CALIFORNIA STATE BOARD OF FOOD AND AGRICULTURE

January 7, 2014

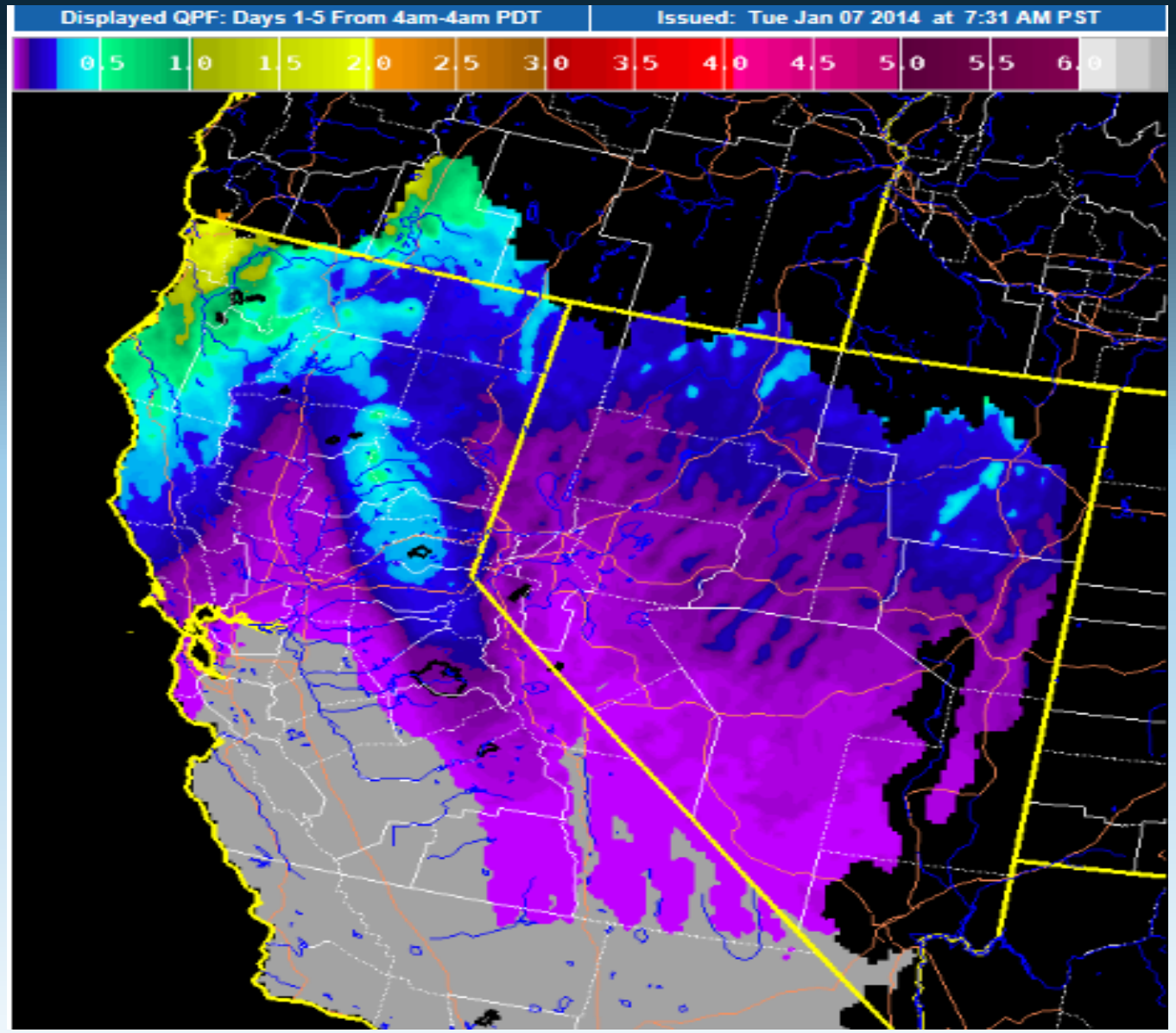
DROUGHT PREPAREDNESS & RESPONSE

Bill Croyle, Drought Manager
Department of Water Resources

PUBLIC SAFETY ENVIRONMENTAL STEWARDSHIP ECONOMIC STABILITY

Overview

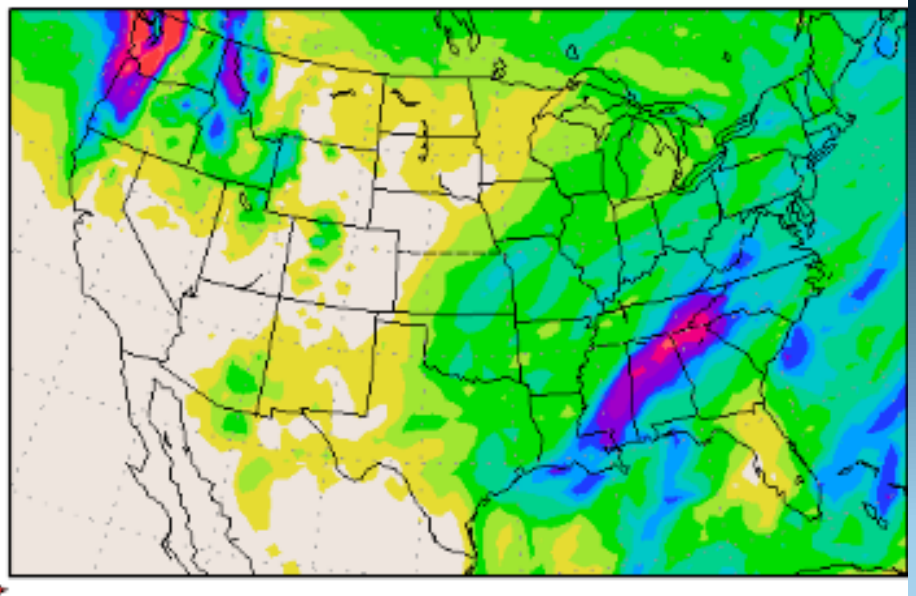
- Current Conditions
- Impacts
- Water Transfer Actions

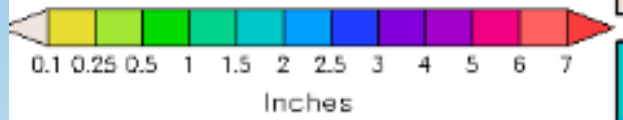

Displayed QPF: Days 1-5 From 4am-4am PDT
Issued: Tue Jan 07 2014 at 7:31 AM PST
0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0

Precipitation Forecast

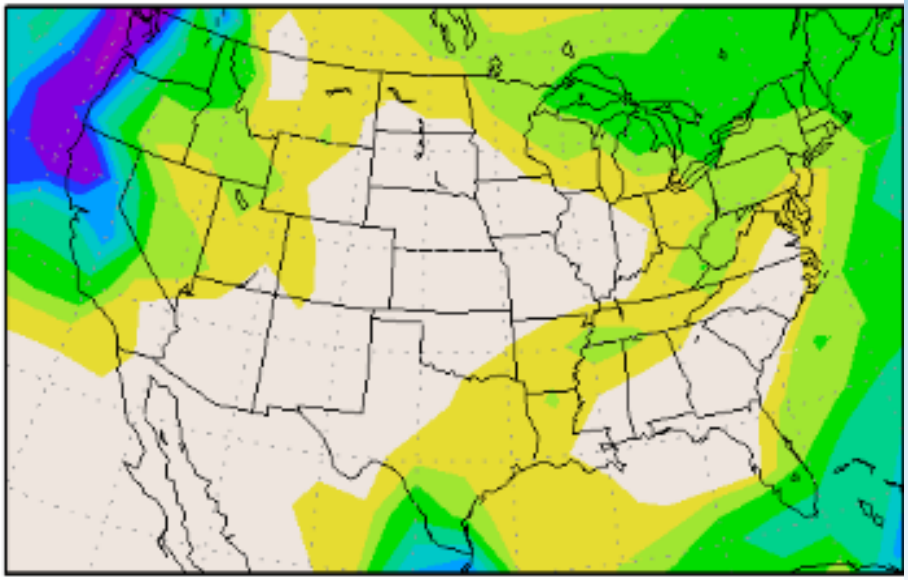
Precipitation (inches)
during the period:

