



RECLAMATION

Managing Water in the West



**Navajo Unit Operations
April 22, 2014
Coordination Meeting**

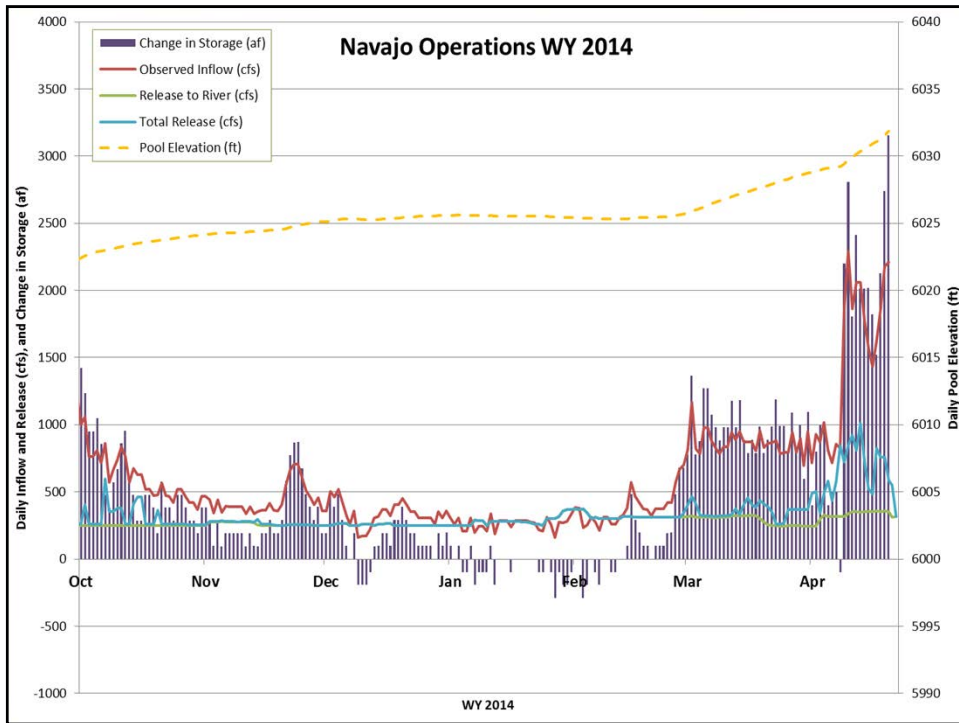


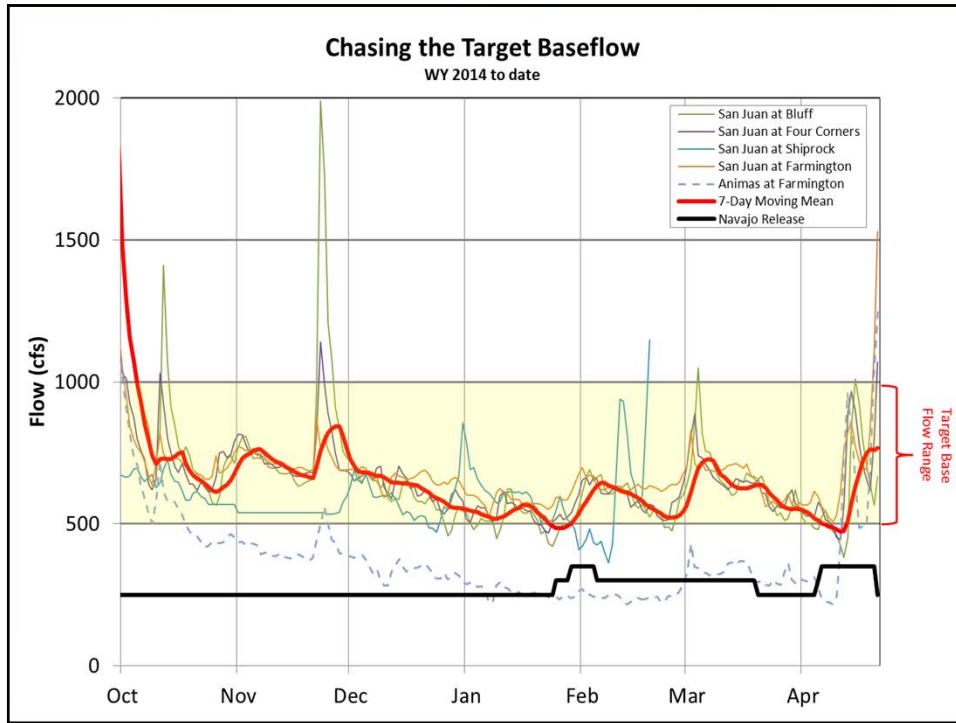
U.S. Department of the Interior
Bureau of Reclamation

AGENDA

- SPECIAL PRESENTATION – GREG SMITH, CBRFC
- REVIEW OF WATER YEAR 2014 OPERATIONS (TO DATE)
- WATER YEAR 2014 CURRENT CONDITIONS/SNOWPACK
- WATER YEAR 2014 FORECASTS & PROPOSED OPERATIONS
- NEARBY PROJECTS UPDATE
- NAVAJO DAM MAINTENANCE ACTIVITIES
- FISH & WILDLIFE SERVICE/SAN JUAN RIP UPDATE
- REPORTS FROM OTHER AGENCIES

RECLAMATION





Navajo Current Conditions

(as of 4/22/14)

Elevation = 6032.2 (81% of Avg, 35% of Active)

Storage = 1,030,739 af (61% Full)

Inflow = 2,457 cfs

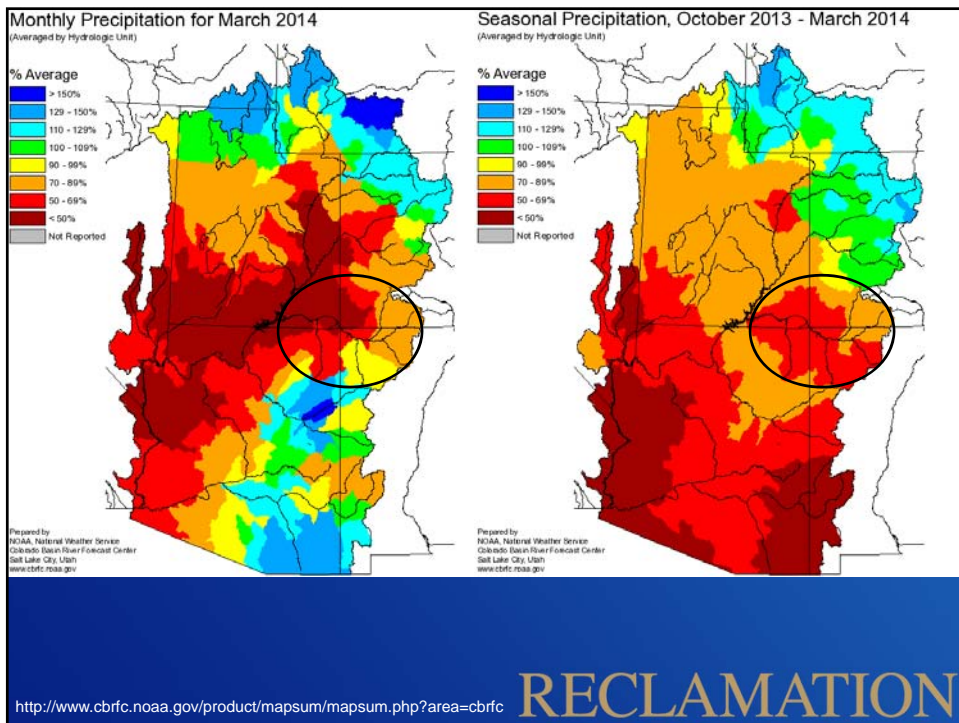
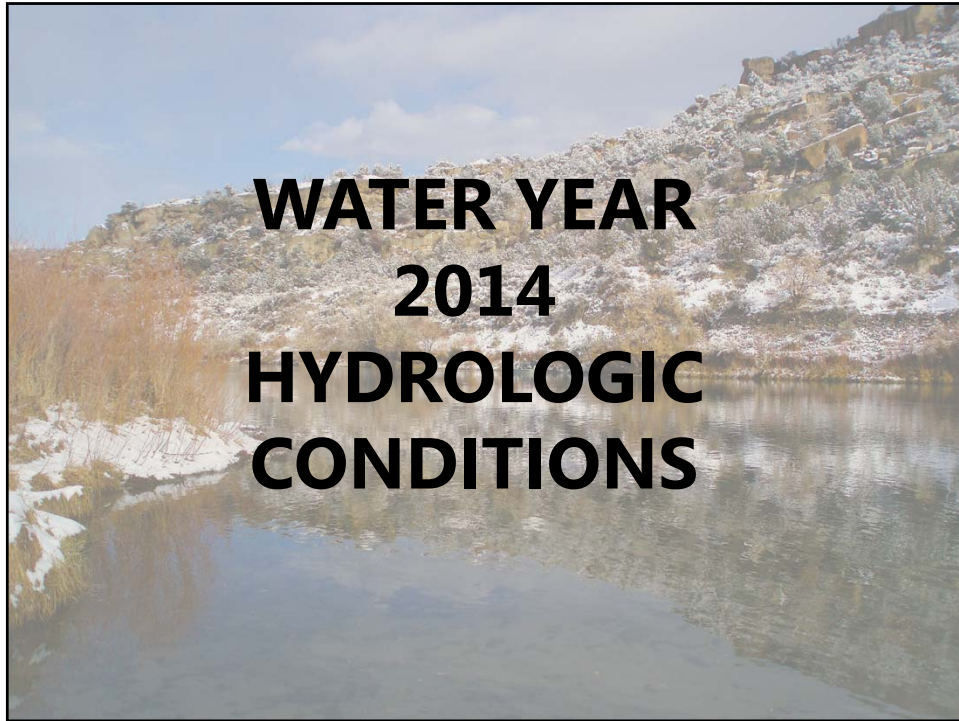
Release = 250 cfs

