

2019 MVS FLOOD RESPONSE

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Chief, Emergency Management
St. Louis District, US Army Corps of Engineers
Date: 25 July 2019



US Army Corps
of Engineers®



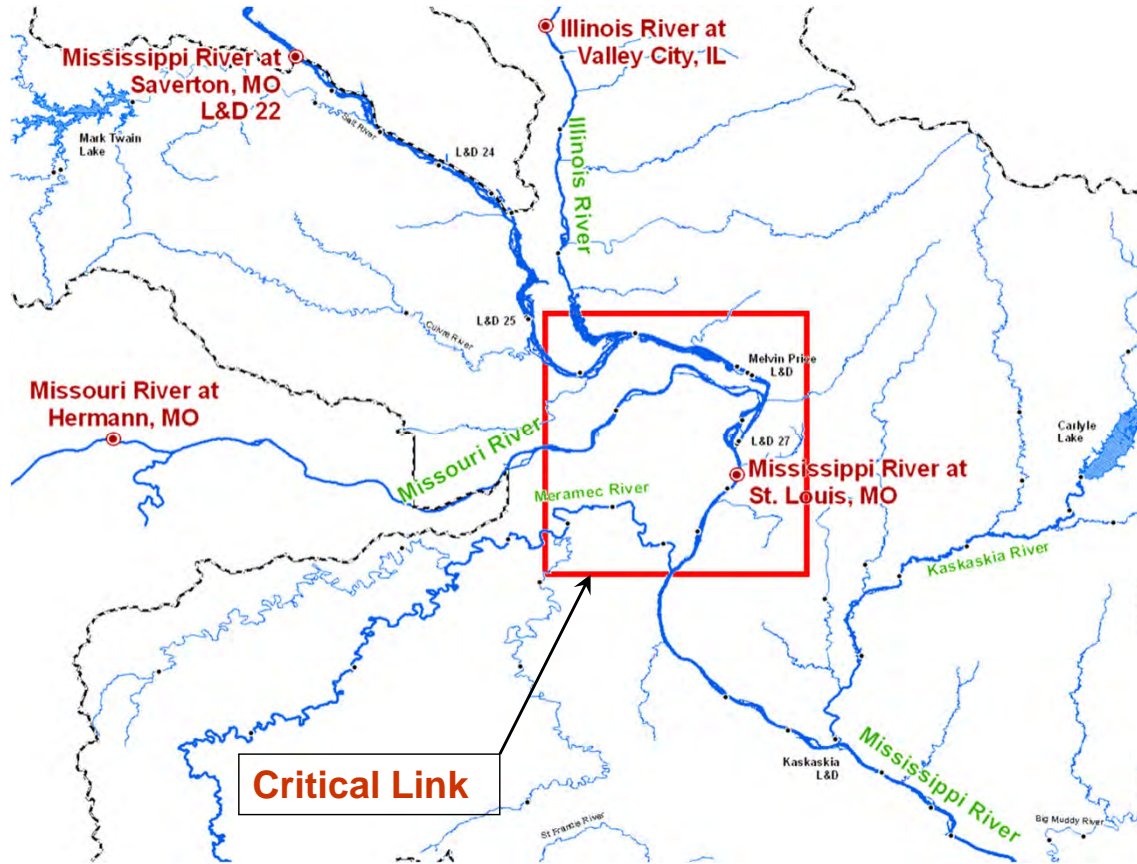
AGENDA

2



- Rainfall / River Stages
- Levee Performance
 - Overtopping
 - Underseepage
 - “Aging Infrastructure”
- Recovery