Tue, 07 JAN 2014 at 00Z
–to–
Tue, 14 JAN 2014 at 12Z

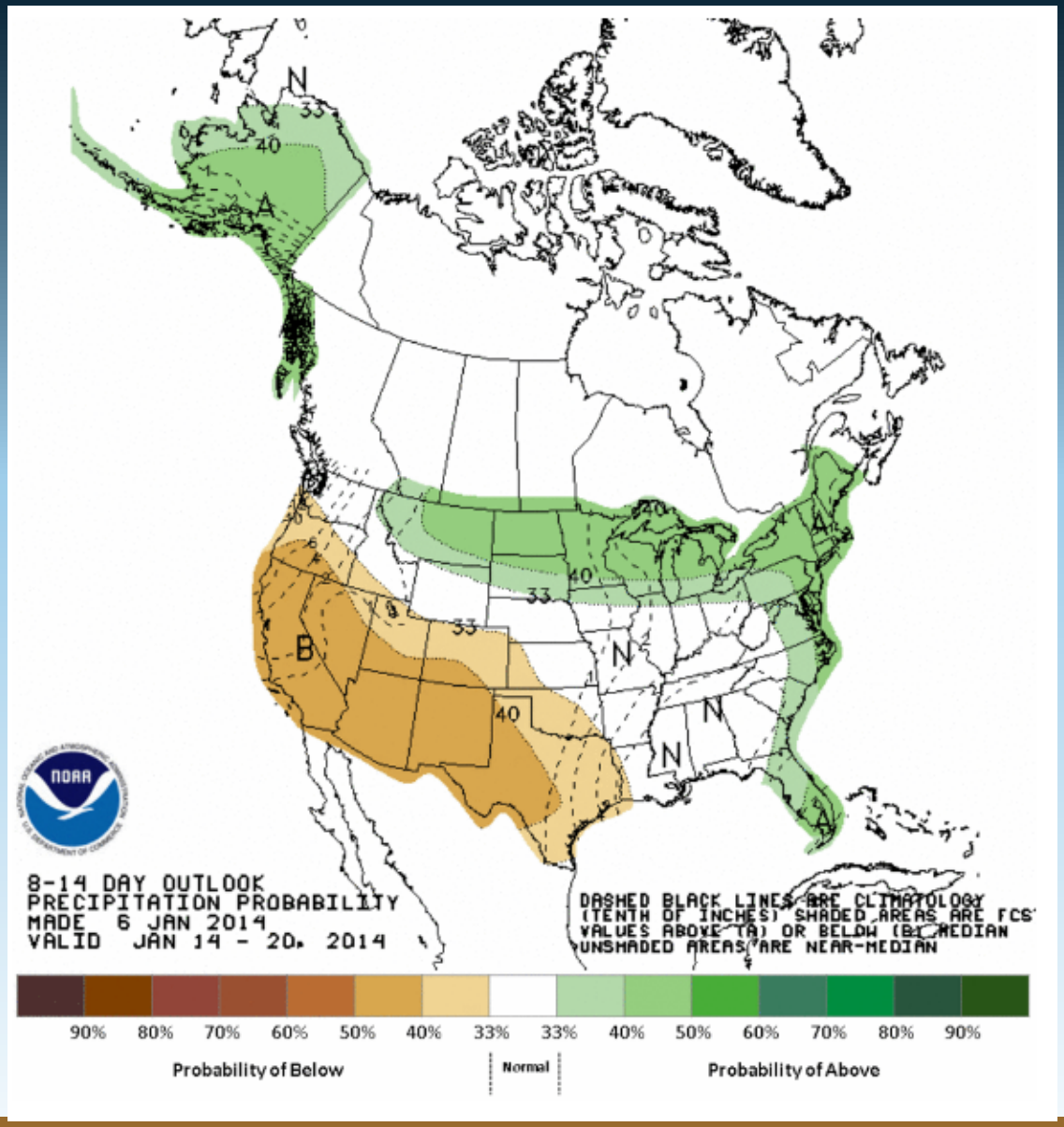




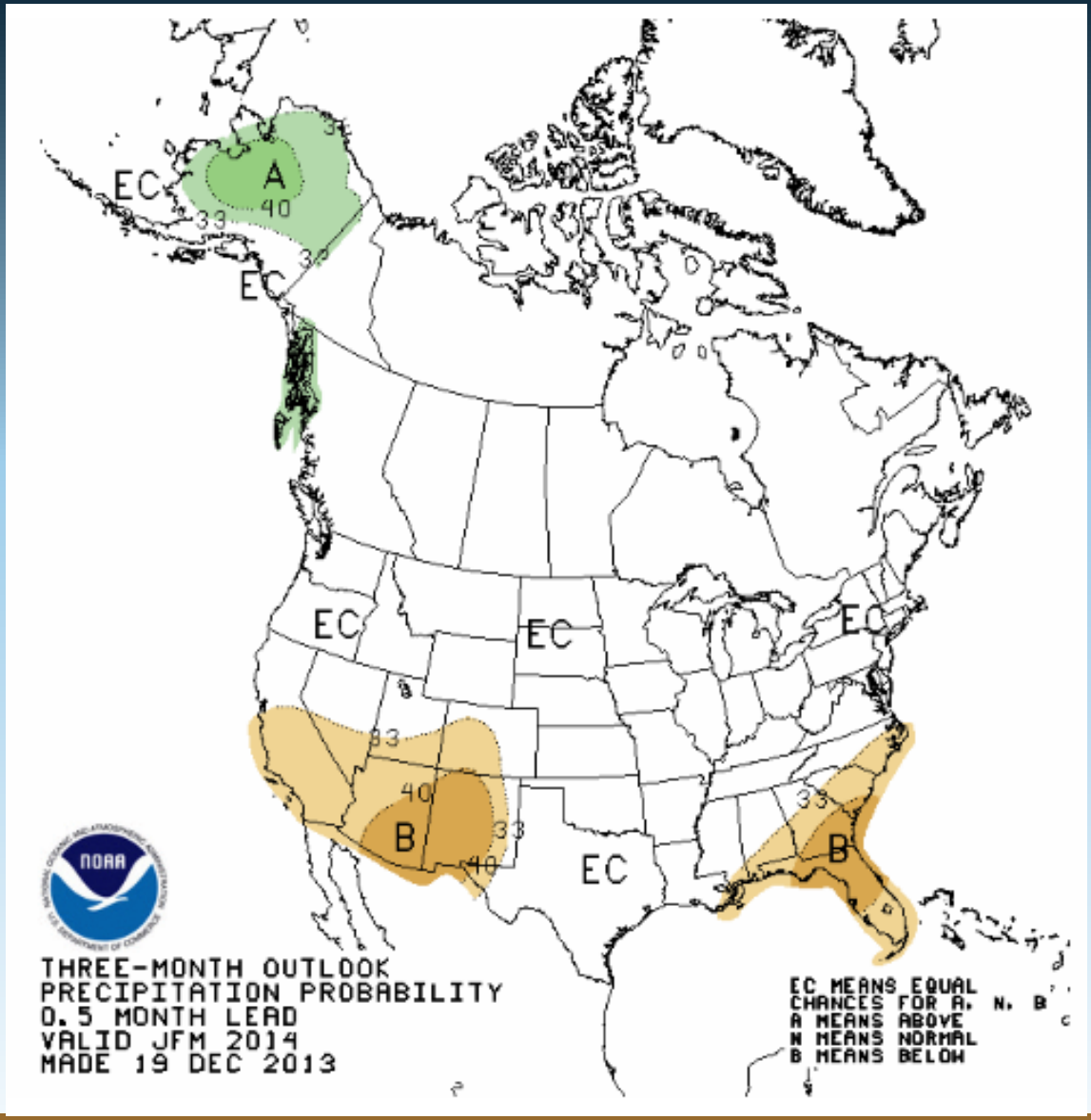
Wed, 15 JAN 2014 at 00Z
–to–
Thu, 23 JAN 2014 at 00Z



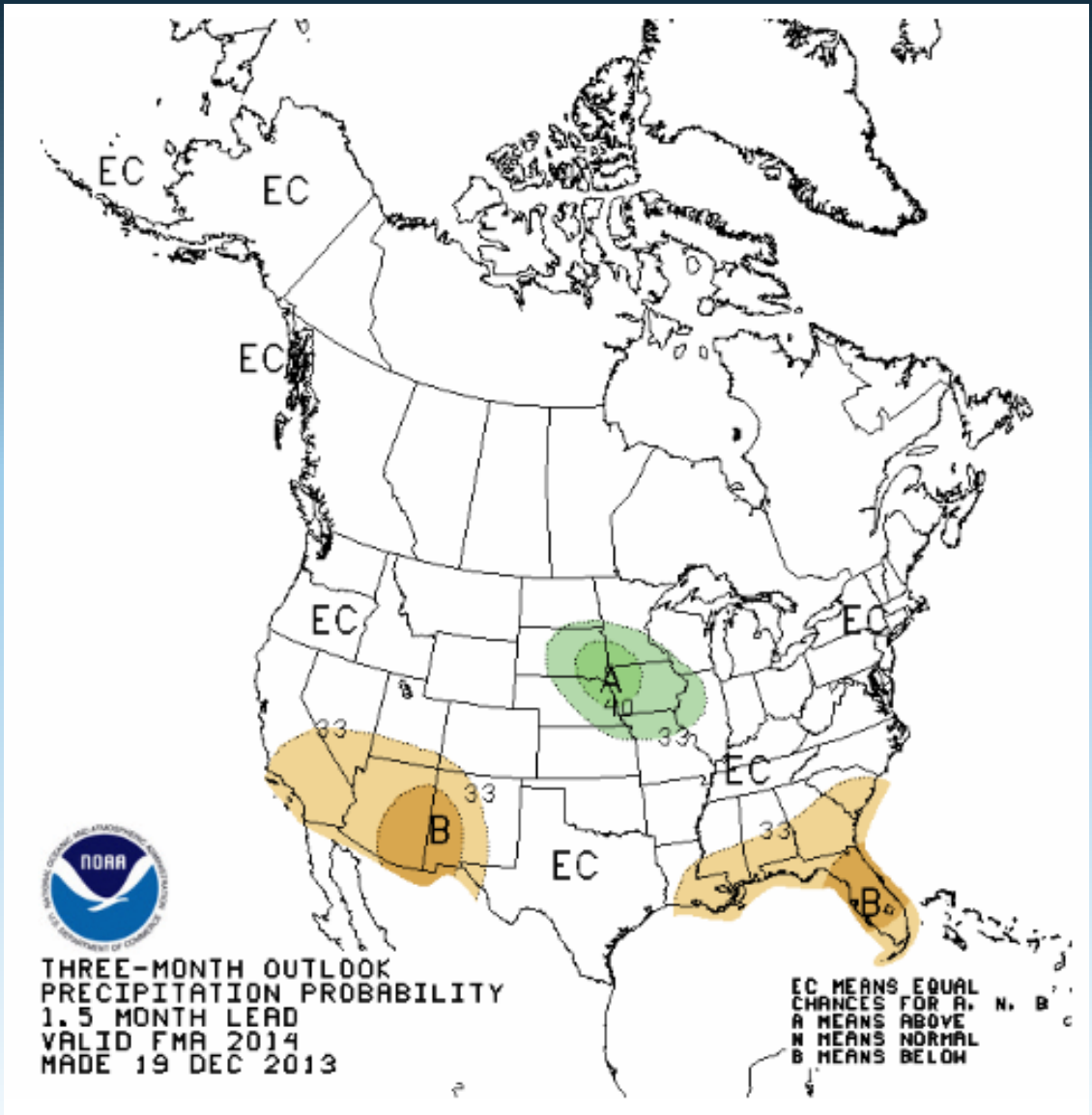
Probability of Precipitation 8-14 day Outlook

