

Nevada Floodplain Management News

FALL 2024

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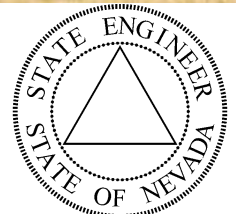
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STATE OF NEVADA

DEPARTMENT OF CONSERVATION OF NATURAL RESOURCES

DIVISION OF WATER RESOURCES



2024 Nevada Watershed University Forum and Hot Topics Webinar Series

By Danae Olsen and Jess Edwards, US Army Corp of Engineers, and Sarah Fichtner, Nevada Division of Water Resources



The Nevada Silver Jackets team recently hosted the 2nd Nevada Watershed University Summit this Spring. The half-day virtual event brought together floodplain managers from Nevada and beyond. Participants got to hear a keynote address from Mr. David W. Fogerson, Nevada Division of Emergency Management and Homeland Security Administrator. Other presenters included representatives from the National Weather Service (NWS), the Federal Emergency Management Agency (FEMA), and several floodplain management peers, who held a panel discussion themed, “Floodplain Management Reflections and Path Forward.” There were lots of takeaways, including the *importance of maintaining a great relationship with your emergency manager* make a friend before you need a friend. Emergency Operations Centers are worth their weight in gold to help create consistent and regular, seamless messaging during an emergency.

The NWS presenter provided a detailed weather report and a link for real-time data, MesoWest. [The weather and hazards data viewer can be found here.](#)

FEMA representatives provided information on Community Rating System (CRS) activities and submittal practices to help earn and maximize credits under the National Flood Insurance Program (NFIP).

FEMA reps also gave a briefing on the [Integrated Public Alert Warning System \(IPAWS\)](#) that folks can sign-up for to receive automated emergency alerts in their community.

Finally, here are a few more summit takeaways to ponder for successful flood risk outreach:

- It is helpful to provide residents with the tools needed to go online and view Special Flood Hazard Area (SFHA) maps and information including the FEMA Map Service Center and [FloodSmart.gov resources](#).
- Especially when working in rural communities, combining different outreach efforts can increase participation. Look for opportunities to collaborate for better turnout.
- Hosting booths at larger, well-attended events can be another good way to spark interest and reach residents.

2024 Nevada Watershed University Forum Continued

Following the Spring virtual forum, the Silver Jackets team hosted a new Nevada Watershed University summer webinar series: “Hot Topics in Flood Risk Management.” The series of four kicked off with an Engineering with Nature webinar which featured an overview presentation from US Army Corps of Engineers (USACE) on designing flood risk management projects with natural processes in mind to create benefits for the environment and the community. Additionally, we heard from Nevada’s Truckee River Flood Management Authority (TRFMA) who shared success stories from past river restoration projects and the vision for the current New Meadows and Vista Narrows projects.

The next webinar focused on Flood Risk Management for Rural Communities through FEMA’s Direct Technical Assistance (DTA) program. This program is geared toward helping communities with fewer resources apply for the Building Resilient Infrastructure and Communities (BRIC) grant. The webinar opened with a presentation from Nevada Division of Emergency Management about DTA and ended with a robust Q&A session to allow floodplain and emergency managers in attendance to problem solve some of the barriers to applying.

The third “Hot Topics” webinar highlighted the challenges of Unsheltered Populations in the Floodplain. USACE and Clark County Regional Flood Control District gave presentations demonstrating the immense challenges of keeping flood control structures clear for the safety of the unsheltered individuals and the whole community. Impacts include threats to life-safety, operations, and security, as well as environmental damage, flood risk, fire risk, and high maintenance cost. The remedy starts with leadership supporting innovative programs and collaborating with multiple agencies to develop protocols; implementing additional measures to restrict or prevent access; providing targeted visitations from qualified advocates offering help and social services; and conducting robust public outreach and education. Meeting the tremendous challenge requires an “all hands-on deck” strategy for resolution.

The final webinar in the series was “CRS Tips and Tricks” which featured a presentation from the Douglas County Stormwater Manager who provided details on the county’s successes in the CRS program and their biggest challenges. Next, we heard from FEMA CRS Specialist, Antoinette Stein, who covered the FEMA CRS redesign and how communities could return comments to FEMA before the request for information closed on September 9 of this year.

