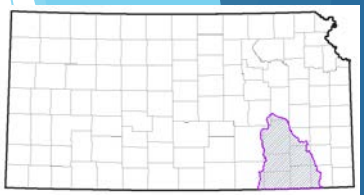
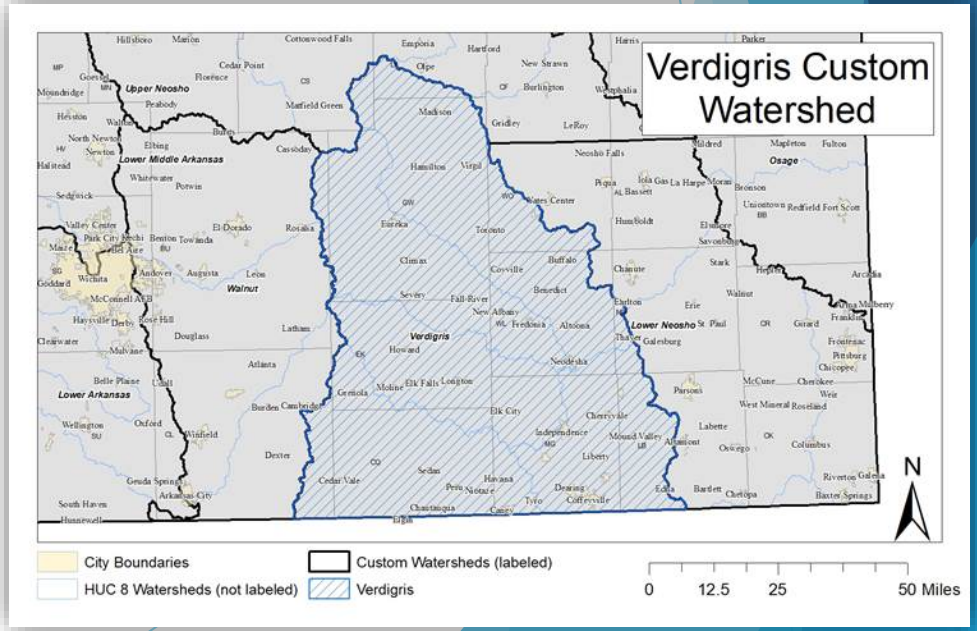


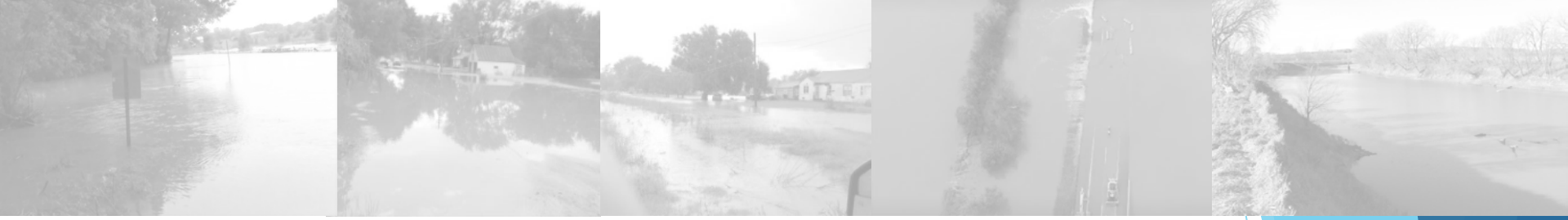
Verdigris Custom Watershed Discovery Meeting

April 21st, 2020

While we are waiting, please enter your name, email, and community in the chat box!



Kansas Department of Agriculture
Division of Water Resources



Thank you for joining us today!

Your input is very important to this work.

Rules of the Road

- Attendees will be muted during the presentation, to help eliminate background noise.
- Check out the chat to ask questions during the presentation! Or feel free to "raise your hand." We will pause for questions at various stopping points and have several poll questions.
- If you want to share your video, please do!
- For technical difficulties: send a private chat to Joanna Rohlf; or email Joanna.Rohlf@ks.gov
- We'll be recording this webinar for those who aren't able to attend today.

Kansas Department of Agriculture

Tara Lanzrath, CFM –
Floodplain Mapping Coordinator

Joanna Rohlf, CFM –
Floodplain Mapping Specialist

William Pace, CFM –
Floodplain Mapping Specialist

Steve Samuelson, CFM –
State NFIP Coordinator

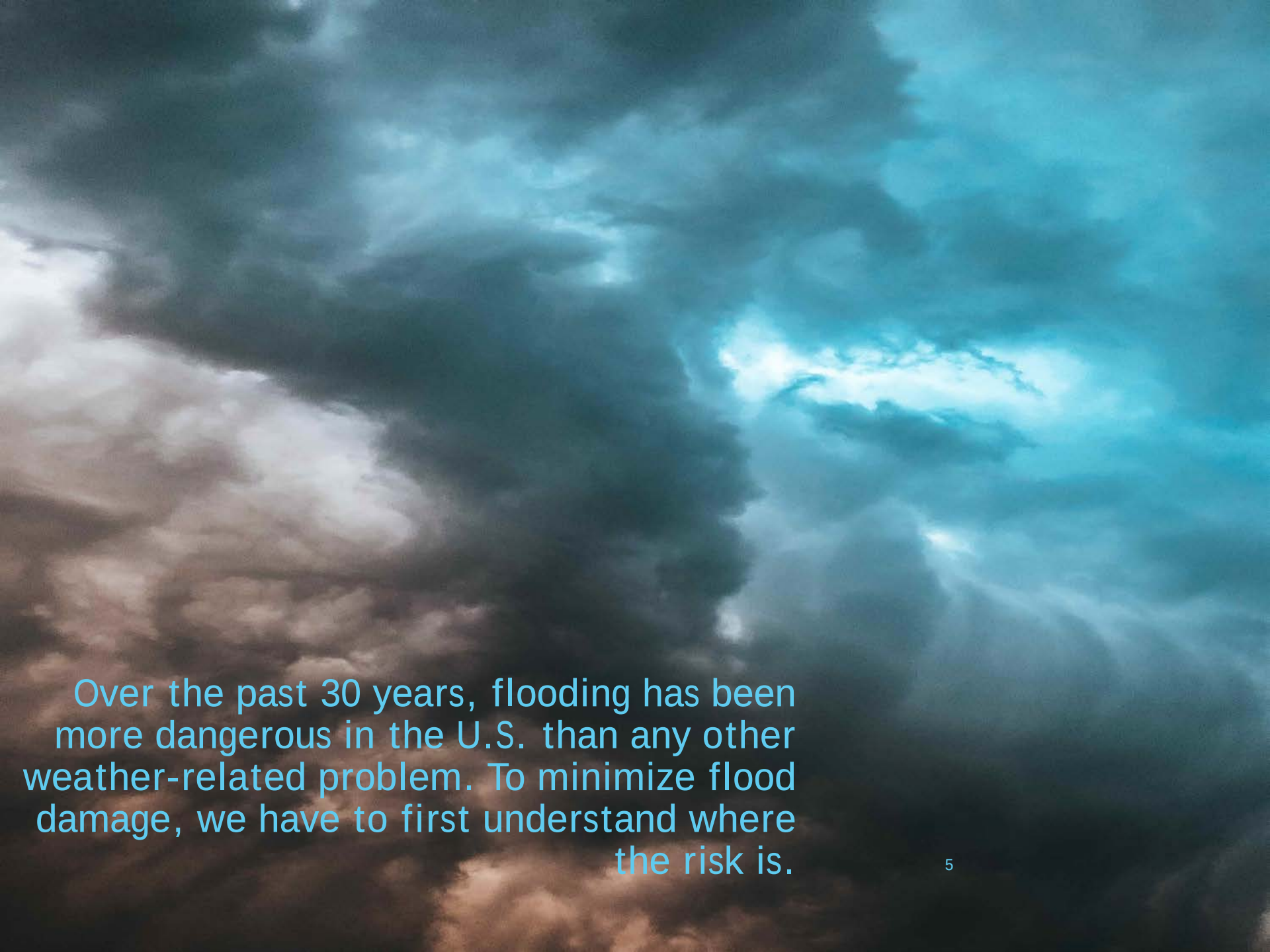
AECOM Technical Services, Inc.

Dan Curley – Production Lead
Hayden Edwards – Engineer
Dani Halloran - Engineer

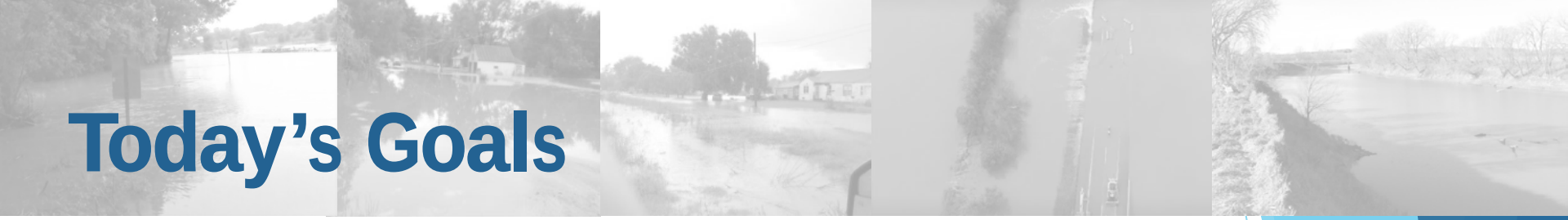
FEMA – Region VII

Andy Megrail – Regional Project Officer

Intros



Over the past 30 years, flooding has been more dangerous in the U.S. than any other weather-related problem. To minimize flood damage, we have to first understand where the risk is.



Today's Goals

- Give you an overview of the work ahead and why we do it.
  - This is the beginning, not the end!
- Review where we are now and why your input is important.
- Hear from you:
  - About your community's flood risk.
  - About how we might help you reduce risk.

