

Lessons Learned in 2019 and Beyond

2019 has proven to be a challenging year throughout the state and region with prolonged flooding, continual intense rainfall and storm events, and ongoing recovery efforts. There are many lessons that can be learned in a year like 2019, but there are areas that have gone through this devastation before and were able to apply their prior knowledge to help with recovery efforts. The following are local and regional accounts of lessons learned or applied during this year’s disasters.

Becky Lerch, Cuming County Floodplain Administrator provided the following lessons learned:

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“Being a Zoning/Floodplain Administrator and Assistant to the Highway Superintendent, going through a flood in June of 2018 and again in March 2019, I definitely have learned a few lessons! One of the most important is Document, Document, Document and Photos, Photos, Photos! Photos help to tell the story and give you credibility for repairs. Documents can mean a lot of

“I received hundreds of calls from homeowners and floodplain administrators wanting to know what to do about damaged homes without flood insurance. I don’t know what to tell them. This is why you buy flood insurance.”

- *Chuck Chase, CFM, NeDNR Outreach Coordinator*

different things: time sheets, work logs, invoices, scale tickets, equipment rental, hired out services, etc. Together the documents and photos show how little or how great the damage.

Another thing you may want to think about if out taking photos, jot down a note about the damage, including an approximate size. In working on the roads side, FEMA wants dimensions of damage. Who thinks of that in an emergency situation?! Photos will help with that at a later time, and your notes will be a godsend. Just make sure to jot down the locations you took photos at as you will also have to provide GPS locations of the damage sites.

On the road side, all invoices, equipment used and labor hours will need to be documented. This is where a work log from the motor grader operator (or anyone else working to fix) is very important. They should be tracking the date and time of any work completed as well as the

location of the work and specifically what they did. I tell them all, 'I would rather have too much information than not enough'.

I am hoping for a dry winter so that we don't repeat this next spring!"

Hilary F. Cooke, FEMA Mitigation Insurance Technical Specialist provided this lesson for insurance agents and homeowners:

"When clients get flooded and find out after the fact that they could have had \$250K/\$100K of coverage for \$500, that is one very upset customer and an opportunity lost for the agent."

Liz Doerr, Floodplain Administrator, Knox County and Antelope County provided this lesson learned from the 2011 flood:

"When flooding hits a residential area, start a spreadsheet to track things such as inspections, type of structure damaged, elevations, flood permits, etc. so that you can stay organized and have a quick reference as you are out working in the field."

Mother Nature does not read floodplain maps well. She floods wherever she chooses. In 2019, **30% of claims** in Nebraska were for structures **outside** the 1% annual chance floodplain!

- *Chuck Chase, CFM, NeDNR
Outreach Coordinator*

Michael Jensen, Cass County Zoning Administrator and Building Inspector provided the following lessons learned:

- Polite, professional, sympathetic, but lead the victim through the process.
- Provide victim with information AND contact numbers. (OPPD, FEMA, Disaster relief center, local Church, etc.) Have your badge, and business cards.
- Victims are in shock and want to re-enter ASAP.
- Is the residence safe? Structurally, is electricity off?
- The water they are working in is CONTAMINATED. Does victim need to update their tetanus shot?
- If pumping water from basement, pump no more than 30% at a time. Outside ground is saturated and could compromise foundation walls.
- Do not park or place dumpsters on yard too close to house. Could compromise foundation.
- Safety gear (PPE) boots, mask, gloves, eye protection.
- Mold can establish within 24hrs.
- Everything that has been in the water IS contaminated and needs to be disinfected or disposed of. Coordinate with local official for disposal location.
- Document, document, document. Picture and notes, dates, times, etc.

Cherri Klinginsmith, CFM, Howard County Zoning Administrator and Floodplain Administrator shared the following thoughts:

"2019 what a year! I've bet you have heard that several times if not hundreds in the coffee shops, hair salons, just about any type of gathering as well as in your head.

My job description is a farmer; I farm 1,200 acres with my husband full time. I am the Howard County Zoning Administrator and in the office on Tuesday and Thursdays. As well as the CFM for Howard County and it seems like I have heard those above words more than others.

