

Missouri River Basin Water Management Monthly Update

Participating Agencies

U.S. Army Corps of Engineers

National Oceanic and Atmospheric Administration

National Weather Service

June 7, 2016



Weather / Climate

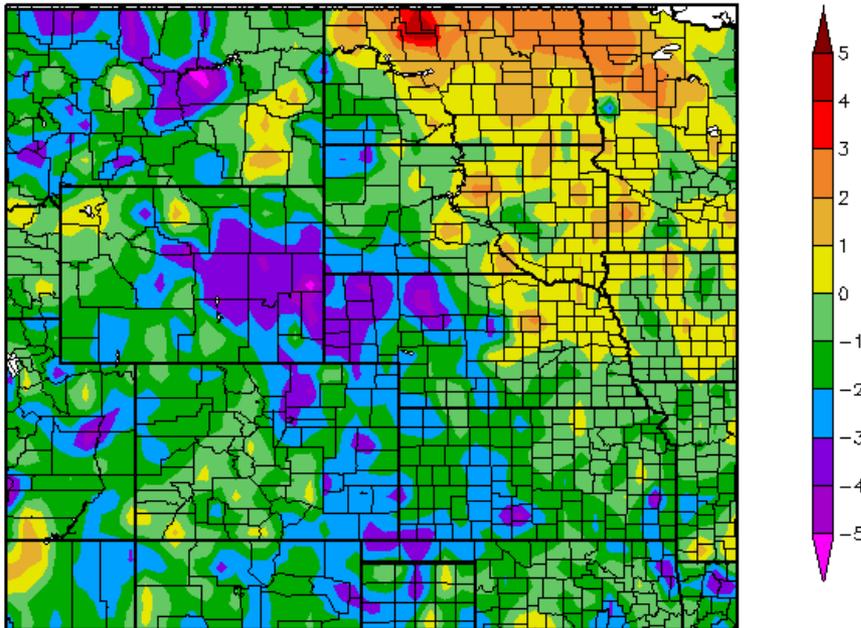
Doug Kluck

National Oceanic and Atmospheric Administration

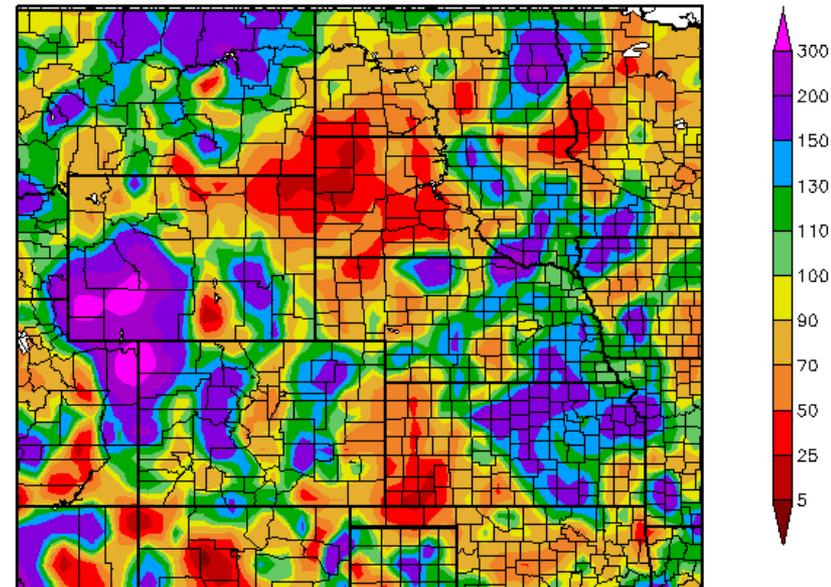


Conditions – Last 30 days

Departure from Normal Temperature (F)
5/7/2016 – 6/5/2016



Percent of Normal Precipitation (%)
5/7/2016 – 6/5/2016



Generated 6/6/2016 at HPRCC using provisional data.

Regional Climate Centers

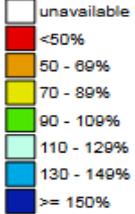
Generated 6/6/2016 at HPRCC using provisional data.

Regional Climate Centers

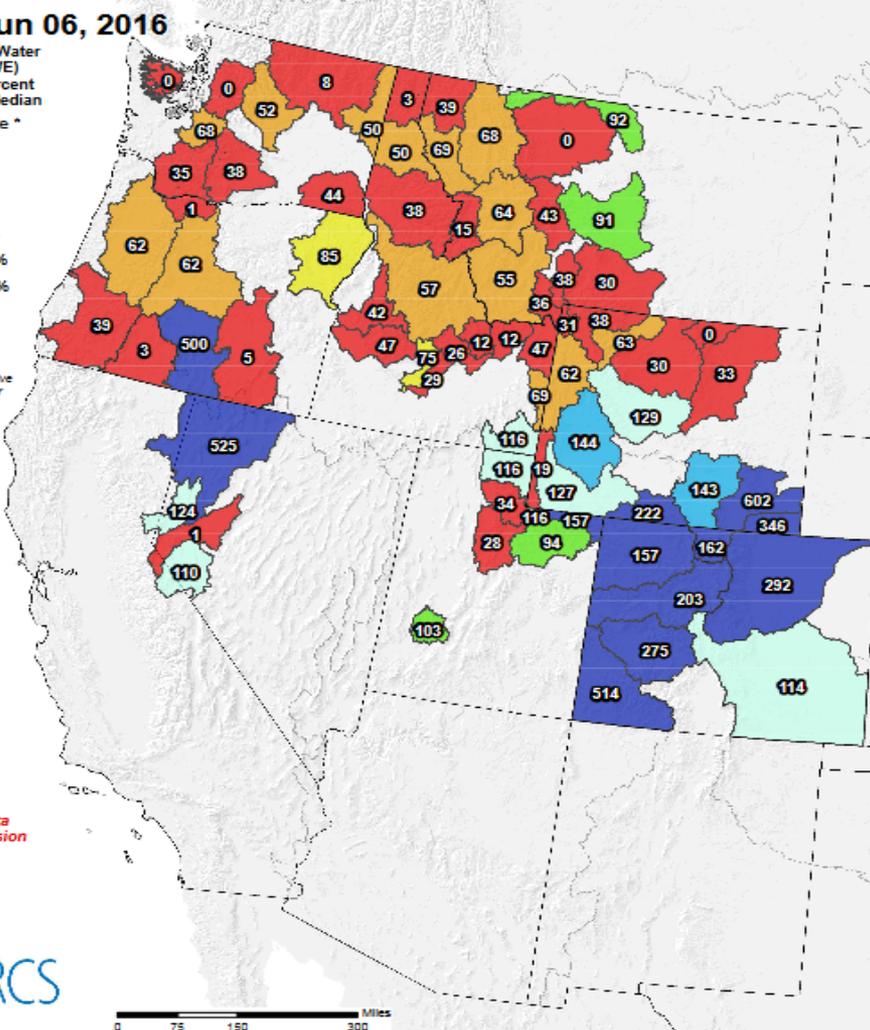
Westwide SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Jun 06, 2016