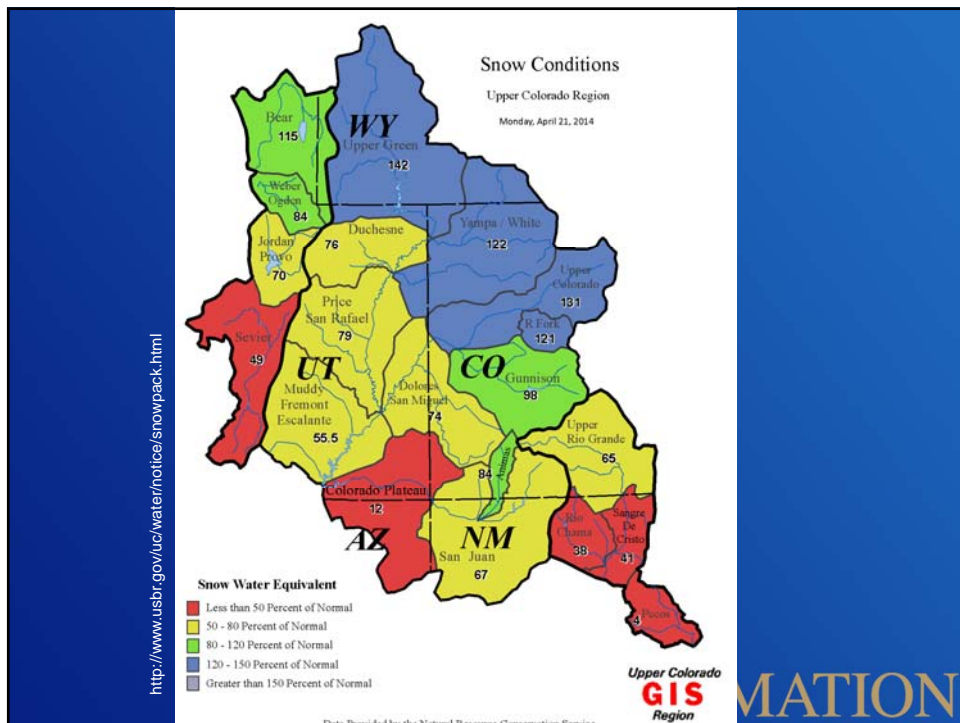
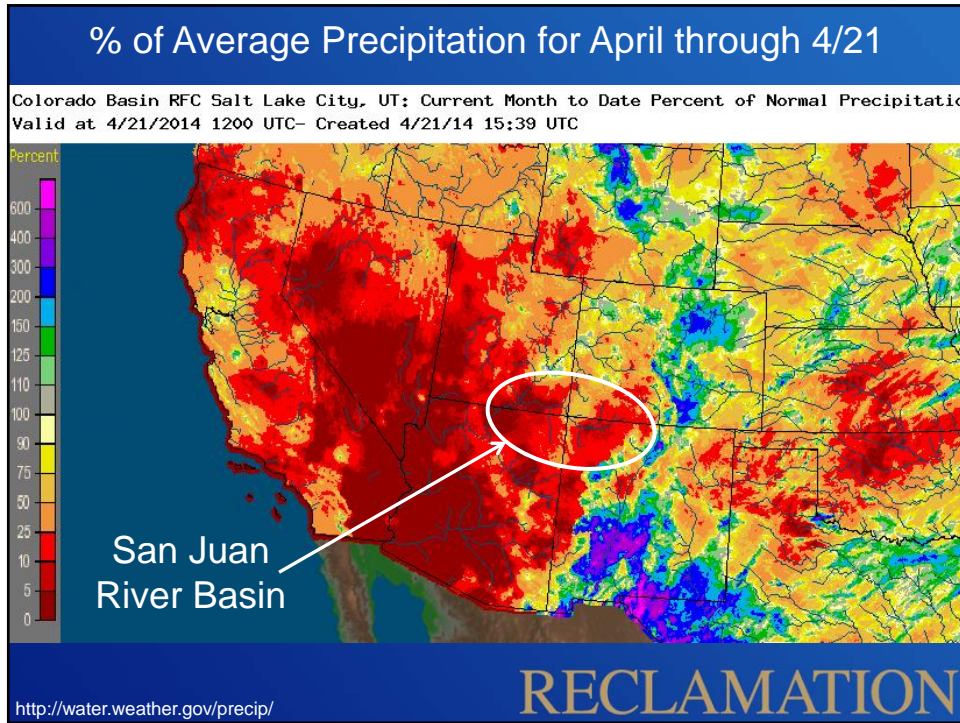
NIIP = 373 cfs*

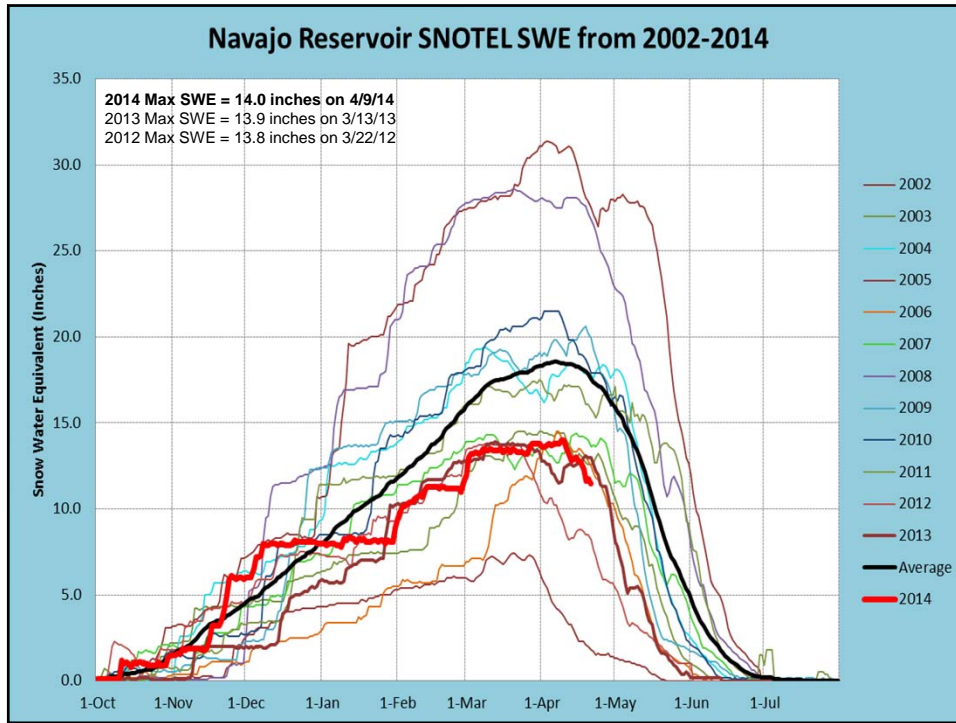
SJ-Chama Diversion = 346 cfs*

**average of the last 7 days*

RECLAMATION





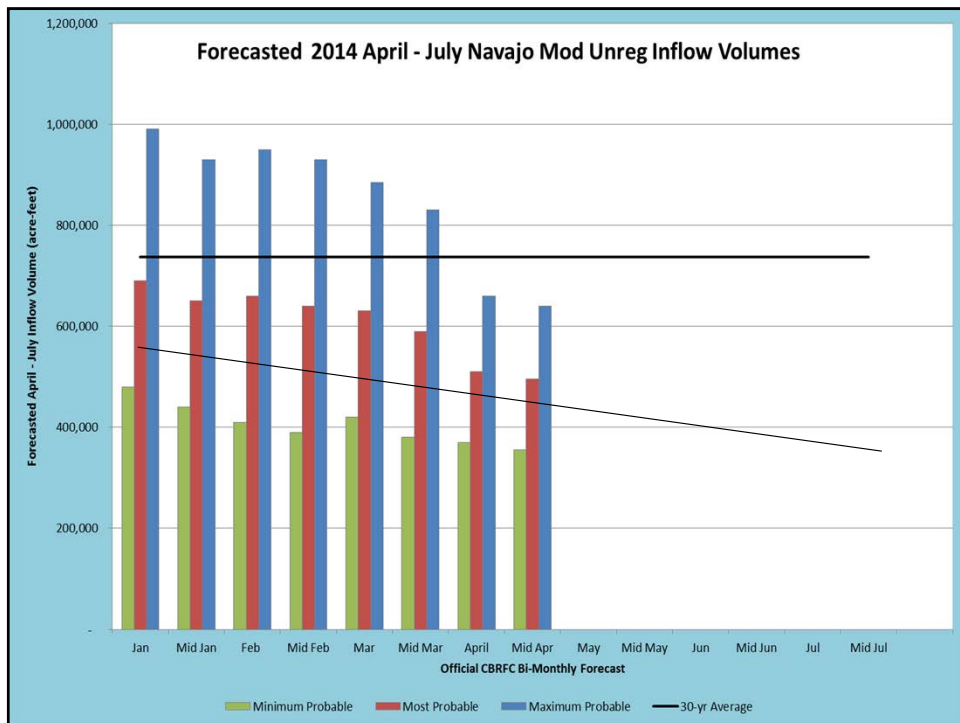


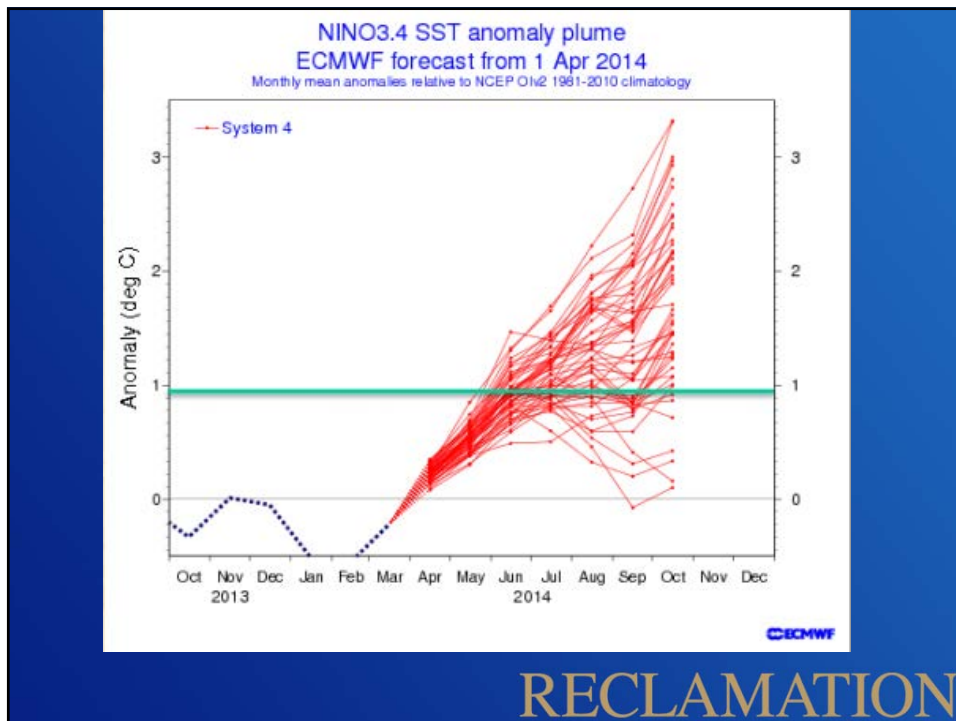
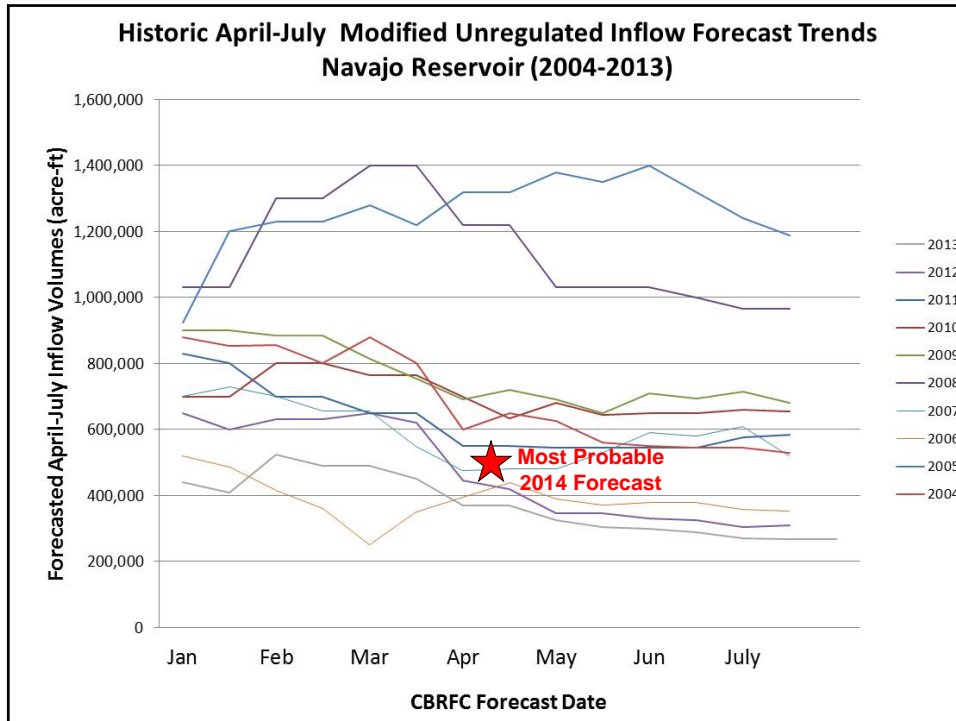
Mid-April 2014 CBRFC Forecast Navajo Reservoir Mod Unregulated April-July Inflow Volume

