

Lower Boise Watershed: FEMA Flood Study Open House (Ada County)

February 2, 2017

Schedule

6:00: Doors Open

6:15: Presentation

6:40–8:00: Open House



Lower Boise Watershed: FEMA Flood Study Open House



February 2, 2017



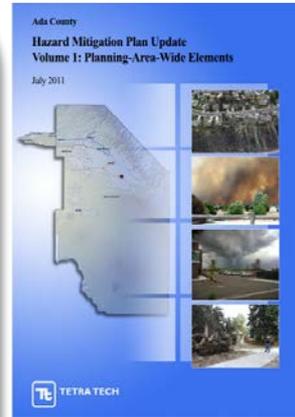
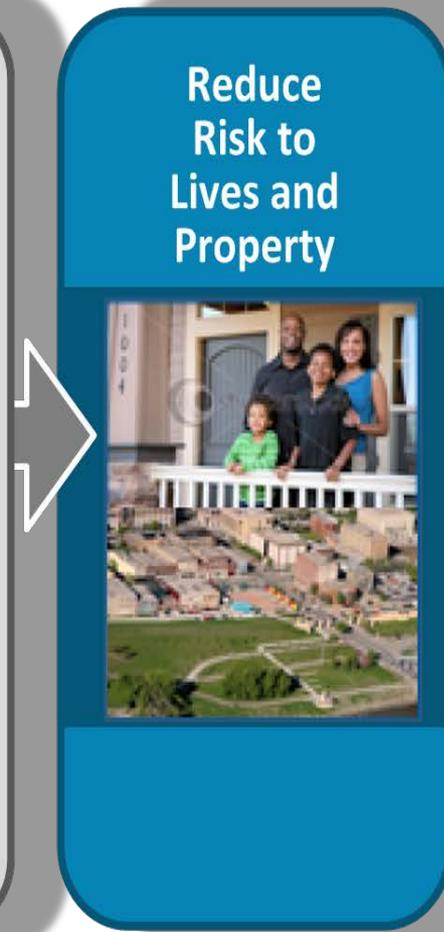
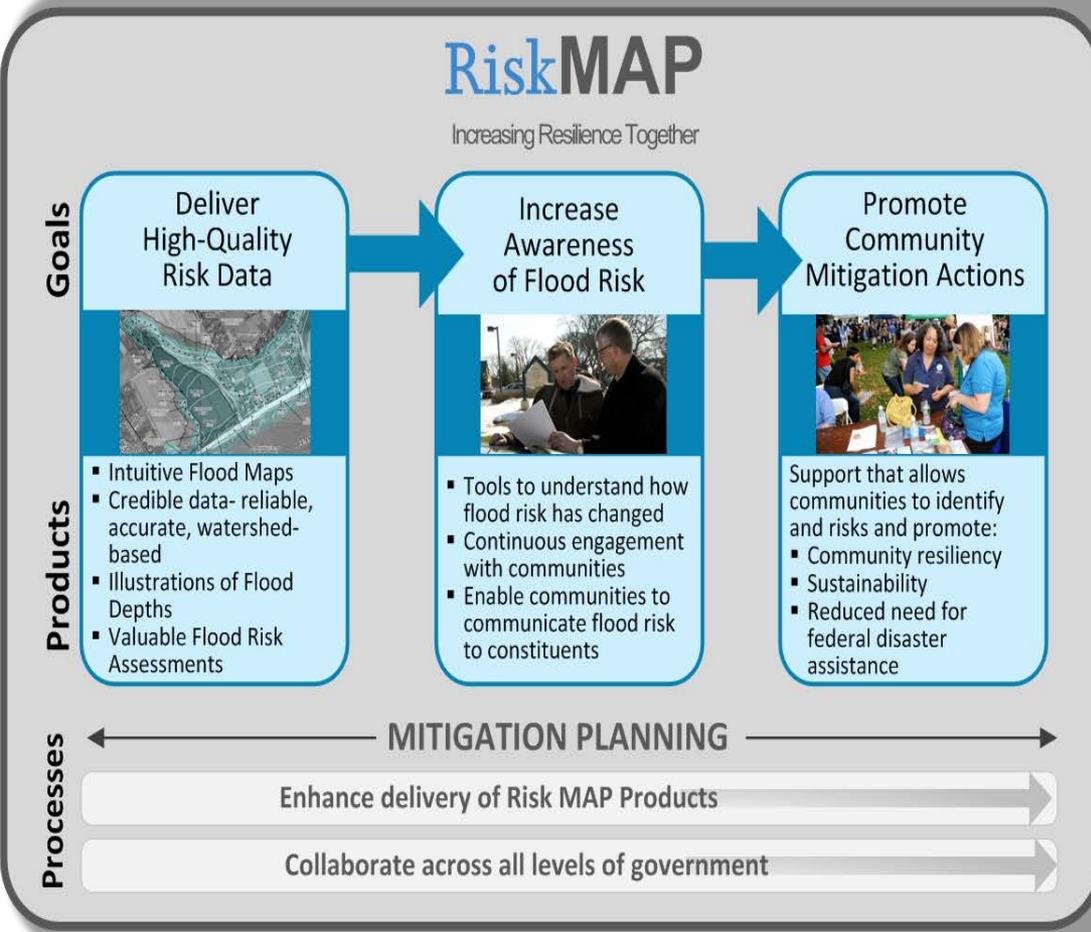
FEMA

PROJECT TEAM

- FEMA Region X
- Idaho Office of Emergency Management and Idaho Department of Water Resources
- US Army Corps of Engineers, Walla Walla District
- US Bureau of Reclamation, Pacific Northwest Region
- University of Idaho
- STARR
- Resilience Action Partners
- Local Jurisdictions