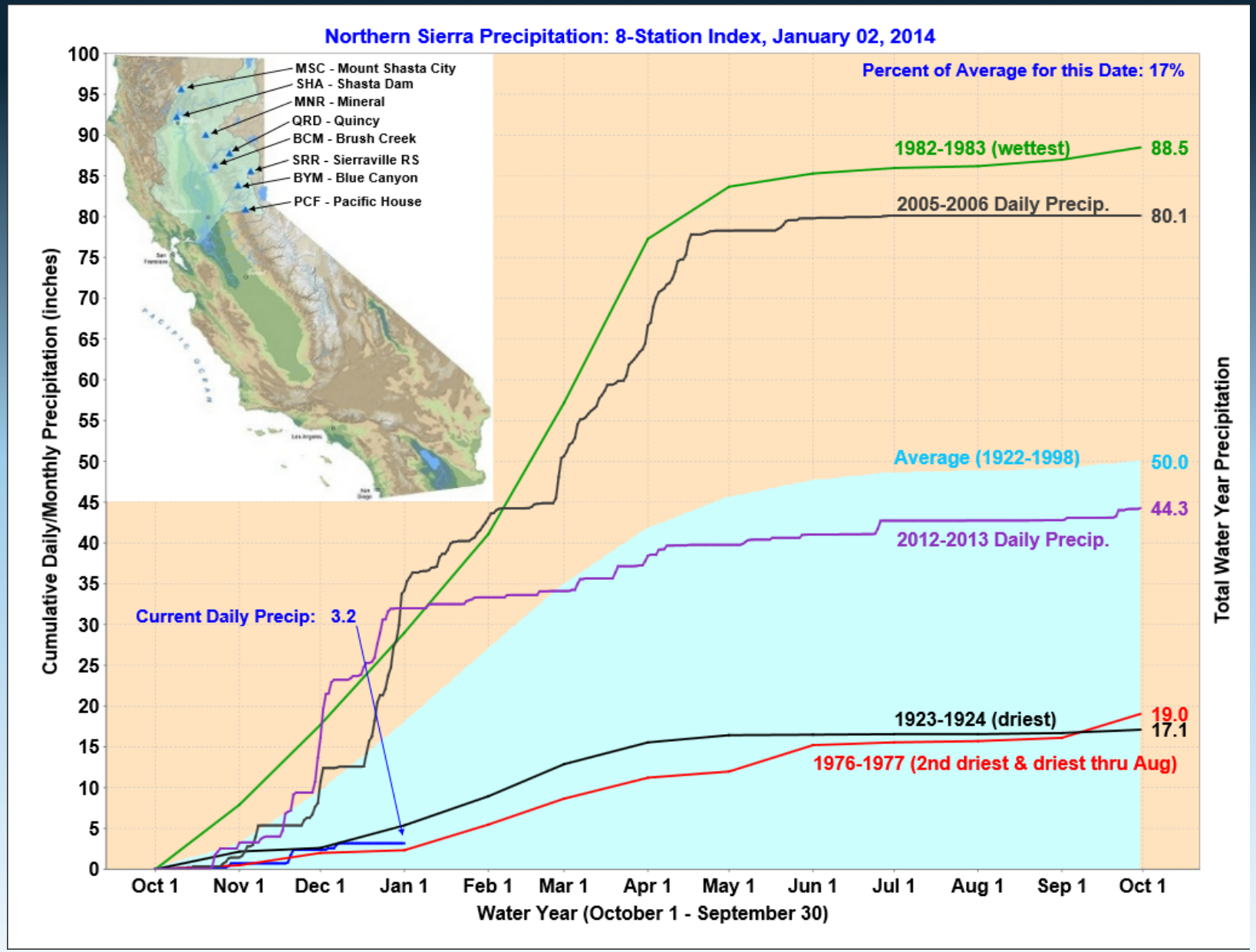


Long Range Probability of Precipitation Jan - Feb - March



Long Range Probability of Precipitation Feb-March-April




Northern Sierra Precipitation: 8-Station Index, January 02, 2014
Percent of Average for this Date: 17%
MSC - Mount Shasta City
SHA - Shasta Dam
MNR - Mineral
QRD - Quincy
BCM - Brush Creek
SRR - Sierraville RS
BYM - Blue Canyon
PCF - Pacific House
1982-1983 (wettest)
88.5
2005-2006 Daily Precip.
80.1
Average (1922-1998)
50.0
44.3
2012-2013 Daily Precip.
Current Daily Precip: 3.2
1923-1924 (driest)
19.0
17.1
1976-1977 (2nd driest & driest thru Aug)
Cumulative Daily/Monthly Precipitation (inches)
Total Water Year Precipitation
Oct 1
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1
Aug 1
Sep 1
Oct 1
Water Year (October 1 - September 30)

Northern Sierra 8-Station Precipitation (inches)

Water Year 2014

Thursday, January 02, 2014

Total precipitation since	0800 PST Thursday 12/26/2013:	0.0"

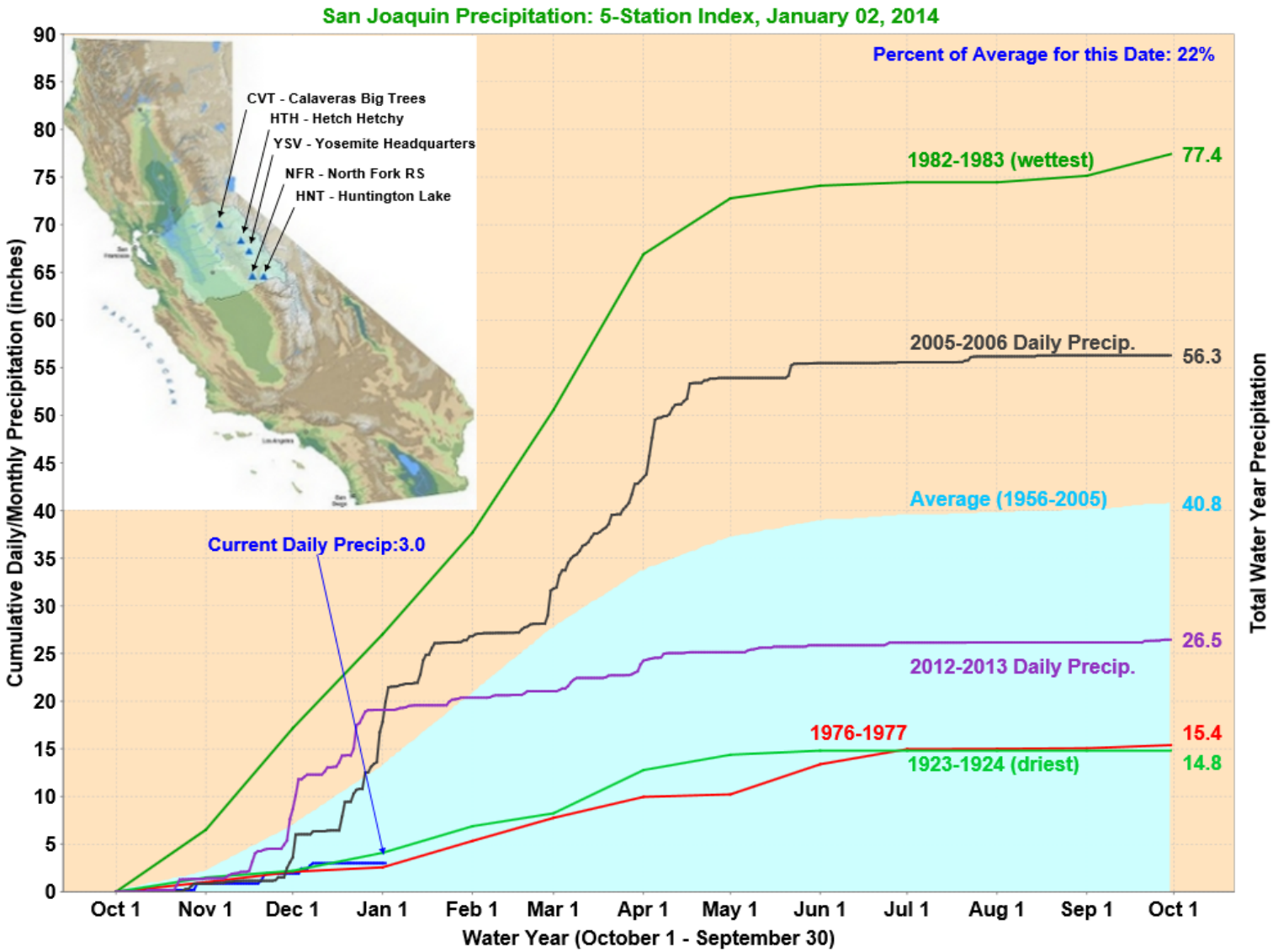
Month	Average (inches)	Observed (inches)	Observed (as % of Avg)	Notes
Oct-2013	3.0	0.8	27%	
Nov-2013	6.3	1.6	25%	
Dec-2013	8.4	0.8	10%	
Jan-2014	9.0	0.0	0%	

Seasonal Average to Date:	18.3	3.2	17%	
Water Year Average:	50.0		6%	

Notes:

Last year seasonal total:	32.9 "	180 %
Last year Dec 2012 total:	17.2 "	205 %
Last year Jan 2013 total:	1.4 "	16 %

Driest Water Years	Driest January Thru May		Wettest Water Years	
17.1" in 1924	9.4	2013	1983	88.5 "
19.0" in 1977	11.1	1924	1995	85.4 "
27.7" in 1939	12.0	1976	1982	84.8 "
28.0" in 1931	12.9	1977	1998	82.4 "
28.3" in 1976	13.9	1985	2006	80.1 "
	14.2	1929		


San Joaquin Precipitation: 5-Station Index, January 02, 2014
Percent of Average for this Date: 22%
CVT - Calaveras Big Trees
HTH - Hetch Hetchy
YSV - Yosemite Headquarters
NFR - North Fork RS
HNT - Huntington Lake
1982-1983 (wettest)
77.4
2005-2006 Daily Precip.
56.3
Average (1956-2005)
40.8
Current Daily Precip:3.0
26.5
2012-2013 Daily Precip.
1976-1977
15.4
1923-1924 (driest)
14.8
Cumulative Daily/Monthly Precipitation (inches)
Total Water Year Precipitation
Oct 1
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1
Aug 1
Sep 1
Oct 1
Water Year (October 1 - September 30)

San Joaquin 5-Station Precipitation (inches)

Water Year 2014

Thursday, January 02, 2014

Total precipitation since	0000 PST Thursday 12/26/2013:	0.0"

