Missouri River
FLOOD TASK FORCE

Status of Flood Recovery

FEMA Region 7, Region 8

Beth Freeman, R-VII Administrator
Roger Jones, R-VIII Emergency Management Program Officer

Missouri River Flood Task Force Meeting

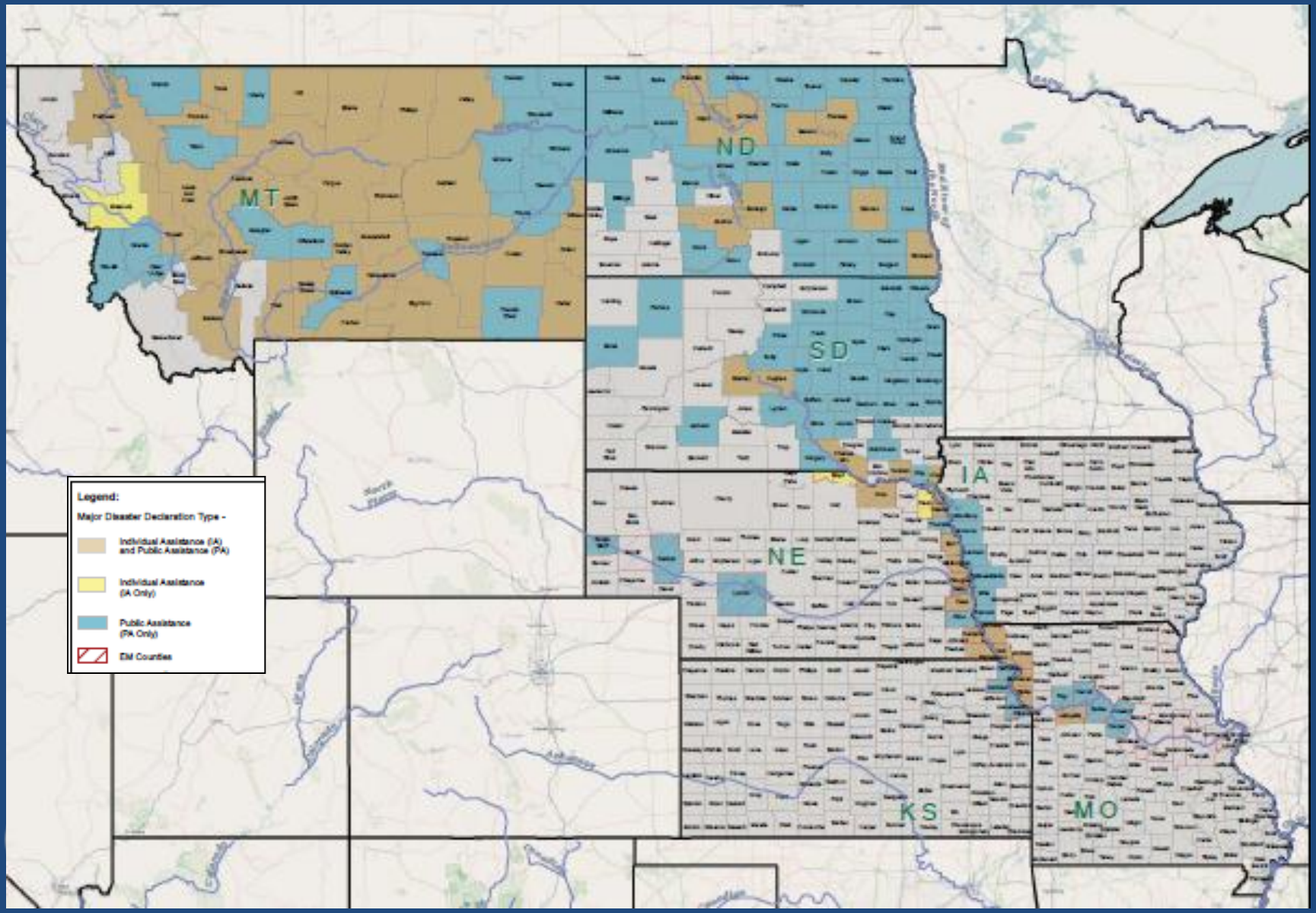
The Status of Flood Recovery

R-VII Administrator Beth Freeman
R-VIII Emergency Management Program Officer Roger Jones

FEMA

Missouri River Flooding 2011

FEMA Region VII & VIII Emergency/Disaster Declarations



Individuals and Households Assistance

Program Totals - FEMA Region VII & VIII

Iowa	DR-1998	$ 4,680,145
Missouri	DR-4012	$ 3,101,344
Montana	DR-1996	$ 6,696,673
Nebraska	DR-4013	$ 4,215,129
North Dakota	DR-1981	$ 95,494,870
South Dakota	DR-1984	$ 4,796,135

Total Applications Approved – 12,454

Total Assistance - $118,984,298.58

FEMA

Public Assistance

Dollars Obligated - FEMA Region VII & VIII

Total for All Declared Counties

Iowa	DR-1998	$ 41,667,270
Kansas	DR-4035	$ 2,852,066
Missouri	DR-4012	$ 28,164,621
Montana	DR-1996	$ 26,742,892
Nebraska	DR-4013	$ 27,410,991
North Dakota	DR-1981	$225,537,422
South Dakota	DR-1984	$ 43,225,079

Total Projects Written – Approx. 7,800

Total Assistance – Approx. $395,600,300.

FEMA

Public Assistance

Hazard Mitigation

- Approximately 2,100 projects with approved Hazard Mitigation measures
- Approximately $65,000,000 in Hazard Mitigation assistance

Hazard Mitigation Grant Program
FEMA Region VII & VIII

Region VII

- To date, nine flood-related applications submitted
  - Total project costs: $9,074,201
    - Includes $6,365,273 for pending flood buyouts

Region VIII

- To date, seven flood-related proposed or submitted applications
  - Total project costs: $18,006,962
    - Includes $466,472 in flood buyouts for Fort Pierre, SD

FEMA

Response and Recovery

Challenges

- Availability of flood insurance and the decision to use the same incident period start date regardless of when the water actually impacted the individual states.

- Due to the nature of the flooding, as the flood waters rose in some counties it was subsiding in others. It would have been helpful if FEMA had been allowed to close the incident period on a county-by-county basis as the threat subsided, rather than leaving it open for longer than was necessary in some areas.

- Assistance ineligibility for individuals who did not sustain household damage but were required to evacuate or were forced to obtain alternate housing to maintain employment (often in the adjacent state).

FEMA

Response and Recovery

Lessons Learned

- Advance notice of flooding provided many benefits.
  - It permitted households to move personal property to upper floors or to storage facilities beyond the flood area resulting in reduced personal property damage.
  - It also allowed for the efficient removal of hazardous agricultural products resulting in a reduced environmental impact.
- Coordination between the Tribes, FEMA inspection services and the National Processing Service Center was essential in addressing the needs of multiple generations in one household.

FEMA

Response and Recovery

Looking to the Future

FEMA

FEMA

USDA – Agency Recovery Update

Verlon Barnes – Natural Resources Conservation Service (NCRS)

Rod Sebastian – Risk Management Agency (RMA)

Dan Steinkruger – Farm Services Agency (FSA)

USDA

United States Department of Agriculture

USDA Recovery Update for the 2011 Missouri River Flood

NRCS Verlon Barnes, RMA Rod Sebastian, and FSA Dan Steinkruger

Missouri River Flood Task Force
May 24, 2012
Omaha, NE

In response to 2011 Missouri River flood impacts, the NRCS Emergency Watershed Protection Program (EWPP) has funded and provided technical assistance for:

100 projects totaling over $9 million

- 84 of these projects have been completed,
- 7 projects are under construction, and
- 9 projects are in the Damage Survey Assessment (DSR), planning, or agreement stage.

November 2011 - EWPP repaired an irrigation diversion and canal that was breached by Musselshell River flood waters in Montana, protecting two homes, 6,085 acres of cropland, and other local infrastructure. And also re-establishing water delivery to 52 farms.

December 2011 - EWPP repaired and protected flood damaged banks to save a sewage lagoon in Montana that serves approximately 3500 people.

In partnership with The Nature Conservancy (TNC), a new five state Wetland Reserve Enhancement Program (WREP) project was implemented May 3.

- A voluntary-based program using long-term or permanent easements to restore wetlands on agricultural lands along the Missouri River in the states of IA, KS, MO, NE, and SD.

- 29 applications on 4,300 acres have been received and are currently undergoing eligibility determination.

- Although current limits are set at 1,000 acres per year, we hope to build upon this multi-year effort to provide additional funding and acres.

NRCS is implementing a new national Soil Health Initiative

Some benefits for flood risk reduction include:

- Increased rainfall infiltration into the soil
- Increased water-holding capacity within the soil profile
- Reduced runoff of rainfall and snow melt

There are many non-flood related benefits as well.

Flood Response, Recovery, and Mitigation

Risk Management Agency (RMA)

- $280 million in crop insurance indemnities paid to producers due to the 2011 Missouri River flood.

- Land flooded by breached levees in 2011 is insurable for 2012 crops.
  - Repaired of levees means crop insurance premium rates will not increase for about 70% of crop land flooded by breached levees.
  - But 2012 rates will increase for land flooded by breaches not repaired yet. RMA will remain in close contact with U.S. Army Corps of Engineers and local levee districts until all breaches have been repaired.

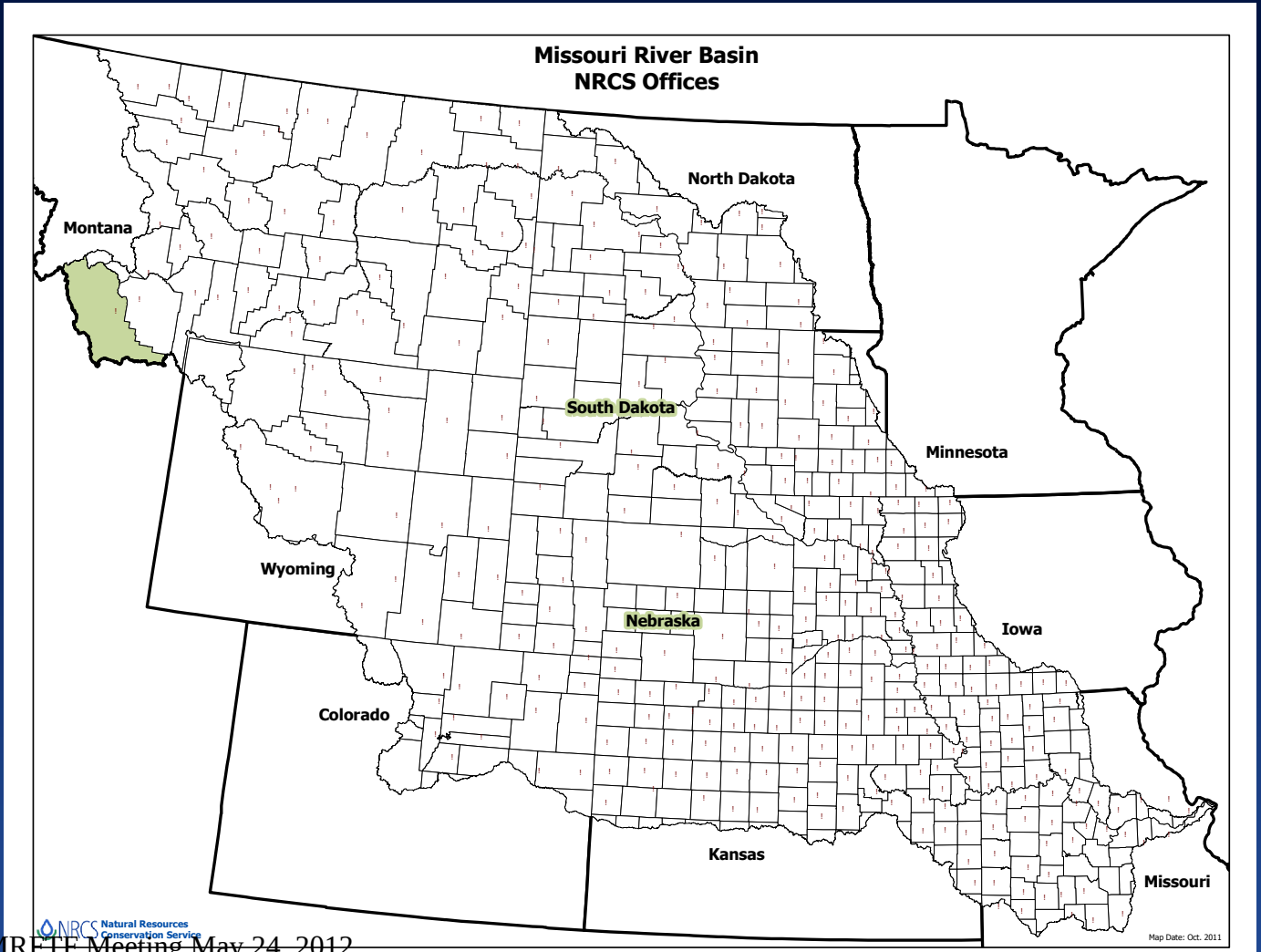
- Since our last meeting, 13 memos on breached levees and rates have been issued. In the past year, RMA has made 12 presentations to more than 1,000 producers, crop insurance officials, and other federal/state agency personnel on crop insurance and the 2011 flood. For more information, please visit:

http://www.rma.usda.gov/

Flood Response, Recovery, and Mitigation

Farm Services Agency (FSA)