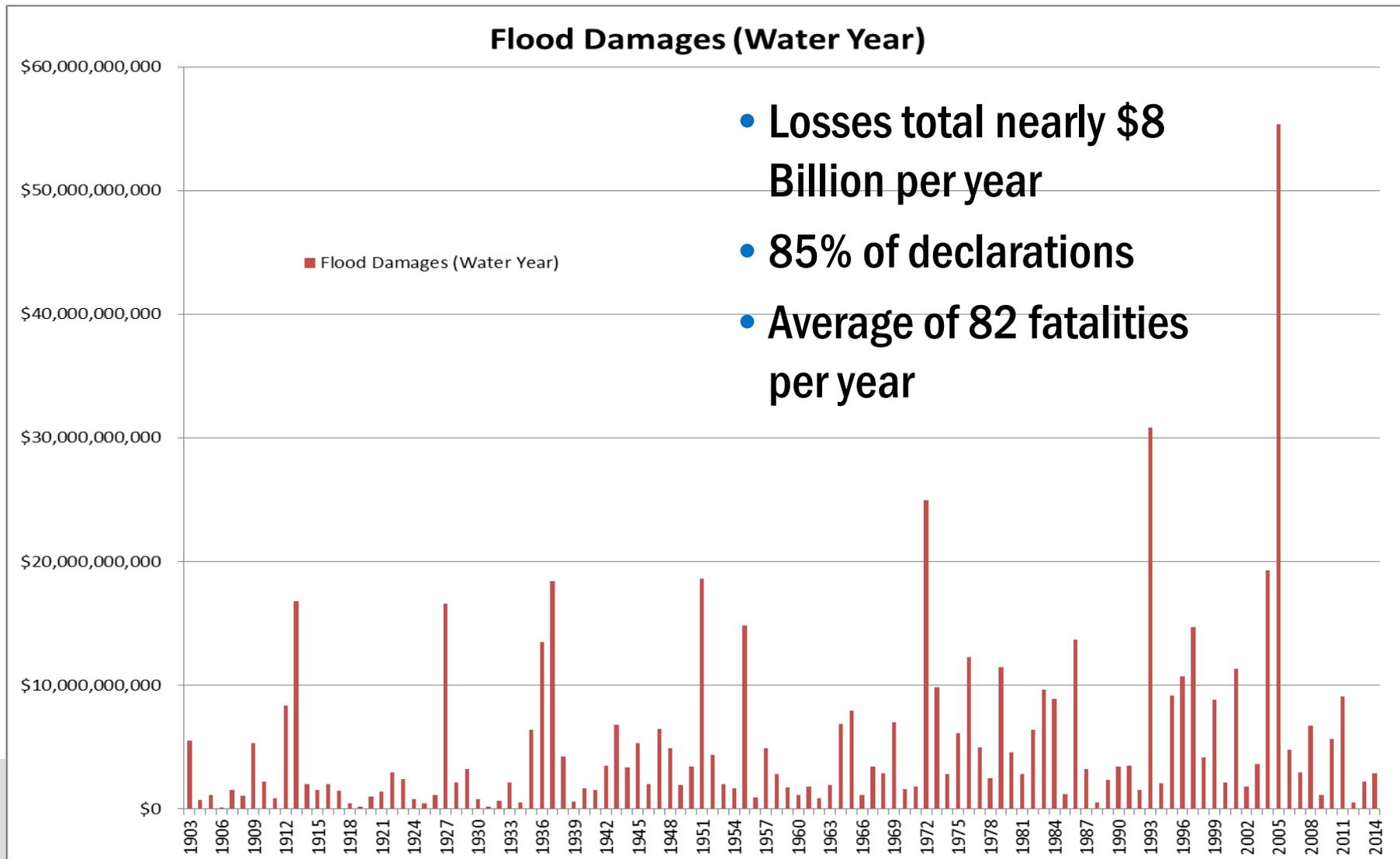


RISK MAP, THE NFIP, HAZARD MITIGATION PLANNING, AND BUILDING SCIENCES



PURPOSE OF THE NATIONAL FLOOD INSURANCE PROGRAM

Reduce Economic Loss Caused by Flood Events



HOW THE NFIP WORKS

The NFIP is broken out into three disciplines

- Mapping – Flood Studies
- Regulations
- Insurance



PURPOSE OF THE NATIONAL FLOOD INSURANCE PROGRAM

Reduce Economic Loss Caused by Flood Events



National Flood Insurance Program

How the NFIP Works



- Maps the flood risk and assigns insurance rates
- Makes flood insurance available
- Sets minimum floodplain construction standards
- May reduce the dependency on structural flood control
- Promotes floodplain management practices increasing resilience

LOWER BOISE MAPPING

Process to Date:

Discovery – June 8, 2011

Discuss proposed scope of work, identify available data, and update needs.

Participants: Ada County, Meridian, Eagle, Kuna, Flood Control 10/11, Tetra Tech, IDWR, FEMA, USACE, STARR.

Draft Maps/Flood Study Review – January 14, 2015

Discuss engineering methods and data changes.

Participants: Ada County, Meridian, Eagle, Garden City, Star, Boise, IBHS, IDWR, FEMA, USACE, STARR.

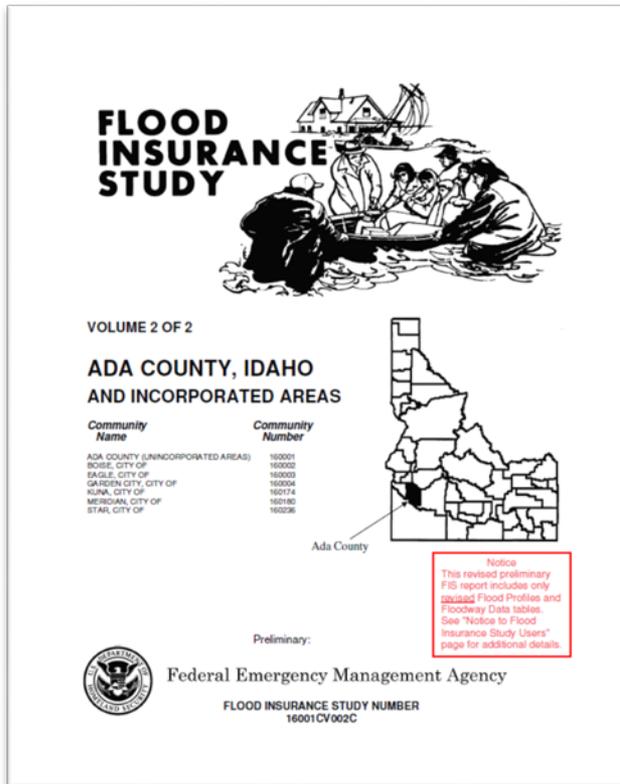
Preliminary Maps Released – September 23, 2016