Overview

Why We're Here?

- To develop a complete, current picture of your community's flood hazards and risks to help you better:
  - Understand how best to reduce that risk;
  - Plan to reduce the risk and prioritize your efforts; and
  - Ensure your residents understand their flood risk and what they can do.

Why Have Flood Maps?

- Understand flood risk so communities can make informed planning decisions.
- Determine where flood insurance is needed and rate its cost.
  - Flood Insurance Rate Map (FIRM)
- Provide the basis for updating community floodplain management ordinances.
  - These ordinances are your tool for reducing your community's vulnerability to flood risk.

FEMA Floodplain Mapping Program

- Risk Mapping Assessment and Planning.
- Supports the National Flood Insurance Program (NFIP). Performed on a watershed basis.
- Consists of both Regulatory & Non-Regulatory Products.
- Through RiskMAP, we provide updated floodplain maps, as well as other (free!) data and tools that can help you plan to reduce your community's risk.

RiskMAP
Increasing Resilience Together

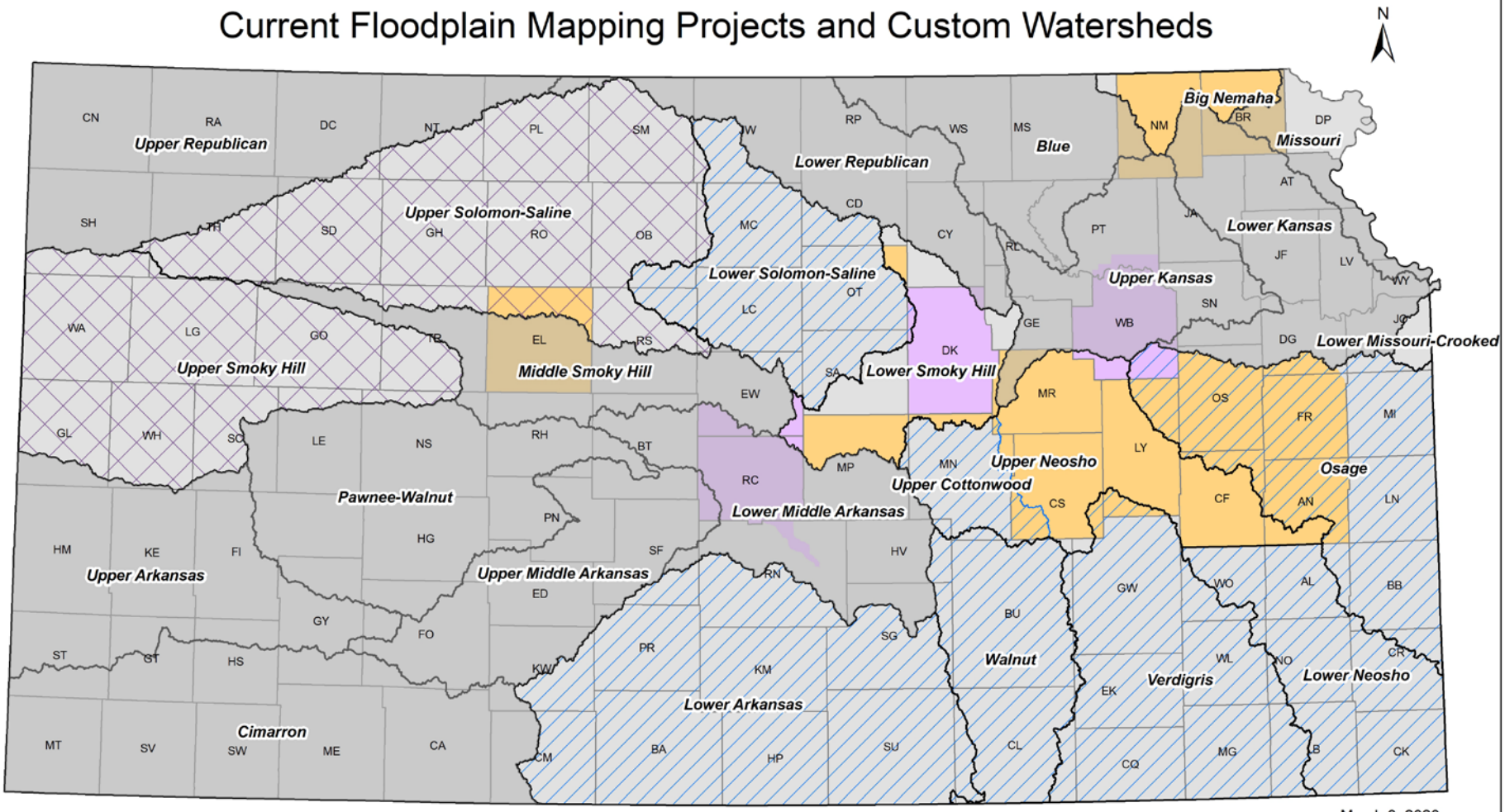
Planning: The "P" in Risk MAP

- The flood risk data from this work can – and should – inform your regional Hazard Mitigation Plan (HMP).
- Common themes in Region H HMP:
  - Identify and seek additional methods of financial and technical assistance for hazard mitigation projects.

    We Can Help with Technical Assistance!

  - Acquire or conduct structural remediation of floodprone properties.
  - Study and implement drainage issues in floodprone areas and make recommendations for flood control measures, flood management procedures, and low-water crossing improvements.

Current Floodplain Mapping Projects and Custom Watersheds

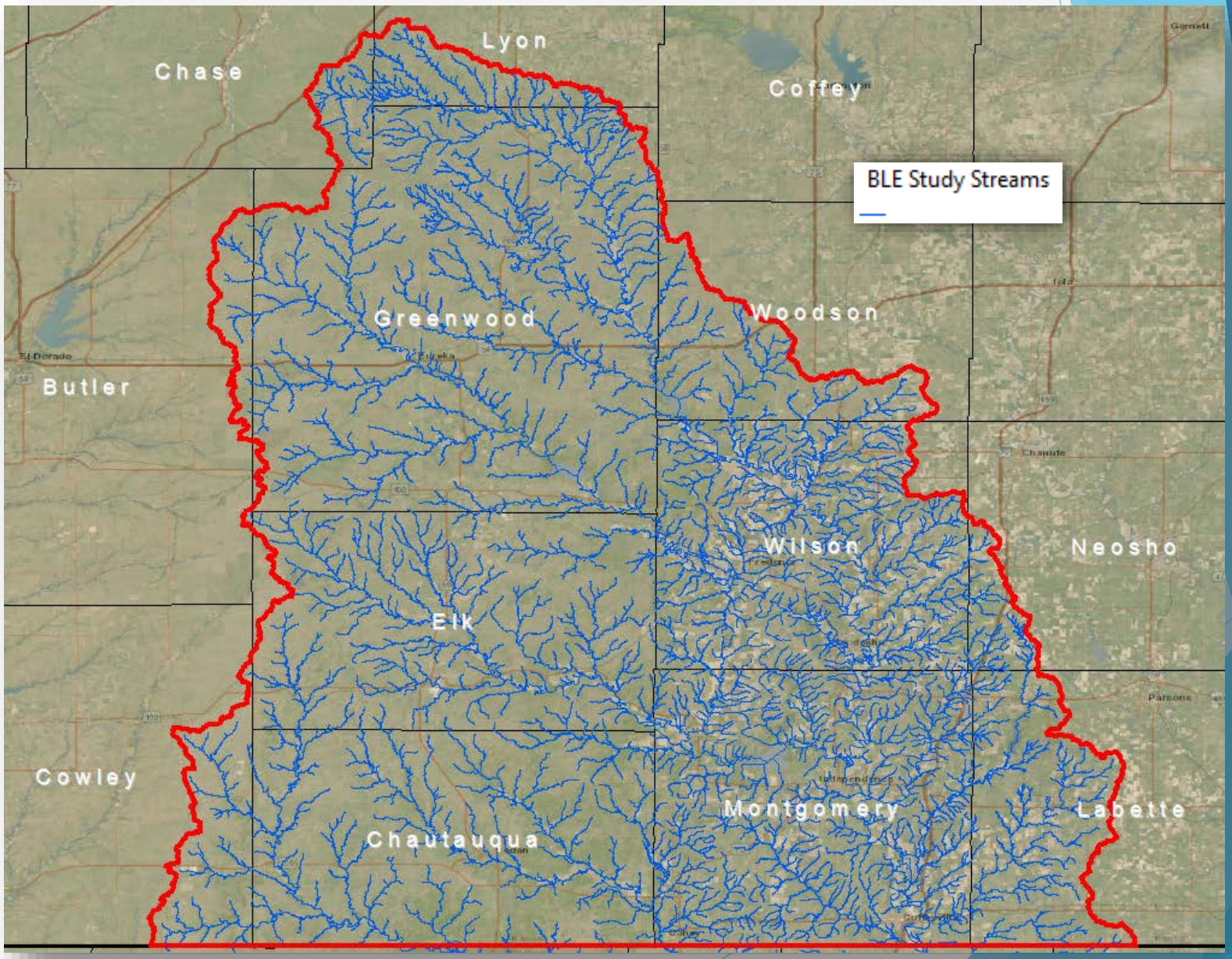


What We've Done To Date

- Project Kickoff & Initial Map Review
  - Two Meetings – January 28, 2020
  - Community Review of Base Level Engineering (BLE) data

BLE Study Area

*BLE Floodplains are Complete for this Study Area



Web Map Review

Verdigris Custom Watershed - Initial Base Level Engineering (BLE) Floodplain Data.

Please note that this data is an early draft and is not to be considered best available in all locations. To request a Base Flood Elevation, please use the BFE Portal.