USDA Offices in nearly every county within the Missouri River Basin

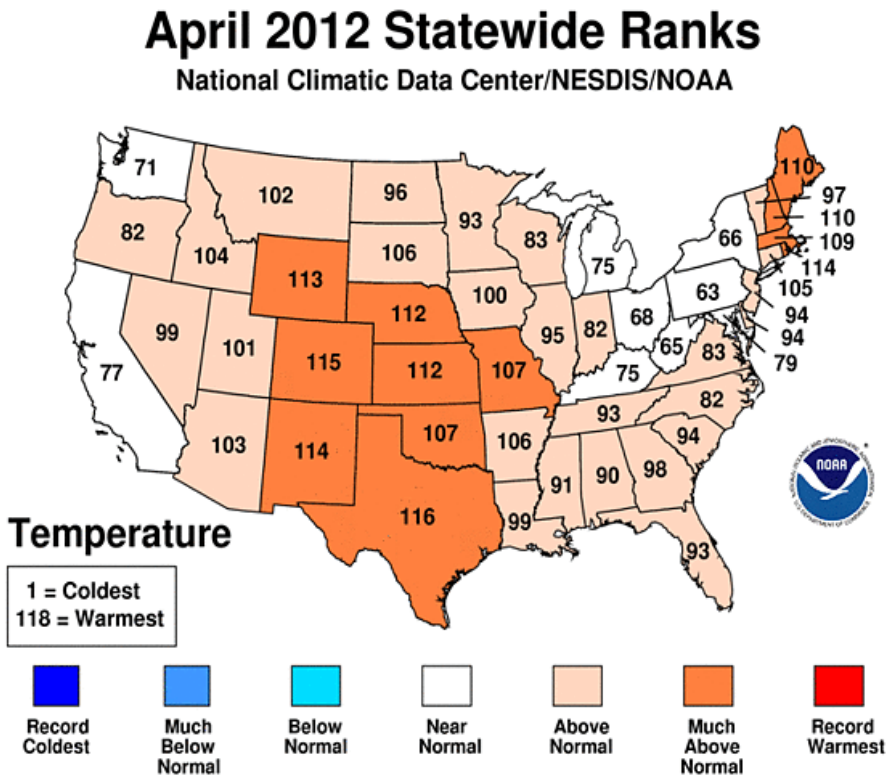


NOAA – Missouri Basin Climate Outlook

Doug Kluck, NOAA Climate Services Director

Missouri Basin Climate Outlook
May 2012 (MRFTF Meeting)

Doug Kluck
Central Region
NOAA Climate Services Director
Kansas City, MO
Doug.kluck@noaa.gov
816-994-3008



General Information

* **Next Climate Outlook Webinar**
  * TBD

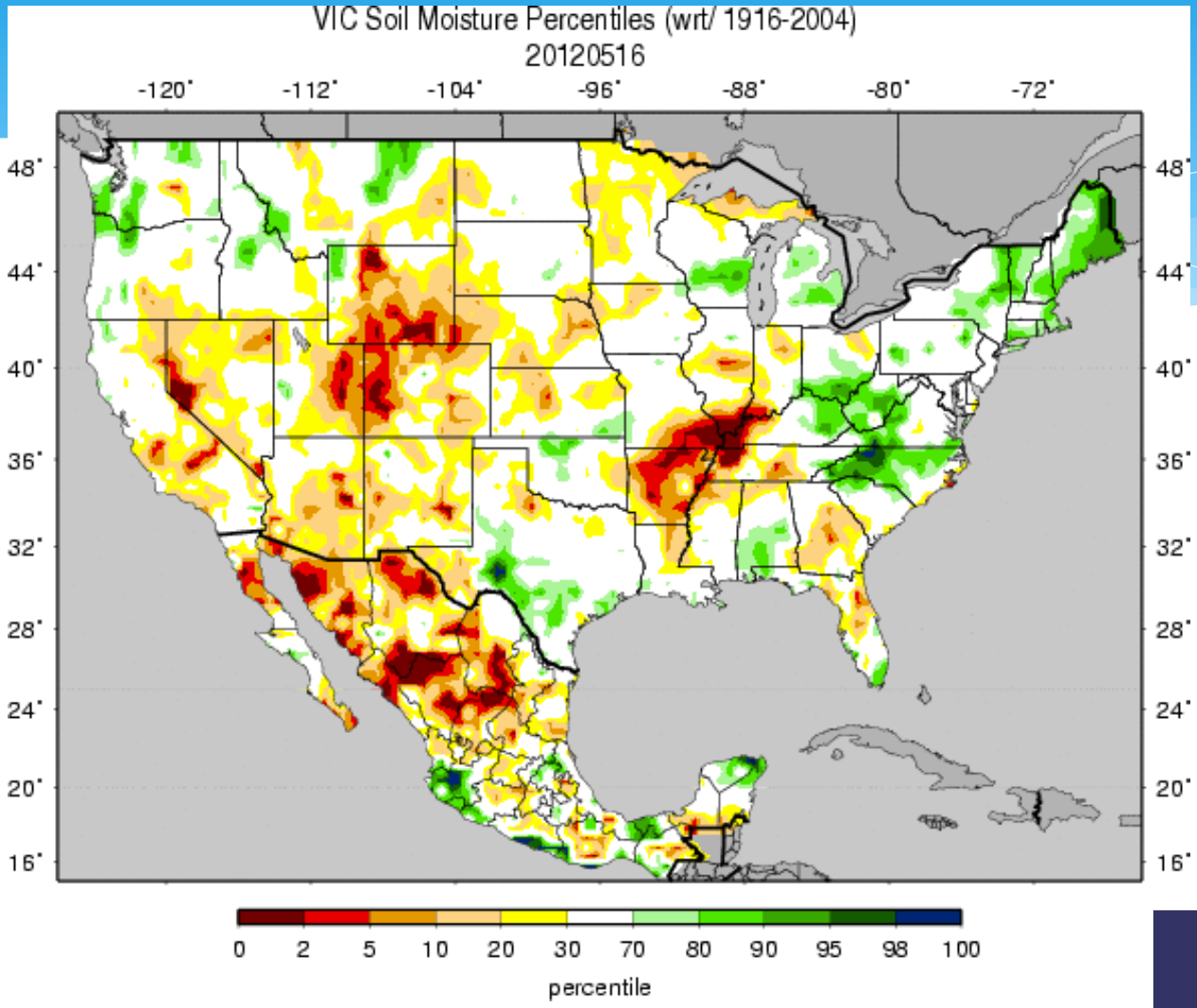
* **Access to previous Missouri Basin Webinars and information**
  * http://earthsystemcog.org/projects/lanina/

* **Survey in final editing – emailed this week or next (SDSU & National Drought Mitigation Center)**

Key Points

* **Current Conditions**
  * ENSO – neutral (no El Nino/La Nina)
  * Mountain snow pack mostly below average
  * Warm conditions continue / higher evaporation rates
  * Wetter, leading to some flooding in feeding rivers
* **Predictions**
  * Likely warmer south of most of basin
  * Precipitation more likely to be dry – far upper basin
  * ENSO Neutral through the summer – El Nino return fall?

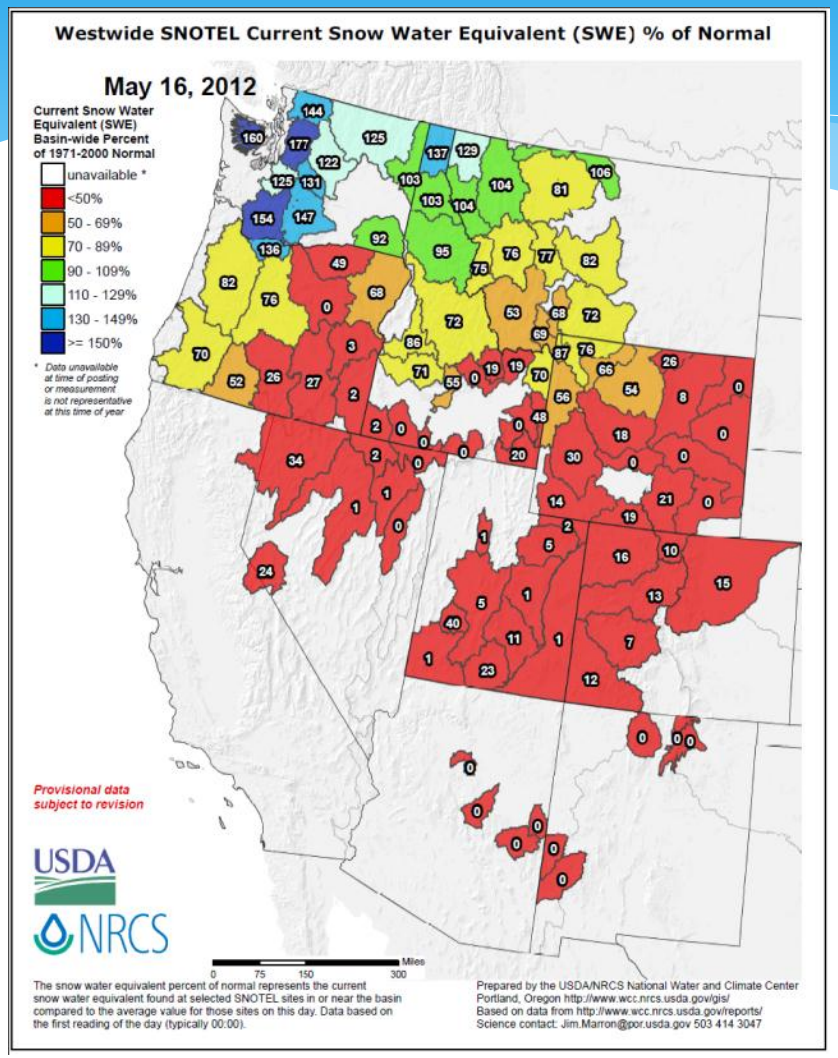
Current Soil Moisture

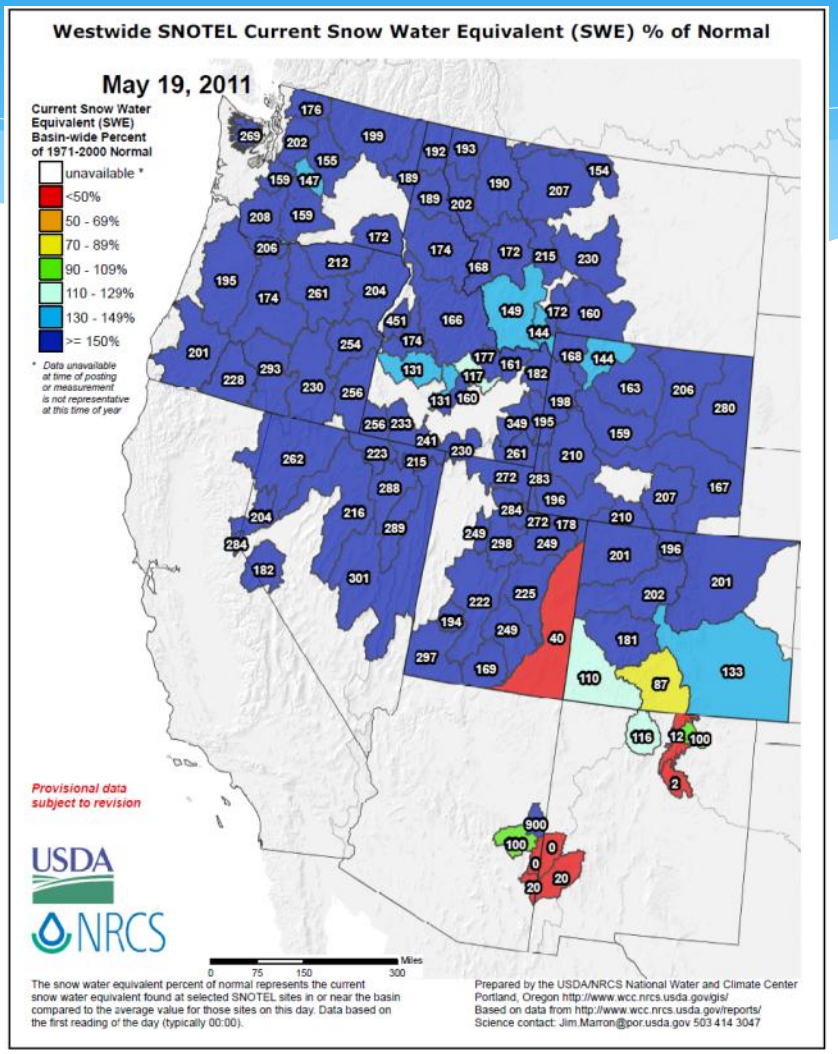


http://www.hydro.washington.edu/forecast/monitor/curr/conus.mexico/main_sm.multimodel.shtml

Mountain Snow Comparison

2012 (left) vs 2011 (right)



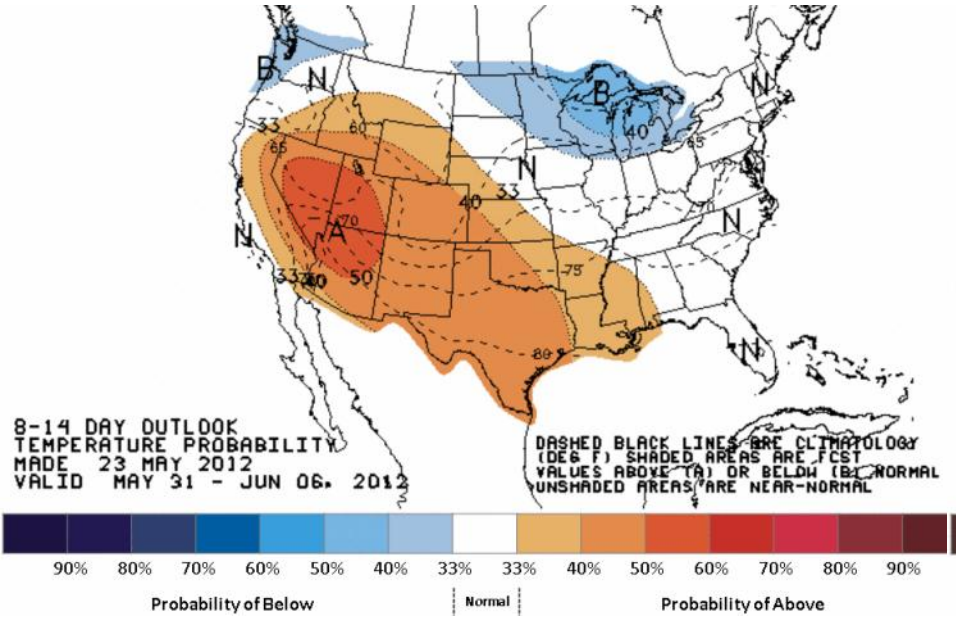


http://www.wcc.nrcs.usda.gov/cgibin/water/drought/wdr.pl

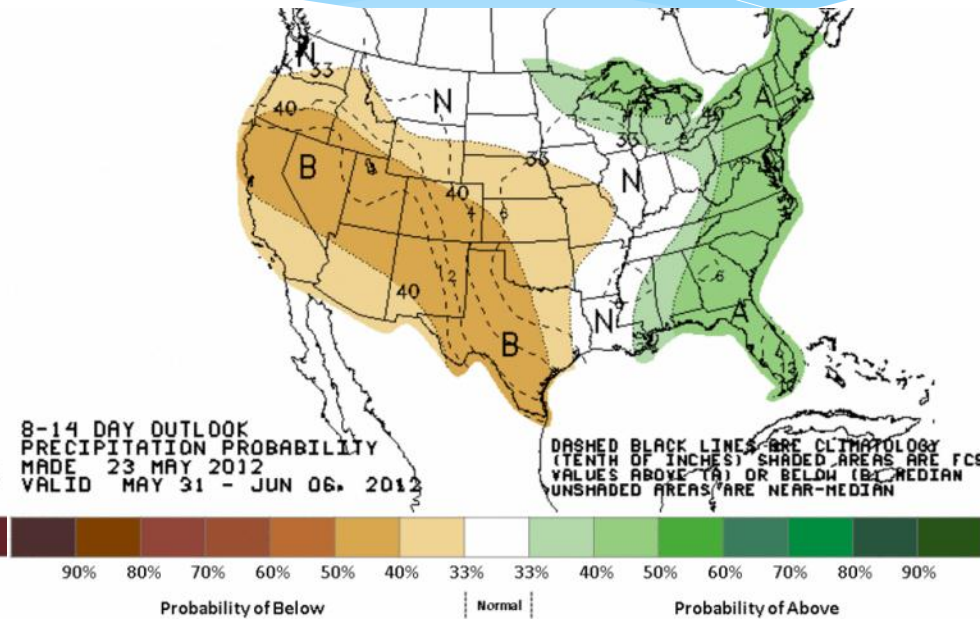
Climate Outlooks

* **2 weeks out (8-14 days)**
* **June**
* **3 Months (June – July - August)**
* **3 Months (July – August - September)**
* www.cpc.ncep.noaa.gov