If you have any ideas for future Watershed University content, please contact the Nevada Silver Jackets leads: Danae Olsen (danae.m.olsen@usace.army.mil) or Sarah Fichtner (SFichtner@water.nv.gov).



Featured Floodplain Manager:

Karin Peternel

Carson City Floodplain Manager

Time worked floodplain management:

- 10+ years

Previous occupations:

- Stormwater Manager
- Hydrologist

Current flood projects:

- Carson City high water mark installations and outreach events
- Designing detention basins for flood protection

Hopeful future projects:

- Wetland outreach and education

Hobbies:

- Paddleboarding
- Flying seaplanes
- Spending time at the river with her dog
- Crocheting



Karin Peternel getting some time in the air and on the water with her seaplane.

Hidden Valley: 1 day, 1 neighborhood, 1 200-year flood

Written by Bethany Drysdale, Washoe County Media and Communications Manager

On July 21, 2024, two thunderstorms collided over the Hidden Valley area of Reno, quickly forming a powerful new storm pelting the area with rain and hail. Radar signature for heavy rain was near and over steep terrain, but lack of real-time observations (e.g. Alert gauge) made for a difficult assessment of how much rainfall was reaching the ground. A Flood Advisory was issued at 5:27 PM followed by a Severe Thunderstorm Warning at 5:30 PM, giving about 30 minutes of lead time before the first impacts were felt around 6:00 PM.

Unfortunately, this type of fast-forming storm is nearly impossible to predict with enough time for people to take preventative measures. One citizen weather observer in the storm's path provided data that matched a rare 200-year rainfall event, meaning there's only a 0.5% chance of such an intense storm occurring in any given year. However, this data was not part of the official network, so it was not easily accessible in real-time.

The storm's impact was further complicated by its occurrence over an alluvial fan—an area prone to unpredictable flash flooding due to its shape and loose soil deposits, which can create unpredictable flow paths.

Washoe County has consistently maintained a strong policy and response to both flooding and flash flooding over the past decade. In June and July 2015, our community faced several isolated flash flood events that overwhelmed the stormwater systems, resulting in damage that was very similar to what we've recently experienced in Hidden Valley - damaged landscaping, heavy debris deposits, and impacts to home interiors. Additionally, in 2017, our area suffered two federally declared flooding disasters, causing significant damage to both infrastructure and private property. Throughout

these events, Washoe County's policy is to prioritize life safety, ensuring access for emergency responders, and protecting property.

In Hidden Valley, Washoe County Roads crews responded immediately after the storm. The initial focus was on ensuring the safety of residents and emergency responders. Debris removal on the roadways began without delay, and by mid-day on July 22, all roads were cleared and accessible to emergency vehicles. Crews used backhoes and motor graders to clear larger debris, while kick-brooms, water trucks, and street sweepers tackled the finer sediment. It's important to note that street sweeping activities were conducted in compliance with air and water quality requirements.

To further protect private properties, Washoe County Roads and Engineering staff promptly inspected the drainage infrastructure. They developed and implemented a plan to repair and re-establish critical areas. This work began immediately following debris removal and has been carried out by both county crews and contractors. The county also partnered with organizations like the Red Cross and Team Rubicon ...



A large storm formed quickly and dropped a large volume of water in a short amount of time.



Debris washed downhill by the storm flowed over roads and properties.

Hidden Valley continued...



Before and after sediment was cleared from the roads by Washoe County crews. These photos were taken 24 hours apart.

...to provide additional support and assessment of damage to homes.

Stormwater is a natural and ongoing part of our landscape, and Washoe County's stormwater infrastructure is designed according to the county's Development Code. These systems are built to manage runoff from minor, everyday storm events.