Consultation Coordination Officer (CCO) Meetings – September 27, 2016

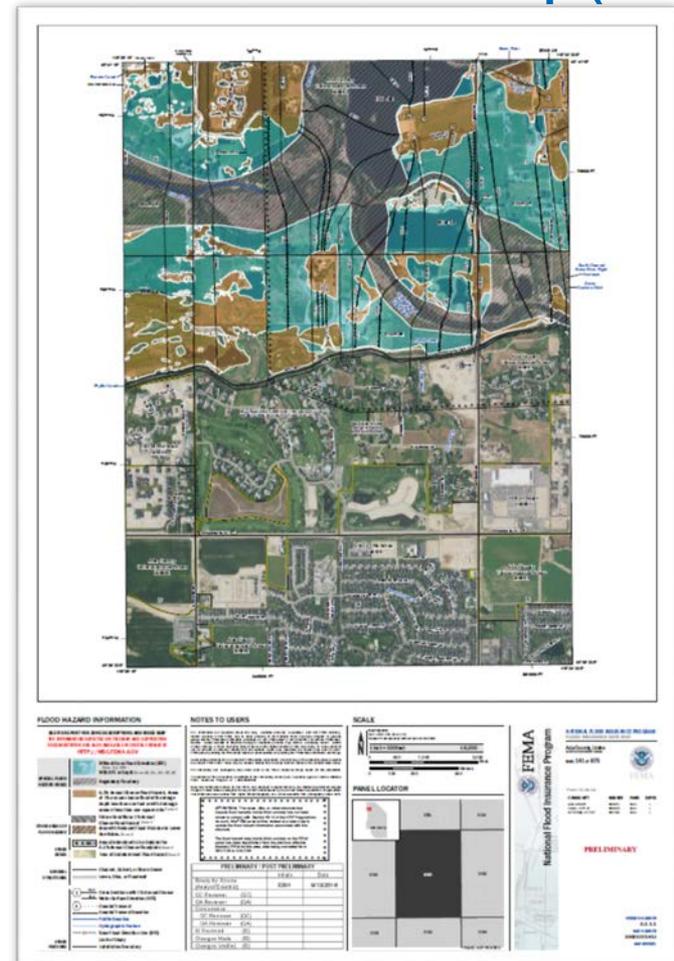
Public Open Houses – January 31st, February 1st and 2nd

REGULATORY PRODUCTS

Flood Insurance Study



Flood Insurance Rate Map (FIRM)



SCOPE OF WORK

Surveys: New bathymetry and structure.

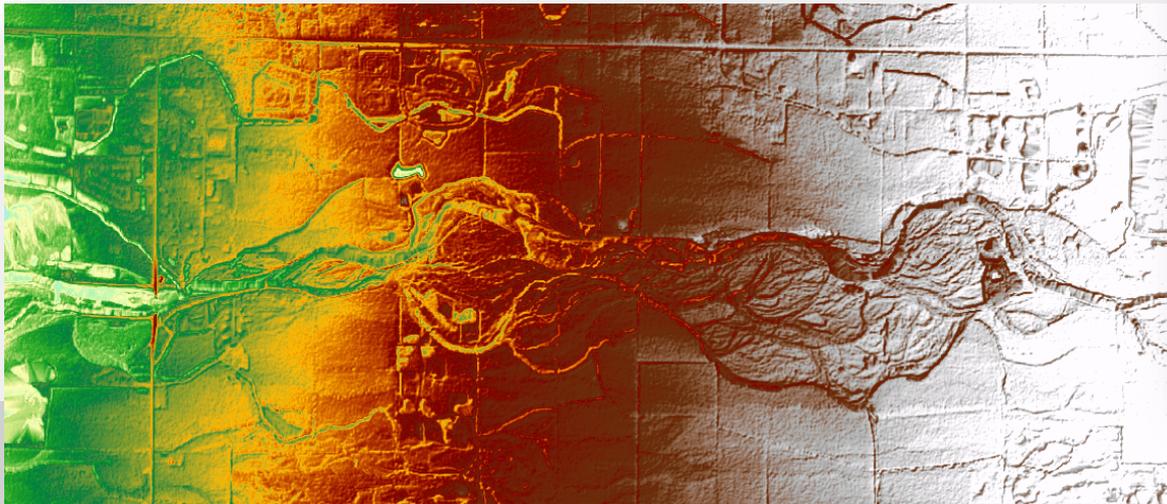
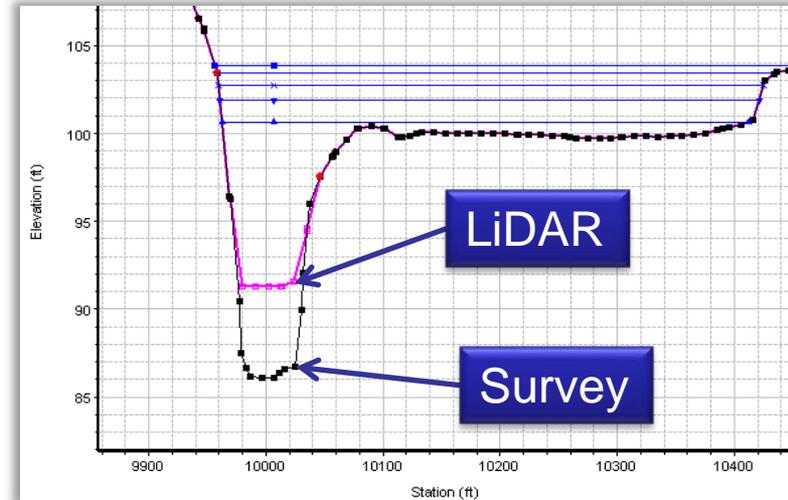
Hydrology: Developed flood frequencies for Willow Creek, Mill Slough, Ninemile Creek and regulated and unregulated flood frequencies for the Lower Boise.