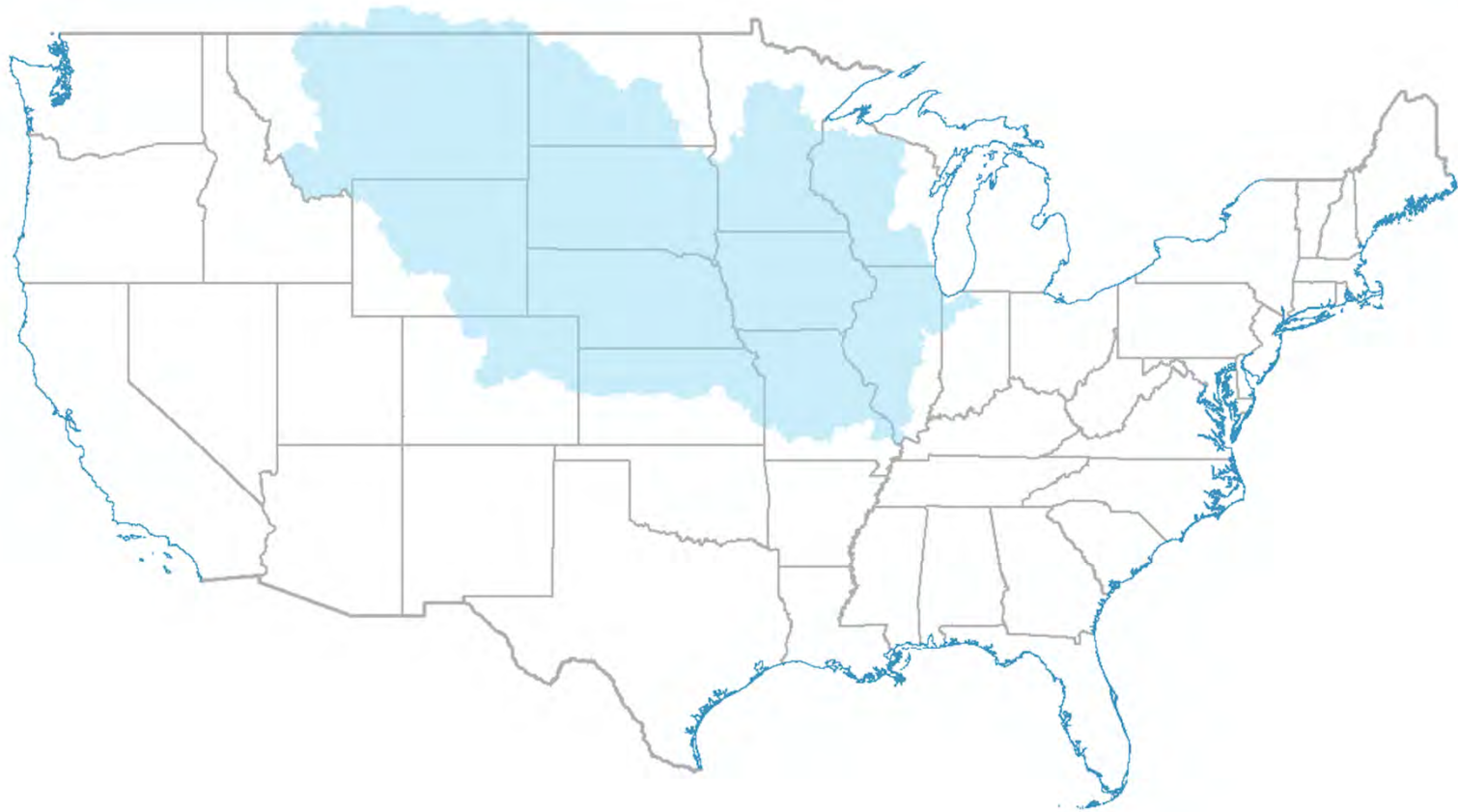




WATERSHED ABOVE ST. LOUIS



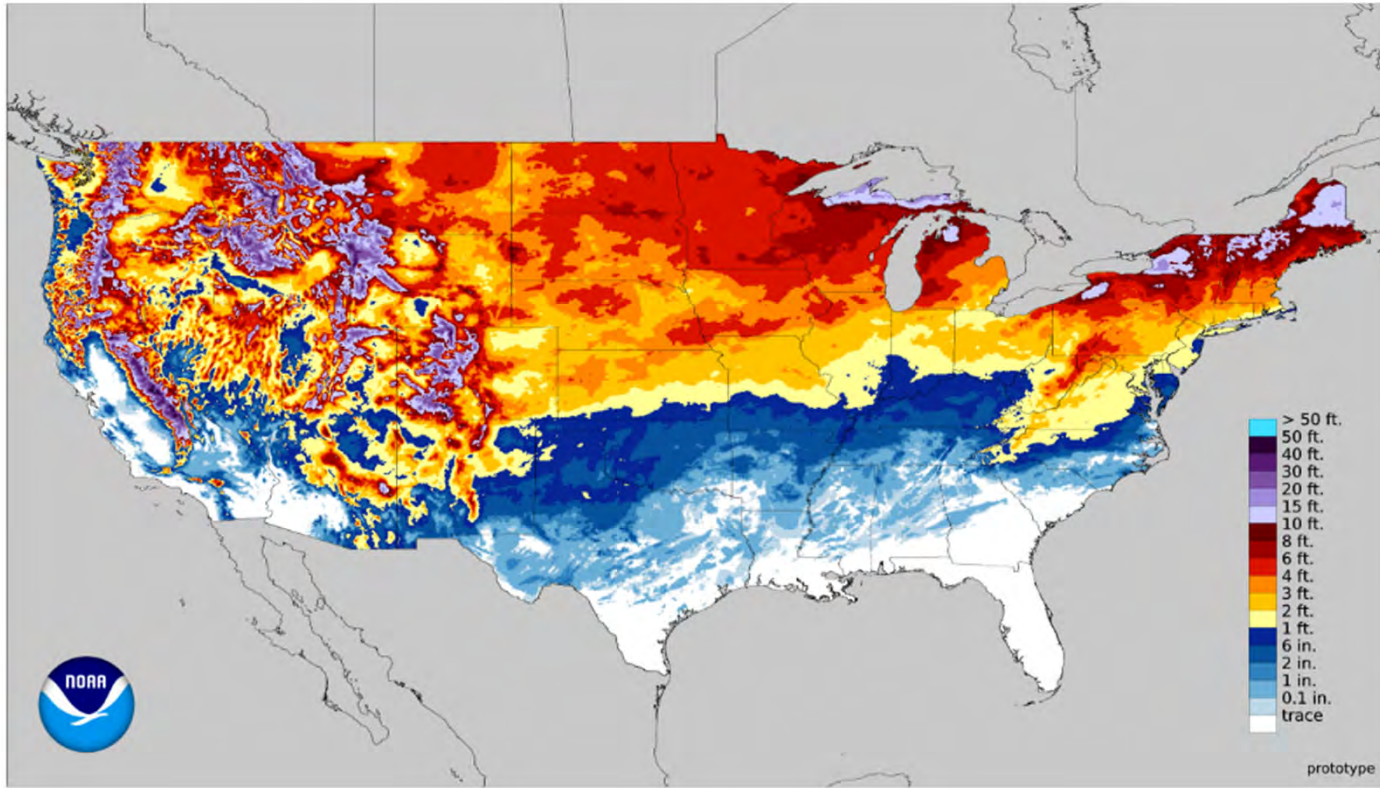
4





National Snowfall Analysis: accumulation from 2018-09-30 to 2019-03-07

Issued 2019-03-12 14:00:03 UTC



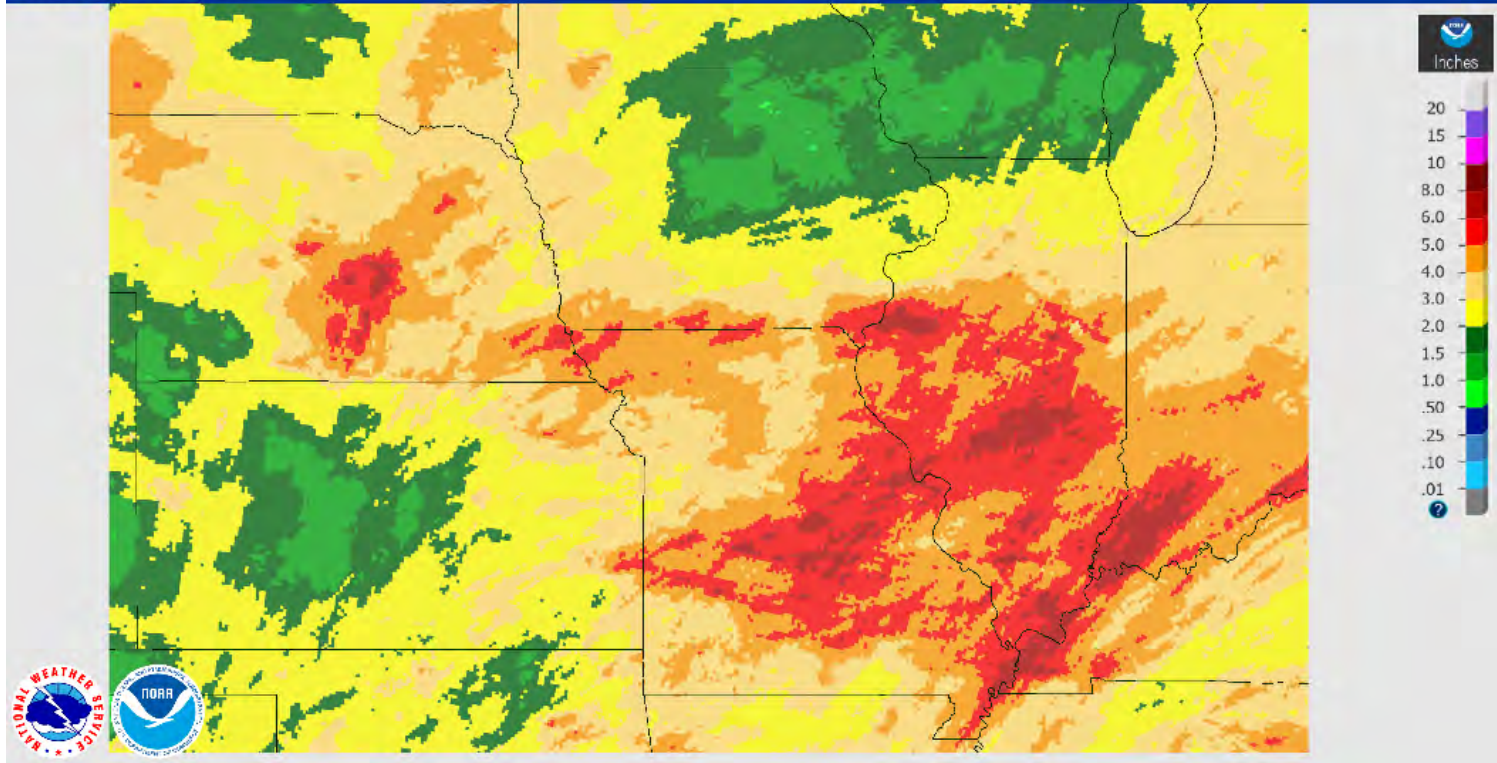


MARCH RAINFALL

March 01, 2019 Monthly Observed Precipitation

Created on: June 15, 2019 - 15:38 UTC

Valid on: April 01, 2019 12:00 UTC

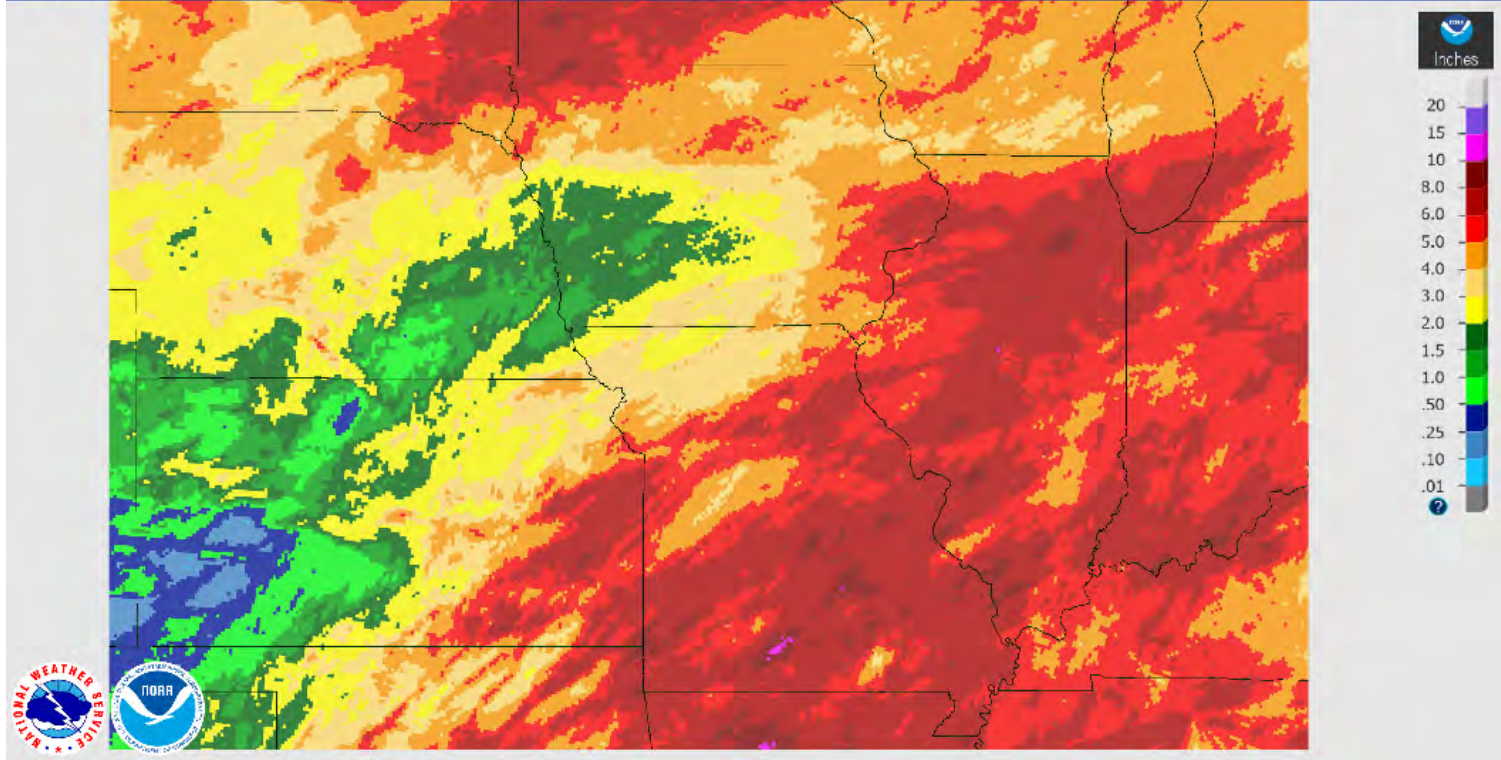




APRIL RAINFALL

April 01, 2019 Monthly Observed Precipitation

Created on: June 15, 2019 - 15:37 UTC
Valid on: May 01, 2019 12:00 UTC



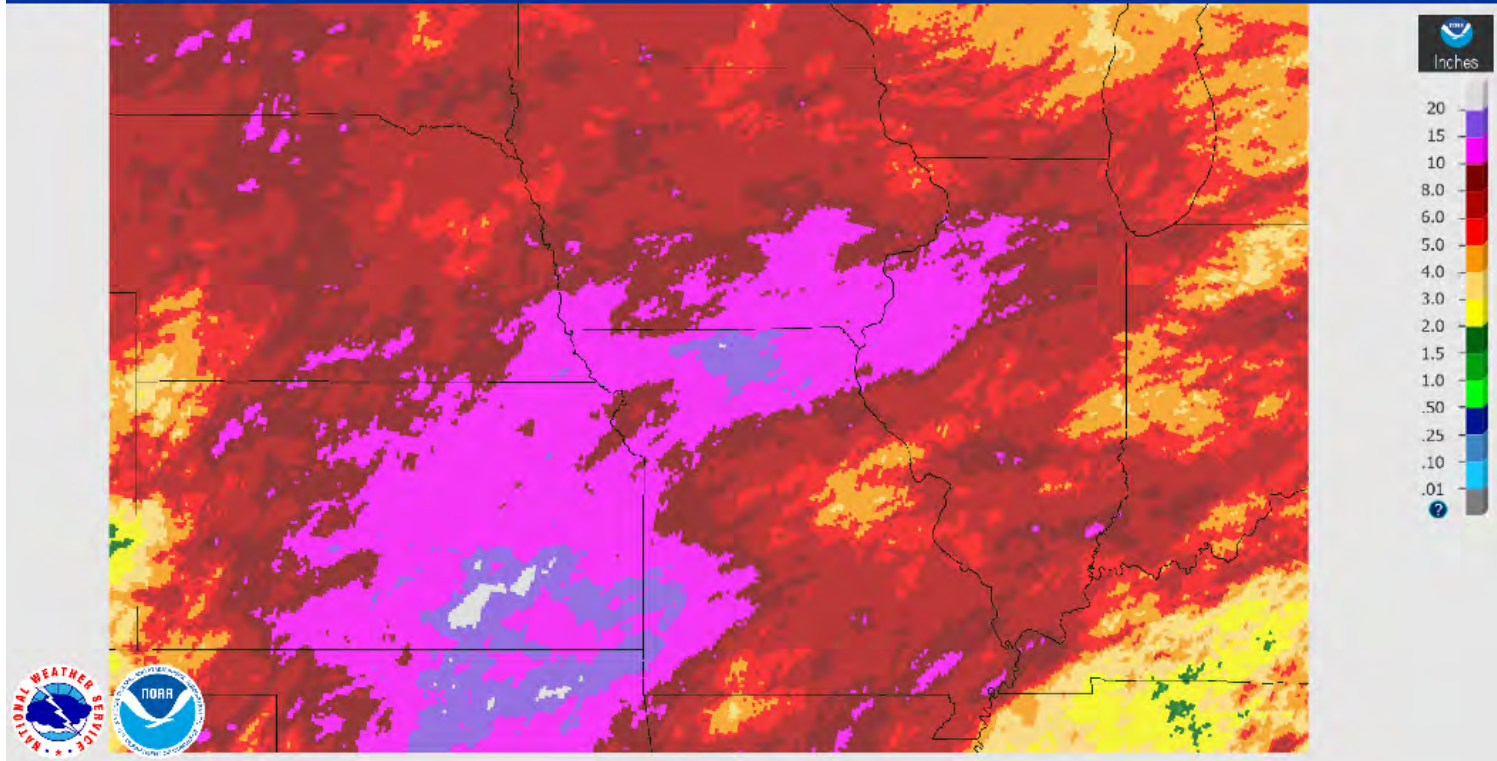


MAY RAINFALL

May 01, 2019 Monthly Observed Precipitation

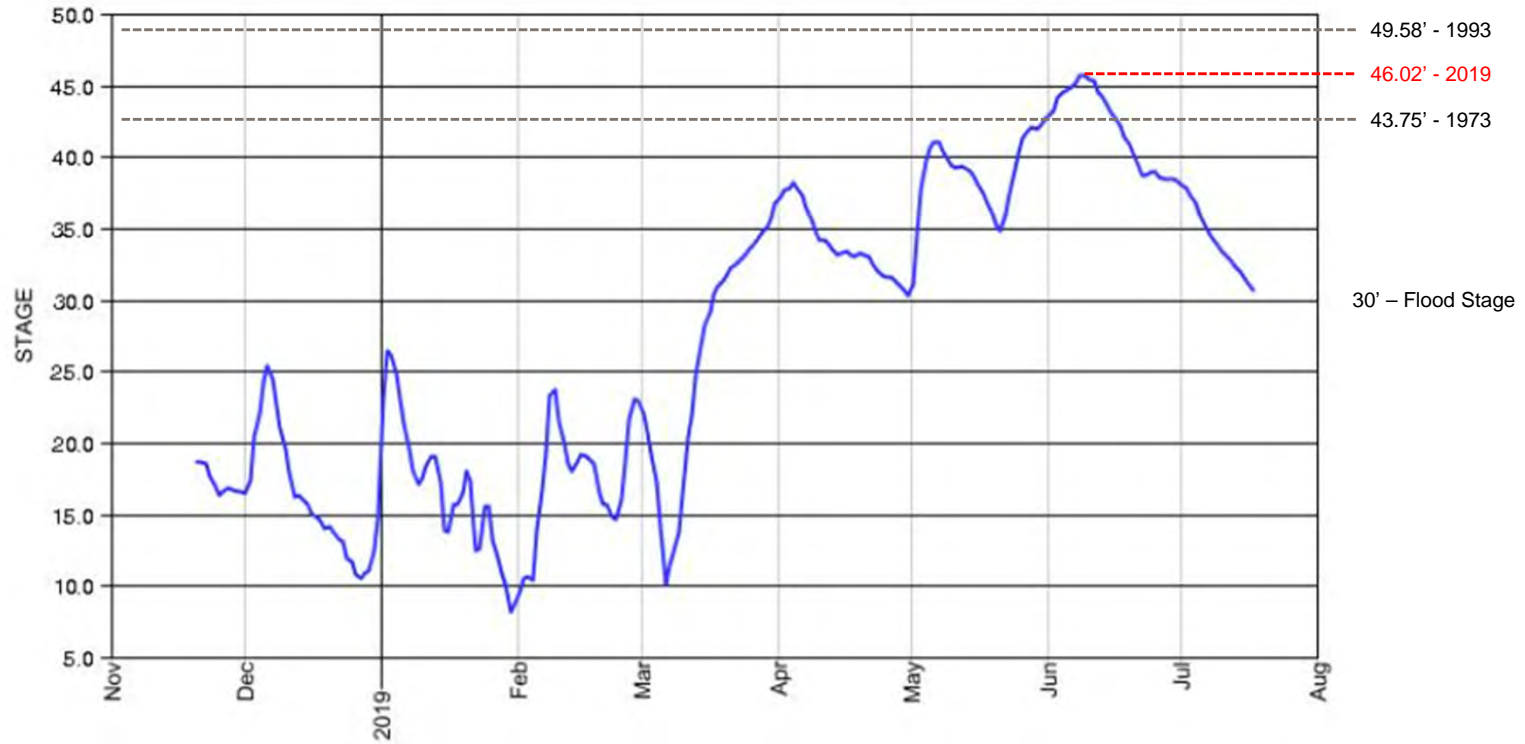
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ST. LOUIS GAGE

