

# WYOMING RISK MAP NEWSLETTER

Welcome to Wyoming's Spring 2021 Risk Mapping, Assessment and Planning (Risk MAP) newsletter! This newsletter follows up on FEMA's recent Risk MAP meetings in Wyoming. It will provide quarterly updates on the state's Risk MAP projects, in addition to other flood-related information.

For questions or feedback, please email Madi Pluss, Risk MAP Program Manager, at [madeleine.pluss@fema.dhs.gov](mailto:madeleine.pluss@fema.dhs.gov).

If you require an accommodation or an alternative format of information such as American Sign Language interpretation, audio or another format, please submit your request to: [Region8AccommodationRequest@fema.dhs.gov](mailto:Region8AccommodationRequest@fema.dhs.gov).

## WHAT'S NEXT IN THE RISK MAP PROCESS?

Goshen County and Carbon County continue to move through the Risk MAP process, a FEMA program that provides communities with flood information and tools to help them protect lives and property.

Late last summer, both counties completed the **preliminary map release phase**. During this phase, FEMA released preliminary flood maps for stakeholder and public review. You may have attended a meeting with FEMA to review the maps and determine your local flood risk.

Goshen County and Carbon County will move into the **90-day comment and appeal period** in Spring 2021 (Goshen County: March 2021; Carbon County: April 2021). The comment and appeal period provides an opportunity to address smaller changes, such as incorrect road names, or larger concerns, such as disputes with technical and engineering aspects of the maps. All data related to comments and appeals must be submitted within the 90-day period.

A **comment** typically addresses a straightforward error. It can correct road and stream names, change corporate limits, or request to incorporate Letters of Map Change (LOMCs).

LOMCs include Letters of Map Amendment (LOMAs) and Letters of Map Revision Based on Fill (LOMR-Fs). A LOMA is a letter from FEMA stating that an existing structure or parcel of land is not in a Special Flood Hazard Area (SFHA). A LOMR-F is a letter from FEMA stating an existing structure or parcel of land that has been elevated by fill is not in the SFHA.

Most LOMAs and LOMR-Fs require elevation information from a licensed land surveyor or professional engineer. Other required documents include a tax assessors map and recorded property deed. LOMR-Fs also require a submittal fee and signed Community Acknowledgment Form.

Property owners can submit map change letter requests online. FEMA will respond to requests within 60 days after all required information has been received. Visit [FEMA.gov](https://www.fema.gov) or review the resources below for more information.

### REQUIRED DOCUMENTS FOR LOMAs AND LOMR-Fs:

- Tax Assessors map.
- Copy of the recorded subdivision Plat Map or the recorded property deed.
- Elevation Form or Certificate.
- Community Acknowledgment Form (LOMR-Fs).



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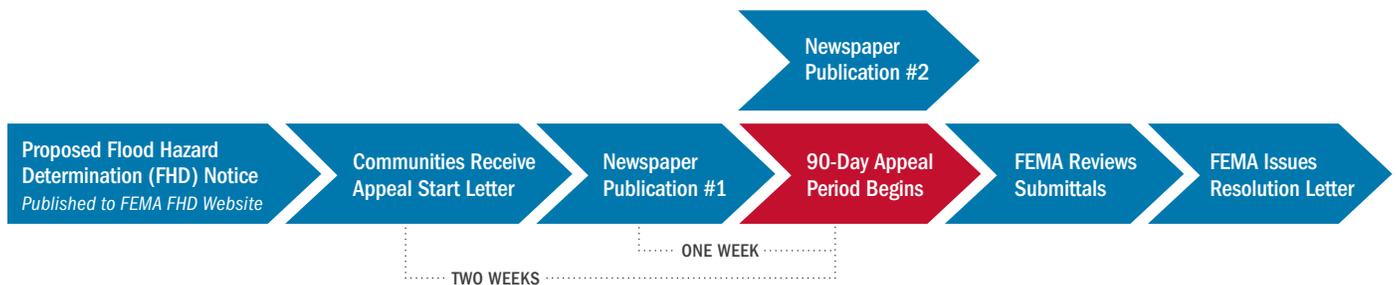


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When the preliminary maps become effective, FEMA issues a revalidation letter listing the LOMA and LOMR-F cases that are still valid based on the updated map information.