Flood insurance is available to Washoe County property owners and renters, who are entitled to a reduced rate because Washoe County is a member of the National Flood Insurance Program (NFIP). It is required for properties within a special flood hazard area that are backed by federal loans. However, all property owners may benefit. Approximately 40 percent of all flood insurance claims nationwide occur outside of the Special Flood Hazard Areas. Property owners can insure their buildings and contents, and renters can insure their possessions. Washoe County also participates in the NFIP Community Rating System (CRS) which qualifies residents to receive an additional discount on Flood Insurance because of the County's commitment to enforcing higher flood mitigation standards than the minimum requirements.



Debris removed from the roads and properties in Hidden Valley.

Learn more about why residents should look into flood insurance here: [Why Do I Need Flood Insurance?](#)

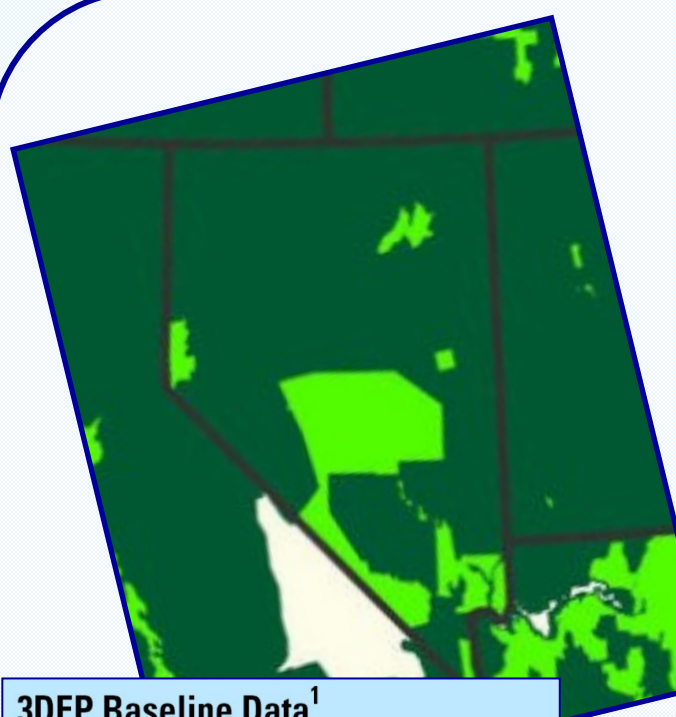


The Whole Picture: Nevada LiDAR Updates

By Sarah Fichtner, Nevada Floodplain Mapping Coordinator

Welcome back to another quick Nevada LiDAR acquisition update. The USGS 3D Elevation Program (3DEP) continues to make progress procuring LiDAR across the country. To recap, Nevada had LiDAR for roughly 30% of the state in 2020 when new projects were announced to increase coverage to 70%. In 2023, the USGS 3D elevation program announced that it was funded to get LiDAR coverage for the remaining 30% of the state.

These projects are underway and slated to conclude in 2025. Please see the links below to follow the progress and access LiDAR data. ♦♦♦



3DEP Baseline Data¹

Lidar





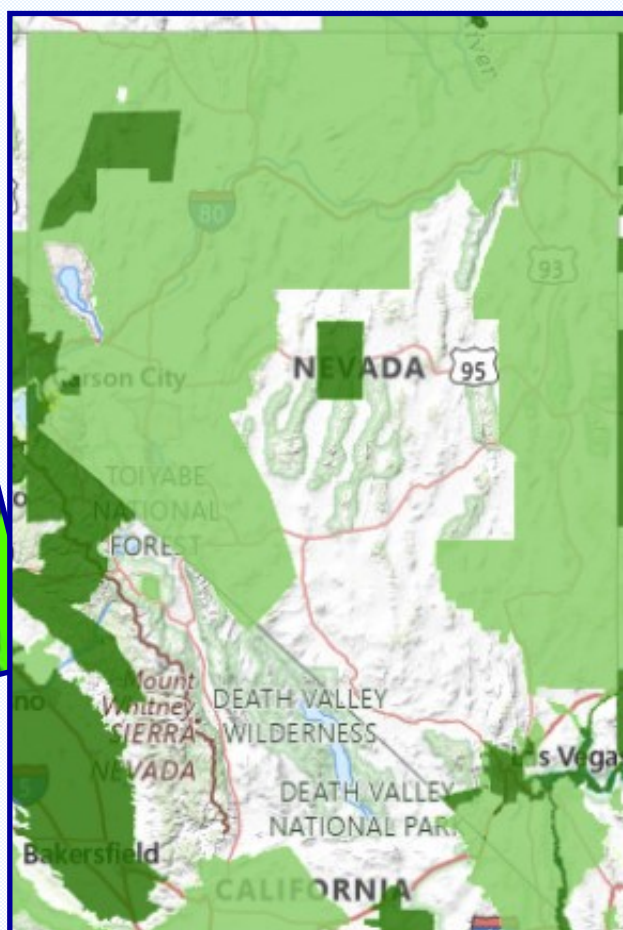
-  Planned FY23 Partnerships (subject to change)
-  FY23 Partnerships In-Progress
-  Available or In-Progress
-  Data Contribution Pending