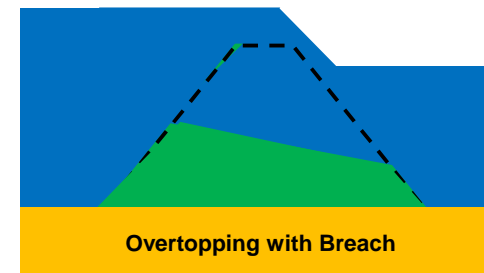
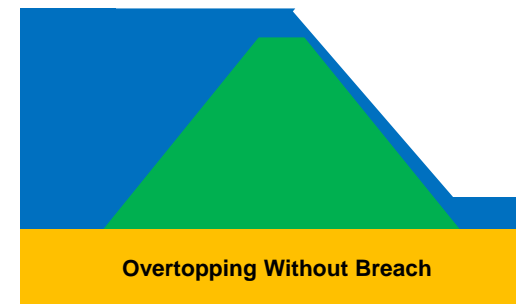




LEVEE PERFORMANCE - OVERTOPPING



- 90 levee districts in the St. Louis District
- 24 levee segments / 18 levee systems overtopped
- 12 levee segments confirmed breached
- Over 100,000 acres inundated





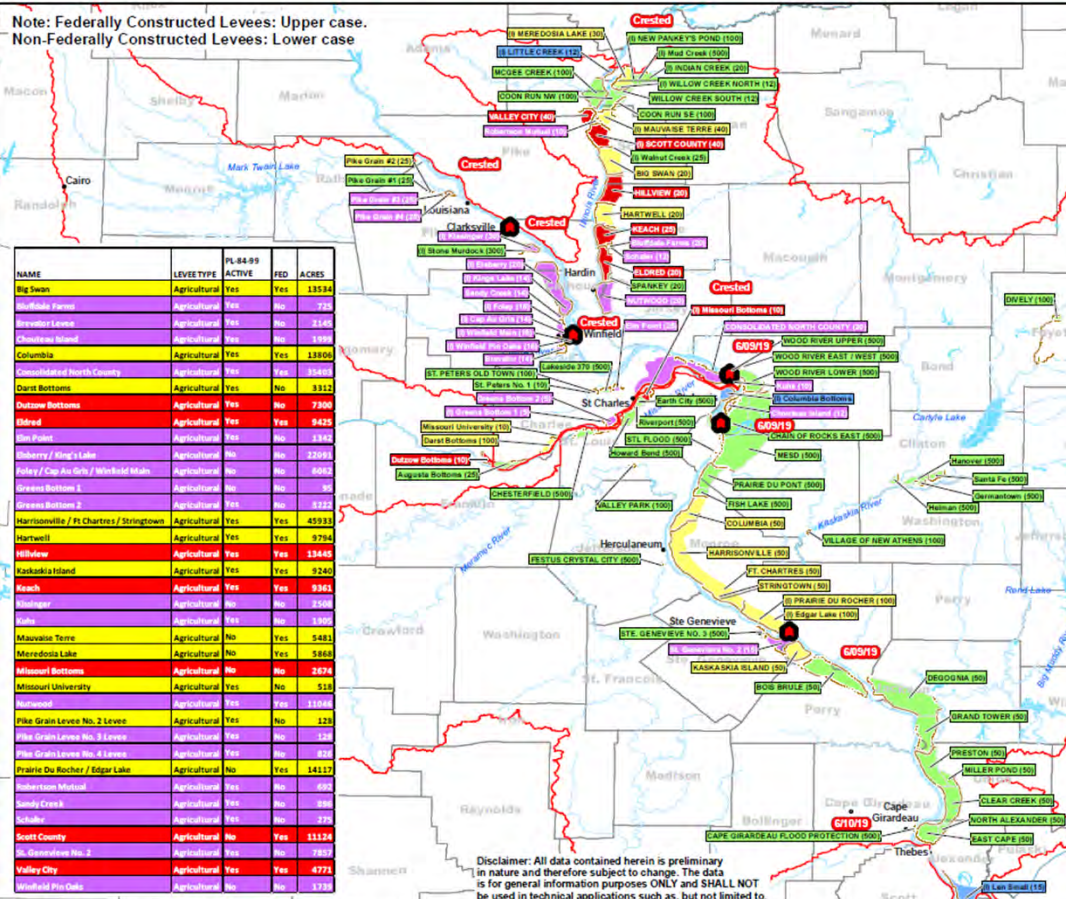
US Army Corps of Engineers
St. Louis District

St. Louis District Flood Event Status Map

** Flood-fighting efforts not accounted for in projection

08 Jun 2019
@ 1300 HRS

Note: Federally Constructed Levees: Upper case.
Non-Federally Constructed Levees: Lower case.



NAME	LEVEE TYPE	ACTIVE	PL 84-99	FED	ACRES
Big Swan	Agricultural	Yes	Yes	Yes	13534
Northside Canal	Agricultural	Yes	No	Yes	754
Overlook Levee	Agricultural	Yes	No	Yes	2145
Chickens Head	Agricultural	Yes	No	Yes	1994
Columbia	Agricultural	Yes	Yes	Yes	13806
Consolidated North County	Agricultural	Yes	Yes	Yes	3484
Dart Bottoms	Agricultural	Yes	No	Yes	3312
Outlow Bottoms	Agricultural	Yes	No	Yes	7300
Oldred	Agricultural	Yes	Yes	Yes	8425
Old Field	Agricultural	Yes	No	Yes	1942
Osberry / King Lake	Agricultural	No	No	Yes	2254
Palmy / Cap Au Roch / Workford Main	Agricultural	No	No	Yes	6562
Reynolds Bottom 1	Agricultural	No	No	Yes	46
Reynolds Bottom 2	Agricultural	No	No	Yes	8224
Harrisonville / Ft. Chartres / Stringtown	Agricultural	Yes	Yes	Yes	45933
Horswell	Agricultural	Yes	Yes	Yes	9764
Millview	Agricultural	Yes	Yes	Yes	13446
Trask's Island	Agricultural	Yes	Yes	Yes	3240
Reach	Agricultural	Yes	Yes	Yes	9361
Reidinger	Agricultural	No	No	Yes	2504
Lake	Agricultural	Yes	No	Yes	1597
Mauvaine Terre	Agricultural	No	Yes	Yes	5481
Meredosia Lake	Agricultural	No	Yes	Yes	5865
Missouri Bottoms	Agricultural	No	No	Yes	2674
Missouri University	Agricultural	Yes	No	Yes	518
Harwood	Agricultural	Yes	Yes	Yes	11694
Pike Grain Levee No. 2 Levee	Agricultural	Yes	No	Yes	128
Pike Grain Levee No. 3 Levee	Agricultural	Yes	No	Yes	134
Pike Grain Levee No. 4 Levee	Agricultural	Yes	No	Yes	836
Prairie Du Rocher / Edgar Lake	Agricultural	No	Yes	Yes	14117
Suburban West	Agricultural	Yes	No	Yes	654
Sandy Creek	Agricultural	Yes	No	Yes	54
Scholar	Agricultural	Yes	No	Yes	275
Scott County	Agricultural	No	Yes	Yes	11124
St. Genevieve No. 2	Agricultural	Yes	No	Yes	7852
Valley City	Agricultural	Yes	Yes	Yes	4772
Winfield Pro Gals	Agricultural	No	No	Yes	1734

Disclaimer: All data contained herein is preliminary in nature and therefore subject to change. The data is for general information purposes ONLY and SHALL NOT be used in technical applications such as, but not limited to, studies or designs.

Levee Status*

- 3+ ft Freeboard No Distress
- 0.5 to 3.0 ft Freeboard Possible Moderate Distress
- Less than 0.5 ft Freeboard at Crest Possible Significant Distress
- Overtopped
- LOP Not Restored (Previous breach of inactive system)

(I) PL84-99 Inactive

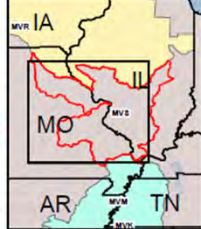
Locks and Dams Status

- Closed
- Open
- Open Restricted

Gage Status

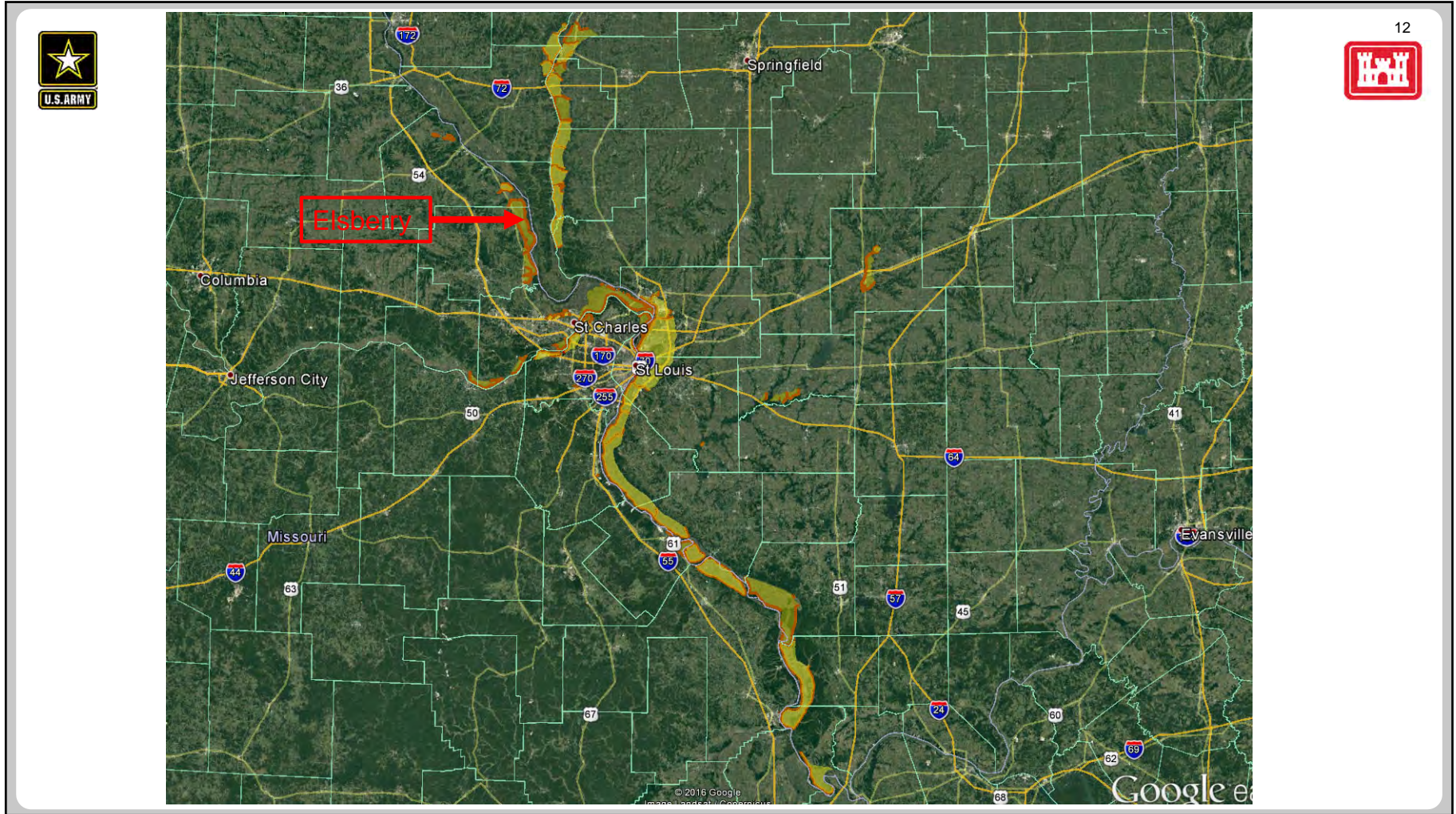
Crest Date

* Predictions based on National Weather Service forecast and field observations.



