

US Army Corps of Engineers – Reservoir Conditions Update and Outlook

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Washington DC

May 16, 2013

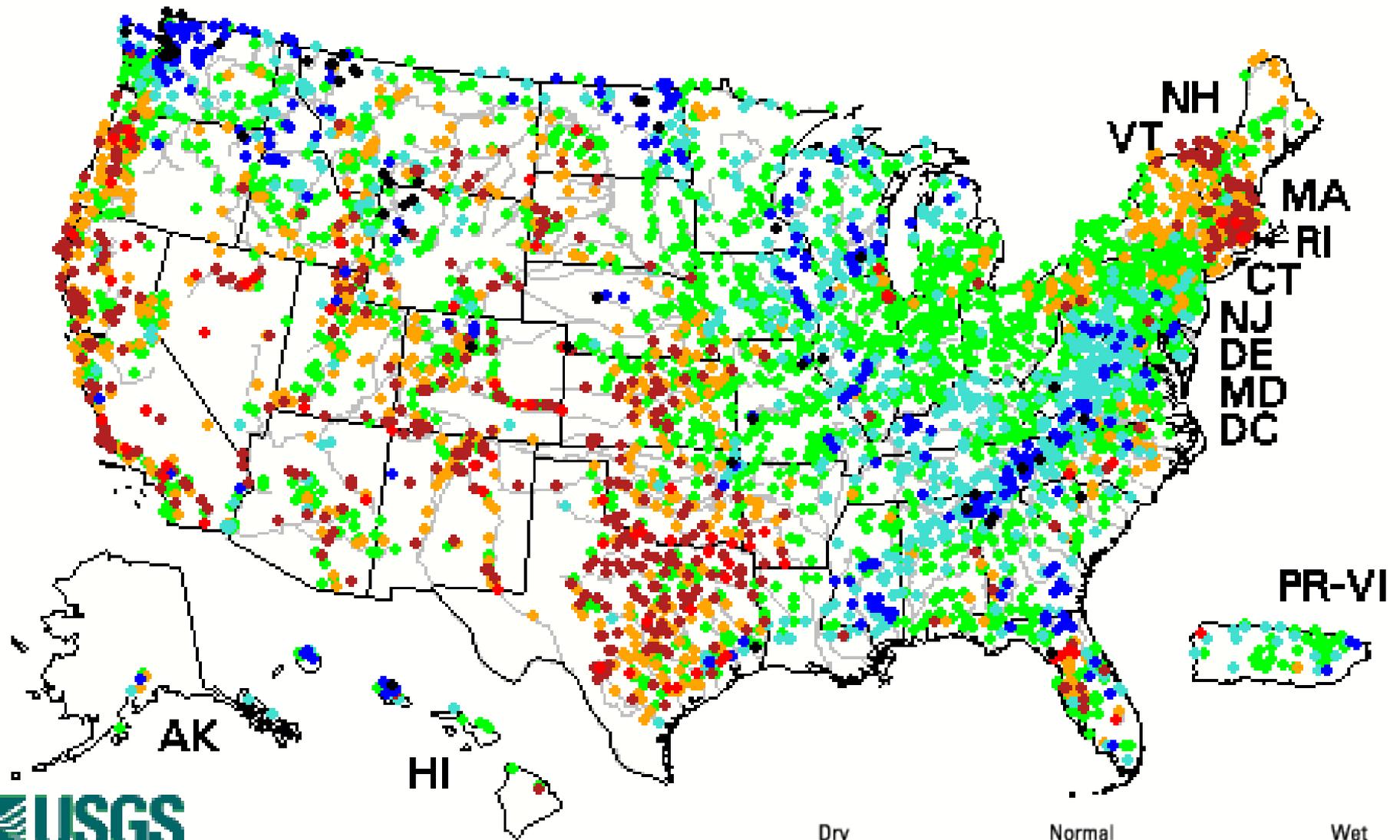


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US Army Corps of Engineers
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Tuesday, May 14, 2013 08:30ET

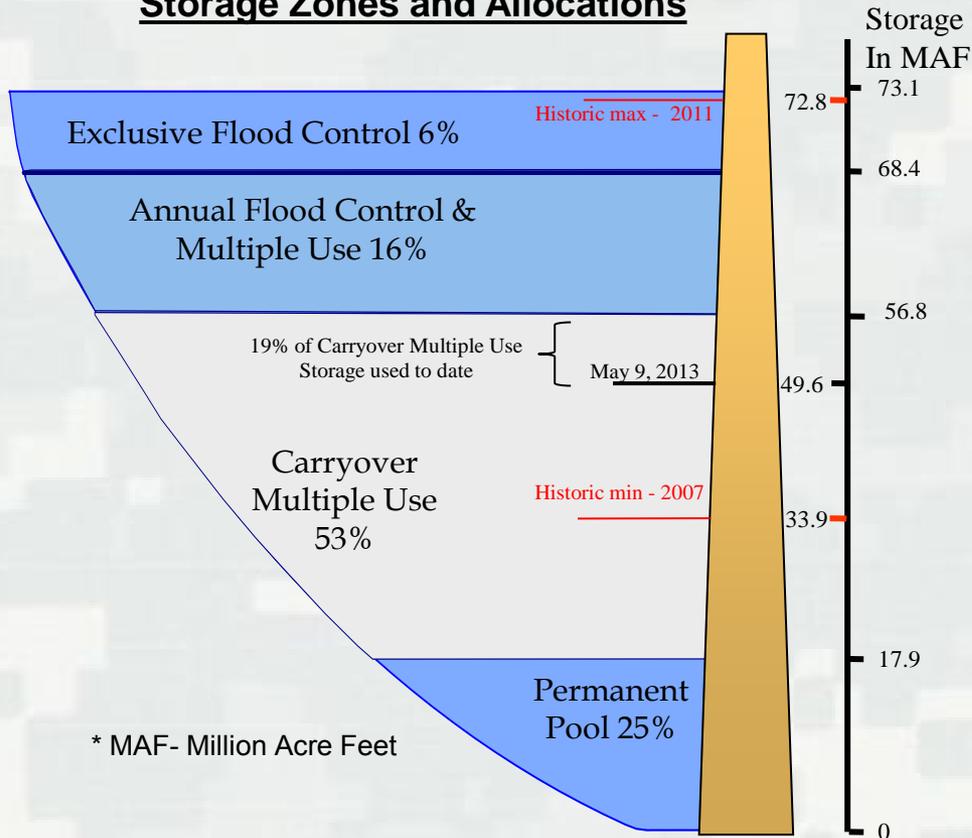


Dry Normal Wet

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Effects of Drought in the Missouri River Basin

Missouri River Mainstem System Storage Zones and Allocations



Missouri River Issues:

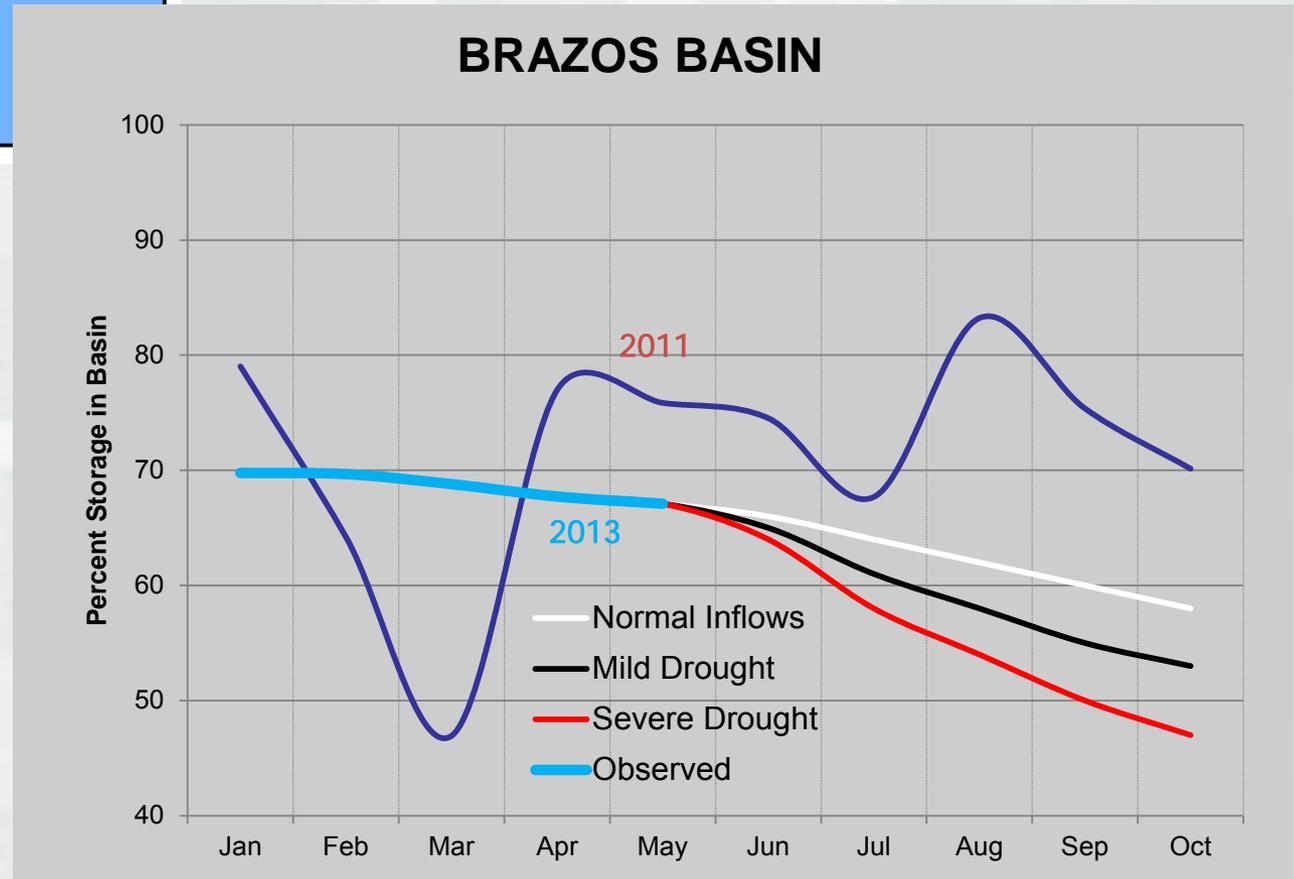
- ▶ Reduced support for Missouri River navigation
 - ▶ Minimum service flow support provides 8 x 200 ft channel rather than 9 x 300 ft
 - ▶ Potential for shortened navigation season
- ▶ Reduced hydropower generation at Mainstem dams
- ▶ Access issues at marinas and boat ramps
- ▶ Fisheries impacted as spawning and nursery habitat is destroyed; reduced volume of cold water habitat for reservoir fisheries
- ▶ Low reservoir levels impact water quality at municipal intakes increasing treatment costs
- ▶ Increased pumping costs for irrigators as intakes are adjusted to reach declining water levels
- ▶ Further exposure of historic and cultural resources of significance to the Tribes
- ▶ If drought persists, 16 domestic water intakes including 7 Tribal intakes on Garrison and Oahe reservoirs could eventually be threatened by declining reservoir levels
- ▶ Low winter releases create access problems for municipal and industrial water intakes along the lower Missouri River, particularly during icing conditions
- ▶ Risk of flooding is reduced, but not eliminated
- ▶ Incidental impacts on Mississippi River navigation



Effects of Drought SWD – Brazos Basin



- Brazos Basin extends into west Texas where the drought is the most severe.
- Whitney Lake is at 26 percent of its conservation pool.
- Whitney is one of the main sources of water to users along the lower Brazos, including Dow Chemical.

