News from Region X

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Strategic Alliance for Risk Reduction
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Mitigation Success Stories

Alaska

A powerful and extremely dangerous storm impacted the west coast of Alaska in November. The system brought storm surge and blizzard conditions that impacted forty-three communities. In Nome, storm surges of over 10 feet peaked and slowly diminished over the next 24 hours. This was not the first time Nome had experienced severe storm surges, but it was the first time they were able to see the beneficial impact of a project to mitigate damage.

In Nome, the first recorded storm was in 1900 soon after the city was founded. The storm had winds of 75mph and "towering waves" that left 1,000 people homeless and destroyed the business district and all beach structures. Over the next 45 years, four more storms also wreaked havoc, left people homeless and destroyed downtown.

The first large-scale project to reduce damage was in 1949 when the U.S. Congress allocated $1 million to build a seawall. Strong storms topped the seawall in 1973, 1974 and 1992 which led to the expansion of the seawall in 1993. This additional measure helped to protect the city, but high winds and water levels still managed to top the seawall and damage buildings along the seawall and the road east of town.

The seawall was 60 years old and existing drainage was inadequate to carry off storm and sea water. Old 12 inch diameter culverts were too small to handle the volume of water, blocked by debris or collapsed. In 2005, the Alaska Department of Transportation and Public Facilities (DOT&PF) Northern Region devised a project to enhance storm drains to protect Nome's business district buildings and facilities. The new drainage system provided 30 inch culverts with sufficient capacity to remove the storm water and sea water carried over the seawall by wind and waves from the streets and return it to the sea.

The collaborative project brought together four partners. The seawall is publicly owned and maintained by the City of Nome. The storm drain system is owned and maintained by DOT&PF. The Hazard Mitigation Grant Program was administered by the Alaska Division of Homeland Security and Emergency Management with funds provided by FEMA. The mitigation project was combined with a City of Nome street rehabilitation project.

"Protecting buildings and infrastructure makes sense. The seawall improvements in Nome prevented damages that could have easily been greater than the cost of the original mitigation project," said John Madden, director of the Division of Homeland Security and Emergency Management. "Winters

Continued on next page

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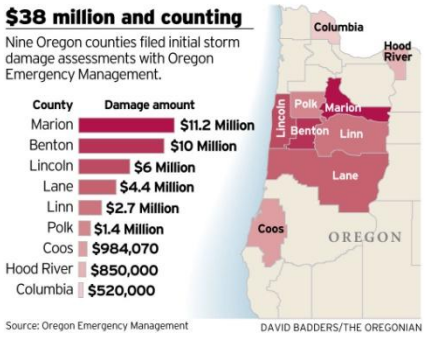
Mitigation Success *(cont.)*

in Alaska can be brutal and repairs must often wait until spring. Small Alaskan communities cannot thrive without timely restoration of critical infrastructure. With proper mitigation we reduce the impact of future disasters."

According to John Handeland, head of the Nome Joint Utilities System, in the recent severe storms, the project worked quite well. Front Street had little flooding and the water flowed out more quickly. Unlike past disasters, this time there were no traffic diversions, standing water or property damage. "It worked like clockwork."

For more information about this project, contact Fred Kunchick, at FEMA Region X, Fred.Kunchick@fema.dhs.gov.

Oregon



Wind, rain and snow storms in January caused an estimated $38 million in damage to nine counties. In addition to heavy rain and melting snowpack, the storm also packed 100-mph winds that brought down trees and power lines on the coast. Columbia and Hood River counties were hit with heavy snow and ice and Coos County had 15.5 inches of rain in 48 hours.

The mid-Willamette Valley was especially hard hit. In Salem, roads were closed in as many as 55 places during peak hours of the event. Ten miles to the southeast, more than a hundred homeowners in the small community of Turner suffered flood damage from raging Mill Creek. Mary's River near Philomath in Benton County set a new flood crest record; the Hwy 99W bridge was closed for a short time, isolating hundreds of homes and businesses in south Corvallis.

Residents who experienced flooding in 1996 and 1964 mostly agreed that while the flooding this time around wasn't as extreme, the rivers rose more rapidly than they had in the past.

