

Floodplain Management Today

NEBRASKA DEPARTMENT OF NATURAL RESOURCES FLOODPLAIN SECTION

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Louisville Remembers Deadly 1923 Flood

By Kylie Kinley, Nebraska State Historical Society

In 1923, Louisville, Nebraska was having a wild weather summer.

In late August, the town survived a “baby Twister” that “wreaked its vengeance in one part of town and a block distant no damage was done” (*The Courier*, Aug. 31, 1923).

The town’s paper, *The Louisville Courier*, reported: “The band stand at the baseball grounds was wrecked and loose boards flew about promiscuously, yet strange to relate no one was injured” (Aug. 31, 1923).

During the same storm, five head of cattle died from lightning and “one of the oldest land marks in town, the Burlington windmill, was so badly damaged by the storm that it will be torn down”

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Photo 1. Searching for bodies after the flood

Both this article and an article talking about Charles Lau’s “Good Stand of Wheat” mentioned the dry conditions plaguing the area.

That dry spell ended September 27, 1923.

Rain fell in a torrential downpour for most of the day. Debris began piling up against a bridge south of town and backed up the water in Mill Creek, which flows from south to north through Louisville.

The first notice of danger came from water pouring through the doors of a house near Mill Creek. William McCarver, who had gathered with family and friends after his mother's funeral, snatched up his two sons. His brother-in-law Alfred Laird grabbed his own daughter, and they rushed the children to a neighbor's house to safety before returning for the other members of the house – including both their wives, McCarver's brother, an aunt, a neighbor, and five other children. Seconds after the two men entered the door, the house began to move. Floating timbers, trees, and buildings coupled with the near-darkness prevented neighbors from going to the rescue. Onlookers were not sure if the occupants drowned or if the trees and debris crushed the house. All twelve of the house's inhabitants died. Two of the bodies were never found.



Photo 2. A home is destroyed and moved off its foundation

The Courier writes, “The unfortunate people were well known in this town and were highly respected and had many friends...the town and all the neighboring towns have spared no effort to search for the bodies not yet recovered and have worn themselves out in their disappointment. We can only trust to time to reveal their resting place” (Oct. 5, 1923).

Many of Louisville's residents lost belongings or their entire homes. Mr. Fred Shelhorn was “negotiating to purchase this place but feels now that he would not care to own a home so near the water” after his house was broken in two. One story tells how three young boys swam to higher ground, miraculously missing the debris that was just as dangerous as the flood waters. *The Courier* writes, “fortunately all the boys in Louisville are good swimmers, having learned in the sand pits here and the little fellow swam right along behind his brothers” (Oct. 5). Another older couple refused to be rescued when the water was waist-high because “they were nervous about leaving their home and hardly thought it would get worse.” The water filled their house, and Mrs. Schoeman, aged 75, climbed to the top of the furniture and waved lit matches out of the window until a group of boys saw and rescued her and her husband.

The Dehning family also had a close escape. Mr. Dehning left work when the flood began, but the roads were covered in water. Desperate to reach his family, he crawled along the railroad tracks only to find the street he lived on to be dark and impassable. He “had about given his family up for lost. It seemed impossible that they could have survived such a rush of water...” Meanwhile, his wife, three-year-old-son, and sister had left the house when the waters began to rise. On the way, “Mrs. Dehning was carrying her baby and was struck by a floating telegraph pole and knocked down and how she ever got up is more than she can tell now...” The family reached the safety of higher ground and was reunited with Mr. Dehning later.

A freight train was stranded on the washed out tracks, but “turned on their headlights for the rescuing parties and this was all that made it possible for the rescuers to enter the raging waters.” One woman was rescued from the attic of her home along with her two young sons.

Many residents gathered in the Drake Hotel, which had a higher foundation than many of the other buildings. This is also where *The Courier* editor and his wife took refuge. He writes, “The beating rain, the rush of the water around the corner of the hotel and the crashing of floating timbers and wreckage made a sound of destruction that cannot be described and this together with the fear of what was taking place on the lower land and the danger of the collapse of the hotel, because of the cellar full of water and the rush of the flood against the building – all this has been experienced to be fully appreciated.”

During the entire flood, Marjorie Twiss and Lydia Pautsch, the town’s telephone operators, remained at their posts nearly all night and were later lauded as “a couple of heroines” for their work.