Enter an address or plac

- Legend

Floodplain Data

Streams

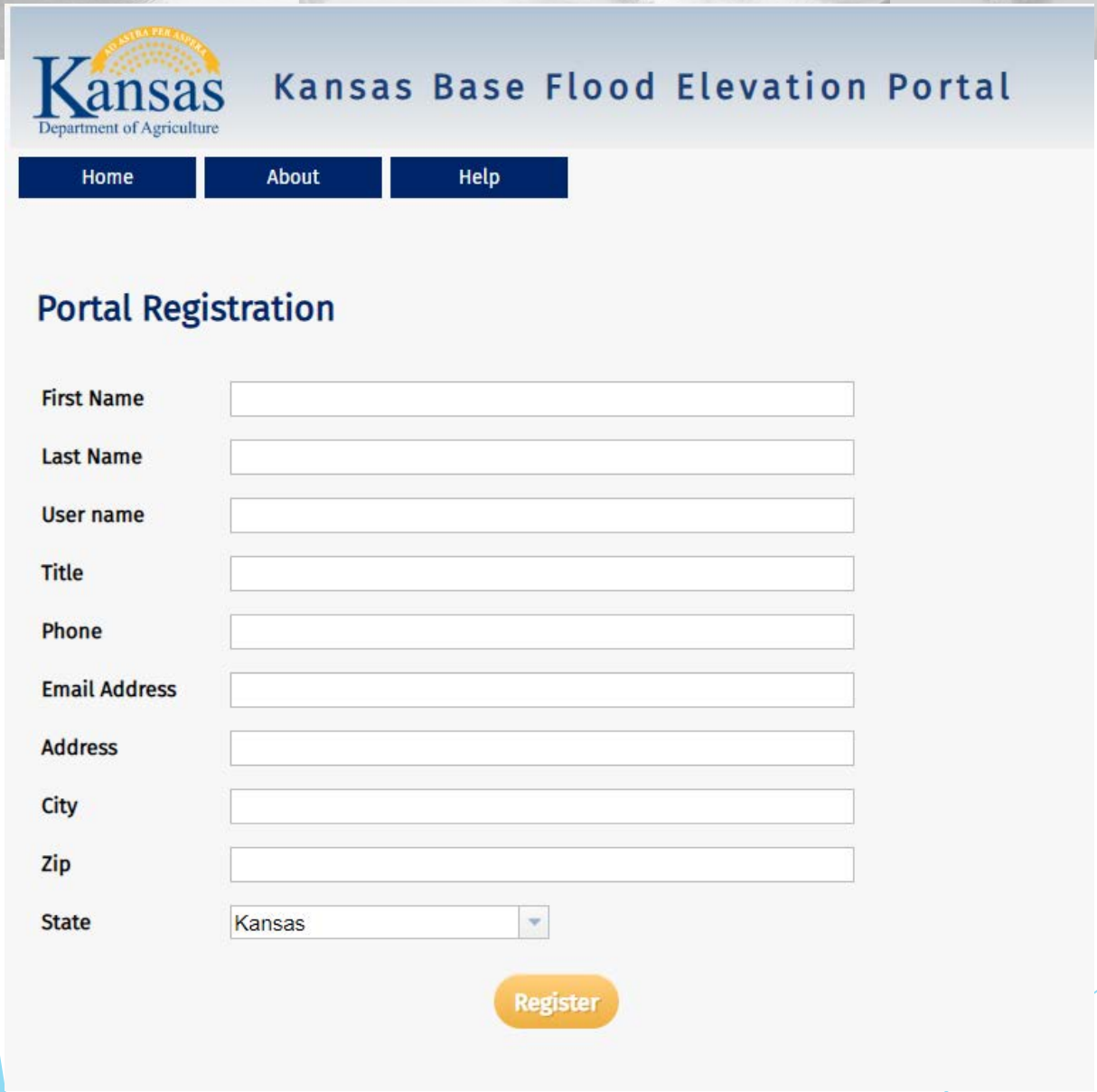
Draft BLE Floodplains 1-21-2020

- Layers (Click to expand)
- Editor

Leave Comment

- Draw
- Measurement
- Print
- Directions
- Google Street View

Base Flood Elevation Portal



For Zone A Floodplains, you can request BFE Data. Keep in mind, BLE data is subject to change.

Where We Are Now and What We've Learned to Date

Where We Are Now: DISCOVERY

This is one of the most important phases of our work, where we:

- Work with you to examine existing information about local flood hazards;
- Identify what new data we might need to accurately update your flood risk; and
- Determine, with you, where mitigation (risk reduction steps) makes sense for your community.

Discovery

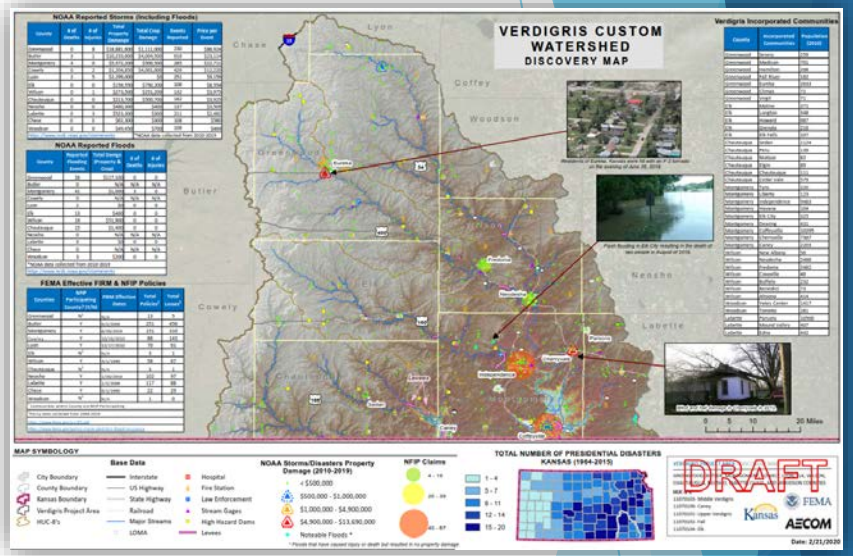
- Two-way conversation between local officials and FEMA.
  - Local Flood Risks
  - Other Hazards
  - Mitigation Activities
  - Mitigation Plans
  - Flooding History
  - Development Plans
  - Floodplain Management Activities or Issues

Stakeholder Engagement

- Discovery Survey – December 2019
- Community Phone Calls – February 2020
  - Topics:
    - Past flood damages and concerns
    - Mitigation plans, actions, priorities
    - Outreach and communication tools
    - General NFIP and CRS information

Data Collection

- Population data
- Effective FEMA FIS/FIRM data
- Flood insurance policies
- Flood insurance claims
- NOAA storm event data
- Disaster Declarations
- Base data mapping – topographic data, community boundaries, transportation lines, levees, dams, stream gages, essential facilities, etc.



Data Collection

NOAA Reported Storms (Including Floods)

County	# of Deaths	# of Injuries	Total Property Damage	Total Crop Damage	Events Reported	Price per Event
Greenwood	0	8	$18,881,600	$1,111,000	230	$86,924
Butler	3	1	$10,233,600	$4,004,500	616	$23,114
Montgomery	4	0	$5,972,200	$500,500	285	$22,711
Cowely	0	2	$1,204,850	$4,001,000	426	$12,220
Lyon	2	5	$2,299,000	$0	251	$9,159
Elk	0	0	$156,550	$750,200	106	$8,554
Wilson	0	1	$273,500	$251,200	132	$3,975
Chautauqua	0	0	$213,700	$500,700	182	$3,925
Neosho	0	0	$480,300	$400	137	$3,509
Labette	0	3	$523,300	$300	211	$2,482
Chase	0	3	$62,300	$300	108	$580
Woodson	0	0	$49,450	$700	108	$464

