

Risk MAP Discovery Meeting

City of Aniak



June 27, 2016



FEMA



Meeting Purpose

1. Identify various risk assessment tools available through FEMA's Risk MAP program that can enhance current community resilience efforts.
2. Capture any additional resilience and mitigation needs FEMA can assist with that were not previously captured during recent interviews.
3. Prioritize areas of future study and mitigation needs.
4. Strategize on mitigation opportunities, projects, educational needs, and other ways FEMA can help your community to become more disaster resilient.

Agenda

- Introductions
- Meeting Purpose & Overview of Risk MAP
- Community Discussion
- Community Report Out
- Wrap up

Introductions

- Name
- Agency/Department
- How do you contribute to the resilience of your community?

OR

- How would you like to see resilience increased in your community?

Why is the State and FEMA in your community?

Cost of disasters nationwide - \$136 billion in 3 years

Federal spending on disaster relief and recovery, 2011–2013

Fiscal year appropriations or supplemental bill spending	Estimated disaster-relief spending (in millions of \$)
FY 2011	\$21,376
FY 2012	\$32,412
FY 2012 supplemental appropriations	\$8,174
FY 2013	\$14,321
FY 2013 Superstorm Sandy supplemental appropriations	\$60,210
Total	\$136,493

Why is the State and FEMA in your community?

Mitigation Saves Money

- Studies have shown that \$1 spent on mitigation leads to an average savings of \$4.
- For every \$1 spent on mitigation, an average of \$3.65 of federal dollars can be redirected from disaster relief costs and tax losses avoided.

Link to Study:

<http://www.dhSES.ny.gov/oem/mitigation/documents/mitigations-value-to-society.pdf>



Why is the State and FEMA in your community?

- Areas selected for Risk MAP based on:
 - Population
 - Topography
 - Community Identified Needs
 - Climatological Change
 - LOMC
 - Planned Future Development
 - Past Disaster Declarations
 - Mitigation Grants
 - Hazard Mitigation Plan

Resilience

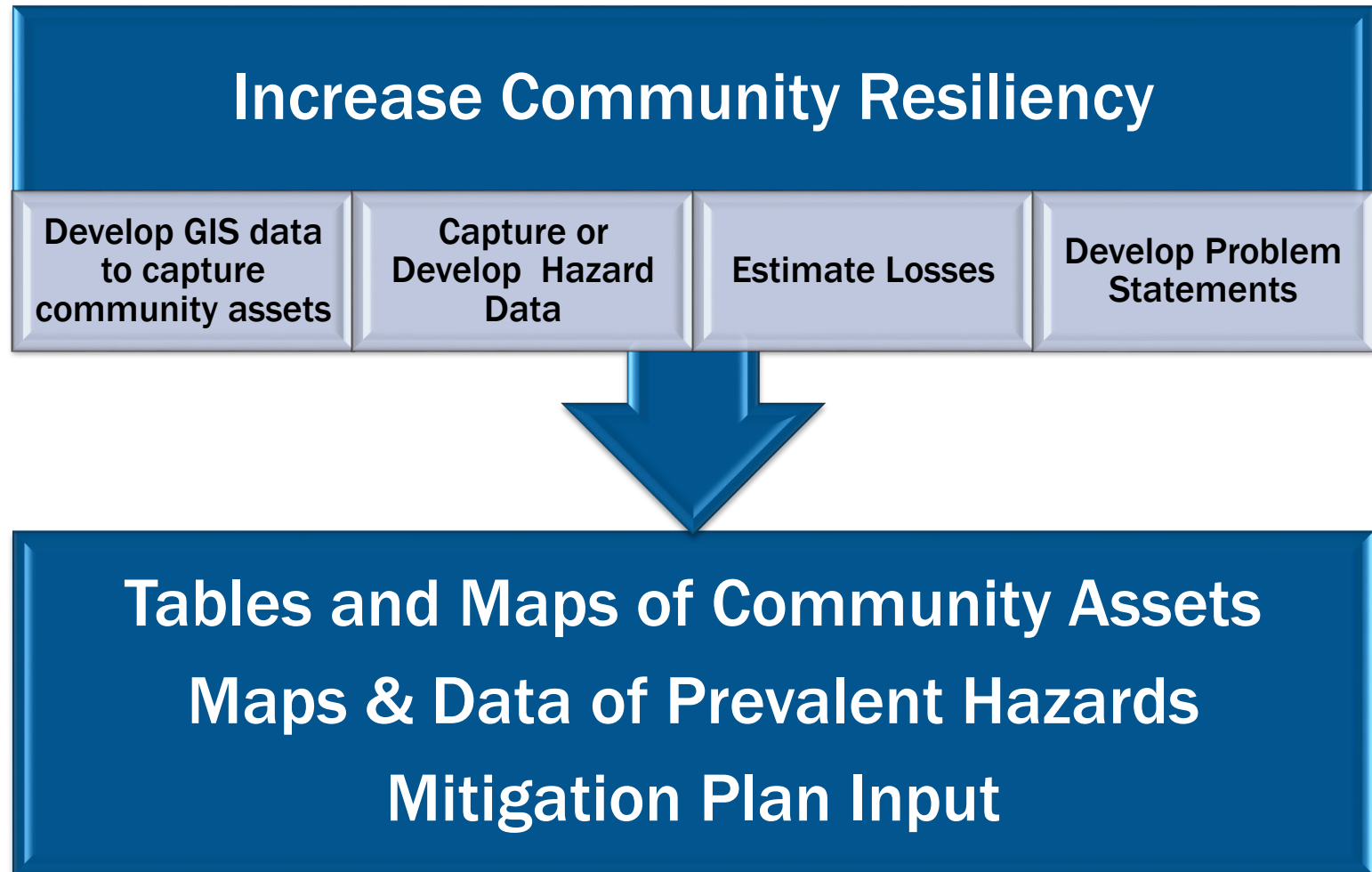
One (of many) definitions of resilience*:

“Is the capacity of individuals, communities, institutions, businesses, and systems within a [community] to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience.”



*The Rockefeller Foundation

How Risk MAP can help your community become more resilient

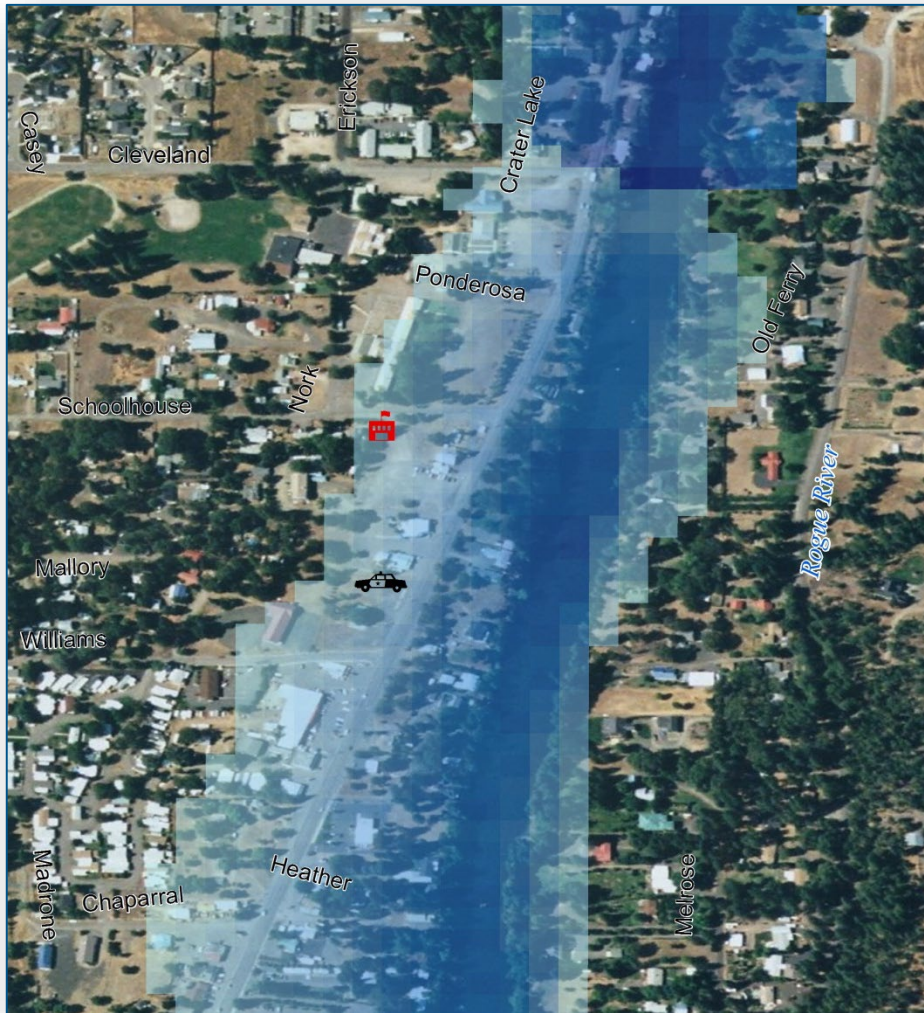


Develop GIS data
to capture
community assets

Capture or Develop
Hazard Data

Estimate Losses

Develop Problem
Statements



Potential Community Assets

- Agriculture and Food
- Banking and Finance