Photo 3. Main street businesses clean up after the flood

A grocery store was still running a “flood sale” until October 19. Unfortunately, thefts were reported along with the reports of bravery and generosity. *The Courier* writes, “Special police have been put on and night watchmen patrol the stricken district and thieves will be dealt with as they deserve if apprehended” (Oct. 5, 1923).

In addition, *The Courier* reported on October 19 that “no more money is needed for relief. Unsolicited by the people of Louisville, funds have rolled in from all sources in amounts from \$1 to \$500 for the sufferers from the flood...” *The Courier* later became a lost-and-found of sorts, even publishing photos that had been found in the debris and turned in to the office (Oct 12).

In the issue after the flood, *The Courier* called the event the “Greatest Calamity in History of Louisville – Sudden Flood Kills Twelve and Carries Away Homes as if They Were Leaves.” Along with its detailed coverage, it was also somber and philosophical in tone:

“Last Friday night’s storm demonstrated the helplessness of man against the unconquerable elements of wind and water.”

Kylie Kinley is the assistant editor for publications at [NSHS](#) and is an editor for “Nebraska History,” a quarterly magazine that explores Nebraska’s history and culture.

Increased Cost of Compliance Coverage

By Mitch Paine, CFM

Every National Flood Insurance Program (NFIP) policy includes a provision called Increased Cost of Compliance (ICC). This coverage can help cover the cost of bringing a flood-damaged building into compliance with floodplain management regulations. While this mainly involves individual flood insurance policies, floodplain administrators play an important role in helping their citizens access ICC funds.

If a home is damaged by more than 50% of its pre-damage value, then local floodplain regulations stipulate that when the home is rebuilt it must be elevated to at least 1-foot above the base flood elevation. The cost to do that may be significant for the family who owns the home, so they can access the ICC coverage, which can contribute up to \$30,000 to elevate the home.



Photo 4. A home flooded in 2011 that will need to be brought into compliance

ICC coverage is part of every NFIP policy, so as long as a homeowner or business owner carries flood insurance, they can access funds to help elevate the home or mitigate the building. ICC not only helps bring damaged buildings into compliance, it also helps families and businesses become more resilient to the next flood that hits.

ICC Triggers

There are 3 requirements for a policyholder to access ICC coverage: incurring flood damage, obtaining a substantial damage letter from their floodplain administrator, and filing the letter with their flood insurance agent.

First, the damage to the property must be caused by flooding. Damage from other sources cannot trigger ICC. If a property is damaged by flooding *and* by wind, only the damage from flooding can count toward the damage estimate.

Second, the property must sustain substantial damage. Floodplain administrators play an important role in this part of the process. After any damage occurs to buildings, the floodplain administrator must evaluate whether or not individual building damage is over 50% of the pre-damaged value. This is required as part of every community floodplain management ordinance. If a property is determined to be damaged by more than 50% of the pre-damaged value, then communities should send letters to affected building owners indicated floodplain management standards.

These letters are then what a policyholder needs to submit to the flood insurance agent to start the process for ICC coverage being paid out and are the third requirement for ICC. An agent cannot process ICC claims without the substantial damage letter. Once that letter is in hand, the agent then works with the policyholder to start the process. The policyholder will also have to hire a contractor to complete the home elevation or other mitigation activity. The insurance

company can actually pay half of the ICC claim before the home elevation or other activity is completed and then upon final permit, the remaining half of the claim is paid.

Post Flood Situations

After any major flood disaster, many communities evaluate buyout programs that help remove particularly floodprone structures from the floodplain. Many homeowners want this as well so they never have to go through a flood again. Often, federal mitigation funds are used to do this, but they require a local cost share. ICC, if available to a policyholder, can be used to contribute toward the cost of acquiring a property and can count as the local cost share of a federally-funded project.

Many solutions are available to reduce flood risk in our communities, but often the biggest obstacle is finding funding to do projects. ICC, with help from floodplain administrators offers relatively easy and accessible funding for making substantially-damaged buildings safer and communities more resilient to flooding.

For more information about ICC coverage, feel free to contact me at Mitch.Paine@nebraska.gov or (402) 471-9252.