Current Snow Water Equivalent (SWE) Basin-wide Percent of 1981-2010 Median



* Data unavailable at time of posting or measurement is not representative at this time of year



Provisional data subject to revision



The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

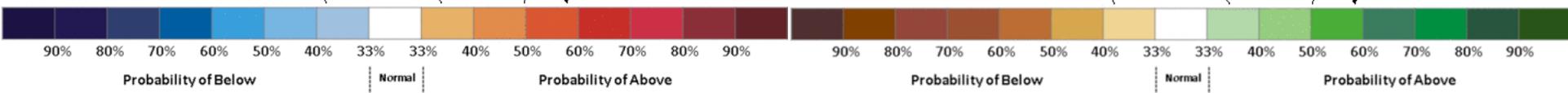
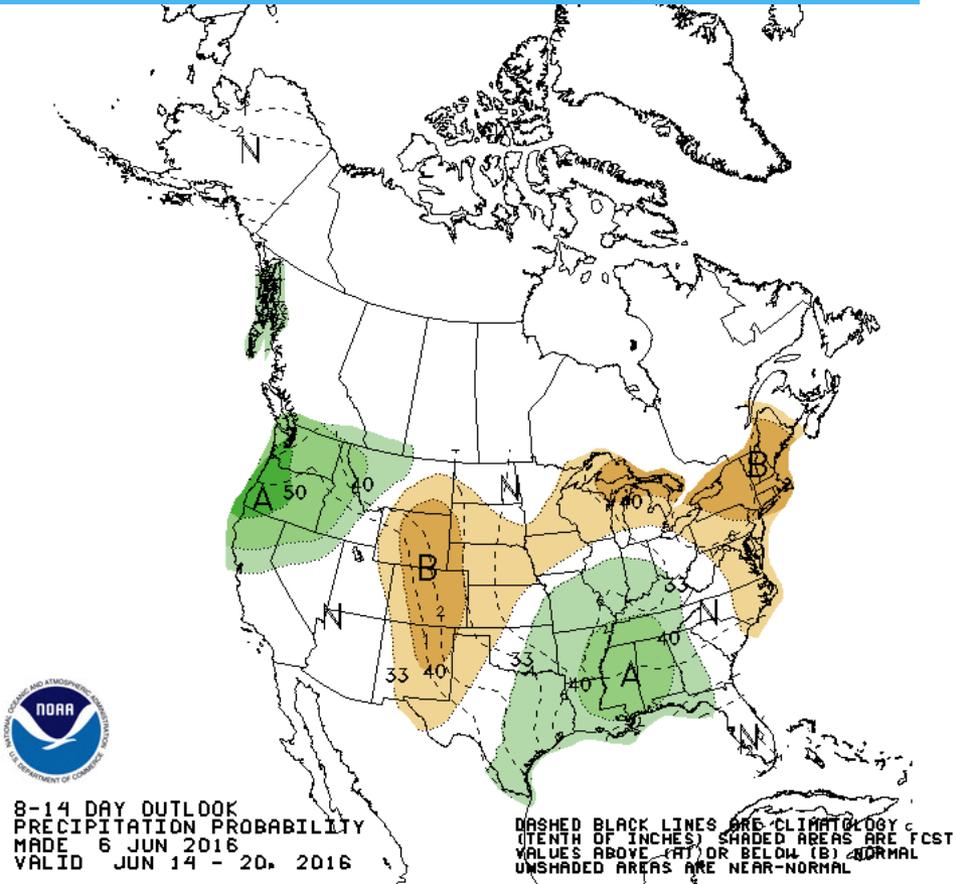
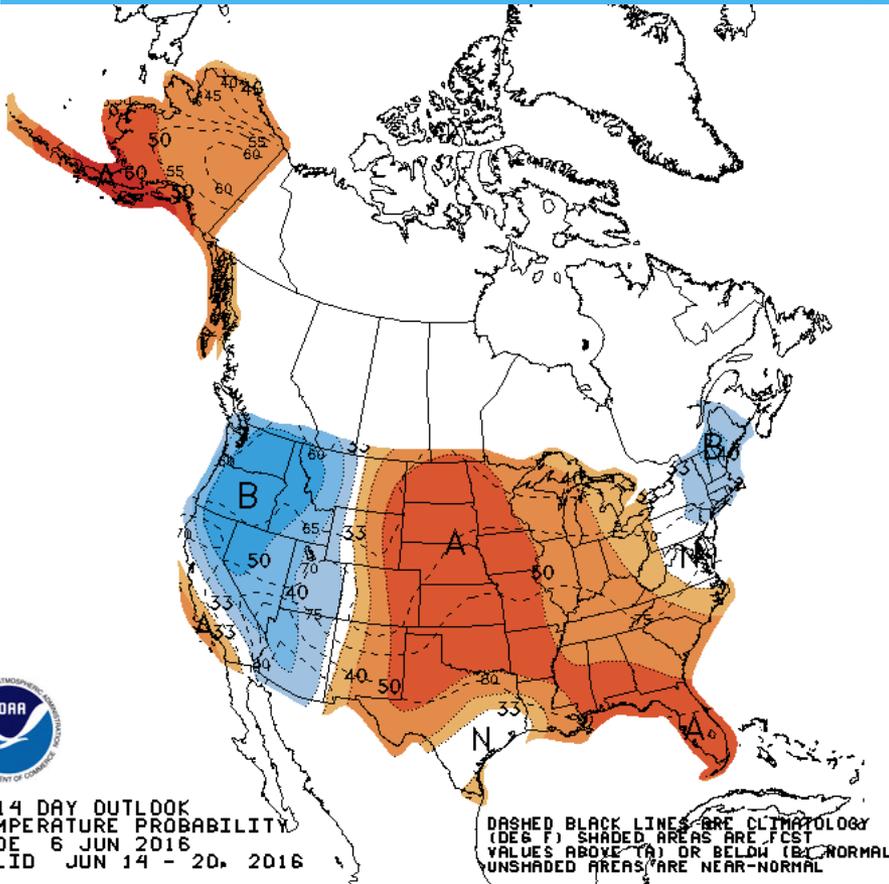
Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
<http://www.wcc.nrcs.usda.gov>