Temperature and Precipitation Probabilities (5/31-6/6/12)



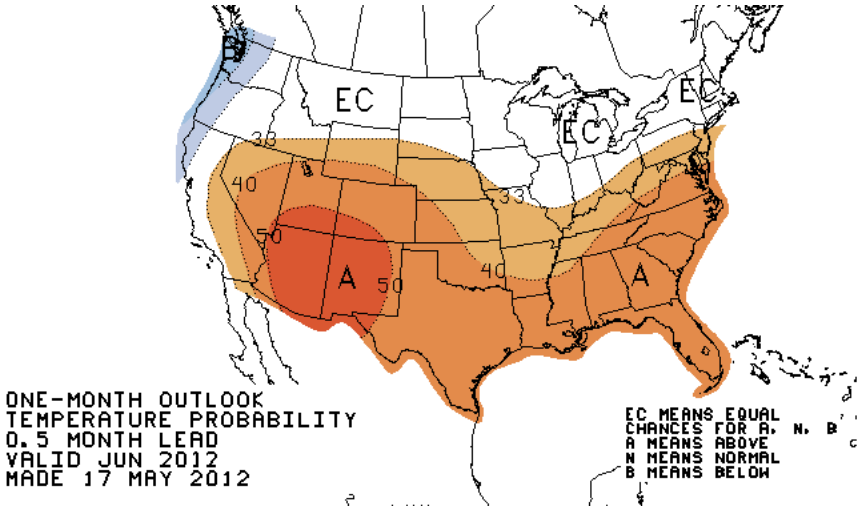
Temperature

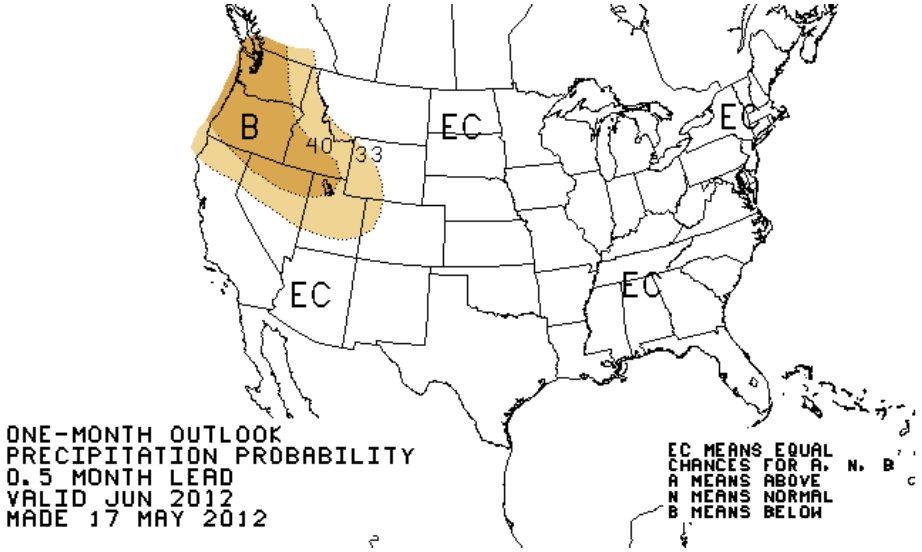


Precipitation

http://www.cpc.ncep.noaa.gov/products/predictions/814day/index.php

June Temperature and Precipitation Probabilities



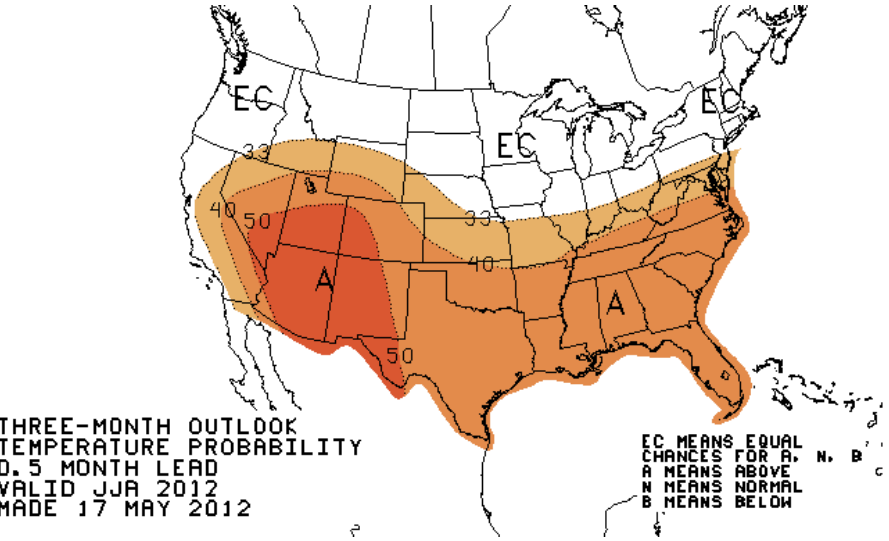


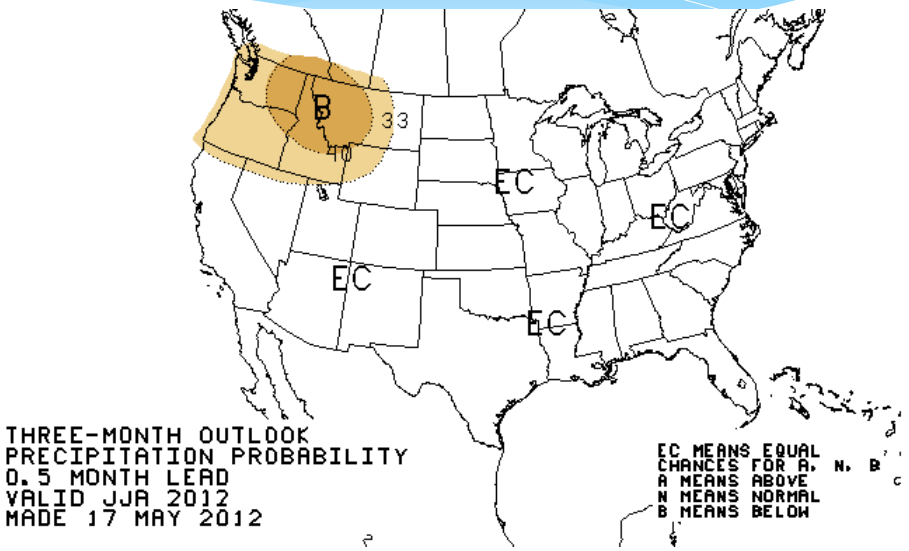
Temperature **Precipitation**

http://www.cpc.ncep.noaa.gov/products/predictions/30day/

3 Month Temperature and Precipitation Probabilities

(June – July - August)



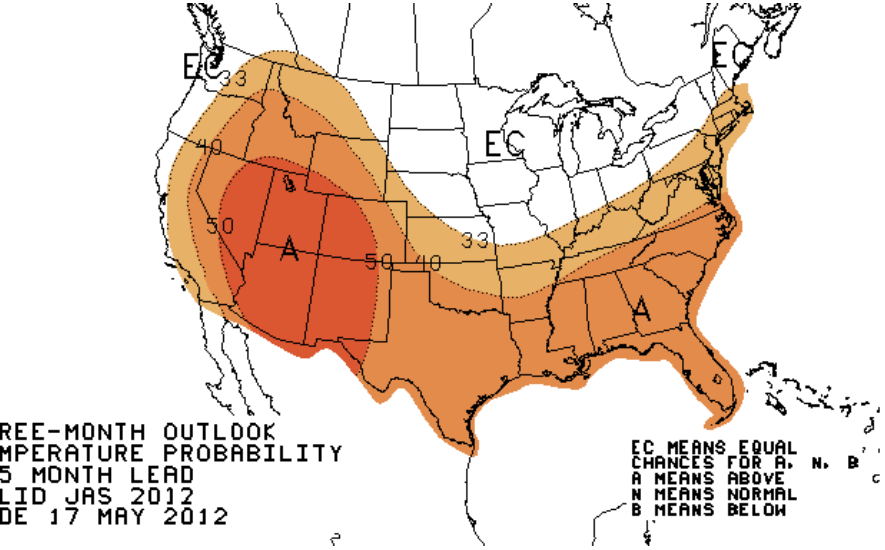


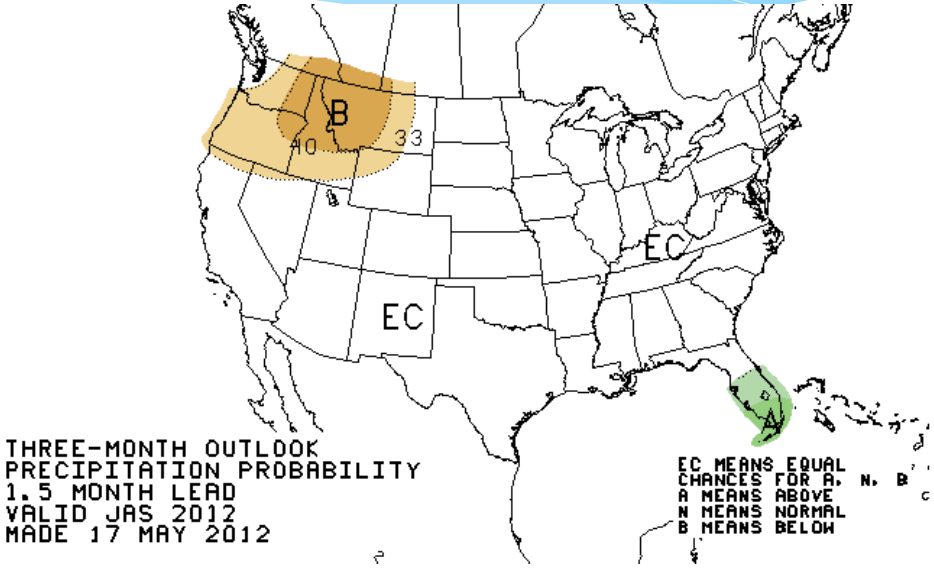
Temperature **Precipitation**

http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=1

3 Month Temperature and Precipitation Probabilities

(July – August - September)

