

MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION

Rob Rash PE, PLS
Executive Vice President



World's Third Largest Watershed Drainage Basin for 41% of the United States

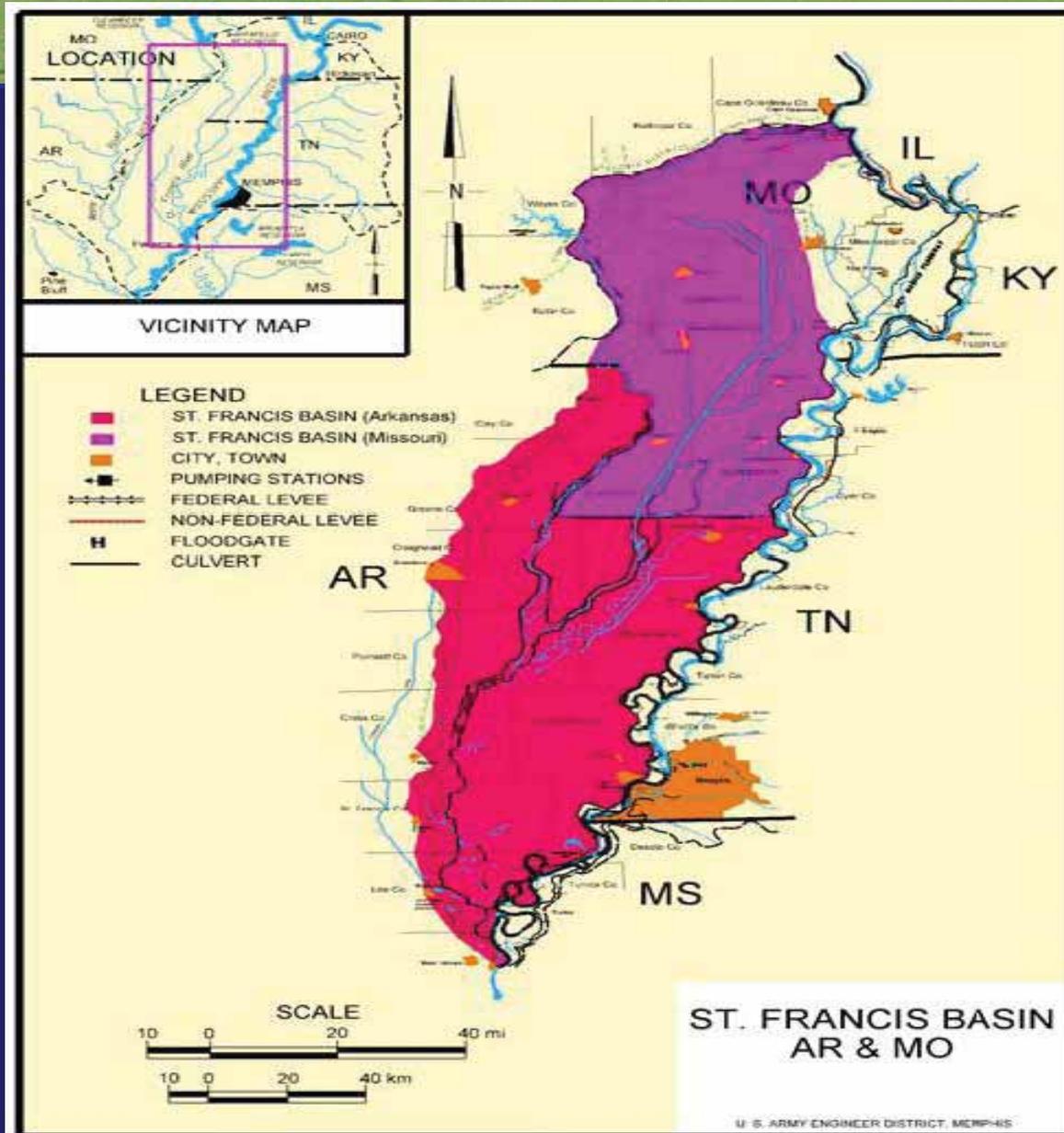




St. Francis Levee District

- Created in 1893 by State Legislature
- Protects Seven Counties
 - Mississippi (5), Crittenden (4), Craighead (2), Cross (2), Poinsett (2), St. Francis (2) and Lee (2).
- Has 19 Board Members
- \$2,900,000.00 Annual Budget