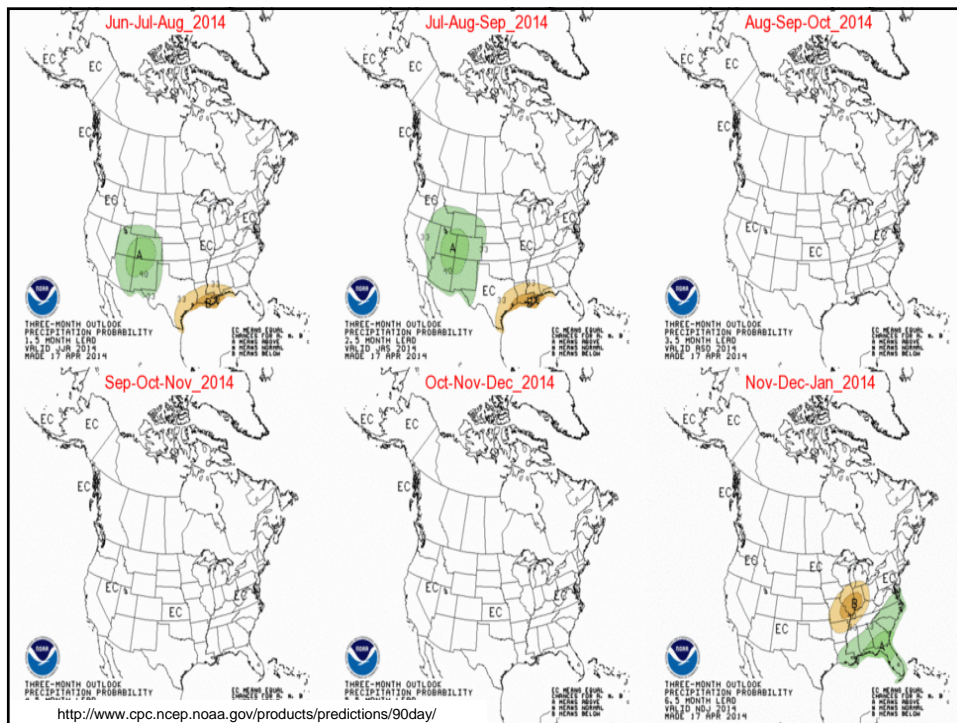
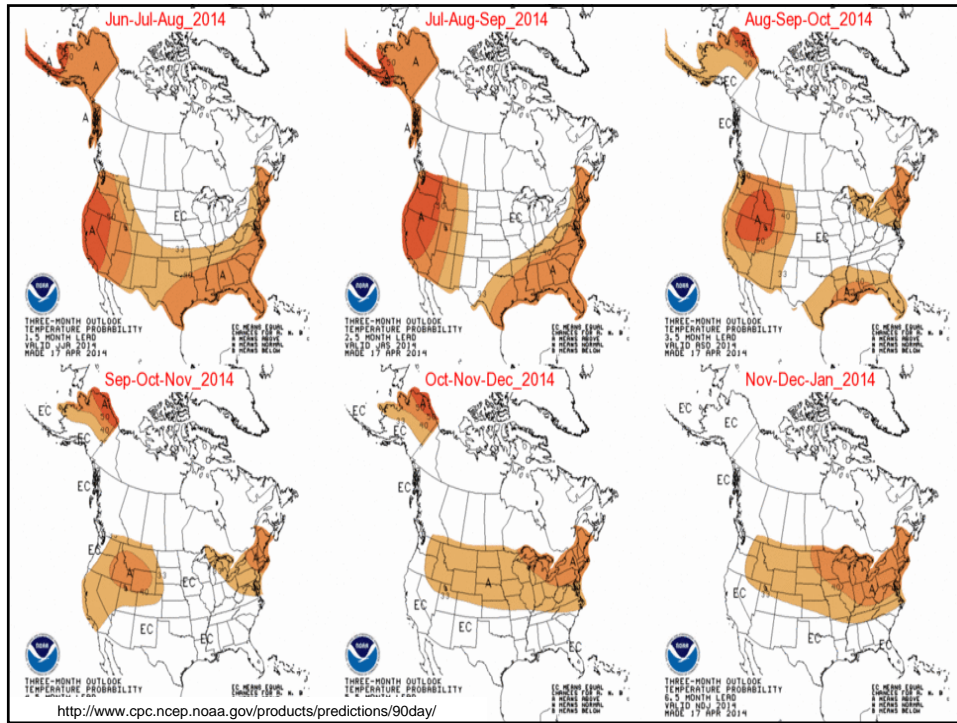
| Probability | Inflow (af) | % of Average | 2013 Forecast |
|-------------|----------------|--------------|-------------------------|
| MIN | 355,000 | 48% | 250,000 (34%) |
| MOST | 495,000 | 67% | 370,000 (50%) |
| MAX | 640,000 | 87% | 590,000 (79%) |

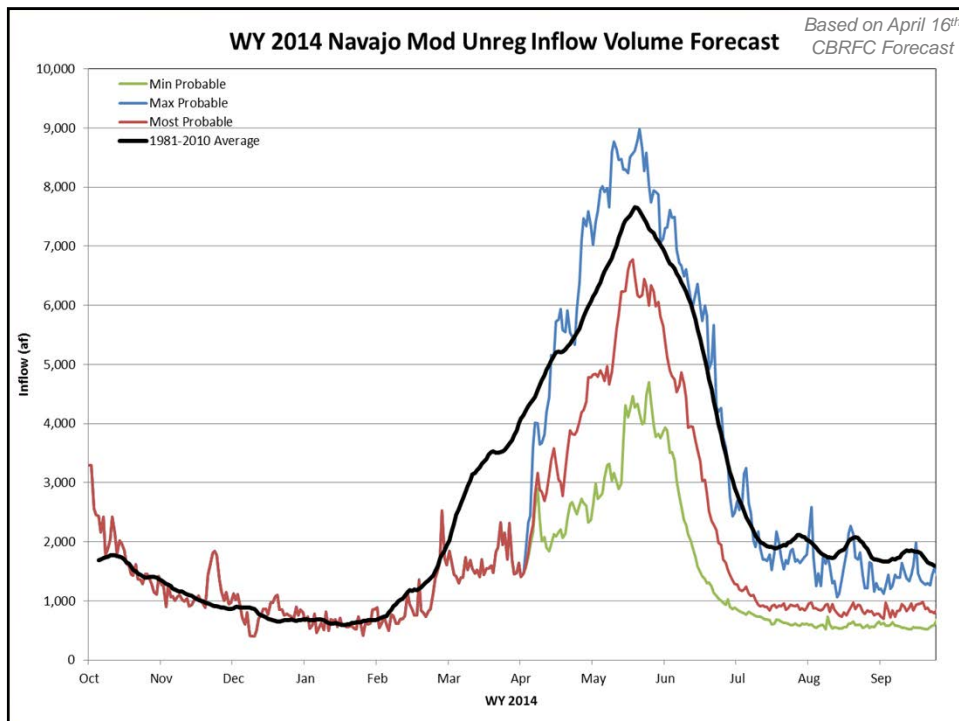
2013 Actual = 267,195 acre-feet

RECLAMATION







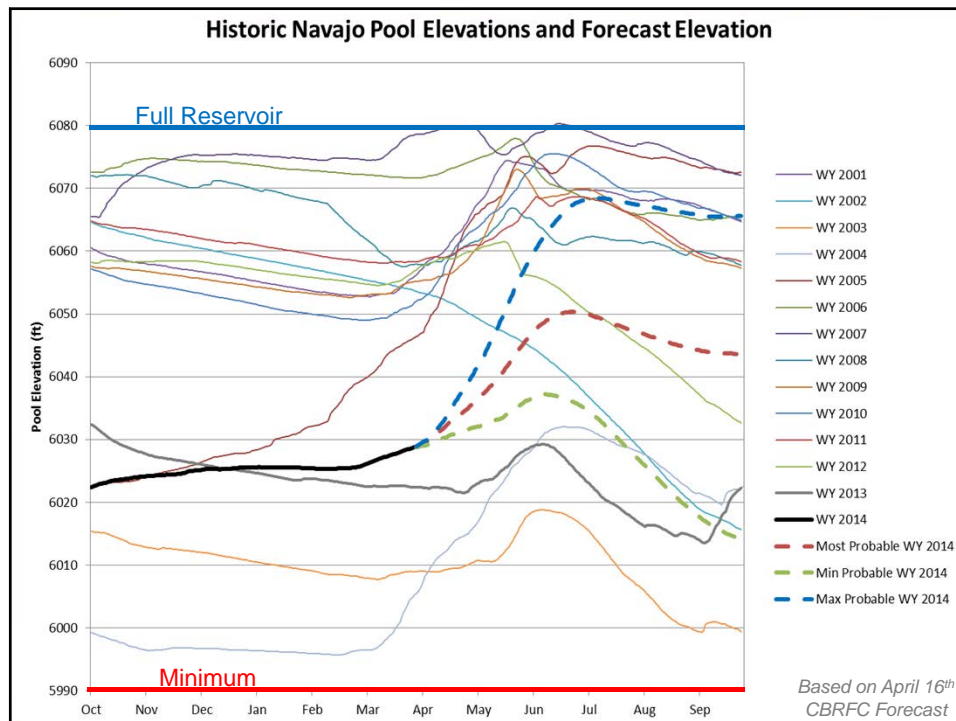


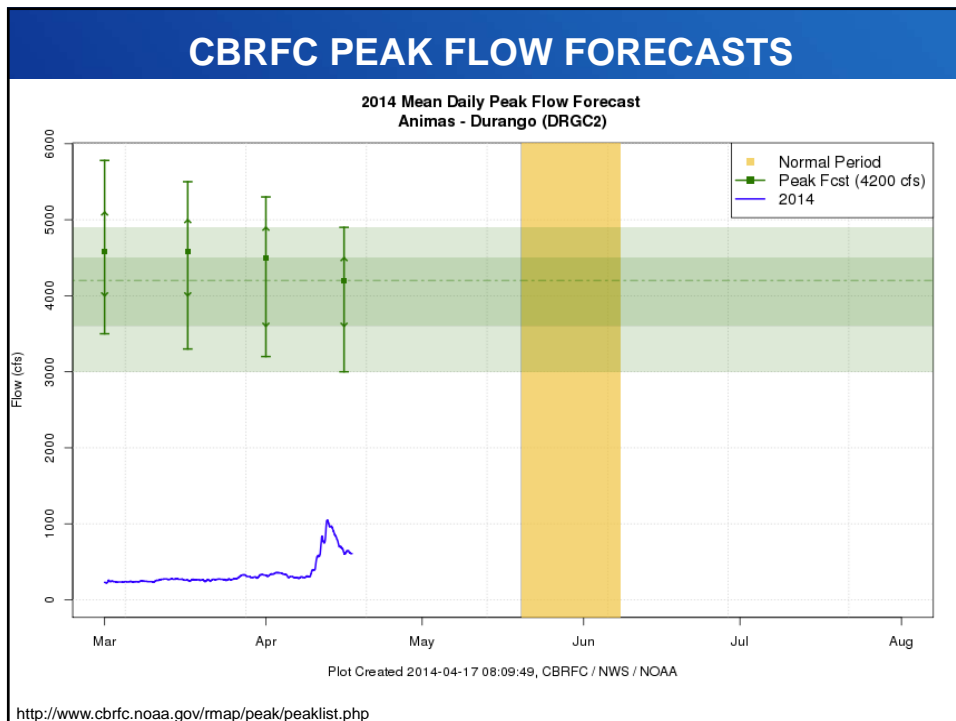
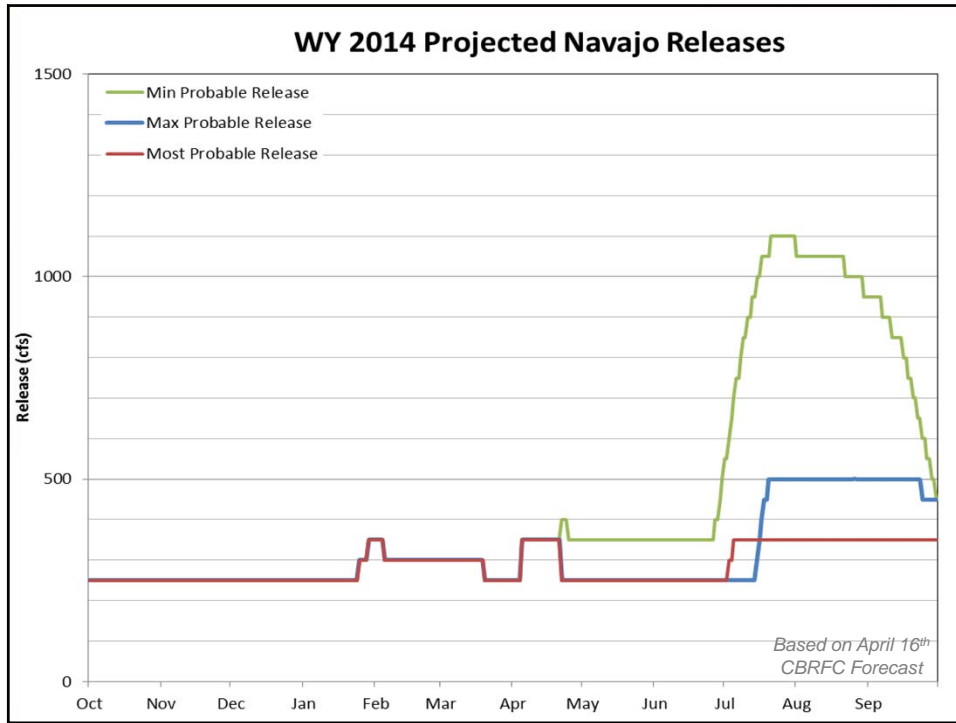
2014 Spring Peak Release