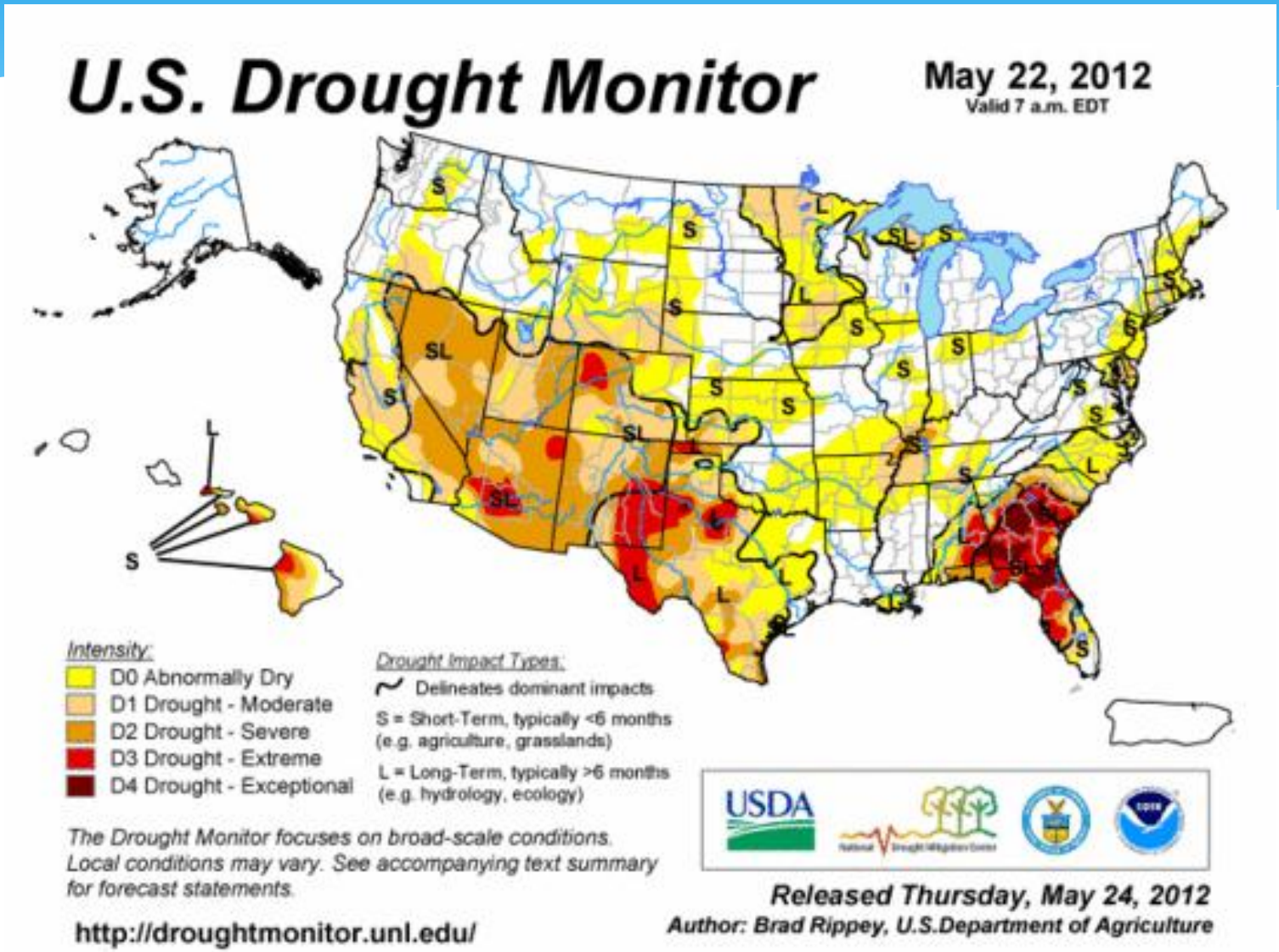




Temperature **Precipitation**

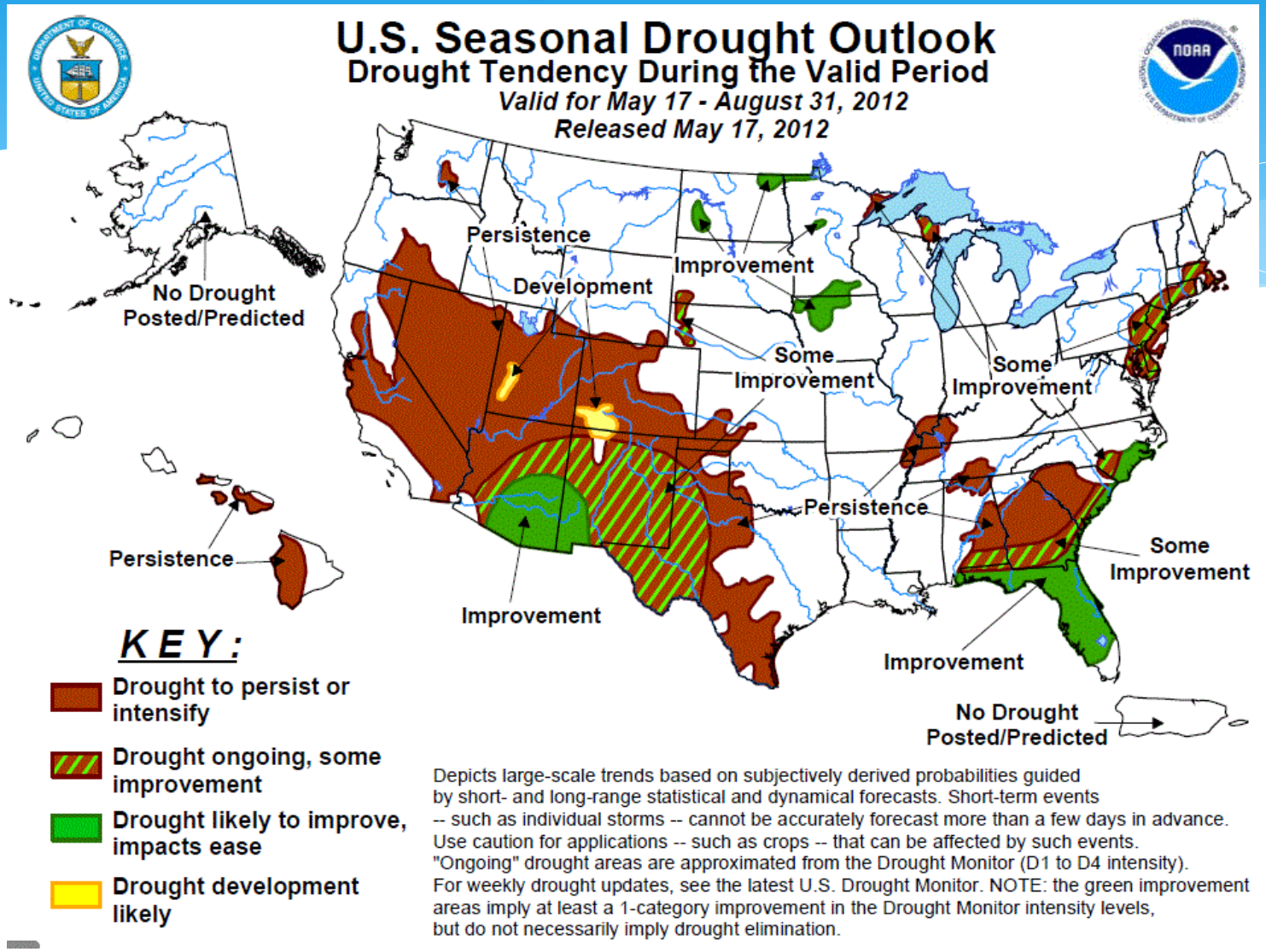
http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=2

Drought Update



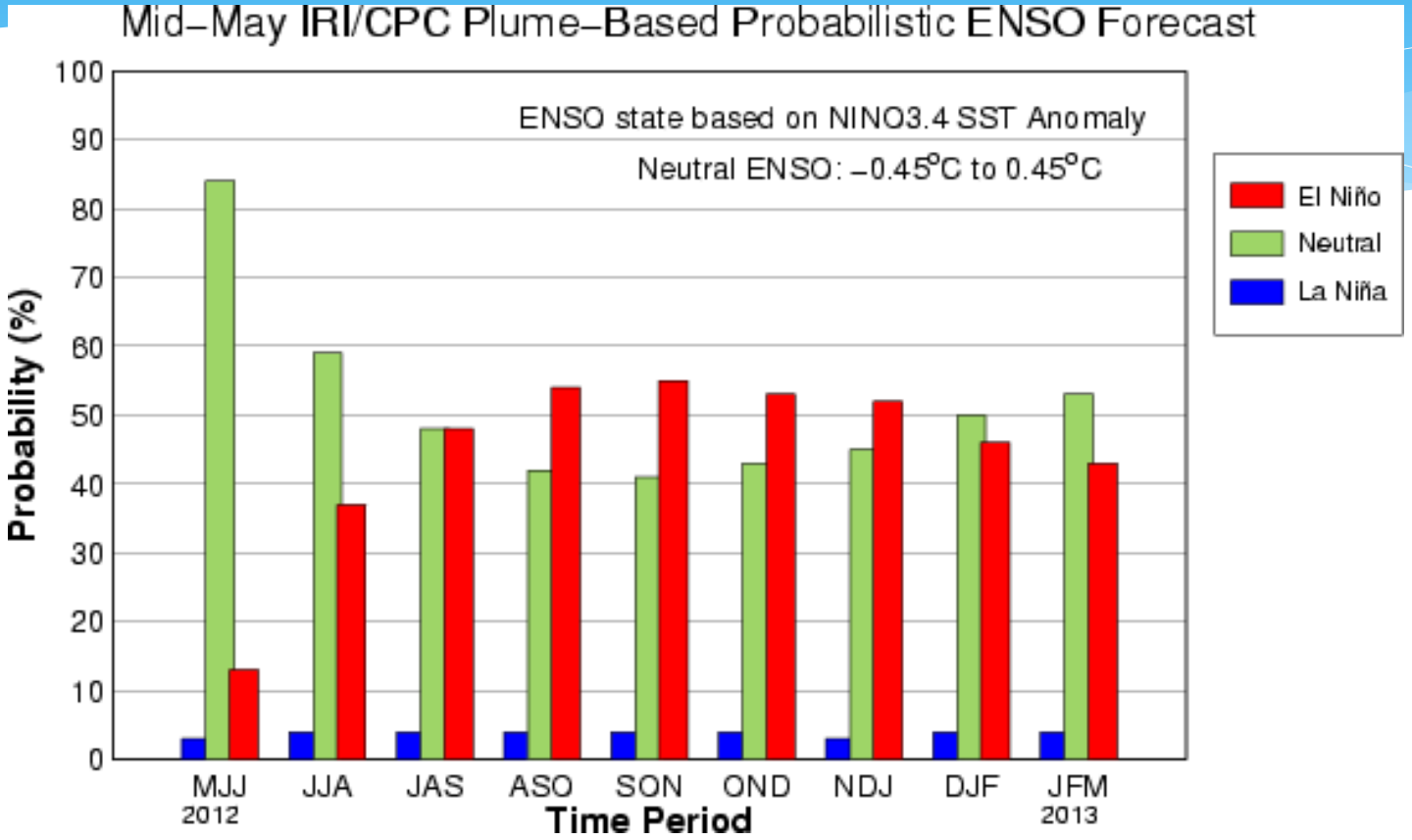
http://www.droughtmonitor.unl.edu/

Drought Update



http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.gif/

ENSO Outlook



http://iri.columbia.edu/climate/ENSO/currentinfo/QuickLook.html

The International Research Institute for Climate and Society

Summary

* **Current Conditions**
  * ENSO – neutral (no El Nino/La Nina)
  * Mountain snow pack mostly below average
  * Warm conditions continue / higher evaporation rates
  * Wetter, leading to some flooding in feeding rivers
* **Predictions**
  * Likely warmer south of most of basin
  * Precipitation more likely to be dry – far upper basin
  * ENSO Neutral through the summer – El Nino return fall?

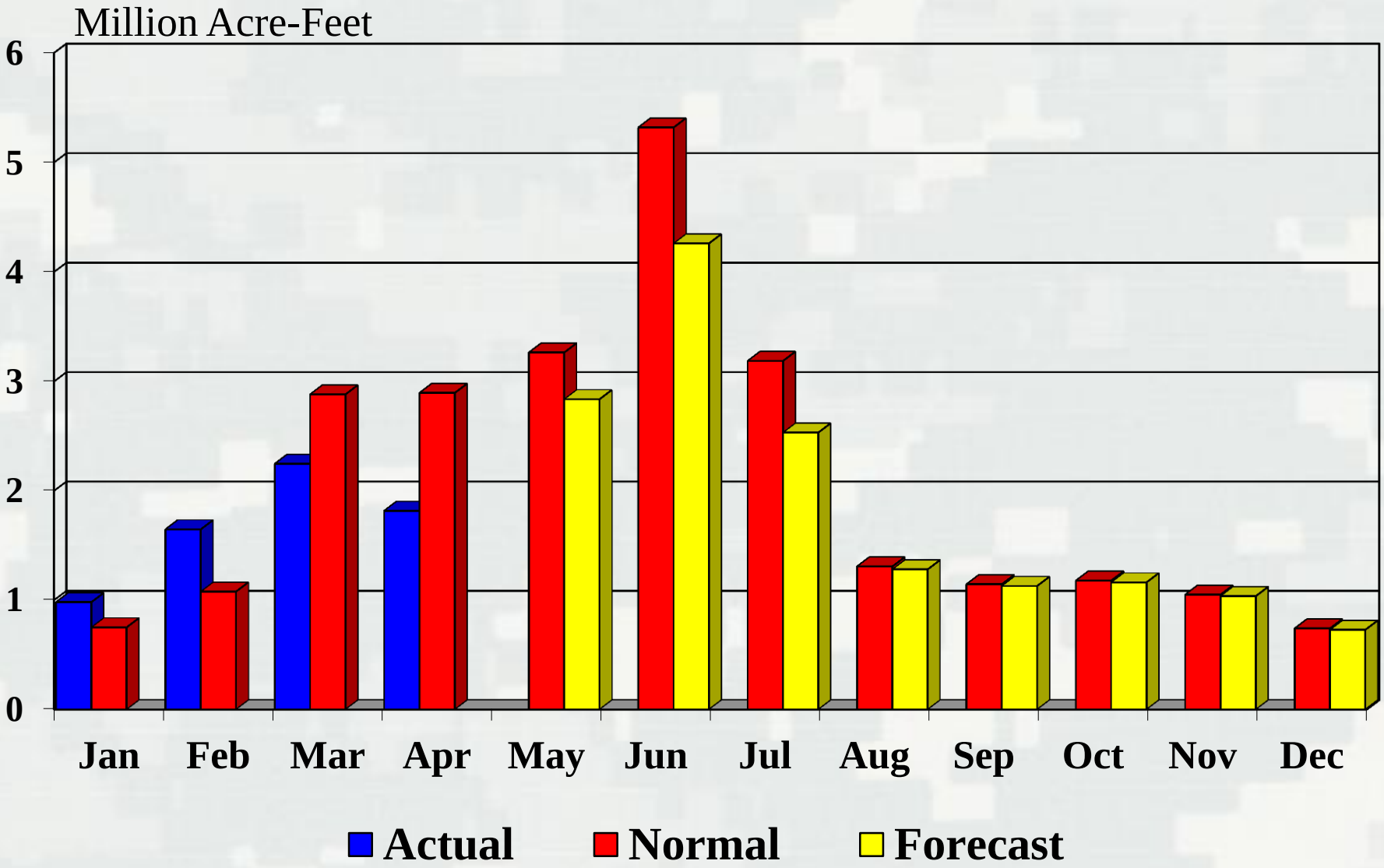
Thank You and Questions?

