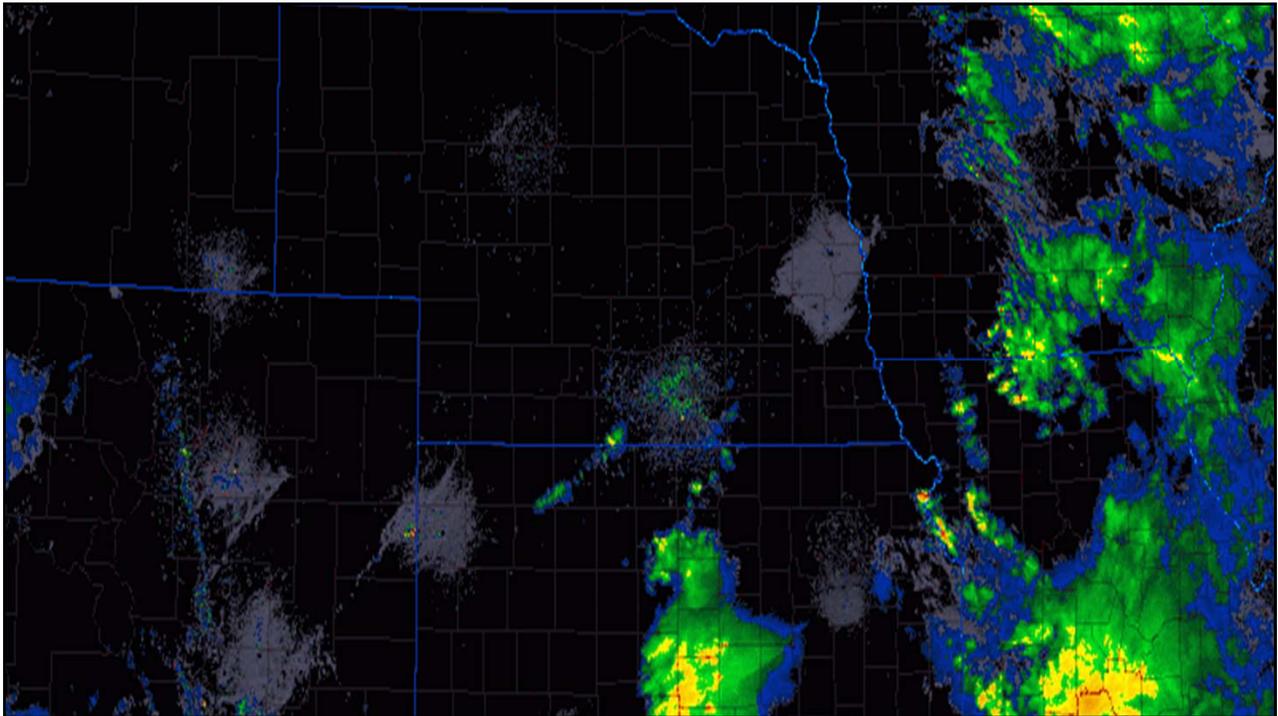
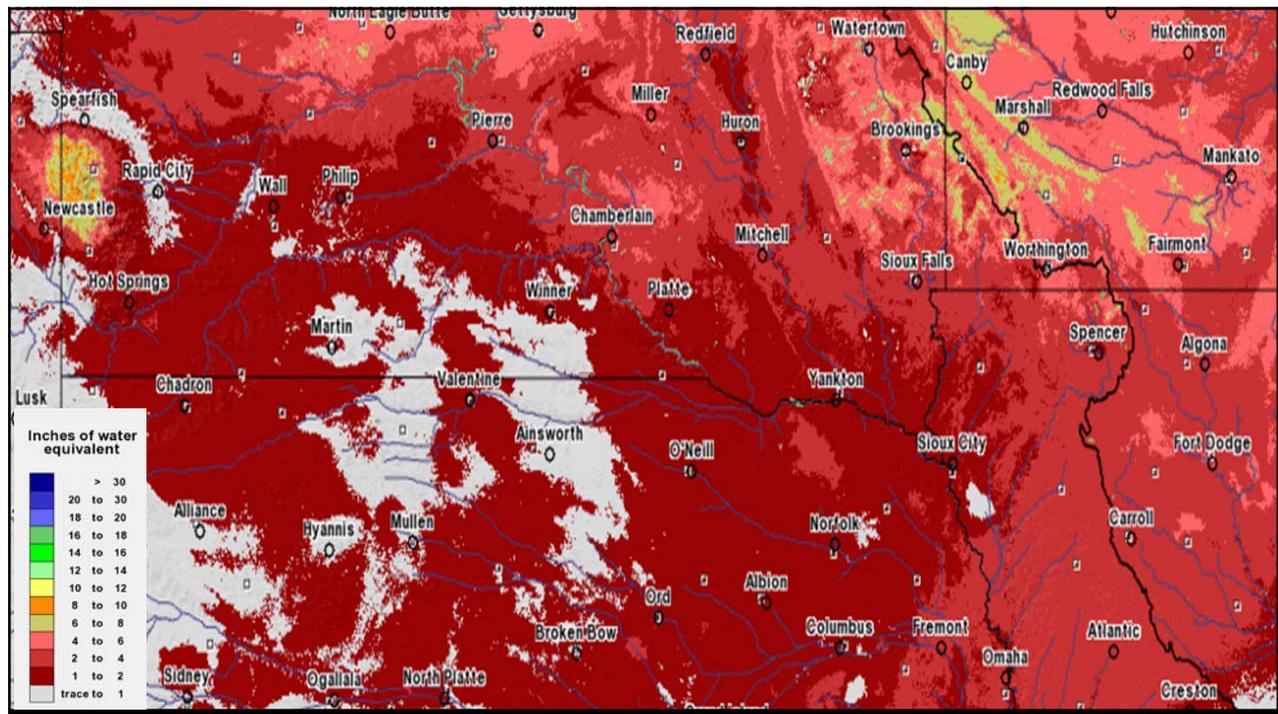