- Commercial Facilities
- Communications
- Dams
- Defense Industrial Base
- Emergency Services
- Energy
- Government Facilities
- Healthcare
- Information Technology
- Postal and Shipping
- Transportation Systems
- Water

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Flood

- Existing Studies
- USACE Studies
- New FEMA Studies

Wildfire

- AK DGGS
- Forest Service

Landslide

- AK DGGS

Earthquake

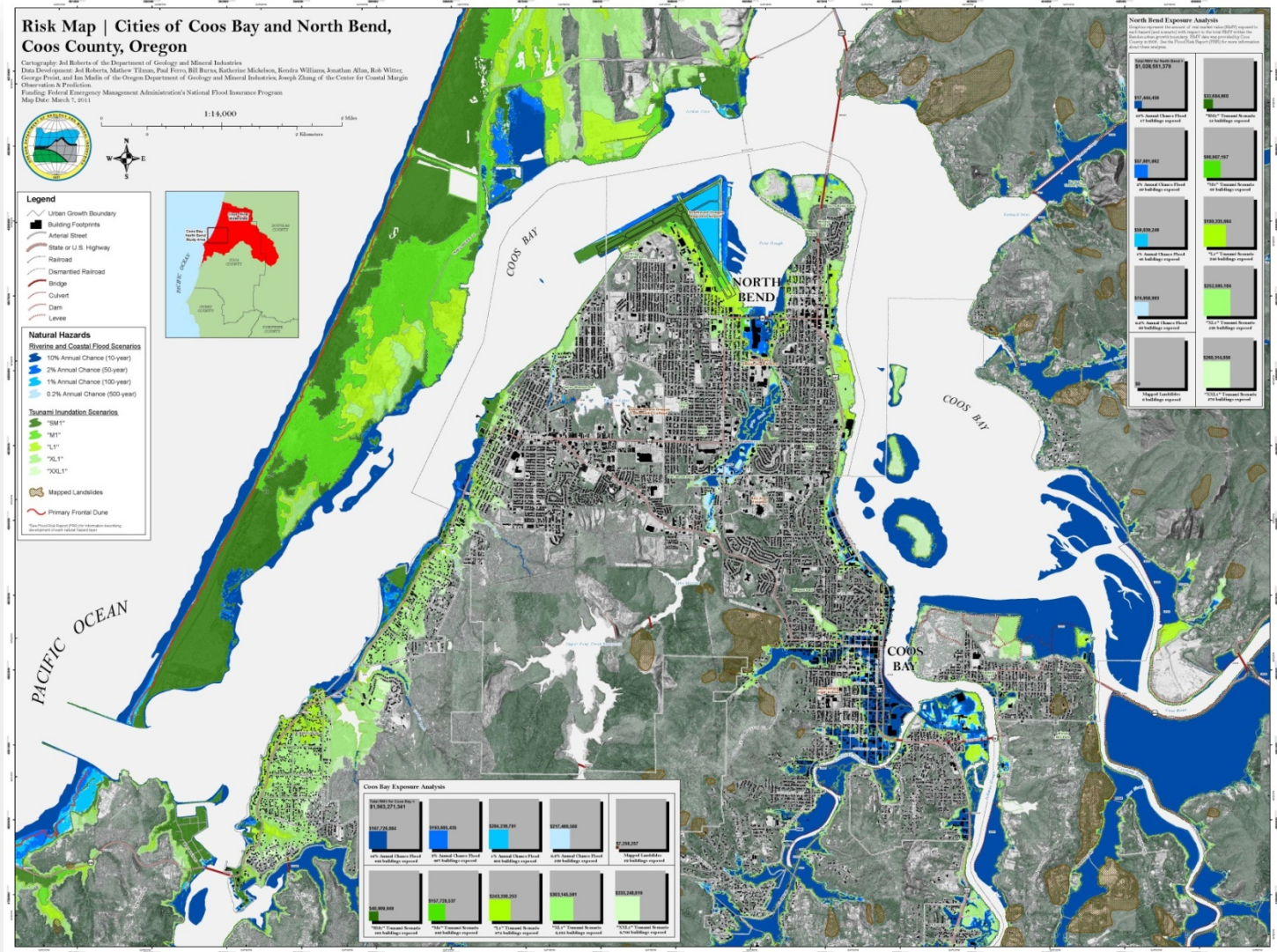
- AK Seismic Commission/Univ. AK Fairbanks
- USGS