Although during the event, my job was not as stressful as our local emergency manager, Michele Woitalewicz who deserves a gold star on the streets of Howard County somewhere as she was a real trooper and was there for flood victims immediately.

"The NFIP does not penalize a policy holder for making a claim. A person could make 100 claims and their rates would not increase because of the number of claims. Therefore, even if they (agents) think there may not be coverage for the type of event/damage we still recommend they make a claim and let an adjuster make the determination."

- *Chris Parsons, Insurance Program Specialist, Mitigation Division, FEMA Region VII*

As I write this, I think what could have helped our situation? Well when I give out those zoning permits and floodplain permits to build, it is hard to change people's minds about where they would like to put their dream home. Sometimes they leave my office upset because there are so many obstacles surrounding what they thought would be a 20 minute process. Normally people are understanding, just think I'm being too careful, as we hear it all the time "not in my lifetime" So what can I do to help others understand, floods do happen, and even if it is that 1%, it is a life changer when I happens.

Well here are some ideas I came up with, that I'm in the process of putting together.

- High Water Mark signs posted
- Pictures of flooding in my zoning office.

We all say "A Picture is worth 1,000 words". What if, when someone walks into my office and I mention their ground is in the floodplain and then I can actually show them the damage of what happens, show them flood gates work, and sometimes even if you are above the floodplain, but the river takes a different route. I would hope that would make them either change their mind of the area to build, or more understanding on regulations.

And what if you were driving down Main Street, and actually saw a sign that read "High Water Mark" I think that would keep this 2019 year in people's minds a bit longer. Because I truly believe out of sight out of mind. Let's try and keep this tragedy in people's minds and learn from our mistakes.

Just a few thoughts, thanks for listening."

Silver Jackets Team Initiates New Projects

By Jamie Reinke, PE, CFM

The Silver Jackets Program aims to form partnerships between state, federal, and local agencies throughout the country. The primary focus of the Silver Jackets team is to plan and implement nonstructural measures aimed at reducing flood risk. The Nebraska Silver Jackets team consists of the U.S. Army Corps of Engineers, the Federal Emergency Management Agency, the Nebraska Department of Natural Resources, the Nebraska Emergency Management Agency, the National



Weather Service, the U.S. Geological Survey, and the U.S. Bureau of Reclamation. However, many other agencies regularly attend meetings and contribute to the overall mission of Silver Jackets, including the Natural Resources Conservation Service, the Nebraska Association of Natural Resources Districts, several Natural Resources Districts, and local agencies in selected project areas. The team meets quarterly to discuss active project status and to prioritize projects for the upcoming year. In addition, several project specific meetings occur throughout a Silver Jackets project schedule; as each project is required to have a kick-off meeting, a project close-out meeting, and additional meetings, as the need arises.

Each year, the larger Silver Jackets team prioritizes projects that meet the overall intent of the program to submit for funding. Project timelines can vary, but are generally completed within 12 to 18 months. The team currently has three ongoing projects and four additional projects were funded to begin in October.

The ongoing projects include:

- **Flood Risk Workshops** – The Silver Jackets team plans to host three workshops throughout the state discussing items related to flood risk and resilience. The first workshop was held July 10, 2019 in Nebraska City and covered topics related to the March 2019 flood event, high water mark data collection efforts, and funding opportunities available for communities working to recover. The second workshop is scheduled for October 28, 2019 in Grand Island. The focus of this workshop is to train attendees on high water mark collection. The third workshop is planned for spring of 2020, so look for more details to come in the near future.
- **Repetitive Loss Analysis** – The Silver Jackets team received funding to target 45 repetitive loss and severe repetitive loss properties in Nebraska. The goal of the project is to identify nonstructural mitigation measures that could apply to each structure, gather existing data, including 1% annual chance water surface elevations at each structure, and other structure specific data that can be incorporated into future mitigation grant applications.
- **Sandpit Lakes Risk Assessment** - The project involves conducting a state-wide assessment estimating the risk associated with sandpit developments and providing recommendations on how to manage this risk. The risk estimate will be computed for four sample communities. The risk management assessment will assess the development processes, identify criteria in the NFIP, options to increase floodplain development

standards in local ordinances, and ways to incorporate improved future practices into the State Hazard Mitigation Plan. The Sandpit Lakes Risk Assessment project is expected to be complete in spring 2020.