The state has requested joint preliminary damage assessments with FEMA and the decision whether to proclaim a Federal Disaster Declaration is expected shortly. If the criteria are met, the State will request both public and individual assistance from the federal government

One of the biggest stories of this event might actually be what worked well. The emergency response by community officials has been exceptional. Newer flood risk maps were clearly improved and accurate. Dennis Sigrist, Oregon's State Hazard Mitigation Officer, reports that on preliminary analysis, there are several Hazard Mitigation Grant Program (HMGP) success stories in locations where projects clearly reduced damage from flood waters. FEMA HMGP money is used to fund projects that will reduce or eliminate the losses from future disasters.

While not HMGP funded, the Salem Hospital's first floor parking design (with buildings above) worked perfectly, allowing flood waters to flow with no structural damage.

Risk-reduction activities, as FEMA's Risk MAP program increasingly emphasizes, are a cost-effective way to build a "disaster-resilient community." In Oregon, mitigation works! *–Steve Lucker, Oregon Risk MAP Coordinator*

Successful HMGPs in Oregon

- Home elevations reduced flood damages
- Flood-proofing projects (flood gates) at a number of public facilities
- Two removed railroad trestles that collected debris and exacerbated flooding
- A low berm built at the state penitentiary to deflect flood waters

Washington Appeals Court Upholds Floodway Regulations

In a recently published opinion, the Washington Court of Appeals reversed a lower court's ruling in a case involving development in a regulatory floodway. In Cradduck v. Yakima County, the court ruled that "a county's reasonable restrictions on development that are calculated to avoid property damage and injury in a designated floodplain do not violate the landowner's right to substantive due process of law. Here, the county of Yakima included a mobile home park in a floodplain based on a history of recent flooding in the area. The effect was to prohibit replacement of mobile homes in the park for those destroyed or otherwise removed. We conclude that this was a proper exercise of police power, and that the park owner's right to substantive due process was not violated."

Read the full opinion online at www.courts.wa.gov/opinions.

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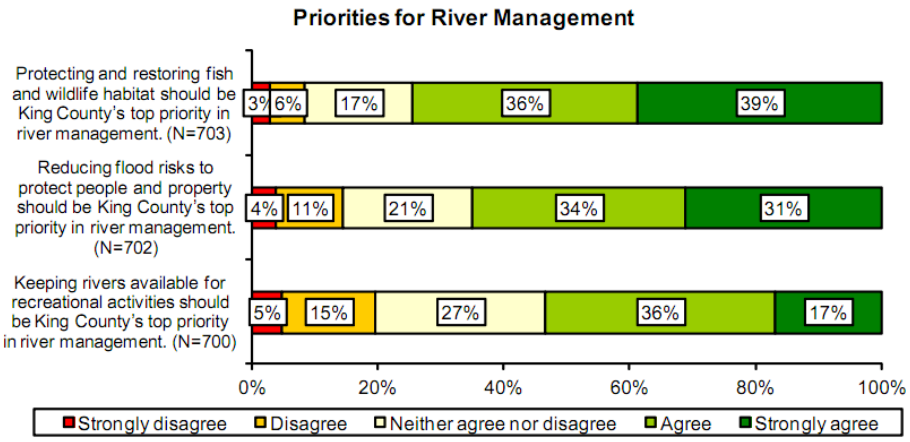
King County Residents Surveyed

King County's Water and Land Resources Division has released the results of a new customer survey that explores the opinions of King County (Washington) residents about rivers, how rivers are used, and how they are managed.

King County used a local research firm last fall to conduct the 2011 River Management Telephone Survey, with a goal of using the feedback to improve river management and communication practices. More than 80 percent of those surveyed believe rivers are important and residents highly value habitat and flood protection and river recreation.

The survey results will be used to improve education about flood risk reduction projects, river hazards and river safety. Survey findings are available at www.kingcounty.gov/rivers.

For more information about the survey results, contact Saffa Bardaro, Saffa.Bardaro@kingcounty.gov.



Survey response to King County's River Management priorities

February Training

(All times PST)

Overview of Hazard Mitigation Planning

February 10, 2012, 10-11 am

Rescheduled due to the January snow event, this one hour webinar will provide an introduction to hazard mitigation planning for local governments. The training will cover the purpose of local mitigation planning, FEMA requirements, and related grant opportunities.

One (1) CEC for CFMs

Presenters: Kristen Meyers and Brett Holt, FEMA Region X

Elevation Certificates

February 16, 10:00 am-12:30 pm

This encore two-hour session, which explains the proper way to complete FEMA Form 81-31 and best practices for using the Elevation Certificate in the floodplain development review process.

Topics include the basics of the Elevation Certificate form, the 10 building diagrams, and the difference between "bottom floor" and "lowest floor".