An **appeal** is a technical amendment to the map. Appeals are based on more accurate engineering or mathematical data and can reflect new or modified Base Flood Elevations or SFHA and floodway boundaries. An appeal is typically submitted when a physical condition – such as a mitigation project – has changed after the preliminary maps were in process. Appeal submittals must be signed by a certified land surveyor or professional engineer and submitted by community leaders.

The appeal start letter and applicable enclosures are mailed to your community officials exactly two weeks in advance of the appeal start date. Notification of the appeal start date will also be published on two occasions in your local media outlets.



After all comments and appeals are resolved, the maps are finalized, and a **Letter of Final Determination** is issued. This begins a 6-month adoption and compliance period for communities to amend their floodplain regulations and adopt the new maps.

During this time, property owners can purchase flood insurance before maps take effect. When the final flood maps go into effect, they become the official regulatory products used for floodplain management and flood insurance requirements.

## ADDITIONAL RESOURCES

**LOMC:** Please visit for more information from FEMA.gov on LOMCs.

**LOMA and LOMR-F:** Please visit for more information from FEMA.gov on the requirements and process for submitting a LOMA or LOMR-F.

**Risk MAP and Property Owners:** Please visit for more information on the Risk MAP program and what it means for property owners.

**Protect Your Property From Flooding:** Please visit for a brochure from FEMA on actions you can take to protect your property from flooding.

The graphic at the end of this newsletter illustrates the Risk MAP process. This will be included in each Risk MAP newsletter, so you can track your community’s progress through the mapping process.



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## “SPRING” INTO ACTION AND PREPARE FOR FLOODING

Flooding is one of the most common and widespread disasters in the United States and can cause significant damage and devastation. As the weather starts to get warmer, there may be an increased risk of flooding for Wyomingites due to snowmelt.

Snowmelt occurs when quickly warming temperatures in spring cause the snow to melt. Depending on conditions, this can result in flooding, sometimes major flooding. How severe flooding may be depends on a variety of different factors such as how deep the snowpack is, whether a sharp warmup melts the snow too quickly, how saturated the ground was going into winter, and how much rain or snow falls in spring.

As of late February, the National Weather Service anticipates an average probability of spring flooding for southeastern Wyoming. For property owners, the best thing you can do is buy or renew flood insurance. Most traditional homeowner’s and renter’s insurance policies do not cover flood damage, so it’s important to check and protect yourself against future losses from flooding.

The National Flood Insurance Program (NFIP) is a federal program that enables property owners in participating communities to purchase flood insurance. It is voluntary for your community to participate in the NFIP, and the program is administered at the local level. FEMA and the state provide guidance and technical assistance, helping communities implement the program.

Participation in the program requires that communities regulate development in SFHAs, which are indicated on the flood maps. Communities participating in the NFIP must review all development and issue floodplain development permits to ensure that development is reasonably safe from flooding. Participating in the program provides communities the authority to regulate development in high-risk areas and make informed land use decisions. It also allows citizens to purchase federal flood insurance at a discounted rate, protecting the lives they have built. More than 24,000 communities currently participate in the NFIP.

Flood insurance covers flooding from weather events, including the overflow of inland waters (such as a lake or river), pooling or runoff of surface waters from any source like heavy rainfall, mudflows and collapse of land along the shore of a lake or other body of water. You can purchase flood insurance at any time, but it can take up to 30 days before the policy goes into effect, so it is best to purchase insurance before flooding happens.

### DID YOU KNOW?

Flooding has occurred in every county in Wyoming.



Visit [floodsmart.gov](https://www.floodsmart.gov) for more information and to get coverage today.



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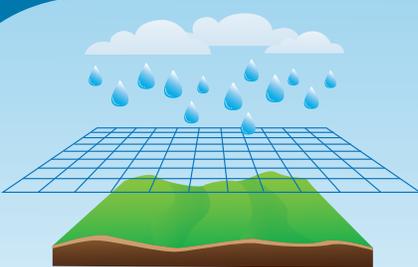
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## UNDERSTANDING BASE LEVEL ENGINEERING

Base Level Engineering (BLE) is the method in which accurate flood risk information is developed using ground elevation data (also known as LiDAR) and modeling software. BLE data can show flood extents, flow velocities, flood depths and water surface elevations on a large scale, such as a watershed, community, or county. BLE can support a community’s current, effective flood map or provide flood risk information for areas without maps.