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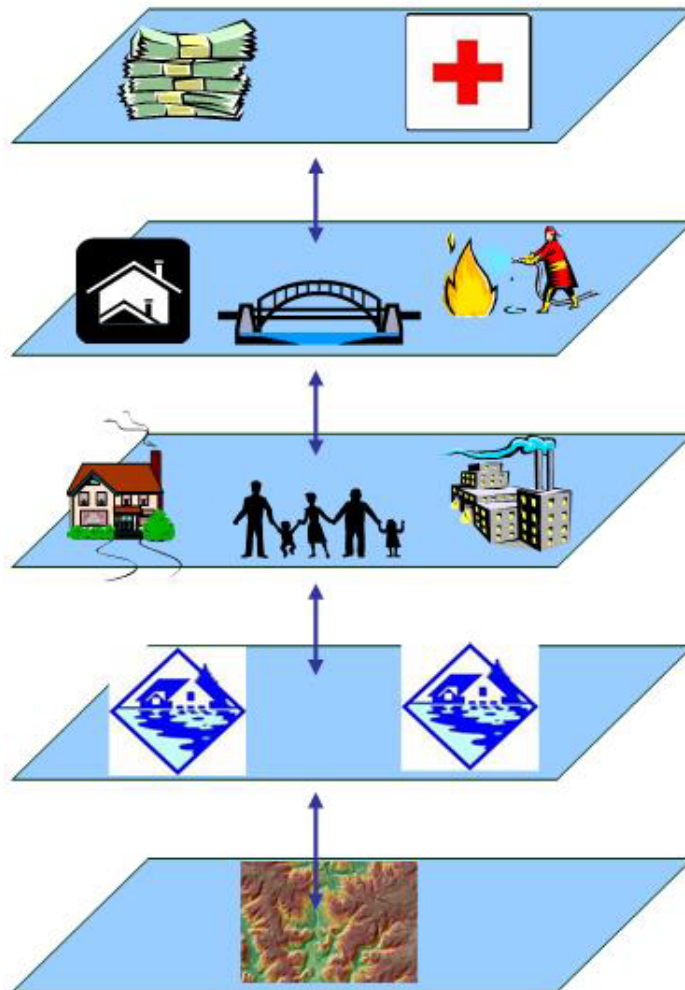
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HAZUS MH Methodology



5. Estimate Losses/Needs

4. Estimate Damage

3. Overlay Inventory

2. Define Flood Hazard

**1. Define the Geographic
Area for Analysis**

Develop GIS data
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Estimate Losses

Develop Problem
Statements

Review and analyze the results of the hazard loss estimations

- *Identify areas with highest vulnerabilities on a map*

Develop list of problem statements based on findings

- *Flooding during spring breakup caused by ice jams and excessive stream flow resulted in damage to a public roadway and a number of public buildings in Aniak. (2015 Aniak HMP Update)*

Assist with the development of risk-reduction strategies

- *Encourage weather resistant building construction materials and practices. (2015 Aniak HMP Update)*
- *Encourage development of or revision to building codes and requirements. (2015 Aniak HMP Update)*

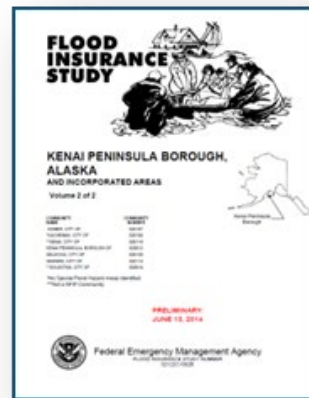
How we can help..... Mapping Needs

- **Are current flood maps accurate?**
 - What areas need to be updated?
- **Are current hazard maps up-to-date?**
 - What hazards need to be better understood?
- **How can the Hazard Mitigation Plan Update be enhanced by Risk MAP?**
 - Annual Team Meetings
 - Mid-cycle updates

