

# Risk Mapping, Assessment and Planning (Risk MAP)



Galena 2013



Aniak 2002



Emmonak 2005



Shishmaref 2001



Matanuska-Susitna Borough 2013

Sally Russell Cox

Alaska Dept. of Commerce, Community, and Economic Development, Division of Community and Regional Affairs  
Alaska Seismic Hazards Safety Commission • October 26, 2017

# FEMA's Prior Mapping Effort vs Risk MAP



## RiskMAP

Increasing Resilience Together

**Goal:** to digitize paper maps (*resulted in digital flood data and digital maps for 92% of population*)

**Goals:** quality data, public awareness, action that reduces risk

Limited up-front coordination

Focus on up-front coordination

Single focus on Flood Insurance Rate Map production

Collaborative, comprehensive approach  
*Study does not have to result in Flood insurance Rate Maps*

Scoping not mandatory

Scoping/Discovery is mandatory

Focus on flood hazard

Focus on all hazards impacting community

Limited technical assistance during map updates and implementation

Extensive technical assistance during study process and implementation

# Informing Local Decisions to Reduce Risk

Goals

## Quality Data + Risk Assessment Tools



- Understandable maps
- Credible data
- Usable risk assessments
- Tools to understand how hazard risk has changes

## Community Understanding of Risk



- Local understanding of hazards, exposures and vulnerabilities
- Community identifies strategies for risk reduction

## Community Decisions + Actions to Reduce Risk



- Integration of risk assessment information into community planning; development
- Seek funding; implement mitigation & adaptation projects

## Increased Community Resilience



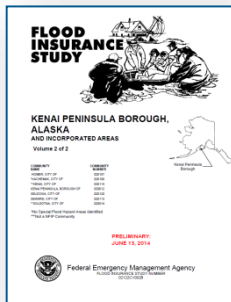
Robust  
Bounceforward  
Knowledgeable  
ForwardThinking  
Strong  
Healthy  
Proactive  
Smart  
Safe  
Adaptive  
Visionary  
Resilient  
Awareness

Products

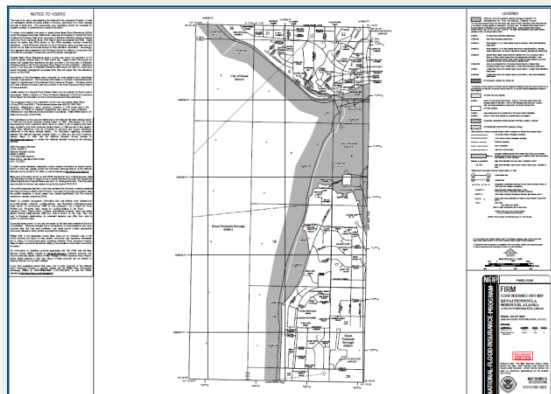
# Regulatory & Non-Regulatory RiskMAP Products

## Regulatory Products

- Flood Insurance Study (FIS)



- Flood Insurance Rate Maps (FIRM)



## Non-Regulatory Products

- Changes Since Last FIRM



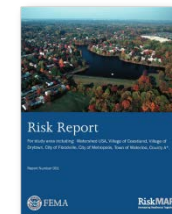
- Flood Depth Grids



- HAZUS Risk Assessment



- Risk Report



- Risk Database





# Risk MAP vs Hazard Mitigation Planning

*Risk MAP and Hazard Mitigation Planning have complementary but different purposes and are not intended to be duplicative.*

Risk Mapping, Assessment and Planning (Risk MAP)	Hazard Mitigation Planning
<p><b>Develops</b> new Risk Map products: regulatory Flood Insurance Studies, Flood Insurance Rate Maps and non-regulatory hazard risk assessment tools</p>	<p><b>Uses</b> Risk MAP regulatory and non-regulatory products to describe and assess risk during development of Hazard Mitigation Plan</p>
<p>Does not result in a “plan”. Risk Report summarizes the risk and vulnerability assessments. The planning phase of the Risk Map process addresses how data and risk assessments can inform new/updated Hazard Mitigation Plans, other community plans and risk-reduction projects.</p>	<p>Results in a Hazard Mitigation Plan (HMP). An HMP which meets the requirements of Title 44 Code of Federal Regulations §201.6 and receives FEMA approval makes the local jurisdiction eligible to apply for <b>FEMA Hazard Mitigation Assistance Grant Programs</b></p>
<p><i>Both efforts can provide guidance to local decision-makers as they take action and commit resources to reducing risk.</i></p>	