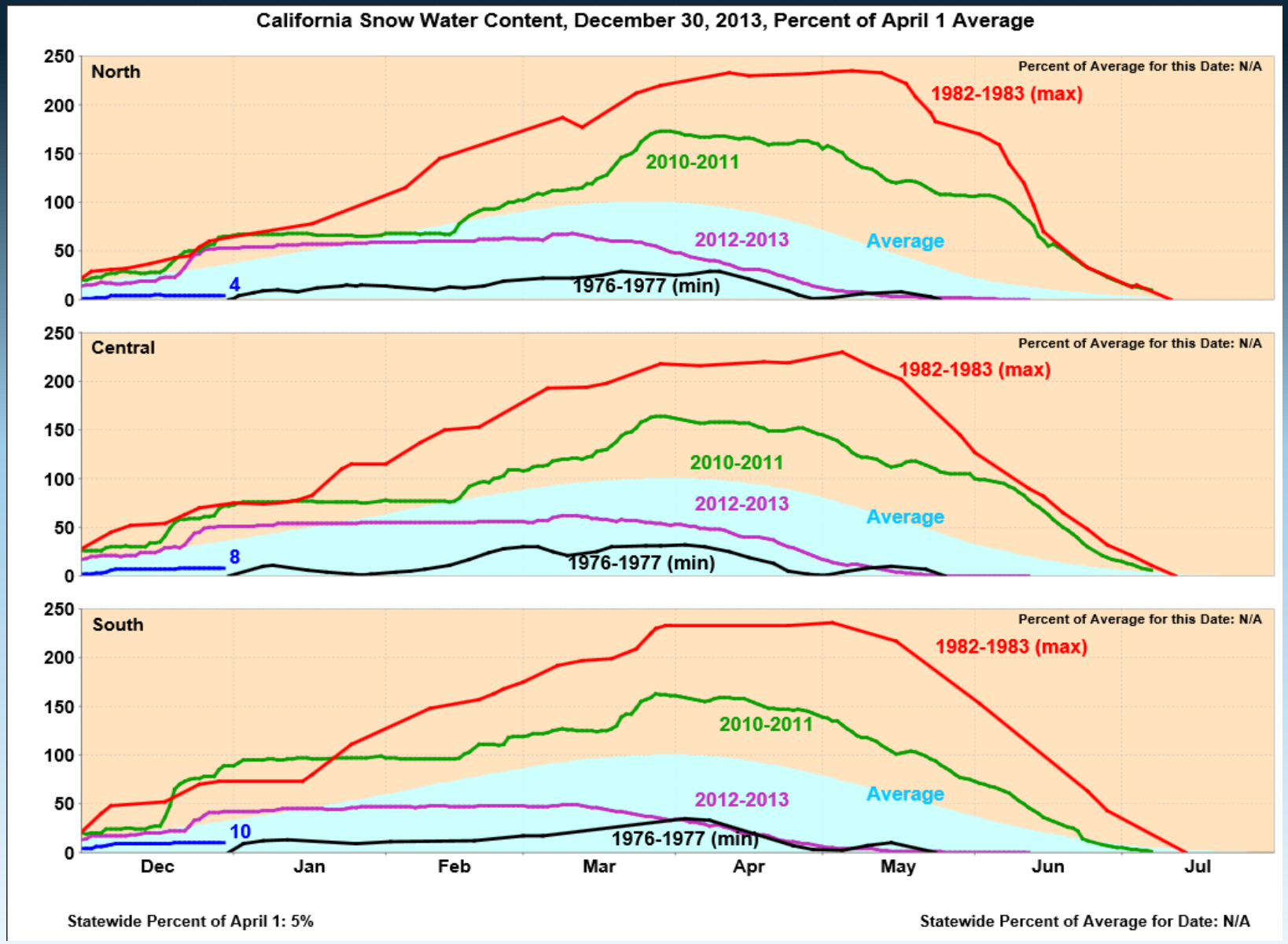
Month	Average (inches)	Observed (inches)	Observed (as % of Avg)	Notes
Oct-2013	2.0	0.9	45%	
Nov-2013	4.7	1.0	21%	
Dec-2013	6.2	1.1	18%	
Jan-2014	7.6	0.0	0%	

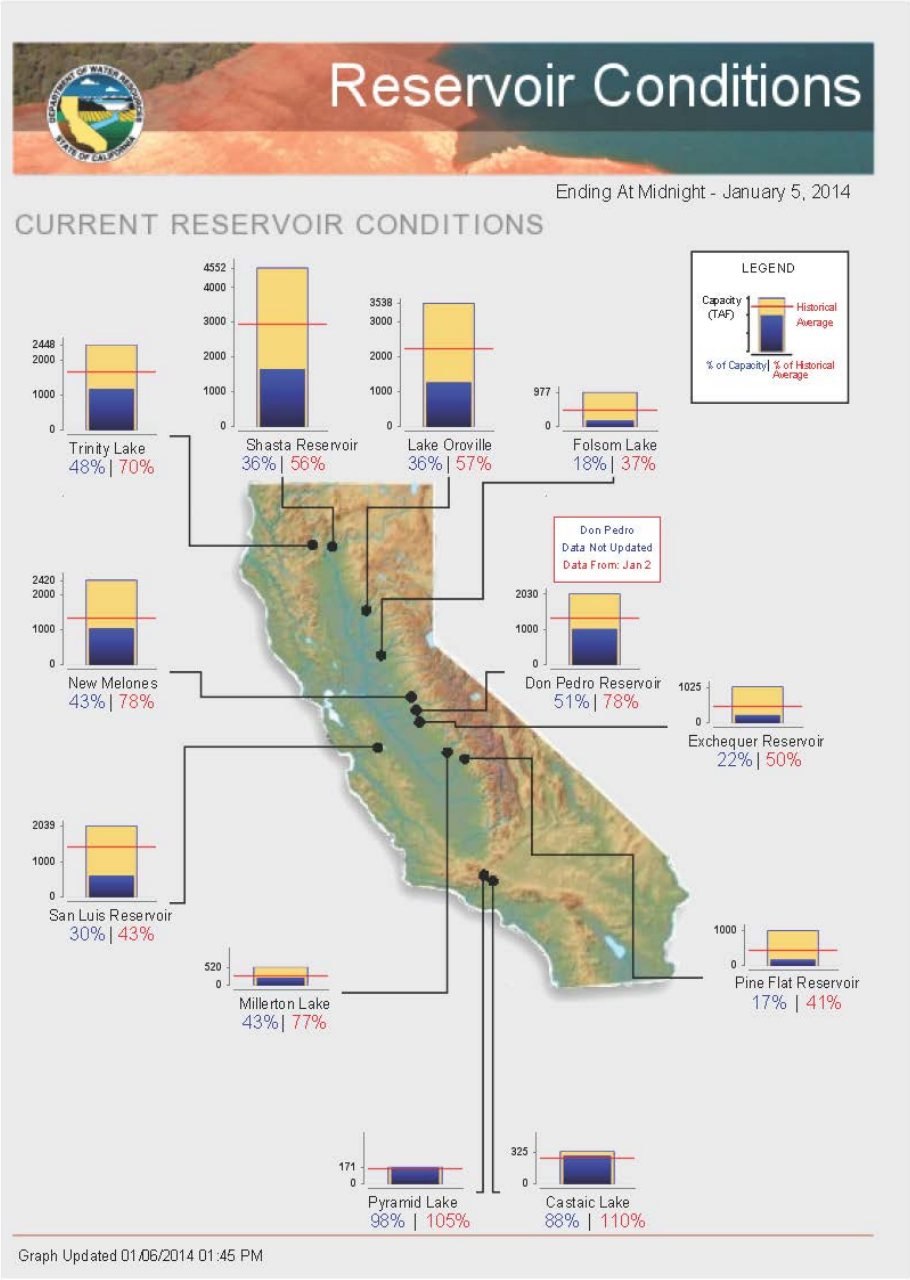
Seasonal Average to Date:	13.5	3.0	22%	
Water Year Average:	40.8		7%	

Notes:

Last year seasonal total:	19.1 "	141 %
Last year Dec 2012 total:	11.5 "	185 %
Last year Jan 2013 total:	1.3 "	17 %

Driest Water Years	Driest January Thru May		Wettest Water Years	
14.8" in 1924	6.8	2013	1983	77.4 "
15.4" in 1977	8.7	1966	1995	70.0 "
20.4" in 1987	9.0	1972	1969	67.9 "
22.3" in 1931	10.6	1924	1982	67.5 "
23.6" in 1968	11.1	1977	1998	65.2 "
	11.3	1984		

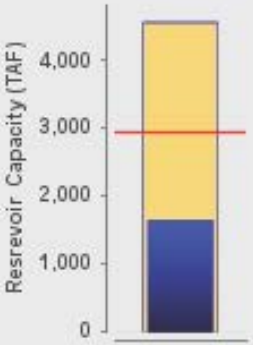

California Snow Water Content, December 30, 2013, Percent of April 1 Average
North
Percent of Average for this Date: N/A
1982-1983 (max)
2010-2011
2012-2013
Average
1976-1977 (min)
4
Central
Percent of Average for this Date: N/A
1982-1983 (max)
2010-2011
2012-2013
Average
1976-1977 (min)
8
South
Percent of Average for this Date: N/A
1982-1983 (max)
2010-2011
2012-2013
Average
1976-1977 (min)
10
250
200
150
100
50
0
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Statewide Percent of April 1: 5%
Statewide Percent of Average for Date: N/A


Reservoir Conditions
Ending At Midnight - January 5, 2014
CURRENT RESERVOIR CONDITIONS
LEGEND
Capacity (TAF)
Historical Average
% of Capacity
% of Historical Average
Trinity Lake
48% | 70%
Shasta Reservoir
36% | 56%
Lake Oroville
36% | 57%
Folsom Lake
18% | 37%
Don Pedro
Data Not Updated
Data From: Jan 2
New Melones
43% | 78%
Don Pedro Reservoir
51% | 78%
Exchequer Reservoir
22% | 50%
San Luis Reservoir
30% | 43%
Millerton Lake
43% | 77%
Pine Flat Reservoir
17% | 41%
Pyramid Lake
98% | 105%
Castaic Lake
88% | 110%
Graph Updated 01/06/2014 01:45 PM