https://www.ncdc.noaa.gov/stormevents *NOAA data collected from 2010-2019

NOAA Reported Floods

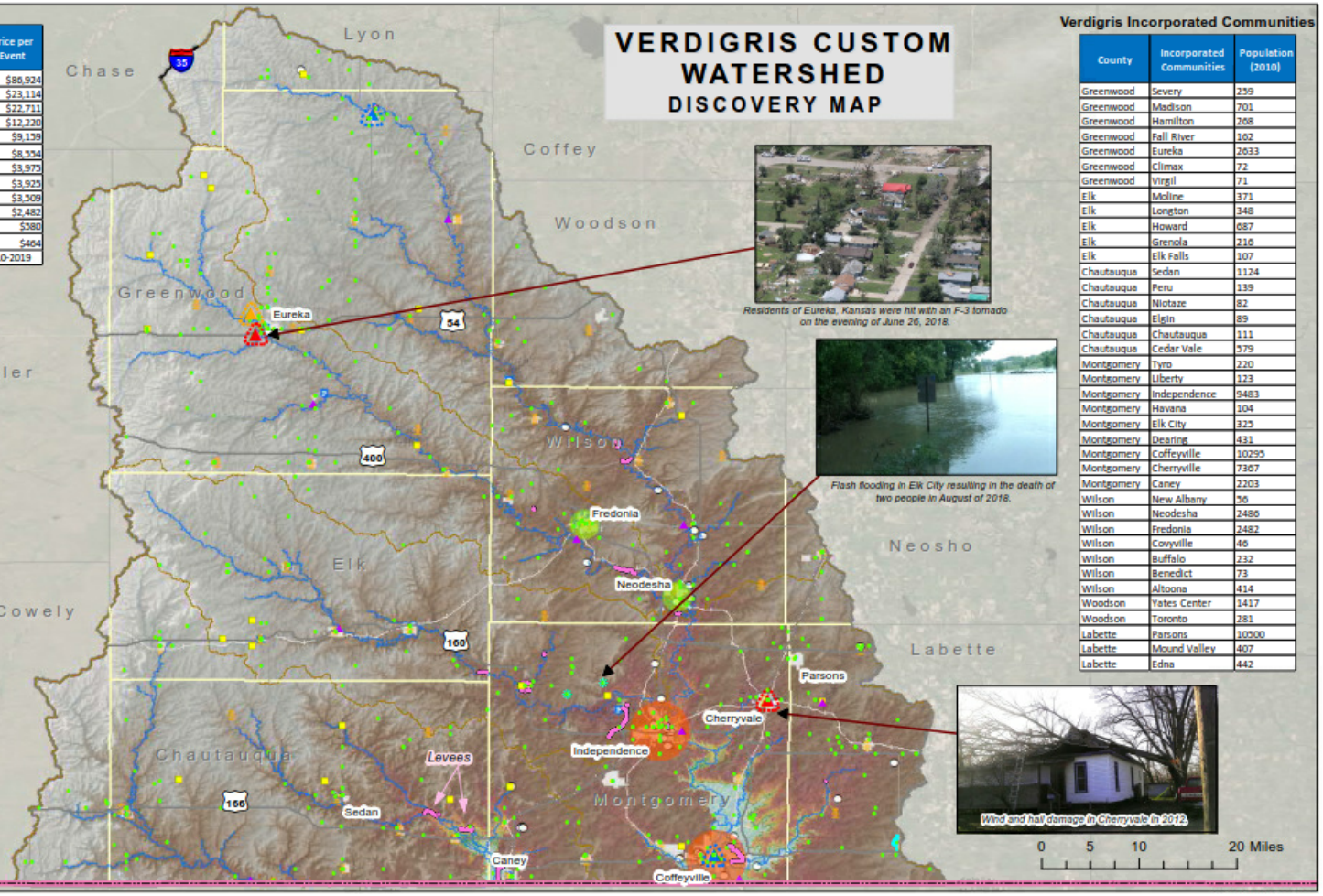
County	Reported Flooding Events	Total Damge (Property & Crop)	# of Deaths	# of Injuries
Greenwood	26	$117,100	0	0
Butler	0	N/A	N/A	N/A
Montgomery	41	$1,000	3	0
Cowely	0	N/A	N/A	N/A
Lyon	2	$0	0	0
Elk	13	$400	0	0
Wilson	19	$51,900	0	0
Chautauqua	15	$1,400	0	0
Neosho	0	N/A	N/A	N/A
Labette	9	$0	0	0
Chase	0	N/A	N/A	N/A
Woodson	3	$200	0	0

*NOAA data collected from 2010-2019
https://www.ncdc.noaa.gov/stormevents

FEMA Effective FIRM & NFIP Policies

Counties	NFIP Participating County? (Y/N)	FIRM Effective Dates	Total Policies[2]	Total Losses[2]
Greenwood	N[1]	N/A	13	5
Butler	Y	6/2/2009	251	456
Montgomery	Y	6/20/2019	151	310
Cowley	Y	10/19/2010	86	143
Lyon	Y	12/17/2010	70	61
Elk	N[1]	N/A	3	1
Wilson	Y	4/1/1989	58	67
Chautauqua	N[1]	N/A	3	1
Neosho	Y	1/20/2010	102	97
Labette	Y	1/2/2009	117	88
Chase	Y	9/1/1990	22	29
Woodson	N[1]	N/A	1	0

[1] Communities within County are NFIP Participating
[2] Policy data collected from 1968-2019
https://www.fema.gov/cis/KS.pdf
https://www.fema.gov/policy-claim-statistics-flood-insurance



Residents of Eureka, Kansas were hit with an F-3 tornado on the evening of June 26, 2018.

Flash flooding in Elk City resulting in the death of two people in August of 2018.

Wind and hail damage in Cherryvale in 2012.

Verdigris Incorporated Communities

County	Incorporated Communities	Population (2010)
Greenwood	Severy	259
Greenwood	Madison	701
Greenwood	Hamilton	268
Greenwood	Fall River	162
Greenwood	Eureka	2633
Greenwood	Climax	72
Greenwood	Virgil	71
Elk	Moline	371
Elk	Longton	348
Elk	Howard	687
Elk	Grenola	216
Elk	Elk Falls	107
Chautauqua	Sedan	1124
Chautauqua	Peru	139
Chautauqua	Niotaze	82
Chautauqua	Elgin	89
Chautauqua	Chautauqua	111
Chautauqua	Cedar Vale	579
Montgomery	Tyro	220
Montgomery	Liberty	123
Montgomery	Independence	9483
Montgomery	Havana	104
Montgomery	Elk City	325
Montgomery	Dearing	431
Montgomery	Coffeyville	10295
Montgomery	Cherryville	7367
Montgomery	Caney	2203
Wilson	New Albany	56
Wilson	Neodesha	2486
Wilson	Fredonia	2482
Wilson	Covyville	46
Wilson	Buffalo	232
Wilson	Benedict	73
Wilson	Altoona	414
Woodson	Yates Center	1417
Woodson	Toronto	281
Labette	Parsons	10500
Labette	Mound Valley	407
Labette	Edna	442

MAP SYMBOLOGY

Base Data

- City Boundary
- County Boundary
- Kansas Boundary
- Verdigris Project Area
- HUC-8's
- Interstate
- US Highway
- State Highway
- Railroad
- Major Streams
- LOMA
- Hospital
- Fire Station
- Law Enforcement
- Stream Gages
- High Hazard Dams
- Levees

NOAA Storms/Disasters Property Damage (2010-2019)

- < $500,000
- $500,000 - $1,000,000
- $1,000,000 - $4,900,000
- $4,900,000 - $13,690,000
- Noteable Floods *

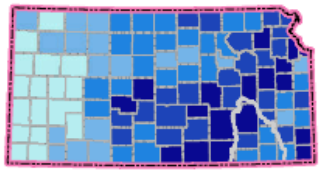
NFIP Claims

- 4 - 19
- 20 - 39
- 40 - 67

* Floods that have caused injury or death but resulted in no property damage

TOTAL NUMBER OF PRESIDENTIAL DISASTERS KANSAS (1964-2015)

- 1 - 4
- 5 - 7
- 8 - 11
- 12 - 14
- 15 - 20



VERDIGRIS PROJECT AREA DISCOVERY MAP
GREENWOOD, BUTLER, MONTGOMERY, COWELL, LYON, ELK, WILSON, CHAUTAUQUA, NEOSHO, LABETTE, CHASE, AND WOODSON COUNTIES
HUC-8's:
11070103- Middle Verdigris
11070106- Caney
11070101- Upper Verdigris
11070102- Fall
11070104- Elk

DRAFT

FEMA
Kansas
AECOM

Date: 2/21/2020

NFIP Status Update

The National Flood Insurance Program (NFIP) allows you to reduce the physical and financial impacts of flooding on your home or business.

NFIP Participation Status

Community Name	Participate NFIP?	Policies
Greenwood County	Yes	13
Severy	No	
Madison	Yes	1
Hamilton	No	
Fall River	No	
Eureka	Yes	11
Climax	No	
Virgil	Yes	0

Community Name	Participate NFIP?	Policies
Elk County	Yes	3
Moline	Yes	3
Longton	Yes	0
Howard	Yes	0
Grenola	Yes	0
Elk Falls	No	

Community Name	Participate NFIP?	Policies
Chautauqua County	No	
Sedan	Yes	2
Peru	Yes	0
Niotaze	No	
Elgin	No	
Chautauqua	No	
Cedar Vale	No	

Community Name	Participate NFIP?	Policies
Woodson	Yes	0
Yates Center*	Yes	0
Toronto	Yes	0
*Spans two counties.		

Community Name	Participate NFIP?	Policies
Wilson County	Yes	57
New Albany	Yes	0
Neodesha	Yes	22
Fredonia	Yes	9
Covyville	Yes	0
Buffalo	Yes	0
Benedict	Yes	0
Altoona	Yes	9