Image of current and future LiDAR projects in Nevada taken August 2024. The announcement of [3DEP FY23 Partnerships](#) includes a plan to collect LiDAR for the rest of the state within the next few years (left).



Areas of Nevada with LiDAR that is completed or in-progress are shown in green. Available LiDAR as documented on [3DEP LidarExplorer](#) (right).

Floodplain Managers, do you want to:

- Earn CRS credit?
- Improve your points for FMA Grant applications?
- Educate your community's youth about flooding in Nevada?

Yes? YES!! NDWR and Nevada Silver Jackets have a great resource for you!



**FREE
Classroom Curricula!**

Available for download at
NevadaFloods.org

or follow the links for:

[Nevada Rivers](#)

&

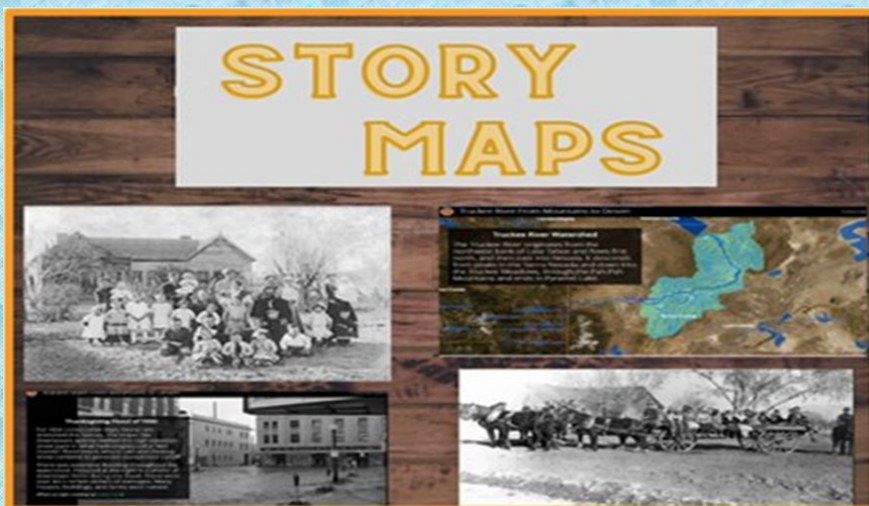
[Flood Fighter; Nevada](#)

*Flood Fighter:
Nevada Curriculum
based Materials and
Android/iOS
Platform*



Story Maps for
Each Major River in
Nevada:

Truckee River
Carson River
Walker River
Humboldt River
Virgin River
Muddy River





State of Nevada Division of Water Resources

Upcoming Trainings and Conferences

Nov. 10-16 | Nevada Flood Awareness Week (FAW)

Nov. 13 | Douglas County FAW Outreach Event

Nov. 13 | Washoe Lake State Park High Water Mark Unveiling Event

Nov. 14 | Morgan Mill and Riverview Park High Water Mark Unveiling Event

Nevada Floodplain Management News is a Publication of the Nevada Floodplain Management Program

If you want to:

- Attend one of our meetings or webinars
- Submit content for Nevada Floodplain Management News
- Share comments or questions

Please contact Floodplain Mapping Coordinator, Sarah Fichtner:
sfichtner@water.nv.gov