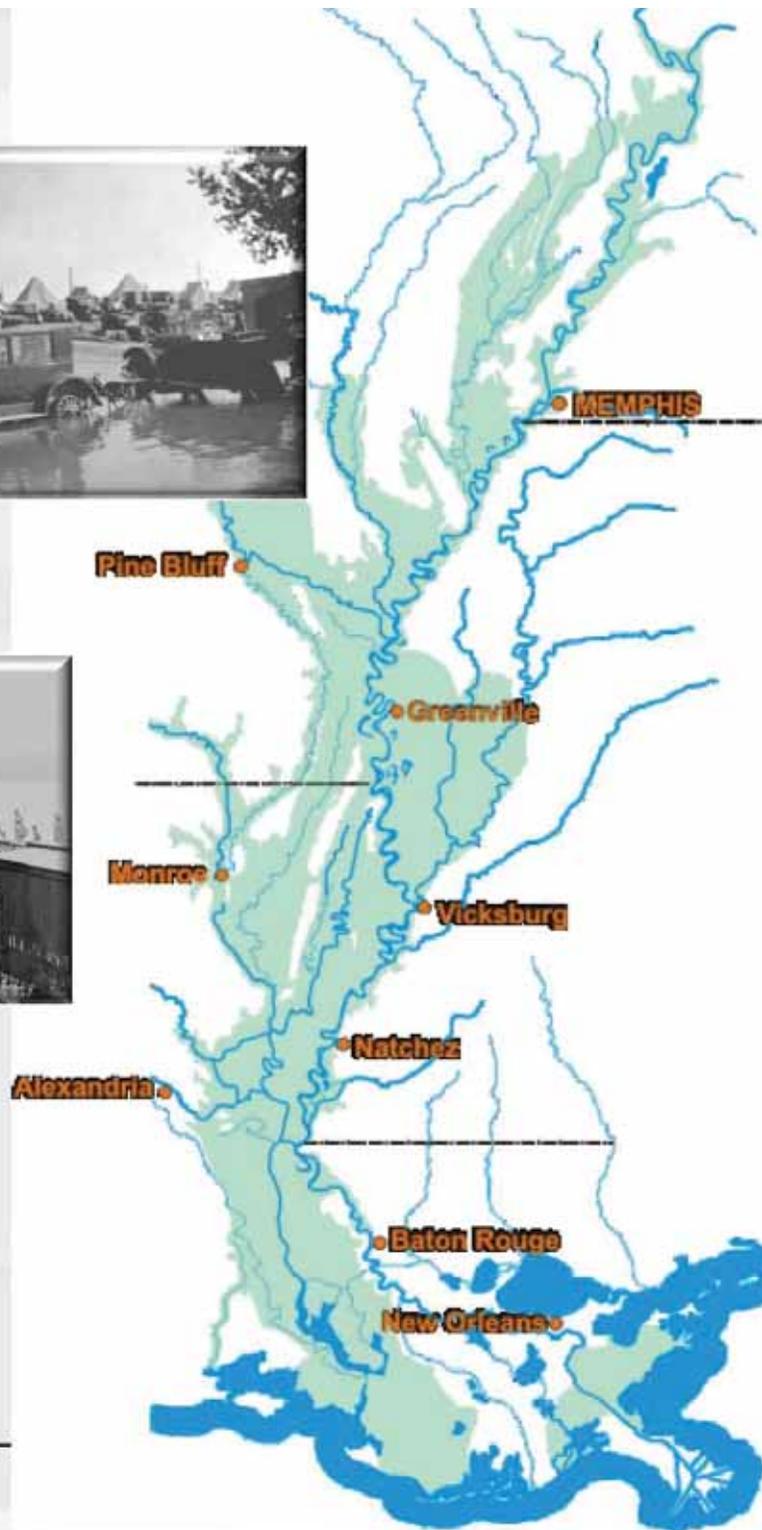
St Francis Basin General Information



Mississippi River Levee 1927 Flood



1927 Flood



Legend

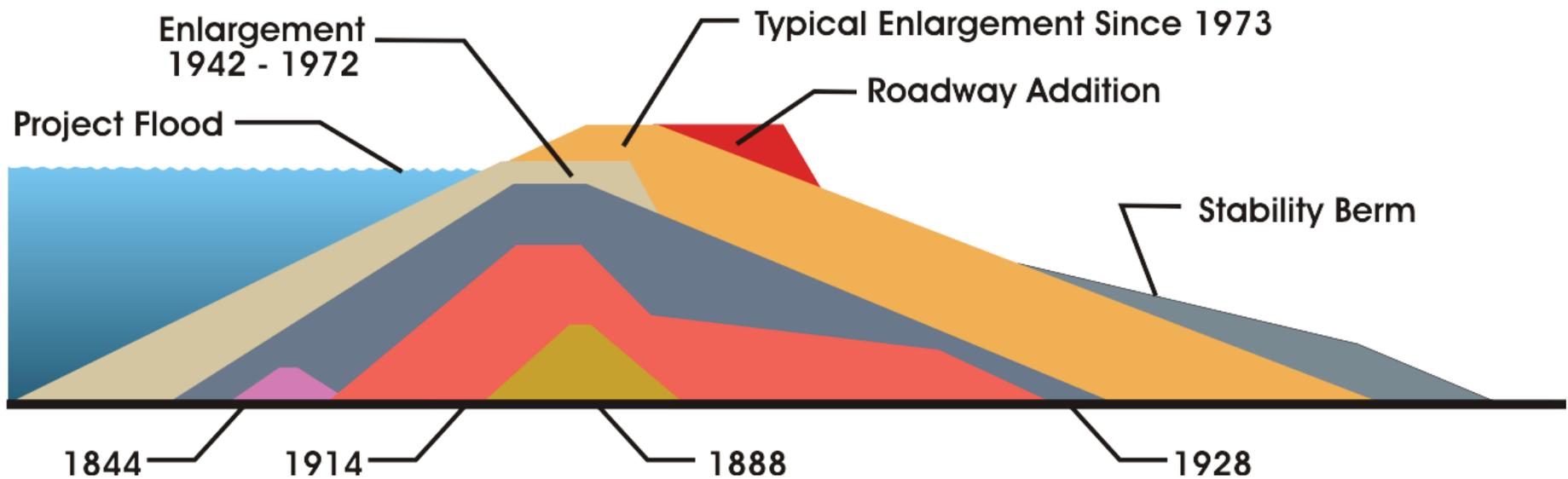
 1927 Flooded Area

- 500 deaths
- 600,000 homeless
- 16 million acres (26,000 sq. miles)
- 80 miles wide at Vicksburg