Kansas Flooding 2019

Angee Morgan
Kansas Division of Emergency Management
Deputy Director

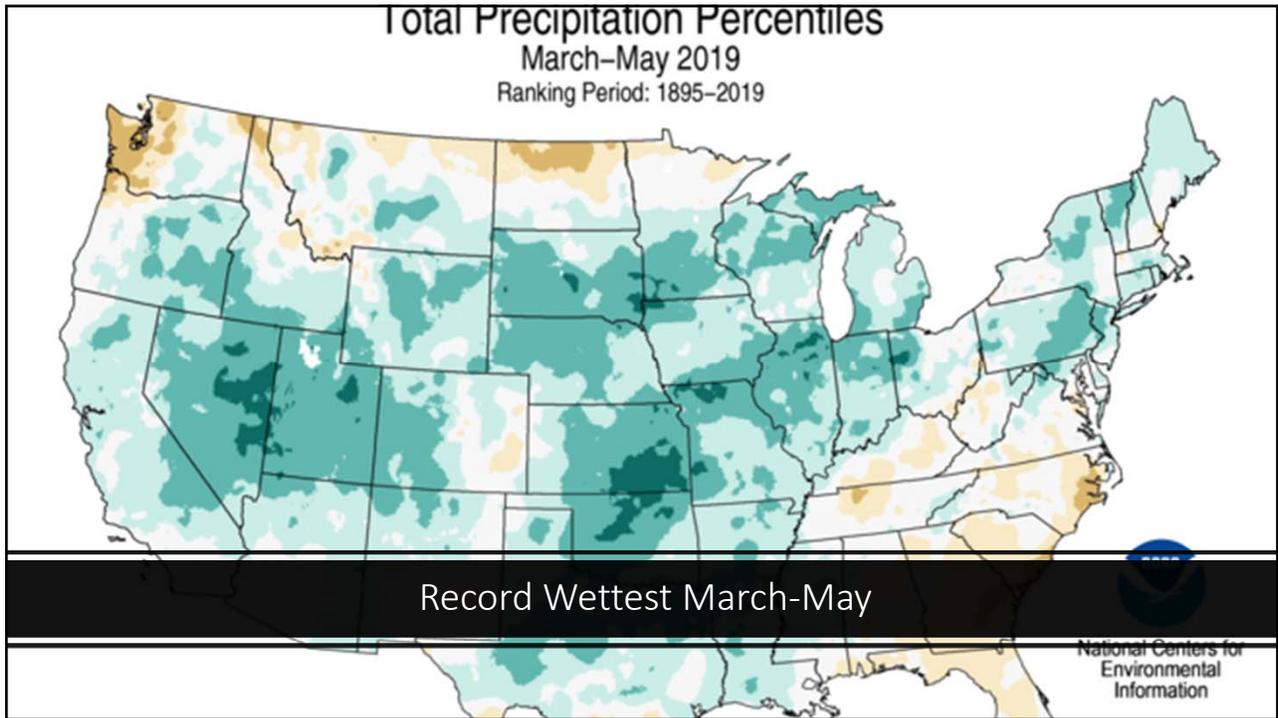
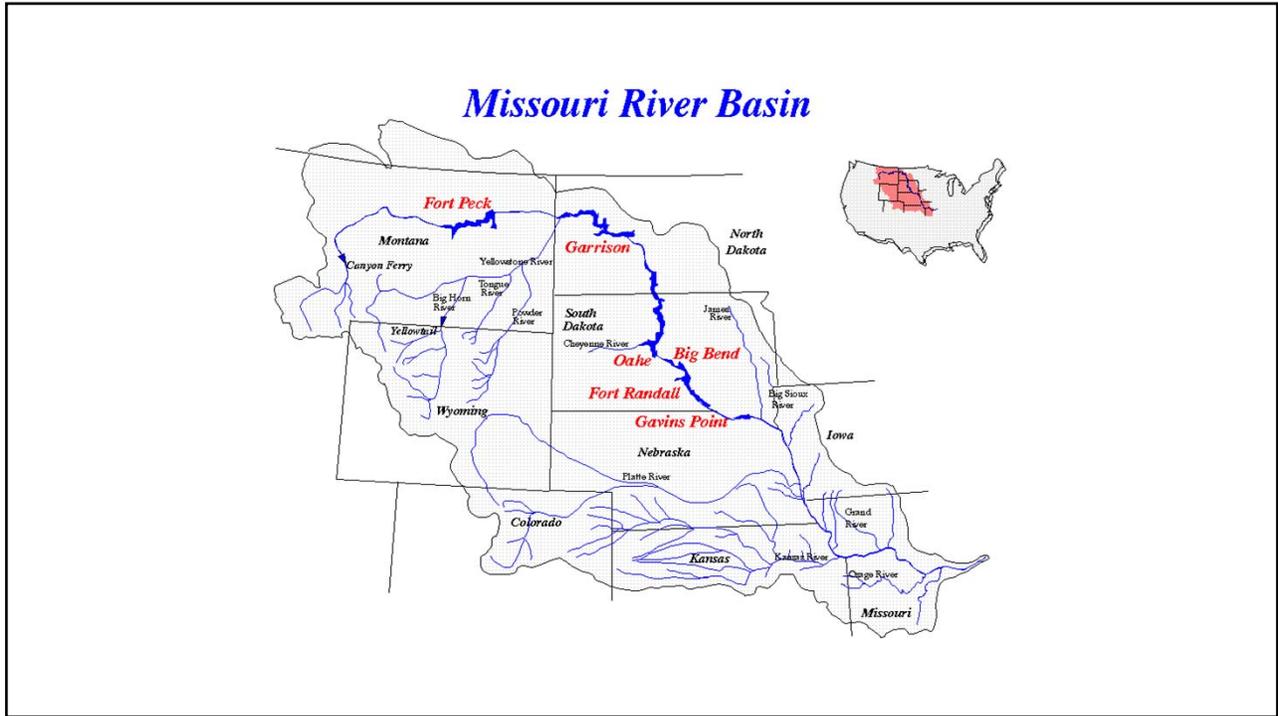