* Questions:
  * **Climate:**
  * Dennis Todey: dennis.todey@sdstate.edu, 605-688-5678
  * Doug Kluck: doug.kluck@noaa.gov, 816-994-3008

USACE

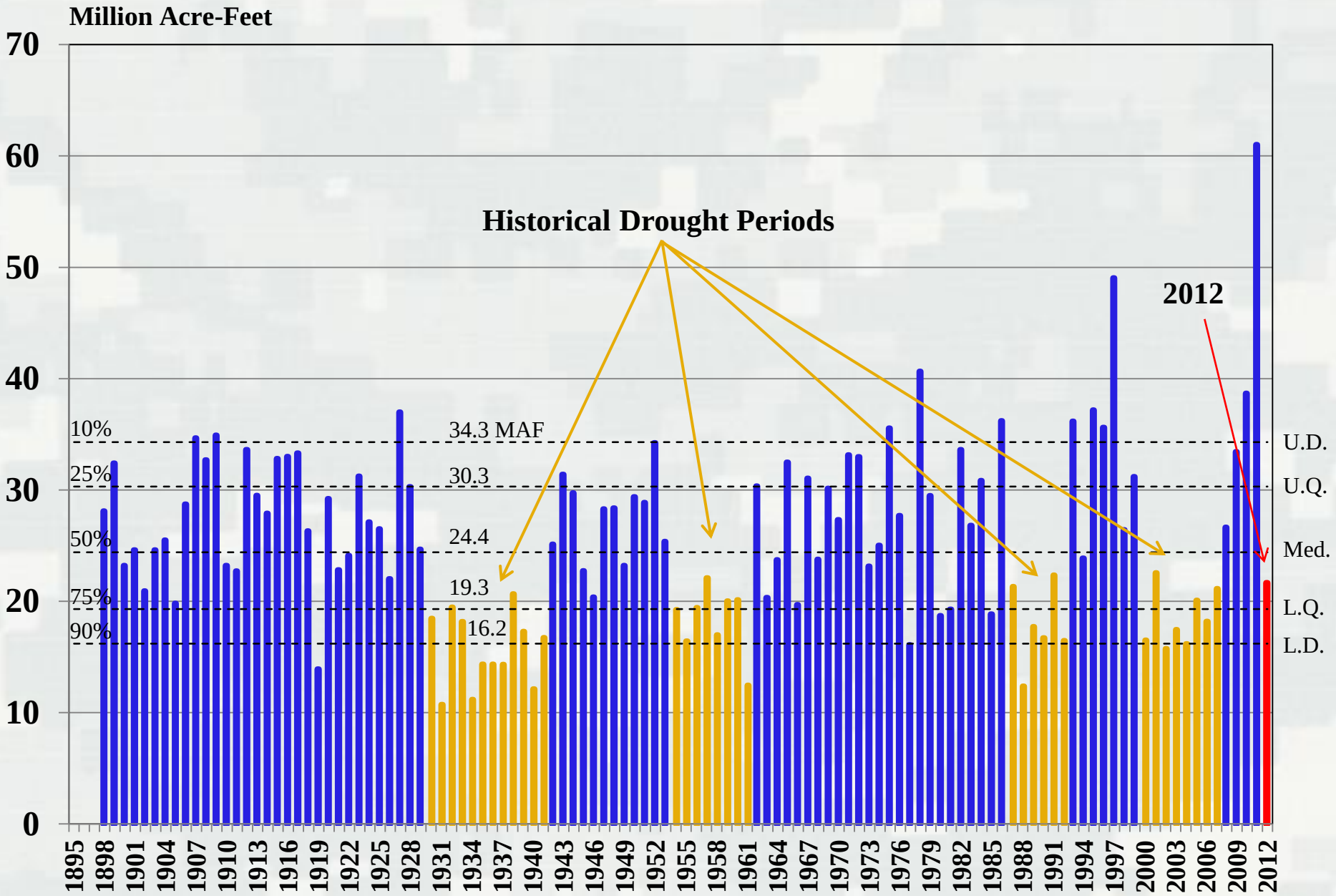
Jody Farhat, Chief
Missouri River Water Management
USACE Northwestern Division

Missouri River Runoff above Sioux City
2012 Actual and Forecasted

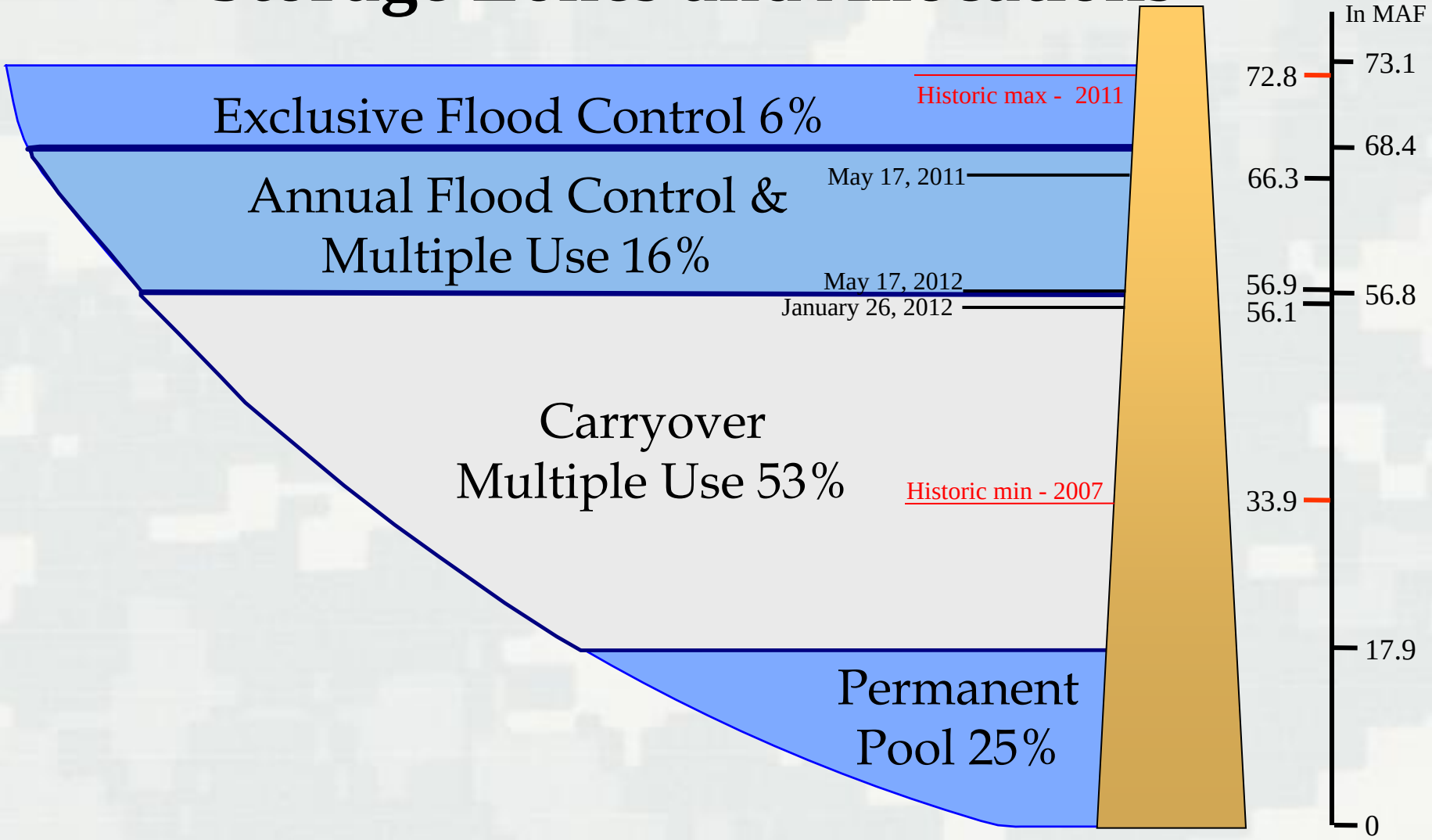


May 1 Runoff Forecast = 21.6 MAF, 87% of normal

Annual Runoff above Sioux City, IA

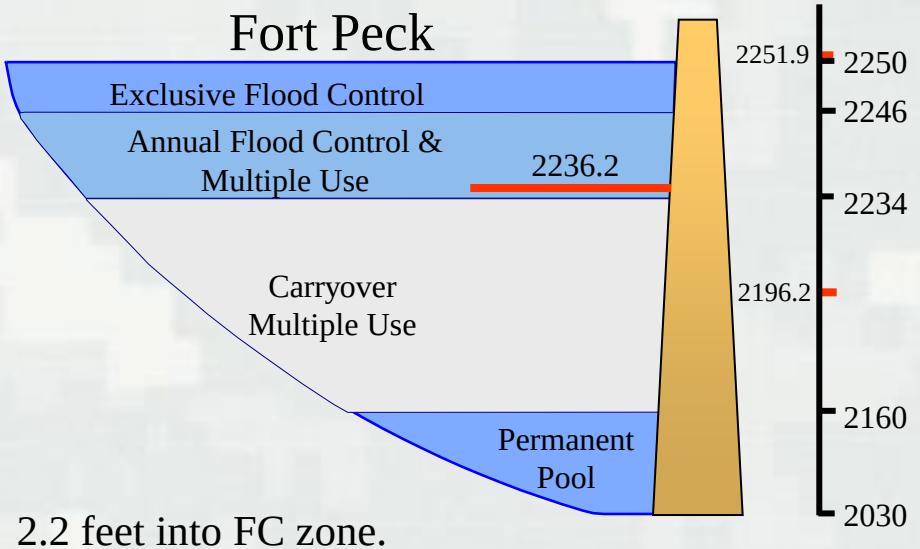


Missouri River Mainstem System Storage Zones and Allocations



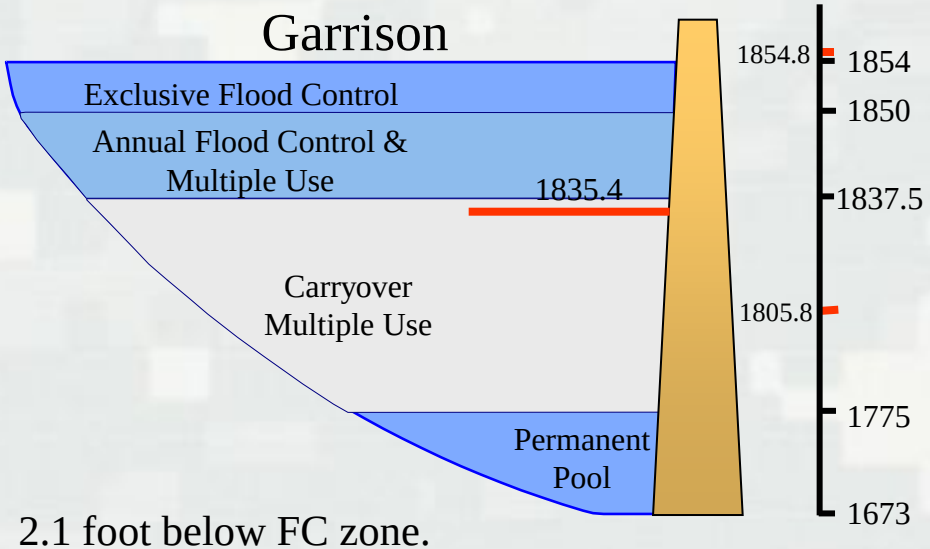
Current Reservoir Levels – May 17, 2012

Fort Peck



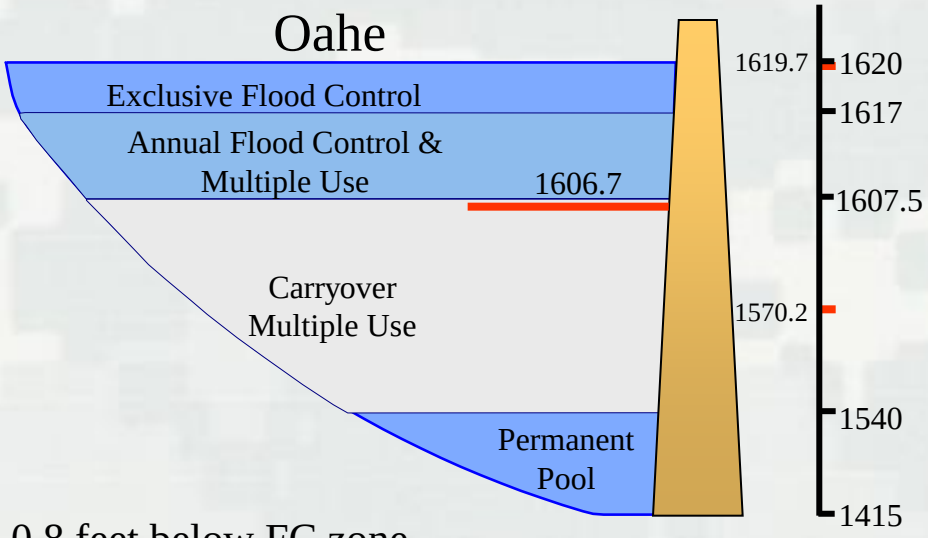
2.2 feet into FC zone.

Garrison



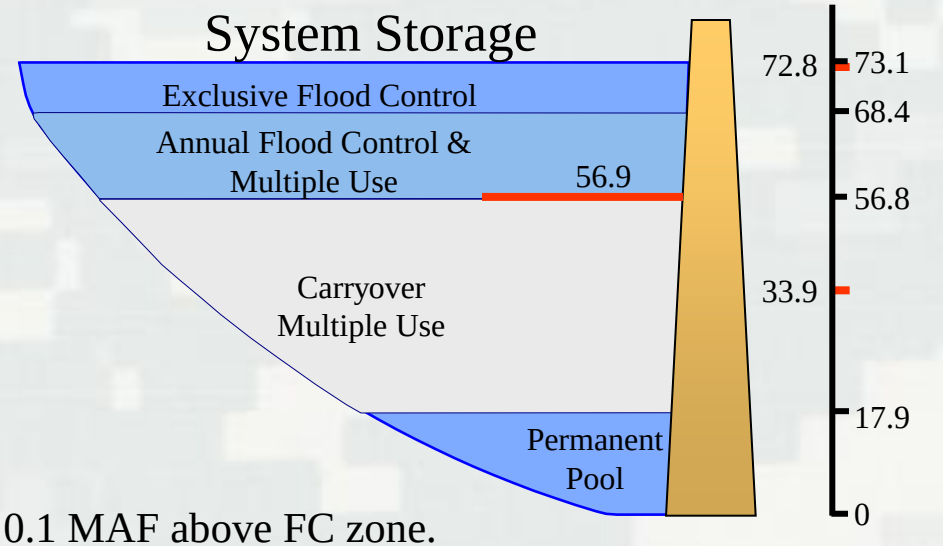
2.1 foot below FC zone.