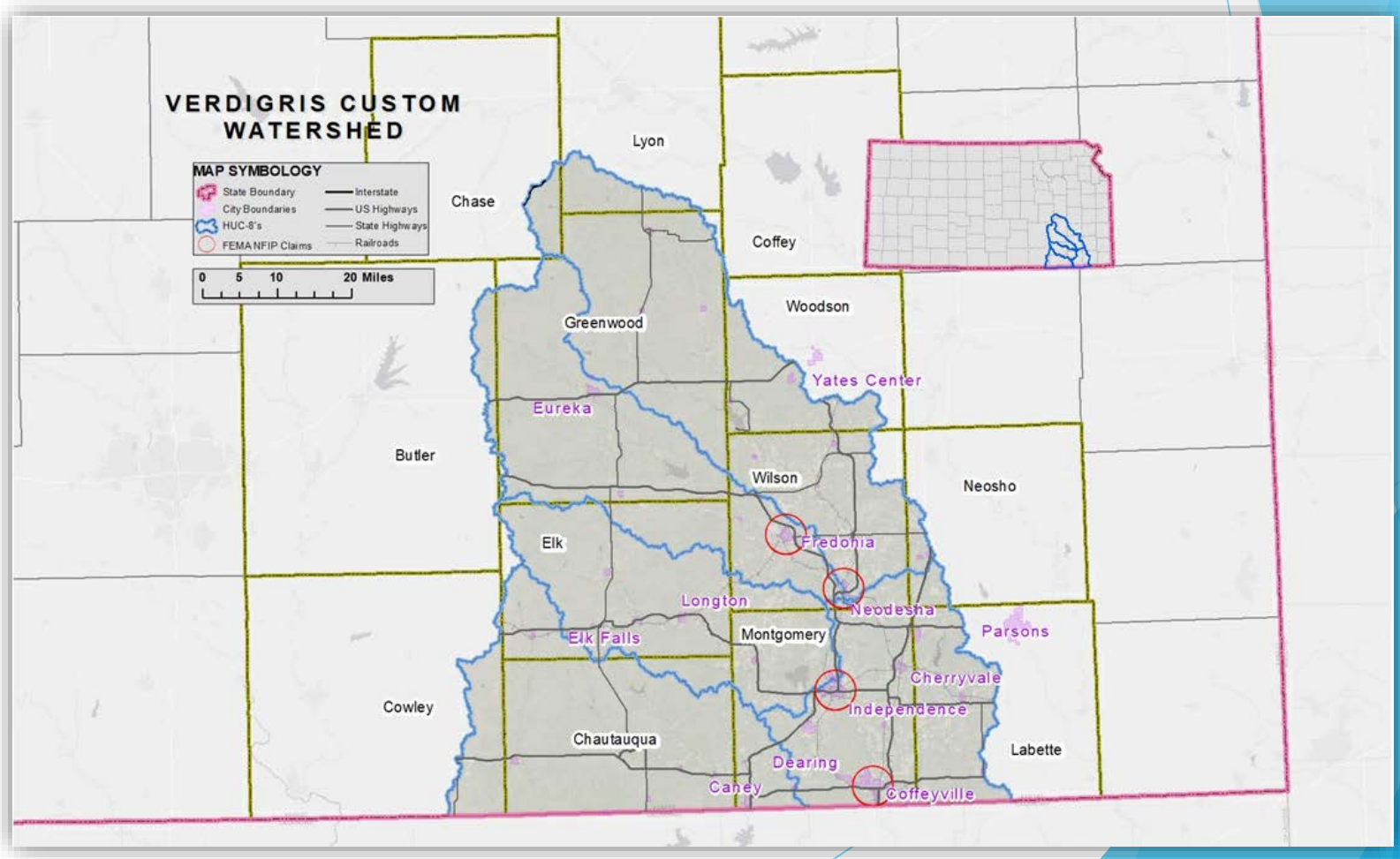
Community Name	Participate NFIP?	Policies
Montgomery County	Yes	135
Tyro	No	
Liberty	No	
Independence	Yes	56
Havana	No	
Elk City	Yes	0
Dearing	Yes	0
Coffeyville	Yes	45
Cherryvalle	Yes	1
Caney	Yes	1

Community Name	Participate NFIP?	Policies
Neosho County	Yes	101
Thayer	Yes	0

Community Name	Participate NFIP?	Policies
Labette County	Yes	118
Parsons*	Yes	72
Mound Valley	Yes	1
Edna*	Yes	0
*Spans two counties.		

Repetitive Loss Structures

A repetitive loss property is any insurable building for which two or more claims of more than $1,000 were paid by the NFIP in any 10-year period. When clusters of repetitive loss properties occur in a community, it may indicate an area of mitigation interest.



Information You Can Provide

- Updated aerial imagery
  - We typically use the latest imagery from the National Agriculture Imagery Program (NAIP)
- Survey or as-built plan information
  - Bridge or culvert openings
  - Channel information
- Any revisions approved for your previous map
  - Letters of map revision or amendments (LOMRs/LOMAs)
- Any information you have about past flooding! Including high water marks.

How We Can Help

"Mitigation Technical Assistance"

How are your community's daily activities impacted when it floods?

We are asking this question for two reasons:

1. If you've been impacted by flooding, we want to know WHERE that happened. This helps truth-test the engineering analysis
2. Depending on how and where your community is being impacted by flooding, we might be able to help.

We want to help!

- Step 1: Explain what you need help with.

- Step 2: We determine if it's something we can support.

- Step 3: If we can support it, we'll work with you to put together a plan and a timeline.

Guidelines:

- We want to identify what help is needed NOW, so that we can plan accordingly.
- Ideally, we will do this work over the next 1-3 years.
- We can't pay for "the thing" itself (i.e., the installation of a new culvert or retention basin).
- We need your community to be invested in moving a project forward.

Some Ways We Can Help

- Use our engineering data to show you what types of projects could reduce your floodplain.
- If you are putting together a grant application for a project, we could help you with the Benefit-Cost Analysis (BCA).
- We can provide risk assessments for structures in your community to help property owners understand the need for flood insurance, or to help you better protect important public buildings.
- We can help you explain all or some of this to your community members.

Kansas Department of Agriculture

KANSAS DEPARTMENT OF AGRICULTURE

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- Kansas Floodplain Map Viewer
- LOMC Search
- Mapping Projects
- Technical Assistance

Home > Divisions & Programs > Division of Water Resources > Floodplain Management > Mapping > Technical Assistance

Technical Assistance

Technical Assistance Projects

- Gypsum
- Hoisington
- Solomon
- South Hutchinson
- Topeka

Technical Assistance Information

FEMA Funds for technical assistance projects have come available in recent Cooperating Technical Partner (CTP) funding cycles. These projects do not include funding for construction of projects, but they can be utilized for modeling mitigation scenarios for possible projects. These funds can be applied for grant-related purposes, ordinance or code support, engineering and analysis, planning, outreach and education. Communities within Kansas can apply for Technical Assistance support through KDA, though priority will be given where there are active mapping projects. For questions, please contact Tara Lanzrath, by phone at 785-296-2513 or email.

Technical Assistance Request Fillable Form

You can visit the KDA website for more information, including a link to a fillable request form: **https://www.agriculture.ks.gov/divisions-programs/dwr/floodplain/mapping/technical-assistance**

Ideas on How We Can Help

Help Address Existing Problems

- During the January meeting, it was noted that Hwy 160 (Greenwood St) was washed out in 2007, on the northeast side of the City of Elk Falls.
  - Could evaluate possible alternatives for reducing the flood impact in this area.

Share Flooding Scenarios

- During the January meeting, the City of Madison in Greenwood County noted a dike on the northwest side of town provided some risk reduction from smaller flood events.

- Could model the effects of improvements to flood control structures.

Support Neighborhood Revitalization Plans

- There are neighborhood revitalization plans in place for:
  - Montgomery County, Wilson County, Neosho County, Labette County, City of Madison, and the City of Eureka
- Consider if floodproofing or green infrastructure could help in these areas
  - Could provide support for ongoing planning efforts

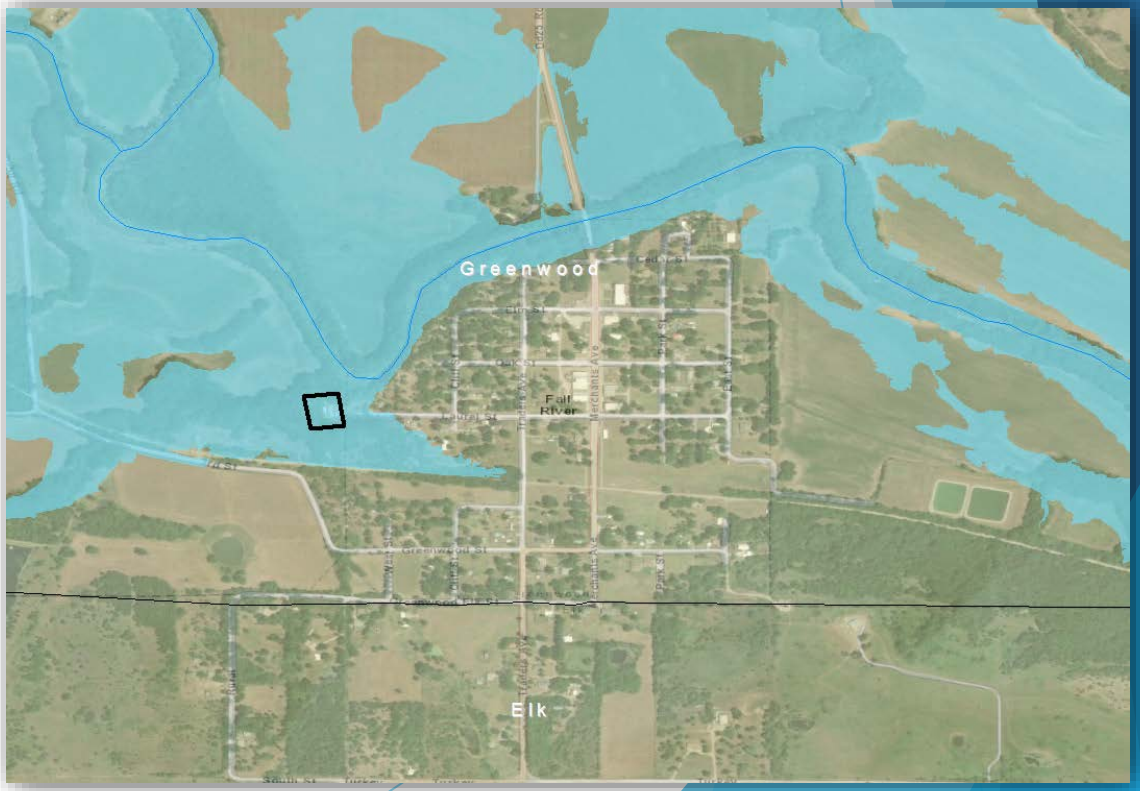
Eureka Neighborhood Revitalization Plan

This plan is intended to promote the revitalization and development of the City of Eureka by stimulating new construction and the rehabilitation, conservation, redevelopment of the area in order to protect the public health, safety, or welfare of the City by offering certain incentives, which include tax rebates. This specific plan does not allow for the acquisition or subsequent disposal of any real or personal property on the part of the City of Eureka.