The projects that were recently funded include:

- **Wood River Flood Risk Identification** – This project will update the hydrology for the Wood River using 2D modeling to help understand the complex hydrologic conditions of this watershed. The project will be completed in parallel with a U.S. Army Corps of Engineers Section 22 study which involves updating the hydrology along the Central Platte River. The Central Platte study will consider ice jam impacts, which will allow for evaluation of Platte River ice jam events on Wood River, which parallels the Platte River for a significant length. The goal of the project is to identify areas at risk of flooding and NeDNR plans to leverage the data for future mapping updates in the area.
- **Little Papillion Creek Modeling & Mapping** – This project will update the existing 1D model for the Little Papillion Creek and develop a 2D model near the confluence with Big Papillion Creek. The aim of the project is to better understand flood risk at the confluence. The U.S. Geological Survey will incorporate this study into their Flood Inundation Mapper for public distribution.

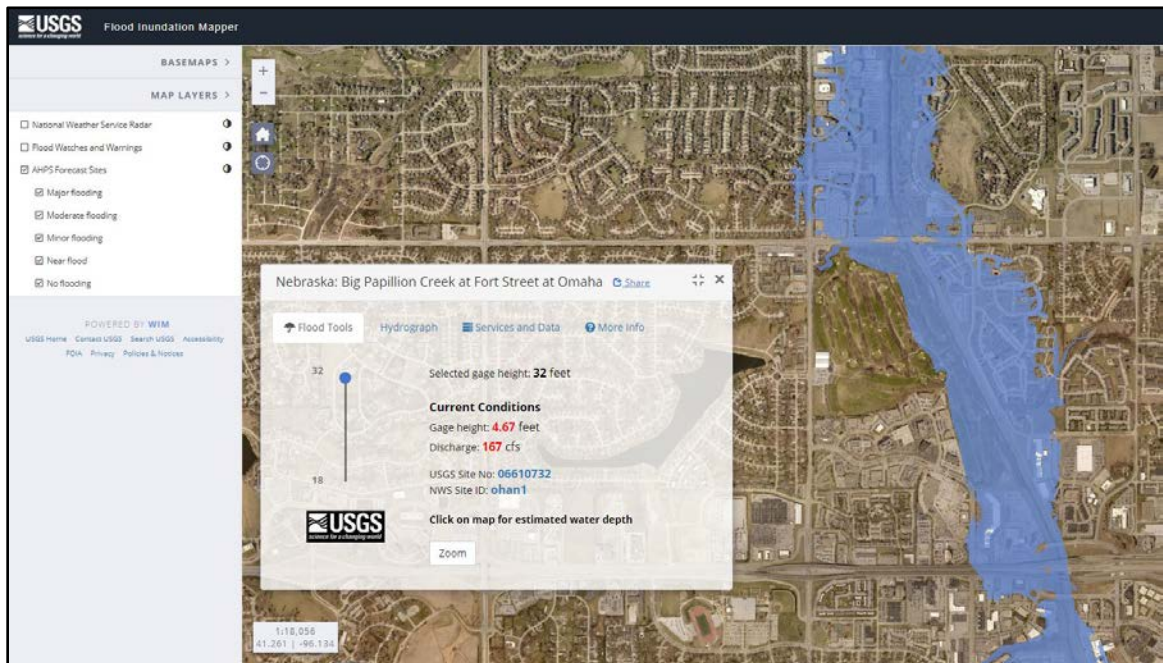


Figure 1. USGS Flood Inundation Mapper.

- **Educational Resources Toolkit** – This project will develop short modules and study guides that can be integrated into multiple subjects at multiple grade levels to educate students about historic floods, the dangers of moving water, and how to avoid flood risks.
- **Fremont HEC-LifeSim Analysis** – The City of Fremont is vulnerable to flooding from the Platte River and Rawhide Creek. This project proposes to use HEC-LifeSim to evaluate potential loss of life and economic damages from flooding to develop emergency

evacuation procedures and non-structural mitigation alternatives. The goal of the analysis is to enable funding through the Hazard Mitigation Grant Program to install flood sirens.