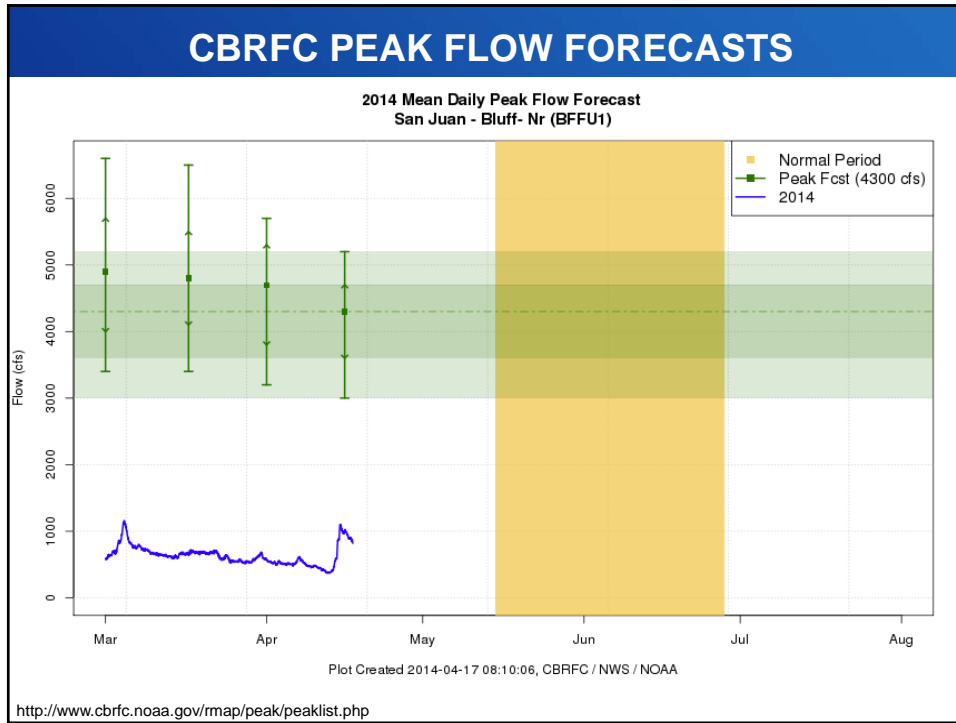
After consultation with the SJRIP, Reclamation is foregoing a spring peak release in 2014, in favor of recovering the reservoir and ensuring that user needs and target base flows can be met.

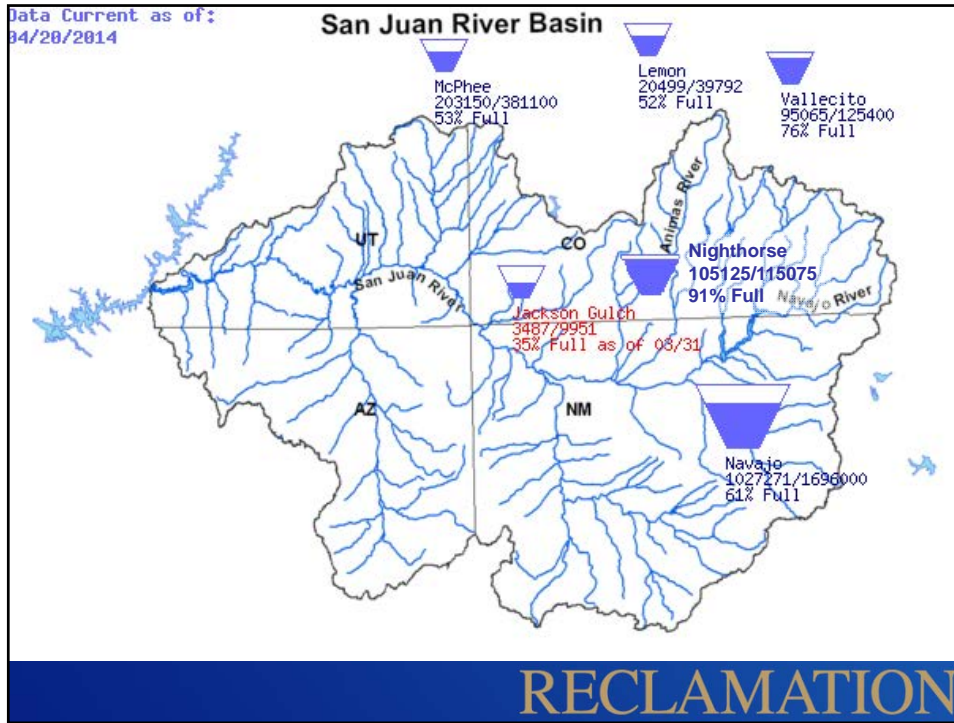
No spring peak release for 2014 is expected under the most recent April 16th CBRFC forecast.

RECLAMATION









Major San Juan River Basin Reservoirs
(4/21/2014)

| Reservoir | Elevation (ft) | Storage (af) | Full % | Avg % | Release (cfs) | Inflow (cfs) | Pumping (cfs) |
|-------------------|----------------|--------------|--------|----------|---------------|--------------|---------------|
| Nighthorse | 6875.20 | 105,139 | 91% | | 0 | 0 | 0 |
| Vallecito | 7653.84 | 95,357 | 76% | 162% avg | 150 | 843 | |
| Lemon | 8112.94 | 20,945 | 53% | 96% avg | 11 | 237 | |

*Lake Nighthorse is scheduled to be topped off May-June of this year

**Vallecito's new ice-preventing bubbler system is allowing higher storage levels than in previous winters.

RECLAMATION





How You Can Access Information

Bureau of Reclamation
www.usbr.gov/uc

USGS
<http://water.usgs.gov/nwis>

Colorado Basin River Forecast Center
www.cbrfc.noaa.gov



RECLAMATION

Reclamation Contacts:

Ryan Christianson

970-385-6590 rchristianson@usbr.gov

Susan Novak Behery

970-385-6560 sbehery@usbr.gov

Ruth Swickard

970-385-6523 rswickard@usbr.gov

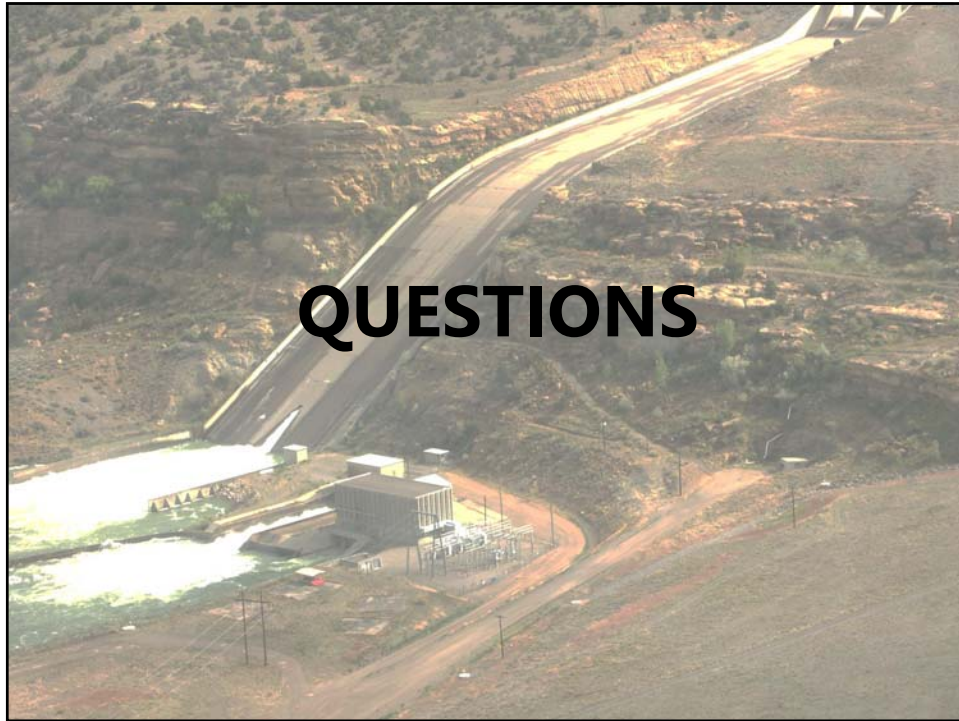
RECLAMATION

Summary

- Precipitation has been below average for most of the winter and into spring in the San Juan River Basin.
- Most Probable April–July Inflow Forecast is 67% of average.
- The SJRIP and Reclamation have determined there will be no spring peak release for 2014.
- The reservoir will continue to release the minimum necessary (down to a minimum of 250 cfs) to maintain the target base flows downstream (500 cfs to 1000 cfs in the critical habitat reach)
- Shortage is not currently forecasted but preventative measures are being taken to reduce the risk of a shortage developing.
- Downstream flows in the San Juan River are likely to be below average for the spring and summer 2014.
- Most long-term climate models are showing an emergence of El Niño in the coming months.
- Under Most Probable operational forecast, Navajo will end the water year at an elevation of 6044 ft.

Next Operations Meeting Tuesday, August (19, or 26?), 2014

RECLAMATION



April 2014
Navajo Unit Operations Meeting

April 22, 2014

Greg Smith
Senior Hydrologist
Colorado Basin River Forecast Center

April 2014
Navajo Unit Operations Meeting

Do you remember the monsoon late last summer & fall ?

The runoff outlook started out good ... what happened ?

Long Term Outlook: The potential for El Nino ?

And the rains came....