BUILDING STRONG®

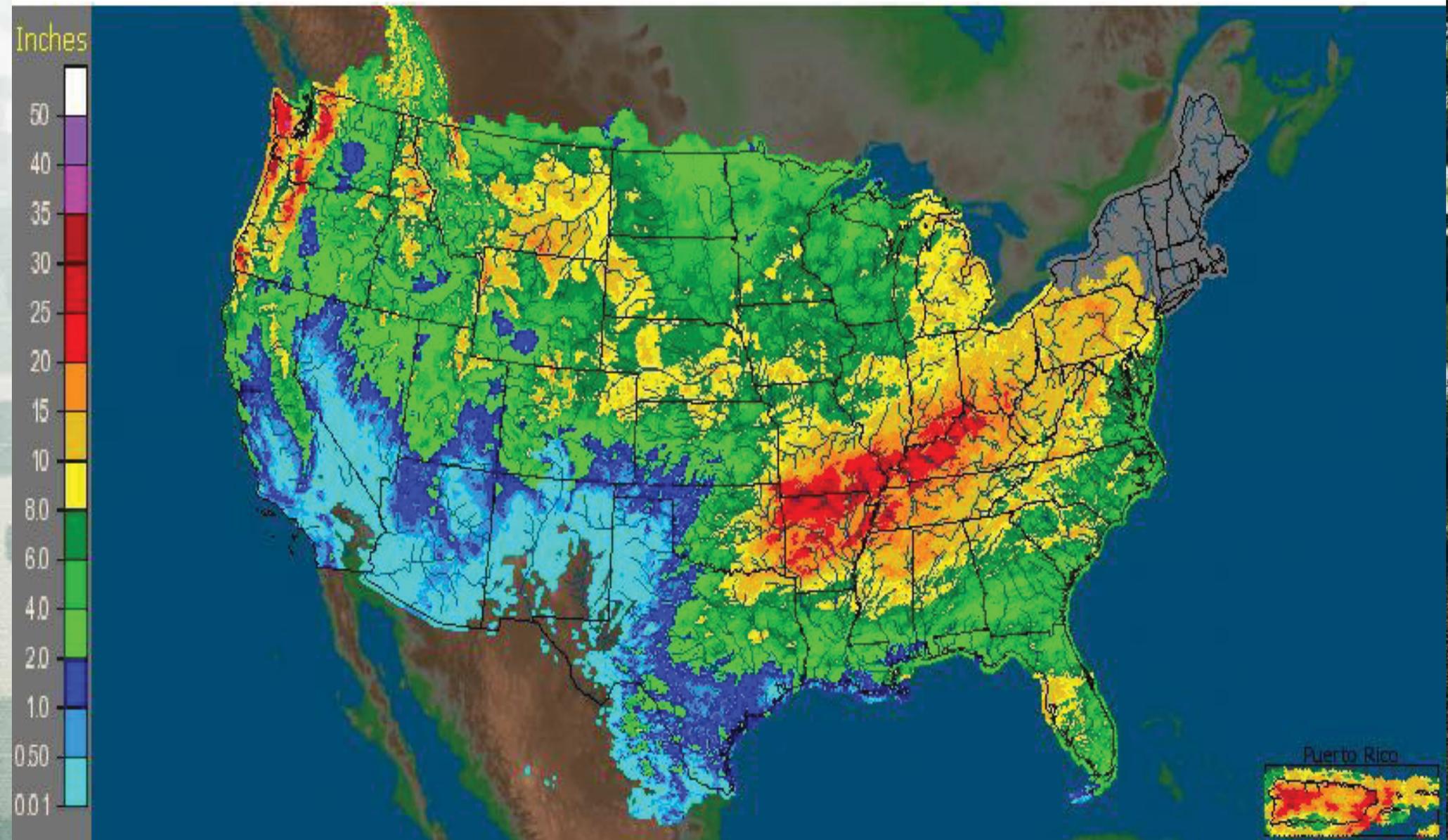
Evolution of Mississippi River Levees



Precipitation

CONUS + Puerto Rico: Current 60-Day Observed Precipitation

Valid at 5/25/2011 1200 UTC- Created 5/25/11 17:39 UTC

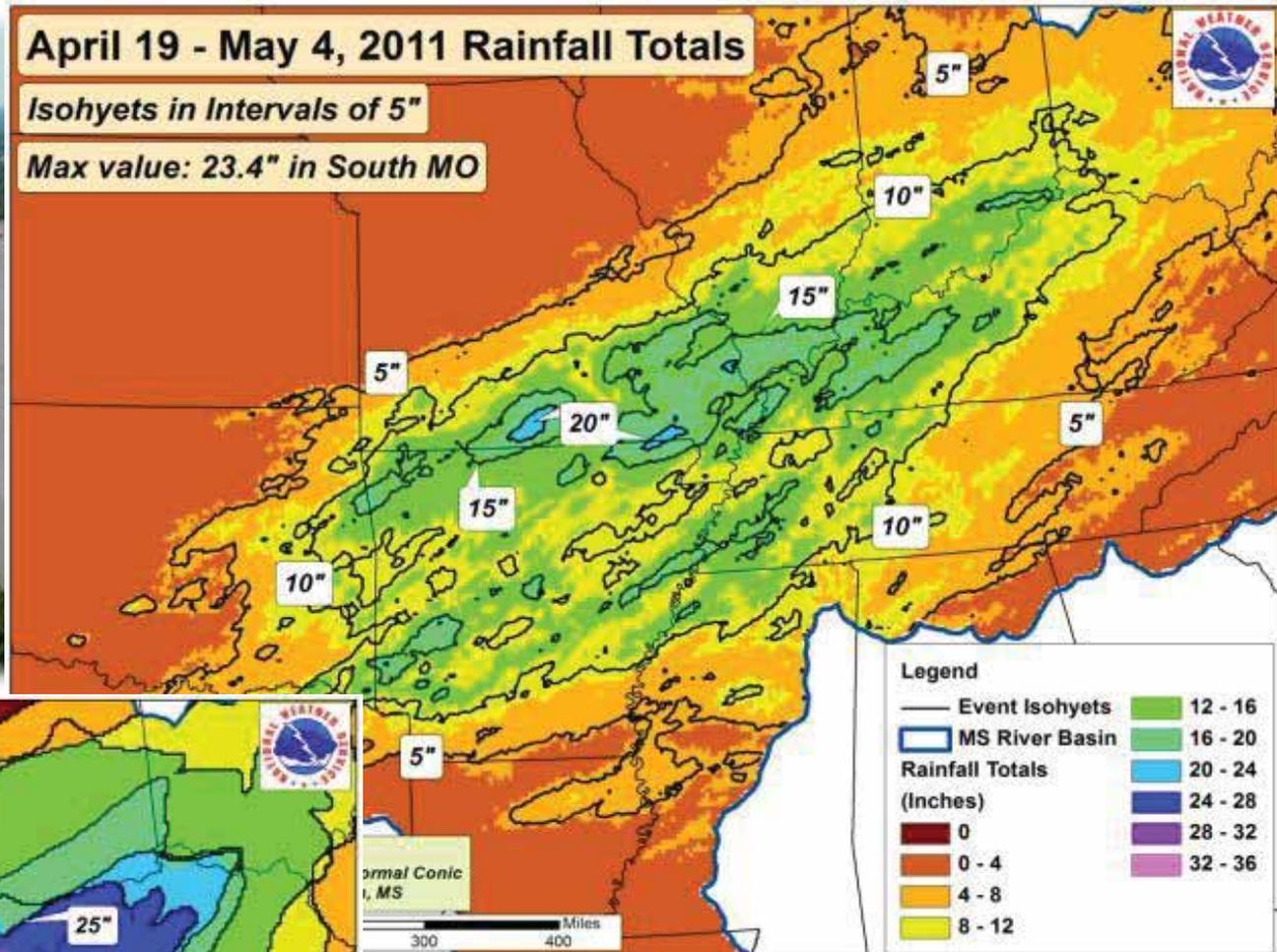




April 19 - May 4, 2011 Rainfall Totals

Isohyets in Intervals of 5"