The Nebraska Silver Jackets team hosts a website detailing specific activities in which the team participates. The Nebraska Silver Jackets website is available [here](#). The national Silver Jackets website provides in-depth information into current projects throughout the nation, upcoming events, webinars, and more. Please view <https://silverjackets.nfrmp.us/> for more information.

Flood Studies throughout the State

By Jamie Reinke, PE, CFM

The NeDNR Floodplain Management Section partners with FEMA to update flood risk information for communities throughout the state. This work is completed under the FEMA Risk Mapping Assessment and Planning (Risk MAP) Program. NeDNR receives financial support from FEMA and conducts flood studies using department staff, which is somewhat unique among state governments in the country. We use this opportunity to help connect communities undergoing flood studies with floodplain management technical assistance and training.

Our goal in conducting Risk MAP projects for Nebraska is to deliver high quality data that increases public awareness of flood risk. This will lead to actions that reduce risk to life and property. We engage communities throughout the project to help them understand the new data, NFIP requirements, and the best ways to communicate risk to citizens.

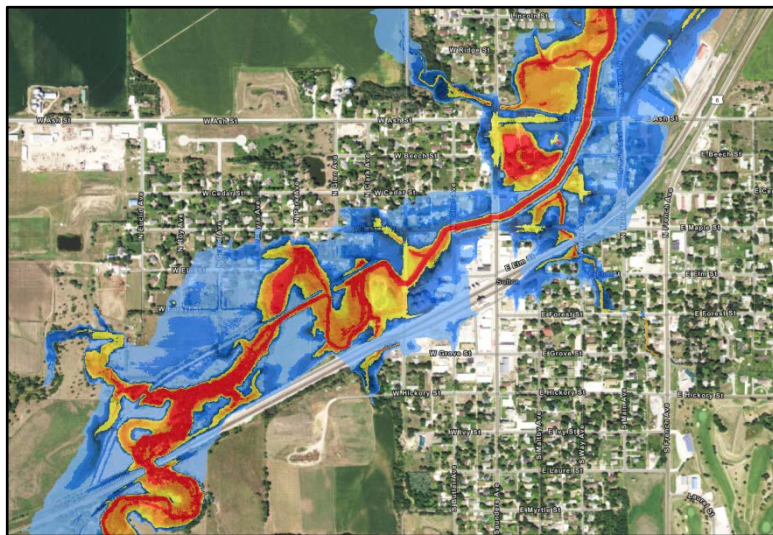


Figure 2. Flood Risk Product Depth Grid.

Risk MAP projects are performed at the watershed and county scale. The watershed-wide components include creating non-regulatory flood risk products. The Flood Risk Products provide additional information related to a property's or community's flood risk, such as flood depths. All communities throughout the watershed are part of the community engagement process for these projects. At the county level, regulatory Flood Insurance Rate Maps (FIRMs) and Flood Insurance Studies (FIS) are produced as part of a Risk MAP project.

The FY2018 provided funding to NeDNR to complete tasks for the following projects:

- **Middle North Platte – Scotts Bluff** - Data Development – NeDNR received funding to complete enhanced studies in Bridgeport and Bayard and to complete Flood Risk Products for the entire watershed based on the Base Level Engineering boundaries that were created as part of our FY2016 grant.

- **Lower Elkhorn** – Data Development – NeDNR received funding to complete enhanced studies for Howells and Madison as a continuation of the work funded in the Lower Elkhorn watershed in FY2017. Due to the extensive flooding in March 2019 this project has been placed on hold. The flooding resulted in significant changes in the channel alignment. New topographic data (LiDAR) needs to be acquired to accurately map this watershed. NeDNR is working with FEMA, USACE, and USGS to find a funding source for this data.
- **Lewis & Clark Lake** – Data Development – NeDNR received funding to complete floodplain boundaries for the watershed based on the results of the base level engineering boundaries that were created as part of our FY2017 grant. NeDNR will also create flood risk products for the watershed.
- **North Fork Elkhorn** – Data Development – NeDNR received funding to complete Zone A floodplain boundaries based on the results of the FY2017 base level engineering study. NeDNR will also complete enhanced studies for Pierce and Norfolk. Flood risk products will be created for the watershed as well.
- **Upper Elkhorn** – Data Development – NeDNR received funding to complete Zone A floodplain boundaries based on the results of the FY2017 base level engineering study results. Enhanced studies will be completed for Norfolk, O’Neill, and the Elkhorn River in Madison County. After floodplain boundaries are finalized, flood risk products will also be created. However, due to the extensive flooding in March 2019 this project has been placed on hold. The flooding resulted in significant changes in the channel alignment. New topographic data (LiDAR) needs to be acquired to accurately map this watershed. NeDNR is working with FEMA, USACE, and USGS to find a funding source for this data.