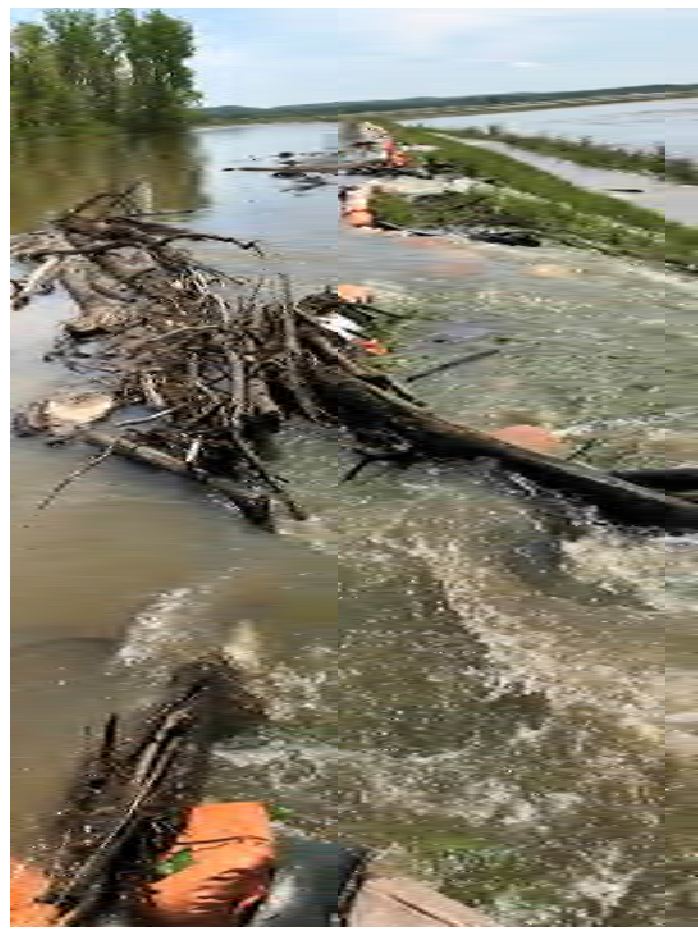
St. Louis District
Emergency Management
MVS Spring 2019 Flood





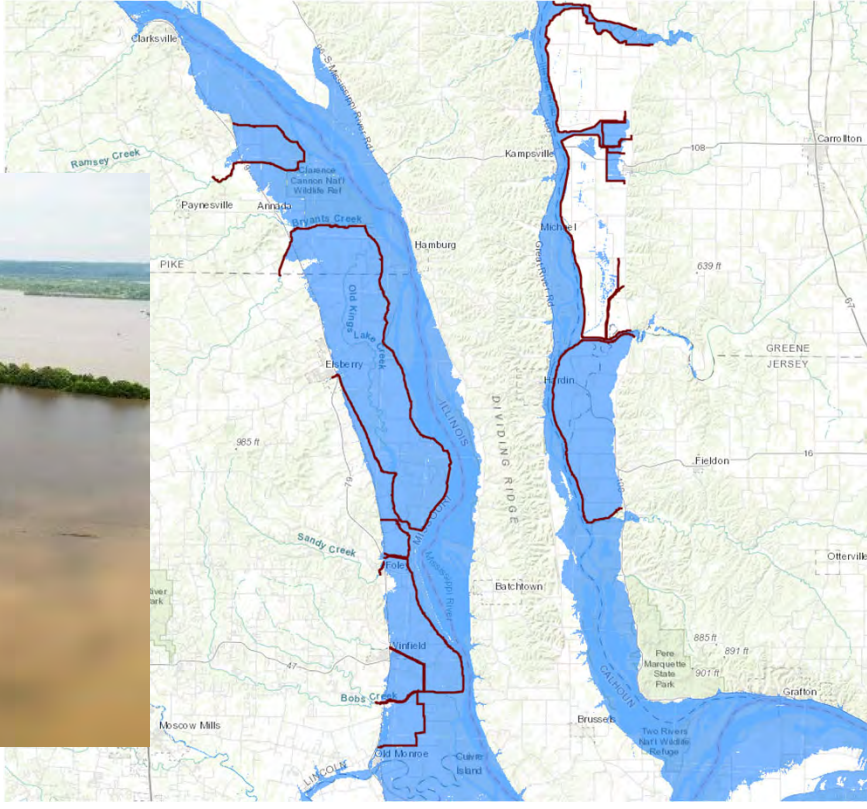


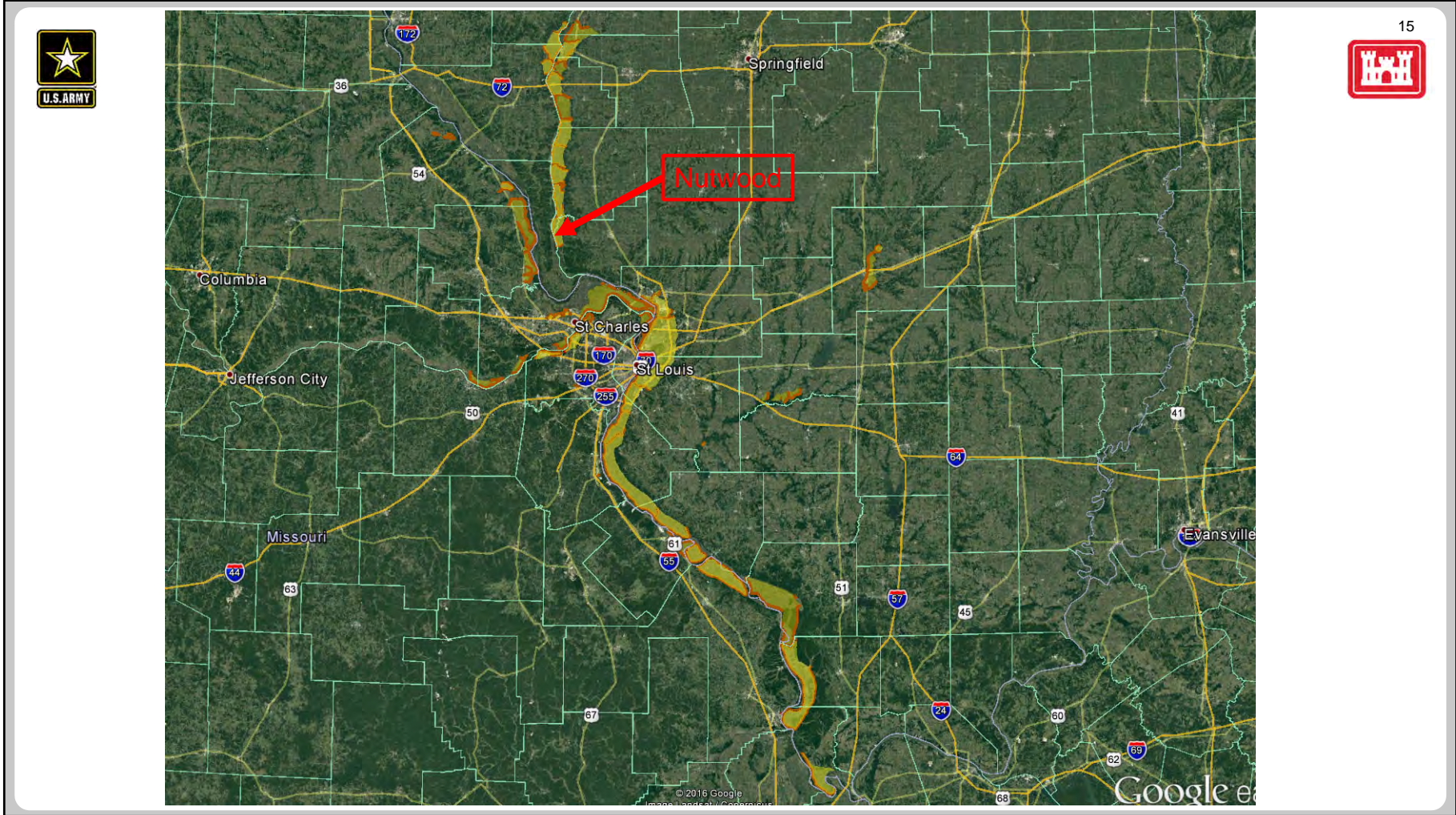
ELSBERRY OVERTOPPING





ELSBERRY OVERTOPPING







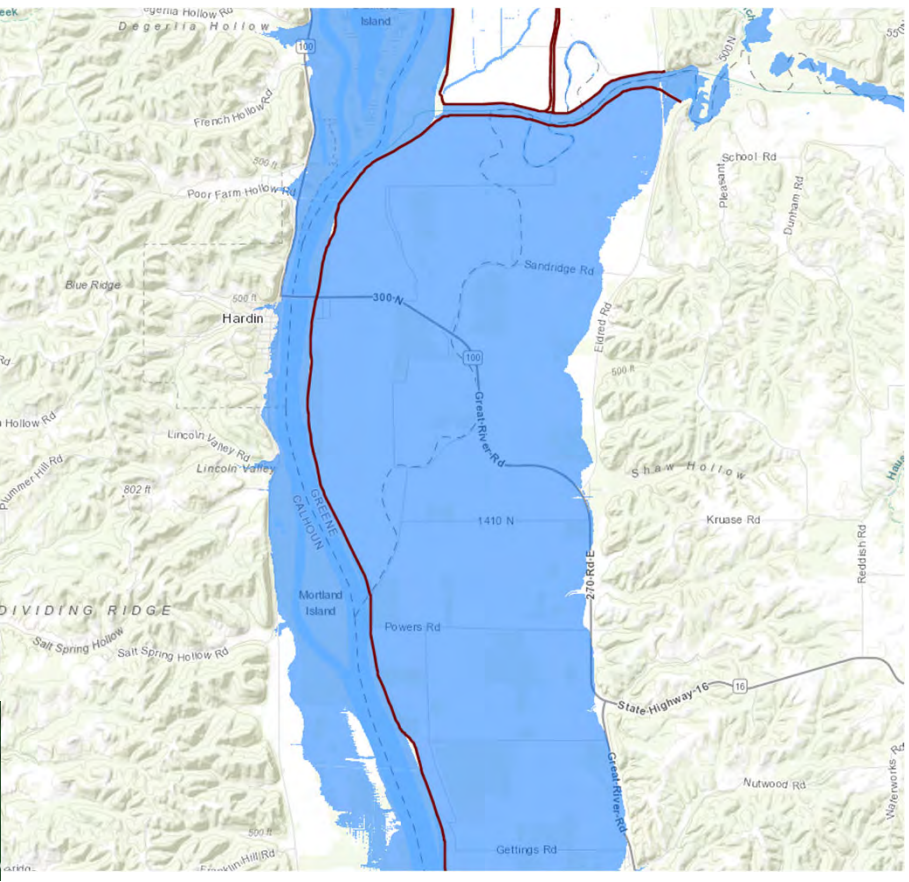
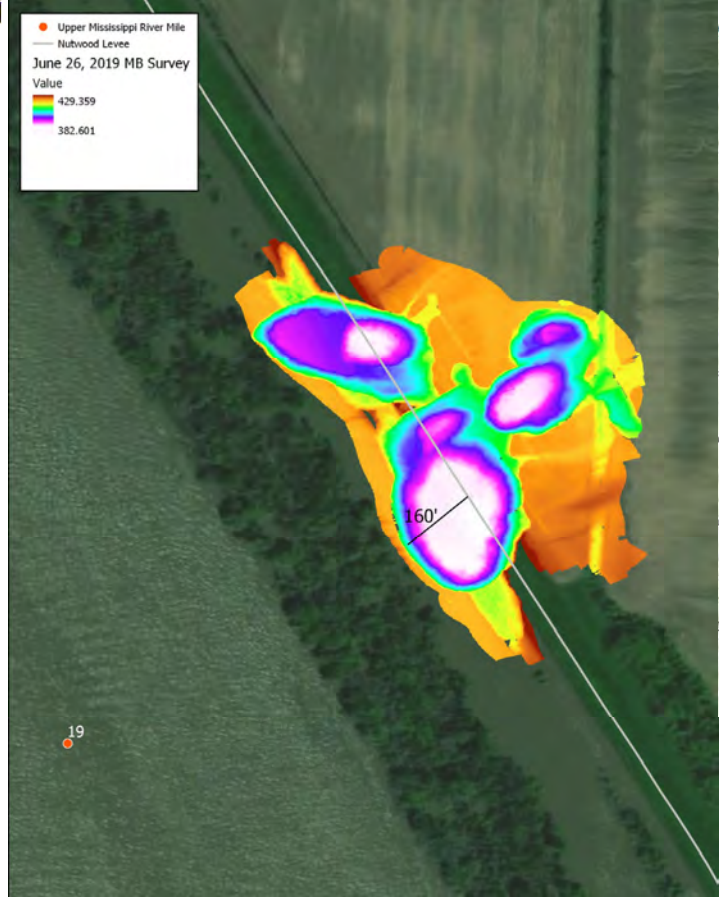
NUTWOOD OVERTOPPING / BREACH