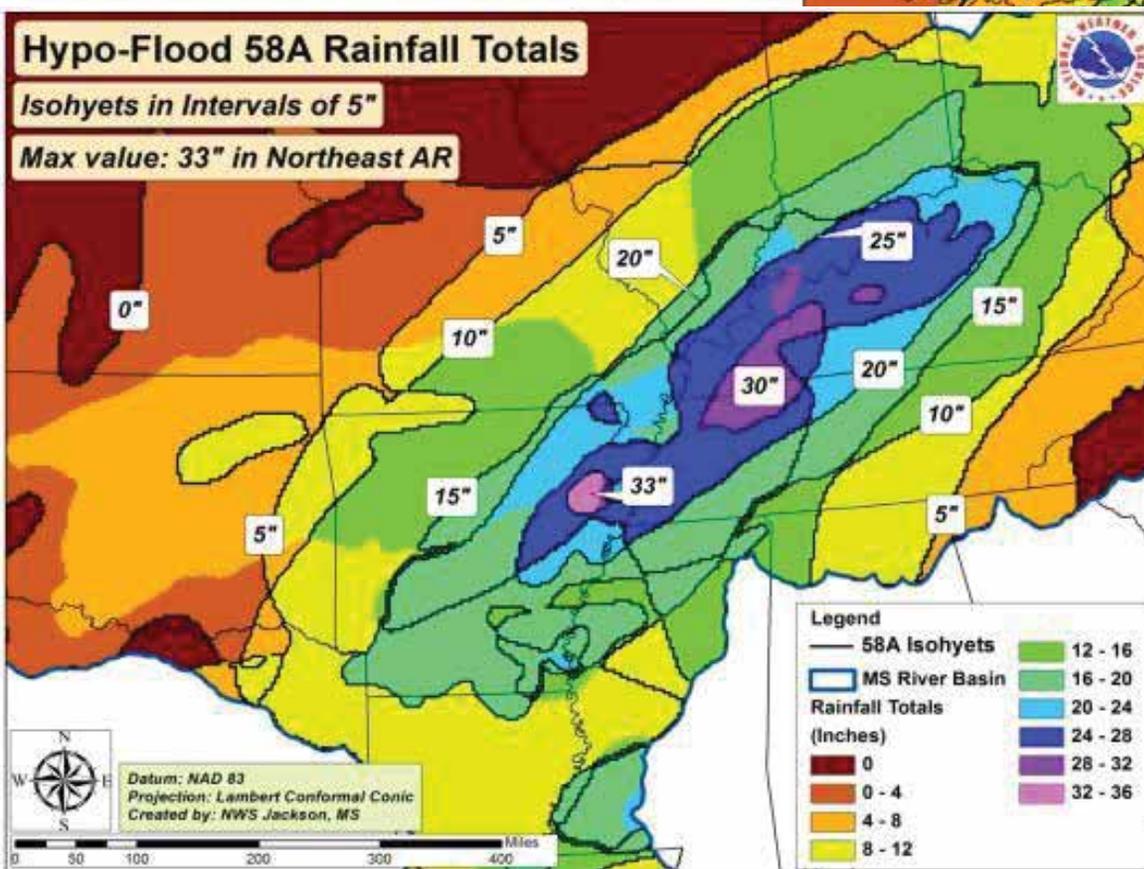
Max value: 23.4" in South MO



Hypo-Flood 58A Rainfall Totals

Isohyets in Intervals of 5"

Max value: 33" in Northeast AR



Station	2011	1927 ^{5/} Actual	1927 Confined	1937 ^{5/}	1973	PDF ^{3/}
Cairo, IL ^{1/}	1,936,000 ^{6/ 2/}	1,626,000	1,765,000	2,010,000 ^{4/}	1,536,000	2,360,000
Memphis, TN	2,213,000 ^{6/}	N/A	1,744,000	2,020,000	1,633,000	2,410,000
Helena, AR	2,130,000 ^{6/}	1,756,000	N/A	1,968,000	1,627,000	2,490,000
Arkansas City, AR	2,293,000 ^{6/}	1,712,000	2,472,000	2,159,000	1,879,000	2,890,000
Vicksburg, MS	2,272,000 ^{6/}	1,806,000	2,278,000	2,060,000	1,962,000	2,710,000
Natchez, MS	2,227,000 ^{6/}	N/A	N/A	2,046,000	2,024,000	2,720,000
Red River Landing, LA	1,641,000 ^{6/}	1,461,000	1,779,000	1,467,000	1,498,000	2,100,000

C - Peak Discharge, Provisional

1/ Discharge Range at Hickman, KY

2/ Approximate mile 950.8 at 1400 CDT 5/02/2011 near Wickliffe, KY, prior to operation of Birds Point-New Madrid Floodway

