

ASFPM National Conference

Plenary Session 1; Managing Flood Risk in the Heartland



Programs, Projects & Training to Reduce Flood Losses or, How 'Bout that



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May 2, 2017
Kansas City, Missouri



National Flood League



VS



Team: Angry Mother Nature

Team: U.S. (all of us)

Assets: Lightning Speed
Hurricane Force Winds
Unpredictability

Assets: Increasing Risk Knowledge
Determination
Deep Pockets

Vulnerabilities: None Known
Objectives: Inflict Life Loss and
Property Damages

Vulnerabilities: Predictable
Objectives: ~~Control~~ Manage Risk

Skill Area: Offense

Skill Area: Defense



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National Flood League



Playing Field: Cities, Towns, and Communities everywhere
Line of Scrimmage: Rivers and Coastlines across U.S.

Angry Mother Nature Offensive Starters: Rainfall/Snowmelt Runoff
U.S. Defensive Starters: Dams and Levees



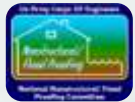
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2011 Missouri River Defensive Line

Fort Peck, Garrison, Oahe, Big Bend, Fort Randall, Gavins Point



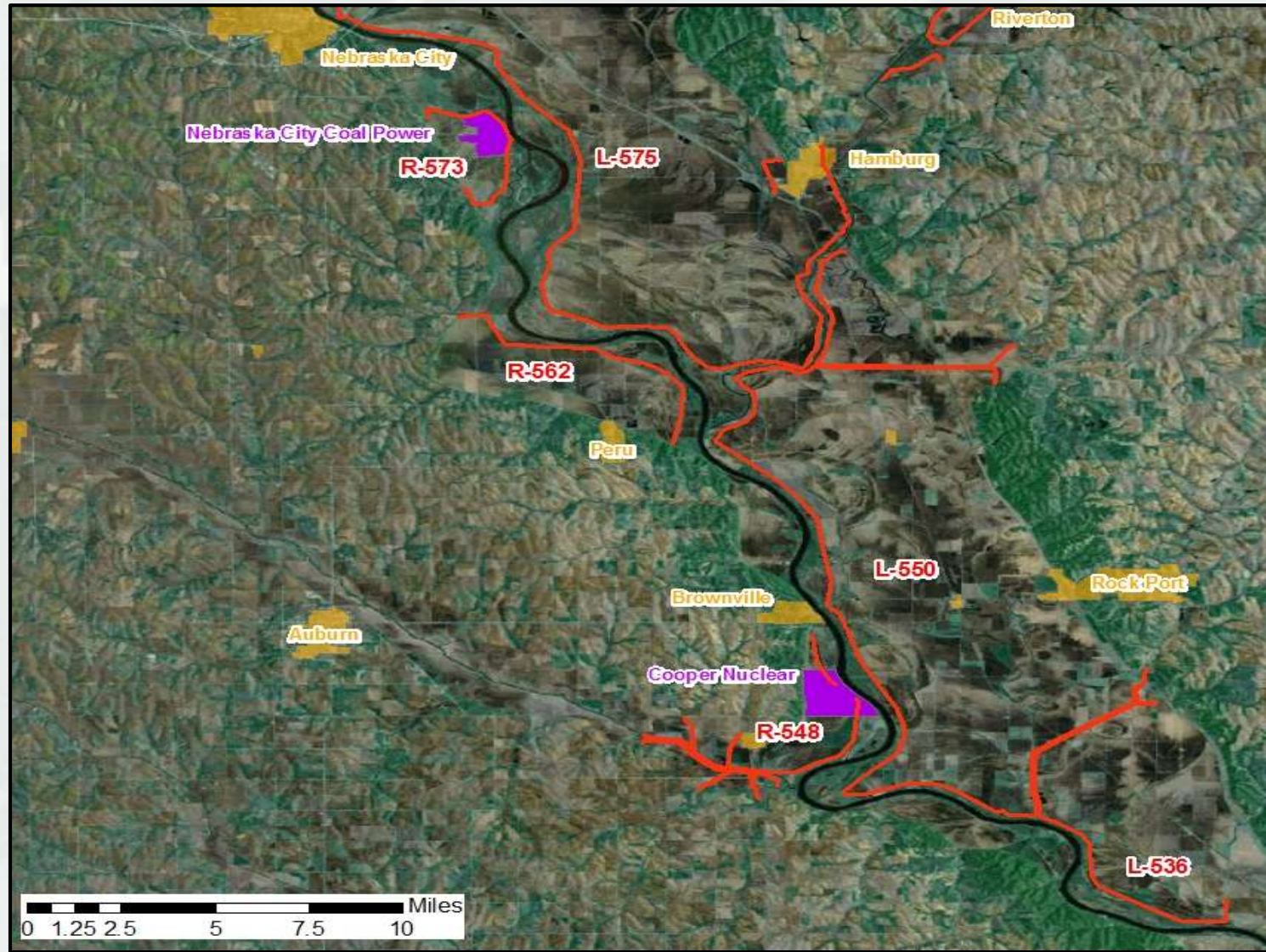
US Army
Corps of Engineers
Omaha District



