



State of
Alaska
Department of Military
and Veterans Affairs
Homeland Security &
Emergency Management



Flood Mitigation for Rural Communities

**Alaska Division of Homeland Security &
Emergency Management**

Ready  Alaska

2015 Spring Preparedness Conference

State of
Alaska
Department of Military & Veterans Affairs
Division of Homeland Security & Emergency Management





Instructor Introductions



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Alaska Division of Homeland
Security & Emergency Management
(DHS&EM)



2015 Spring Preparedness Conference





Housekeeping



- Emergency exit
- Restrooms
- Cell phone use
- Participant experience
- Classroom participation

Agenda



- Flooding as a hazard
- Community risk
- What is mitigation?
- Preparedness and planning
- Flood mitigation activities
- Mitigation project funding
- Introduction: State Floodplain Manager: Taunnie Boothby, DCRA, taunnie.boothby@alaska.gov, 907-269-4583



Flooding as a Hazard



- Rainfall-runoff
- Snowmelt
- Coastal storm surge
- Alluvial fan
- Ice jam
- Flash flooding
- Ground water
- Fluctuating lake levels
- Glacial outburst
- Ivu



Community Risk

- Who is at risk? Elders, special needs, children
- Infrastructure: schools, community buildings, utilities, etc.
- Businesses: viability
- Transportation: boardwalks, roads, airport
- Access and availability to/of services
- Supplies, equipment, vehicles
- Environment
 - Impact on subsistence activities
 - Hazardous waste and debris



What is Mitigation?

- Actions taken by government, business, or individuals to reduce or eliminate the long-term risk to human life and/or property from hazards
 - Preparedness
 - Planning
 - Non-Structural
 - Structural
- To reduce risk



Preparedness and Planning



- Are you prepared?
 - Plan
 - Emergency “go” kits
- Individual/Family Planning
 - Escape routes
 - Family plan/communication plan
 - Home elevation/relocation
- Community Planning
 - Whole community planning: Local ordinances and regulations
 - National Flood Insurance Program (NFIP)
 - Small Community Emergency Response Plan (SCERP)



Flood Mitigation Activities



Funding can be used to protect either public or private property, as long as the project fits within State and local government mitigation strategies to address areas of risk, and complies with program guidelines.

Examples of flood projects include:

Property Elevation, Relocation or Acquisition (Not undeveloped land)

Utility Protective Measures - Electrical Power, Gas/Fuel Collection and Transmission Systems and Housing of Systems

Infrastructure Retrofit -

Roads - Harden Surface, Armor Embankment/Shoulders, Add/Increase Culverts

Bridges - Harden Deck/Abutments, Armor Embankment/Shoulders, Wing Walls

Water and Sanitary Systems - Relocate, Elevate, Bury, Harden, Encase, Flex, Anchor or tie-down Buoyant Facilities



Eligible Activities Continued



Minor Localized Flood Reduction Projects* –

(Existing Buildings, Facilities, Storm Water or Flood Management Infrastructure)

- Culverts
- Diversions
- Detention or retention basins
- Floodwalls
- Berm/levee/dikes
- Embankment stabilization - Riprap, Plate/Shear Piles, Mattresses, Geo-textiles, Vegetative, Gabion Baskets

*Specifically to protect critical facilities and that do not constitute a section of a larger flood control system)