Two (2) CECs for CFMs

Presenter: Becca Croft, STARR RSC X.

HAZUS for Mitigation Planning

February 17, 2012, 10-11 am

This training will provide attendees with the information they need to improve mitigation plans through incorporation of HAZUS-based risk assessments. The training will provide an overview of HAZUS capabilities and resources as well as provide recommendations for incorporating HAZUS risk assessments results into Mitigation Plans.

One (1) CEC for CFMs

Presenter: Jen Monroe, FEMA Region X

Overview of FEMA Hazard Mitigation Assistance (HMA) Grants

February 29, 10:00 am -11:00 am

This session will provide a basic overview of the Hazard Mitigation Assistance (HMA) grant program and details on funding opportunities for projects that reduce the risk to individuals and properties from natural disasters. We will walk through the application process for each of the 5 grant programs, outline the types of projects that can be funded, provide funding details, and share some success stories and key lessons learned.

One (1) CEC for CFMs

Presenters: Brandon Sweezea and Jeff Markham, FEMA Region X

For details and registration information, visit j.mp/starrtraining.

Questions or comments?

If you have suggestions for the Region X Newsletter staff, we would like to hear from you! Please contact the FEMA Region X Service Center by email at RXNewsletter@starr-team.com.

Ask the Help Desk!

If you have questions about a mapping project, policy changes, mitigation planning, floodplain compliance or general questions related to the NFIP, please contact the STARR Region X Help Desk. STARR staff will route and research your question, and respond within three business days. Submit your questions via email, the address is RegionXHelpDesk@starr-team.com.

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Training Opportunities

(All times PST)

Overview of Hazard Mitigation Planning
February 10, 10:00 am – 11:00 am
Online* – 1 CEC

Elevation Certificates
February 16, 10:00 am – 12:30 pm
Online* – 2 CECs

Using HAZUS in Hazard Mitigation Planning
February 17, 10:00 am – 11:00 am
Online* – 1 CEC

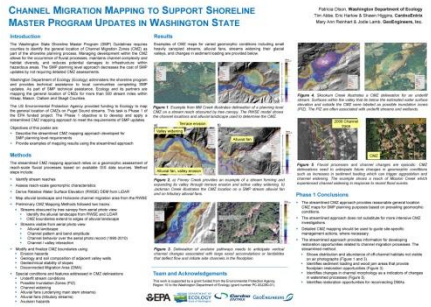
Overview of Hazard Mitigation Assistance (HMA) Grants
February 29, 10:00 am – 11:00 am
Online* – 1 CEC

Elevation Certificates for A Zones
March 15, 10:00 am – 12:30 pm
Online* – 2 CECs

Floodplain Management in A Zones
April 12, 10:00 am – 11:00 am
Online* – 1 CEC

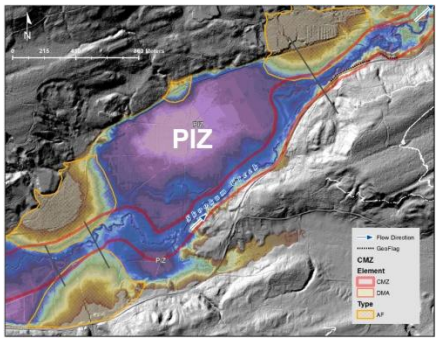
*To register for online courses, visit STARR's training site online at j.mp/starrtraining, or email RXTraining@starr-team.com.

New Washington CMZ Poster Now Available


CHANNEL MIGRATION MAPPING TO SUPPORT SHORELINE MASTER PROGRAM UPDATES IN WASHINGTON STATE

The Washington State Shoreline Master Program (SMP) Guidelines require counties to identify the general location of Channel Migration Zones (CMZ) as part of the shoreline planning process. Managing development within the CMZ allows for the occurrence of fluvial processes, maintains channel complexity and habitat diversity, and reduces potential damages to infrastructure within hazardous areas.

Washington Department of Ecology (Ecology) administers the shoreline program and provides technical assistance to local communities completing SMP updates. As part of SMP technical assistance, Ecology and its partners are mapping the general location of CMZs for more than 500 stream miles within Kitsap, Mason, Clallam and Skagit Counties. The US Environmental Protection Agency provided funding



to Ecology to map the general location of CMZs on Puget Sound streams. The objective is to develop and apply a streamlined CMZ mapping approach to meet the requirements of SMP updates.