Reservoir Conditions - Shasta Reservoir

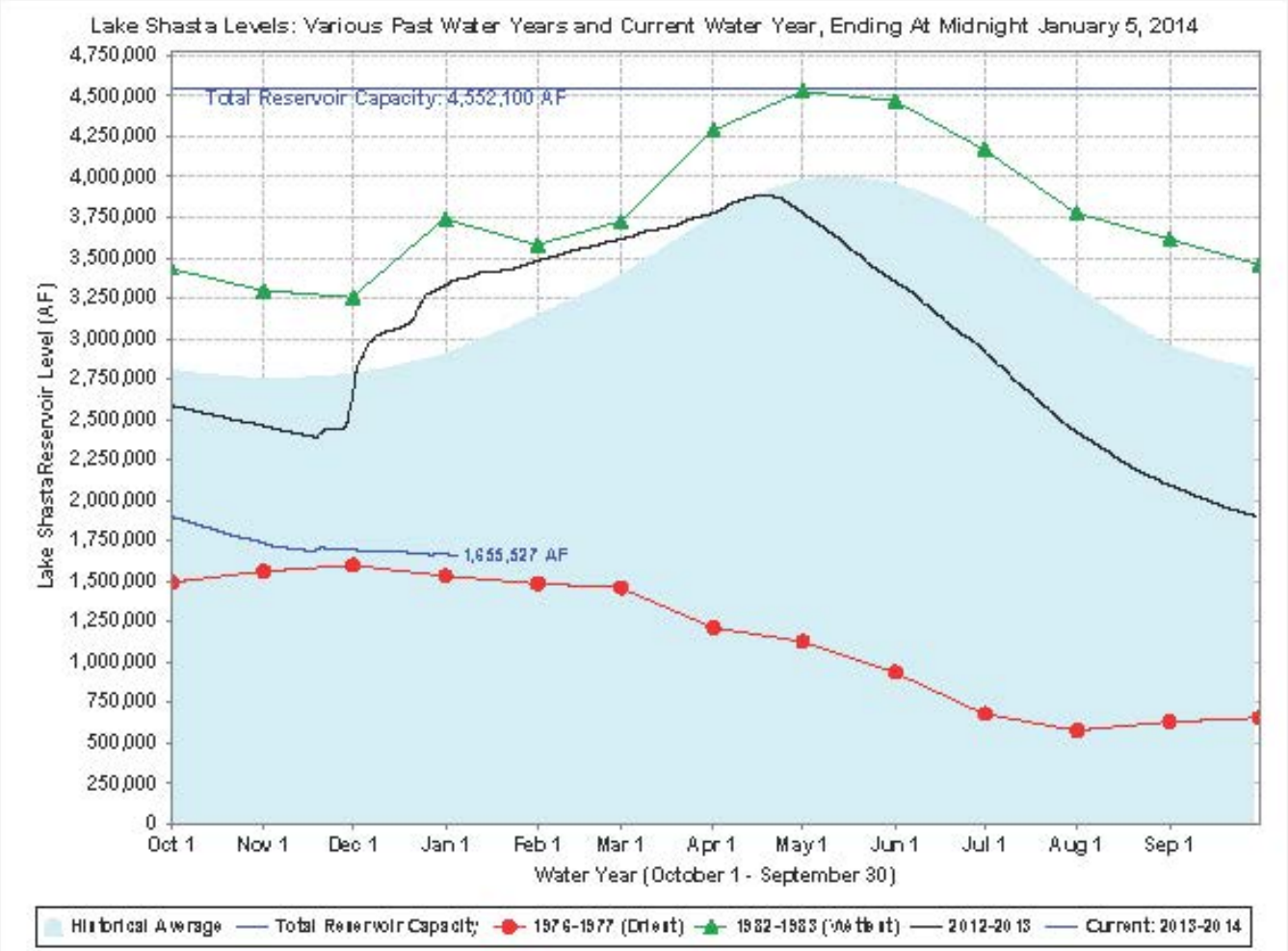
Lake Shasta Conditions

(as of Midnight - January 5, 2014)



Current Level: 1,655,527 AF

36% (Total Capacity) | 56% (Historical Avg.)

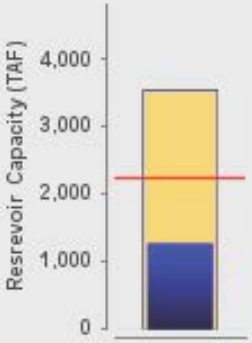


Data Updated 01/06/2014 02:15 PM

Reservoir Conditions - Lake Oroville

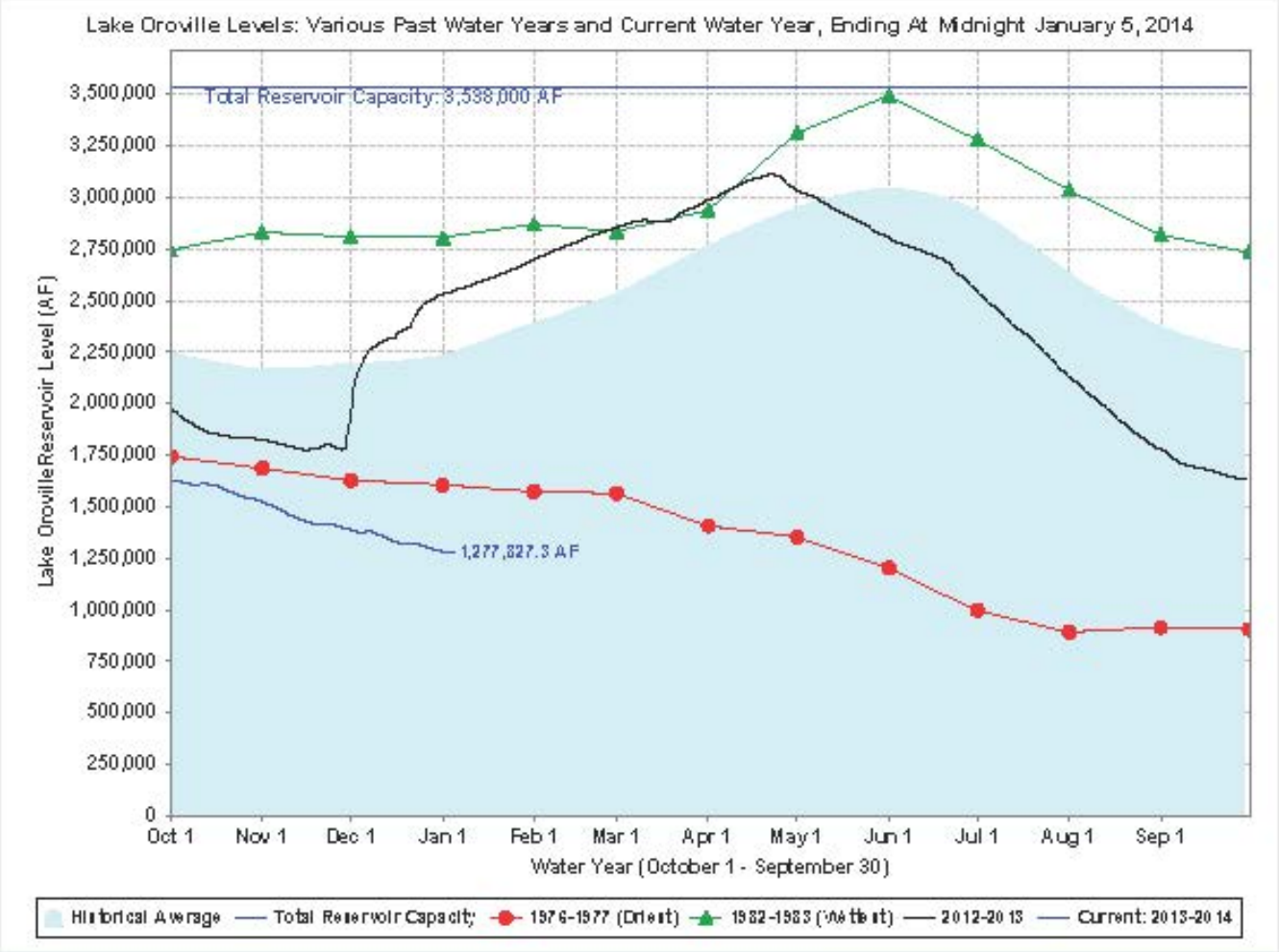
Lake Oroville Conditions

(as of Midnight - January 5, 2014)



Current Level: 1,277,827.3 AF

36% (Total Capacity) | 57% (Historical Avg.)

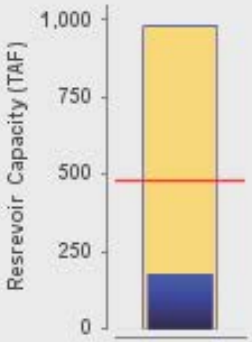


Data Updated 01/06/2014 02:15 PM

Reservoir Conditions - Folsom Lake

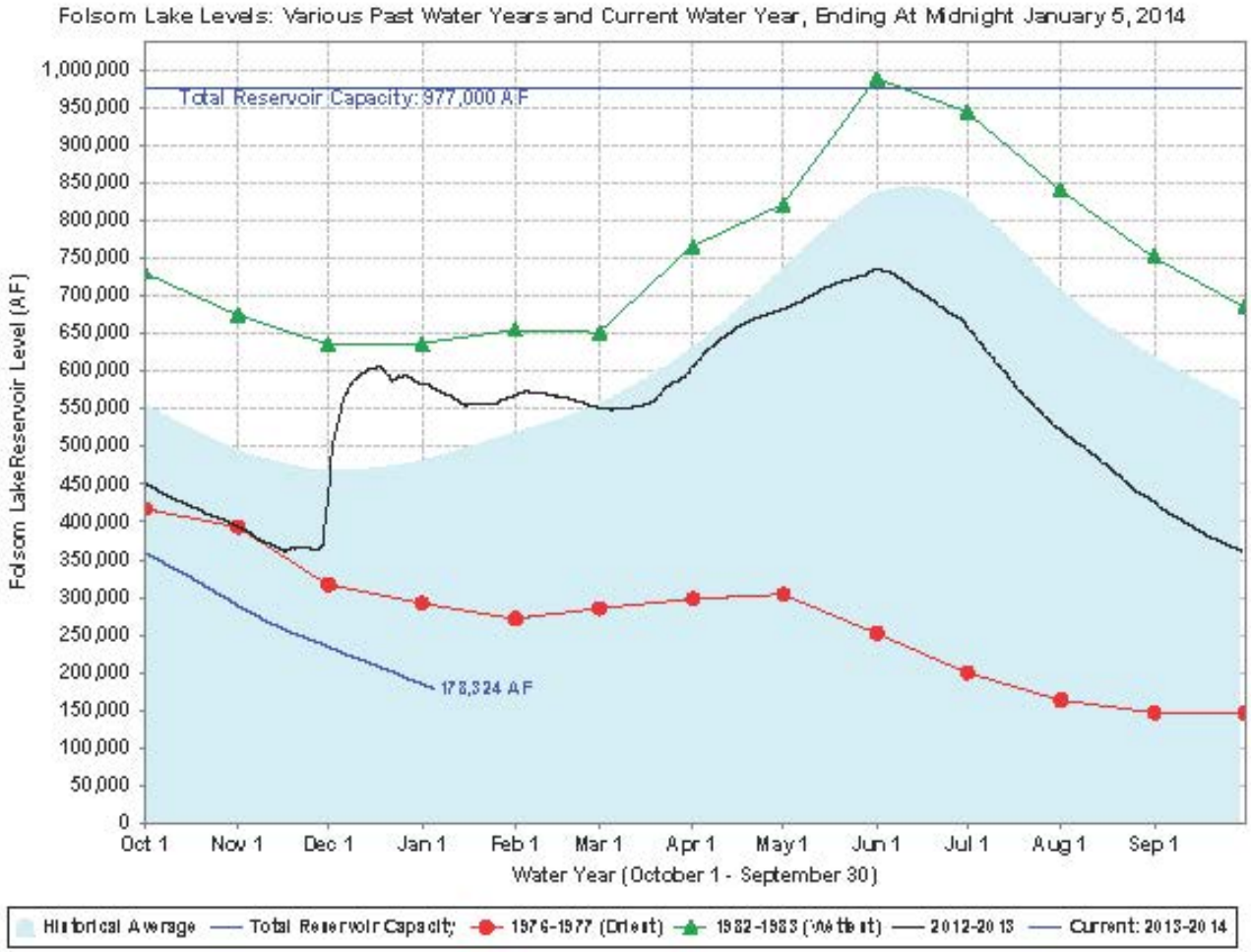
Folsom Lake Conditions

(as of Midnight - January 5, 2014)



Current Level: 178,324 AF

18% (Total Capacity) | 37% (Historical Avg.)