Provide Ideas for How to Reduce Flooding

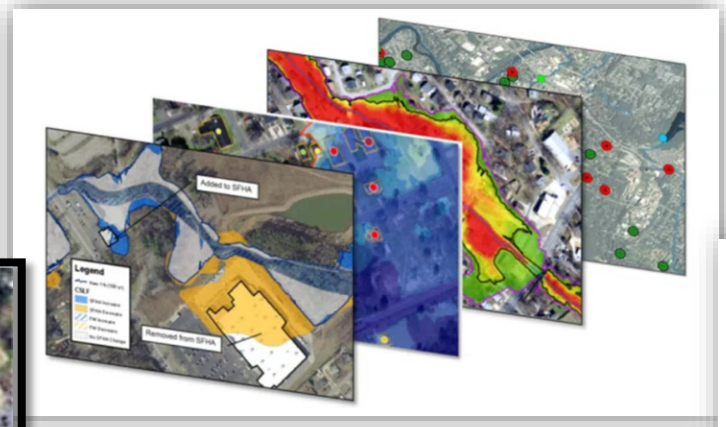
- In 2019 flood event forced evacuations in City of Fall River.

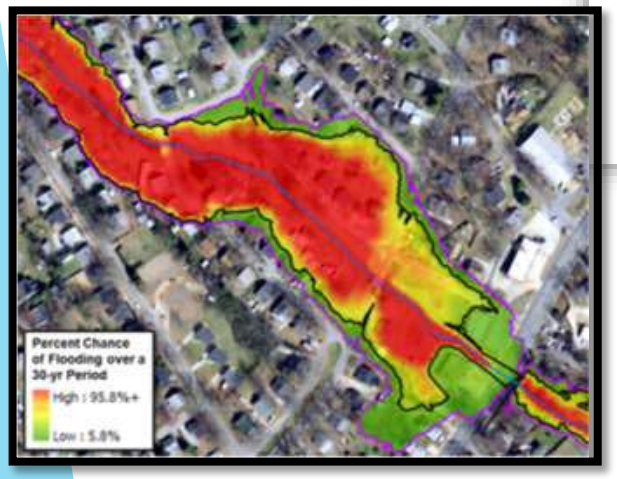
- Could model flood reduction scenarios for targeted areas of known flooding and impacts to structures.

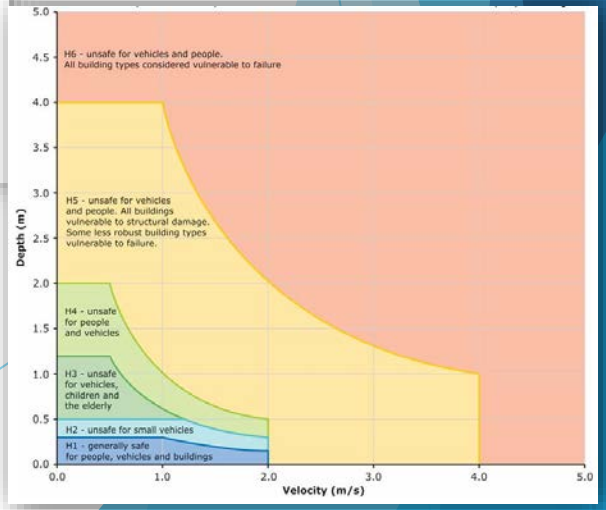


Provide Training

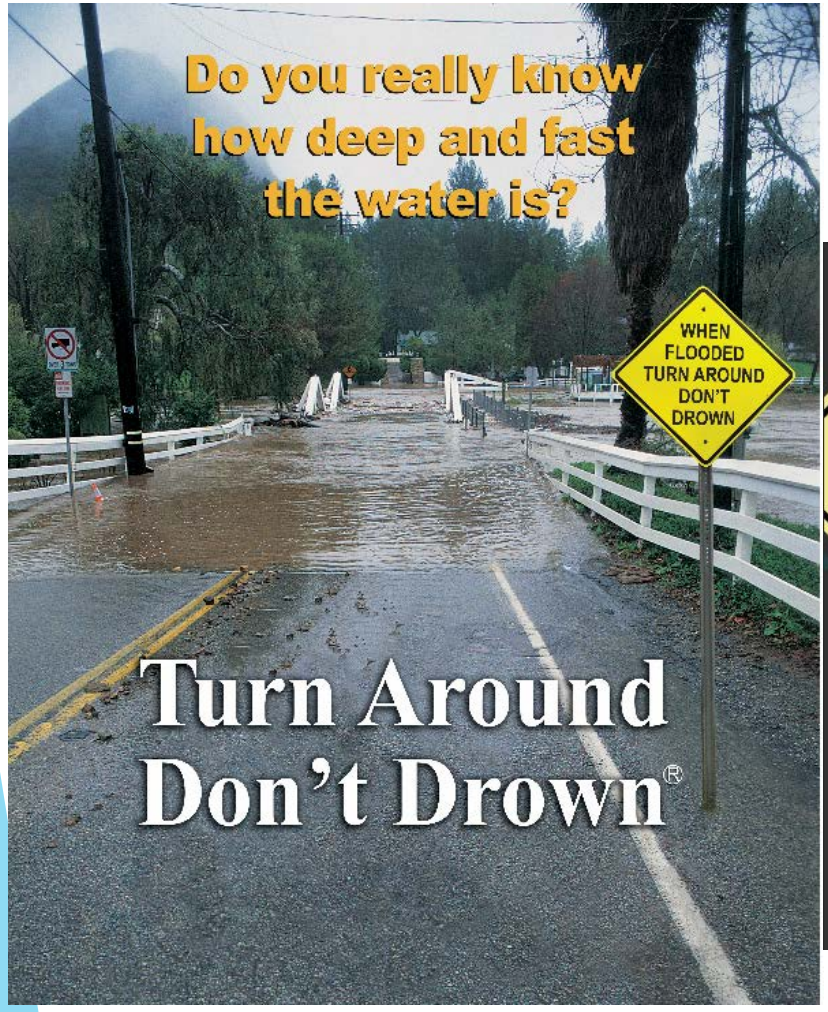
- Could provide trainings or workshops for Geographic Information Systems (GIS) staff on ways to effectively use the data that is generated as part of the modeling and mapping.







Provide Education and Outreach



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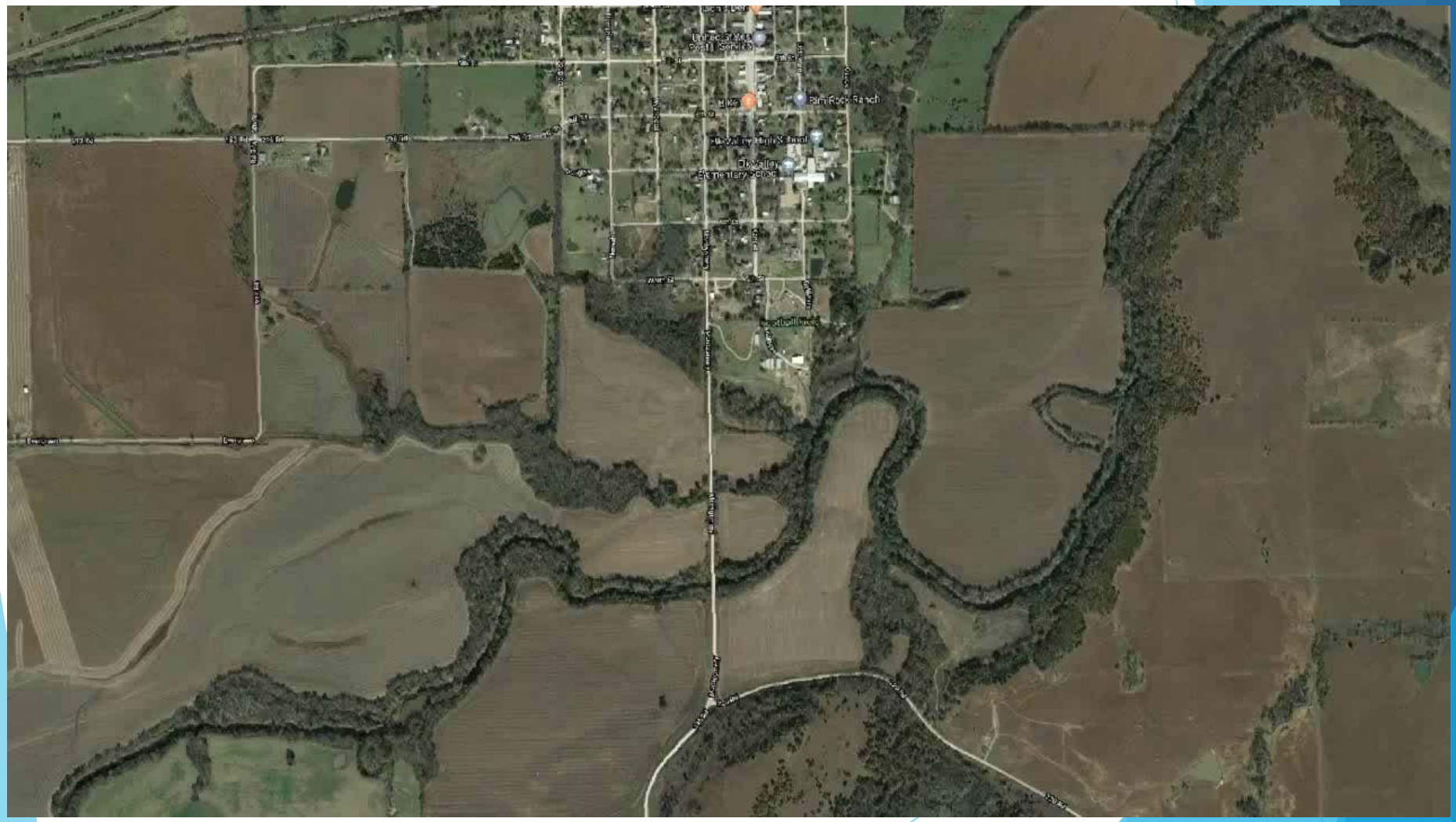
Provide Education and Outreach