More rain expected in New Mexico through Saturday

Farmington gets 2.22 inches of rainfall in three days

The Associated Press

UPDATED: 09/13/2013 11:17:40 AM MDT

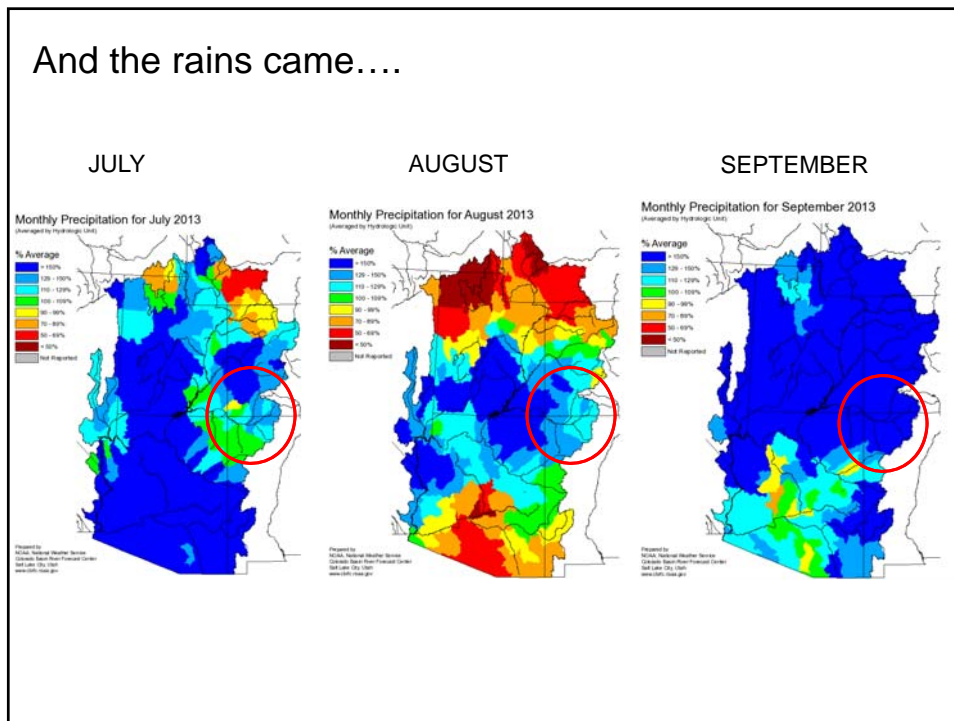
0 COMMENTS

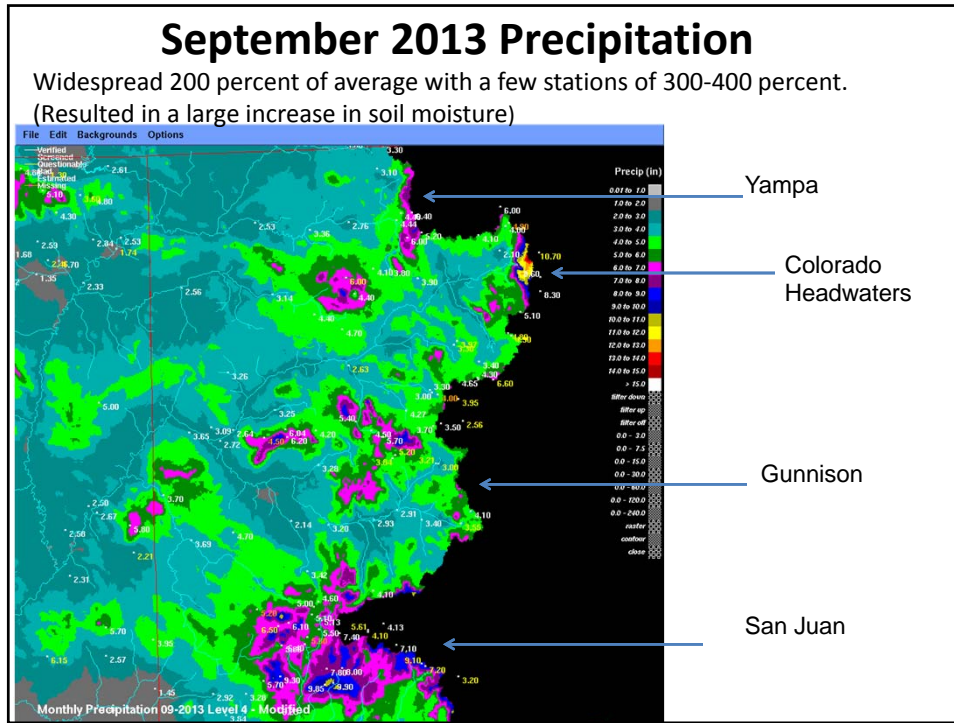


Water flows over a damaged diversion wall near Peace Valley and Hubbard roads on Tuesday, Sept. 10, 2013, in Farmington. (Molly Maxwell — Special to the Daily Times)

Daily Times

And the rains came....

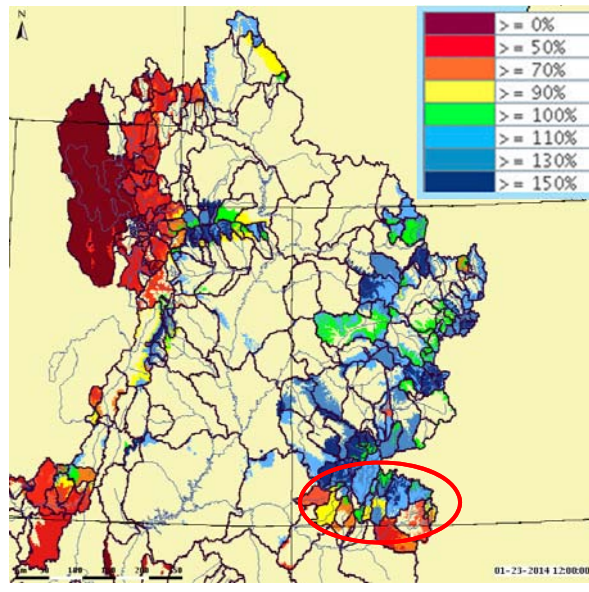


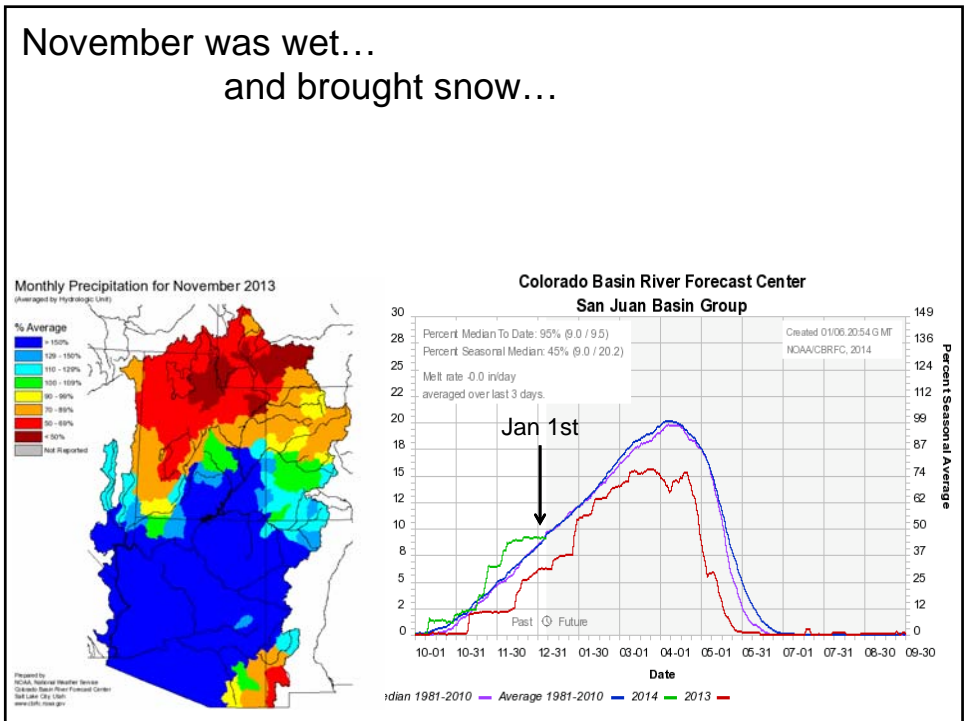
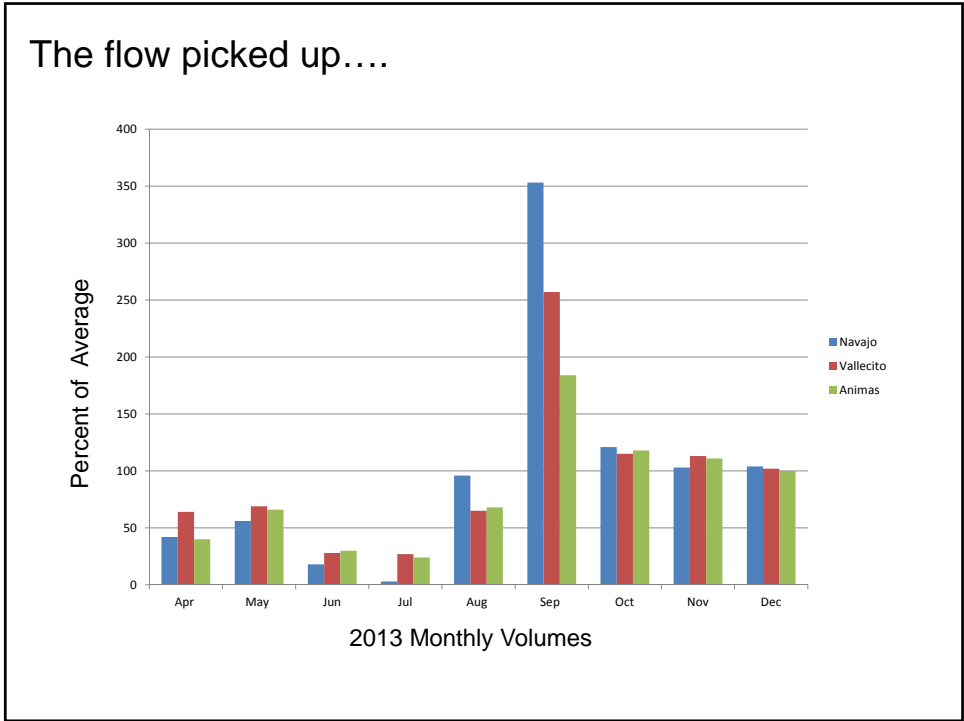