Oahe



0.8 feet below FC zone.

System Storage



0.1 MAF above FC zone.

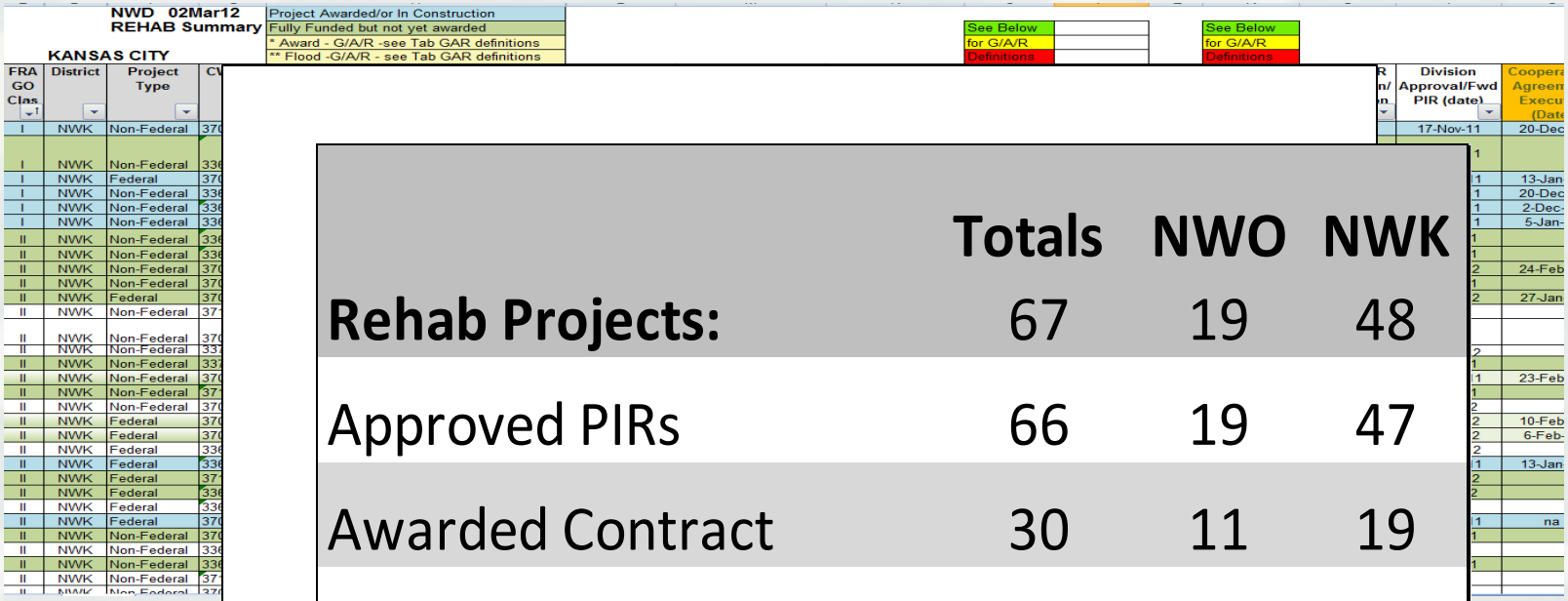
Planned Operation for 2012

- Full flood control capacity of the reservoir system available
- 2012 runoff forecast = 21.6 MAF ~ 87% of normal
- Full navigation season / full service flows
  - Flood evacuation flows during nesting season not anticipated at this time
  - Reduced flow support after 1 July if runoff is low
  - 10-day extension to season length if runoff is high
- Spring pulses from Gavins Point dam cancelled
- Favor Fort Peck and Oahe during the forage fish spawn
- Near normal reservoir levels and releases
- Good support to all authorized purposes

USACE

John Leighow – Levee Status Update

Missouri River Basin Levee Rehab Status



	Totals	NWO	NWK
Rehab Projects:	67	19	48
Approved PIRs	66	19	47
Awarded Contract	30	11	19
Physically Complete			2

Construction Schedule

Levee Rehabs					
District	Current Awards		3rd Qtr Apr – Jun	4th Qtr Jul – Sep	1st Qtr FY 13 Oct – Dec
			Projected Schedule		
NWK	19	Award	17	12	0
		Complete	8	32**	8
NWO	11	Award	3	4	1
		Complete	0	0	19
** Fall Seeding and mulching window may push completion out to 1st Qtr FY12					

Flood Vulnerability

- Primary Flood Season per AOR
  - NWO- Gavins Point to Rulo - Starts 1 April
  - NWK – Rulo south to STL – Starts 1 May

- Risk Metric – Green/Amber/Red

Green - Levee substantially whole. No breaches or significant scour concerns, riverside or landside. No significant seepage concerns. Levee is capable of meeting its designed purposes. Could still need sod/seeding.

Amber - Levee substantially whole with critical section returned to design height; levee is flood fightable. No breaches; major scouring addressed; (This will be a subjective call made by the district, so all aspects of what the district deems as being critical repair may not be listed here.)

Red - Levee has breaches or major scouring such that the levee will not provide flood protection; it is not flood fightable.

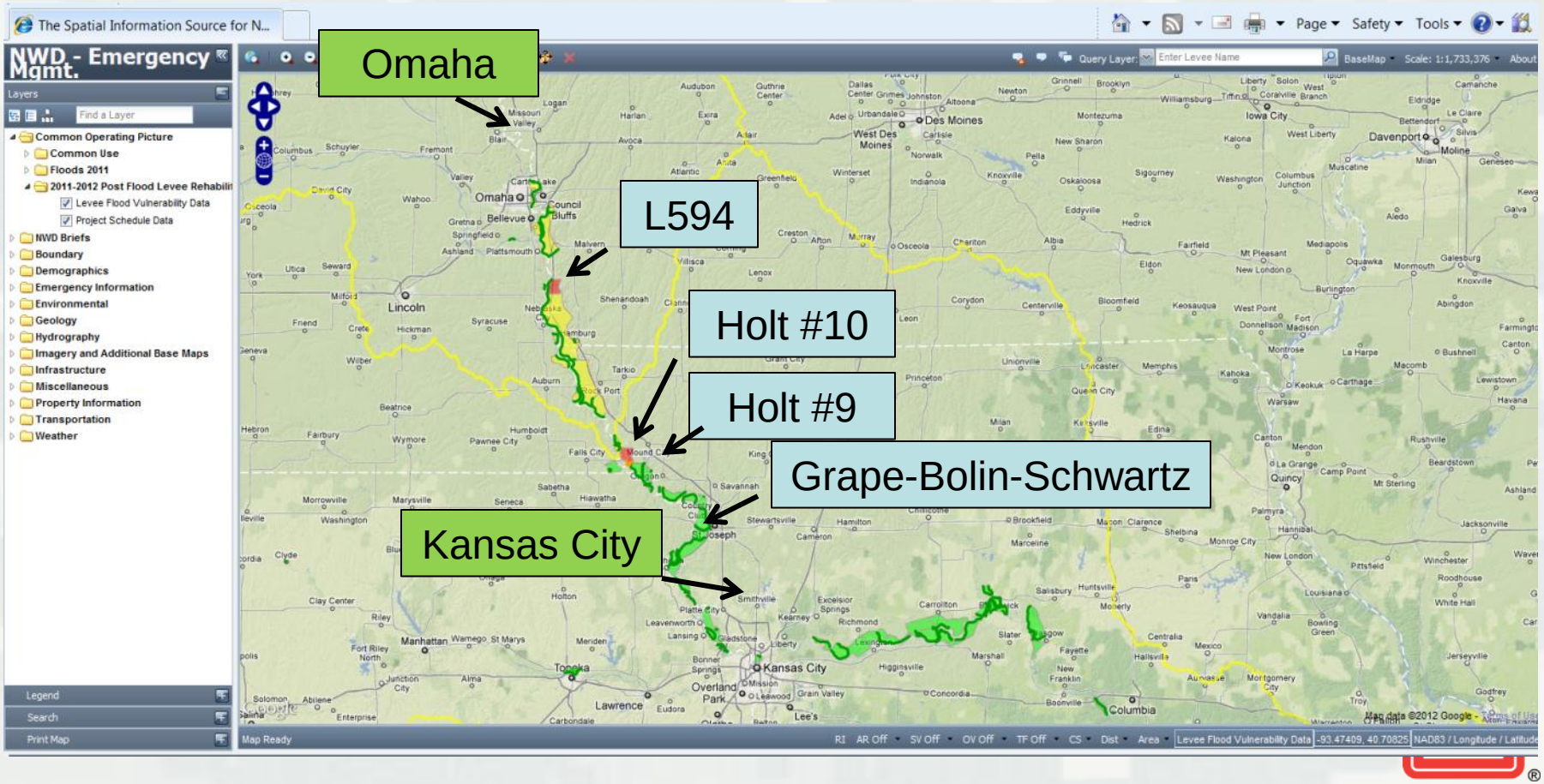
NWO – 1 RED risk (L594)
18 AMBER (Seepage Issues)

NWK – 2 RED risk (Holt #10; Grape-Bollin-Schwartz);
1 Amber (Holt #9) – Contract Awarded; flood fightable
45 Green

Flood Vulnerability

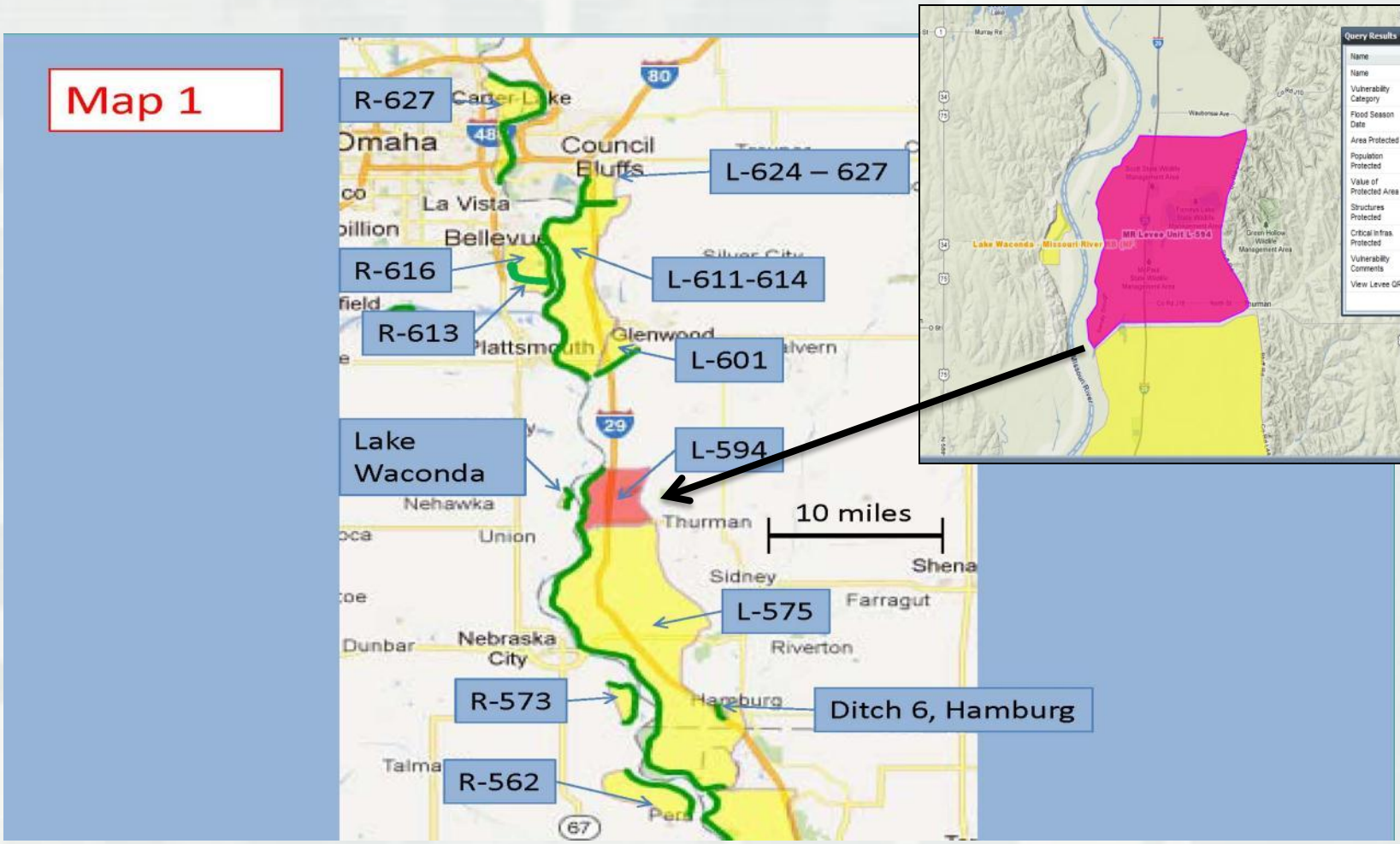
NWO – 1 RED risk (L594)
18 AMBER (Seepage Issues).