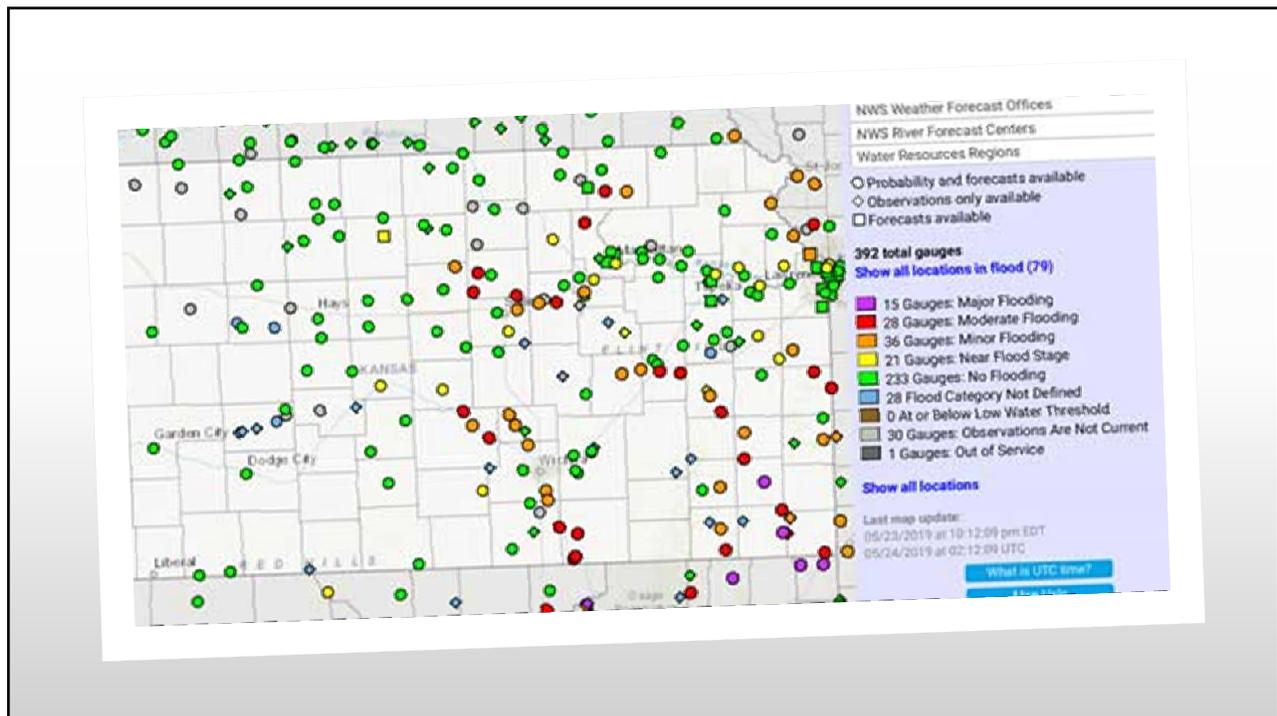
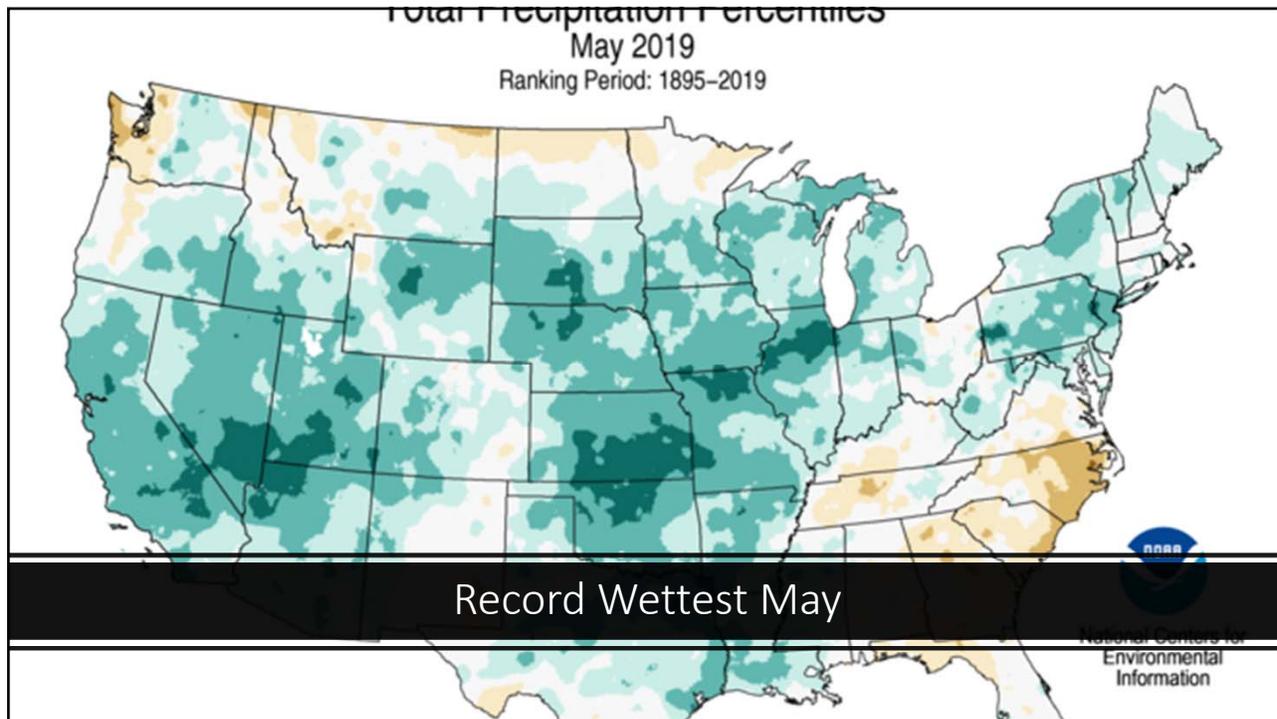


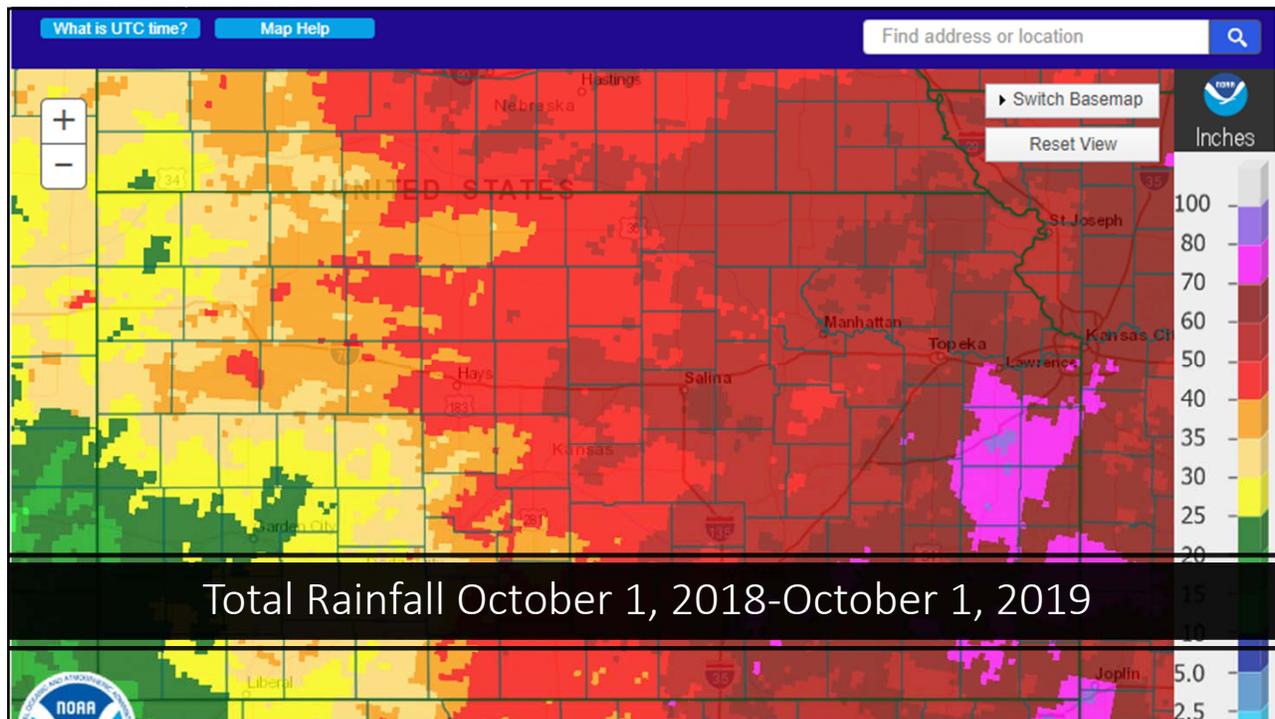
March 12-14

- Bomb Cyclone produced a rapid snow melt along with Heavy rains of 1-3 inches on top of frozen ground in the Missouri River basin in March.
- Widespread rapid rises occurred on unregulated tributaries into the Missouri River and Big Blue.
- Lead to record crest at Missouri River near Elwood and high Flows into Tuttle Creek and Big Blue River at Blue Rapids upstream of Tuttle Creek above flood stage by March.