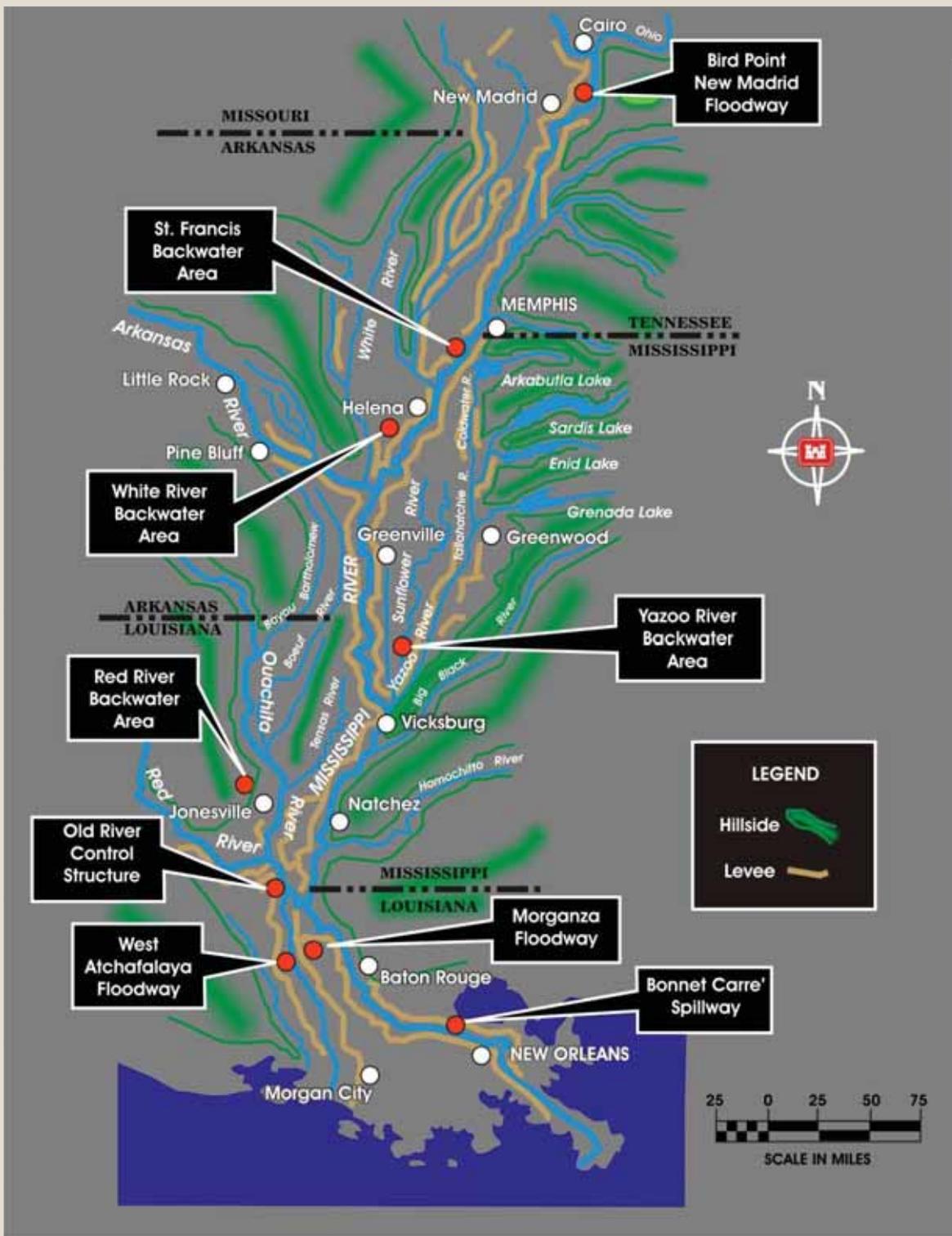
3/ Project Design Flood (PDF) provides design flows for MR&T project - Currently estimated to be complete in 2032 at the average rate of funding over the last 10 years

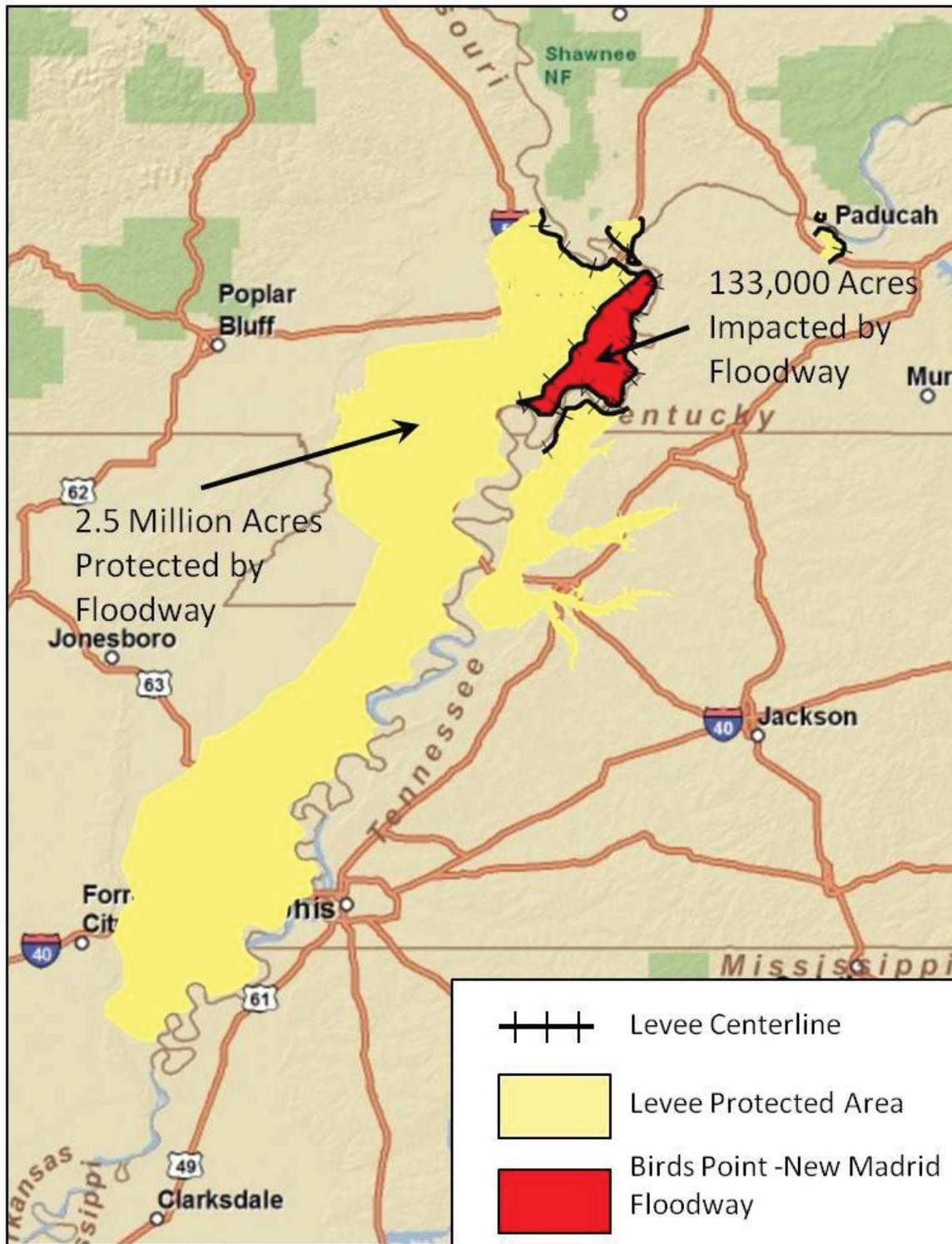
4/ Includes flow through Birds Point-New Madrid Floodway