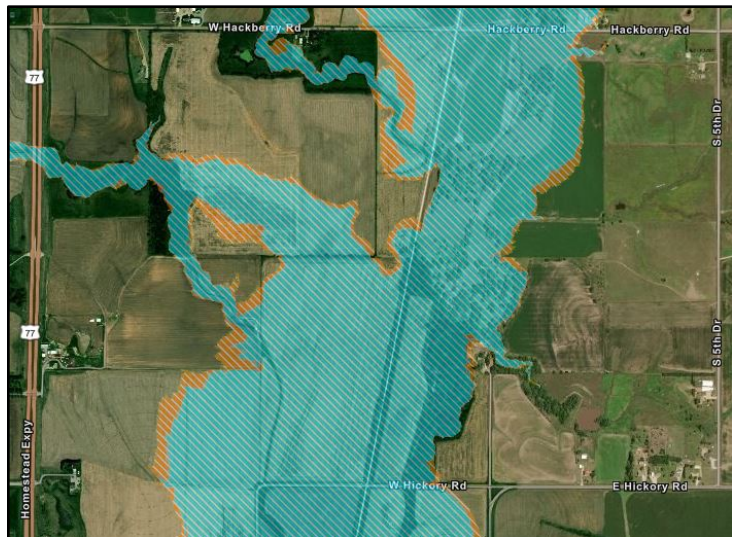


Figure 3. Flood Awareness Area available on NeDNR's Interactive Map.

- **Logan** – Regulatory Products – NeDNR received funding to create regulatory products, including Flood Insurance Rate Maps and a Flood Insurance Study Wayne County.
- **Upper Little Blue** – Regulatory Products – NeDNR received funding to create regulatory products, including FIRMs and FIS documents for all of Thayer County and the portions of Nuckolls County and Kearney County within the Upper Little Blue Watershed.
- **Middle Big Blue** – Discovery and Base Level Engineering – NeDNR finalized the Discovery Report and the Base Level Engineering within the watershed. The boundaries are available in the Flood Awareness Area layer on the Floodplain Management Interactive Map (<http://maps.nebraska.gov/dnr/floodplain>).