2019 Kansas Flooding

-  Wettest May on record for Kansas
-  During May over 90% of monitored rivers were above flood stage at some point in Kansas.
-  Big Blue River at Blue Rapids above flood stage since late March
-  These high flows/levels created substantial disruptions to travel and recreation activities with costly damages.
-  Some locations have received extra 30-40 inches of rain in the past year
-  Caused by persistent weather pattern set up in March and did not break down until late June.

Actions and Impacts



Missouri River Flooding

March 15-28, 2019



COOPER NUCLEAR POWER PLANT – UNUSUAL EVENT



ROAD, HIGHWAYS AND INTERSTATE CLOSURES – BLIZZARD AND FLOODING



US COAST GUARD CLOSED MISSOURI RIVER FOR ALL VESSEL TRAFFIC

State Impacts – March 15-28, 2019



Levee protecting Elwood-Doniphan County

Doniphan
County
Impacts

HISTORIC CREST: March 22, 2019: 32.12 feet

Levee overtopped north of White Cloud (MRLS500)

Shelter management

Pet Shelter management (2)

Voluntary evacuation

Road & highway closures

Agriculture damage

Sandbagged 800 foot area

Classes moved from Elwood to Wathena

Wathena lagoons compromised



Rural Atchison County

Atchison
County
Impacts

HISTORIC CREST – March 22, 2019: 31.20 feet

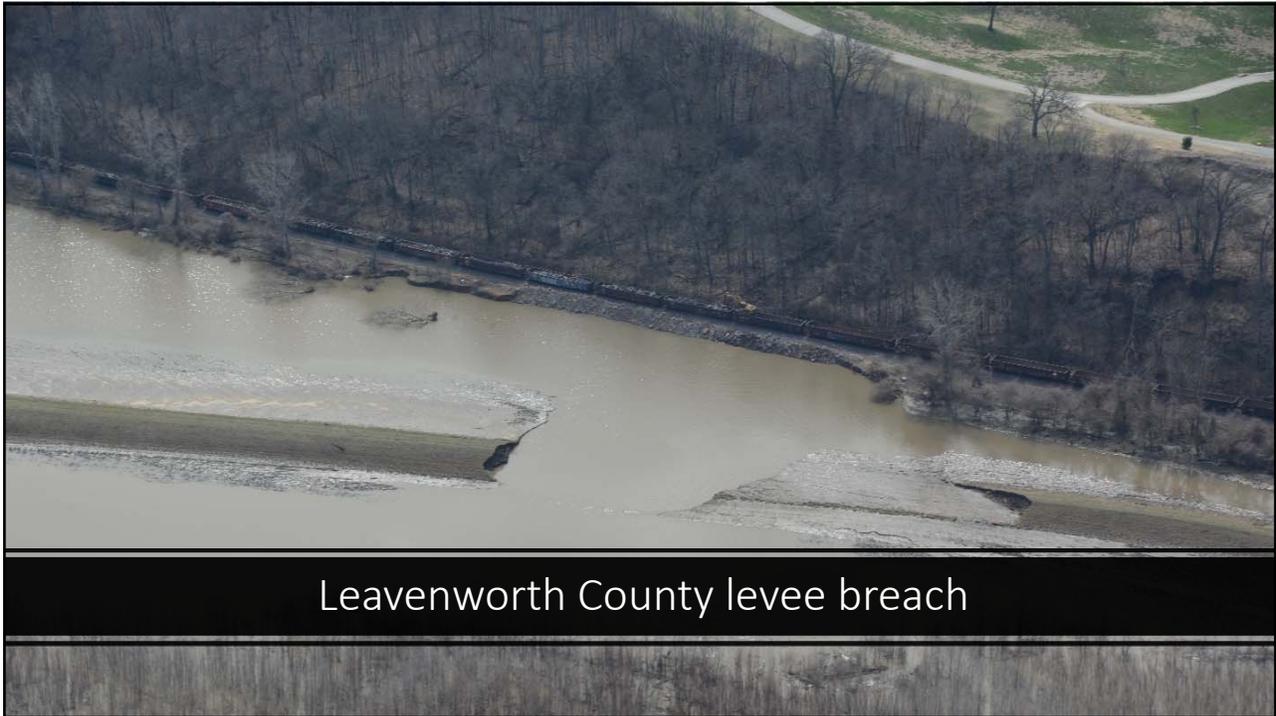
Numerous roads & highways closed

Agriculture damage

City wastewater on bypass

Boil water advisory

Grape-Bollin-Schwartz levee overtopped



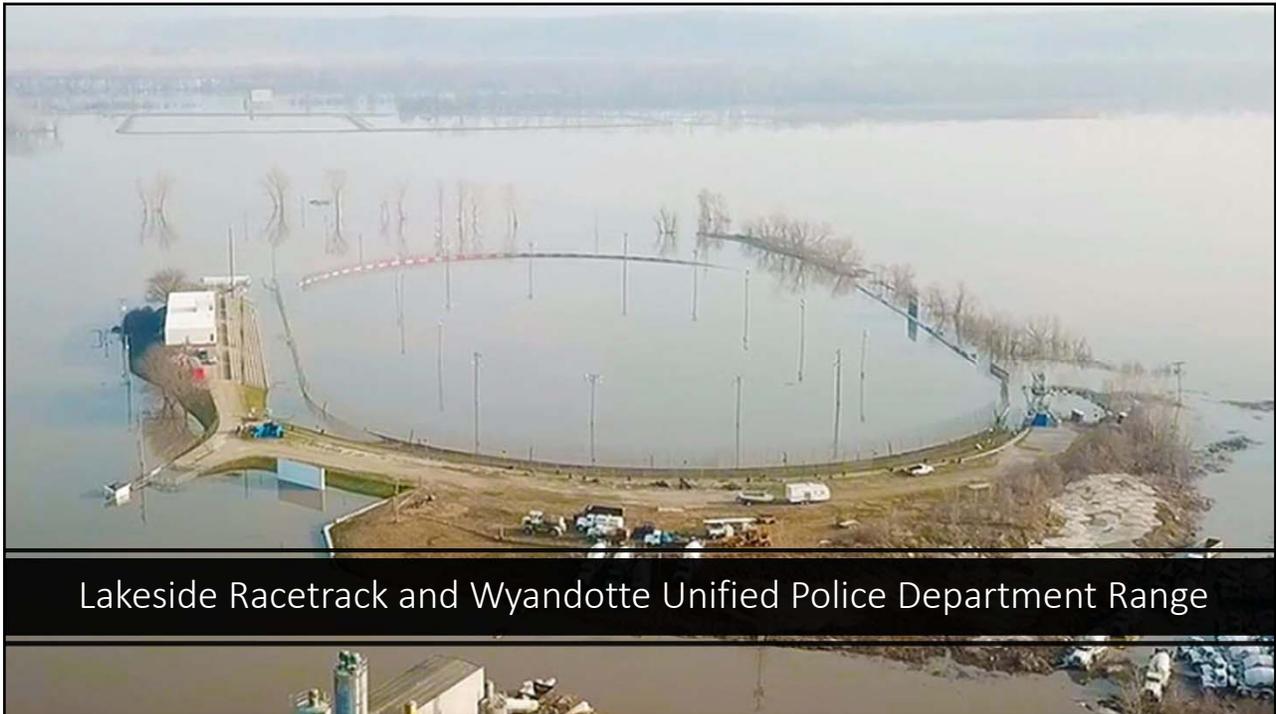
Leavenworth
County
Impacts

HISTORIC CREST 3/23/2019: 31.30 feet

SANDBAGGING

KANSAS DEPARTMENT OF CORRECTIONS
PROVIDED PRISON LABOR TO SANDBAG
AROUND THE CORRECTIONAL FACILITY

LANDING & RIVER FRONT PARKS CLOSED



Lakeside Racetrack and Wyandotte Unified Police Department Range

Wyandotte
Unified
Government