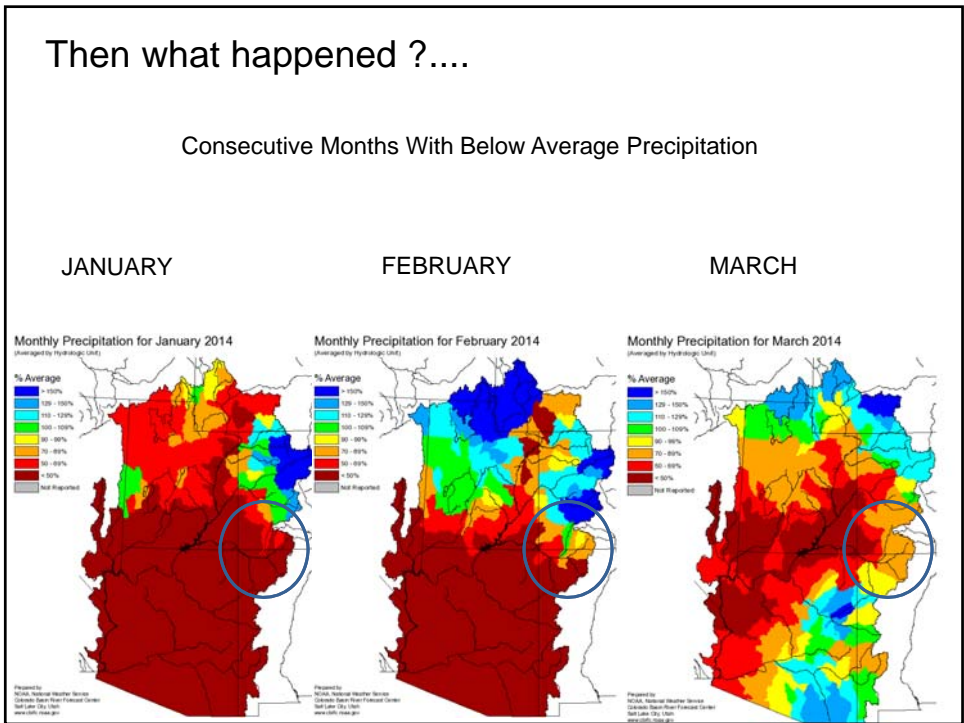
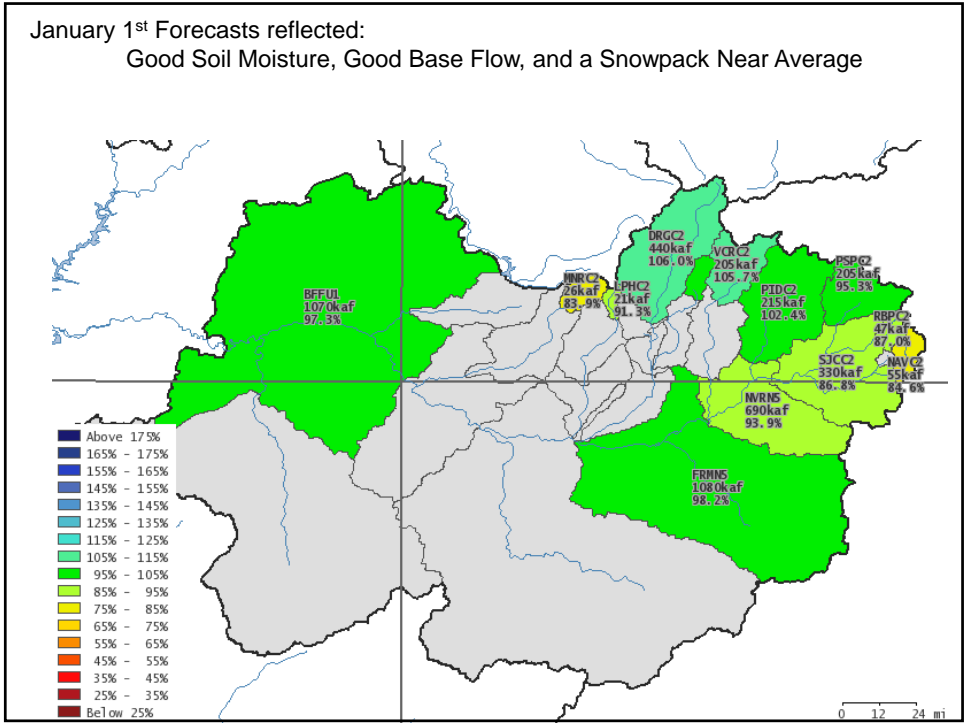
And moistened the soil ...

Modeled Soil Moisture entering the winter season.

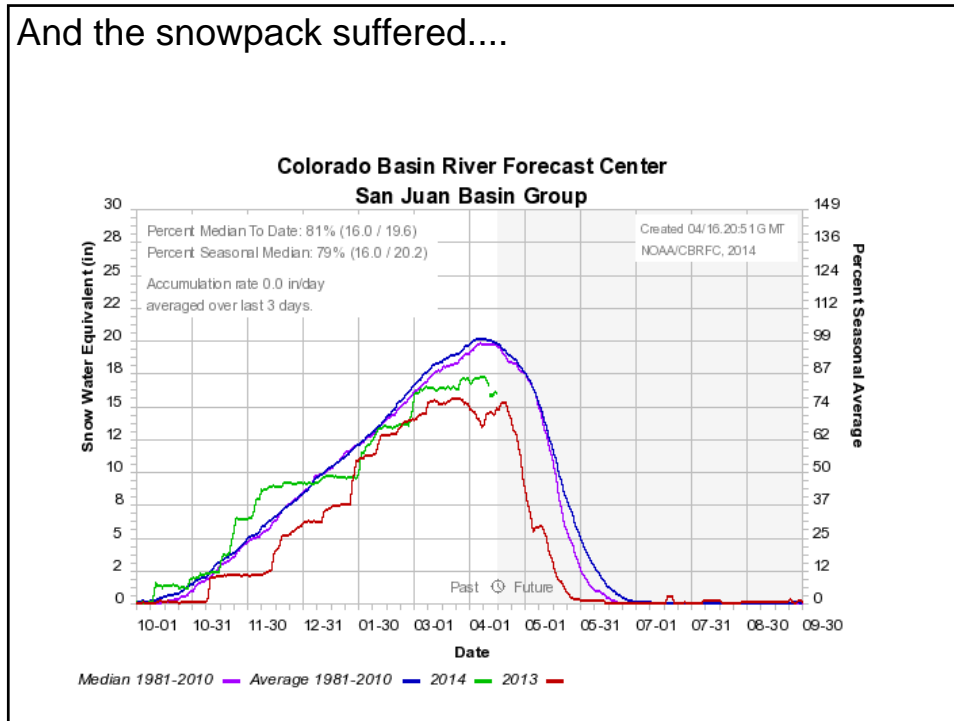
Above average soil moisture has a positive effect on seasonal water supply forecasts.



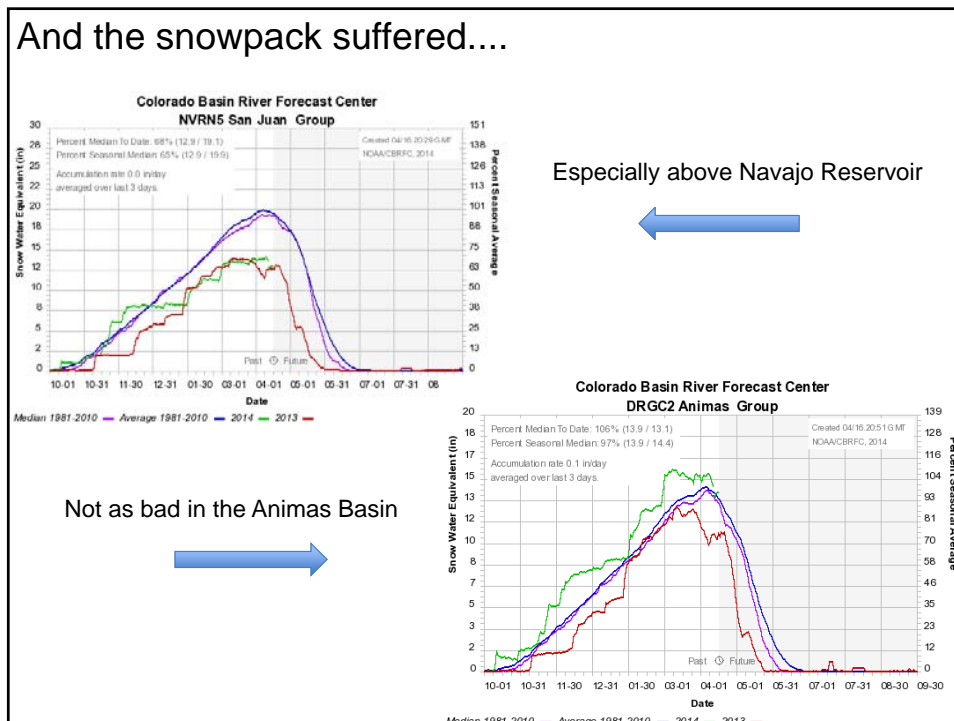


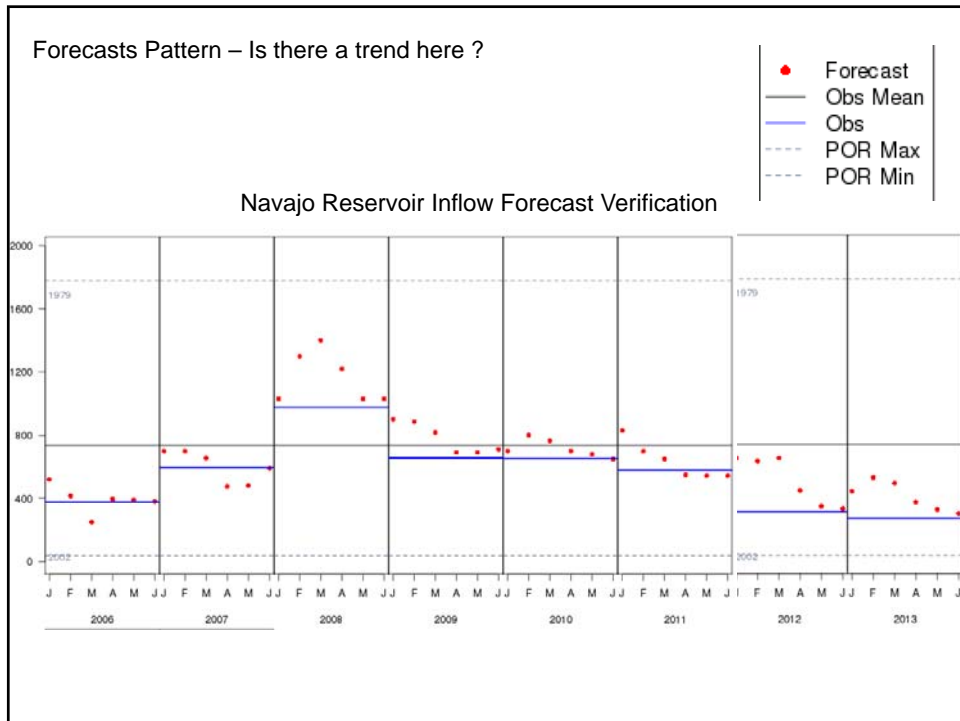
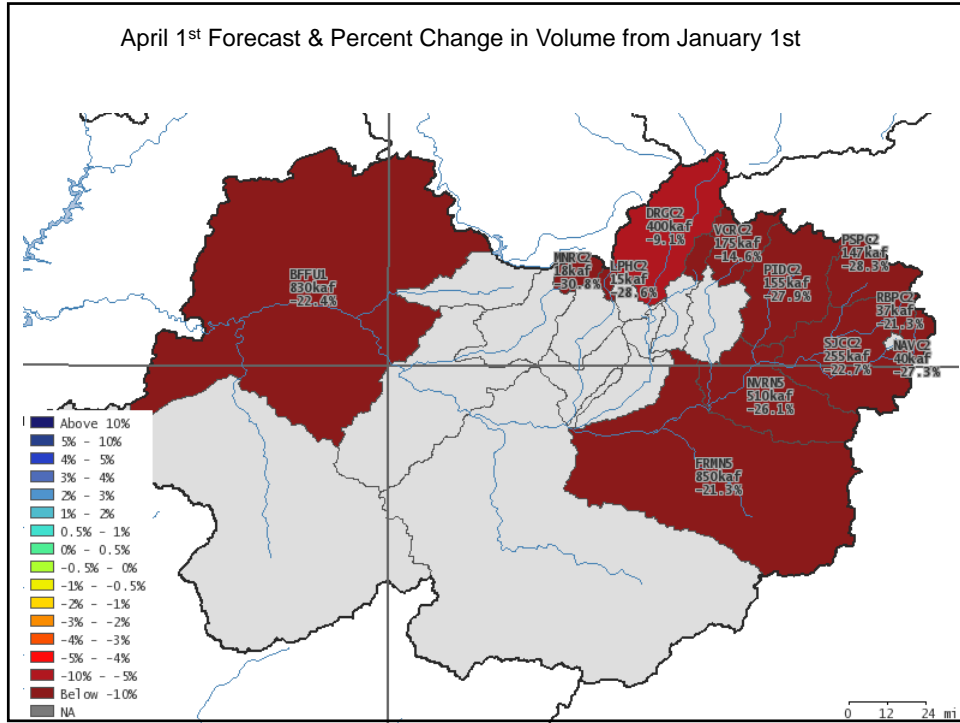