# Cooperating Technical Partnerships

FEMA

Cooperating Technical Partnerships

## State of Alaska

### DCCED/DCRA

- Coordinates Alaska Risk MAP Program
- Sets priorities for Risk MAP Studies
- Establishes collaborative relationships with other state, federal agencies, NGOs
- Works directly with communities

### DMVA/DHS&EM

- Supports DCRA
- Helps integrate Risk MAP with new/updated *Hazard Mitigation Plans*
- Helps identify mitigation projects for *Hazard Mitigation Grant Program*

### DNR/DGGS

- Conducts hazard assessments that FEMA doesn't (*Emmonak Channel Migration Study; Sitka Landslide Study*)

# Setting Alaska's Mapping Priorities

- Average Annual Loss Data
- Mitigation Plans
- Interest in New Community Plans
- Disaster Declarations
- Population
- NFIP (status, topographic coverage, coastal miles, etc.)
- Climatological Studies
- Planned Future Development
- Input from other agencies (State and Federal)

**Alaska Mapping Business Plan:**  
Integrating Mapping, Risk Assessment, and Resilience Planning

September 2017

State of Alaska  
Department of Commerce, Community, and Economic Development  
Division of Community and Regional Affairs

United States  
Department of Homeland Security  
Federal Emergency Management Agency  
Region 1