Wolcott #1, #2, and #3
overtopped

Roads closed

Lakeside racetrack closed and KC
Police Firing Range flooded

HISTORIC CREST 35.01 feet
03/23/2019

SEOC Mission Assignments



TRANSPORTATION
SUPPORT



LAW ENFORCEMENT
SUPPORT



PET SHELTER SUPPORT



WATER RESCUE
OPERATIONS



USACE FLOOD FIGHT
SUPPORT



LOCAL INCIDENT
MANAGEMENT
SUPPORT



KANSAS NATIONAL
GUARD OPERATIONS



SEOC ACTIVATION



Multi-Hazard Event

April 28-July 12, 2019



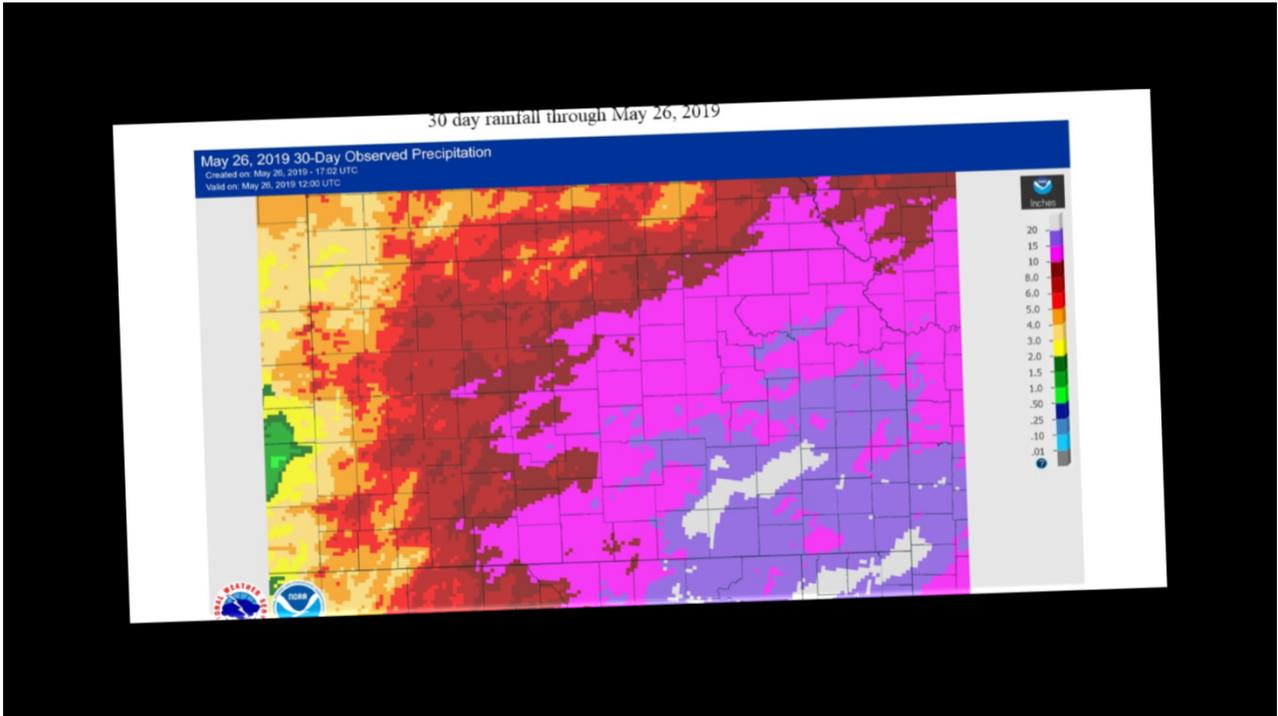
April 28

- Heavy thunderstorms and torrential rains
- High saturated soil
- High groundwater tables
- High stream and river levels
- High reservoir levels
6 reservoirs were in 24-hour Surveillance level
- 110 USGS gauges flooded
Record peaks on 3



April 28

- Governor directs execution of the Kansas Response Plan and issues State Disaster Declaration





May 26

Governor request Emergency Declaration for 46 counties for severe thunderstorms, tornadoes, hail, high winds, torrential rains, flooding and flash flooding

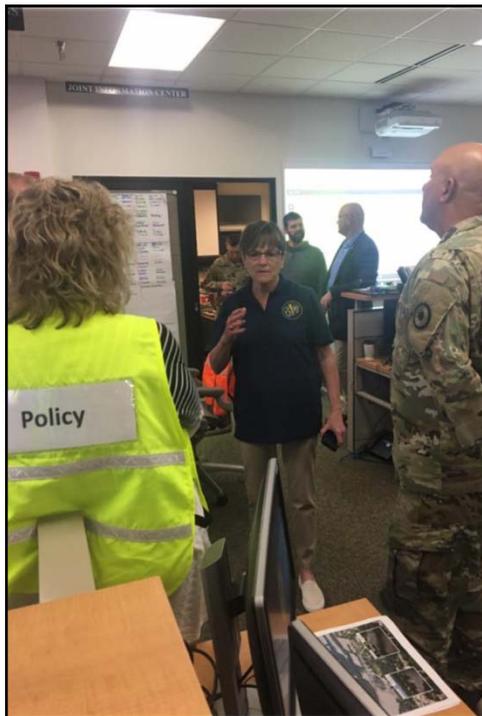
Allen, Anderson, Barber, Barton, Butler, Chase, Chautauqua, Cherokee, Clark, Clay, Cloud, Coffey, Comanche, Cowley, Crawford, Dickinson, Doniphan, Elk, Franklin, Geary, Greenwood, Harvey Jefferson, Kingman, Lincoln, Lyon, Marion, McPherson, Meade, Montgomery, Morris, Neosho, Osage, Ottawa, Pawnee, Pottawatomie, Pratt, Reno, Rice, Riley, Rush, Saline, Sumner, Wabaunsee, Wilson and Woodson

Emergency Declaration

- CFR 44 Section 206.61
- Provides supplementary federal emergency assistance to save lives, protect property, public health or safety, or avert the threat of a disaster
- Emergency assistance differs from disaster assistance. It is intended to avert catastrophe through the support of emergency actions.