Channel migration is a flood-related hazard to people, property, critical infrastructure, and potential pollutant sources such as waste water treatment sites and old landfills located within floodplains. Where rapid migration occurs, risk to people and infrastructure often is much greater than flooding alone. Developed floodplains and channel migration areas are subject to millions of dollars in infrastructure losses each year from flooding and erosion and many of the ecological processes are impaired or lost. This contrast creates an inherent conflict between land uses and the beneficial services provided by floodplain ecosystems. Control of channel migration processes including channelization, dredging, gravel mining, levees, dikes, bank hardening and wood removal has contributed to listing of salmon under the Endangered Species Act.

The new poster describes the streamlined CMZ mapping approach developed for SMP planning level requirements and provides examples of mapping results using the streamlined approach. Download a copy from our website, www.starr-team.com, or contact Jerry Franklin, Washington Risk MAP Coordinator, Jerry.Franklin@ecy.wa.gov.

EMI Training Opportunity

FEMA's new Independent Study (IS) course, IS-318 Mitigation Planning for Local and Tribal Communities, is now available from the Emergency Management Institute (EMI) IS website (training.fema.gov/EMIWeb/IS/is318.asp). This training is intended for staff responsible for developing, updating, or reviewing local and/or tribal mitigation plans that meet the regulatory requirements found at 44 Code of Federal Regulations (CFR) Part 201. Students will learn about the mitigation planning process, including stakeholder and public involvement, conducting a risk assessment, identifying and prioritizing mitigation actions, implementing the mitigation strategy, and updating the plan.

Plan developers will learn about mitigation planning regulations as well as FEMA's local or tribal multi-hazard mitigation planning guidance to develop a hazard mitigation plan. Plan reviewers will learn to provide recommendations and guidance to develop or update a mitigation plan in accordance with the plan requirements.

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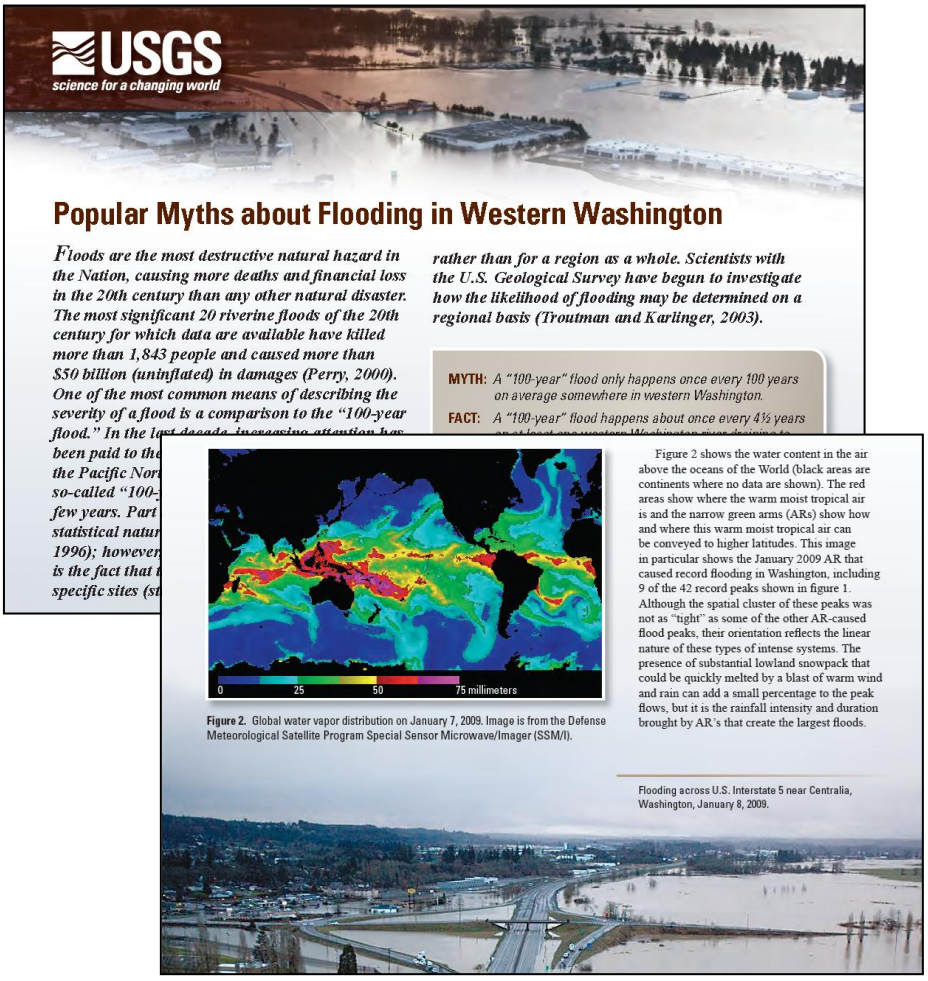
New USGS Fact Sheet Available