2008 August Flood, Nenana Rail, Road and Fuel Utilities Impact





2008 August Flood, Fuel Tanks and Containment Areas Impacted





Infrastructure Retrofit - Alaska Railroad Bridge, Track and Embankment

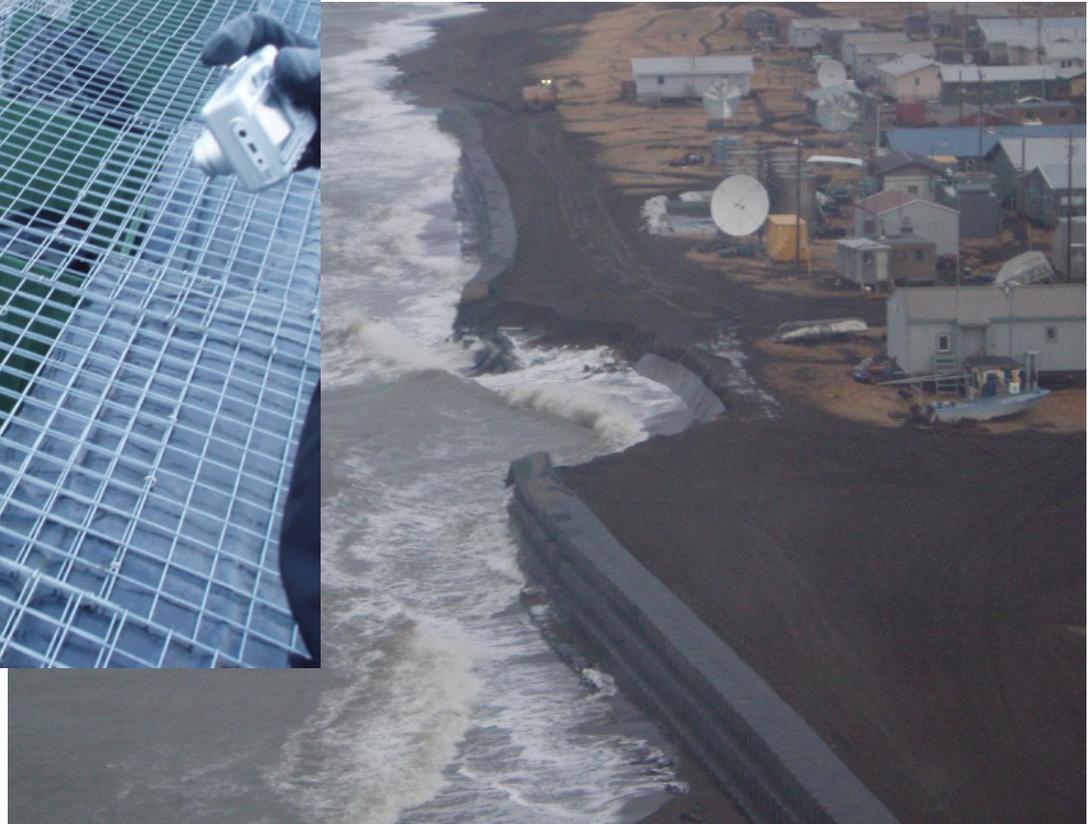


☆☆☆  ☆☆☆
**Infrastructure Retrofit – Utilities Lift Station inundated by flood waters.
Mitigated by elevating the electrical and control panels.**
☆☆☆  ☆☆☆





2006 Sea Storm, Kivalina Seawall Infrastructure Impacted



2008 Nome Sea Wall and Drainage System Infrastructure Project
City of Nome, DOT&PF, DHS&EM, FEMA



Nome Storm 101904 photo 29. Parking adjacent to Polar Cafe.
Wall of water bringing in more debris.



Nome Storm 101904 photo 26. Polar Bar and Cafe flooding on
Front St.





2007 Alakanuk Residential Home Relocation and Elevation





2007 Alakanuk Residential Home Relocation and Elevation



2008 Sewell Drive (Fairbanks) Residential Home Relocation and
Acquisition Project





1994 Allakaket Residential Home Relocation and Elevation





2008 Shishmaref Computer Cottage Relocation Project



2014 Sleetmute Home Elevation Mitigation Project – Elevated home 2 feet above the known high water mark on post and pad construction



2014 Galena Home Elevation Mitigation Project – Elevated home 1 foot
above the high water mark of 135.5' on pile construction



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Infrastructure Retrofit – Minor Flood Control elevating the road and increasing culverts with drainage out to the bay in Seward

☆☆☆  ☆☆☆





Embankment Stabilization to protect infrastructure





2012 Akiak – Embankment, Road and Fuel Header Compromised





Boardwalks Impacted and needing relocated above the river





Boardwalks in communities elevated and hardened





Culverts under capacity improved with added wing walls





Bridges impacted by washouts and needing abutments hardened





2007 Alakanuk Residential Home Relocation and Elevation





Mitigation Project Funding



- FEMA/State Mitigation Programs
 - Hazard Mitigation Grant Program (HMGP)
 - Pre-Disaster Mitigation (PDM)
 - Flood Mitigation Assistance (FMA) Program
- United States Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS)
 - Emergency Watershed Protection Program (EWP), Brett Nelson
- US Army Corps of Engineers (USACE)
 - Corps Civil Works Studies and Projects, Bruce Sexauer (907) 753-5619
- Special Federal or State Appropriation



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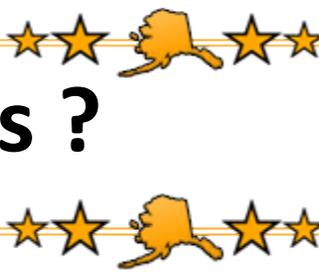
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Questions ?



Questions?

Please remember to sign in.

Should you have any questions, please feel free to ask any of the DHS&EM Mitigation Section Staff.