Hydraulics: Detailed analysis of 74 miles on two reaches of the Boise river and three tributaries. Redelineation of 11 miles of the Boise River.



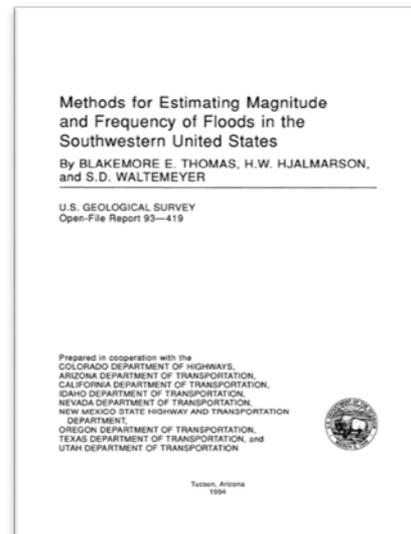
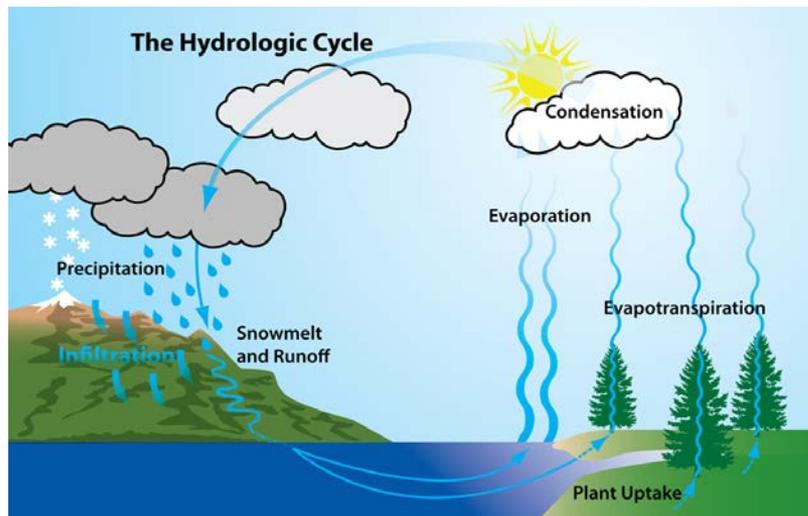
MODELING - STEP 1: CROSS-SECTIONS

- **Approximate Methods:** Extract completely from terrain datasets
- **Detailed Methods:** Field survey of channel on tributaries and extraction from water penetrating LiDAR for Boise River



MODELING - STEP 2: HYDROLOGY

METHOD	DESCRIPTION
Regional Regression	Ninemile Creek Willow Creek
Gage Analysis	Boise River
Retain Effective	Mill Slough



MODELING - STEP 3: HYDRAULICS

METHOD

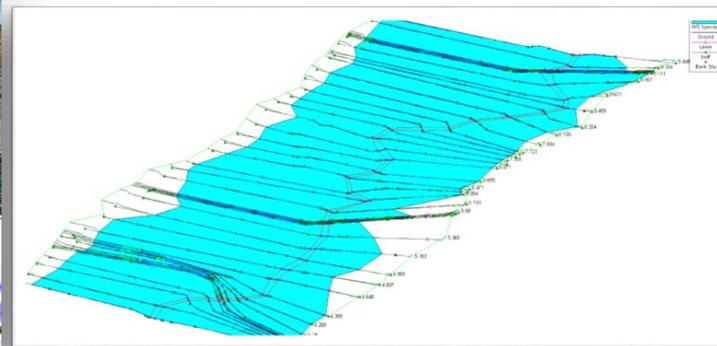
DESCRIPTION

Approximate
(Zone A)

- HEC-RAS model (simplified)
- Roughness is generalized
- Based on LiDAR Topography
- Structures are not modeled or assumed (NBI/Aerial)

Detailed
(Zone AE)

- Steady State HEC-RAS model
- Roughness is examined closely
Boise River calibrated to known events
- Based on LiDAR Topography
- Channel cross sections surveyed or taken from water penetrating LiDAR
- Structures are surveyed or from As-Built Drawings
- Floodway Analysis



LEVEES

For these reasons, we request that you prohibit the use of such all-or-nothing modeling approaches when a community notifies you that it believes that it is negatively affected by "without levees" modeling. Even with such a prohibition in place, we are hopeful that FEMA will continue to use simpler, more cost-effective techniques when no community is harmed.

Thank you for your attention to this matter. Please do not hesitate to contact us if you have any questions about this request.