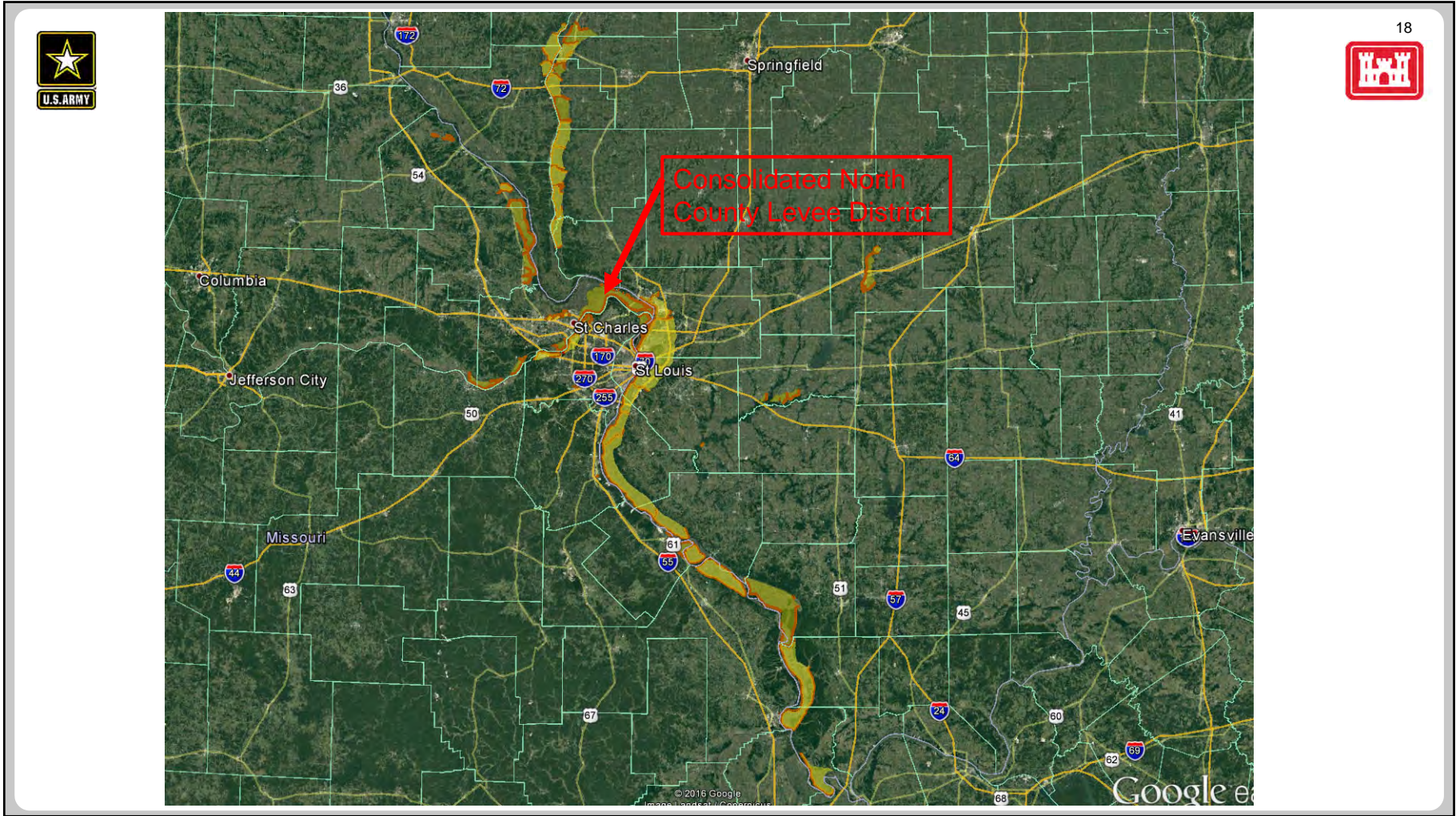




NUTWOOD OVERTOPPING / BREACH

● Upper Mississippi River Mile
— Nutwood Levee
June 26, 2019 MB Survey
Value
429.359
382.601