Galena 2013

Matanuska-Susitna Borough 2012

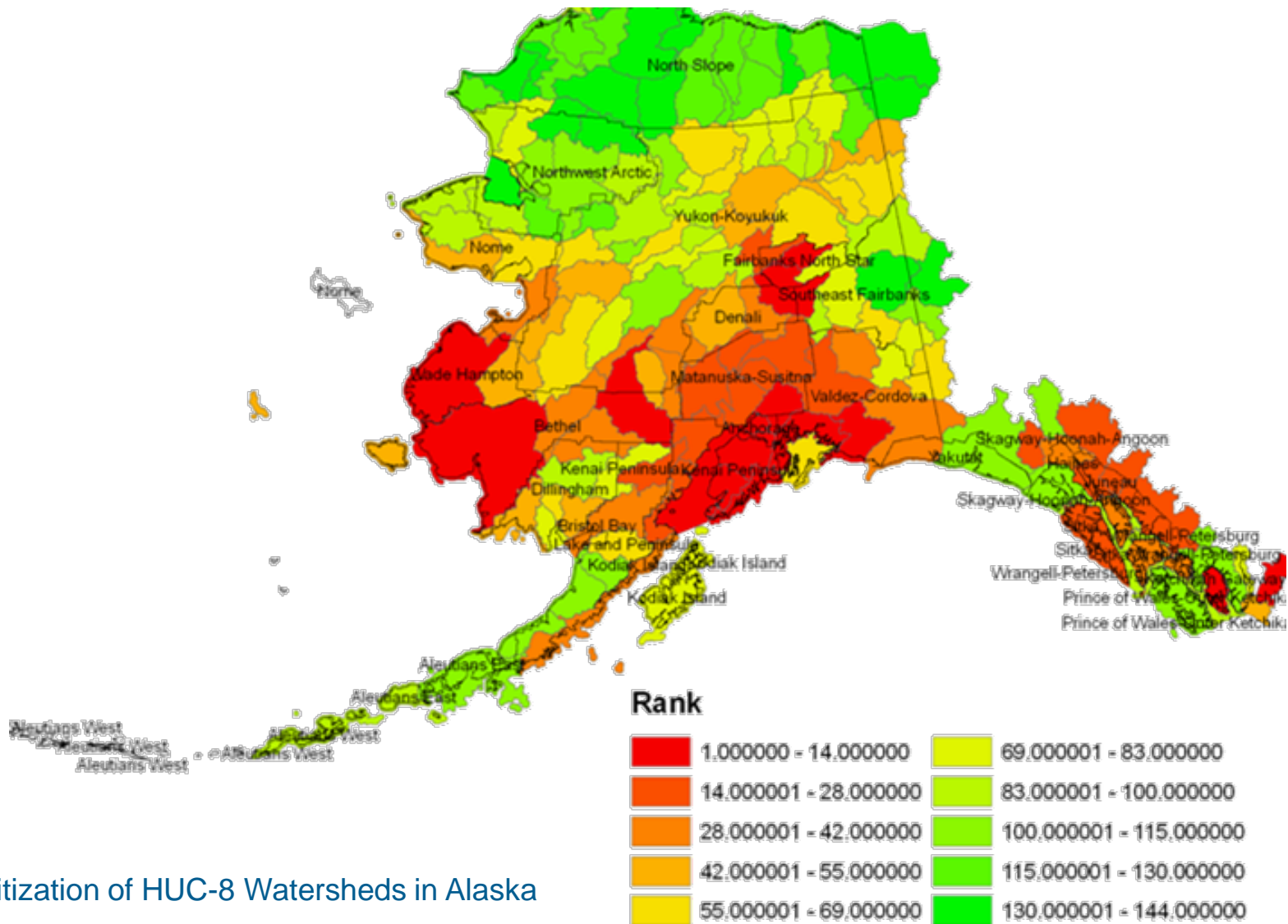
Nelana 2001

Nome 2007

Eagle 2011

Emmonak 2001

# How communities are selected for Alaska Risk MAP Studies



Prioritization of HUC-8 Watersheds in Alaska



# Benefits to State/DCCED

- Focus on increasing community resilience consistent with DCCED's mission to *promote strong communities and healthy economies*
- Provides \$\$ for much needed data acquisition
- Communities benefit from improved information about risk
- Funds State to provide onsite outreach and technical assistance to communities
- State gets to set study priorities, eg. hazard studies other than flood and new Alaska Native village focus

# Risk MAP Process

## Discovery

- Identification of community needs
- Collection of new/available data
- Summarize in Discovery Report

## Risk Assessment + Analysis

- Conduct risk and vulnerability assessments
- Analyze results and document in Risk Report for community

## Risk Reduction

- Share results of risk assessments + draft Risk Report with community
- Identify strategies for risk reduction

## Resilience

- Integrate Risk MAP information into local plans
- Seek funding + implement mitigation/adaptation projects

# Positive Outcomes

- ***New/updated Flood Insurance Studies and Flood Insurance Rate Maps*** for 6 boroughs and 4 cities
- City of Cordova is using its Risk MAP assessments to inform ***a new hazard element in the city's comprehensive plan*** update
- At the annual Salmon Jam festival, the City of Cordova incorporated a ***"Race the Wave" walk*** to show community residents how to get to higher ground in the event of a tsunami. This activity was part of ***Risk MAP's risk communication effort***, carried out in partnership with FEMA, AK DHS&EM, Cordova Emergency Management, Cordova City Planning and the Cordova Fire Department
- A ***landslide hazard study*** is being conducted for the City and Borough of Sitka that will ***inform future land use regulation***
- A ***channel migration study*** is being conducted for the City of Emmonak that will ***inform future development and riverbank protection***

# Resilience Workshop

Brings together federal, state, and local stakeholders to create a list of risk reduction actions using information and risk assessments from the Risk MAP process.

- Breakout sessions for community stakeholders to address risk assessment information and discuss how to implement mitigation actions
- Identification of resilience strategies and implementation opportunities
- Identification of funding sources that support resilience strategies

Seward



Soldotna

Homer





# Imminently-Threatened Alaska Native Village Focus

- Provides hazard studies and analyses to help communities understand risk so they can begin the decision-making process of responding/adapting to risk
- Communities don't have to participate in National Flood Insurance Program
- Risk MAP projects don't have to result in Flood Insurance Studies and Flood insurance Rate Maps
- Can integrate local knowledge and community-based observation
- Risk MAP non-regulatory products produced in Native Language and in format more useful to community
- Prioritization of communities will be based on Denali Commission's Statewide Threat Assessment

# Next Steps

Risk MAP  
Tools and  
Products can  
inform/lead  
to:

Hazard Mitigation Plan Update

Climate Adaptation Plan

Mitigation/Adaptation Projects

Local Land Use Plan

Community Comprehensive Plan

Protect-in-Place/Relocation Analysis

Village Planning Group

# Alaska Arctic Policy Commission Implementation Plan, 2015

## RECOMMENDATION 3D

Anticipate, evaluate and respond to risks from climate change related to land erosion and deterioration of community infrastructure and services and support community efforts to adapt and relocate when necessary.

### Execution

*“DCCED’s Risk MAP program is a good start to identifying and prioritizing risk, though as a FEMA-funded project it is very specific in the communities it can include.”*

### Legislative Actions

*“1. Expand DCCED Risk MAP program and partner with communities who are ready to take action.”*