Sincerely,

Dick Durbin

RICHARD DURBIN
United States Senator

Mark Pryor

MARK PRYOR
United States Senator

Tom Harkin

TOM HARKIN
United States Senator

Ron Wyden

RON WYDEN
United States Senator

Mary Landrieu

MARY LANDRIEU
United States Senator

Charles Schumer

CHARLES SCHUMER
United States Senator

Thad Cochran

THAD COCHRAN
United States Senator

Roger Wicker

ROGER WICKER
United States Senator

Kay Bailey Hutchison

KAY BAILEY HUTCHISON
United States Senator

Pat Roberts

PAT ROBERTS
United States Senator

Mike Crapo

MIKE CRAPO
United States Senator

Lamar Alexander

LAMAR ALEXANDER
United States Senator

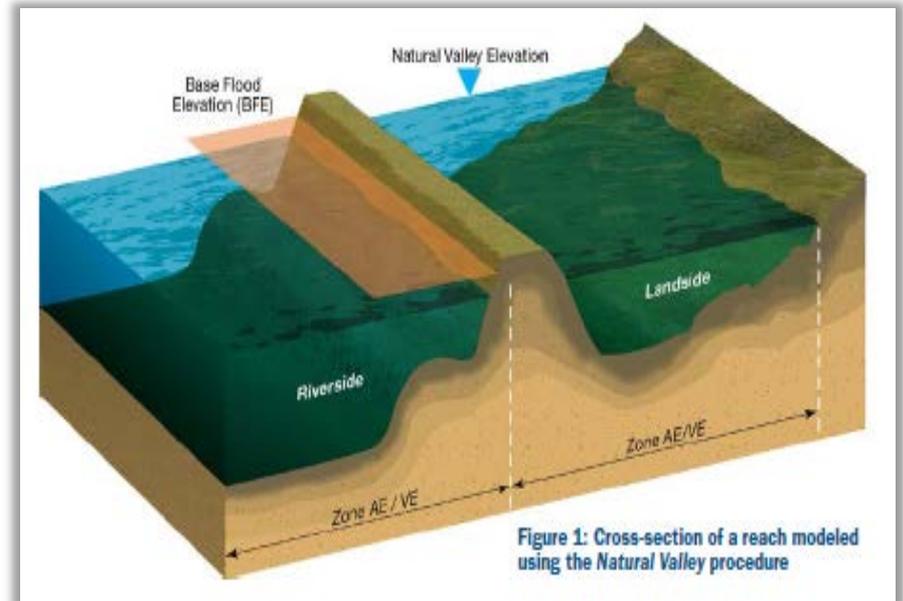


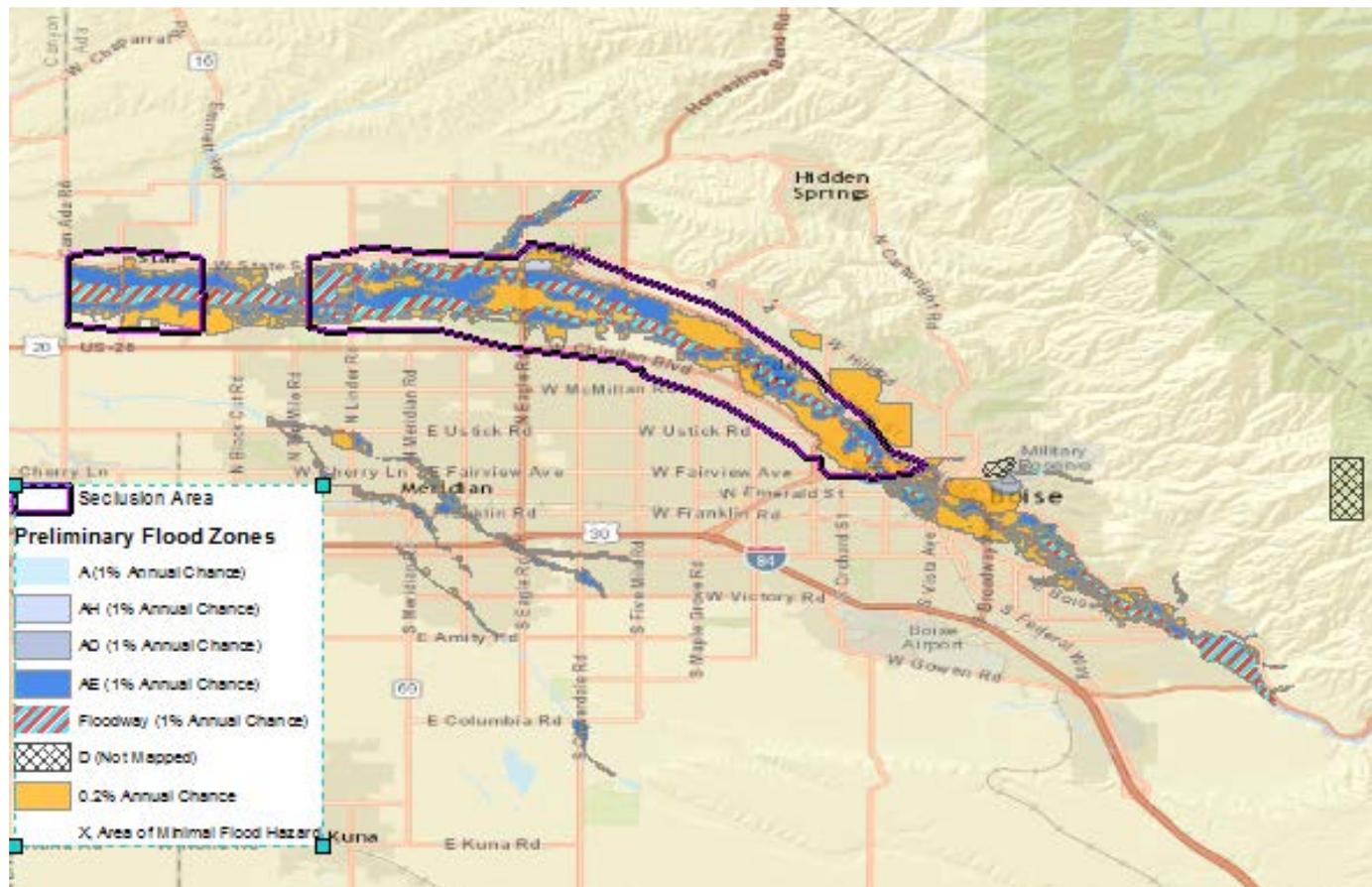
Figure 1: Cross-section of a reach modeled using the Natural Valley procedure