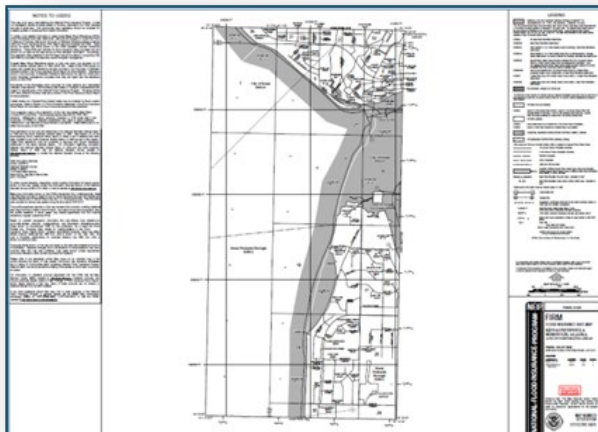
Risk MAP DFIRM/FIS

Regulatory Products

Flood Insurance Study



Flood Insurance Rate Maps (FIRM)



Non-Regulatory Products

• Changes Since Last Firm



• Flood Depth Grids



• HAZUS Risk Assessment



• Risk Report



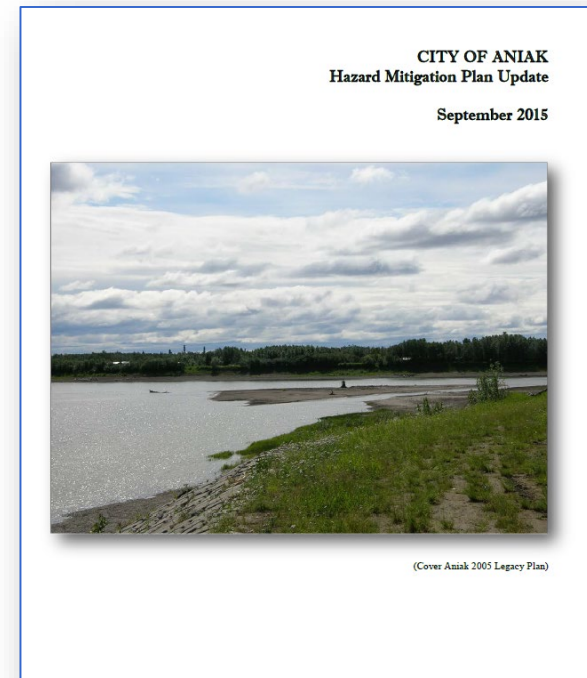
• Risk Database



How we can help.....