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2011 Missouri River Linebackers

Federal Levee Systems



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Missouri River Flood Consequences

Total Estimated 2011 Flood Costs: \$2.2 Billion; 5 Deaths

- **Seven States Impacted**

Montana, North Dakota, South Dakota, Nebraska, Iowa, Missouri, and Kansas

- **Life Loss**

- **Damages to Property**

- **Transportation Impacts**

- **Emergency Costs**

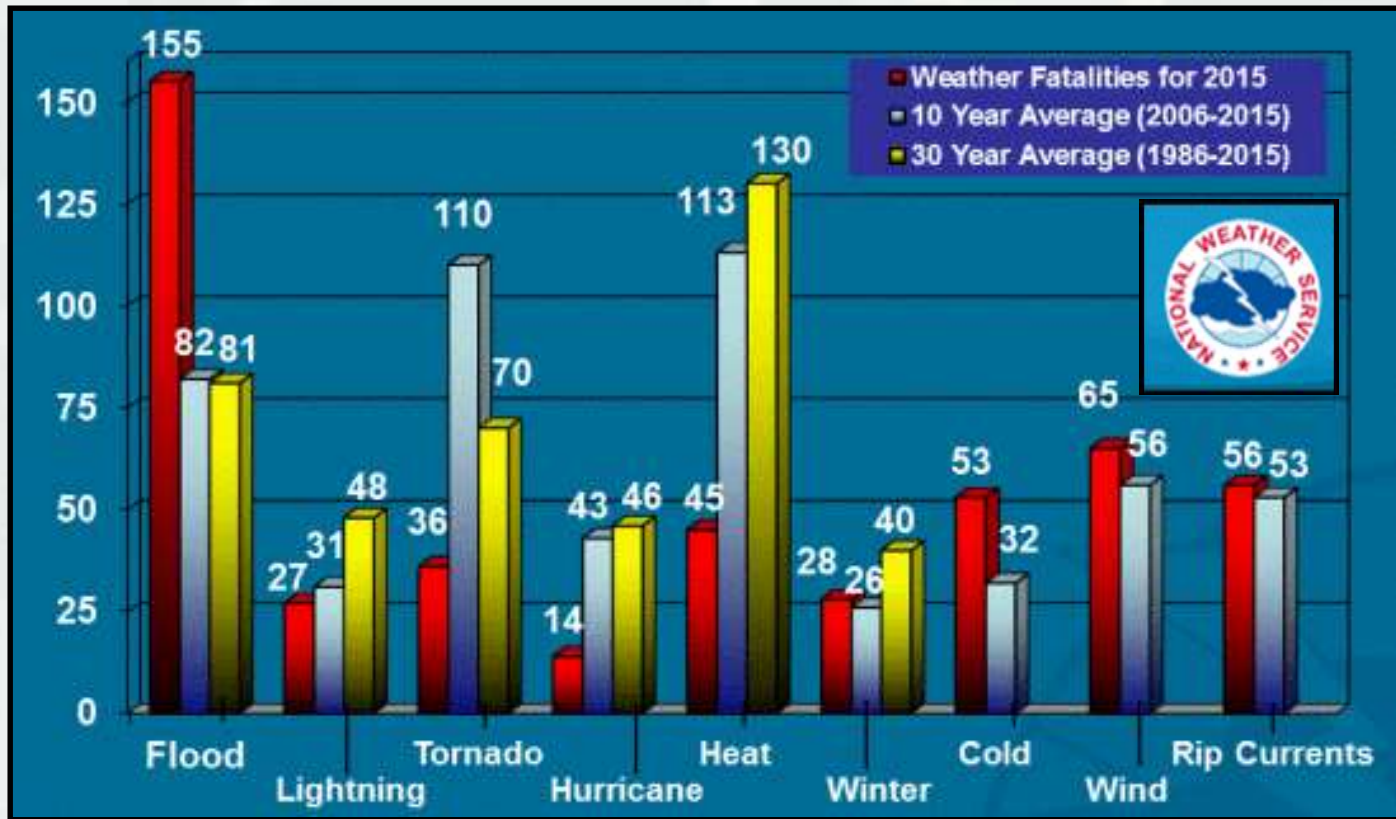
- **Business Losses**

- **Health and Welfare Expenses**



Angry Mother Nature Statistics

- Annual Property Damages of \$10.2 Billion (1985-2016)
- Weather Fatalities (2015):



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USACE Defensive Adjustments

Nonstructural Flood Risk Management Measures

Physical nonstructural measures are implemented on individual structures to reduce flood damages:

Acquisition

Relocation

Elevation

Dry Flood Proofing

Wet Flood Proofing

Basement Removal

Nonphysical measures are implemented as a combination of floodplain management and planning functions:

Floodplain Mapping

Land Use

Flood Insurance

Evacuation Planning

Flood Warning

Zoning

Operational Changes

Emergency Preparedness Plans



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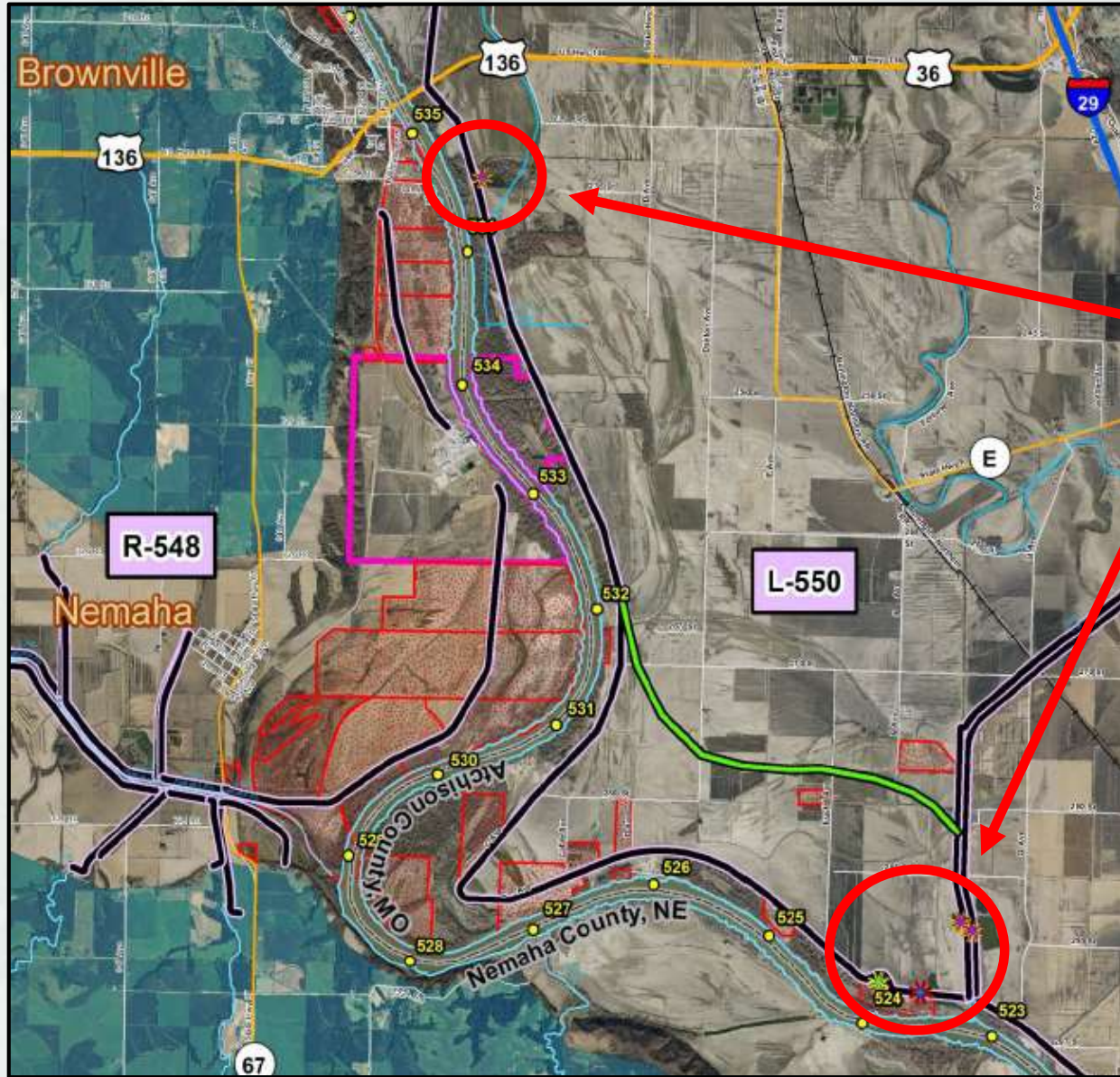
National Flood League Accountability

Repetitive Loss property is any insurable building for which two or more claims of more than \$1,000 in property damages were paid by the National Flood Insurance Program within any rolling ten-year period. Repetitive Loss property is targeted for mitigation.



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What About Repetitive Loss Infrastructure ?



Locations of
Historic
Damages to
Levees



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Missouri River Frazer's Bend Levee Setback



Levee Setbacks Provide:

- alternative to repairs in-place
- flood risk considerations
 - reduced damages
 - resilience
 - reliability
- environmental benefits
- reconnected floodplain



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Post Levee Setback Environment



A Flood Risk Management Question: If we continue to do what we have always done, why would we expect different results?



Decimated Land Due to Flooding



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**Welcome to the 2017 ASFPM
National Flood League
Training Camp**



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