NWK – 2 RED risk (Holt #10; Grape-Bollin-Schwartz);
1 AMBER risk (Holt #9)



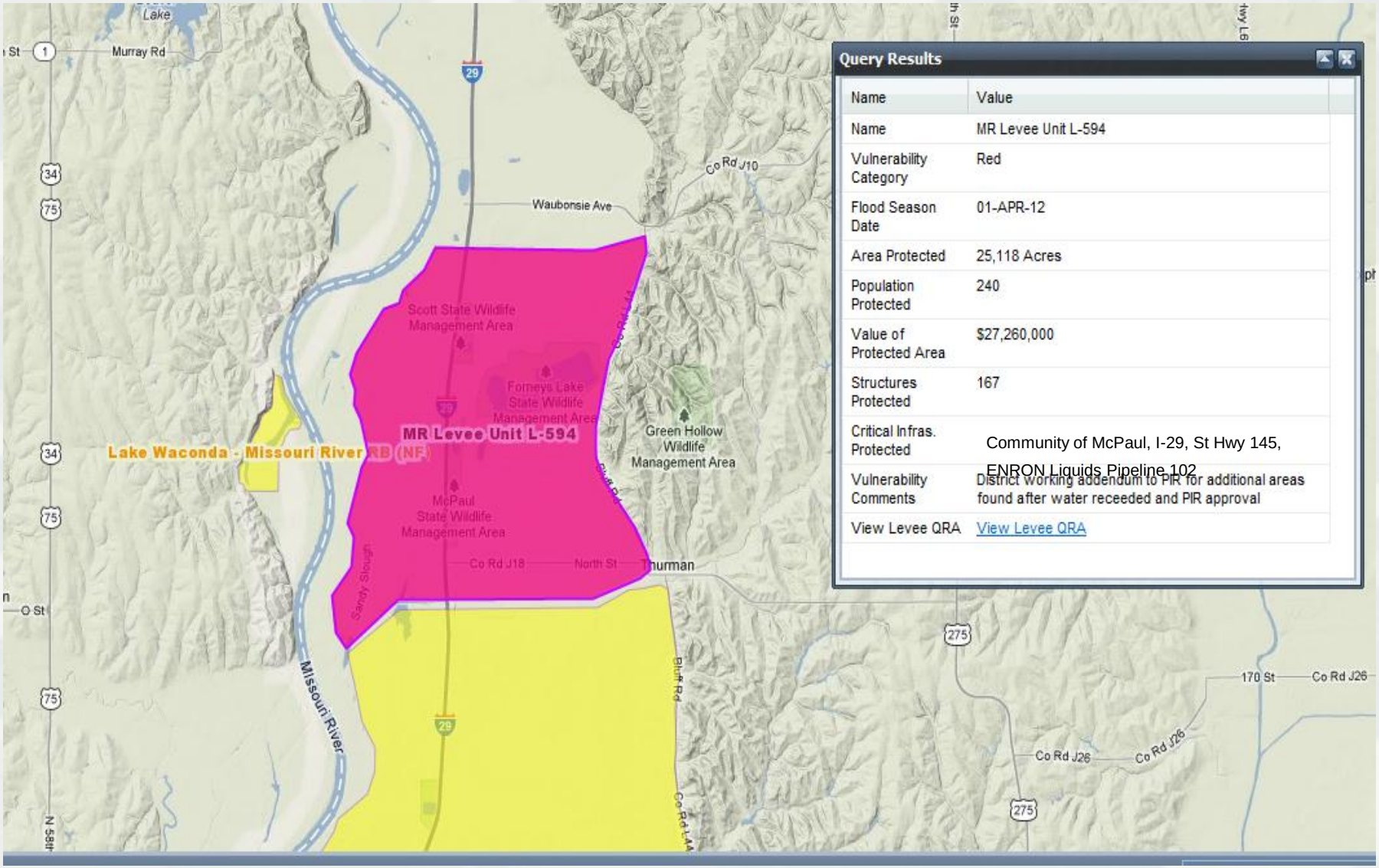
Levee Vulnerabilities

NWO MR Levee Unit L-594



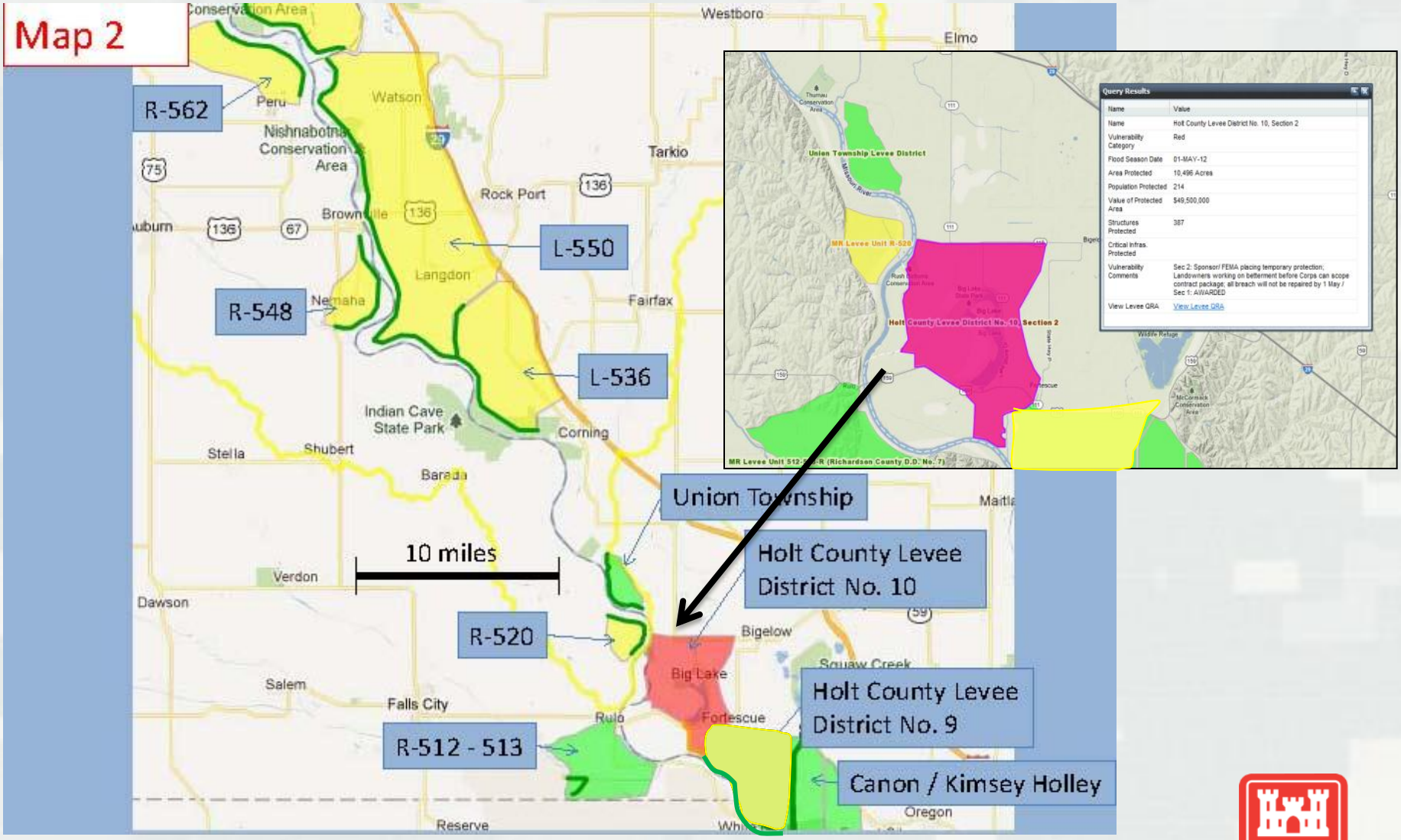
BUILDING STRONG®

NWO MR Levee Unit L-594

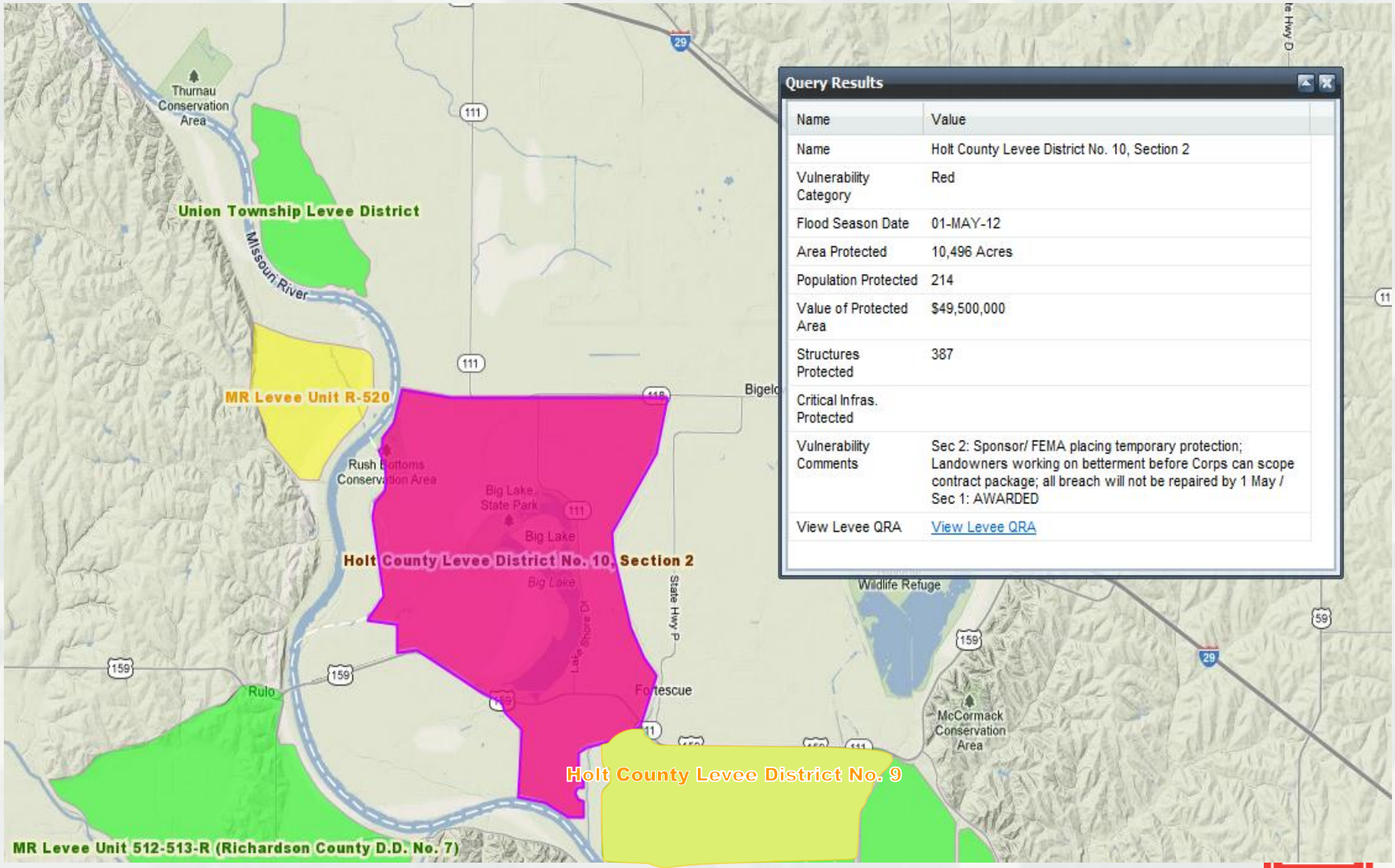


Levee Vulnerabilities

NWK Holt #10

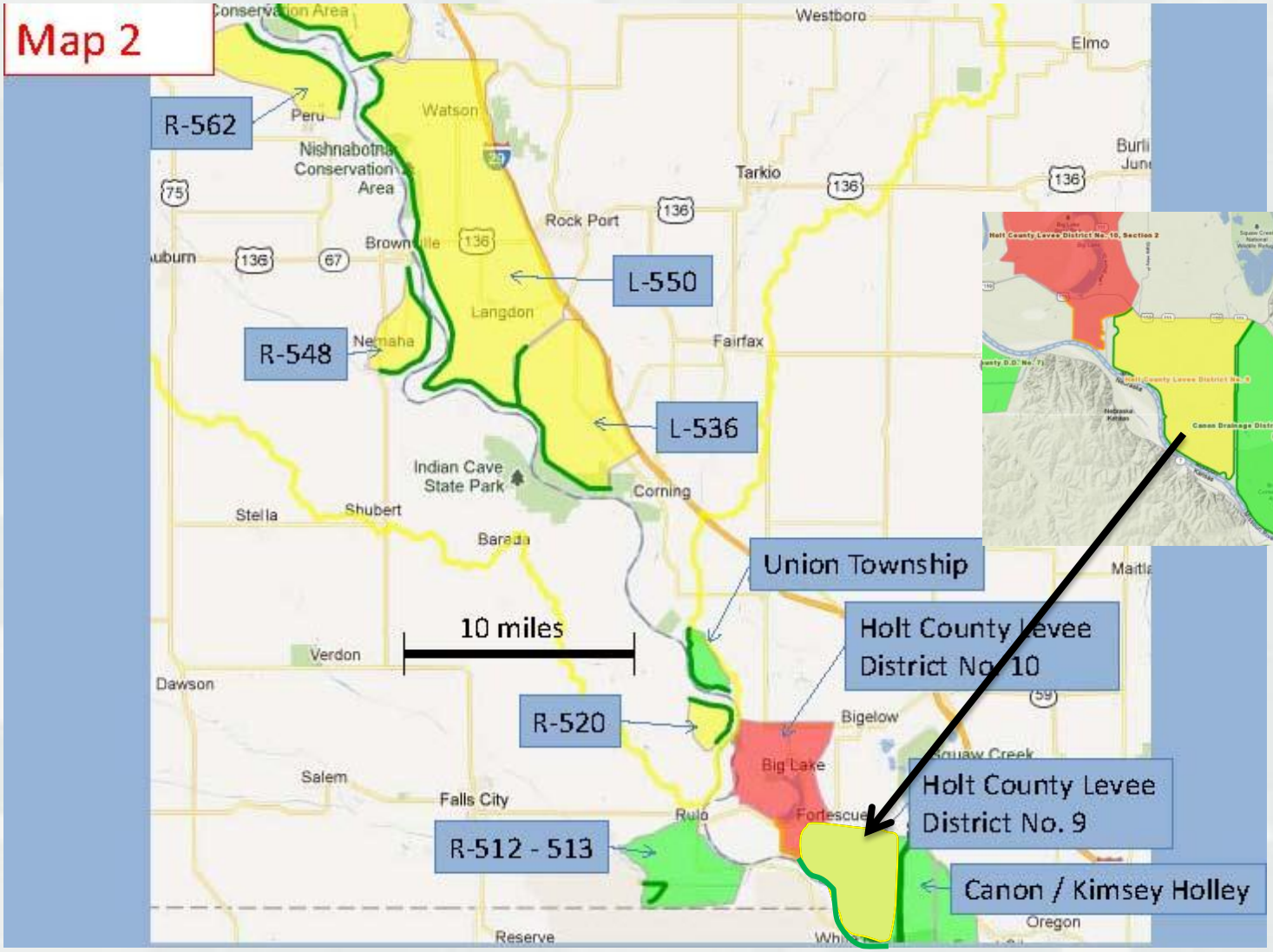


NWK Holt #10

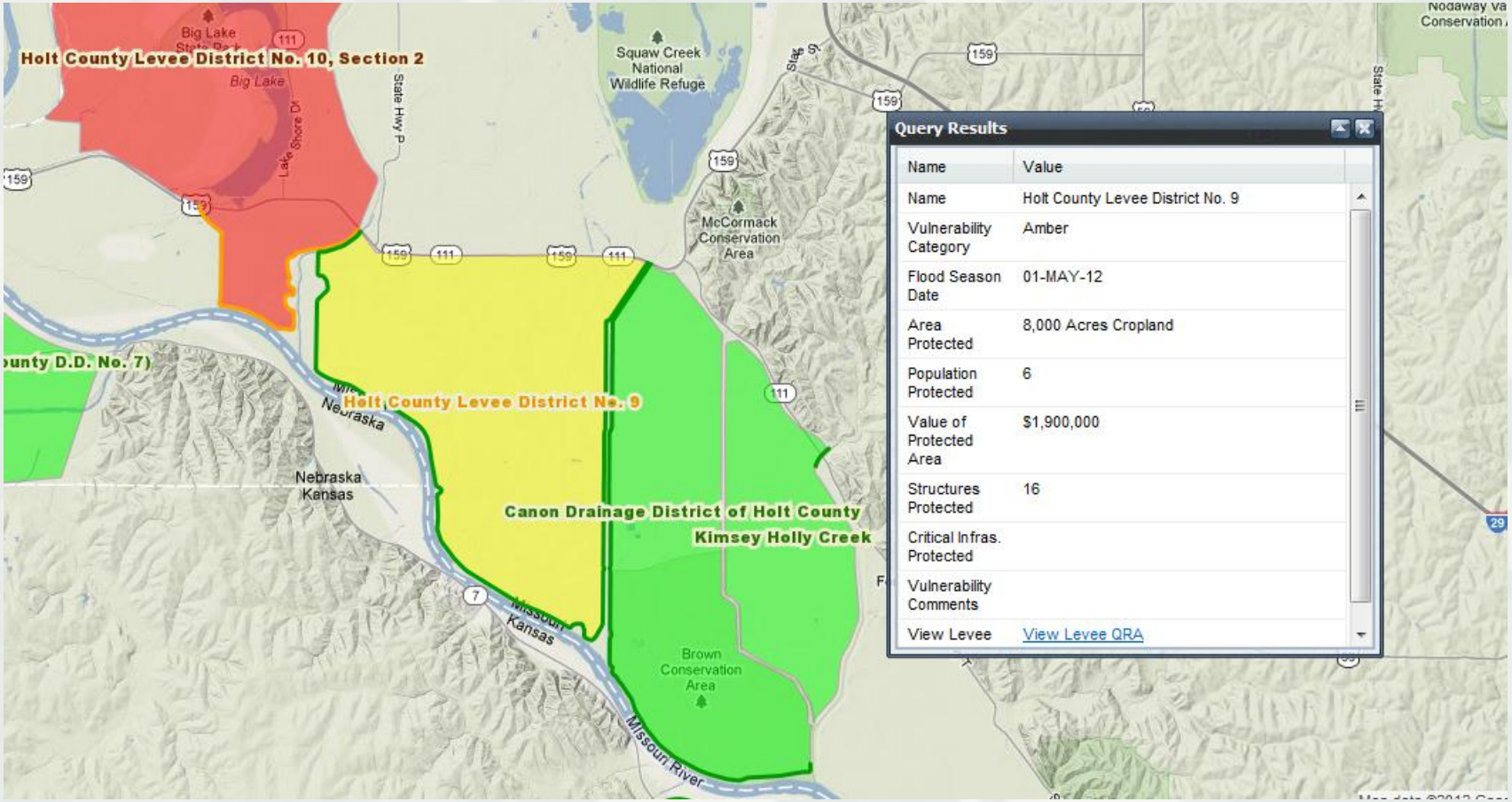

Query Results
Name
Value
Name
Holt County Levee District No. 10, Section 2
Vulnerability Category
Red
Flood Season Date
01-MAY-12
Area Protected
10,496 Acres
Population Protected
214
Value of Protected Area
$49,500,000
Structures Protected
387
Critical Infras. Protected
Vulnerability Comments
Sec 2: Sponsor/ FEMA placing temporary protection; Landowners working on betterment before Corps can scope contract package; all breach will not be repaired by 1 May / Sec 1: AWARDED
View Levee QRA
View Levee QRA
Thurnau Conservation Area
Union Township Levee District
Missouri River
MR Levee Unit R-520
Rush Bottoms Conservation Area
Big Lake State Park
Big Lake
Holt County Levee District No. 10, Section 2
Holt County Levee District No. 9
MR Levee Unit 512-513-R (Richardson County D.D. No. 7)
Rulo
Fortescue
State Hwy P
Wildlife Refuge
McCormack Conservation Area
Bigelo
29
111
159
59

Levee Vulnerabilities

NWK Holt #9

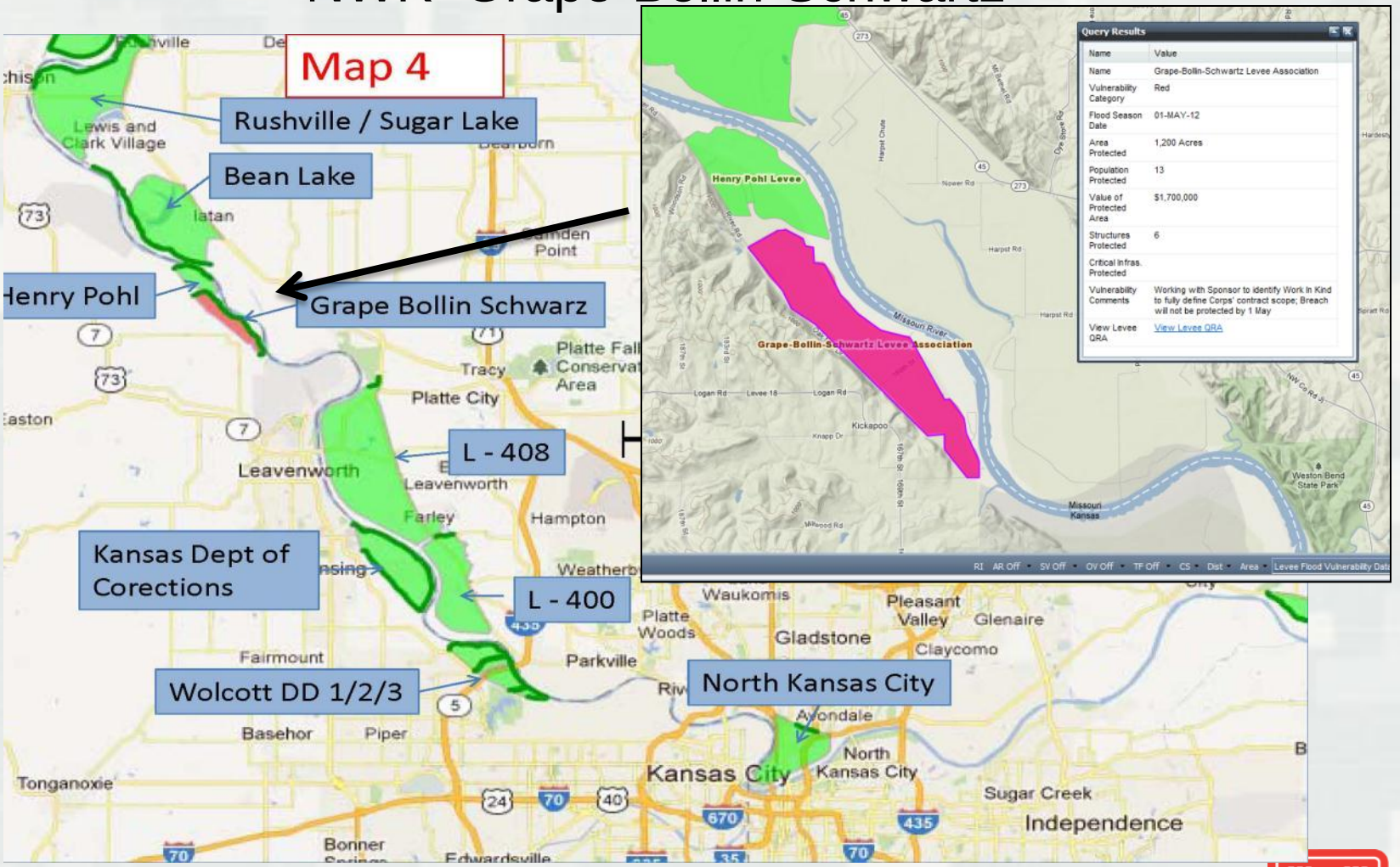


NWK Holt # 9

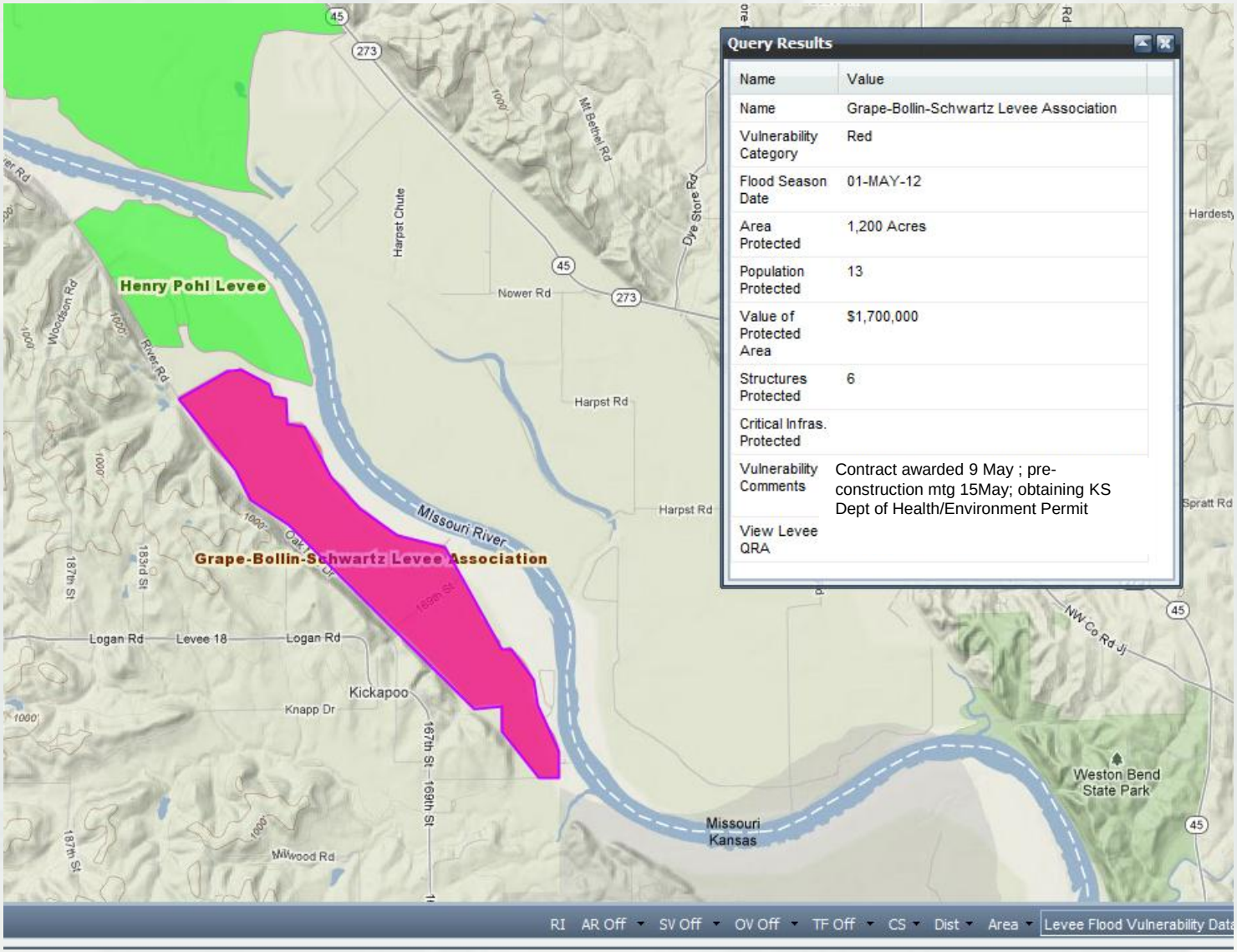

Holt County Levee District No. 10, Section 2
Big Lake
Squaw Creek National Wildlife Refuge