A new USGS Fact Sheet, "Popular Myths about Flooding in Western Washington" (FS 2011-3146) that describes common misconceptions about flooding has been released by the Washington Water Science Center. The fact sheet explains why "100 year floods" happen much more often than every 100 years, that the largest floods cluster in time and space, and how Atmospheric Rivers overwhelm any effects from antecedent conditions (such as lowland snowpack) on the magnitude of flooding. The fact sheet is available on-line at pubs.usgs.gov. Hardcopies are available as well. Contact John Clemens, jclemens@usgs.gov.


USGS
science for a changing world

Popular Myths about Flooding in Western Washington

Floods are the most destructive natural hazard in the Nation, causing more deaths and financial loss in the 20th century than any other natural disaster. The most significant 20 riverine floods of the 20th century for which data are available have killed more than 1,843 people and caused more than $50 billion (uninflated) in damages (Perry, 2000). One of the most common means of describing the severity of a flood is a comparison to the "100-year flood." In the last decade, increasing attention has been paid to the Pacific Nor so-called "100- few years. Part statistical natur 1996); however is the fact that specific sites (st

rather than for a region as a whole. Scientists with the U.S. Geological Survey have begun to investigate how the likelihood of flooding may be determined on a regional basis (Troutman and Karlinger, 2003).

MYTH: *A "100-year" flood only happens once every 100 years on average somewhere in western Washington.*

FACT: *A "100-year" flood happens about once every 4½ years*

0 25 50 75 millimeters

Figure 2. Global water vapor distribution on January 7, 2009. Image is from the Defense Meteorological Satellite Program Special Sensor Microwave/Imager (SSM/I).

Figure 2 shows the water content in the air above the oceans of the World (black areas are continents where no data are shown). The red areas show where the warm moist tropical air is and the narrow green arms (ARs) show how and where this warm moist tropical air can be conveyed to higher latitudes. This image in particular shows the January 2009 AR that caused record flooding in Washington, including 9 of the 42 record peaks shown in figure 1. Although the spatial cluster of these peaks was not as "tight" as some of the other AR-caused flood peaks, their orientation reflects the linear nature of these types of intense systems. The presence of substantial lowland snowpack that could be quickly melted by a blast of warm wind and rain can add a small percentage to the peak flows, but it is the rainfall intensity and duration brought by AR's that create the largest floods.

Flooding across U.S. Interstate 5 near Centralia, Washington, January 8, 2009.

NORFMA News

The Northwest Regional Floodplain Managers Association (NORFMA) will be holding quarterly meetings with FEMA Region X for updates on floodplain mapping issues. The first meeting is tentatively set for March 8th. The Board is looking for meeting topics.

The NORFMA Annual Conference will be held in Spokane this fall. Organizers are also planning mini conferences in Idaho and Oregon. For more information or to suggest meeting or conference topics, visit their website, www.norfma.org, or contact Hans Hunger, hhunger@co.pierce.wa.us.

Levee Policy Comments Available Online

Want to know what everyone is saying about the proposed Levee Analysis and Mapping Procedures? The comment period closed on January 30th, but you still have time to view the 120+ public submissions that are published online. Visit www.regulations.gov.

Suggested Reading

Levee Safety Connections

The National Committee on Levee Safety was created by Congress to develop recommendations for a national levee safety program, including a strategic plan for implementation of the program. The Committee's vision is "an involved public and reliable levee systems working as part of an integrated approach to protect people and property from floods."

You can read about their work and successes in their most recent newsletter; it is available for download at www.leveesafety.org.

STARR

Community Rating System (CRS) Manual Change Webinars

CRS will host another round of webinars starting in February. There will be a mix of sessions on general overviews of the approved changes and individual activities. There will be one or more on 330 and the 600 series. Suggestions for topics are welcome, and CRS users groups can also request a webinar to coincide with their meetings.

To download an overview of the proposed CRS manual changes, or for more information on the upcoming webinars, visit www.crs2012.org.

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