FEMA also makes a guidance document available in this link, entitled "[Increased Cost of Compliance Coverage: Guidance for State and Local Officials.](#)"

National Flood Insurance Program Changes

By Mitch Paine, CFM

On October 1st, a small number of changes go into effect for how flood insurance is offered and administered. Floodplain administrators will want to take note of two changes.

First, Write Your Own (WYO) companies, who sell the majority of flood insurance policies nationwide, are in the process of re-underwriting their policies to verify their status. Companies will be looking at information on pre-FIRM subsidized, Standard Zone X-rated, newly-mapped procedure rated, and preferred risk policies. Next October, FEMA will require other policies to be re-underwritten, which will largely include policies rated with Elevation Certificates.

Agents may be calling floodplain administrators to verify and request information about prior flood maps to best understand the flood zones when a home was built. A homeowner with a policy renewal may call floodplain administrators for similar information as well.

Second, for new flood insurance policies, all NFIP insurers are required to provide the lowest premium rate available to the property. This means that a pre-FIRM subsidized policy should be evaluated with an Elevation Certificate as risk-rated *and* evaluated as subsidized. Floodplain administrators can help citizens understand how to ask about getting the lowest possible rate.

If you need to look at historic maps or info about these changes, you can visit the FEMA Map Service Center at www.msc.fema.gov or call our office for help.

NeDNR Base Flood Elevation Determinations

By Chuck Chase, CFM

Most floodplains in Nebraska are in rural areas such as pastures or cropland and will likely never have buildings constructed. The cost of a detailed flood study with base flood elevations for all of these areas would not be a prudent use of taxpayers' money. Knowing the horizontal boundaries of the floodplain is enough information to make many development decisions. Local ordinances stipulate that when a building is being constructed, the structure needs to be built or floodproofed to 1-foot above the base flood elevation (BFE).

When BFEs are needed for floodplain management in approximate A zones, NeDNR will calculate them at the request of the local floodplain administrator. Though the service is free, doing BFE determinations is also costly in terms of staff time, often taking more than half a day to complete. Therefore, we ask that you only request BFE determinations when there is an actual need for the information.

BFE determinations can then be used for floodplain management compliance. NeDNR uses the best available data for the determinations, but that means when new data is available the determinations will be updated and superseded. Therefore, it is important to attach a copy of the appropriate BFE determination to the Elevation Certificate and the floodplain development permit. Twenty years from now when a new owner is looking to buy the property, it will be important to show the

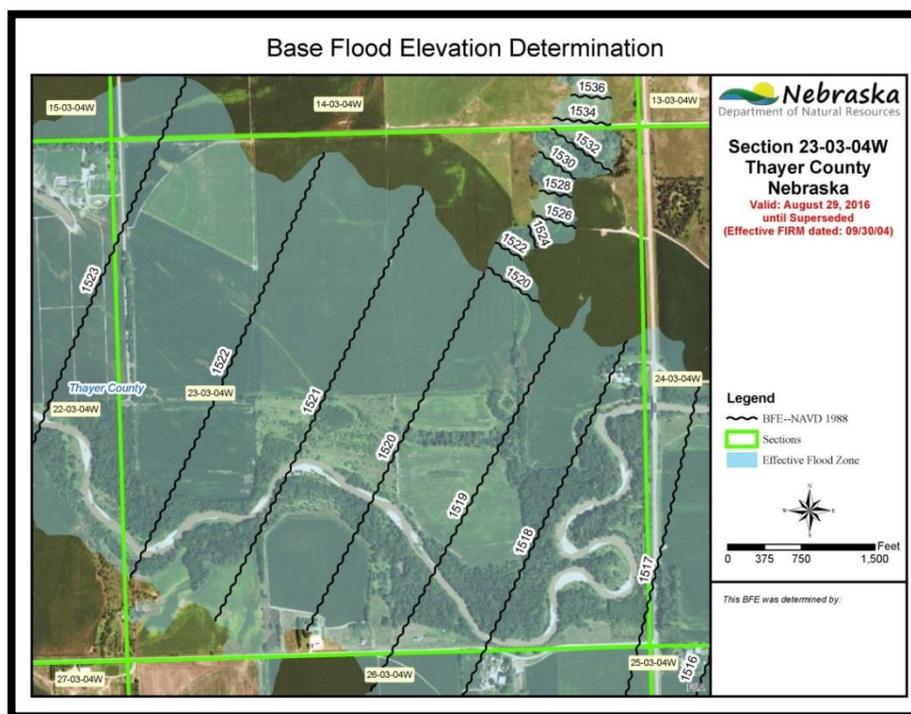


Photo 5. Example of BFE determination layout

valid BFEs at the time of construction to demonstrate that the structure was built in compliance.