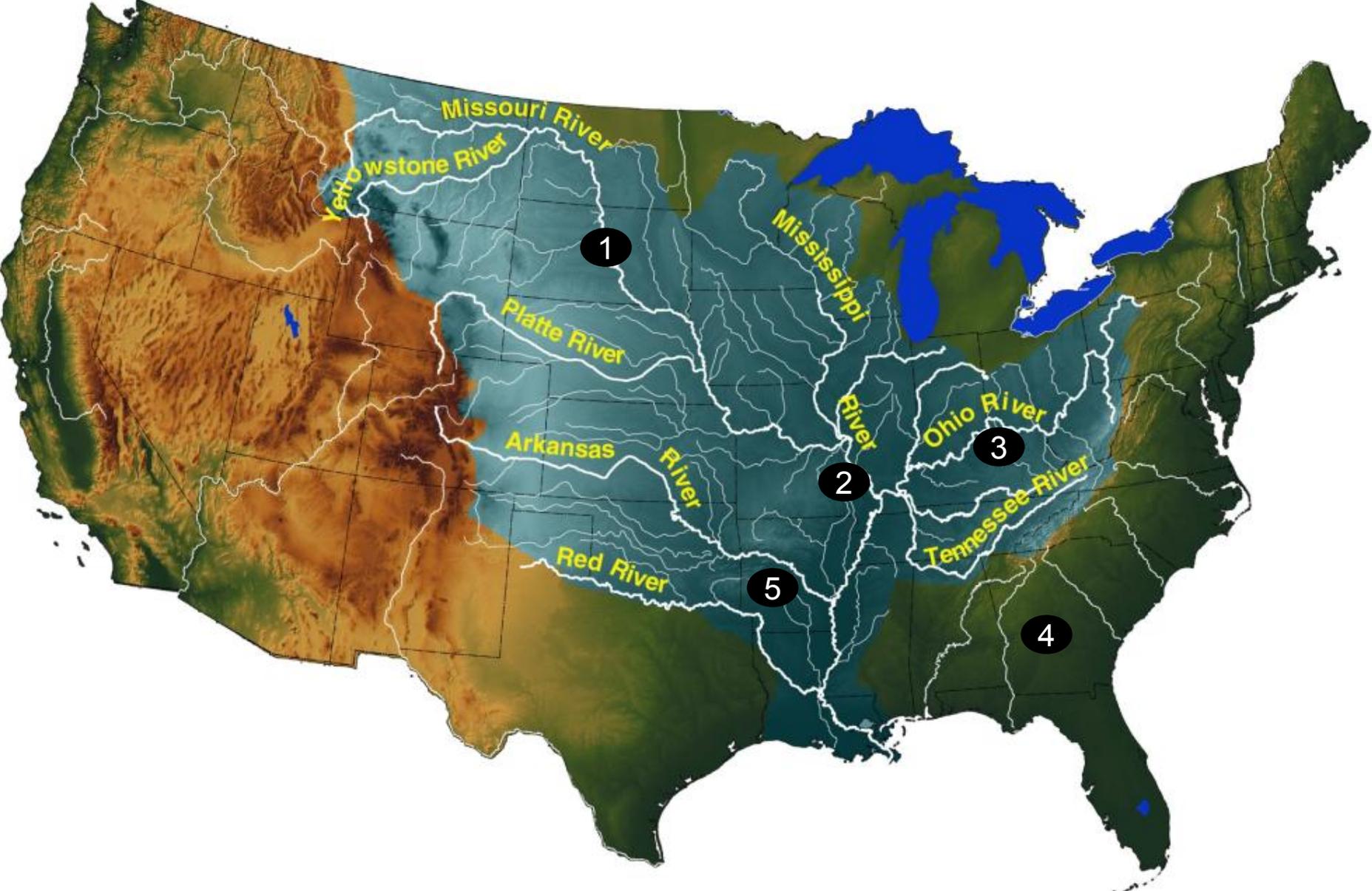


Thank you.

Questions?



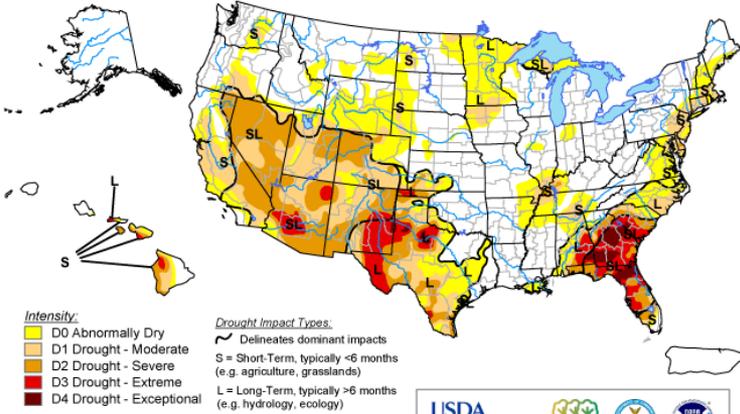
National Watersheds Affected by Drought



U.S. Drought Monitor

U.S. Drought Monitor

May 15, 2012
Valid 7 a.m. EDT



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

Drought Impact Types:
 ~ Delineates dominant impacts
 S = Short-Term, typically <6 months
 (e.g. agriculture, grasslands)
 L = Long-Term, typically >6 months
 (e.g. hydrology, ecology)

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

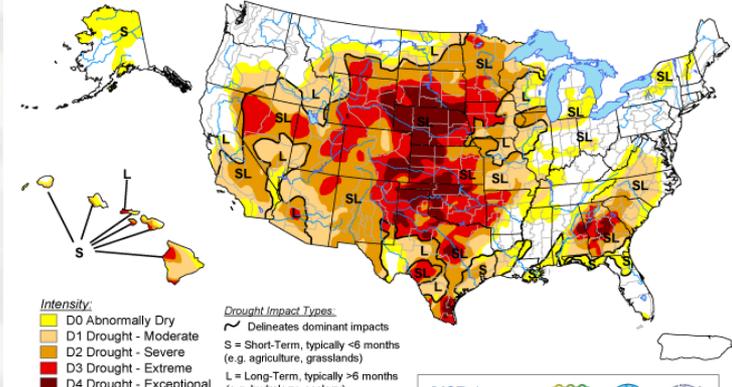
<http://droughtmonitor.unl.edu/>



Author: Brian Fuchs

U.S. Drought Monitor

December 18, 2012
Valid 7 a.m. EST



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

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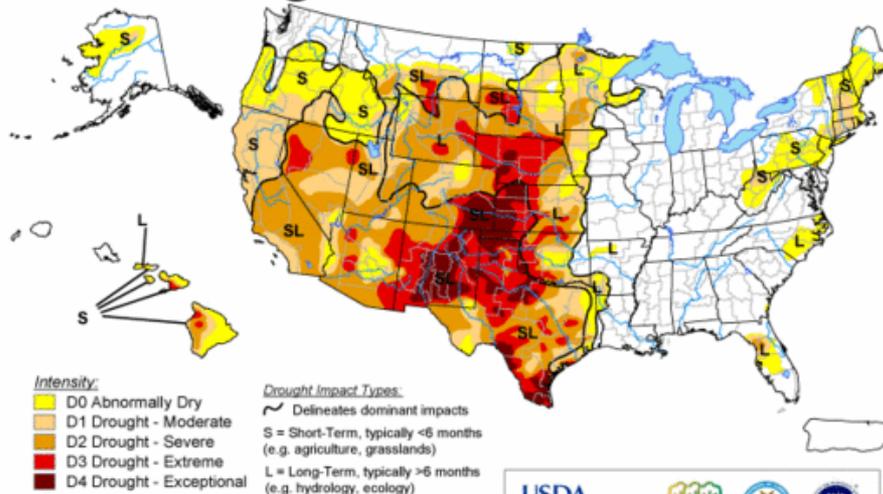
The Drought Monitor focuses on broad-scale conditions.
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 for forecast statements.



Released Thursday, December 20, 2012
 Author: Brian Fuchs, National Drought Mitigation Center

U.S. Drought Monitor

May 7, 2013
Valid 7 a.m. EDT



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

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Released Thursday, May 9, 2013
 Author: David Miskus, NOAA/NWS/NCEP/CPC