Technical Support & Training

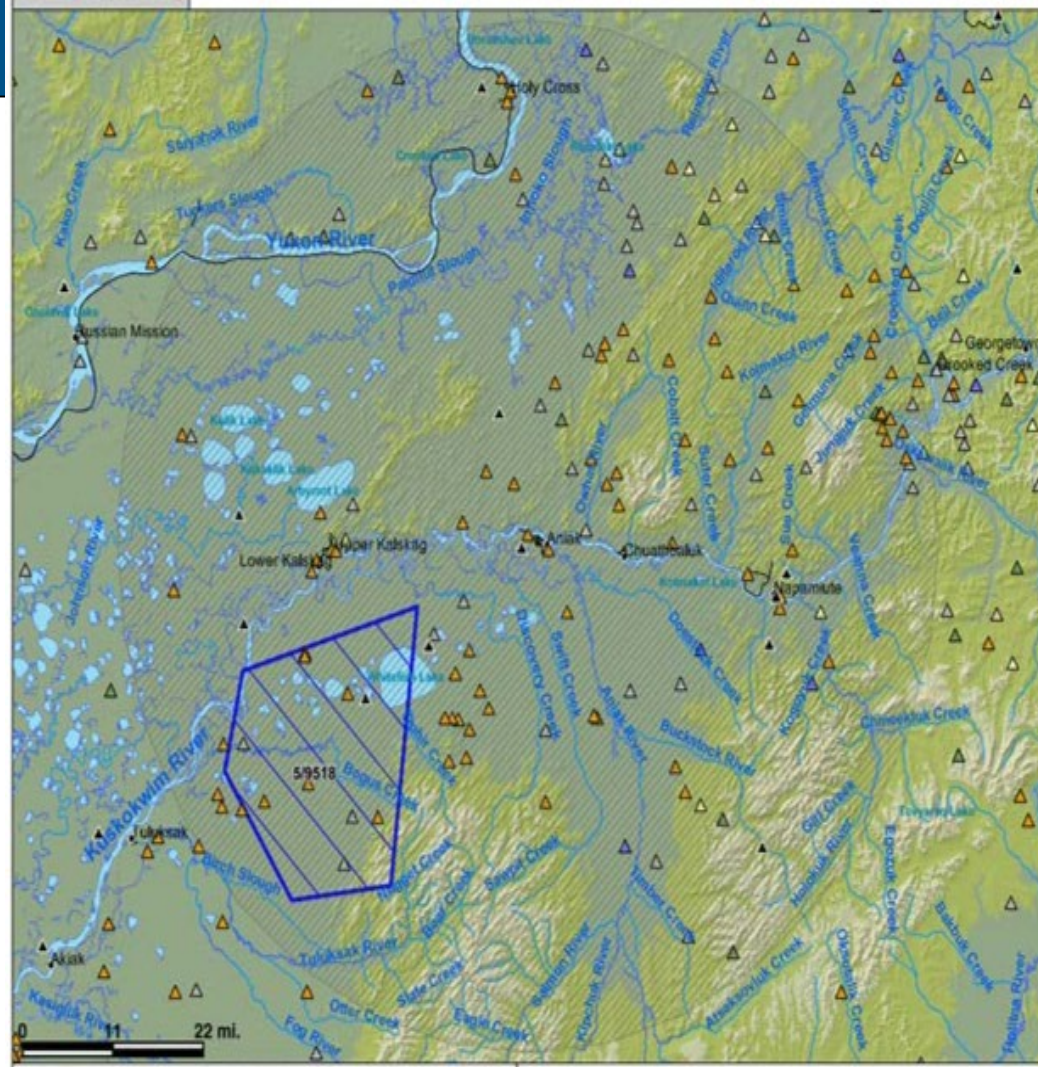
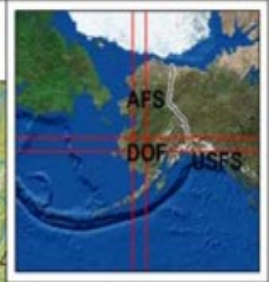
- NFIP Training and Technical Support
- Outreach Support
- Hazus Training and Technical Support
- Hazard Mitigation Planning Support
- ...other training needs?



Fire

- Village in need of improved fire protection.
- Lack adequate facilities and equipment for fire protection
- Fire Breaks were not completed, leaving the village vulnerable
- 189 fires within 50 miles since 1939 (average of 2.4 per year)
- Based on large number of historical fires, amount of burned acreage, the potential for a wildland fire in Aniak is classified as “Critical”.

Aniak Historical Fires 1939 to Present



Legend

Elevation Meters

- 0-250
- 251-500
- 501-750
- 751-1000
- 1001-1250
- 1251-1500
- 1501-1750
- 1751-2000
- 2001-2500
- 2501-3000
- > 3001
- Background
- Out of range

Temporary Flight Restrictions

Towns

- Municipality
- Home Rule City
- Other Towns

Named Rivers

Regional River Areas

- Stream/River
- Area of Complex Channels
- Rapids
- Bay/Inlet

NHD Lakes GT 1 SQKM

- Lake/Pond
- Ice Mass
- Swamp/Marsh
- Reservoir

Census Roads

Local/City

Kenai Roads

Scale: 1:1,011,336

This map is a user generated static output from an internet mapping site and is for general reference. Data layers that appear on this map are obtained from many sources. This map is not to be used for navigation.

Map Created:
Jun 25, 2015 1:41:49 PM
on the AICC Mapping Site

Figure 5-10 Historic Fires within 100 miles of Aniak (AICC 2015)

Flood

- Establish a cooperative work plan with the Kuskokwim River Watershed Council to establish a comprehensive watershed conservation plan
- High water elevation level: Either 87 or 89 Feet as marked by High Water Markers located throughout the village.

Erosion

- 2009 USACE Report estimates \$10.5 Million in damages due to erosion. This estimation does not include flood damages which will likely occur as the levee system around Aniak becomes compromised.