Mountain Snowpack

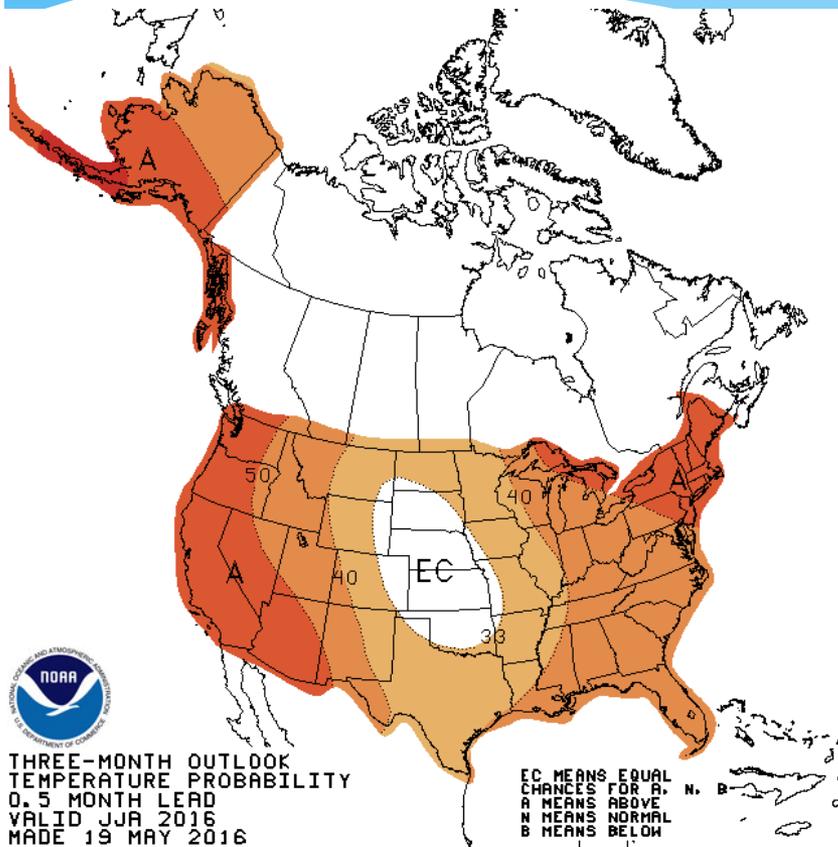


Pathfinder Dam – June 2016

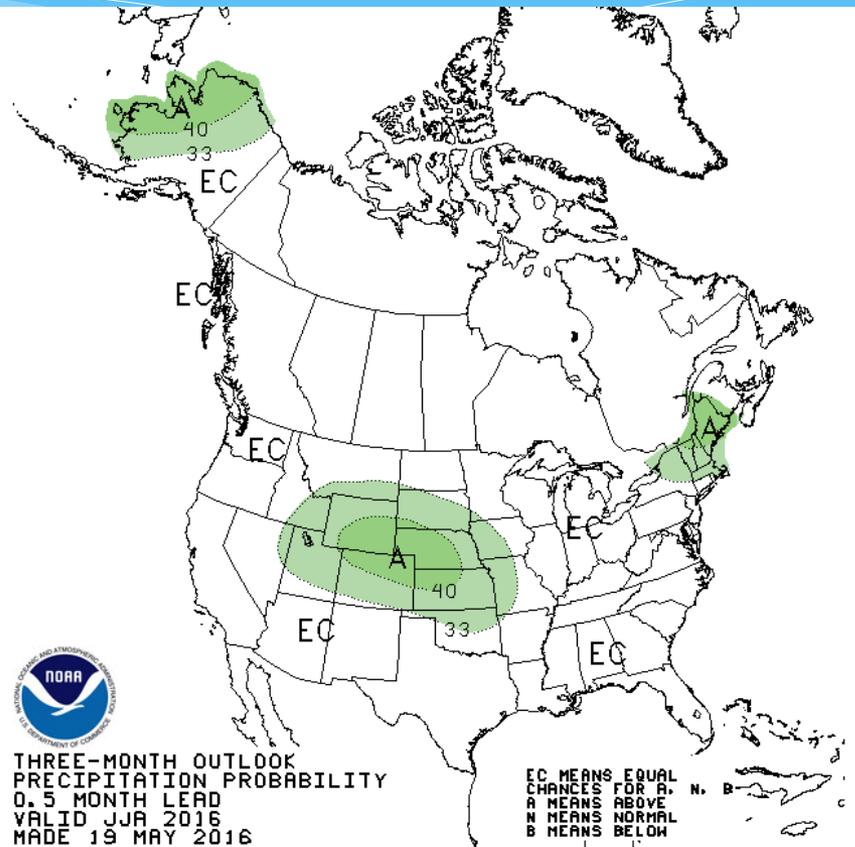
Temperature and Precipitation Probabilities (Jun 14-20, 2016)



3-Month Temperature and Precipitation Probabilities (June - August)



Temperature



Precipitation

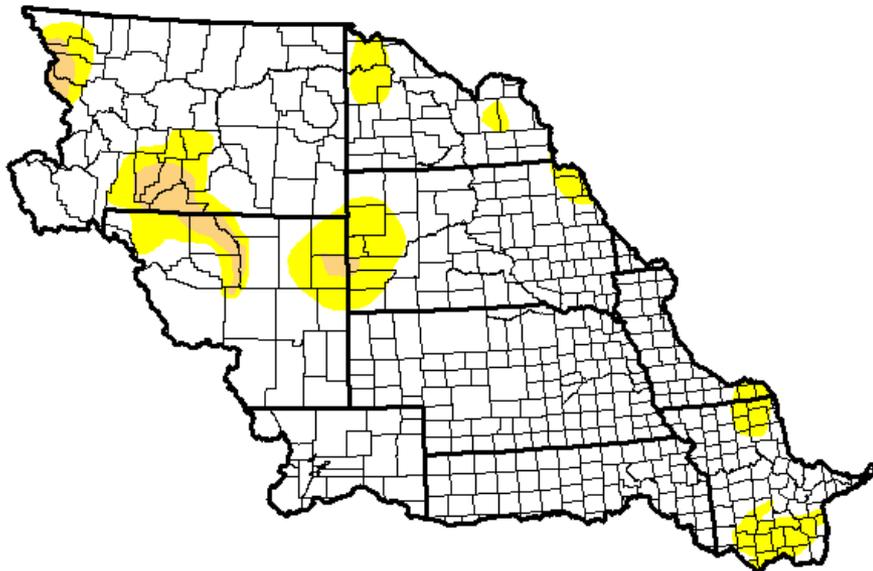
Drought Update

U.S. Drought Monitor Missouri Watershed

May 31, 2016
(Released Thursday, Jun. 2, 2016)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|--|-------|-------|-------|-------|-------|------|
| Current | 86.42 | 13.58 | 2.60 | 0.00 | 0.00 | 0.00 |
| Last Week 5/24/2016 | 88.50 | 11.50 | 2.74 | 0.20 | 0.00 | 0.00 |
| 3 Months Ago 3/1/2016 | 69.47 | 30.53 | 5.60 | 0.60 | 0.00 | 0.00 |
| Start of Calendar Year 1/22/2015 | 76.44 | 23.56 | 5.55 | 1.28 | 0.00 | 0.00 |
| Start of Water Year 9/29/2015 | 65.65 | 34.35 | 6.75 | 3.42 | 0.66 | 0.00 |
| One Year Ago 6/2/2015 | 80.57 | 19.43 | 3.19 | 0.00 | 0.00 | 0.00 |



Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

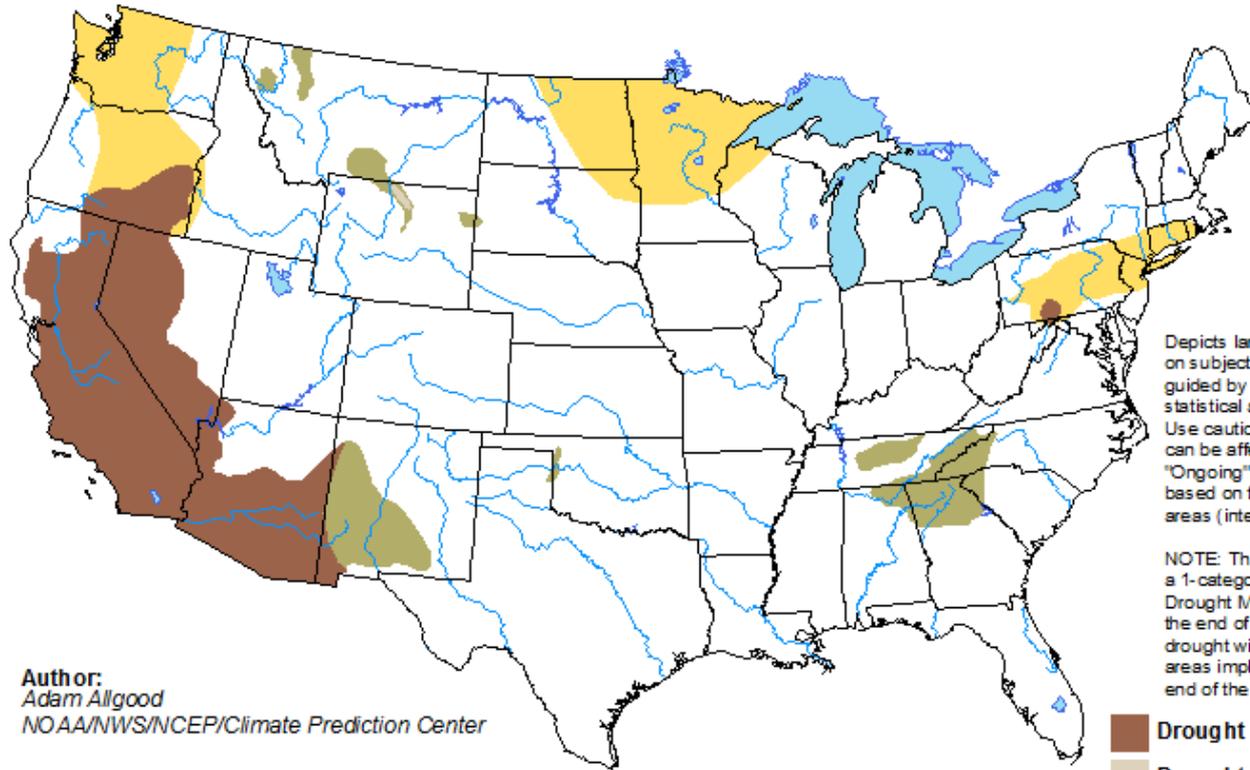
Mark Svoboda
National Drought Mitigation Center



Drought Update

U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for May 19 - August 31, 2016
Released May 19, 2016

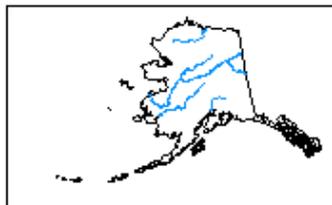


Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

Author:
Adam Allgood
NOAA/NWS/NCEP/Climate Prediction Center

-  Drought persists
-  Drought remains but improves
-  Drought removal likely
-  Drought development likely



<http://go.usa.gov/3eZ73>

Key Points

* **Current Conditions**

- * El Niño (pretty much gone) – La Niña Watch
- * Mountain Snowpack - Missouri main stem (below); Platte (above)
- * Last 30 days generally cooler and mix of wet/dry
- * Some minor drought development upper basin

* **Predictions**

- * Neutral tropical Pacific/La Niña likely developing late summer
- * Short term (next two weeks) much warmer, rest of the summer near to above normal most of basin
- * Precipitation – June equal chances of wet/dry/normal. June-August trending wetter much of the basin – low probabilities

Basin Conditions / Flood Outlook

Kevin Low, Hydrologist

National Weather Service, Missouri Basin River
Forecast Center



NATIONAL WEATHER SERVICE MISSOURI BASIN RIVER FORECAST CENTER



SUMMARY POINTS

- **Peak mountain melt (Yellowstone and Platte systems) is occurring now, and should be concluded in next 7-10 days.**
- **Minor-to-moderate flooding is now occurring along Laramie, North Platte, and Platte Rivers as snowmelt and previous rainfall volumes are now being translated through the system.**
- **Chances for flooding in lower third of the Missouri basin are decreasing as we move into the summer months.**



Upper Basin Runoff for 2016

Kevin Stamm, P.E.