Emergency Declaration

- Allows FEMA to identify, mobilize and provide at its discretion, equipment and resources necessary to alleviate the impacts of the emergency.
- Limited to emergency protective measures and does not include any restoration or permanent repairs.

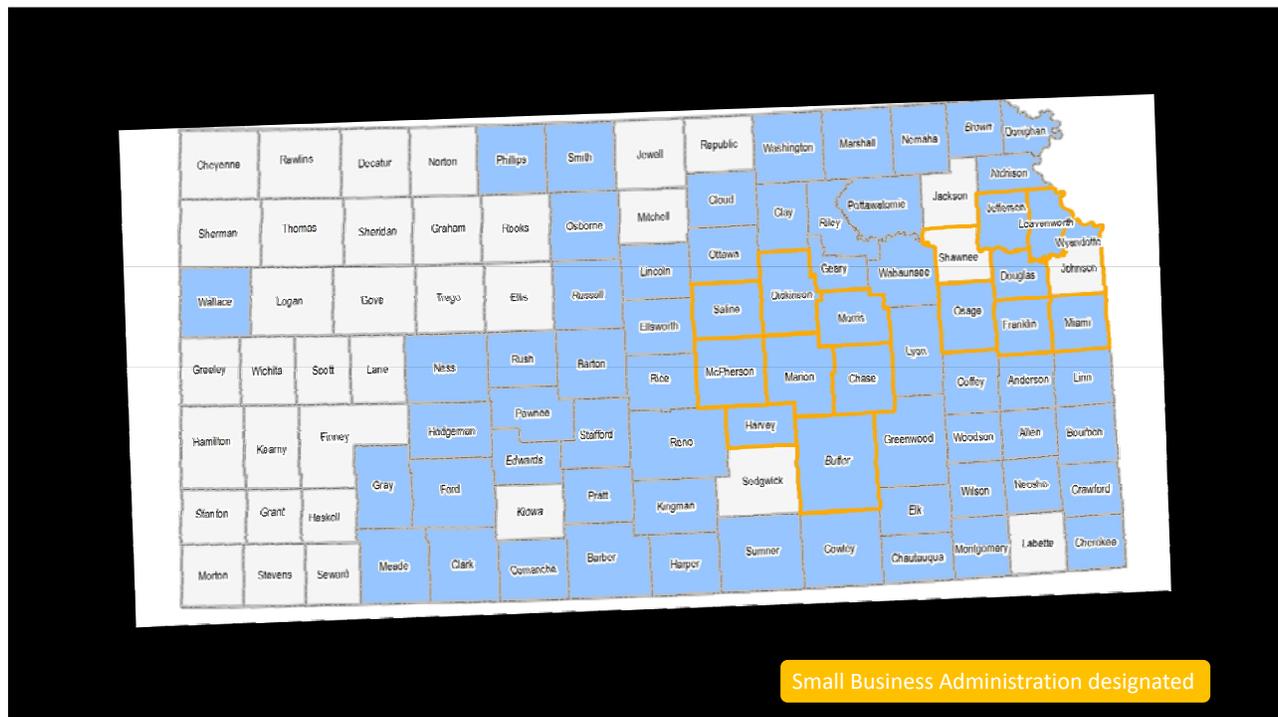


June 10

Governor Kelly requests a major presidential declaration for 63 counties for the Public Assistance Program and 105 counties for the Hazard Mitigation Program.

A total of 71 counties were requested for the Public Assistance Program

- 70 counties were approved by the President for a total of 565 applicants
- One county (Norton) withdrew because of insufficient damage



Major Presidential Declaration – Public Assistance Program

- CFR 44 Section 206.200
- Provides disaster funds for the repair, restoration, reconstruction or replacement of public facility or infrastructure that is damaged or destroyed because of the disaster and meets eligible criteria
- Eligible recipients are state governments, locals, counties, townships, and other political subdivisions of the state, Indian Tribes and certain private non-profit organizations that provide essential services of government nature to the public

Mission Taskings

- Civil Air Patrol
- Communications support
- Emergency Management Assistance Compact (EMAC)
- ESRI Disaster Response
- Federal assistance for EM-3412
- Hazardous Materials support
- Kansas National Guard activation
- Law enforcement support
- Local incident management team support
- Mutual aid facilitation
- Pet sheltering support
- Public health support
- Search & Rescue operations
- Transportation support
- USACE flood fighting support
- Water rescue operations

Agencies Activated

Adjutant General's Department	Highway Patrol
Department for Aging & Disability	National Guard
American Red Cross	National Weather Service Office
Civil Air Patrol	Office of the State Fire Marshal
Governor's Office	River Forecasting Centers
Department for Children & Families	State Animal Response Team
Department of Transportation	Task Force 1 - State Search & Rescue Team
Division of Emergency Management	Salvation Army
Environmental Protection Agency	United States Army Corps of Engineers
Federal Emergency Management Agency	Water Office
Health & Environment	Wildlife, Parks & Tourism

Impacts

Homes & Businesses*

- 548 homes damaged
- 1 business damaged
- 355+ persons evacuated

*reported



Leavenworth County Tornado

Evacuations

- Burlington (Coffey)
- Cherokee County
- Coffeyville (Montgomery)
- Durham (Marion)
- Erie (Neosho)
- Elmdale (Chase)
- Eureka (Greenwood)
- LaCrosse (Rush)
- Gypsum (Saline)
- Larned State Hospital (Pawnee)
- Hutchinson (Reno)
- Nickerson (Reno)
- New Cambria (Saline)
- Melvern Reservoir (Osage)
- Montgomery County
- Peabody (Marion)
- Salina (Saline)
- Tescott (Ottawa)
- Tuttle Creek Reservoir (Riley)

Water Rescues/Search & Rescue*

- Butler
- Greenwood
- Cowley
- Douglas
- Leavenworth
- Lyon
- Marion

* Reported



Mass Care, Sheltering, and Pets

- Shelters (20+)
- Pet Shelters
- Volunteer management
- Donations Management



Transportation

- highways closed
- I-70 closed
- township, county, city roads closed
- shortage of traffic barriers - local level
- bridge damage
- Kansas Turnpike closed (Sumner)