BFEs can be superseded any time new information is available. You, as the floodplain administrator, should *not* keep paper copies of BFE determinations around for reference. You should always check the NeDNR interactive map for valid BFE determinations to ensure you're using the most current BFE. In the "Layers" on the interactive map, you can turn on the "valid DNR BFE determinations" layer and if a valid BFE determination is available, a yellow box will highlight the section in question. If the section does not have a yellow highlight, the old BFE determination has been superseded and you will have to request a new BFE determination.

The important thing to keep in mind is that there are acceptable uses and unacceptable uses of these BFE determinations, as specified in your ordinance, the Nebraska Minimum Standards for Floodplain Management, and the Code of Federal Regulations.

Acceptable uses:

- Permitting new structures and substantial improvements (NeDNR still recommends that a professional engineer perform a site-specific analysis for all new development)
- Elevation Certificates on existing structures
- Letters of Map Amendment and Letters of Map Revision Based on Fill

Unacceptable uses:

- Design of subdivisions/developments greater than 5 acres of 50 lots, whichever is less (a detailed study with regulatory flood elevations must be produced)
- Hydraulic analysis for designing a culvert, bridge, or other structure

On all new BFE determinations done, you will see language that is similar to, “Valid from 10/1/2016 until superseded” to remind users to check on the validity of a BFE determination before making development decisions.

As always, feel free to contact a NeDNR staff member for more information!

Nebraska Flood Study Projects

By Katie Ringland, PE, CFM

The Floodplain Management Section at NeDNR routinely works with FEMA to update flood studies for communities around the state. The FEMA program for flood mapping is called Risk Mapping Assessment and Planning (Risk MAP). Our department 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 flood study areas with floodplain management technical assistance and training.

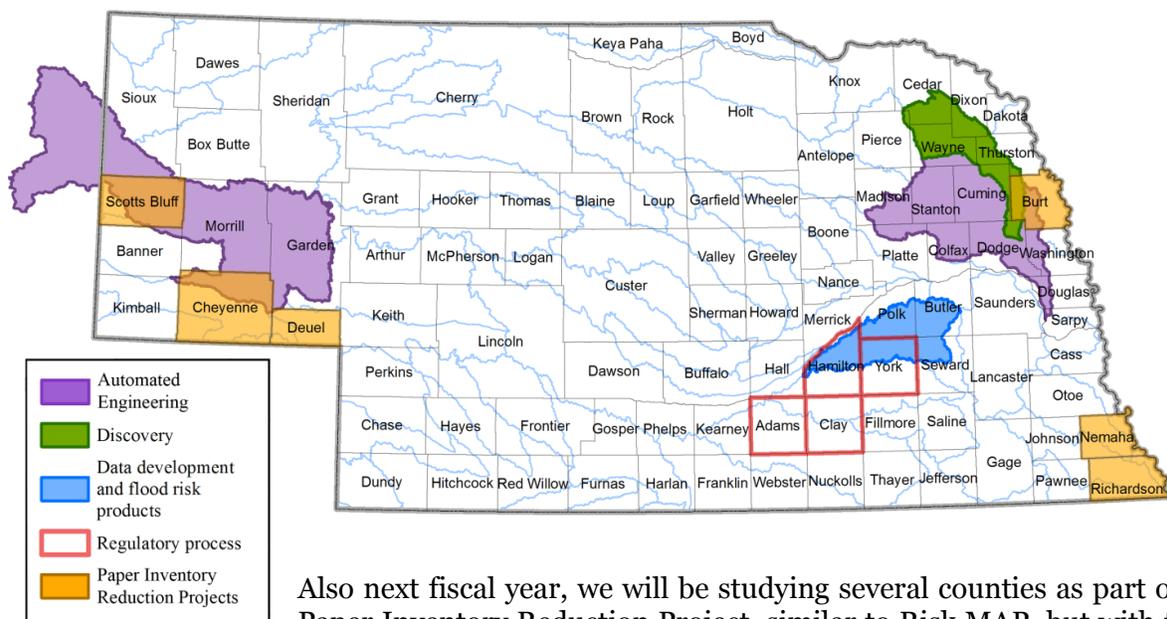
Our goal in doing Risk MAP projects for Nebraska is to deliver high quality data that increases public awareness and leads to actions that reduce risk to life and property. We will engage communities along the way to help them understand the new data, NFIP requirements, and the best ways to communicate flood risk to your citizens.