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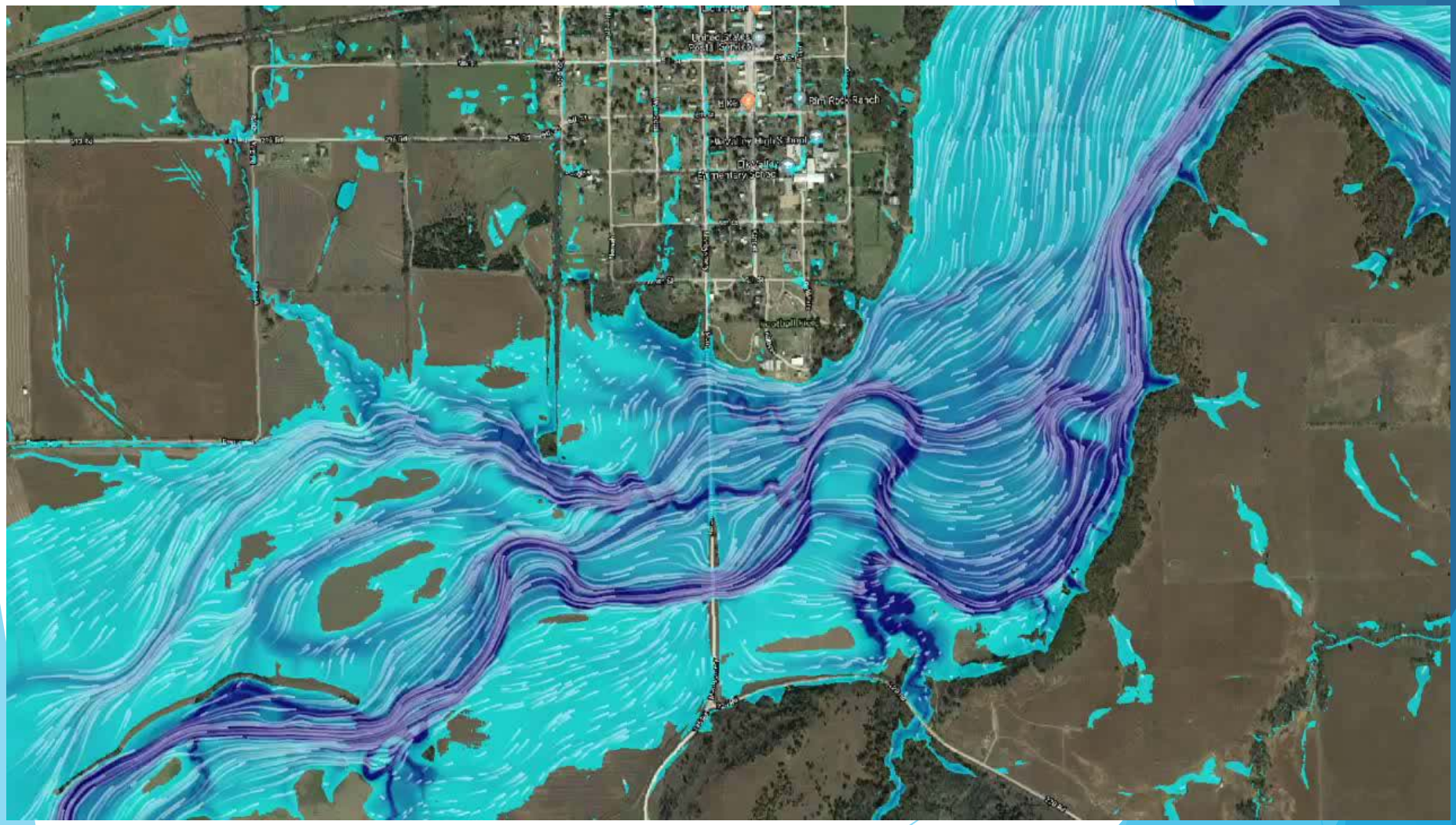
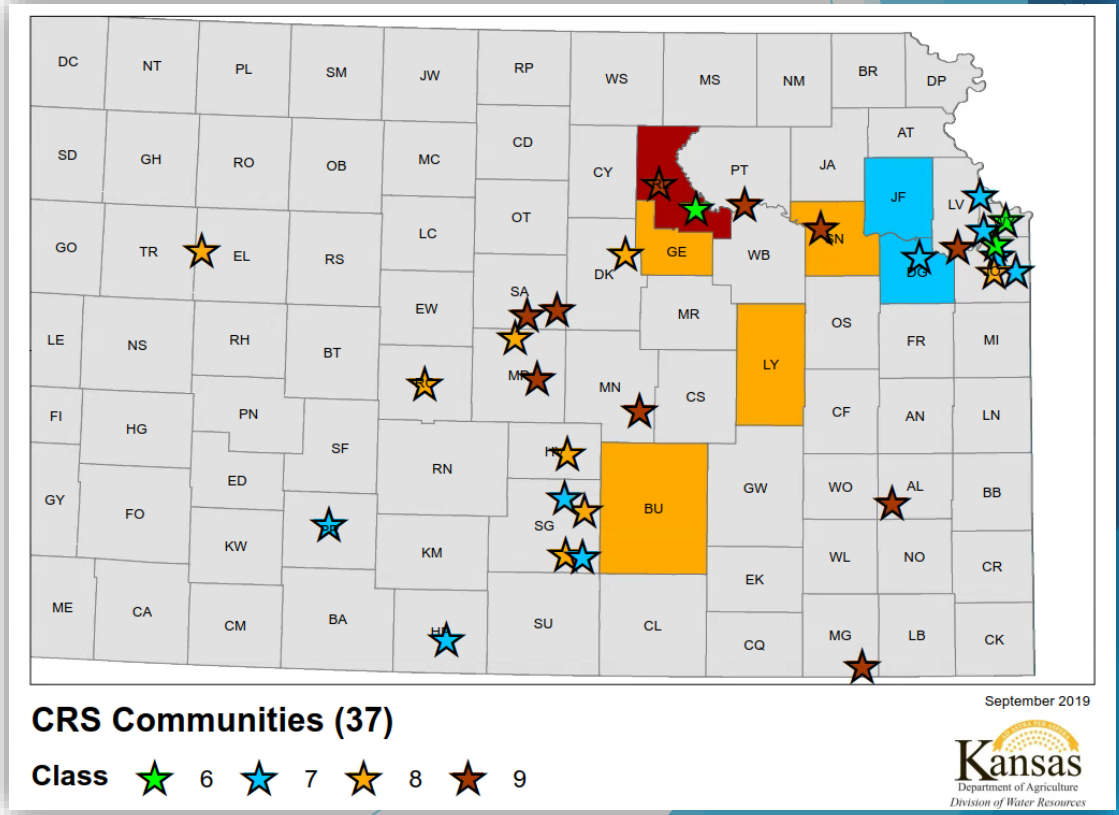


Support Participation in CRS

- CRS is a voluntary program in the NFIP that rewards pro-active communities with discounted flood insurance premium rates.

- CRS Communities:
  - City of Coffeyville



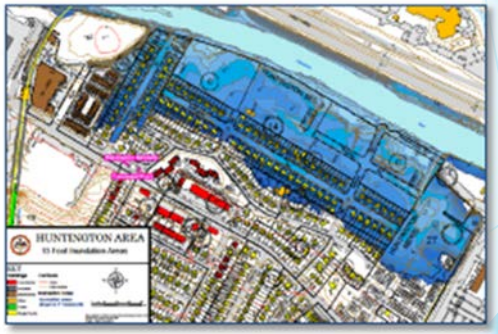
Support Participation in CRS

- Assistance with Community Rating System (CRS) Participation:
  - Under the CRS, flood insurance premium rates are discounted to reward community actions for exceeding the minimum NFIP standards.
  - Could assist communities with application, documentation of credit points, and program improvement.

Technical Assistance With CRS

- Activity 610 (Flood Warning and Response) is based on the principle that an ample warning combined with a flood response plan can prevent loss of life and damage to property.

- CRS Activity 610 (Flood Warning and Response)
  - Maximum Credit: 395 points
  - Community Must Have:
    - Flood warning and response program and flood threat recognition system
    - Flood inundation maps
    - Adopted flood warning response plan