5/ Reference - "Annual Maximum, Minimum, and Mean Discharges of the Mississippi River and Its Outlets and Tributaries to 19

Revised 22 June 11

Floodways and Backwater Areas





Operating Birds Point- New Madrid Floodway

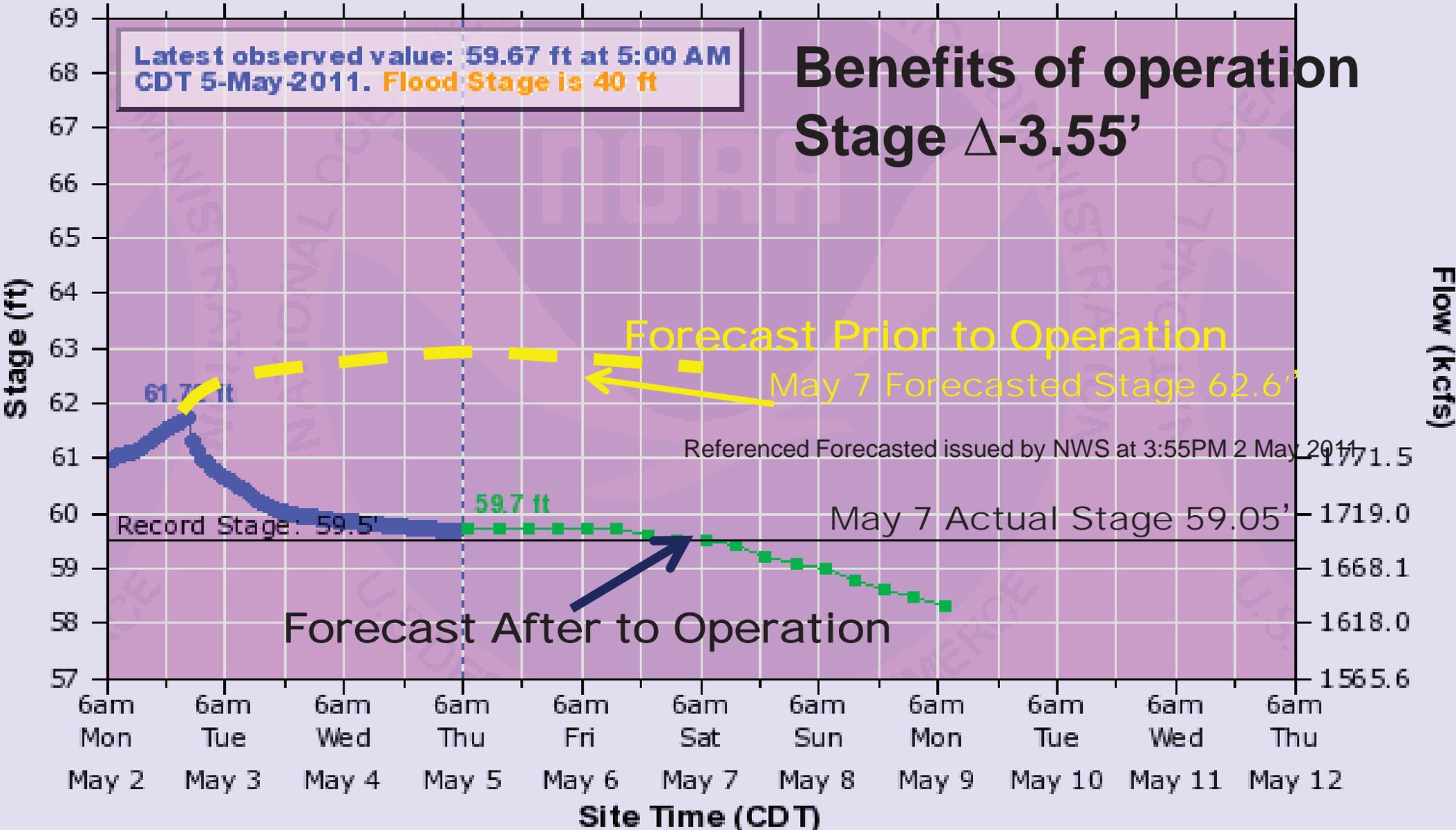


Bird's Point/New Madrid Floodway

OHIO RIVER AT CAIRO

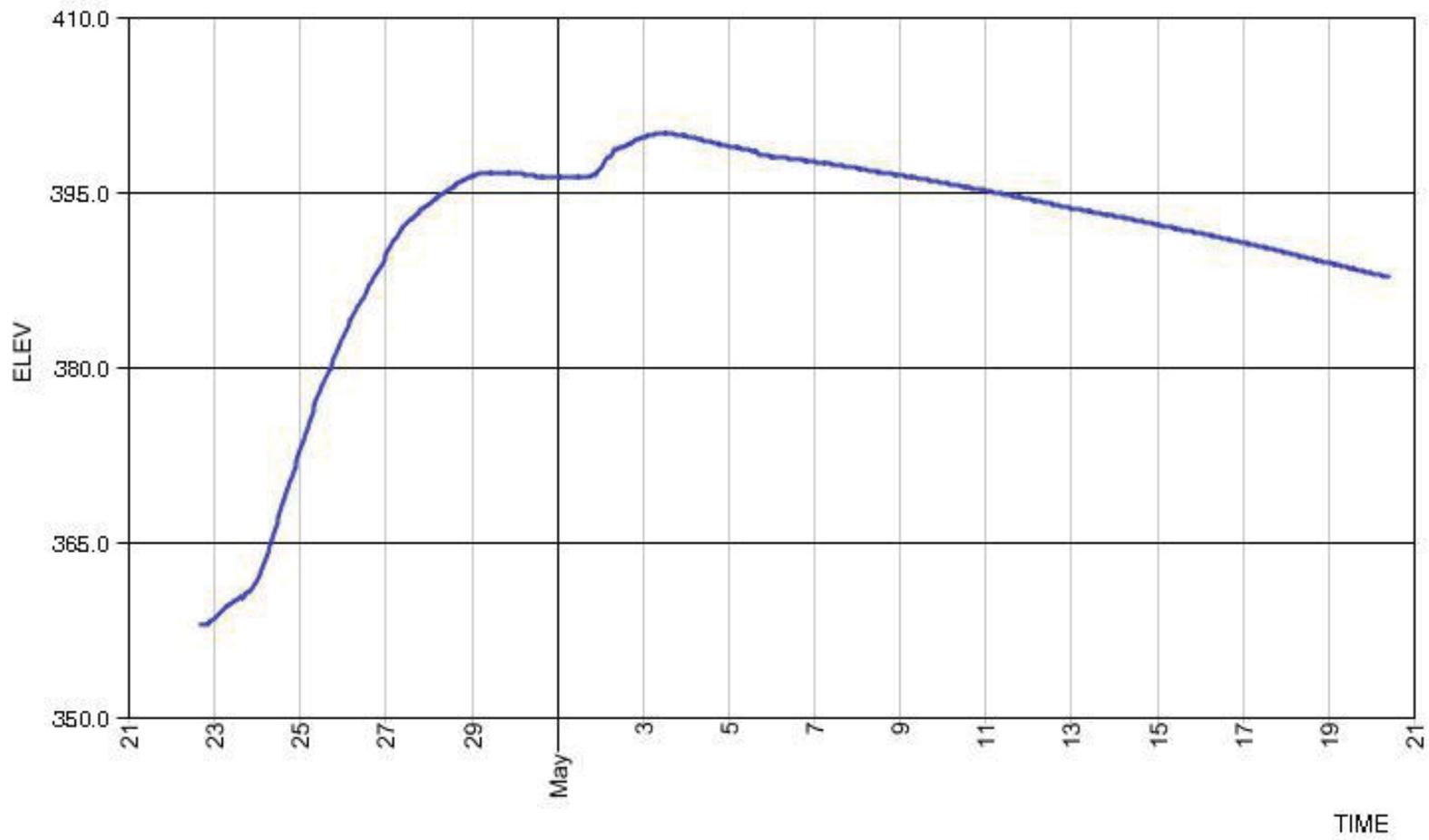
Universal Time (UTC)

11Z May 2 11Z May 3 11Z May 4 11Z May 5 11Z May 6 11Z May 7 11Z May 8 11Z May 9 11Z May 10 11Z May 11 11Z May 12



----- Graph Created (6:00AM May 5, 2011) ● Observed ■ Forecast (issued 8:28PM May 4)

CIRI2(plotting HGIRG) "Gage 0" Datum: 270.9'



— Wappapello Lk-St Francis.Elev.Inst.30Minutes.0.IrgsShef-rev (FT)