6 Months ago

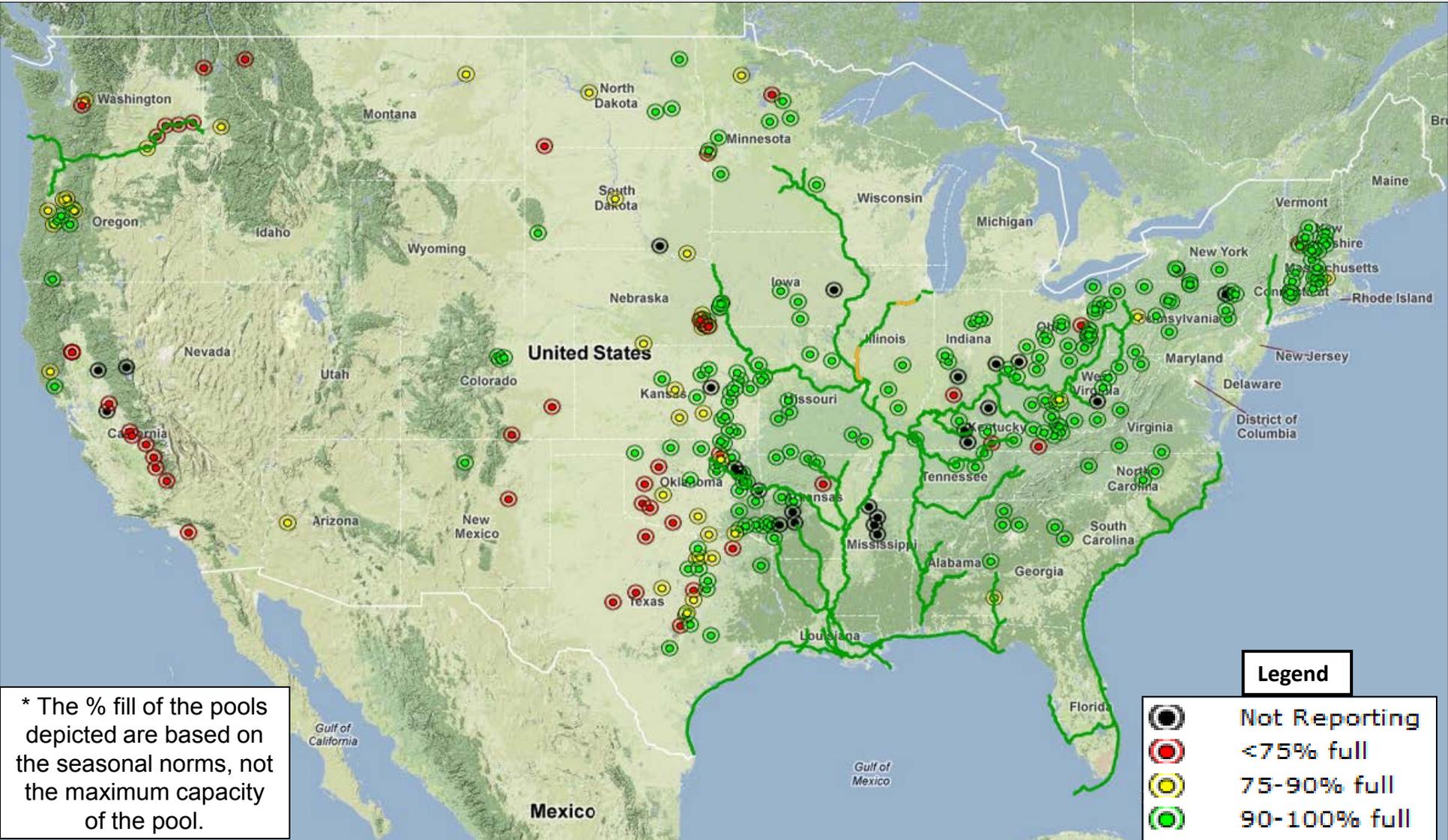


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Graphics courtesy of National Drought Mitigation Center

Most recent...