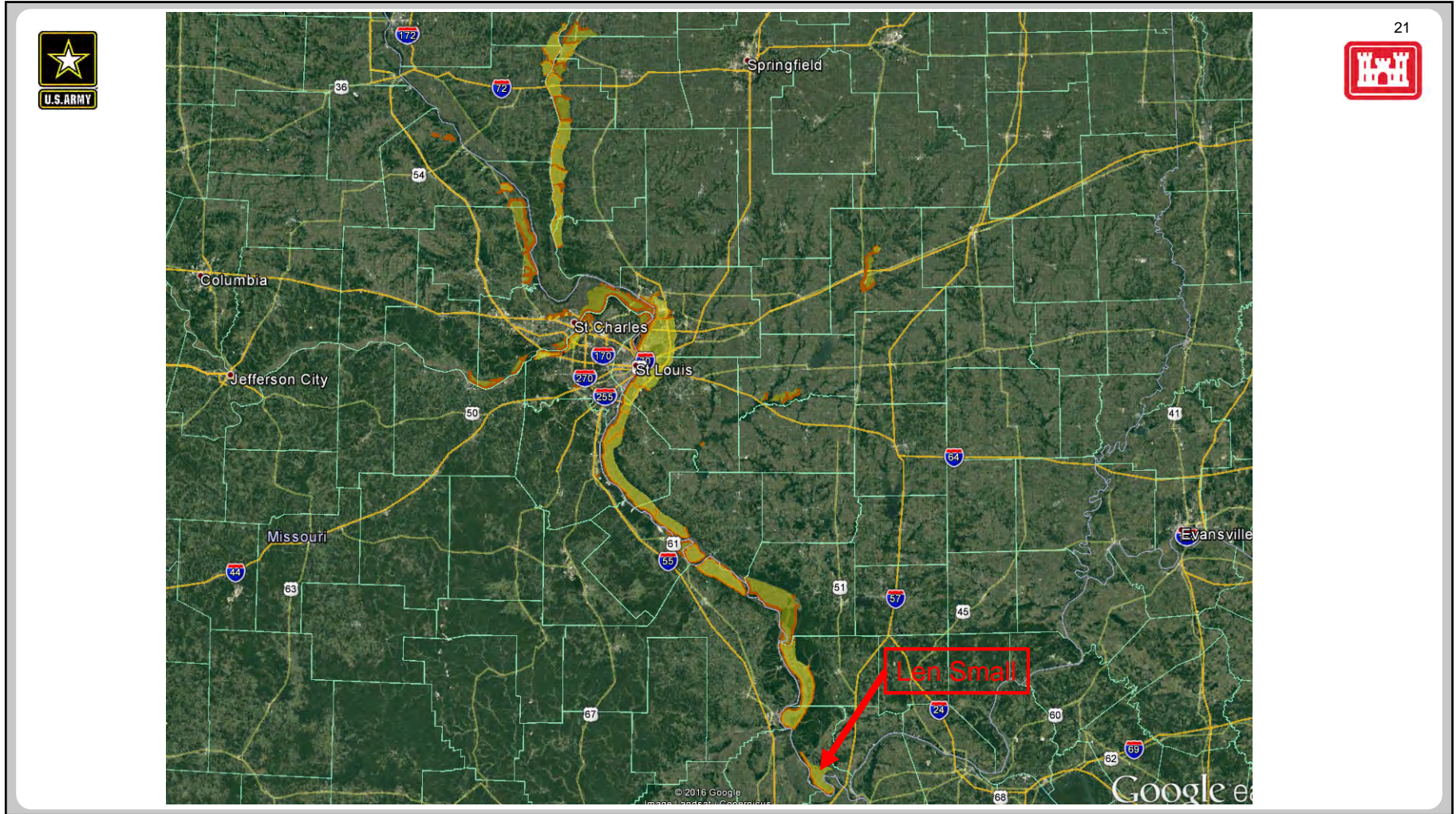
CONSOLIDATED NORTH COUNTY OVERTOPPING





CONSOLIDATED NORTH COUNTY OVERTOPPING



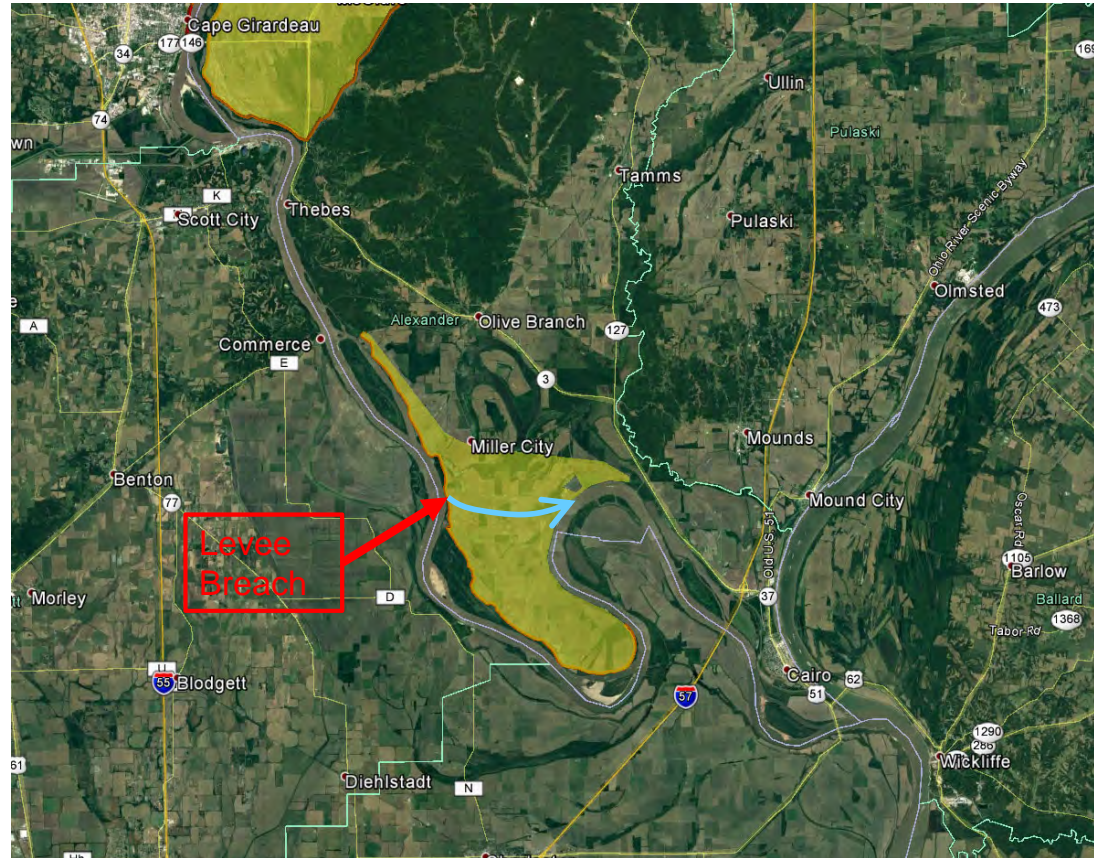


21





LEN SMALL





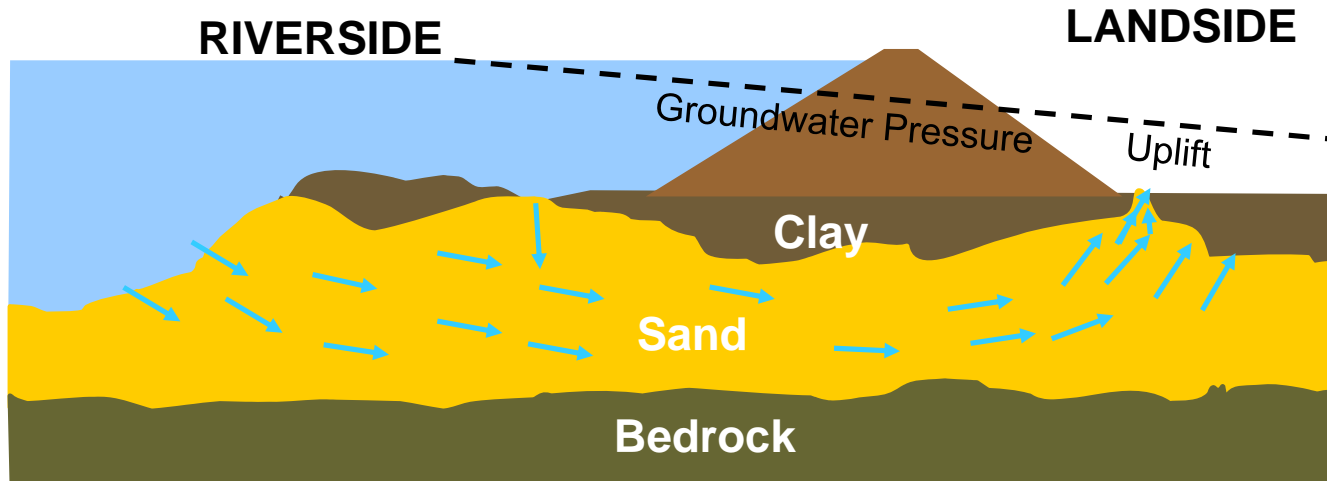
LEN SMALL – 14 JUNE 2019

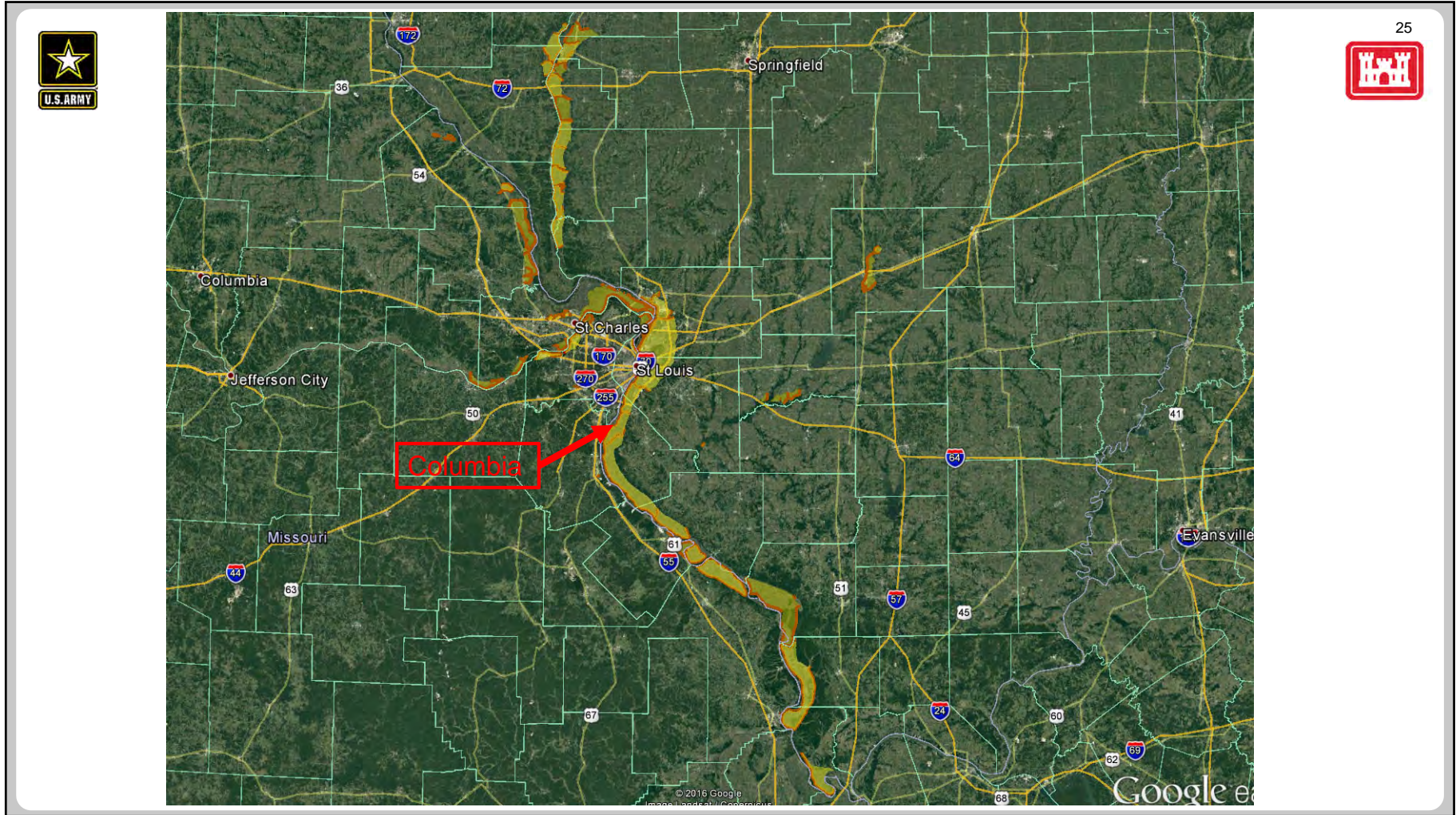
23





LEVEE PERFORMANCE - UNDERSEEPAGE



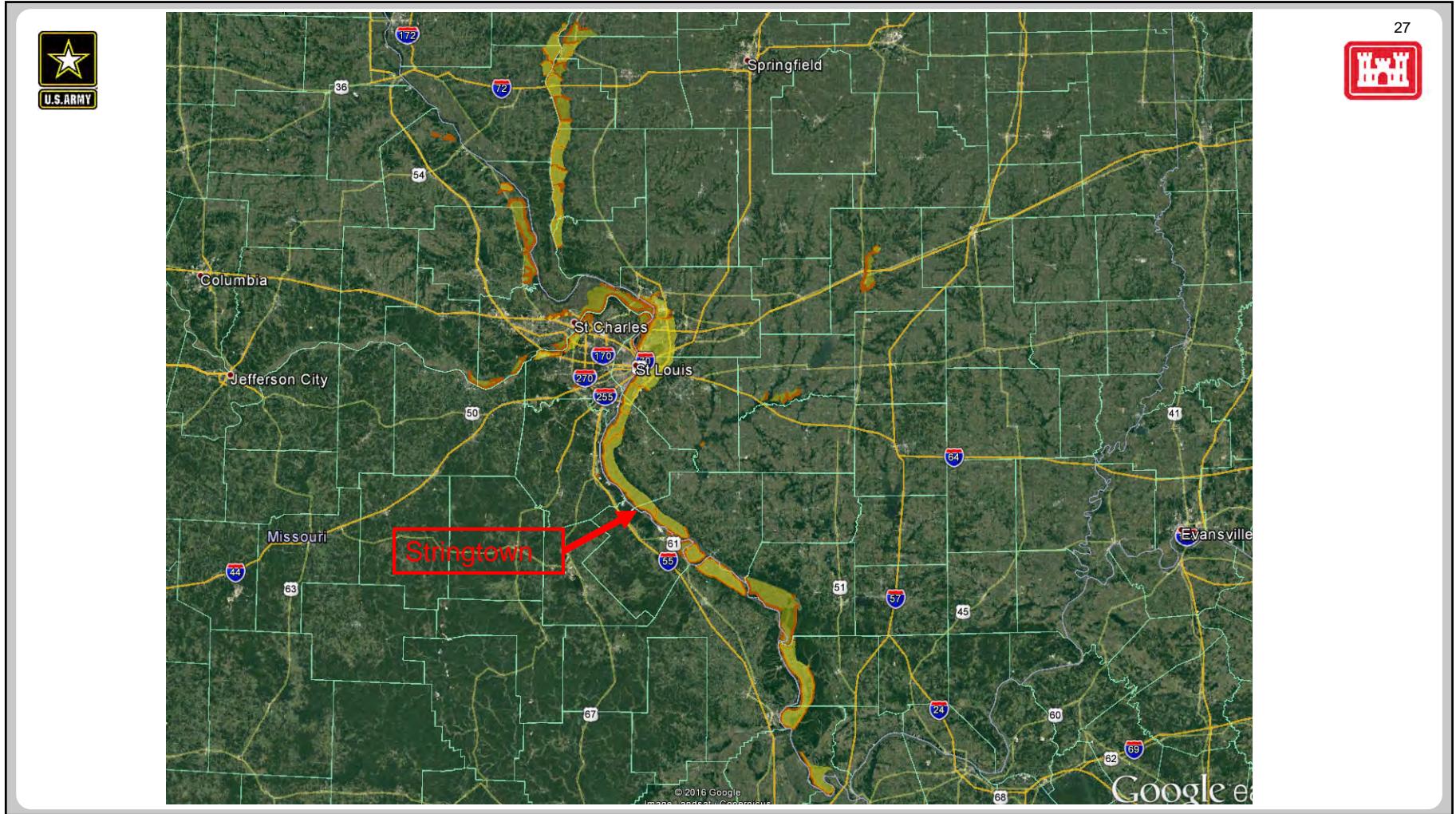


25



COLUMBIA SANDBOILS