Local Flood Fight Operations



Local Flood Fighting Operations

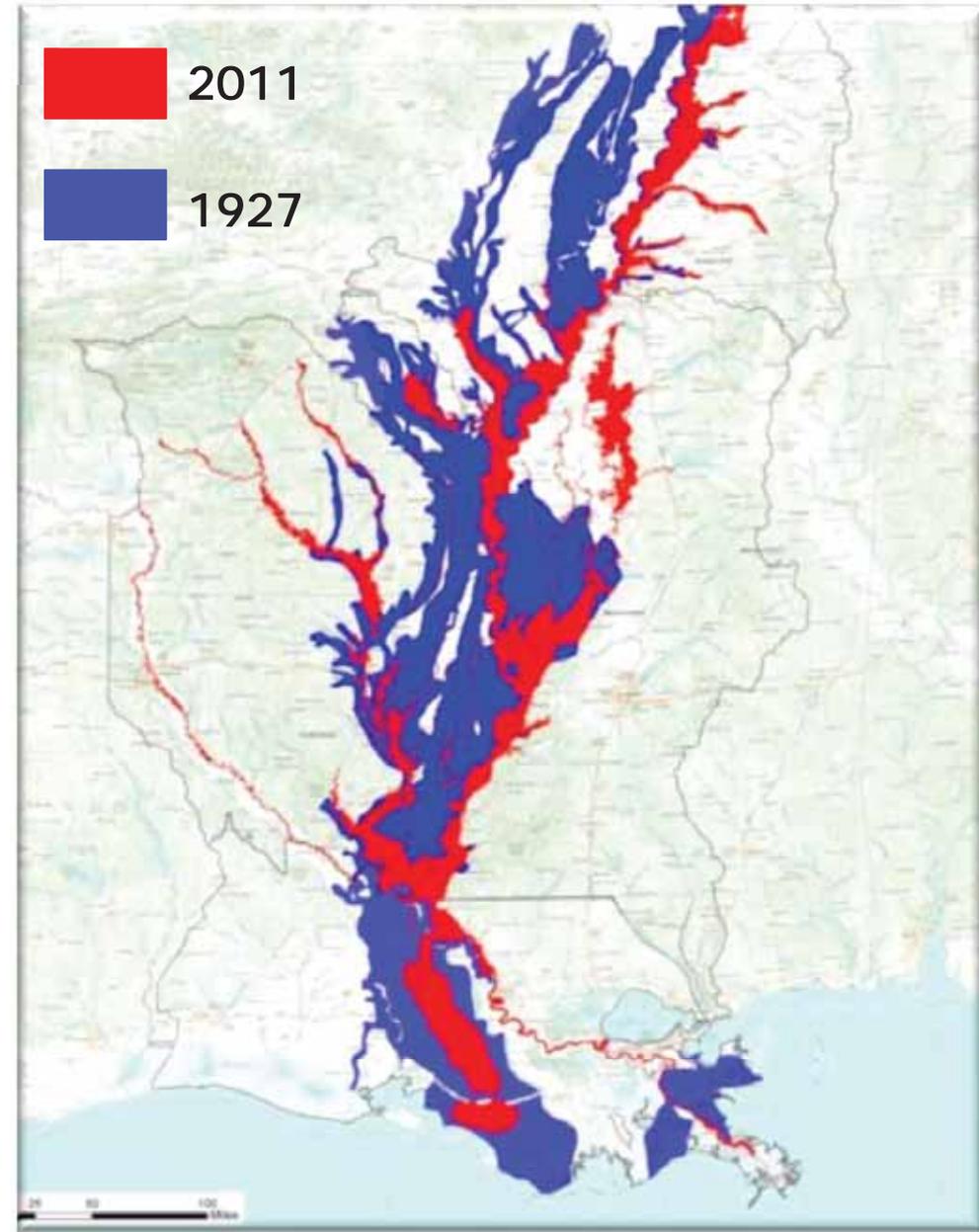


Local Flood Fighting Operations



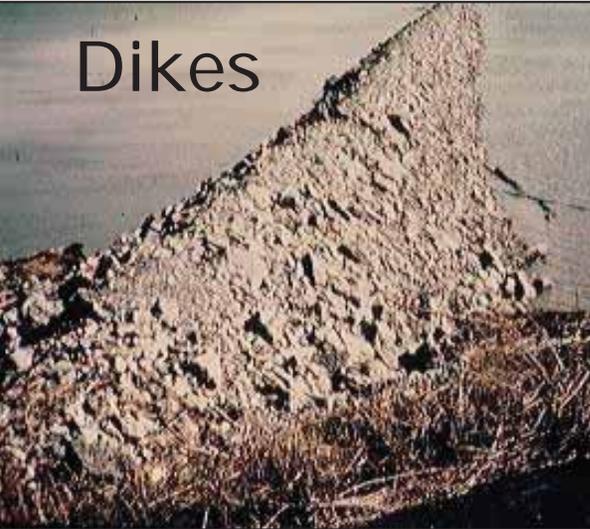
1927 vs. 2011 Mississippi River Record Flood: From “Levees Only” to “Room for the River”

- 1927 Flood = 16.8 million acres
- 2011 Flood = 6.4 million acres
- \$14 billion Investment since 1928
- **\$234 billion damages prevented (2011)**
 - ✓ **\$612 billion since 1928**
 - ✓ **44 to 1 return on investment**
- 4 million people protected
- \$3 billion annual transportation rate savings
- Untold economic productivity enabled
 - ✓ Farms, towns, factories



River Engineering Tools

Dikes



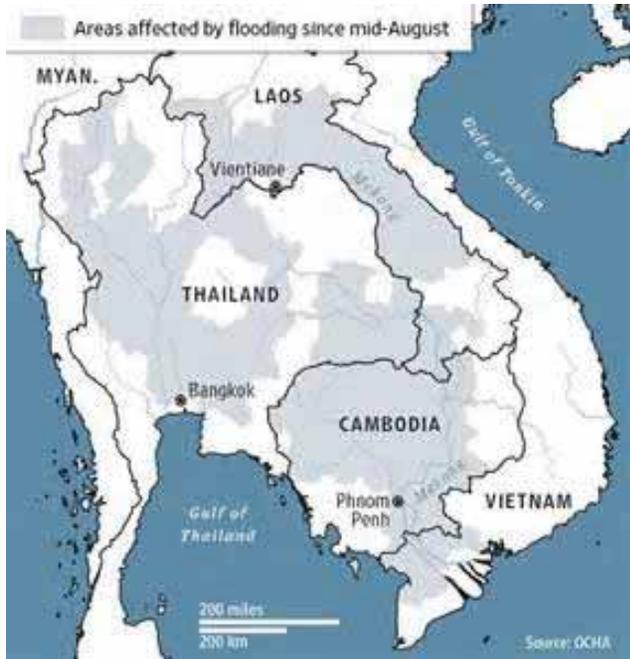
Revetments



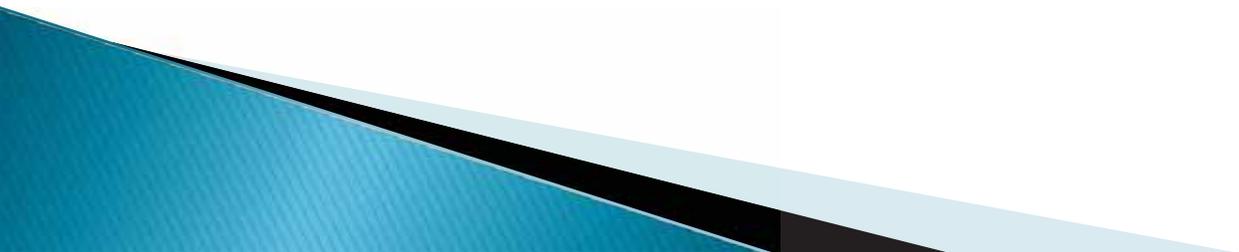
Dredging



Mekong River Flood 2011



Mekong River Flood 2011

- Over 3000 Confirmed Dead
 - 5,035,000 Acres Inundated
 - Over 1.2 Million Homes Inundated
 - 45 Billion Dollars in Economic Losses
- 

World's Third Largest Watershed Drainage Basin for 41% of the United States



MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION

Created in 1922

- ❑ Flood Control and Navigation for the Mississippi Valley
- ❑ “On Ramps” are needed for River
- ❑ 179 Levee Boards, Drainage Districts, State and Federal Organizations, Ports and Businesses from 12 States



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