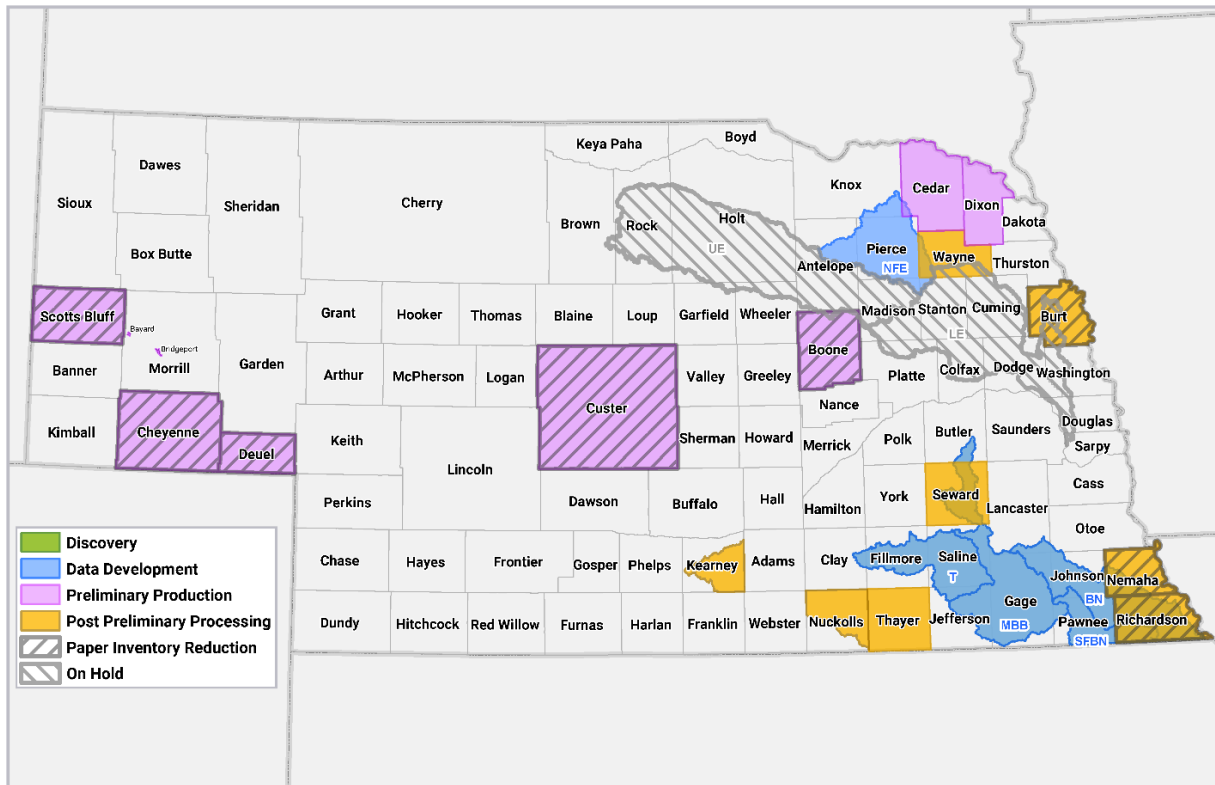
- **Turkey** - Discovery and Base Level Engineering – NeDNR finalized the Discovery Report and the Base Level Engineering within the watershed. The boundaries are available in the Flood Awareness Area layer on the Floodplain Management Interactive Map (<http://maps.nebraska.gov/dnr/floodplain>).
- **Big Nemaha** - Discovery and Base Level Engineering – NeDNR received funding to complete the Discovery Report and the Base Level Engineering within the watershed.
- **South Fork Big Nemaha** - Discovery and Base Level Engineering – NeDNR received funding to complete the Discovery Report and the Base Level Engineering within the watershed.

During this grant period, we also continued studies in several counties as part of a Paper Inventory Reduction (PIR) project. PIR projects are similar to Risk MAP projects, but have the goal of reducing the amount of paper FIRMs still in effect for counties. We are currently working on Data Development for PIR projects in Cheyenne, Deuel, Scotts Bluff, Custer, and Boone Counties. We are working on regulatory phases for Burt, Nemaha, and Richardson Counties.

During the FY19 grant period, we will be working on the following Risk MAP projects:

- **Middle Big Blue** – Data Development - NeDNR received funding to complete Zone A floodplain boundaries for the watershed based on the results of the base level engineering boundaries that were created as part of our FY2018 grant. NeDNR will complete enhanced studies in Saline County, Beatrice, Blue Springs, Crete, DeWitt, and Wilber. NeDNR will also create flood risk products for the watershed.
- **Turkey** – Data Development - NeDNR received funding to complete Zone A floodplain boundaries for the watershed based on the results of the base level engineering boundaries that were created as part of our FY2018 grant. NeDNR will also create flood risk products for the watershed.
- **South Fork Big Nemaha** – Data Development - NeDNR received funding to complete Zone A floodplain boundaries for the watershed based on the results of the base level engineering boundaries that were created as part of our FY2018 grant. NeDNR will also create flood risk products for the watershed.
- **Big Nemaha** – Data Development - NeDNR received funding to complete Zone A floodplain boundaries for the watershed based on the results of the base level engineering boundaries that were created as part of our FY2018 grant. NeDNR will complete enhanced studies in Firth and Tecumseh. NeDNR will also create flood risk products for the watershed.
- **Lewis & Clark Lake** – Regulatory Products – NeDNR received funding to create regulatory products, including Flood Insurance Rate Maps (FIRMs), a Flood Insurance Study (FIS), and other similar products for Cedar County and Dixon County.
- **Middle North Platte** – Scotts Bluff – Regulatory Products - NeDNR received funding to create regulatory products, including Flood Insurance Rate Maps (FIRMs), a Flood Insurance Study (FIS), and other similar products for Bridgeport and Bayard.