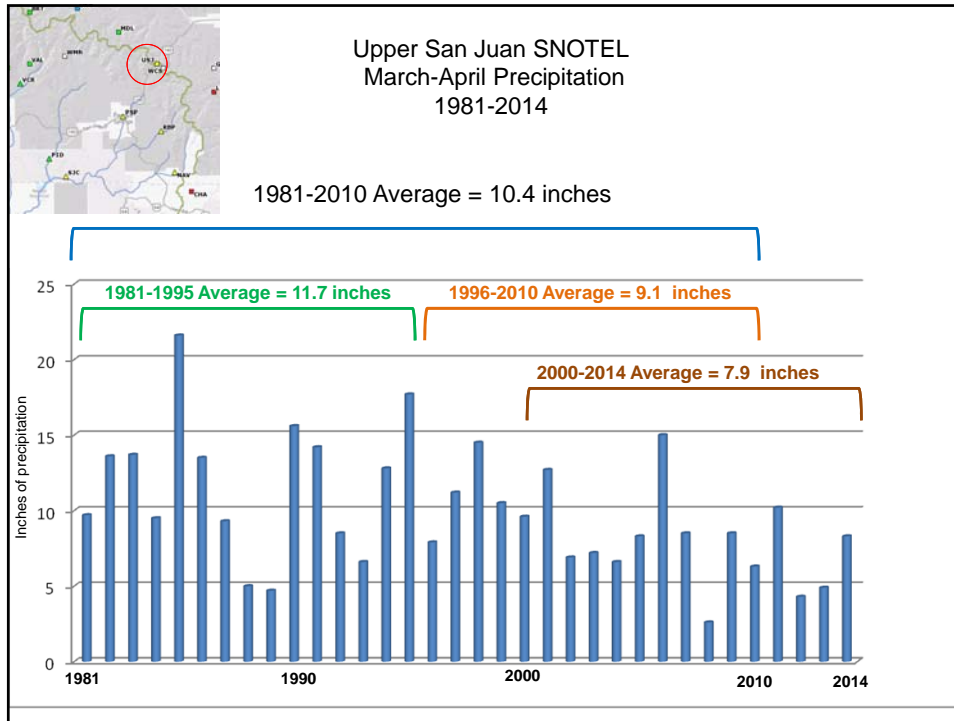
And the snowpack suffered....



And the snowpack suffered....

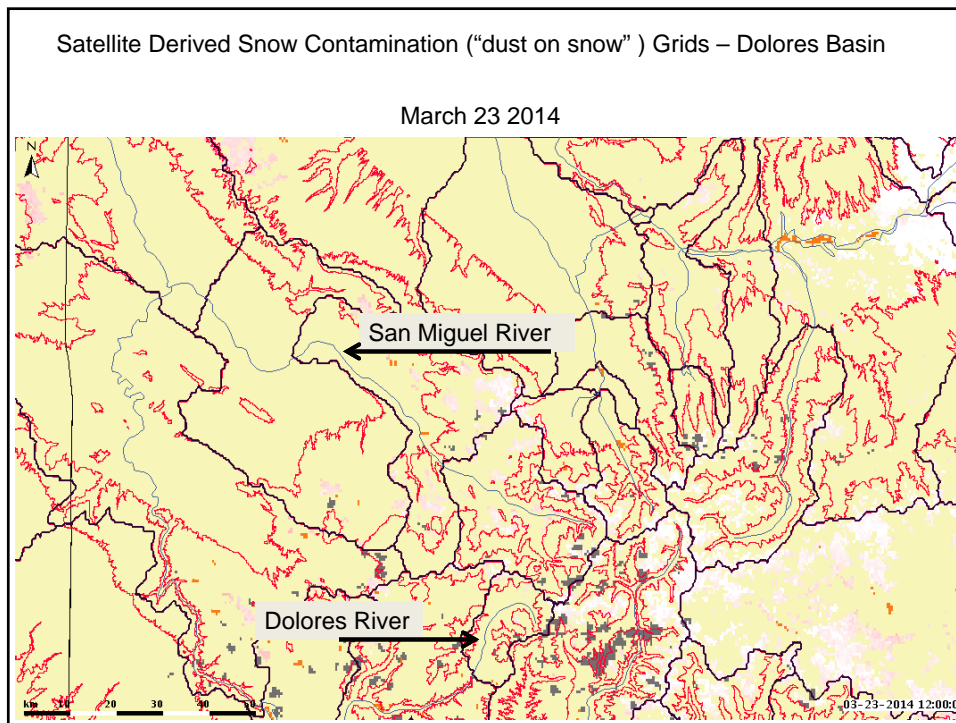
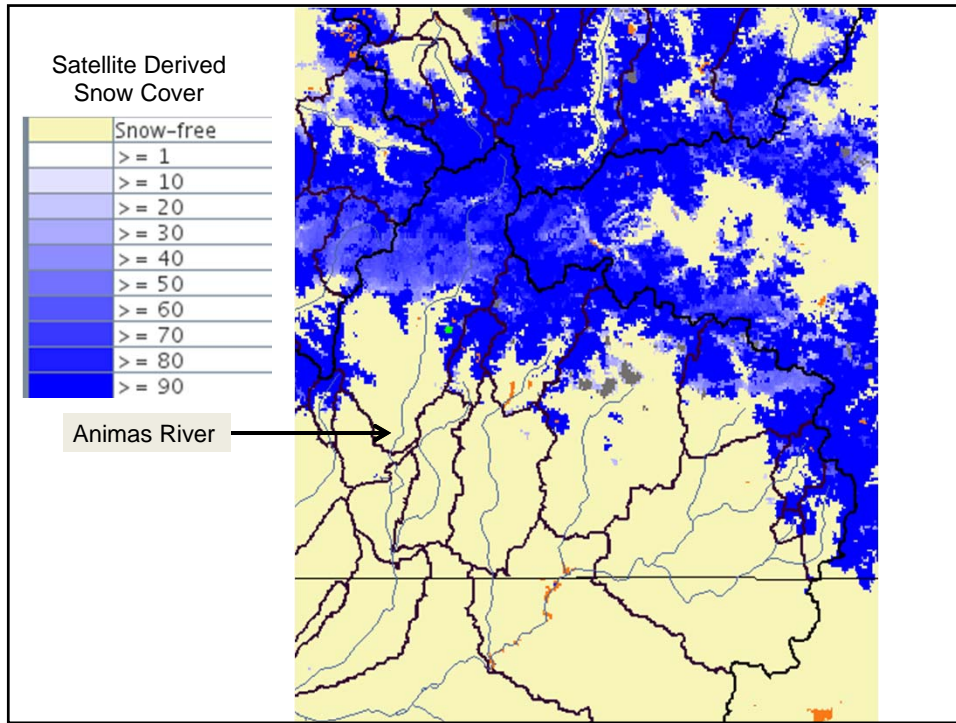


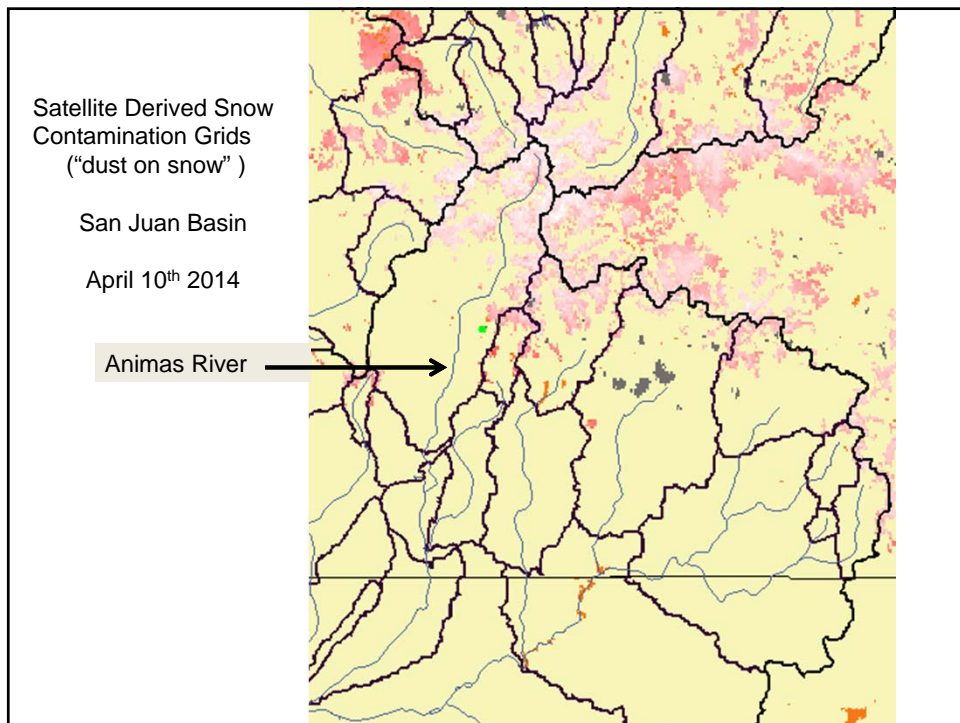
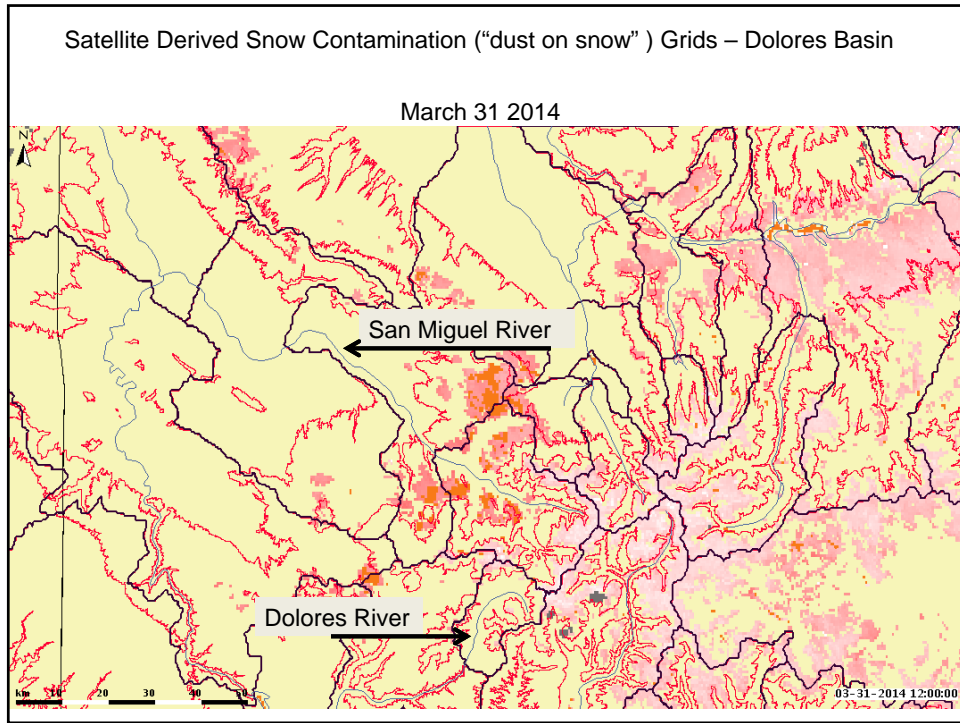




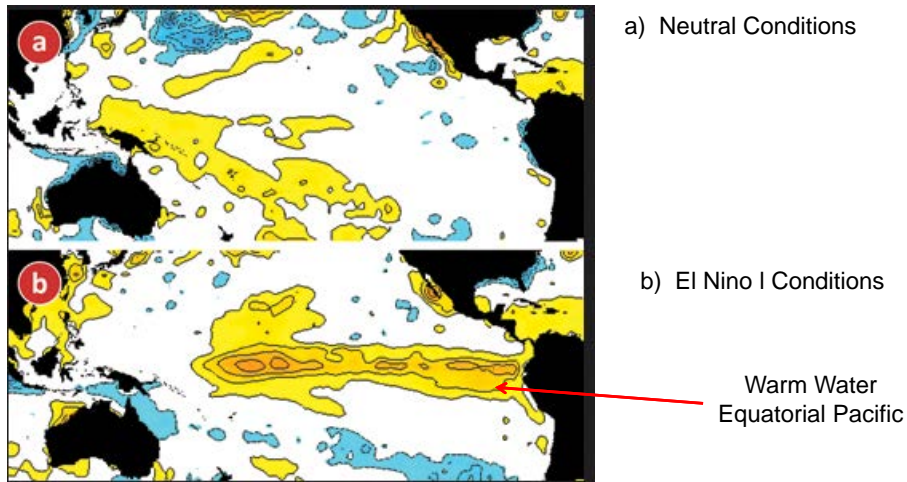
Trying to get a better handle on the snow situation...