### 1 DEFINE BASE TOPOGRAPHY

FEMA works with local, State, and Federal governments to identify all available topographical data in the study area. The best available terrain data should always be used, given the option. FEMA also encourages communities to share new or updated topographic information as it becomes available. This will ensure maps have the most up-to-date data to support mitigation decisions.

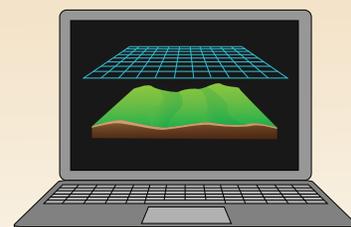


### 2 RAIN-ON-GRID HYDROLOGY

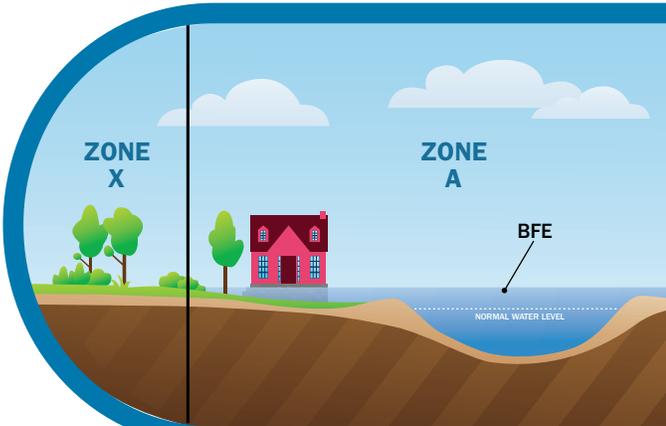
2D BLE models may also use rain-on-grid hydrology, which converts rainfall to runoff. FEMA typically uses Hydrologic Engineering Center’s River Analysis System’s (HEC-RAS) software to run the rain-on-grid model for the 0.2%, 1%, 1% plus, 2%, 4%, and 10% annual-chance floods.

### 3 2D GRID MESH

Water surface elevations are formed in cells that create a grid or mesh for the area. Once created, the grid is then refined to include physical features such as embankments and ditches. Each cell is also assigned a roughness coefficient, which is the amount of resistance water faces when passing over land. Cells calculate the flows and water surface elevations through the high-resolution terrain data.

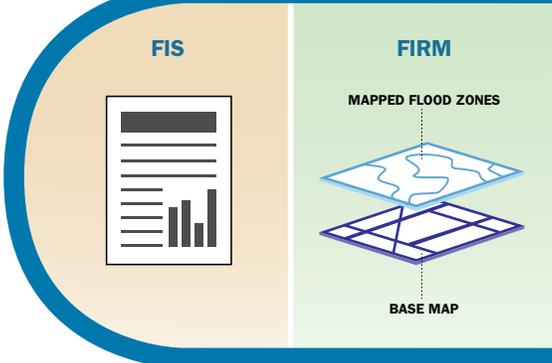
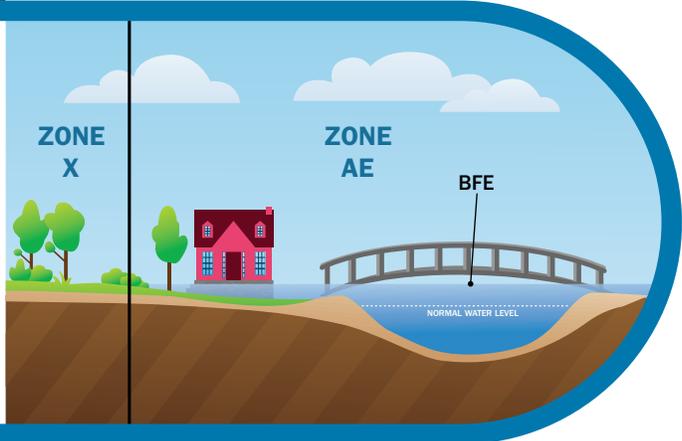


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**4 BLE MAPPING**  
 Communities can now create their own flood maps with the results of the BLE assessment. The high-risk flood areas will be shown with a Zone A flood zone designation. These Zone A areas include Base Flood Elevations (BFE), which is the elevation that floodwater is expected to reach during a 1-percent-annual-chance flood.