- Statewide Regression Equations** – NeDNR received funding to conduct a study to develop updated statewide regression equations. This project will include creation of a statewide stream network, completion of a Bulletin 17c analysis on existing gaging stations, LiDAR processing, and development of basin characteristics.



Each of these county or watershed projects will extend several years and we will continue to update stakeholders of each project’s status. FEMA has only provided funding for the tasks described above and funding full mapping projects to effective status will depend on future federal funding.

Mark Your Calendar

If you have questions about any of these opportunities, please contact Chuck Chase at chuck.chase@nebraska.gov or 402.471.9422.

Nebraska Floodplain & Stormwater Managers Association Annual Membership Meeting November 21, 2019, Ashland, Nebraska, 8:30 am – 4:00 pm

NeFSMA will host their annual membership meeting Thursday, November 21, 2019 at 8:30 am at the Strategic Air & Space Museum, 28210 West Park Highway, Ashland, Nebraska. The meeting will focus on lessons learned from the 2019 floods. CECs will be available for CFMs.

Registration is free to current members and local floodplain administrators (code required). Non-members will be charged \$35 to attend. Registration includes admission to the museum for attendees to enjoy the exhibits after the meeting. Registrations are due by November 11th. Please visit <https://www.nefsma.com> for more information.

Kansas Department of Agriculture – Division of Water Resources Elevation Certificates Training December 12, 2019, Garden City, Kansas, 8:30 am – 12:00 pm

The KDA-DWR team will host a free class designed for community officials responsible for administering floodplain management, as well as surveyors and engineers who review and/or approve Elevation Certificate forms. Please contact H. Martin Koch at martin.koch@ks.gov or 785.296.0854 with questions or to obtain the registration form.

KDA-DWR Violations and Enforcement Training December 12, 2019, Garden City, Kansas, 1:00 pm – 4:00 pm

The KDA-DWR team will host a free class designed for community officials responsible for administering floodplain management regulations. The course will focus on various types of violations, steps toward correcting violations, and enforcement procedures. Please contact H. Martin Koch at martin.koch@ks.gov or 785.296.0854 with questions or to obtain the registration form.

CFM Study Session and Exam January 3, 2020, Lincoln, Nebraska, 8:30 am – 4:30 pm

NeDNR will host a CFM study session on January 3, 2020 from 8:30 am to 12:00 pm. The CFM Exam will be offered that afternoon from 1:30 pm to 4:30 pm. The study session and exam will be held at the Nebraska State Office Building, 301 Centennial Mall South, Lincoln, Nebraska. Please email Chuck Chase, chuck.chase@nebraska.gov, to register with NeDNR.

You must apply to the Association of State Floodplain Managers (ASFPM) at least two weeks in advance to take the exam. Use these [application forms to apply for this exam](#).

National Flood Insurance Program Training Videos

NFIP Training courses for insurance agents, claims adjusters, surveyors and community officials are being offered through the FEMA Emergency Management Institute (EMI) Independent Study (IS) Program. IS courses are open and free to anyone. Floodplain administrators may find these videos helpful.

The Independent Study catalog is available at <https://training.fema.gov/is/crslist.aspx>. Course exams require a FEMA Student Identification (SID) Number, which can be obtained at <https://cdp.dhs.gov/femasid>.

WANT MORE INFORMATION?

Visit NeDNR’s Floodplain Website at
<https://dnr.nebraska.gov/floodplain>

Or Contact

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This newsletter is produced by the NeDNR Floodplain Management Section and is partially supported by funding through a Cooperative Agreement with the Federal Emergency Management Agency. The contents do not necessarily reflect the view and policies of the federal government.