Risk MAP projects focus both on watersheds and counties. The watershed-wide components include creating “flood risk products,” which are ways to show additional details about flood risk like depth of flooding, recurrence intervals (1%, 2%, 5%, etc. annual chance of flooding), and areas of mitigation interest. Communities throughout the watershed are part of the community engagement process as well. At the county level, Flood Insurance Rate Maps (FIRM) and Flood Insurance Studies (FIS) are produced as part of a Risk MAP project.

Over the past year, we have been working in the Upper Little Blue watershed on data development for the flood risk products. Adams and Clay Counties are now in the beginning stages of the regulatory process, which is the process that will convert the data into new effective FIRMs. We have also started data development for the Upper Big Blue and West Fork Big Blue watersheds.

During the next federal fiscal year (through September 30th, 2017), we will be continuing work in the project areas previously discussed, but will also be adding many watersheds and counties to the list of Risk MAP projects:

- Adams & Clay Counties – continuing the regulatory process to convert the Preliminary FIRMs to effective FIRMs
- Hamilton & York Counties – finalizing data development and starting the regulatory process using the information from the data development phases in the Upper Big Blue and West Fork Big Blue watersheds
- Upper Big Blue Watershed – finalizing data development for flood risk products
- Seward County – starting data development for the Enhanced Studies in Seward and Milford
- Logan Creek Watershed – starting “Discovery,” which will include community engagement and basic data collection within communities
- Lower Elkhorn Watershed – starting automated engineering, which is a verification of the validity of existing flood data
- Middle North Platte – Scotts Bluff – starting automated engineering



Also next fiscal year, we will be studying several counties as part of a Paper Inventory Reduction Project, similar to Risk MAP, but with the goal of reducing the amount of paper FIRMs still in effect for counties.

We will start doing data development for the following counties: Scotts Bluff, Cheyenne, Deuel, Burt, Nemaha, and Richardson Counties.

Each of these county or watershed projects will extend many years out and we'll continue to update stakeholders in these areas on project status. FEMA has only provided NeDNR funding for the tasks listed above and funding full mapping projects through effective status will depend on future federal funding.

A Risk MAP project is also going on for Big Papio Watershed, but it is managed by PMRNRD.

Mark Your Calendar

If you have questions about any of these opportunities, please contact Chuck Chase or Mitch Paine.

ASFPM National Conference 2017

The Association of State Floodplain Managers will be holding their National Conference next year in Kansas City, Missouri from April 30 – May 5, 2017. This is a great opportunity for everyone in Nebraska to attend the prime flood conference. Attendees will hear from FEMA HQ staff, can learn from local floodplain administrators from around the country, and network with flood professionals from all over the world.

If you're interested in submitting an abstract for a presentation, you can submit it by October 31, 2016 here: <http://asfpmconference.org/2017/call-for-presenters>. To learn more about the conference and to register, click here: www.asfpmconference.org.

NeFSMA Members Meeting

On Thursday, November 17th, the Nebraska Floodplain and Stormwater Managers Association will hold their annual members meeting with presentations from experts. The event will be at the Strategic Air & Space Museum in Ashland from 8:30 – 4:00. You can learn more and register at www.nefsma.com.

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 <http://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>.

Webinars

FEMA Region VI will host a brown bag webinar on Water Surface Elevation Grids on October 25th from 12:00 – 12:45. The webinar will help attendees learn more about water surface elevation grids and how they can help you better mitigate flood risk in your community. Register by October 24th at <https://www.eventbrite.com/e/fema-region-6-virtual-brown-bag-tickets-16946824408>.

WANT MORE INFORMATION?



Visit NeDNR's Floodplain Website at
<http://dnr.nebraska.gov/fpm>



Or Contact

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