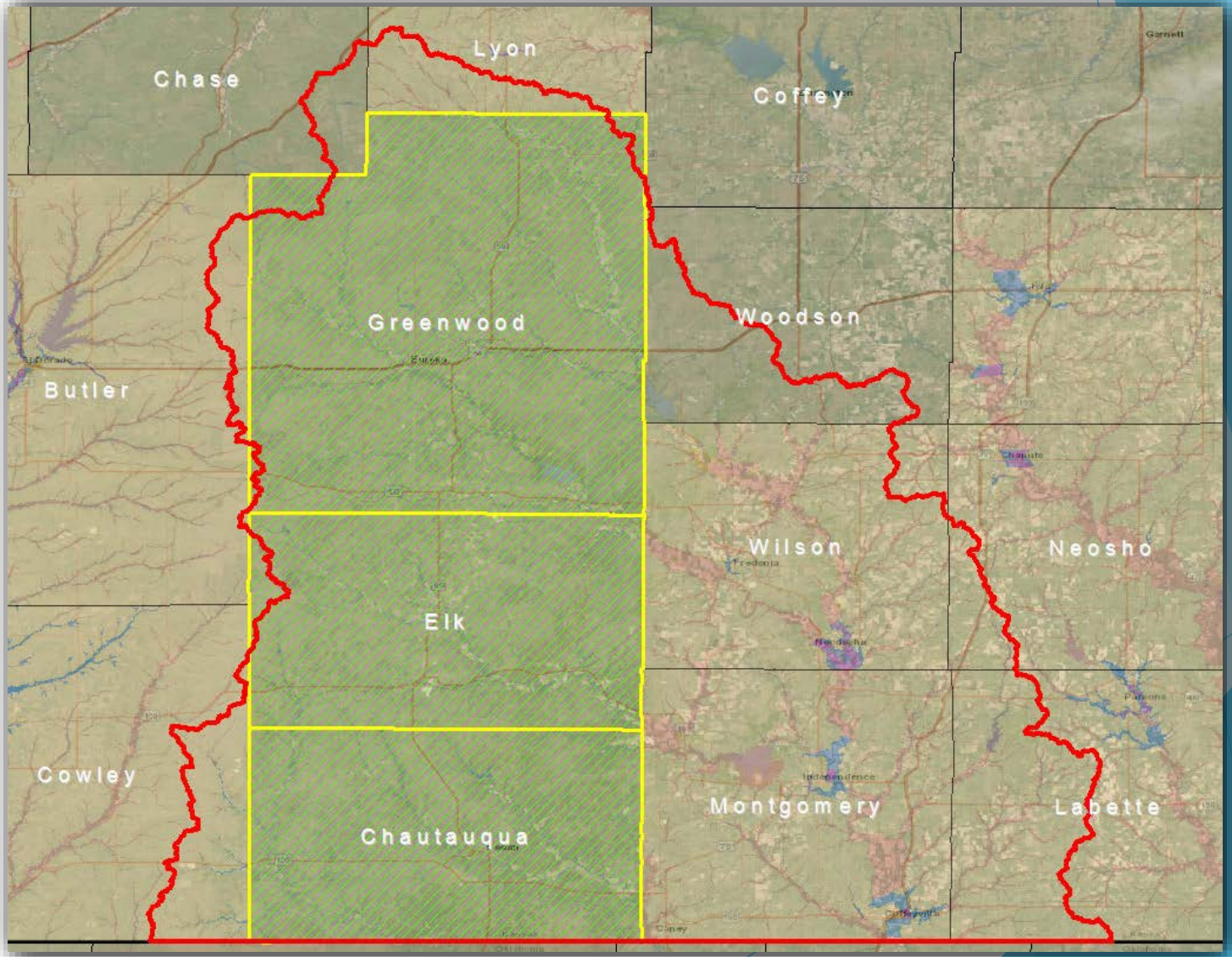


A flood inundation map for a riverine area

Any ideas?

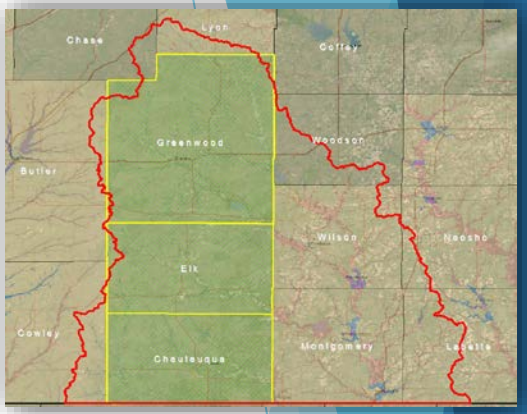
Preview of the Planned Work

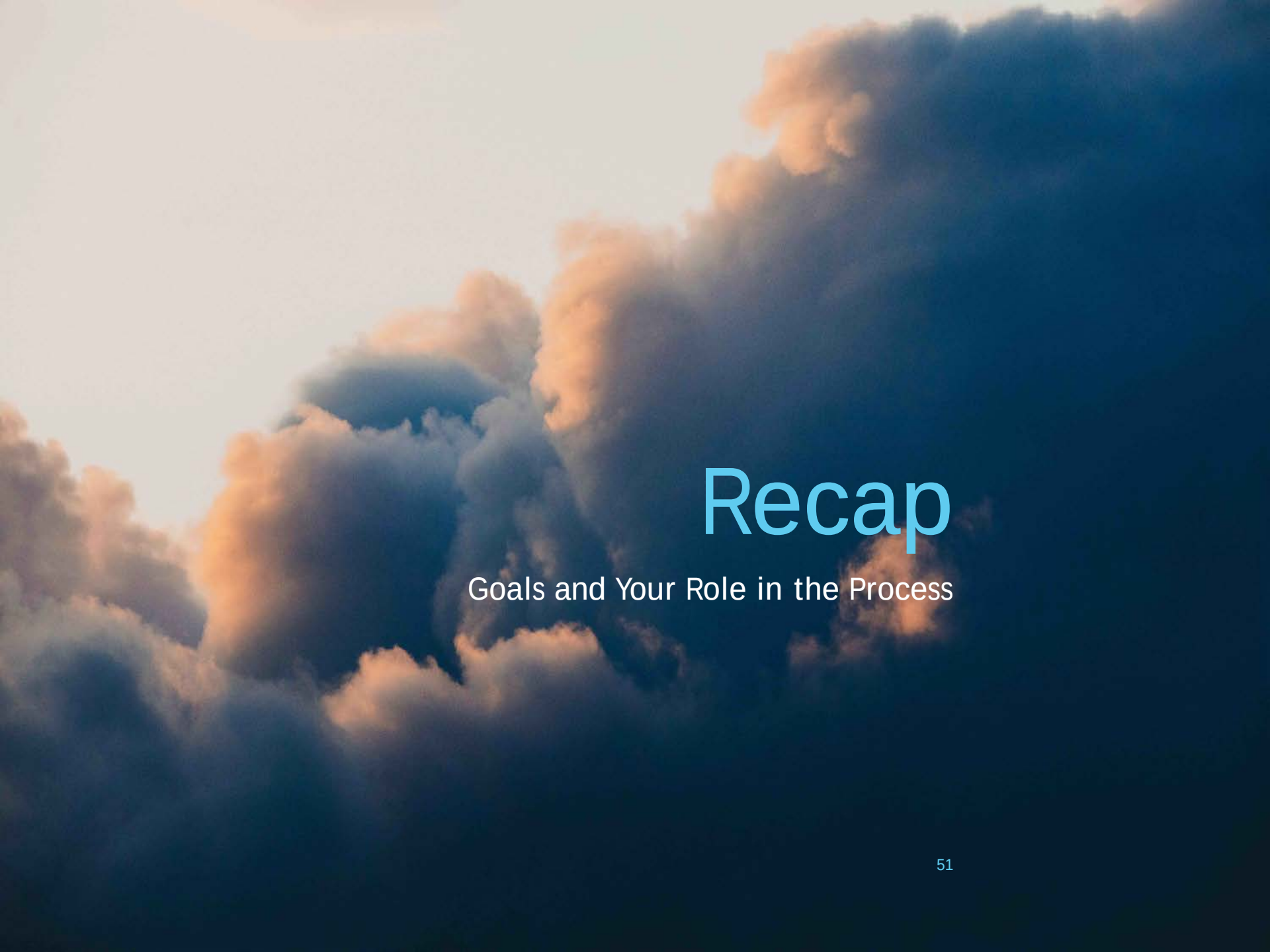
Planned Regulatory Updates



Planned Regulatory Updates

- **<u>Greenwood</u>, <u>Elk</u>, and <u>Chautauqua</u>** Counties are being planned for regulatory county-wide updates in 2022.
  - Re-evaluate Engineering & Mapping for county-wide update.
  - Considerations include:
    - Enhancements to BLE, including additional model calibration
    - Additional rainfall-runoff modeling for specific areas and calibration purposes
    - Historical flooding events and other local data
    - Field-measured survey of structures, where specified
    - Robust review internally and externally
    - Comments from community review





Recap

Goals and Your Role in the Process

Ultimate Project Goals

- Develop a complete, current picture of your community's flood hazards and risks.
- Incorporate your local knowledge and feedback.
- Help communities and residents better understand and prepare for their flood risk.
- Identify opportunities to reduce flood risk and support them where we can.

What Should You Do Next?

- **Provide data**
  - Provide any existing data (imagery, surveys, plans, LOMRs, high water marks, etc.)
  - Provide information on drainage studies, stormwater plans, capital improvement plans, upcoming projects.
  - Provide any survey or as-built plan information for newly developed areas that have been elevated since the date of the LiDAR (2012-2013). We hope to have 2018 LiDAR soon.

- **Talk to us about how we can help**
  - Do you have a Technical Assistance Request?
  - Do you want to talk to one of us to help you formulate a request?
  - Is there someone else in your community we should follow up with?

Key Takeaways

- This process is going to take time.
- Your involvement will help us produce better maps!
  - Get the word out and encourage participation in this project.
  - Review information as it becomes available.

DON'T HESITATE TO CALL, WE ARE AVAILABLE

Stay Informed

- Email List
  - Get us names, addresses, and titles
  - Will be main source of project updates
- Project Updates
  - Minimum of quarterly
  - When important milestones are reached
  - When action is necessary (reminders)
- Meetings
  - Five planned in-person meetings
    - Kickoff (DONE), Discovery Meeting (Today!), Flood Risk Review, Open House, Post-Preliminary CCO meeting
  - Others, as needed

Online Project Information

- **Project Website**
  - Scoping Maps, Project Timeline, Meeting Presentations, Newsletters, Technical Reports, Web Review Map
  - https://agriculture.ks.gov/divisions-programs/dwr/floodplain/mapping/mapping-projects/lists/mapping-projects/verdigris
- **Web Review Map**
  - Review of Base Level Engineering (BLE) data
  - http://gis2.kda.ks.gov/gis/verdigris/
    - This link will not be public facing until the project has been through Data Development
- **Story Maps**
  - Project Info
  - "Floodplain Current": Mapping Process 'Nuts and Bolts'

Flood Risk and Mitigation Discussion

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