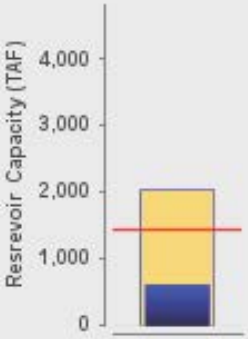


Data Updated 01/06/2014 02:15 PM

Reservoir Conditions - San Luis

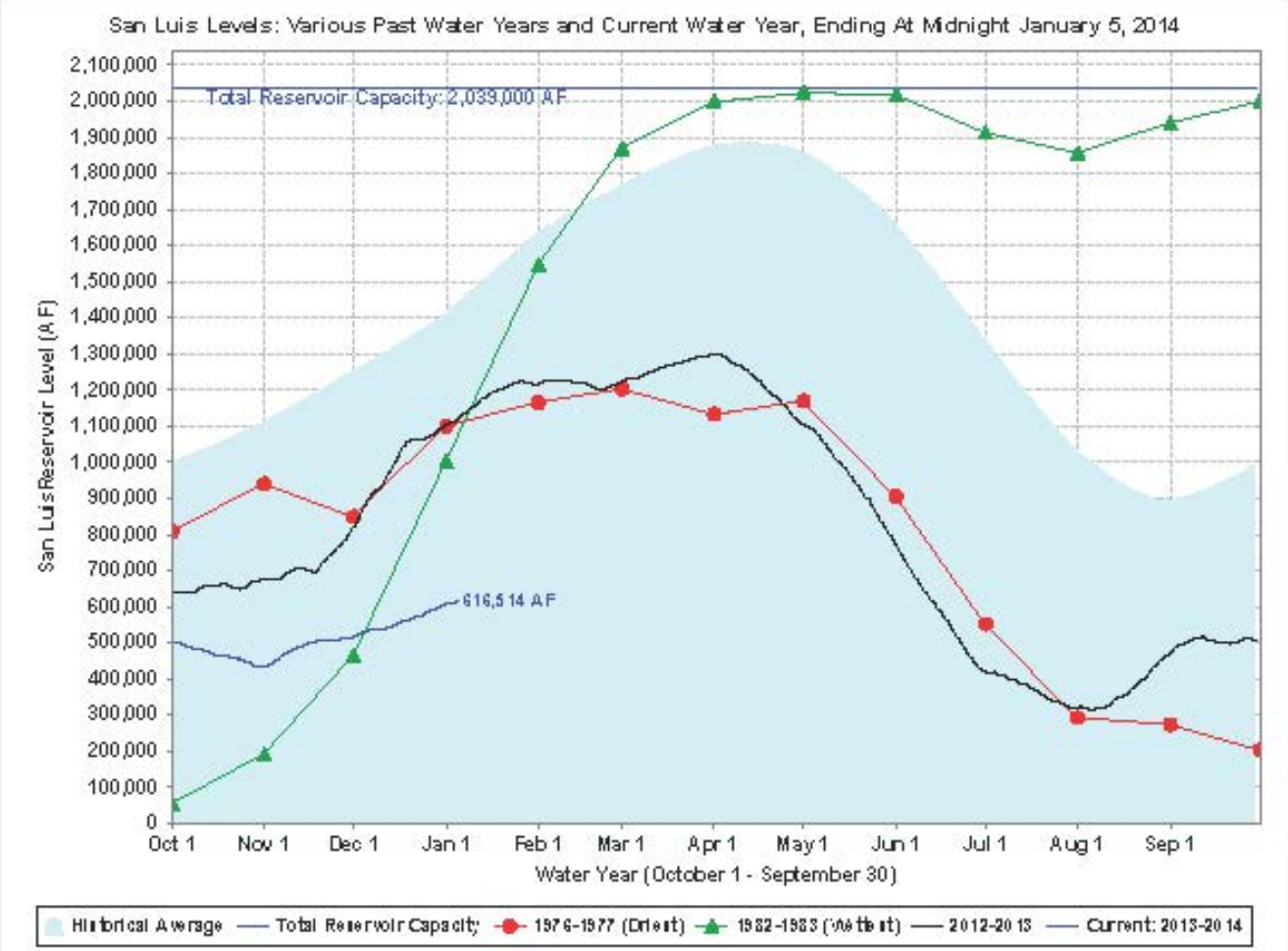
San Luis Conditions

(as of Midnight - January 5, 2014)

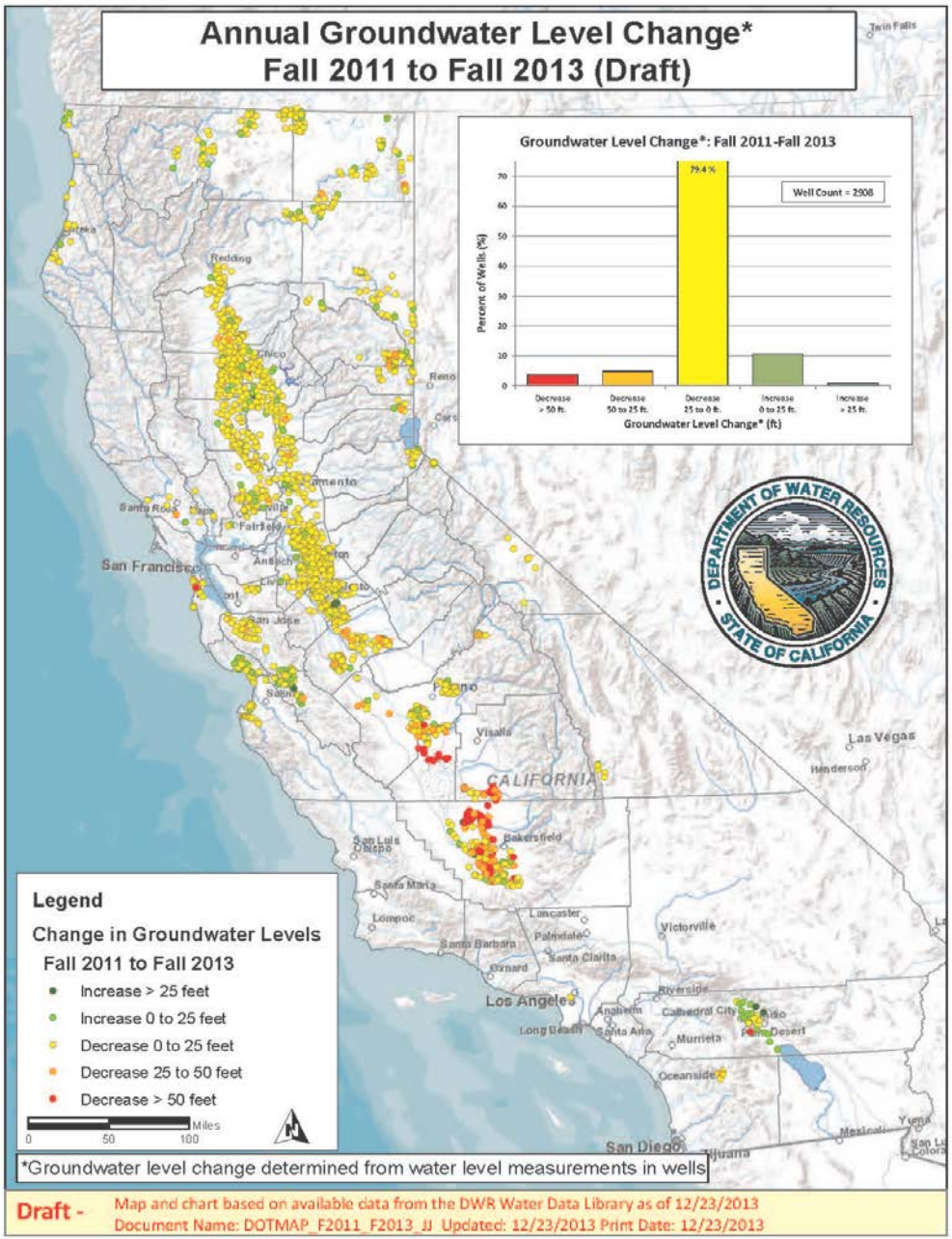


Current Level: 616,514 AF

30% (Total Capacity) | 43% (Historical Avg.)