**5 ENHANCEMENTS**  
 Additional manual refinements and field surveys can create an enhanced BLE study. An enhanced study provides more detailed technical information generated by field surveys or as-built plans that model hydraulic structures, such as bridges and culverts.



**6 FIS AND FIRM PRODUCTION**  
 Once the BLE is completed, a regulatory Flood Insurance Rate Map (FIRM) from FEMA may be created by overlaying the flood zones on a base map that shows roads and other features to help with location identification. During this step, FEMA also prepares the Flood Insurance Study (FIS) report, which describes the study area, summarizes the engineering methods, and presents results from the study.



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Preliminary maps for Goshen County and Carbon County incorporate BLE data to provide additional detailed modeling. With BLE, the enhanced maps have very detailed topographic surfaces. BLE has a variety of uses across many different areas including mitigation planning, education and outreach, and grants, among others.

MITIGATION PLANNING	LAND USE PLANNING	RESPONSE PLANNING
<p>Communities can use BLE to update their hazard mitigation plans. It can form the foundation for quality mitigation planning and help inform, prioritize and influence the design of mitigation projects. It is especially useful for developing or updating the risk assessment section of a mitigation plan.</p>	<p>BLE leads to updated data and better planning for future construction and land use. BLE data can improve both short-term planning, like site design, and long-term planning, such as open space preservation. BLE can act as pre-project models and, if refined, add structures, culverts and field information.</p>	<p>BLE provides emergency managers with data to support the emergency planning, preparedness, response and recovery phases of emergency management. It can identify areas of deeper floodwaters and high velocities that can affect infrastructure and buildings. BLE can also create scenario-based planning and exercises.</p>
MITIGATION GRANTS	LOMCS	PUBLIC OUTREACH
<p>BLE data can help provide information for benefit-cost analyses for FEMA's Hazard Mitigation Assistance program grants and other grant sources. Local engineering assessments can use BLE datasets as a starting point for their analysis. This will greatly reduce the burden on local communities to produce information in support of grant requests.</p>	<p>BLE data can provide the information required for LOMC requests, such as the estimated 1%-annual-chance elevations and modeling information.</p>	<p>BLE data can improve public awareness of hazards in local communities and support risk communication. BLE data can assist with making flood hazard risk more relatable by visually showing flood depth grids. With this data, communities can also specifically convey risks to property owners or focus outreach on affected structures and at-risk residents and business owners.</p>

Your local FEMA team created additional handouts on BLE to provide more information for local communities. Email Madi Pluss at [madeleine.pluss@fema.dhs.gov](mailto:madeleine.pluss@fema.dhs.gov) for the handouts.



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## YOUR COUNTY'S RISK MAP PROGRESS

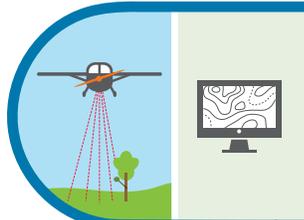
YEAR 1

**Phase 1**  
**DISCOVERY MEETING**

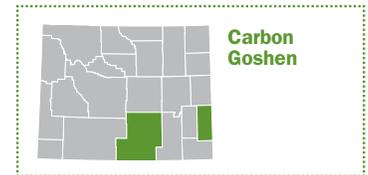


YEAR 2-4

**Phase 2**  
**ENGINEERING & MODELING**



**Phase 3**  
**FLOOD RISK REVIEW**

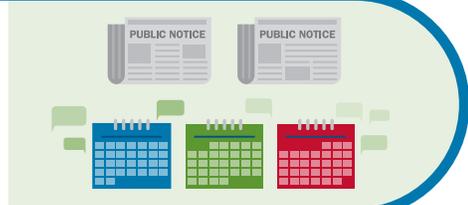


**Phase 4**  
**PRELIMINARY MAP RELEASE**

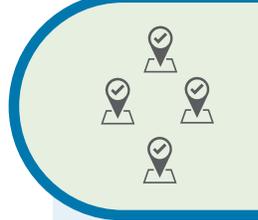


YEAR 3-5+

**Phase 5**  
**APPEAL PERIOD**



**Phase 7**  
**ADOPTION & COMPLIANCE**



**Phase 6**  
**LETTER OF FINAL DETERMINATION**



**Phase 8**  
**EFFECTIVE MAPS**



Timing and sequence may vary by county



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