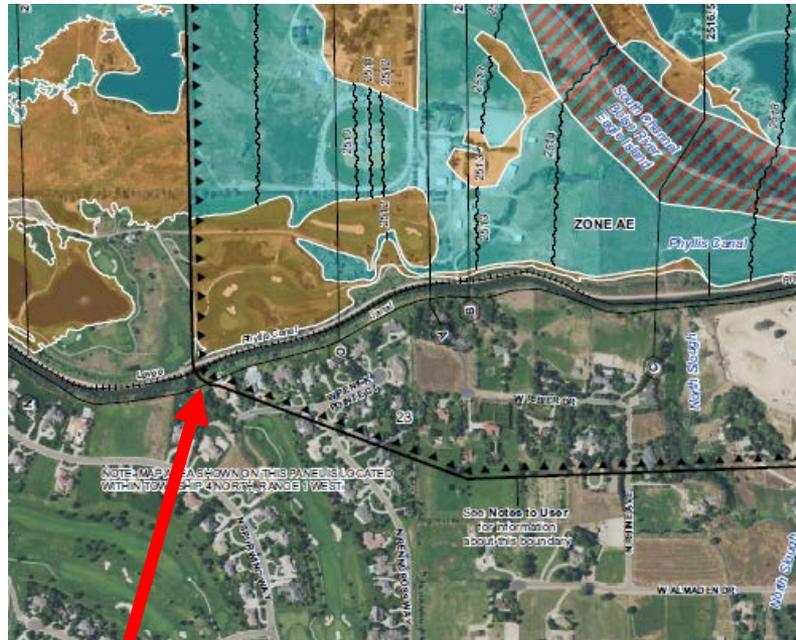
LEVEES - SECLUSION

FEMA will return to analyze the flood risk in the vicinity of the levees at a future date:

- Accreditation Status Change
- Analysis and Mapping Procedures for Non-Accredited Levees will be applied
- All levees in the nation will be addressed and updated



LEVEES - SECLUSION



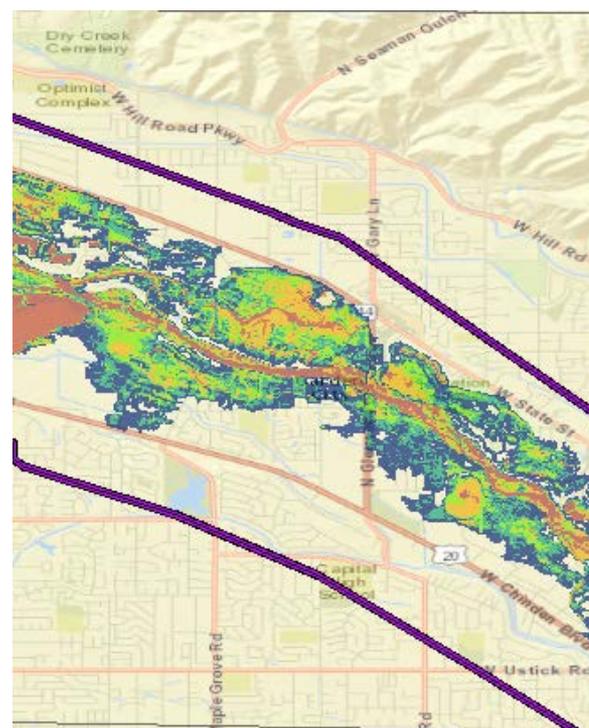
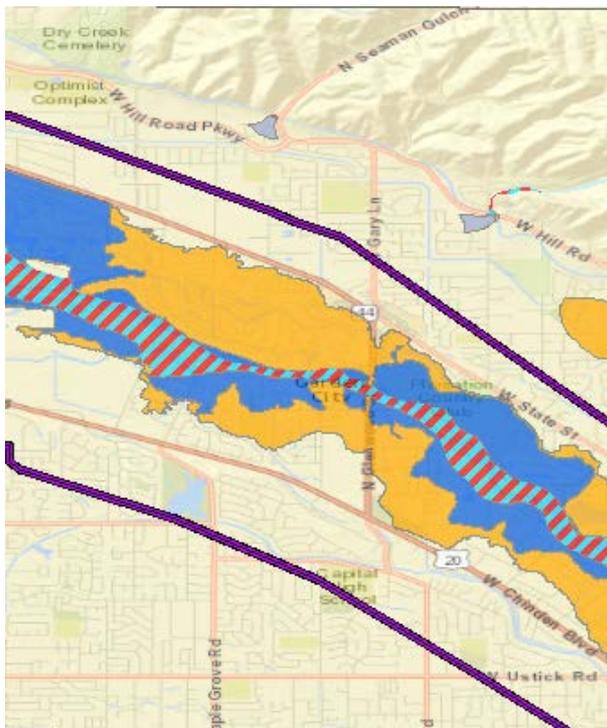
ATTENTION: The levee, dike, or other structure that impacts flood hazards inside this boundary has not been shown to comply with Section 65.10 of the NFIP Regulations. As such, this FIRM panel will be revised at a later date to update the flood hazard information associated with this structure.

The flood hazard data inside this boundary on the FIRM panel has been republished from the previous effective (historic) FIRM for this area, after being converted from NGVD 29 to NAVD 88