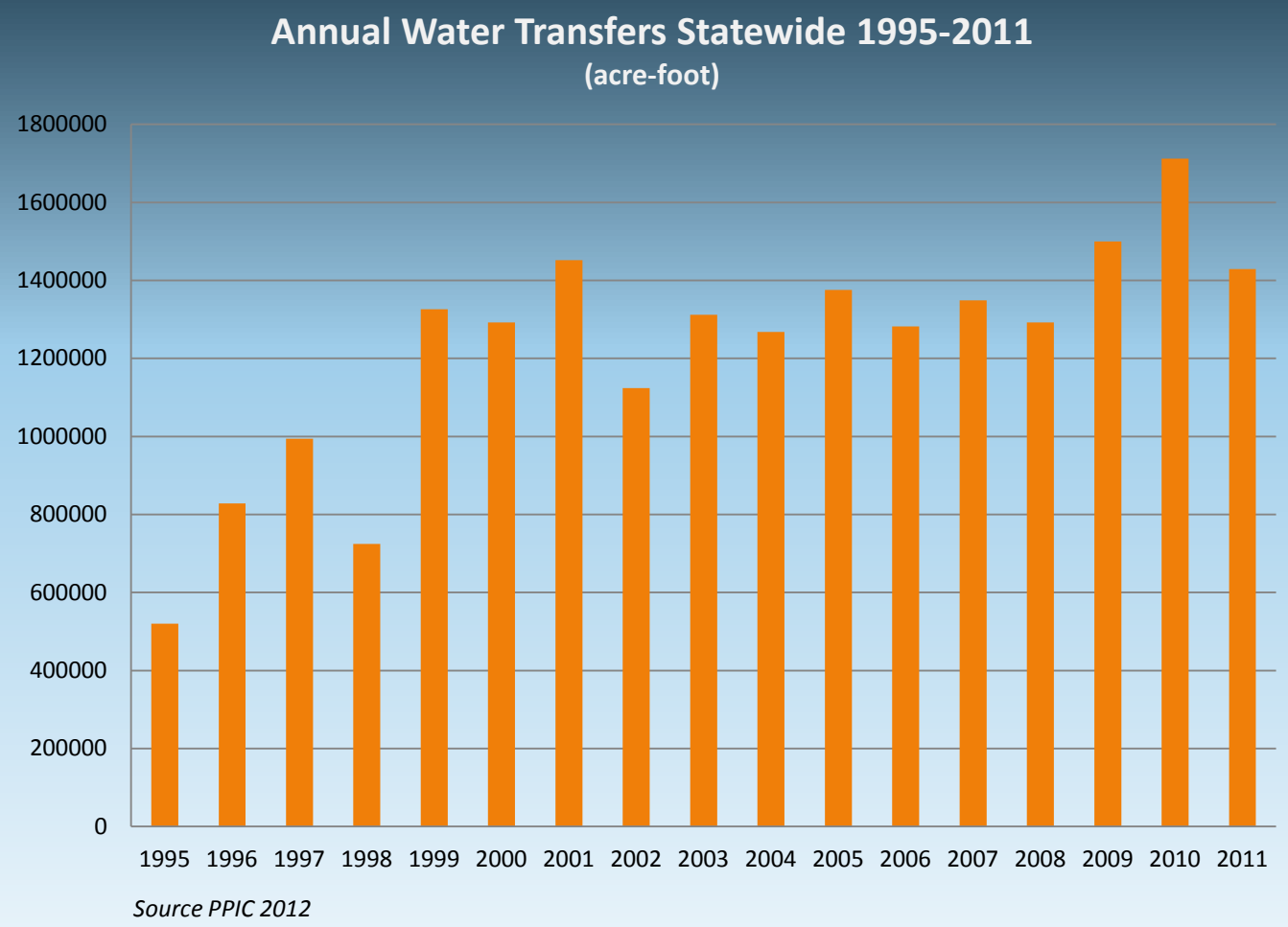
Data Updated 01/06/2014 02:15 PM


Annual Groundwater Level Change*
Fall 2011 to Fall 2013 (Draft)
Groundwater Level Change*: Fall 2011-Fall 2013
Well Count = 2908
79.4 %
Percent of Wells (%)
Decrease > 50 ft.
Decrease 50 to 25 ft.
Decrease 25 to 0 ft.
Increase 0 to 25 ft.
Increase > 25 ft.
Groundwater Level Change* (ft)
Legend
Change in Groundwater Levels
Fall 2011 to Fall 2013
Increase > 25 feet
Increase 0 to 25 feet
Decrease 0 to 25 feet
Decrease 25 to 50 feet
Decrease > 50 feet
Miles
0
50
100
*Groundwater level change determined from water level measurements in wells
Draft -
Map and chart based on available data from the DWR Water Data Library as of 12/23/2013
Document Name: DOTMAP_F2011_F2013_JJ Updated: 12/23/2013 Print Date: 12/23/2013
DEPARTMENT OF WATER RESOURCES
STATE OF CALIFORNIA
Redding
Chico
Reno
Sacramento
Santa Rosa
Napa
Fairfield
San Francisco
Antioch
Livermore
San Jose
Salinas
Fresno
Visalia
CALIFORNIA
Las Vegas
Henderson
San Luis Obispo
Bakersfield
Santa Maria
Lompoc
Lancaster
Palmdale
Santa Barbara
Santa Clarita
Oxnard
Victorville
Los Angeles
Anaheim
Long Beach
Santa Ana
Riverside
Cathedral City
Indio
Palm Desert
Murrieta
Oceanside
San Diego
Tijuana
Mexicali
Yuma
Twin Falls

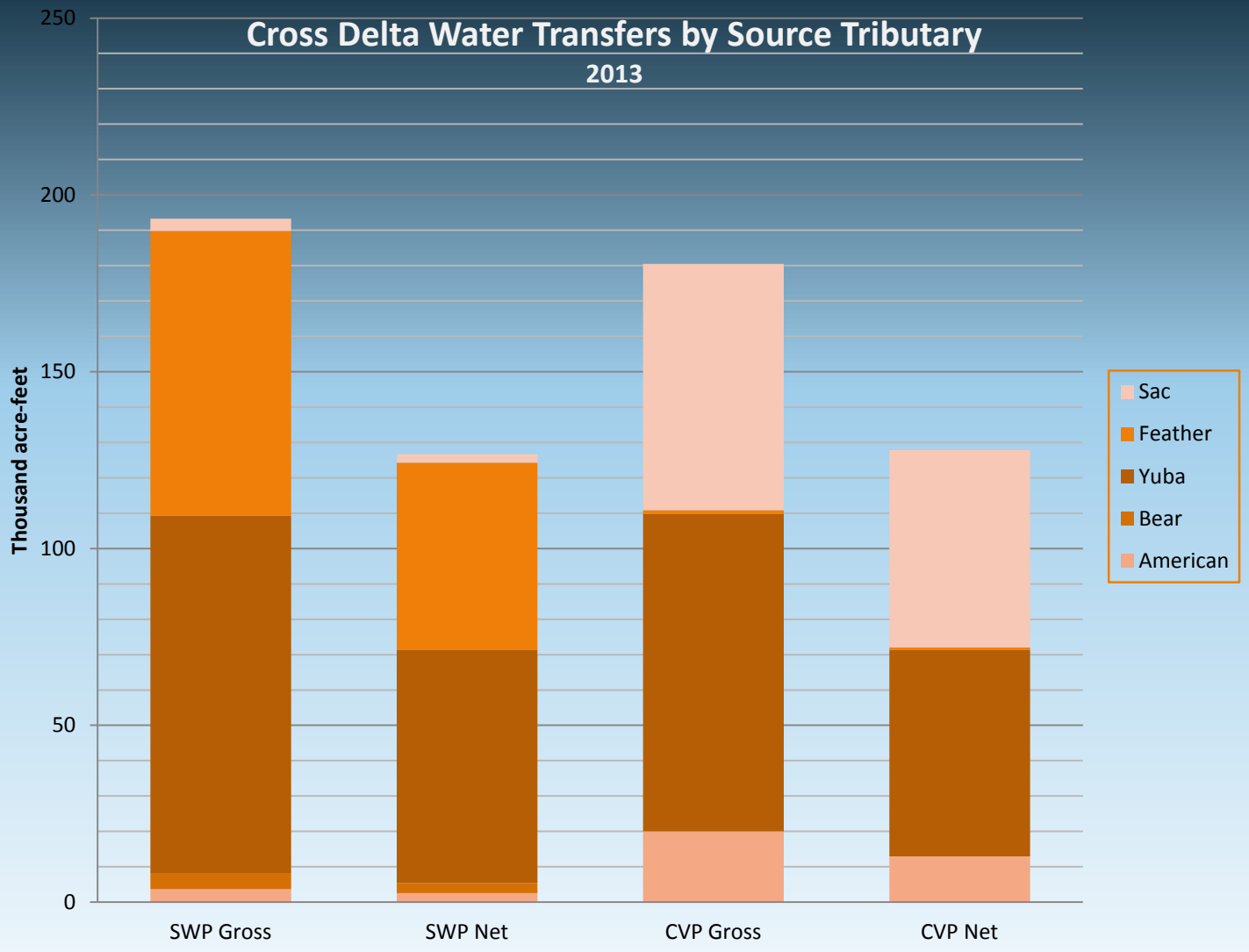
Water Project Allocations

SWP	5%	December 2013
CVP	?	February 2014

Trends: Historical Transfers in CA



Trends: 2013 Cross-Delta Water Transfers



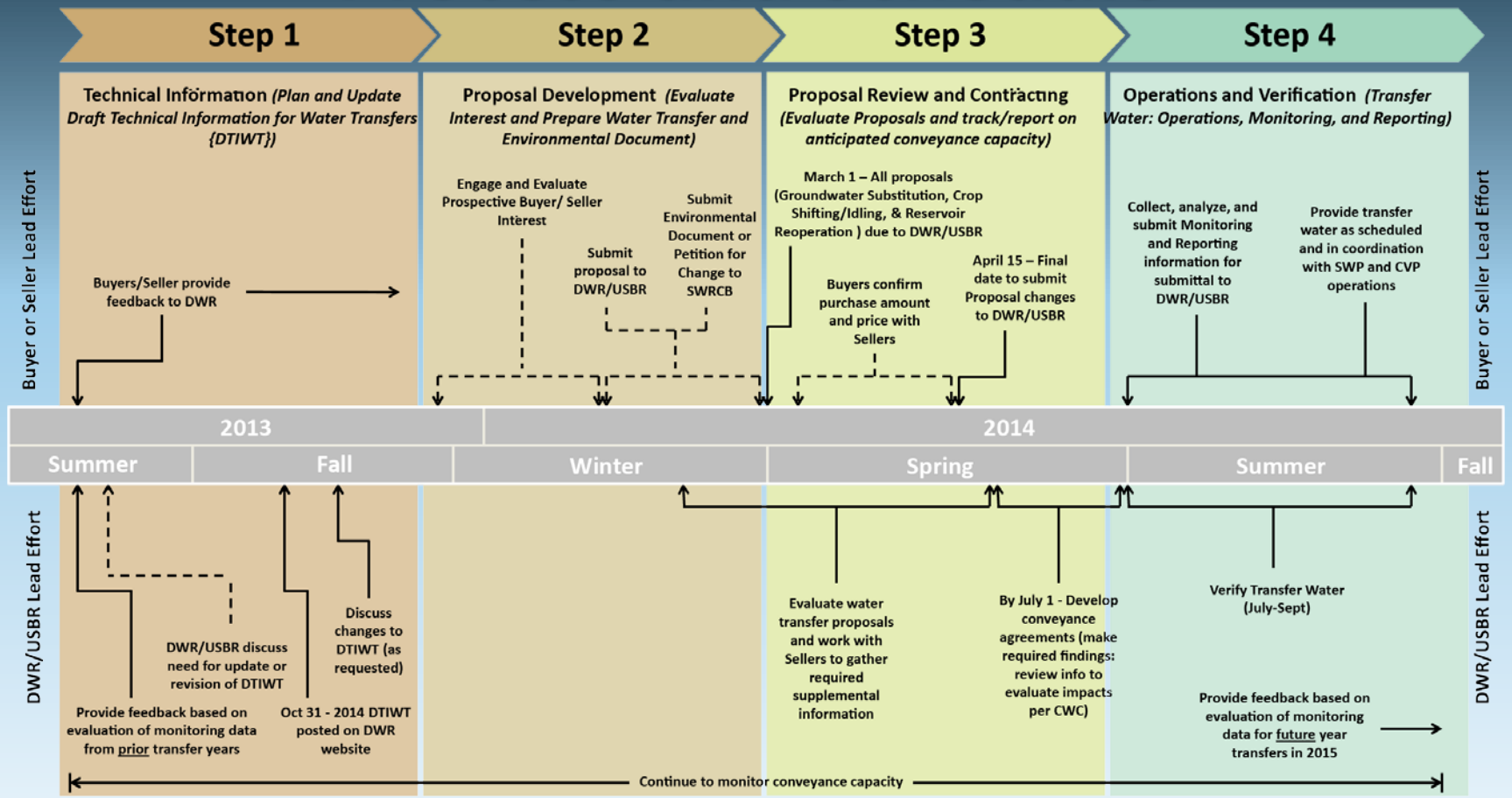
Water Transfers

- **Executive Order B-21-13 in May 2013**
  - **expedite review and processing of voluntary water transfers**
- **Draft Water Action Plan**
- **Coordination Meetings**
  - Buyers / Sellers
  - SWRCB
  - USBR