U.S. Army Corps of Engineers, Missouri River
Basin Water Management

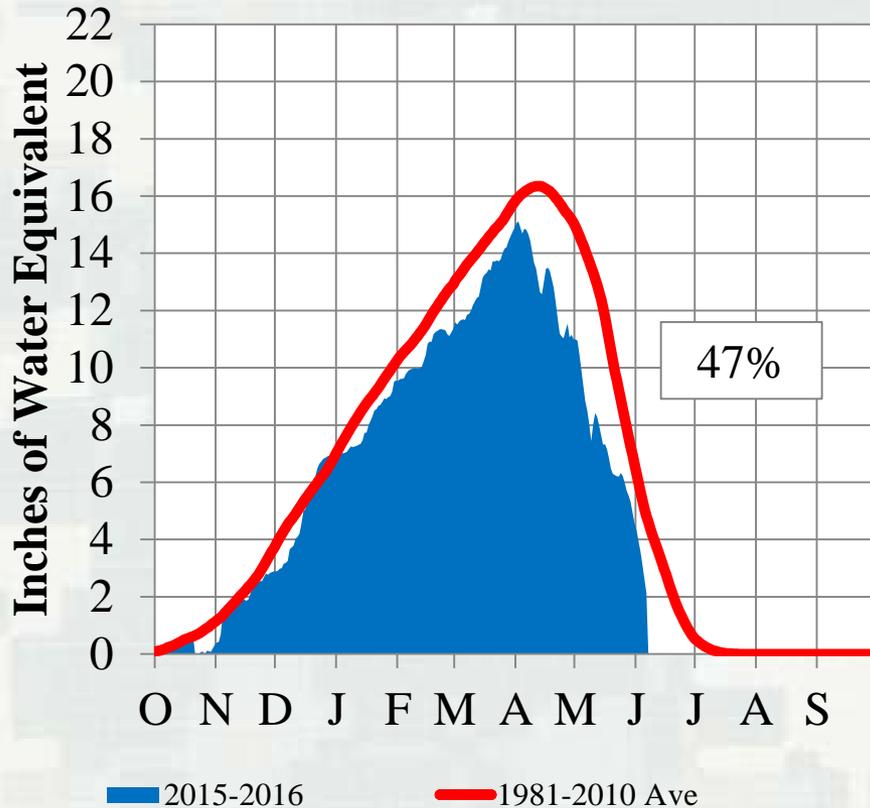


Missouri River Basin

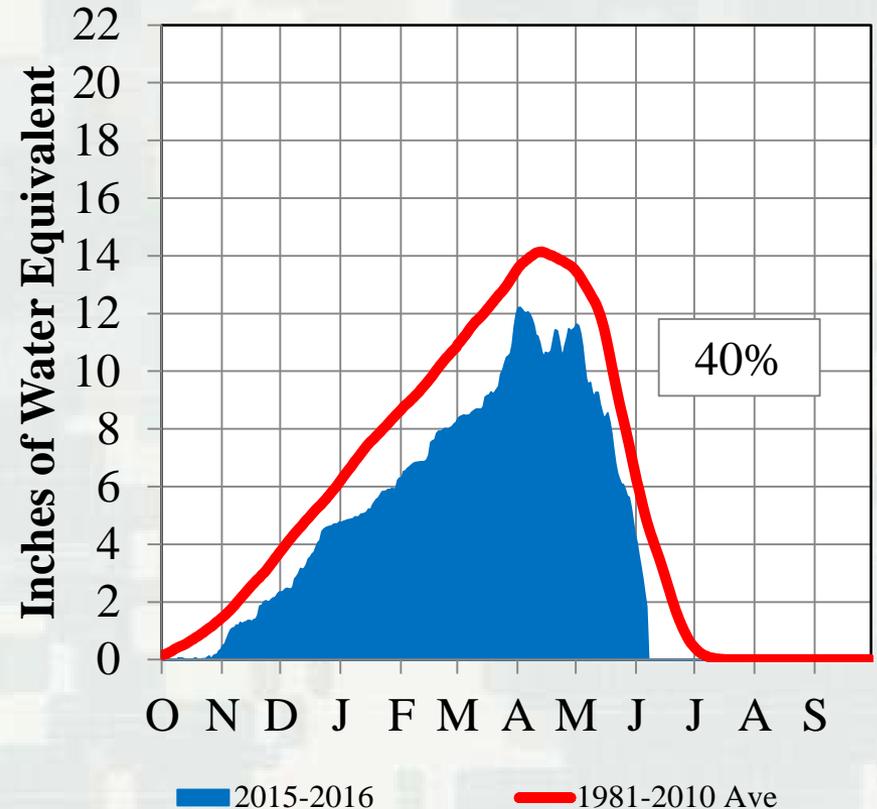
2015-16 Mountain Snowpack Water Content

June 6, 2016

Total above Fort Peck