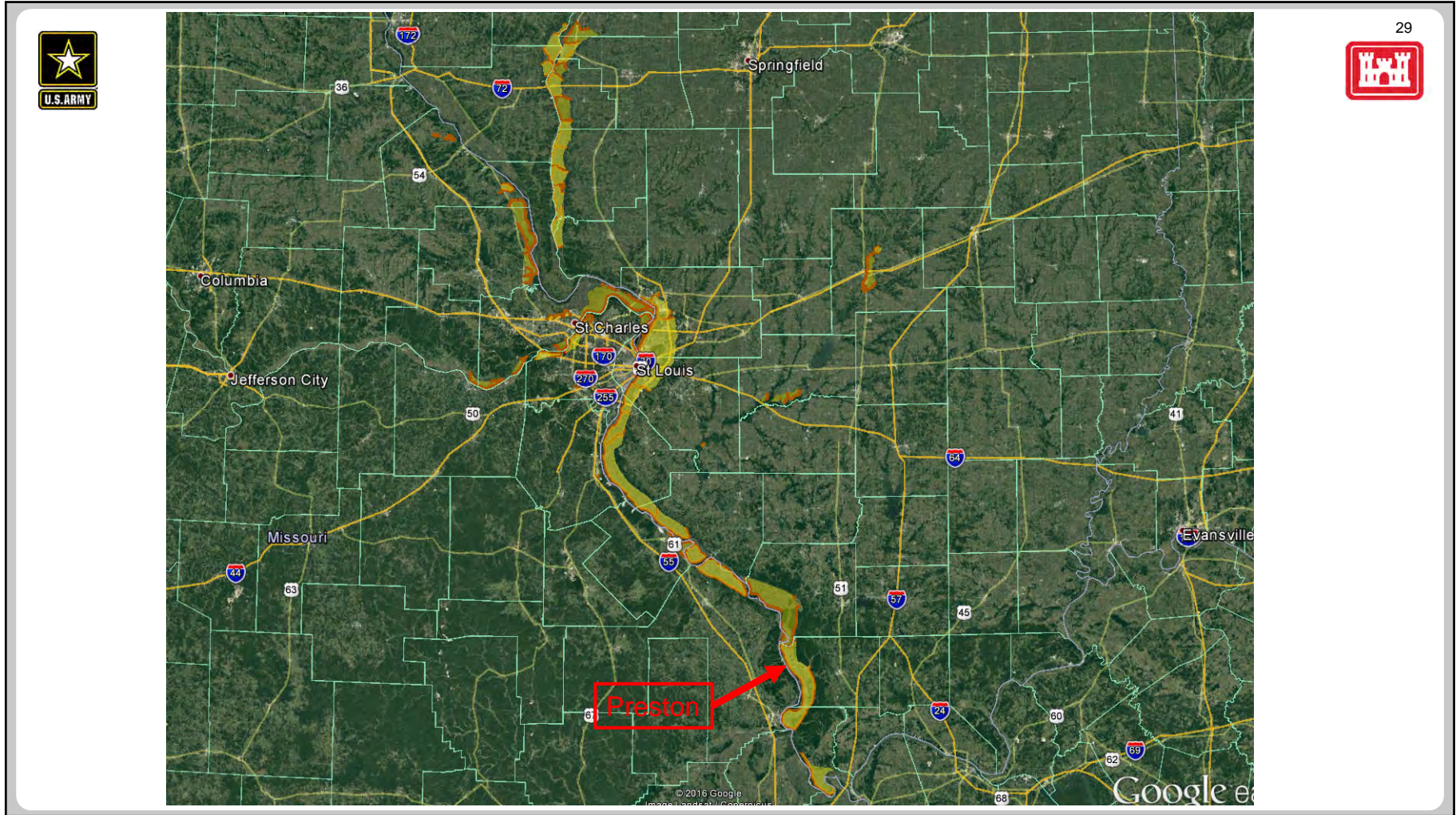






STRINGTOWN SANDBOIL







PRESTON SANDBOILS

30





PRESTON SANDBOILS





PRESTON SANDBOILS

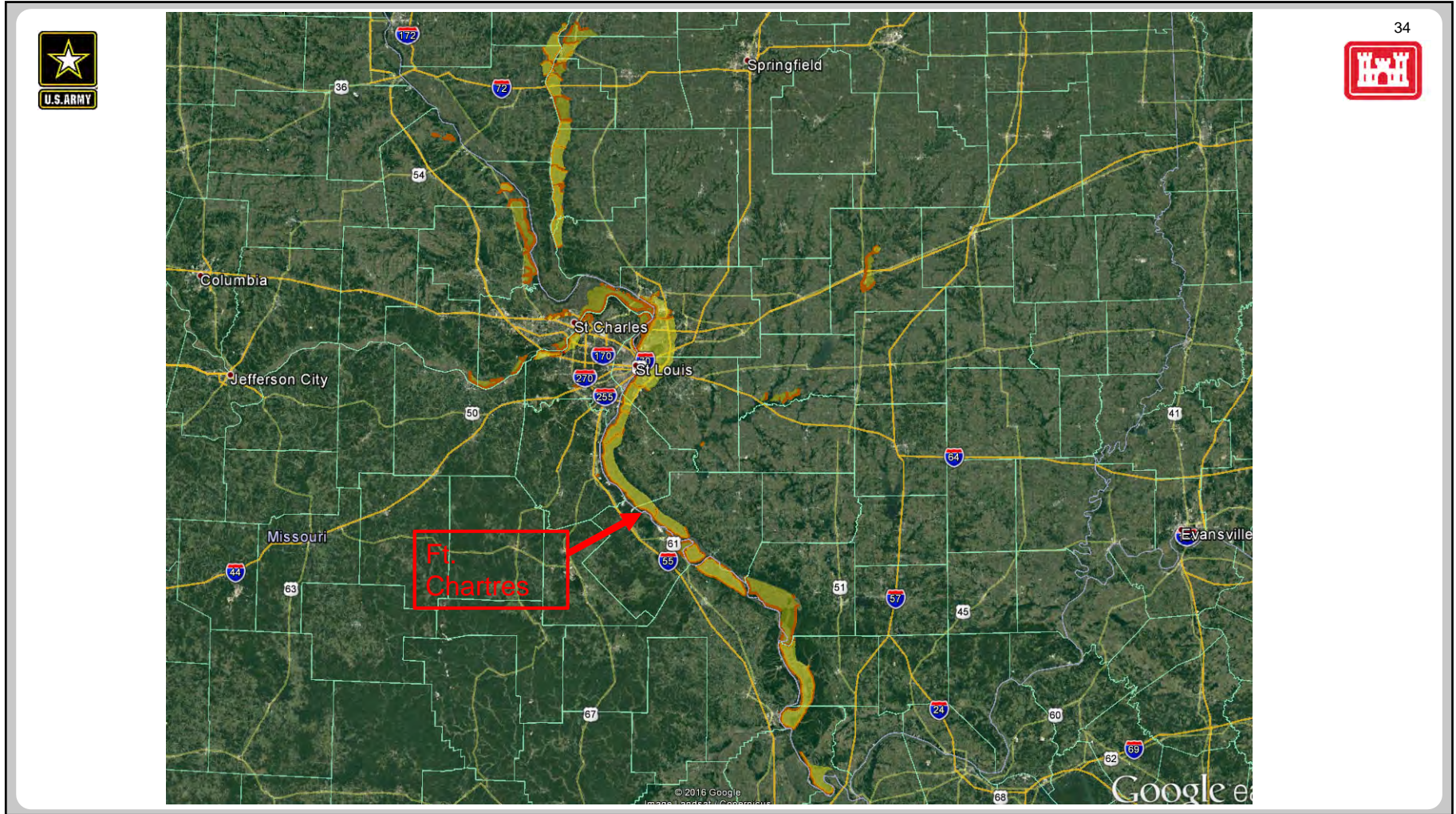




LEVEE PERFORMANCE – “AGING INFRASTRUCTURE”

- Many systems in the region constructed 60+ years ago
- Many components past design life
 - Culverts
 - Sluice Gates
 - Pump Stations / Discharge Pipes
 - Closure Structures