Water Transfers

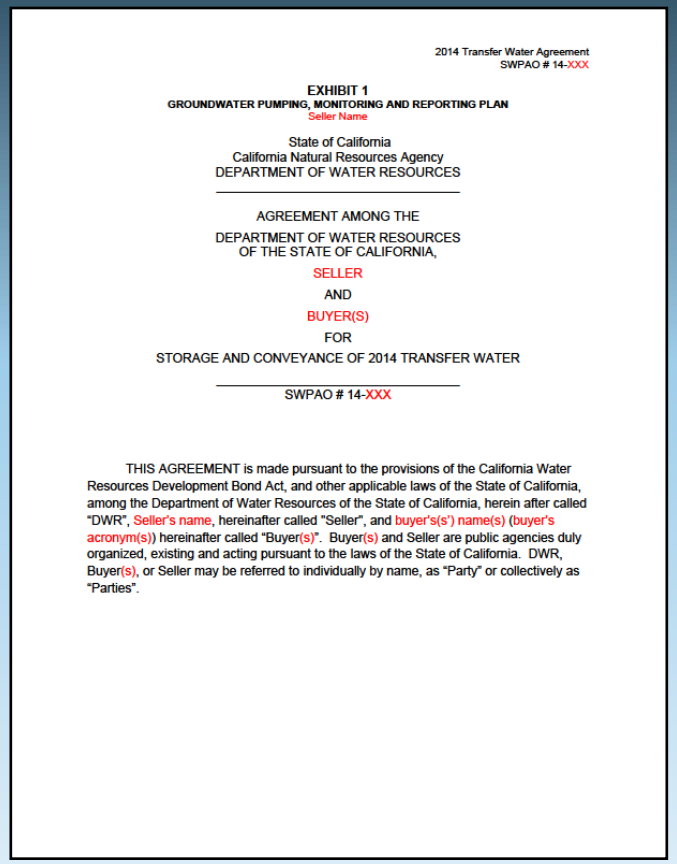
- **DWR streamlining process**
  - Improving contracting procedures for transfers dependent on SWP facilities
  - Facilitating fast-tracking of transfers with appropriate supporting documentation
  - Improving coordination and alignment with other agencies SWRCB USBR
  - Updated Web information
  - Clearing House Approach

At-a-Glance 2014 Water Transfer Process and Schedule



For more information on water transfers, please see our website at http://www.water.ca.gov/watertransfers/

Short Term Improvements
Template Development



2014 Transfer Water Agreement
SWPAO # 14-XXX

EXHIBIT 1
GROUNDWATER PUMPING, MONITORING AND REPORTING PLAN
Seller Name

State of California
California Natural Resources Agency
DEPARTMENT OF WATER RESOURCES

AGREEMENT AMONG THE

DEPARTMENT OF WATER RESOURCES
OF THE STATE OF CALIFORNIA,

SELLER

AND

BUYER(S)

FOR

STORAGE AND CONVEYANCE OF 2014 TRANSFER WATER

SWPAO # 14-XXX

THIS AGREEMENT is made pursuant to the provisions of the California Water Resources Development Bond Act, and other applicable laws of the State of California, among the Department of Water Resources of the State of California, herein after called "DWR", Seller's name, hereinafter called "Seller", and buyer's(s') name(s) (buyer's acronym(s)) hereinafter called "Buyer(s)". Buyer(s) and Seller are public agencies duly organized, existing and acting pursuant to the laws of the State of California. DWR, Buyer(s), or Seller may be referred to individually by name, as "Party" or collectively as "Parties".

2013

Individualized agreements

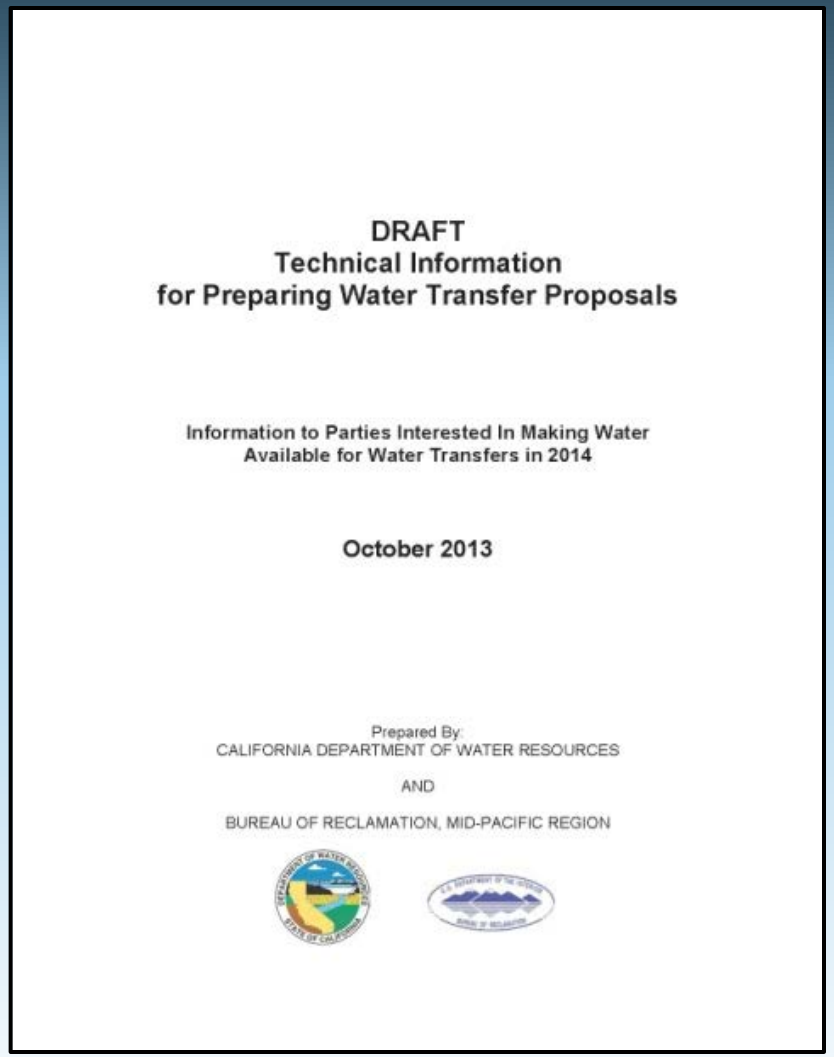
2014

Standardized Conveyance agreement

Long Term Management Improvements

Guidance Restructuring

- **Policy Guidance (Process)**
  - SWP Storage and Conveyance
- **Engineering Technical Guidance**
  - GW Substitution
  - Land Use
  - Storage
- **Transfer Handbooks**



DRAFT
Technical Information
for Preparing Water Transfer Proposals

Information to Parties Interested In Making Water Available for Water Transfers in 2014

October 2013

Prepared By:
CALIFORNIA DEPARTMENT OF WATER RESOURCES

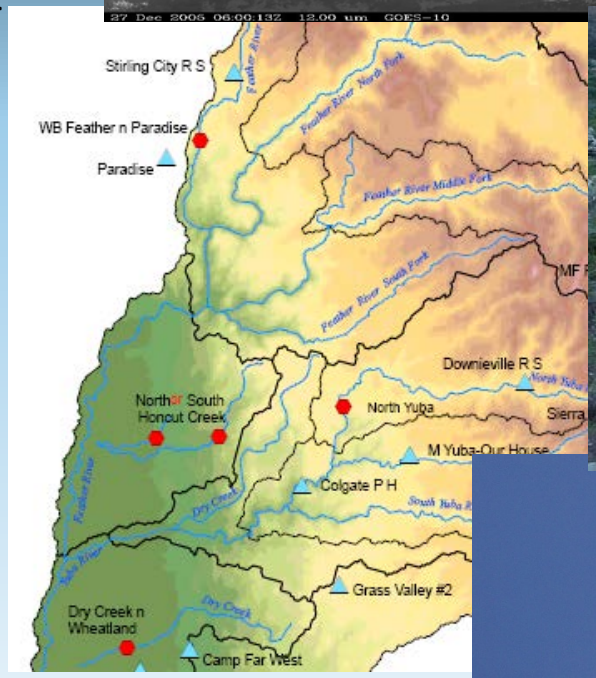
AND

BUREAU OF RECLAMATION, MID-PACIFIC REGION

Long Term Management Improvements

Operational Transfer System

- **Precipitation/Runoff Forecasting**
  - Enhance Data Collection Network
  - QPF/Watershed Runoff Forecasting
  - Snowmelt & Seasonal Volume Runoff Forecasting
  - River Forecasting
  - Forecast-Coordinated Operation of Reservoirs
  - Integration of Flood Control and Water Supply Components of the Reservoirs
  - Water Delivery Forecasts
  - Transfer Scheduling
  - Transfer Management Website



Long Term Management Improvements

Management Improvements

Developing single point-of-contact at DWR Exec for critical water shortage management

Agency Alignment

SEMS Structure	
	DWR Organization
Management	Executive, Legal, SWPAO, PAO
Operations	O&M, SWPAO, DFM
Planning/Intel	DIRWM, DSIWM, BDO, DES
Logistics	SWPAO, Bus. Services
Finance/Admin	SWPAO

Greatest Risks in 2014, if Dry

- **Health & safety and economic**
  - Catastrophic wildfires (e.g., Southern California in 2003 and 2007)
- **Health & safety**
  - Impacts to small water systems in rural areas (including wildfire damage)
- **Environmental**
  - Continued San Joaquin Valley land subsidence, spawning beds
- **Economic**
  - Minimal water allocations to some agricultural water users, particularly in the San Joaquin Valley

Information and Contacts

- Drought Management Operations Center (916) 574-2619
- Public CDEC access - **http://cdec.water.ca.gov**
- Agency access - **http://cdec4gov.water.ca.gov**
  Call (916) 574-1777 to Apply
- Webcast Weather/Hydrology Briefings – wx_webcast-request@water.ca.gov
- Web Links
  - Water Conditions: **http://water.ca.gov/waterconditions/**
  - Water Transfers: **http://water.ca.gov/watertransfers/**
  - Drought Page**:** **http://water.ca.gov/waterconditions/drought/**
  - Public Affairs: **http://water.ca.gov/publicaffairs.cfm**