Kansas Turnpike – Sumner County

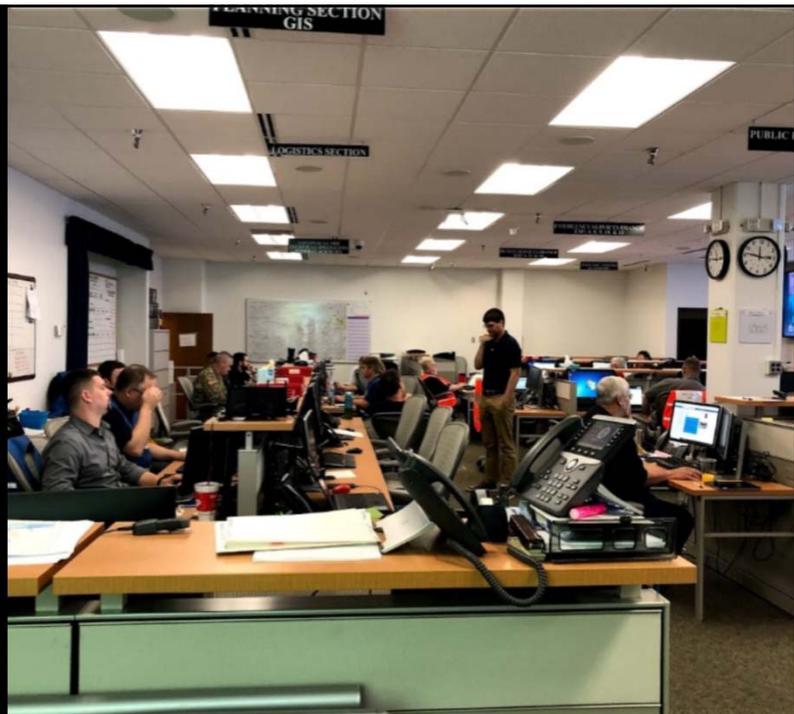
Public Works & Engineering

- Water intake wells, lift stations and water treatment facilities compromised
 - 140 facilities bypassed
 - 1.3 B+ gallons in 452 incidents
 - 14 boil water advisories
 - 3 communities on alternative suppliers
- City lagoons overtopped
- Sewer backup
- Debris Removal



Emergency Management

- SEOC was activated for 65 days between April 28 and July 1
- EOC Support Teams
- Kansas Incident Management Team (IMT) (Riley)
- Facilitate and track mutual aid





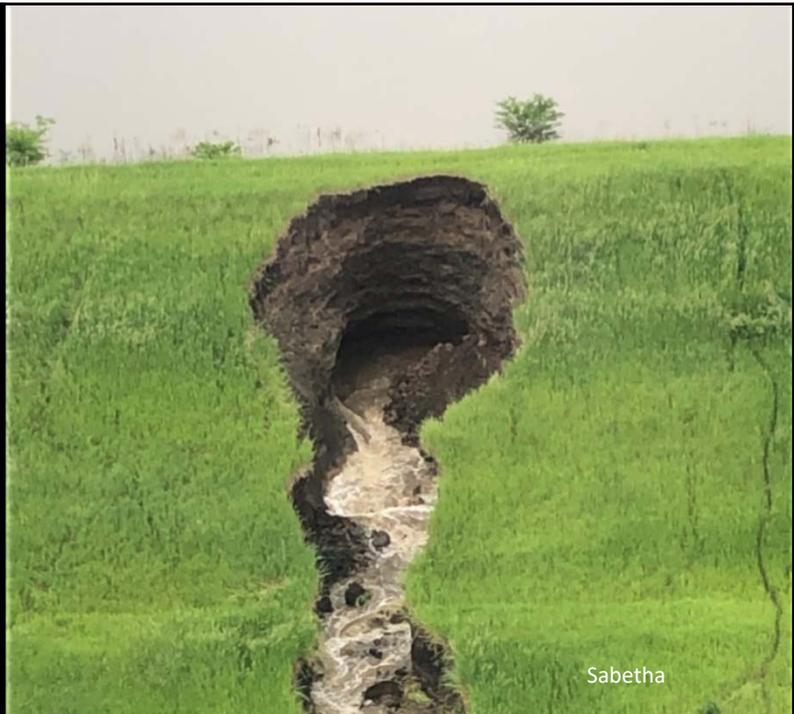
Hazardous Materials

EPA SUPPORT FOR
POTENTIAL LEVEE OVERTOP
IN COFFEYVILLE AFFECTING
COFFEYVILLE RESOURCES

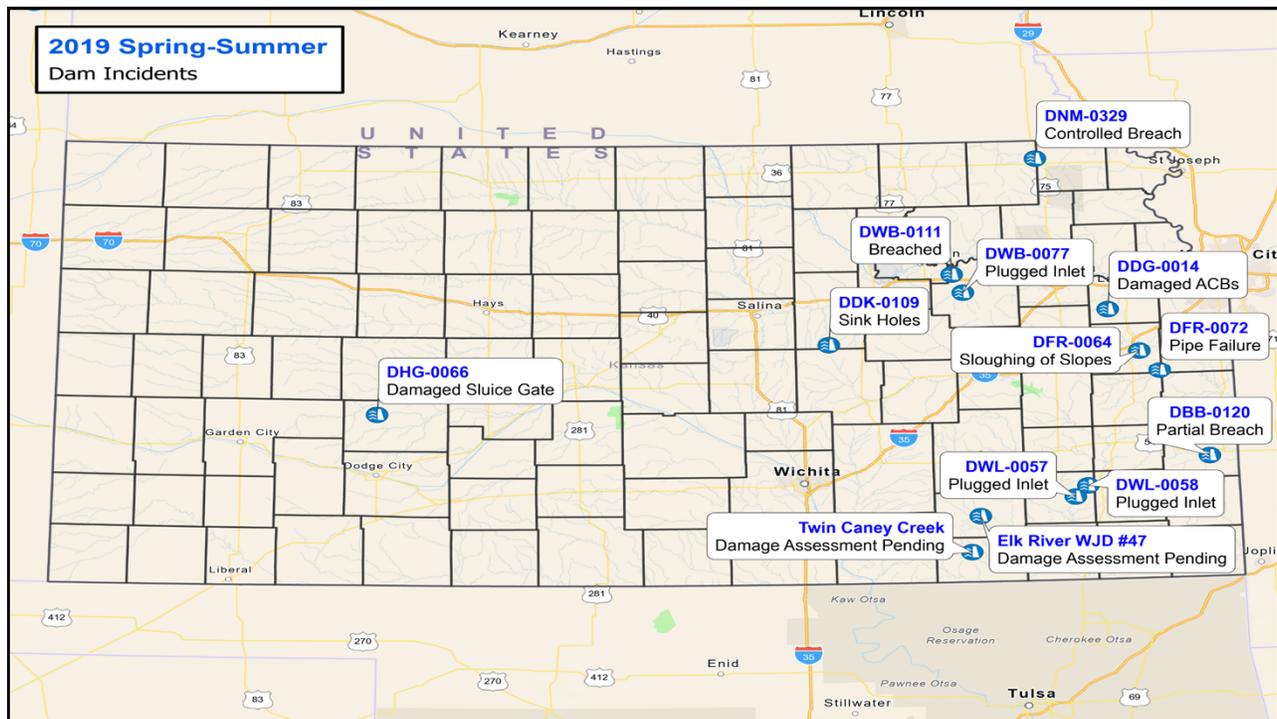
Agriculture

- 11 dams compromised*
- Range from breach to plugged inlets due to debris

*reported



Sabetha



FEMA Public Assistance Program

Administered by the Kansas Division of Emergency Management

Public Assistance Program – DR-4449



Provides funds for the repair, restoration, reconstruction, or replacement of a public facility or infrastructure that is damaged or destroyed because of the disaster and meets eligible criteria.