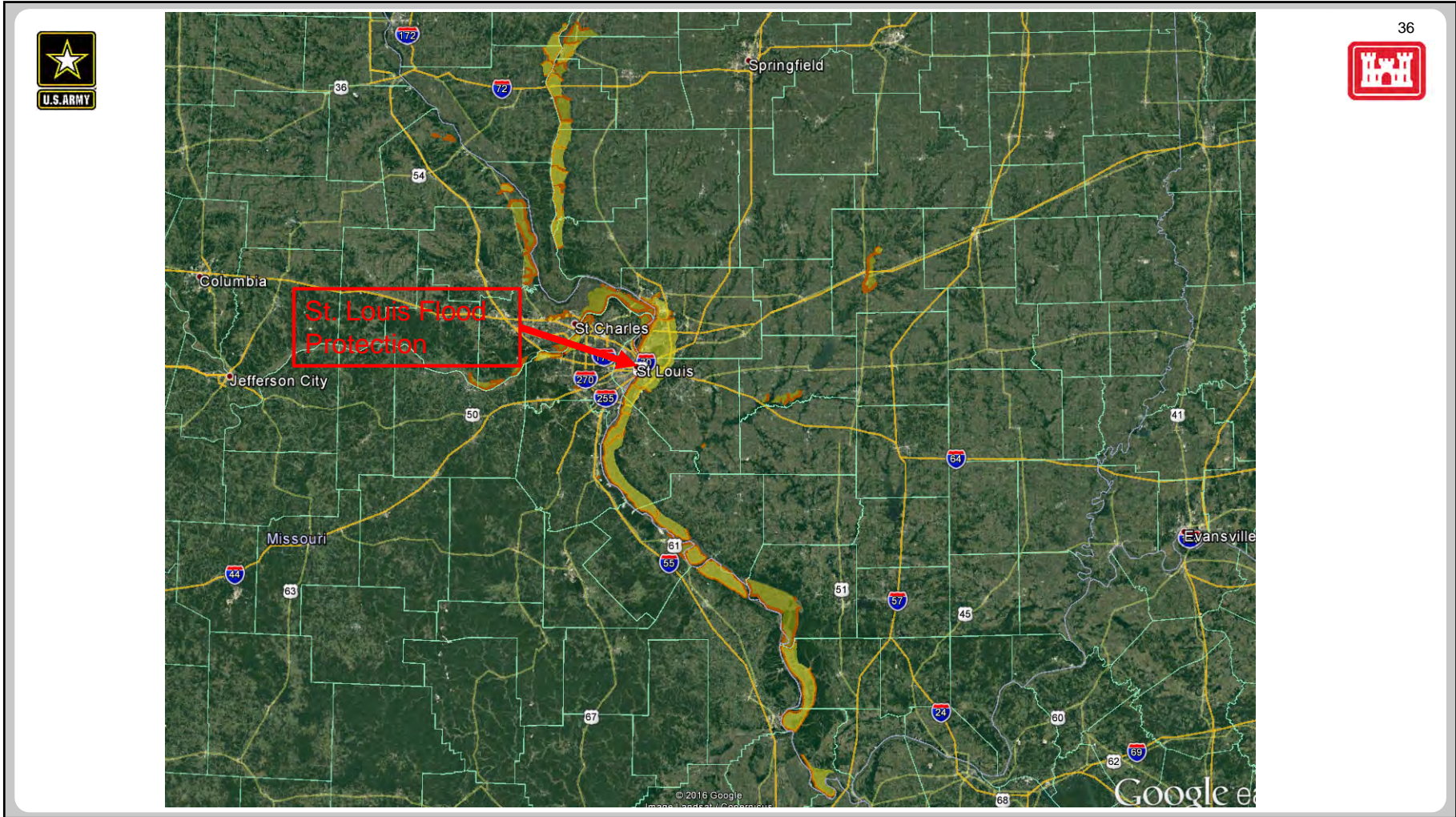






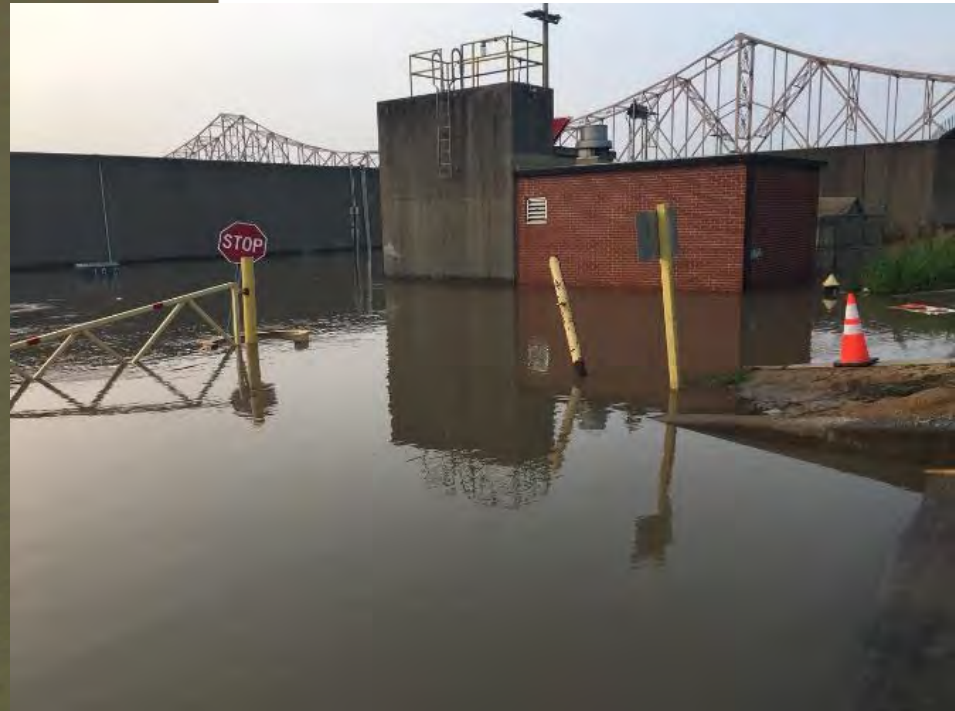
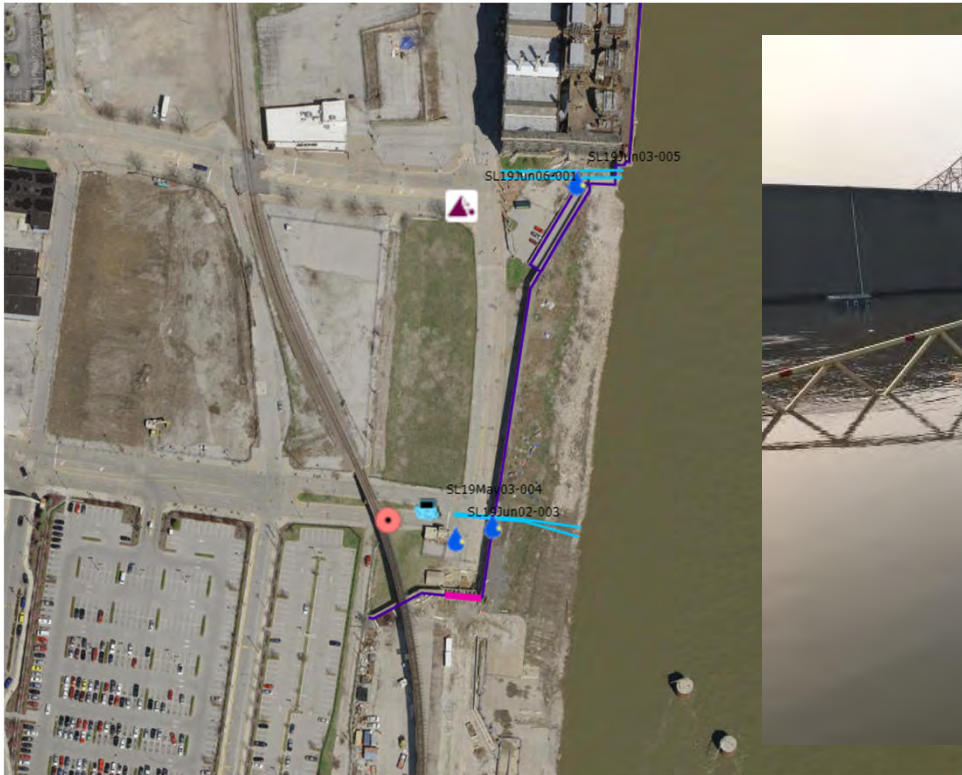
FT. CHARTRES – GRAVITY DRAIN

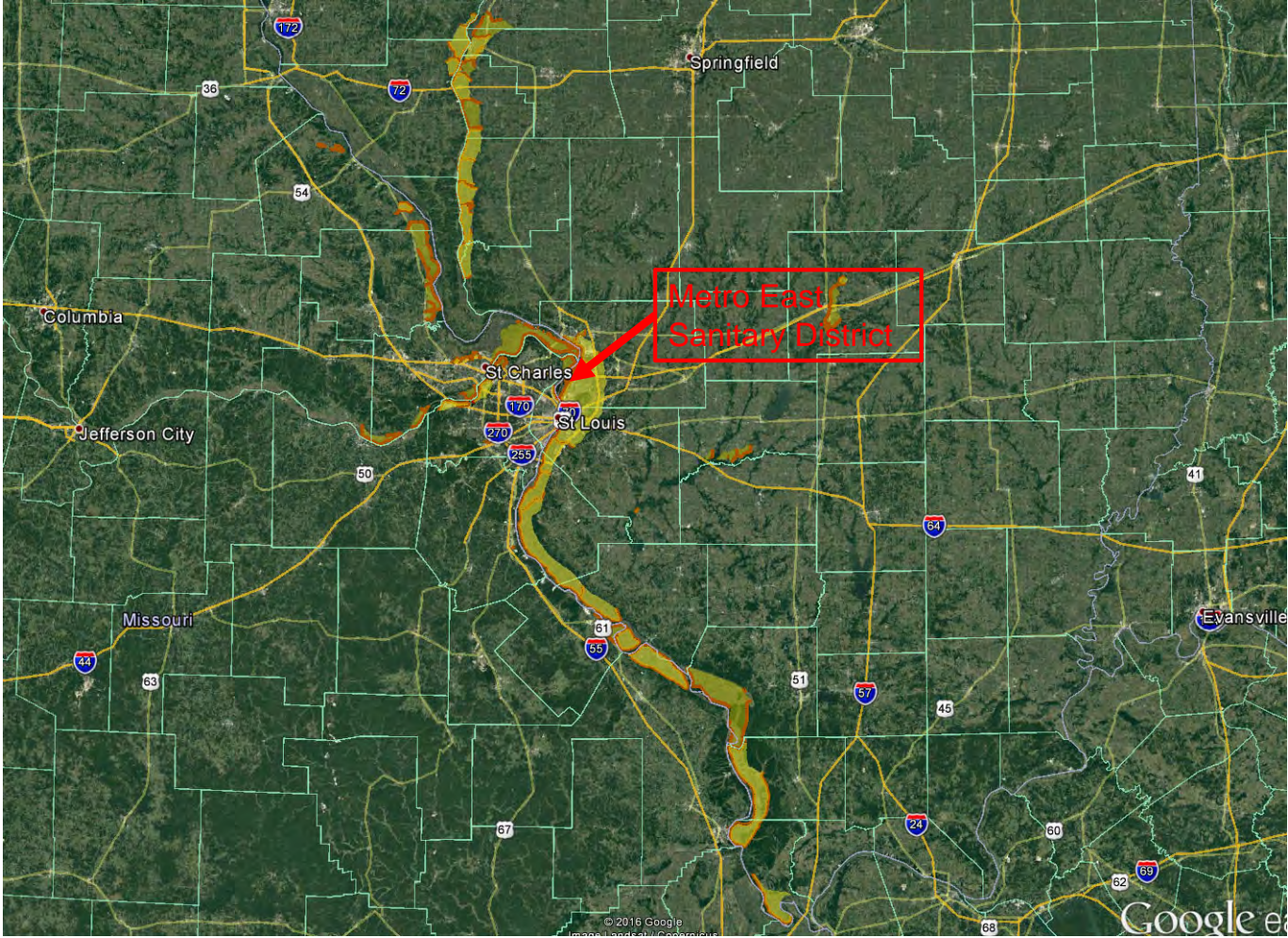






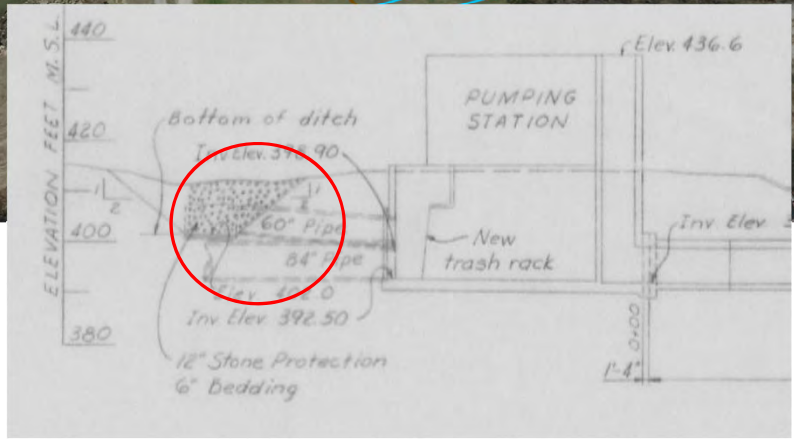
ST. LOUIS – CARR ST. PUMP STATION

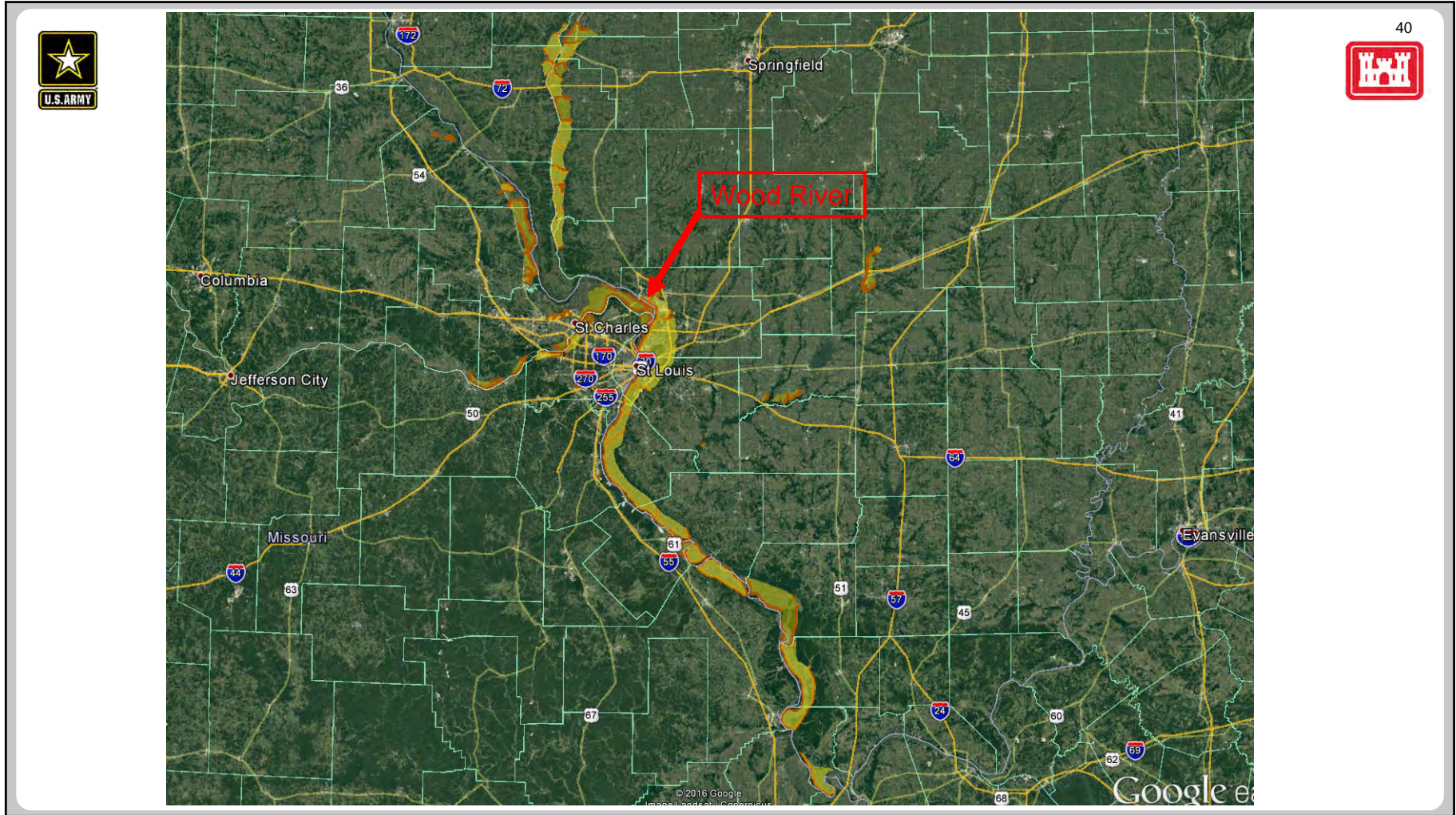






MESD – MADISON PUMP STATION







WOOD RIVER – EAST ALTON PUMP STATION





RECOVERY – PUBLIC LAW 84-99



- Floods between 2015 and 2017 resulted in 34 rehabilitation projects
 - Total costs over \$54 Million
 - 6 projects were still in construction prior to 2019 Flood Event
- **New Damages**
 - 30-40 new projects anticipated
 - ~\$50M Estimated
 - Requests for Assistance
 - Official window starting 26 July
 - “Preliminary” requests for assistance
 - Bulk PIR funds request
 - Initial repair at Nutwood





QUESTIONS



43