- SNOTEL sites melt out or malfunction
- Areas with large data voids
- Dust on snow concerns





Long Term Outlook: El Nino Developing ??

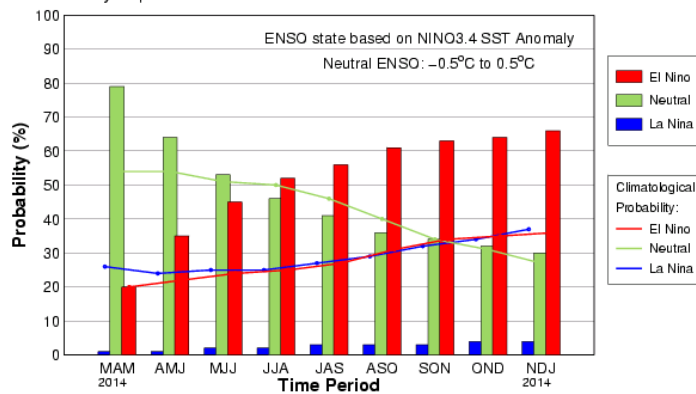


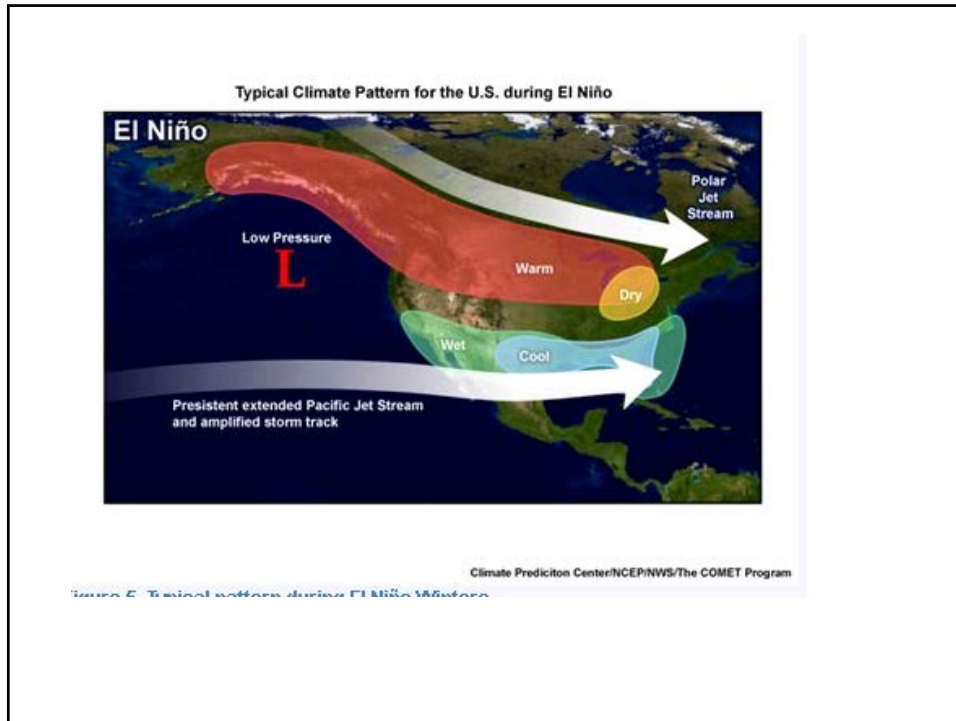
Long Term Outlook: El Nino Developing ??

CPC/IRI Consensus Probabilistic ENSO Forecast

April 10, 2014

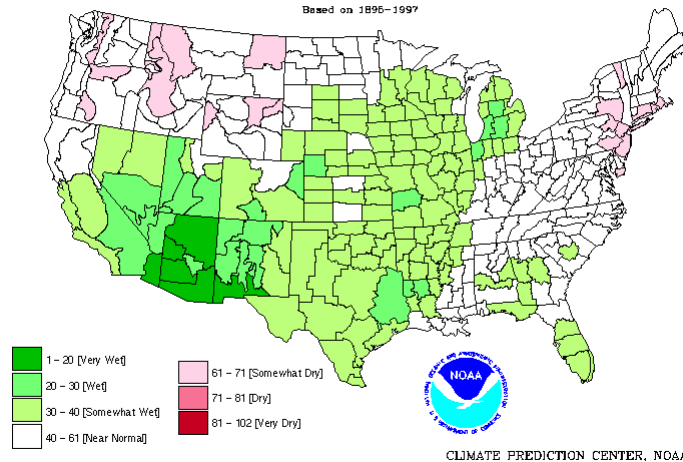
Early-Apr CPC/IRI Consensus Probabilistic ENSO Forecast



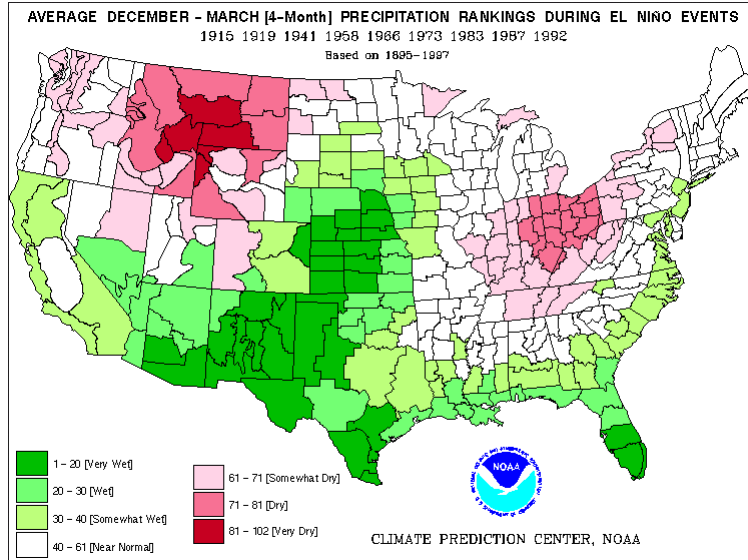


Long Term Outlook: El Nino Impacts

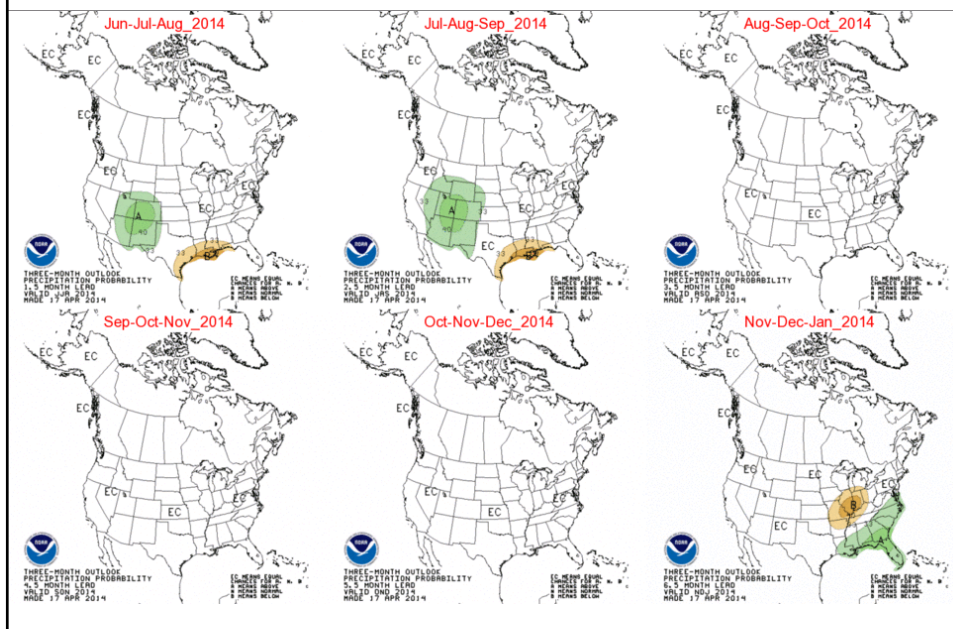
AVERAGE OCTOBER - DECEMBER [3-month] PRECIPITATION RANKINGS DURING ENSO EVENTS
 1914 1918 1941 1957 1963 1965 1972 1982 1987 1991 1994
 Based on 1896-1997

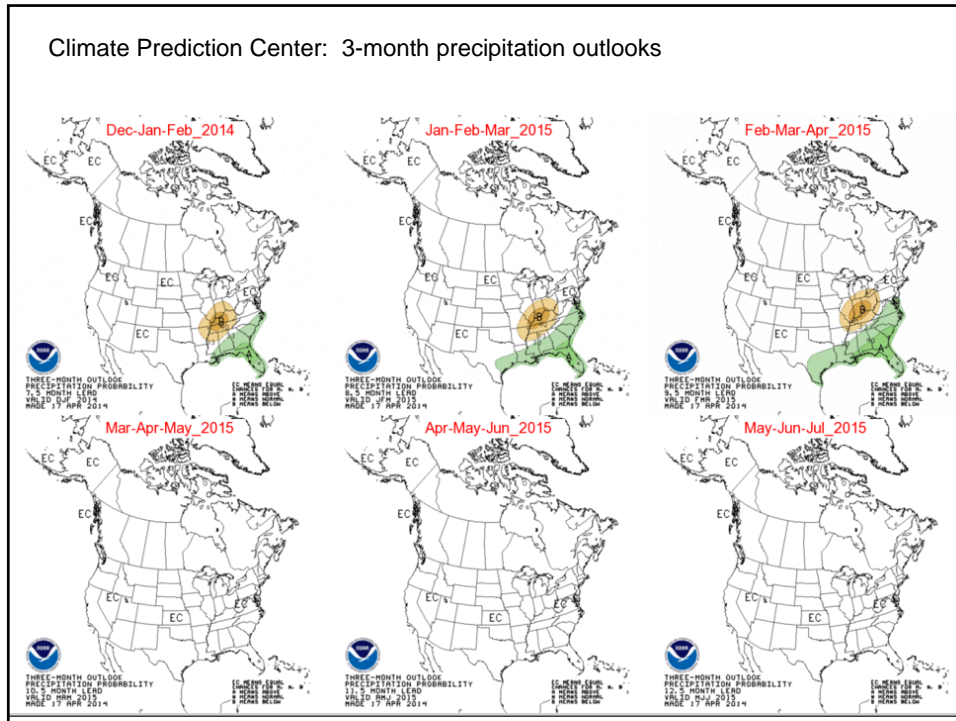


Long Term Outlook: El Nino Impacts



Climate Prediction Center: 3-month precipitation outlooks





Questions or Comments

Greg Smith (greg.smith@noaa.gov)
Senior Hydrologist
Colorado Basin River Forecast Center
801-524-5130