McCormack Conservation Area
Holt County Levee District No. 9
Canon Drainage District of Holt County
Kimsey Holly Creek
Nebraska
Kansas
Brown Conservation Area
Missouri River
Query Results
Name
Value
Name
Holt County Levee District No. 9
Vulnerability Category
Amber
Flood Season Date
01-MAY-12
Area Protected
8,000 Acres Cropland
Population Protected
6
Value of Protected Area
$1,900,000
Structures Protected
16
Critical Infras. Protected
Vulnerability Comments
View Levee
View Levee QRA

Levee Vulnerabilities

NWK Grape-Bollin-Schwartz



NWK Grape-Bollin-Schwartz



Missouri River Post-Flood Efforts

- Missouri River Levees – Key Vulnerabilities
  - ► Increased flood damage risks until repairs are completed
  - ► Increased flood damage risks until existing systems are restored to original design
  - ► Residual risk remains even with a repaired and restored levee system

Missouri River Post-Flood Efforts

- **Measures to improve flood risk reduction capabilities beyond current system design**
  - Work with sponsors to build resiliency into low profile levees that overtop at events greater than 50-year frequency (e.g. designed failure sections as opposed to uncontrolled overtopping)
  - Work with sponsors to remove restrictions/setback levees where possible to open up the floodway.
  - Work to modify PL 84-99 authorities to provide additional flexibility in repairing levees.
  - Evaluate, design and build features to provide increase flood storage and conveyance systems addressing the multipurpose use of water within the Missouri River Basin.