[Table 1 Expected Damages by Category]

Damage Category	Quantity	Time Span (Years)			Total Damages	Net Present Value	Annual Average Value
		0-10	11-30	31-50			
Land	26.81	\$ 58,00	\$ 105,00	\$ 105,000	\$ 268,000	\$ 107,00	\$ 5,50
Residential Structures	4	1,000	253,000	1,000	255,000	146,000	7,500
Infrastructure ¹	--	1,613,000	225,000	610,000	2,448,000	2,772,000	91,500
Future Maintenance	--	1,619,000	2,994,000	2,994,000	7,507,000	2,988,000	154,800
Total Damages		\$3,291,000	\$3,527,000	\$3,660,000	\$10,478,000	\$5,023,000	\$259,300

¹ It is assumed that the State of Alaska will protect the FAA approach light as its loss could be damaging to Aniak and the surrounding communities.

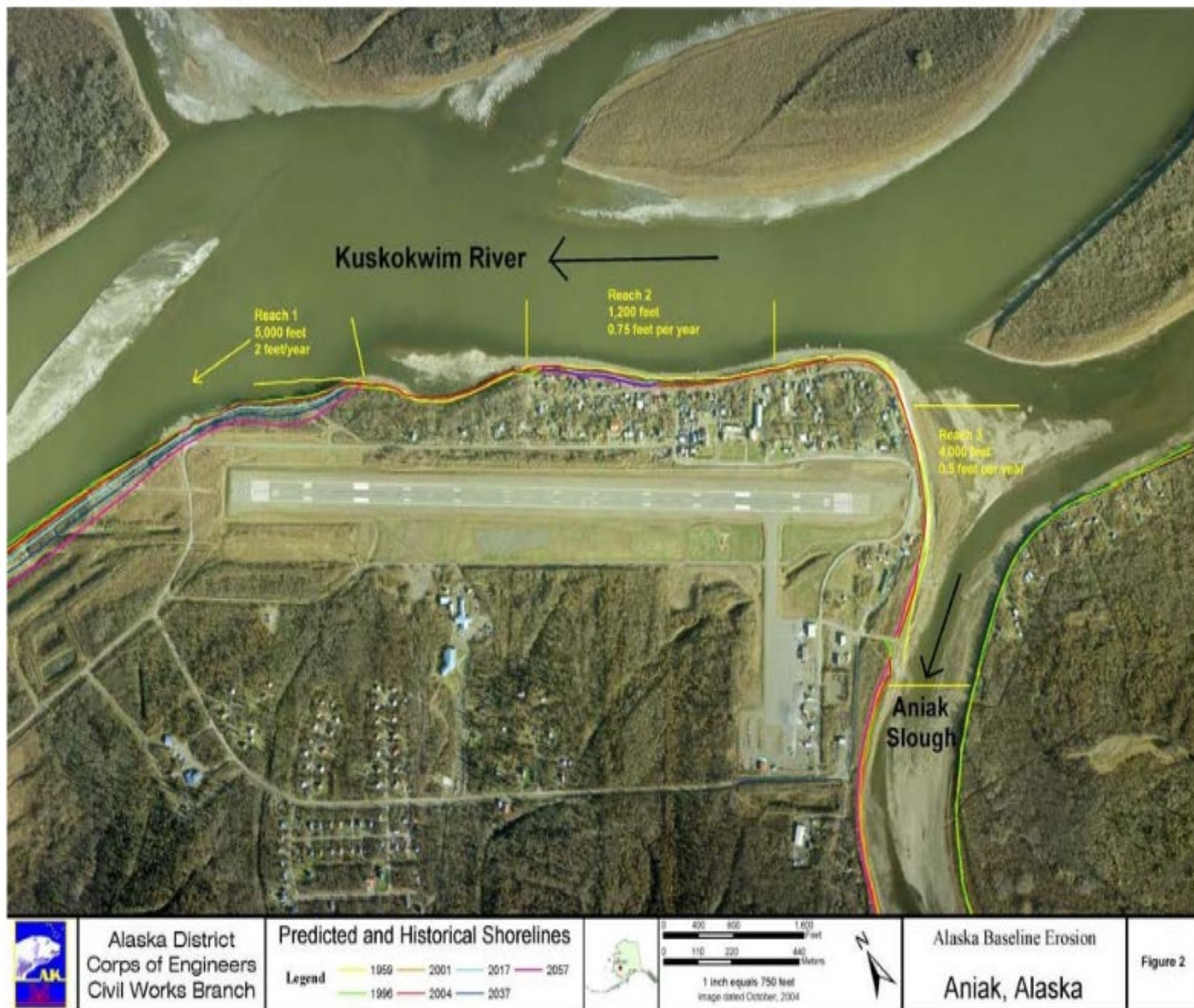


Figure 5-4 Aniak Predicted and Historical Shorelines (USACE 2009)