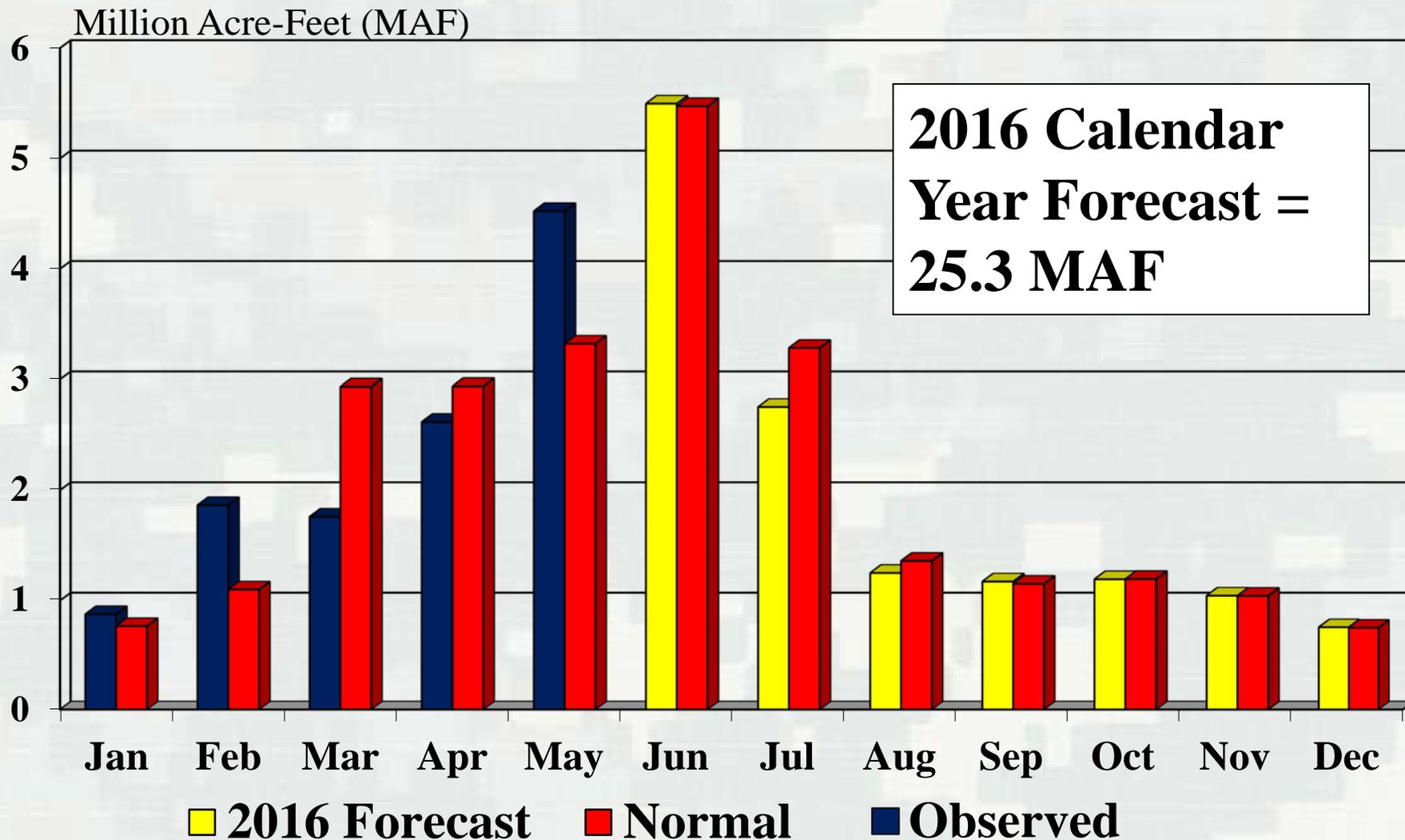
Total Fort Peck to Garrison



About 39% of peak accumulation normally remains by June 1.

Missouri River Runoff above Sioux City, Iowa

2016 Forecast



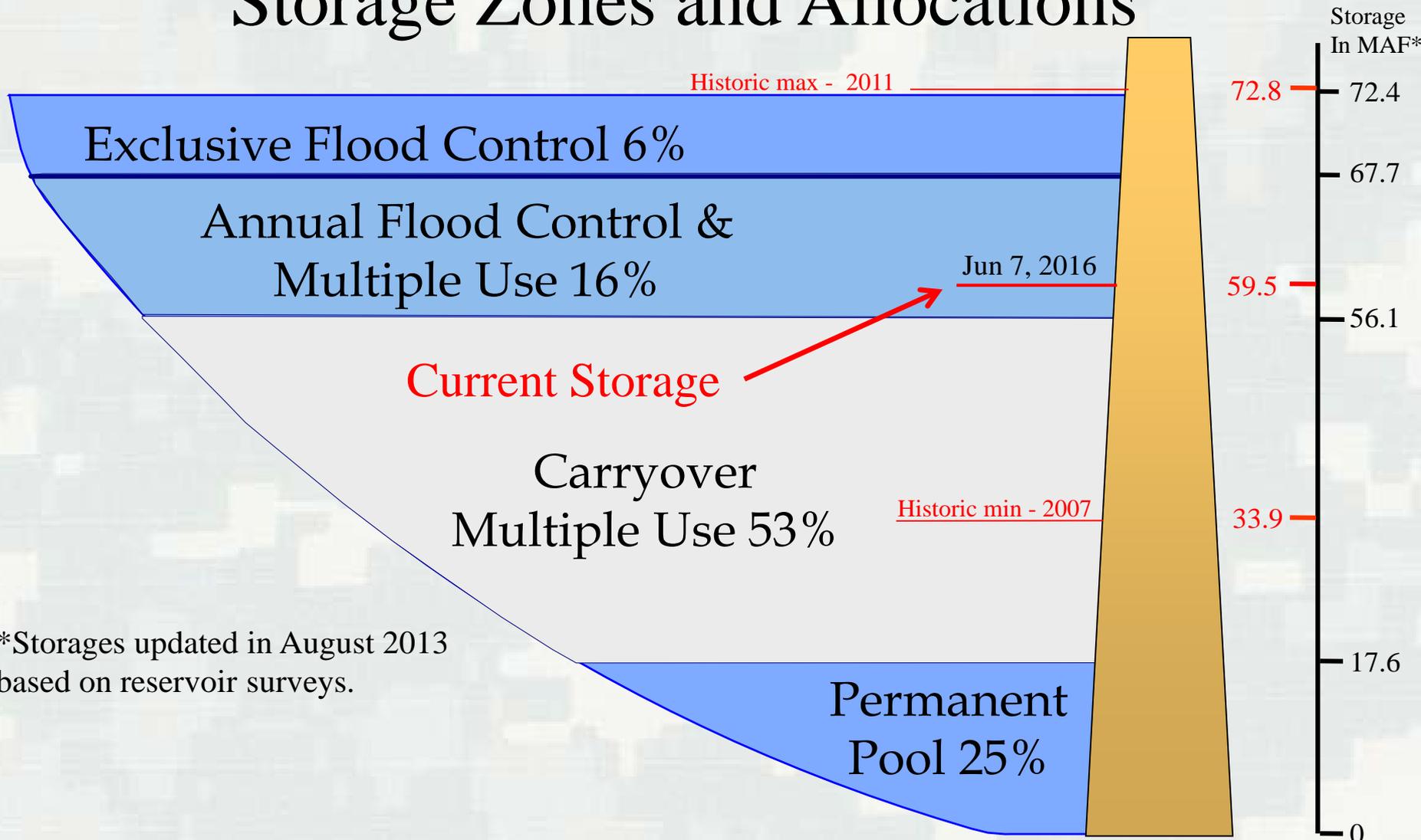
Reservoir System Regulation

Joel Knofczynski, P.E.