Eligible recipients include state governments, locals, counties, townships, and other political subdivisions of the state, Indian tribes and certain private non-profit organizations that provide essential services of a government nature to the public.

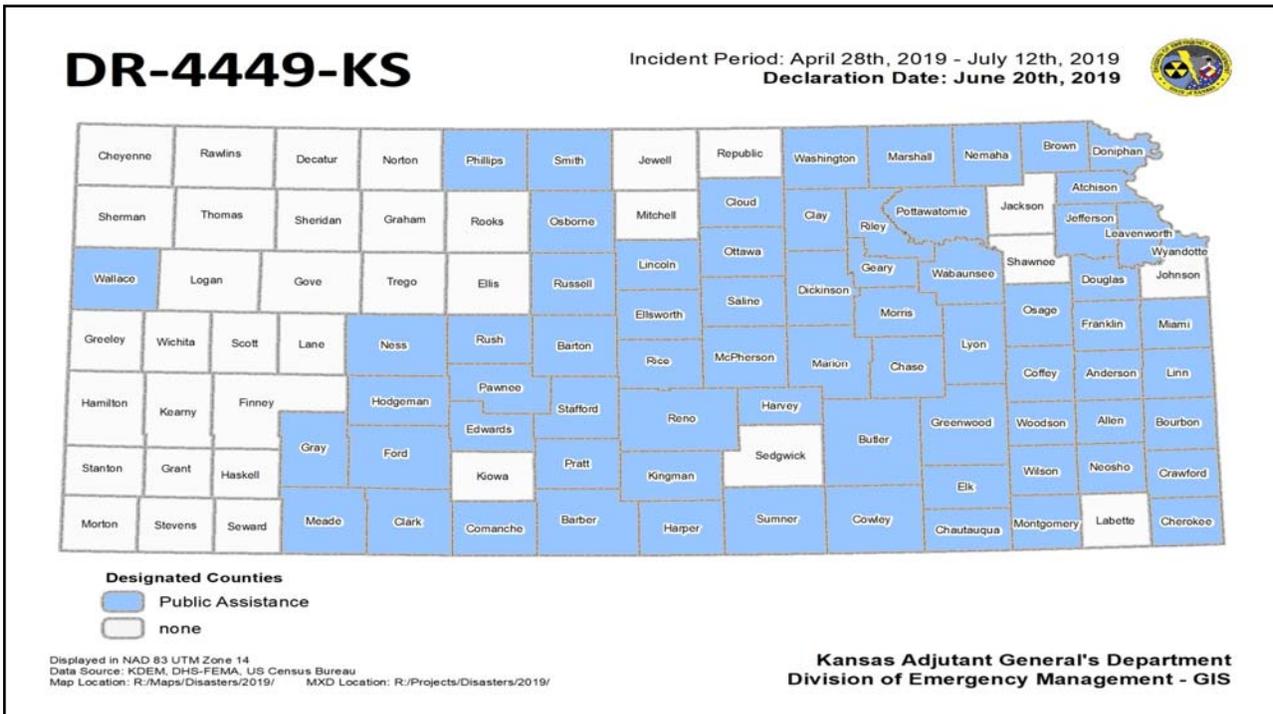


Federal government pays 75% of eligible approved project costs; state pays 10% and applicant pays 15%.



Categories of Eligible Work – Public Assistance

- Debris removal
- Emergency protective measures
- Roads and bridges
- Water control facilities (drainage channels, levees, dams, flood control)
- Buildings and equipment (repair & replacement; vehicles)
- Utilities (water treatment, power generation, sewage, communications)
- Parks, recreational facilities; other facilities



Damage Assessment Estimates – Public Assistance Program



Total Counties – 70



Total Preliminary Damage
Assessment - \$15,209,132.00

Expected to increase significantly because
only county threshold was captured and
much of the damage was underwater



Total eligible applicants - 565

Small Business Administration Disaster Loans

Low-interest disaster loans to businesses, private non-profit organizations, homeowners, and renters.

Small Business Administration (SBA) disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate, personal property, machinery and equipment, and inventory and business assets.



**Small Business
Administration**
Douglas – June 10th



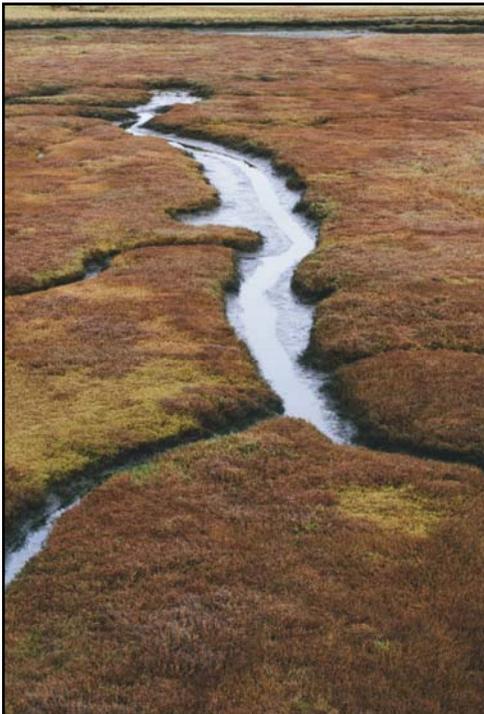
Marion – July 24th

A graphic consisting of three overlapping blue circles on a dark grey background. A light blue horizontal bar is positioned across the middle of the circles, containing the text "Lessons Learned" in a bold, black, sans-serif font.



Improvements

- Build resiliency in water and wastewater systems
- Public water supply emergency plans (KSA 65-171n) need to be updated based on realistic assumptions
 - Identification of alternative water supplies
 - Contingency plans for supplying water if system fails



Improvements

- Improve river forecasting
 - Additional data collection as recommended by the National Weather Service
 - Automated river gauges
 - Relocation of some river gauges
- Improve ability to produce flood inundation maps
 - Project in progress (KWO, KDEM, Kansas University)

Improvements

SEOC
Enhancements

Planning team
dedicated to flood
data collection

Sustain - Planning



Use of mapping products in the SEOC



Advanced planning activities



SEOC briefings



Rolling Common Operating Picture (COP)



Technical support in SEOC (National Weather Service, USACE, Kansas Water Office, etc.)



USACE & NWS liaisons/daily operational calls

Sustain - Logistics



Pre-position of standby resources



Resource inventory and accountability through statewide Comprehensive Resource Management & Credentialing System (CRMCS)



Logistics Staging Areas and Points of Distribution (POD) process and partnerships



Use of Emergency Management Assistance Compact (EMAC)

Sustain - Preparedness



TRAINING & EXERCISES



EMERGENCY SUPPORT FUNCTION (ESF) COORDINATION MEETINGS



TOOL KITS, JOB AIDS, STANDARD OPERATING GUIDELINES (SOGS), CONTACT LISTS, ETC.