Community Values

- Cultural Identity
- Subsistence
- Personal Health
- Youth & Elders
- Self Esteem
- Community Spirit
- Education
- Cooperation
- Communication
- Safety/Security
- Self Determination

Planning Goals

- Goal Water Management: Kuskokwim River Watershed Council/Yukon River Inter-Tribal Watershed Council: Establish a cooperative work plan with the Kuskokwim River Watershed Council to establish at least one comprehensive watershed conservation plan by December, 2011.
- Goal: Community Development- Establish commerce friendly environment- establish commerce friendly conditions that encourage development of small scale enterprise in the villages. The AK Regional Development Organization (ARDOR) will be the lead organization.
- Goal: Land Management: Develop Family/Personal/Community Garden Program- work cooperatively in partnership with the Mid Yukon Kuskokwim Soil and Water Conservation District (MYKS&WCD) to assist to develop family/personal/community gardens in the villages. Mantra: “Family Garden Healthy Family”

Table 7-1 City of Aniak Regulatory Tools

Regulatory Tools (Ordinances, Codes, Plans)	Existing Yes/No?	Comments (Year Of Most Recent Update; Problems Administering It, Etc.)
Comprehensive Plan	Yes	Explains the City's land use initiatives and natural hazard impacts.
Land Use Plan	Yes	Explains the City's land use goals and initiatives.
Tribal Land Use Plan	Yes	Describes the Tribal Council development goals and initiatives for their lands.
Emergency Response Plan	Yes	Emergency Operation Plan, 2010
Wildland Fire Protection Plan	No	
Building code	Yes	The City can exercise this authority.
Zoning ordinances	No	The City can exercise this authority.
Subdivision ordinances or regulations	Yes	The City can exercise this authority.
Special purpose ordinances	No	The City can exercise this authority.

Table 7-4 Mitigation Goals

No.	Goal Description
Multi-Hazards (MH)	
MH 1	Provide outreach activities to educate and promote recognizing and mitigating all natural and manmade hazards that affect the City of Aniak (City) and/or Aniak Traditional Council.
MH 2	Cross-reference mitigation goals and actions with other City and Tribal planning mechanisms and projects.
MH 3	Develop construction activities that reduce possibility of losses from all natural and manmade
	hazards that affect the City and Tribe.
Natural Hazards	
EQ 4	Reduce structural vulnerability to earthquake (EQ) damage.
FL 5	Reduce flood (FL) and erosive scour damage and loss possibility.
SW 6	Reduce structural vulnerability to severe weather (SW) damage.
WF 7	Reduce structural vulnerability to tundra/wildland fire (WF) damage.

Discussion Questions

- Are there other hazards or risks not covered?
- Is there other critical infrastructure not mentioned in the Hazard Mitigation Plan?
- Are there additional ideas/projects to reduce risk?
- What does the future of Aniak look like? What is being done to ensure public health and safety as Aniak grows?
 - How are known hazards considered (or how should they be considered) as Aniak thinks about its future?
- How will the Hazard Mitigation Plan be maintained/updated?

Next Steps

- Draft discovery report within 6 months for your review
- FEMA will review and prioritize potential projects internally based on need and funding availability
- Notify Community of potential projects
- Draft Partnership Agreements with Communities
- Finalize Scopes of Work
- Share Scopes with impacted communities and Finalize Partnership Agreements

Aniak Risk MAP Study Team

- Amanda Siok, FEMA Risk Analyst
- Ted Perkins, FEMA Engineer Lead
- Brett Holt, FEMA, Mitigation Planner
- Karen Wood-McGuinness, FEMA NFIP Coordinator
- Jeff Markham, FEMA Hazard Mitigation Assistance
- Tom Donnelly, FEMA Recovery Specialist
- Sally Russell Cox, AK Risk MAP Coordinator
- Jimmy Smith, AK NFIP Coordinator
- Ann Gravier, AK State Hazard Mitigation Officer
- Scott Nelsen, AK State Hazard Mitigation Planner
- Kate Skaggs, Planning Contractor for FEMA
- Emily Whitehead, Engineering Contractor for FEMA
- Josha Crowley, Engineering Contractor for FEMA
- **You!**