USACE Reservoir Status

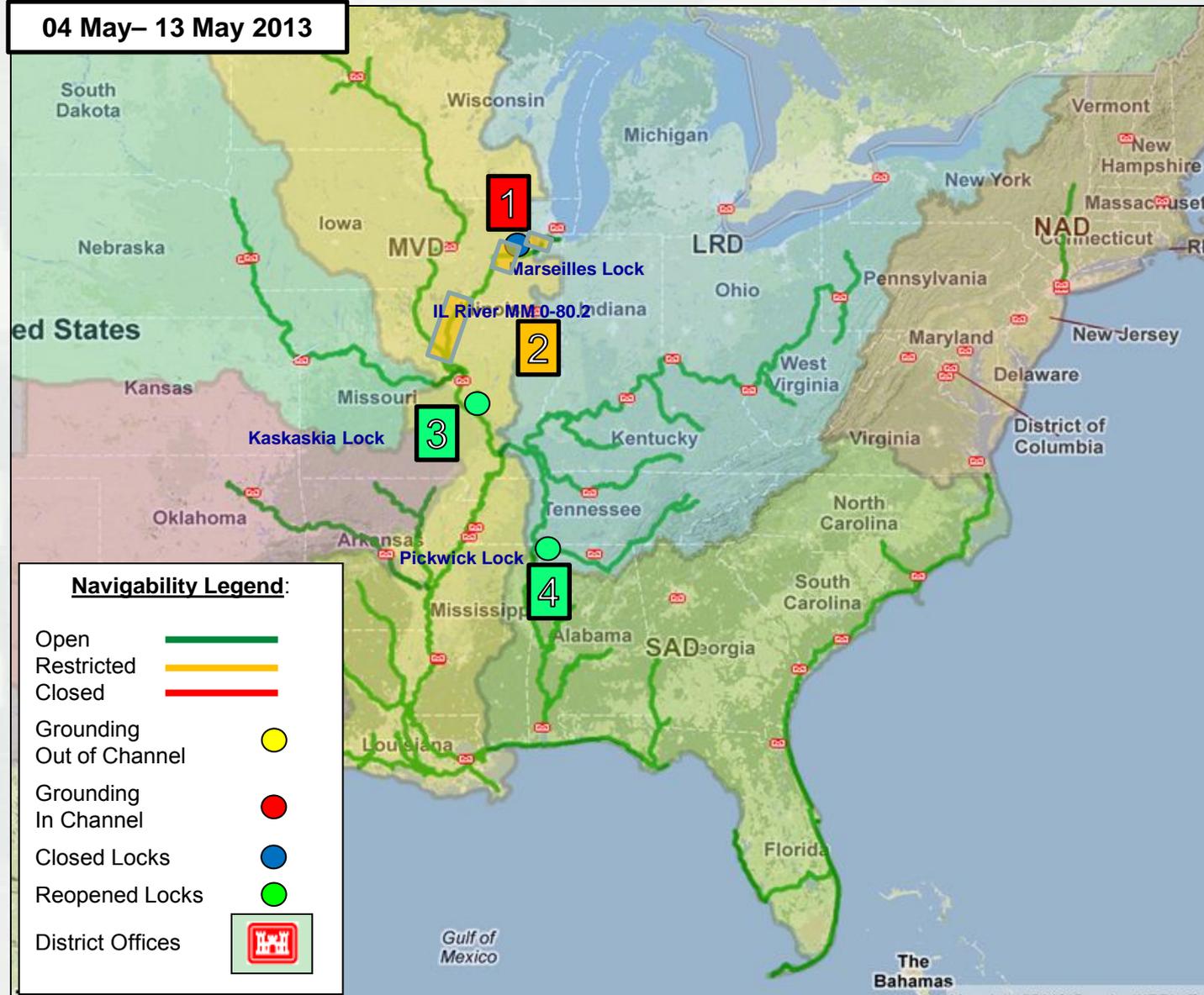


As of: 16 May 2013

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Navigable Waterways Status

04 May– 13 May 2013

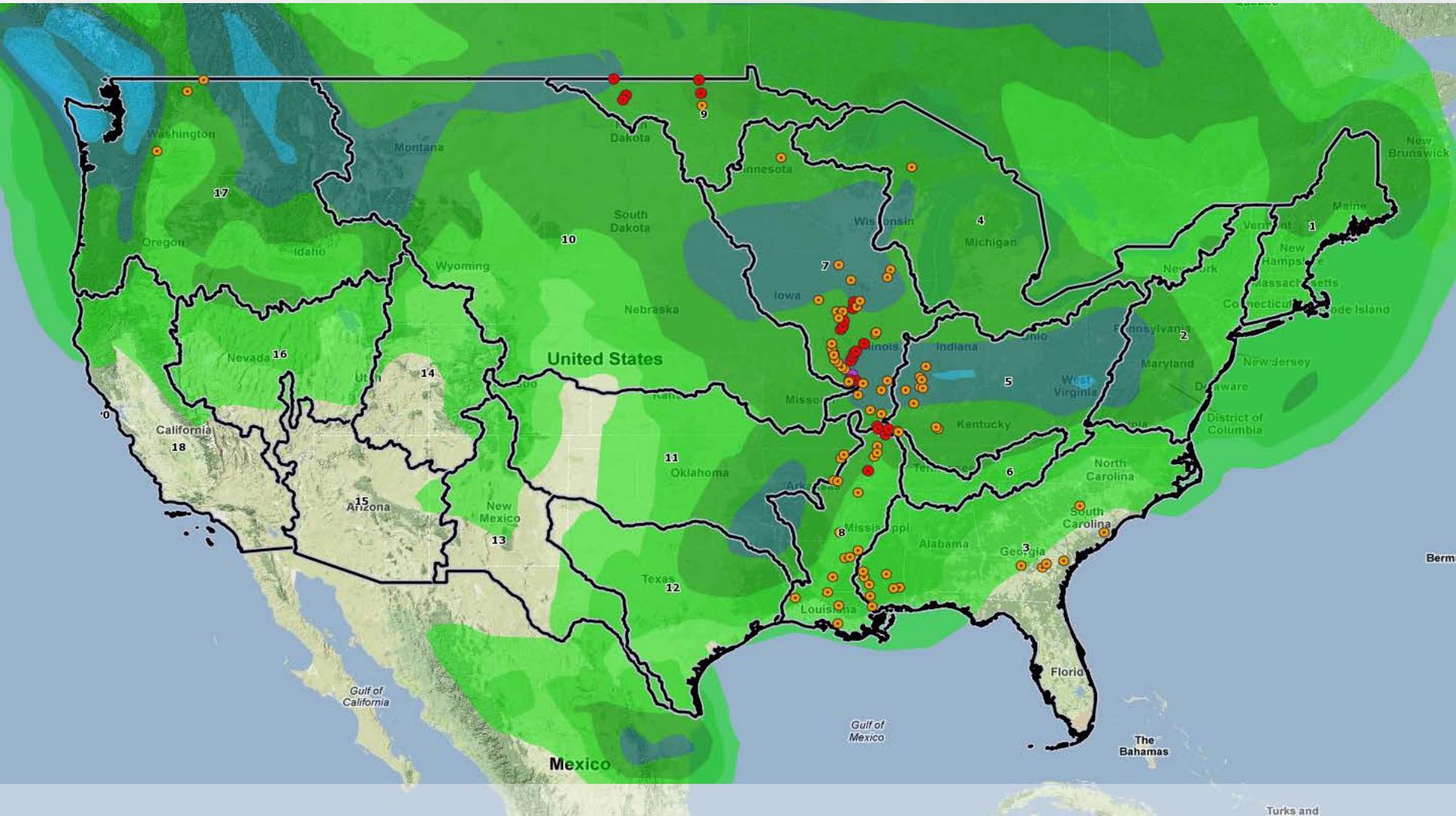


Summary:

1. Marseilles Lock closed to navigation 11 May due to pool draw down
2. Navigation is currently restricted on Illinois Waterway from RM 0 to 80.2. Restrictions exist between Starved Rock and Dresden Locks .
3. Kaskaskia Lock reopened 10 May.
4. Pickwick reopened 12 May



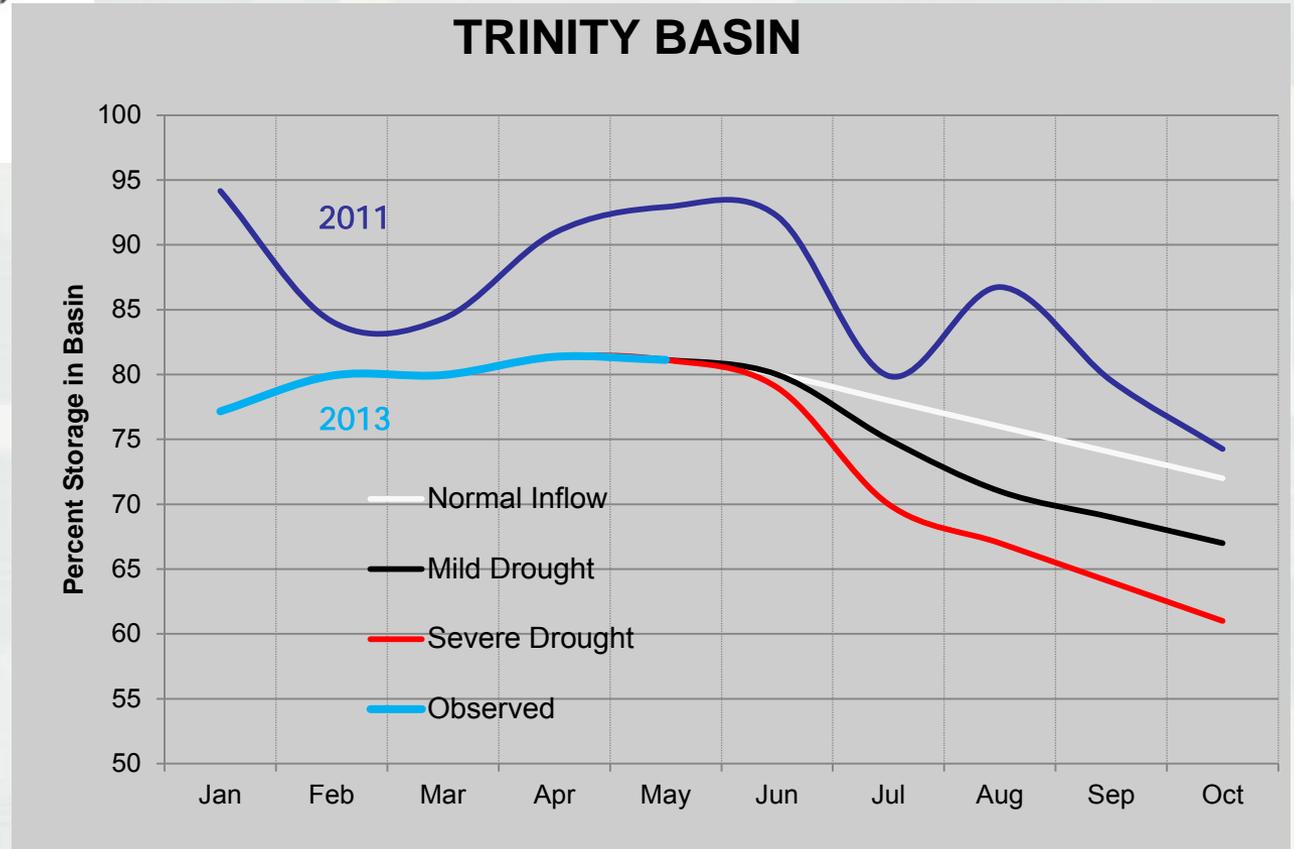
5 Day Rain (QPF) over Drought As of 13 May 2013