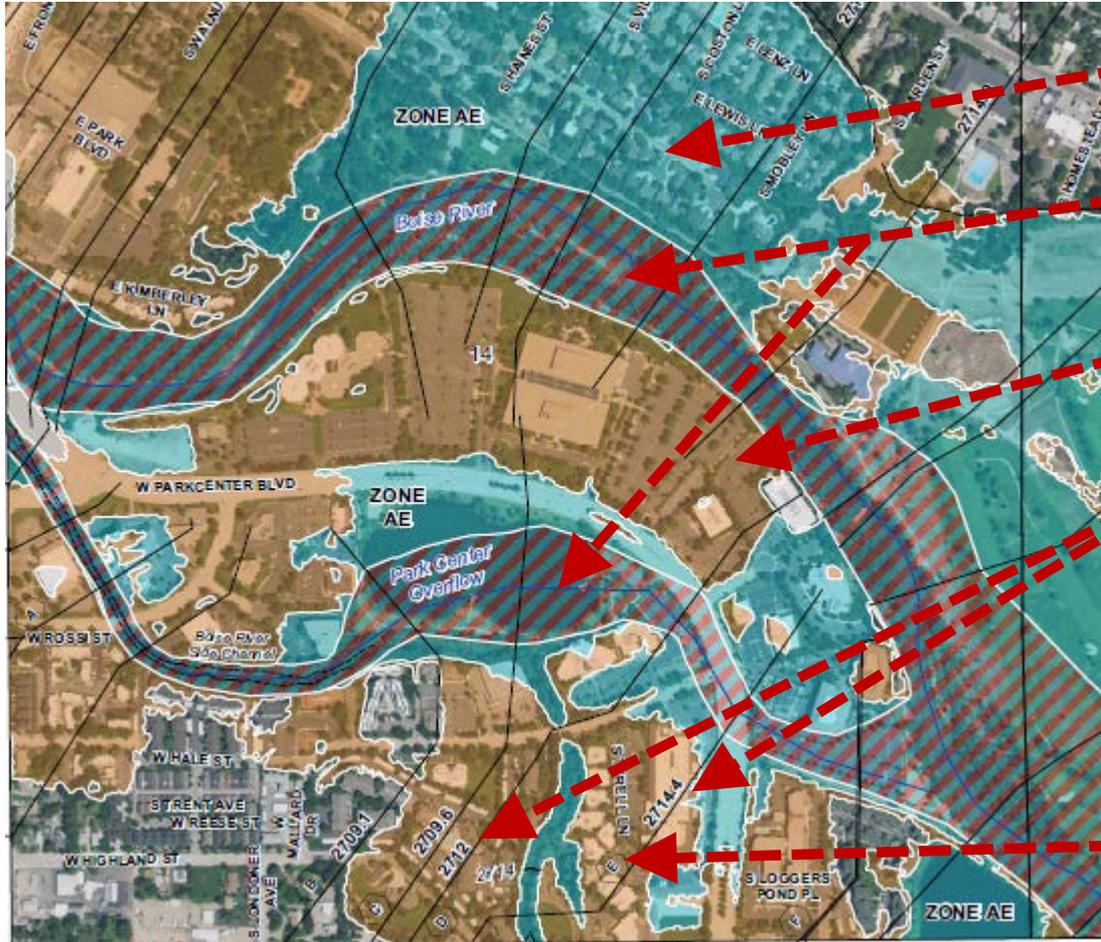


SECLUSION AREAS – DATA AVAILABILITY

- Although the seclusion areas show the current effective maps, data are available for these areas which can be used for planning
- Modeling information as well as multi-frequency depth grids are available and can still be used to communicate risk



READING A FLOOD INSURANCE RATE MAP



- 1 % Floodplain
- Floodway
- 0.2 % Floodplain
- Base Flood Elevation (1 % Water Surface Elevation)
- Cross Section

ADOPTION PROCESS

Ada County and Incorporated Areas



NEXT MILESTONES*

PUBLIC MEETINGS

USUALLY 2/3 MONTHS AFTER ISSUANCE OF PRELIMINARY MAPS

**JANUARY 31/FEBRUARY 1-2,
2017**

90-DAY APPEAL PERIOD

TYPICALLY STARTS 1-2 MONTHS AFTER THE PUBLIC MEETING

APRIL 2017

FEMA ISSUES LETTER OF FINAL DETERMINATION

3-6 MONTHS FOLLOWING THE END OF THE APPEAL PERIOD. DEPENDENT ON COMMENTS AND APPEALS RECEIVED.

LATE SUMMER 2017

EFFECTIVE DATE

6 MONTHS AFTER LFD

SPRING 2018

***Subject to coordination and funding**

APPEALS

- All appeals must be supported by scientific and technical data.
- Alternative methods or applications result in more correct estimates of base flood elevations.
- Criteria documentation available:
 - Establishes areas eligible for appeal
 - Identifies documentation needed to support an appeal of each flood hazard type (e.g. modeling, topography)
 - Reiterates:
 - Certification requirements
 - The importance of submitting analyses in the same vertical datum and tying into to the effective model and mapping



TERMINOLOGY



Expanded Appeals Process:

Appeal: a formal objection to the addition/modification of preliminary BFEs/flood depths, SFHA boundaries or zone designations, or regulatory floodway boundaries, subject to the due process requirements outlined in Part 67 of the NFIP regulations

Comment: an objection to a base map feature change or any other non-appealable change



APPEALS & COMMENTS

Signed letter with backup technical information:

- **Ada County:** Angela Gilman, 200 W. Front St., Boise, ID 83702; agilman@adaweb.net
- **City of Boise:** Hal Simmons, 150 Capitol Boulevard, Boise, ID 83701; hsimmons@cityofboise.org
- **City of Eagle:** Mike Williams, 660 East Civic Lane, Eagle, ID 83616; mwilliams@cityofeagle.org
- **City of Meridian:** Public Works Department, 33 E Broadway Ave #200, Meridian, ID 83642; floodplain@meridiancity.org
- **Garden City:** Development Services Department, 6015 N. Glenwood Street, Garden City, ID 83714; floodplain@gardencityidaho.org
- **City of Star:** Cathy Ward, 10769 W. State Street, Star, ID 83669; cward@staridaho.org

Informal comments not needing a response:

Email: RSC10@STARR-TEAM.COM

Phone: 425-329-3679

LETTERS OF MAP CHANGE (LOMC)

Applicable at any time

LOMA: For property owners who believe a property was incorrectly included in a SFHA. An elevation certificate supports a LOMA, but by itself, does not remove the insurance requirement.

