "So, just how bad is it?". Below the banner is a map of California and a "click here to continue" link. On the left side, there is a "RESOURCES" section with a list of links. At the bottom, there are three columns of text: "Current Conditions", "Assistance/Conservation", and "Drought Water Bank", each with a "Learn More..." link.

CA.GOV DEPARTMENT OF WATER RESOURCES

Skip to: [Content](#) | [Footer](#) | [Accessibility](#) Search GO
 California DWR

Home Newsroom Flood & Safety Planning State Water Project Funding Environment Supply & Use Data

Climate Change and California's Water Delta Initiatives Drought All Environment Topics...

Drought Condition

California's **DROUGHT** Year **3**

SEVERE

RESOURCES

- [Drought Home](#)
- [Local Impacts](#)
- [Recent Drought News](#)
- [Drought Background](#)
- [Monthly Drought Updates](#)
- [Historical Drought Archive](#)
- [Videos](#)
- [Still Photographs](#)
- [Governor's Declarations](#)
- [State Water Project](#)
- [Drought Links](#)
- [Drought Information Contacts](#)

So, just how **bad** is it?

After three dry years, all the factors influencing California's water supply are suffering.

[click here to continue](#)

Current Conditions

Snowpack, precipitation, reservoir storage are several indicators commonly used to evaluate California water conditions. 2008-09 is the third dry year for the state, with below average precipitation and runoff beginning in Fall 2006.

[Learn More...](#)

Assistance/Conservation

DWR is providing both technical and financial assistance to help communities and water agencies cope with the continuing drought.

[Learn More...](#)

Drought Water Bank

To help facilitate water transfers, DWR has established a 2009 Drought Water Bank. DWR will purchase water from willing sellers primarily upstream of the Sacramento-San Joaquin Delta and make it available to water suppliers that are experiencing water shortages in 2009 due to drought conditions.

[Learn More...](#)

Drought Portal

<http://www.water.ca.gov/drought/conditions/>

The screenshot shows the California Department of Water Resources (DWR) website's drought conditions page. At the top, the DWR logo is on the left, and navigation links for Content, Footer, and Accessibility are on the right. A search bar is also present. Below the logo is a main navigation menu with categories like Home, Newsroom, Flood & Safety, Planning, State Water Project, Funding, Environment, Supply & Use, and Data. A secondary menu lists topics such as Climate Change and California's Water, Delta Initiatives, Drought, and All Environment Topics. The main header features a 'Drought Condition' indicator with four colored circles (green, yellow, orange, red) and the text 'SEVERE'. To the right, a large banner reads 'California's DROUGHT Year 3'. Below this, a 'Current Conditions' section includes a circular progress indicator with four stages: NORMAL (green), DRY (yellow), SEVERE (orange), and EXTREME (red). A text box explains that droughts differ from emergency events like floods or forest fires, occurring slowly over a multiyear period. Below the indicator are links for 'Monthly Drought Updates', 'State Water Conditions', 'Daily Current Conditions', and 'Drought Links'. A 'Current Conditions' panel at the bottom has tabs for 'Precipitation', 'Snowpack', 'Reservoirs', 'Groundwater', and 'Economic Impacts'. The 'Precipitation' tab is active, showing that statewide precipitation remains below normal for a third year. It lists several links: Executive Summary, Northern Sierra Precipitation, Southern Sierra Precipitation, Runoff Forecasts, Other California Precipitation Data, California Weather, and Drought Monitor.

CA.GOV | DEPARTMENT OF WATER RESOURCES

Skip to: [Content](#) | [Footer](#) | [Accessibility](#)

Search GO

California DWR

Home | Newsroom | Flood & Safety | Planning | State Water Project | Funding | Environment | Supply & Use | Data

Climate Change and California's Water | Delta Initiatives | Drought | All Environment Topics...

Drought Condition

● ● ● ● SEVERE

California's **DROUGHT** Year 3

RESOURCES

- [Drought Home](#)
- [Local Impacts](#)
- [Recent Drought News](#)
- [Drought Background](#)
- [Monthly Drought Updates](#)
- [Historical Drought Archive](#)
- [Videos](#)
- [Still Photographs](#)
- [Governor's Declarations](#)
- [State Water Project](#)
- [Drought Links](#)
- [Drought Information Contacts](#)

Current Conditions

Droughts differ from typical emergency events such as floods or forest fires, in that they occur slowly over a multiyear period. Drought impacts increase with the length of a drought, as carry-over supplies in reservoirs are depleted and water levels in groundwater basins decline. Find out more about the worsening hydrologic conditions across the State.

- [Monthly Drought Updates](#)
- [State Water Conditions](#)
- [Daily Current Conditions](#)
- [Drought Links](#)

Current Conditions

Precipitation | Snowpack | Reservoirs | Groundwater | Economic Impacts

Statewide precipitation remains below normal for a third year.

- [Executive Summary](#)
- [Northern Sierra Precipitation](#)
- [Southern Sierra Precipitation](#)
- [Runoff Forecasts](#)
- [Other California Precipitation Data](#)
- [California Weather](#)
- [Drought Monitor](#)

Drought Portal

Department of Water Resources
Department of Food and Agriculture



CALIFORNIA'S DROUGHT

WATER CONDITIONS & STRATEGIES
TO REDUCE IMPACTS

Report to the Governor March 30, 2009



California's Drought Update

April 30, 2009

For more information:

Contact:
Drought Operations Center

Phone:
(888) 5-DROUGHT
(888 537-6844)

E-mail:
drought@water.ca.gov

Drought website:
<http://www.water.ca.gov/drought/>

State of California
Governor
Arnold Schwarzenegger

The Natural Resources Agency
Secretary for Resources
Mike Chrisman

Department of Water Resources
Director
Lester A. Snow

Introduction

This Drought Bulletin provides a monthly update to California's water conditions. Statewide reservoir storage, precipitation, and water supply conditions have improved during April; however, allocation estimates to state and federal water contractors are expected to be near record lows for 2009, and reliance on local groundwater has and will continue to be above average. Runoff for this water year is expected to be much lower than average for the third year in a row, and drought conditions remain serious across the state.

For this report, DWR provides up-to-date hydrologic conditions including changes that have occurred in April 2009, local impacts of the drought, and progress on the Governor's statewide water conservation outreach campaign.

Hydrologic and Water Supply Conditions

Precipitation

Water year 2009 followed two consecutive dry years. After an average October, precipitation during November and December fell short of average in the north part of the state raising the threat of a third dry year. Concern increased markedly in January 2009 as an unusually strong high pressure system limited precipitation to only one-third of the statewide average for the month. February and March saw above-average precipitation during a wet weather pattern, but April has been below average. Figure 1 shows precipitation as a percent of average for each of the state's hydrologic regions, through March 31.

Snowpack

Sierra snowpack represents one-third of California's water supply. The state's snowpack benefited from the storms in February and March 2009. April 1 is historically considered the peak of the snowpack development and the beginning of the snowmelt period. On April 1, 2009, statewide snowpack was 80 percent of average. As of April 28 2009, statewide snowpack stands at 68 percent of average.

Reservoir Storage

Over the last three months, reservoir storage has improved from conditions in early February. However, the state's largest reservoirs, Shasta and Oroville, remain well below their average storage for this time of year at 76 percent

Report to the Governor

Drought Updates

Questions?



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www.water.ca.gov