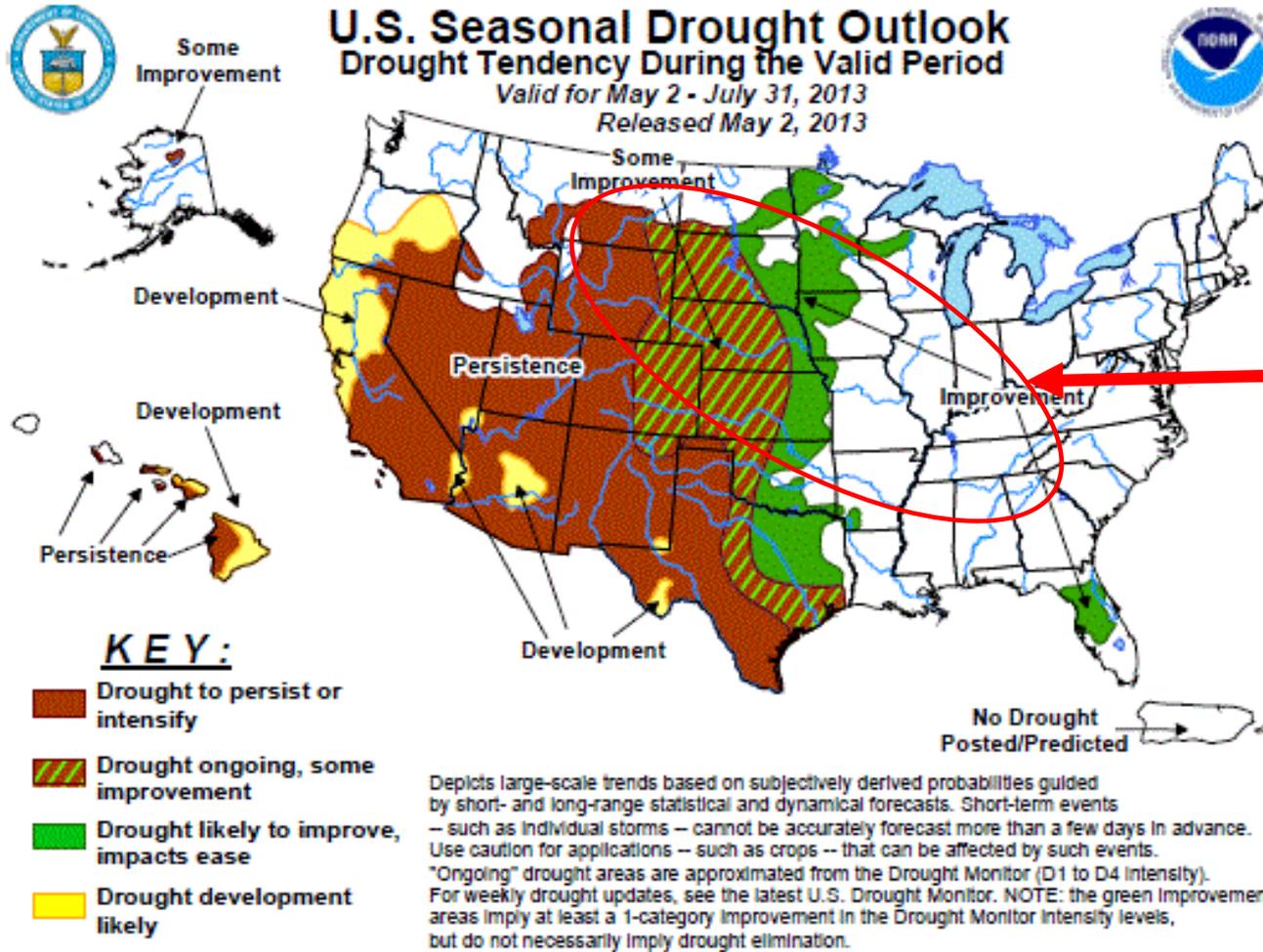
Effects of Drought SWD – Trinity Basin



- Lakes in Upper Basin provide the water to the Dallas/Ft. Worth Metroplex
- Corps lakes that supply the most water to the city of Dallas are Lewisville and Lavon
- Forecasted lake levels drawn to near record low level this summer