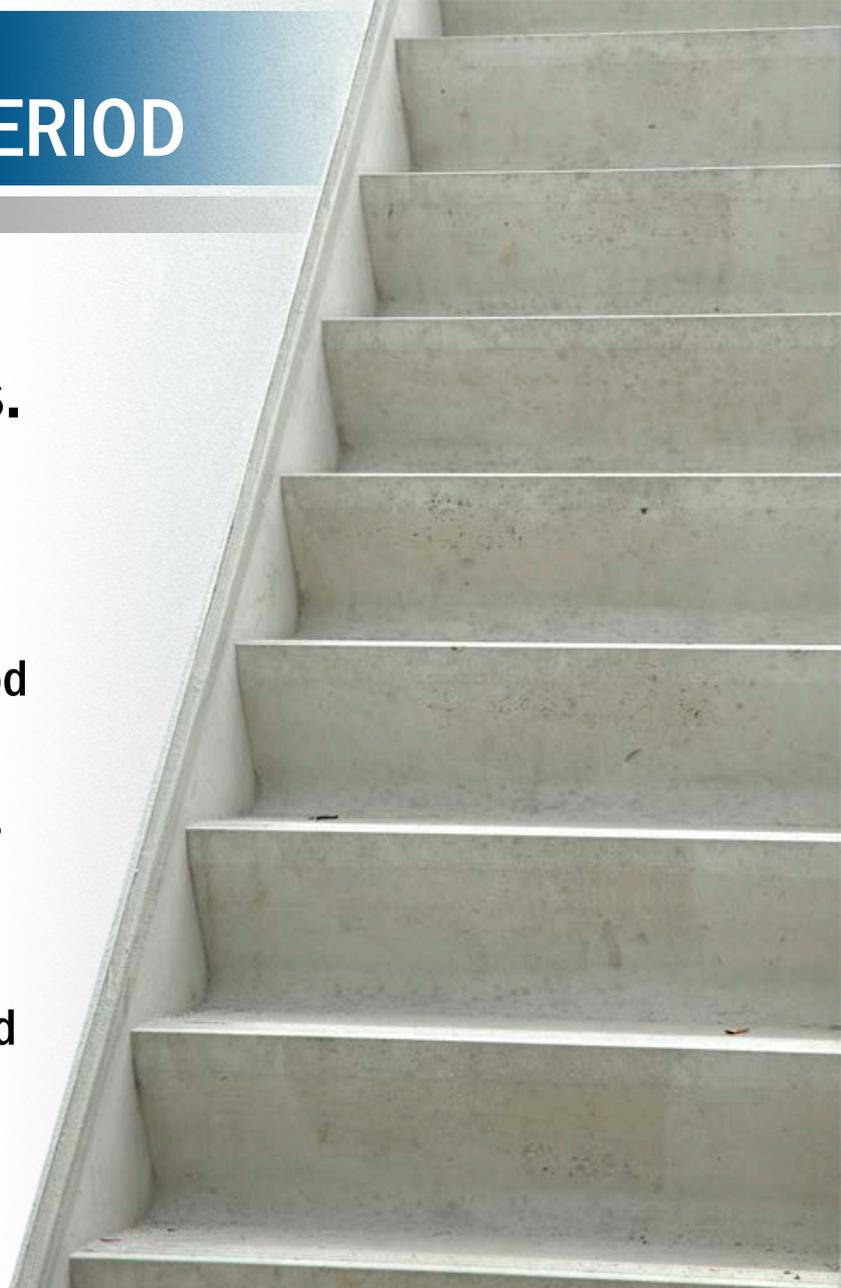
LOMR: Removes land that has been graded or filled (physical changes) since the date of the map. A LOMR can waive flood insurance requirements.

LOMC Hotline: 1-877-FEMA-MAP



FUTURE STEPS AFTER APPEAL PERIOD

- **FEMA addresses submitted comments and resolves any appeals.**
- **FEMA issues the Letter of Final Determination (LFD).**
 - Officially notifies community of final base flood elevations.
 - Indicates effective date of FIRMs as 6 months from the date of the letter.
 - Local jurisdictions adopt an amended ordinance that is compliant with your map and FEMA standards.
 - Local jurisdictions develop and implement additional outreach strategies as desired.



INFORMATION TABLES

Flood Insurance

Flood Study /
Engineering

Property
Identification &
Digital Mapping

State Table

Local Table

Floodplain
Regulations



PROPERTY IDENTIFICATION & DIGITAL MAPPING TABLE

- **Determining if one is in a Flood Zone**
- **If yes, what type of flood zone (Zones AE, A, AO, AH, X (shaded), X (unshaded))?**
- **Ability to add layers to help better locate a property (orthophotos, parcel data)**
- **Print a map of your property and the flood zone**
- **Where one should go next for more information (Insurance, Floodplain Regulations)**

FLOOD INSURANCE TABLE

- When is flood insurance required?
- What is the flood insurance rate structure for the zone one is in (Zones AE, A, AO, AH, X (shaded), X (unshaded))?
- What are my best options to get the lowest rate?

FLOODPLAIN REGULATIONS TABLE

- What are the building requirements/restrictions for the zone one is in (Zones AE, A, AO, AH, X (shaded), X (unshaded))?
- What are the building requirements/restrictions for a floodway?

COMMUNITY TABLES

- **Ada County – Development Services**
- **City of Boise – Planning Division**
- **Garden City – Development Services**
- **City of Meridian – Public Works Department**
- **City of Star – Planning and Zoning Department**
- **City of Eagle – Planning and Zoning Department**

STATE TABLE

- **State Flood Mapping Priorities**
- **Risk Reducing Strategies**
- **State Floodplain Regulations**
 - State Flood Mapping Priorities
 - Risk Reducing Strategies
 - Statewide Hazard Datasets
 - State Floodplain Regulations

FLOOD STUDY/ENGINEERING TABLE

- How does one determine the 1% flood?
- What areas were updated?
- What information was used (topography, bathymetry, models, assumptions)?
- What is the process to appeal the information and/or provide better information?

FEDERAL PARTNERS

- **United States Bureau of Reclamation**
 - Emergency Management and Dam Safety
- **United States Army Corps of Engineers**
 - Lucky Peak Operations
 - General Investigations
 - Disaster Response and Flood Fighting



FEMA



FEMA