U.S. Army Corps of Engineers, Missouri River
Basin Water Management



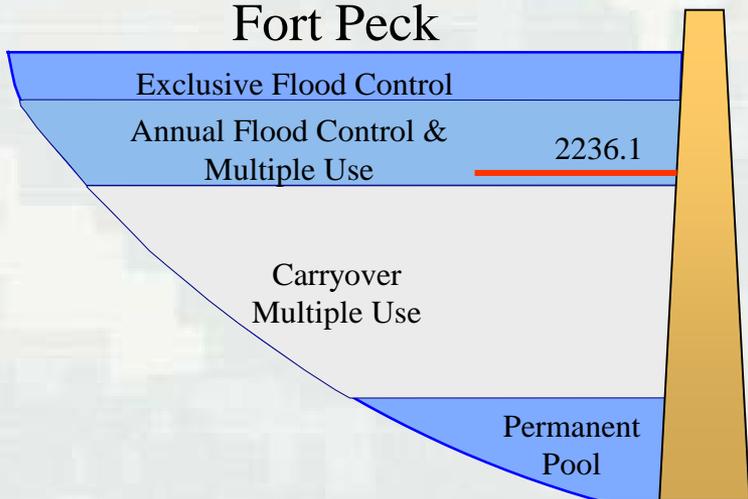
Missouri River Mainstem System Storage Zones and Allocations



*Storages updated in August 2013 based on reservoir surveys.

Current Reservoir Levels – June 7, 2016

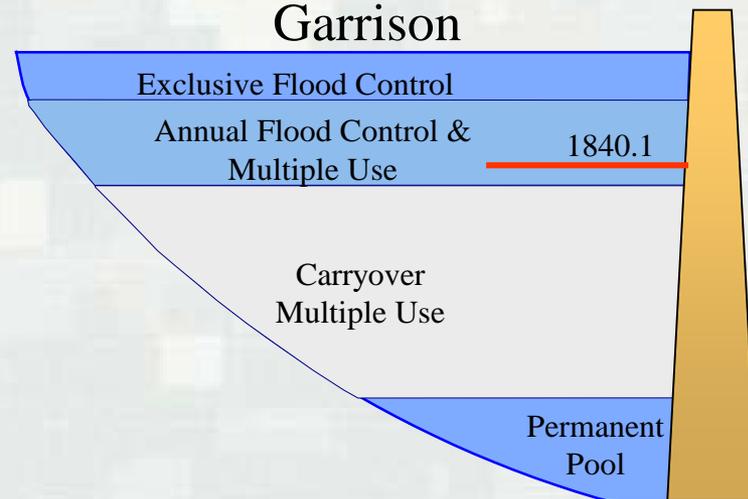
Fort Peck



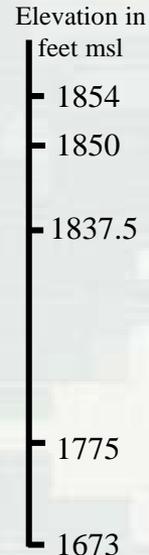
2.1 feet above base of Flood Control zone



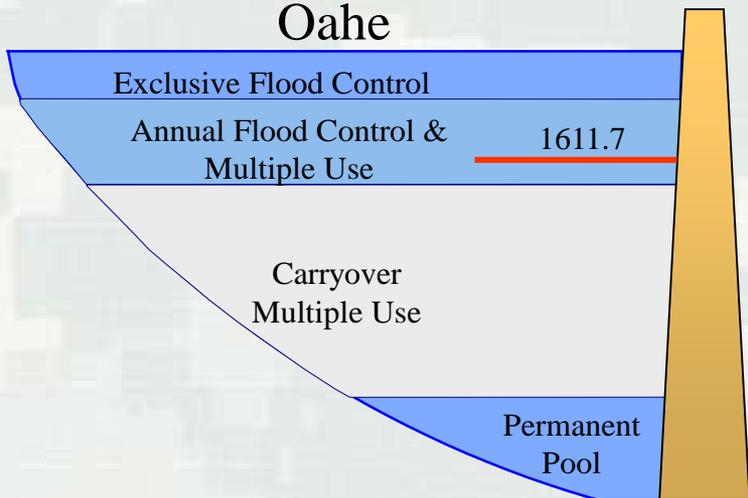
Garrison



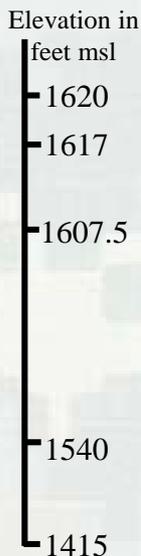
2.6 feet above base of Flood Control zone



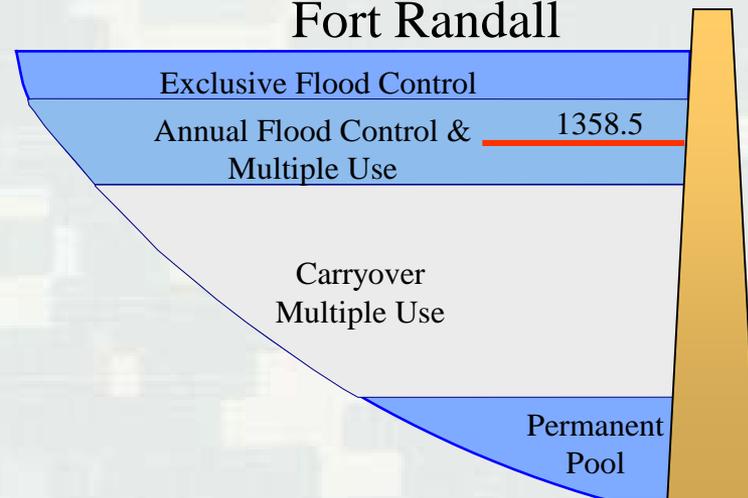
Oahe



4.2 feet above base of Flood Control zone



Fort Randall



8.5 feet above base of Flood Control zone



Key Points

- Currently, 12.9 MAF of 16.3 MAF of flood storage space is available.
- Full navigation season (Basic)
- Full service flow support for season (Basic)
- Annual power production of 8.1 BKWhrs (average is 10.0 BKWhrs)
- Good service to all authorized purposes



Contact Information

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