U.S. Drought Forecast

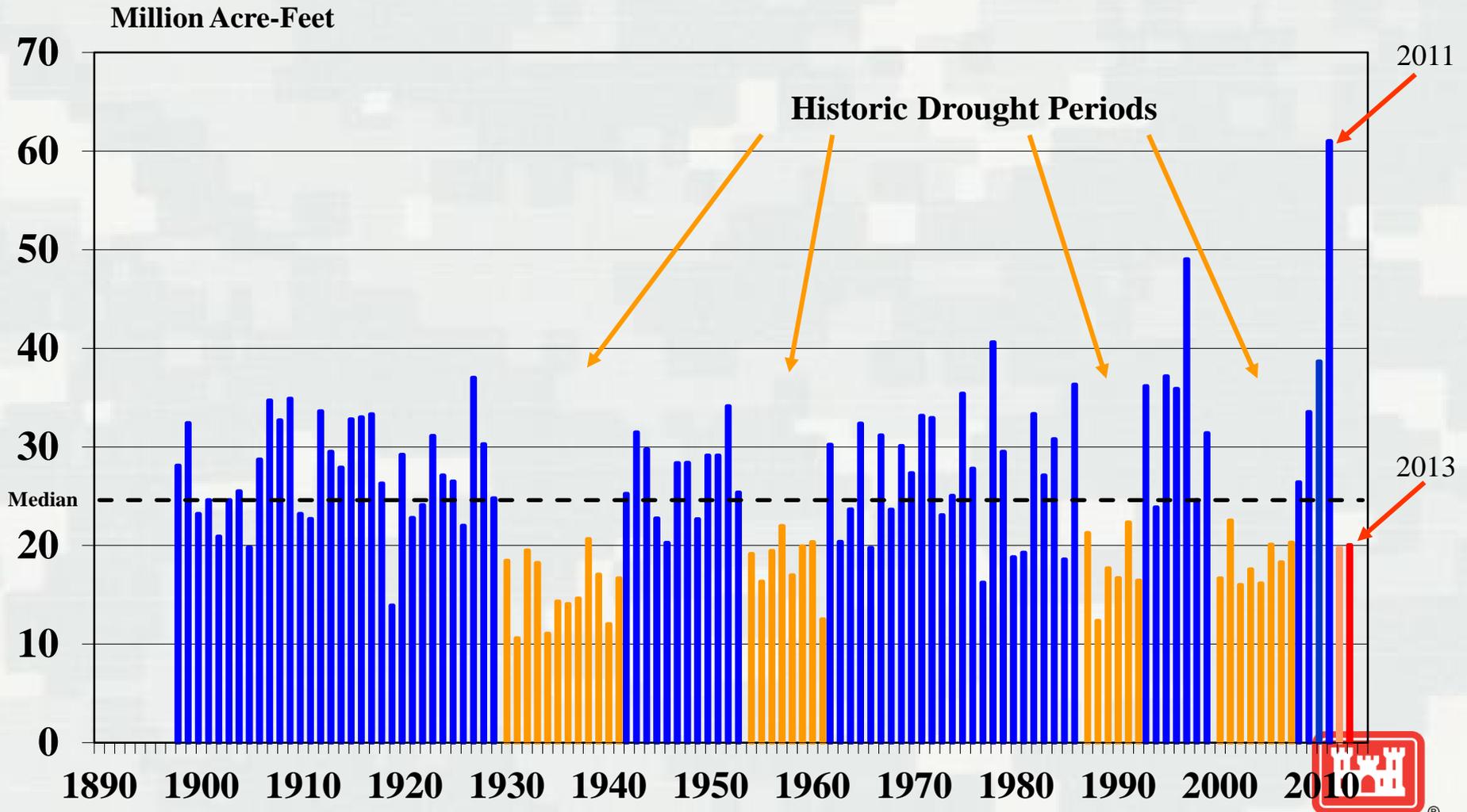


•Drought conditions are forecasted to continue with some improvement across a large portion of the Missouri River Basin into summer 2013, particularly from front range of the Central Rockies eastward.

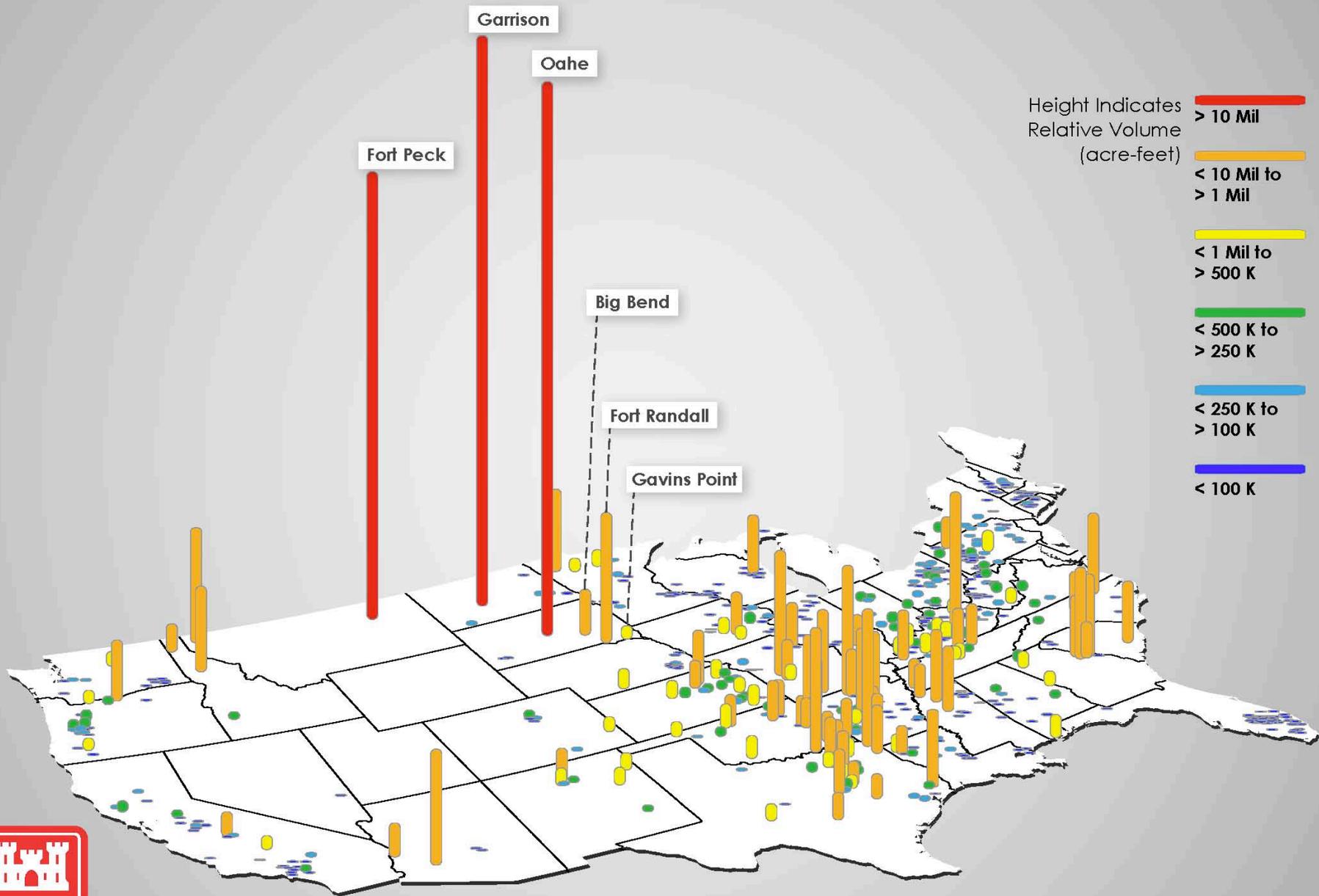
•Ongoing drought conditions are much more likely to improve across the eastern and southern portion of the basin particularly in the area downstream of the Mainstem Reservoir system.



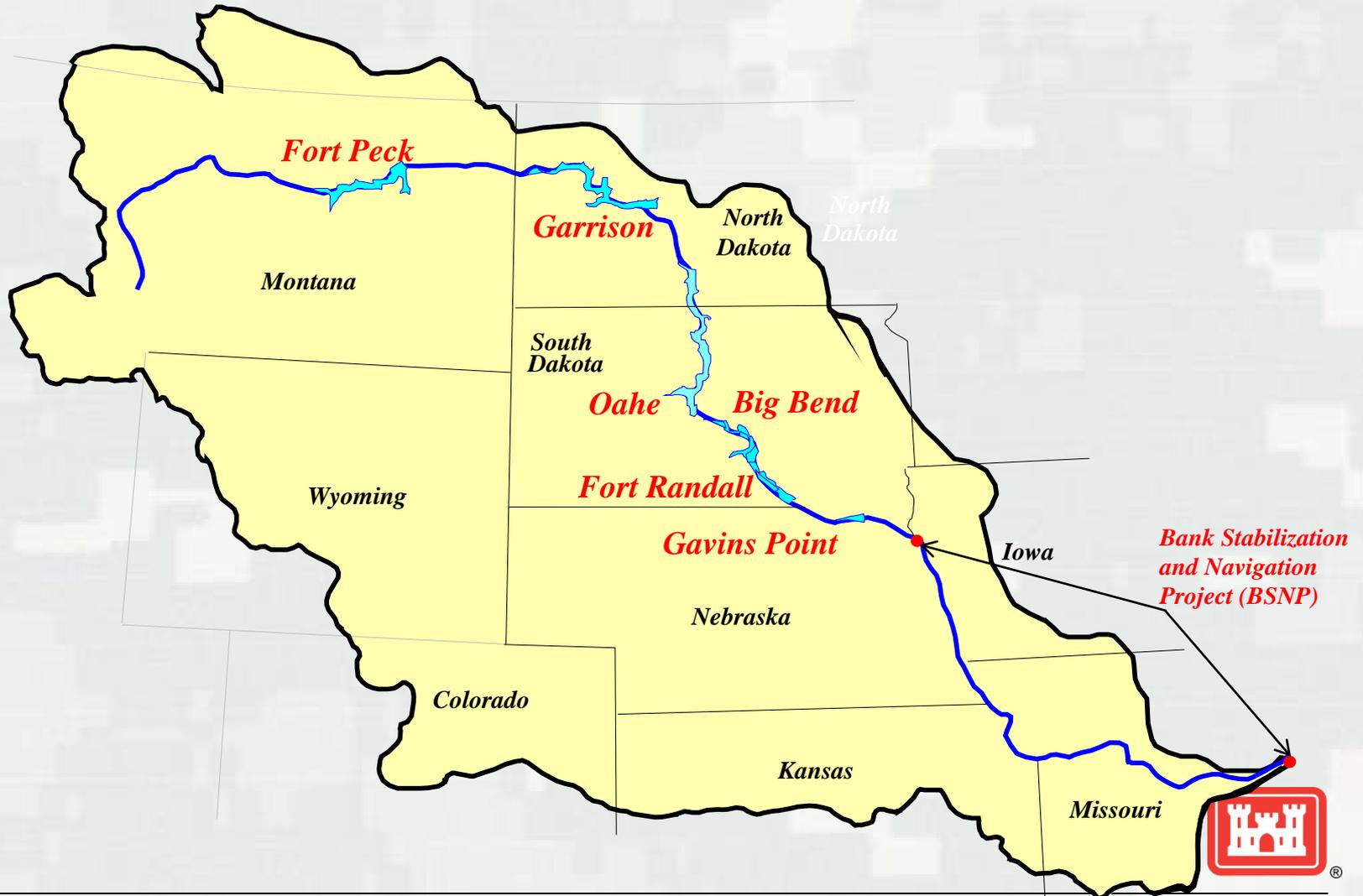
Missouri River Mainstem System Annual Runoff above Sioux City, IA



Storage Capacity of Corps Reservoirs



Missouri River Mainstem Reservoir System



USACE - Our Mission:

Regulate Reservoirs to Support Congressionally Authorized Purposes

Flood Control



Hydropower



Water Supply



Water Quality Control



Recreation



Navigation



**Fish and Wildlife
Including Threatened and
Endangered Species**



Irrigation



USACE - Drought Outlook

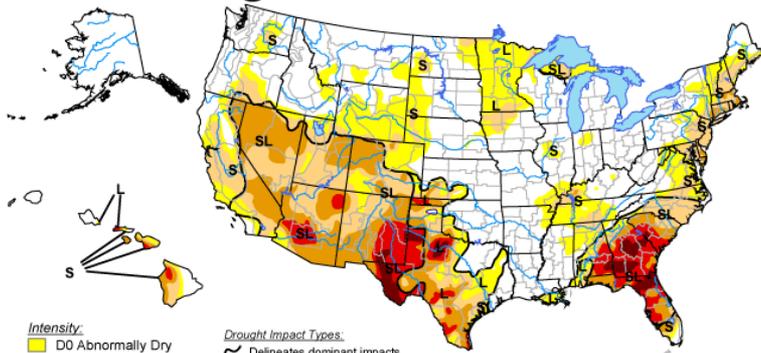
- Drought conditions in the Missouri River Basin have improved in the late winter and spring of 2013, particularly over the central Midwest.
- All of the Great Lakes are below long-term averages for this time of year and forecasts call for continued below-average lake levels.
- Lakes in the Central and Western Texas are below what they were at this time during the 2011 drought (the worst single year in recorded history). There is a significant potential for a long term trend of hotter and drier climate condition. The need for water conservation is being emphasized.
- Currently most of the navigable waterways on Mississippi river are operating under normal conditions.



U.S. Drought Monitor

U.S. Drought Monitor

May 8, 2012
Valid 7 a.m. EDT



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 D3 Drought - Extreme
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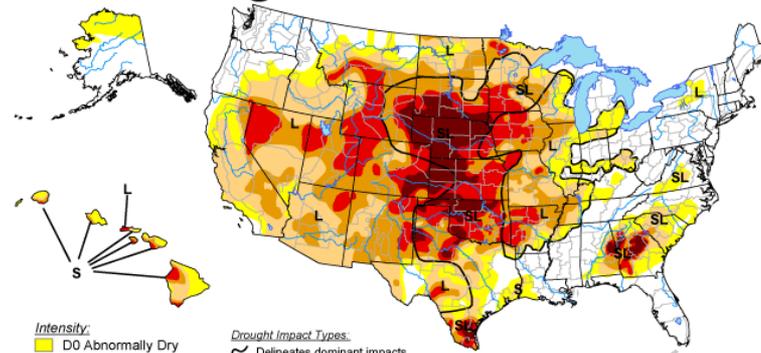
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://droughtmonitor.unl.edu/>



U.S. Drought Monitor

November 6, 2012
Valid 7 a.m. EST



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

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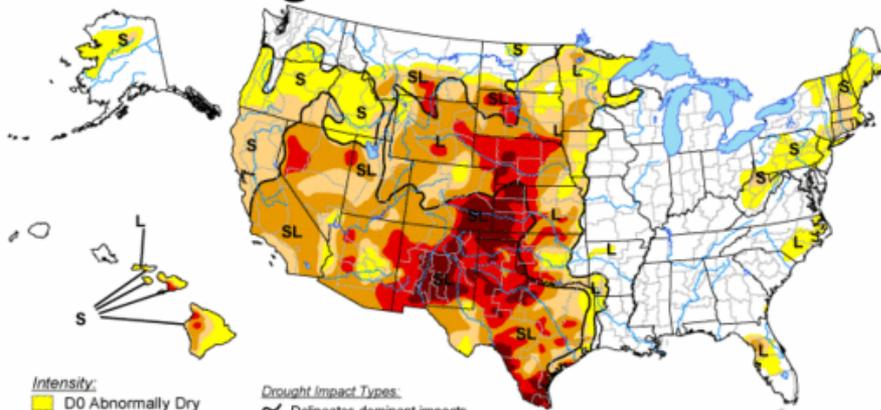
15 Summary



Released Thursday, November 8, 2012
Author: David Miskus, NOAA/NWS/NCEP/CPC

U.S. Drought Monitor

May 7, 2013
Valid 7 a.m. EDT



Intensity:
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Released Thursday, May 9, 2013
Author: David Miskus, NOAA/NWS/NCEP/CPC

6 Months ago

Drought conditions developed or expanded dramatically throughout the Missouri River Basin in 2012, but conditions have improved in the late winter and spring of 2013, particularly over the central Midwest.



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Graphics courtesy of National Drought Mitigation Center

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