

WATERLOG

NFIP NEWSLETTER

Flood Insurance News In Idaho

April 2008

When the Water Rises...*The Duties of the Floodplain Administrator*

Before and during a flood event, the floodplain administrator (FPA) has a few more things to think about. The Federal Emergency Management Agency (FEMA) does not have hard and fast rules or a technical bulletin about FPA duties, but there is some guidance. There are two principles that communities should follow.

First, if there is time to anticipate flooding, such as from probable rapid melt of snowpack, the floodplain administrator should issue a floodplain development permit or permits for the planned flood mitigation actions. Then the permit can specify conditions, for example that temporary barriers must be removed by a certain time after the flood event, or within a reasonable amount of time.

Second, if a community is hit by a flash flood, floodplain administrators can act as deemed necessary to protect the community and put their efforts into documenting high water marks and substantially damaged structures.

The over-arching guidance of the NFIP regulations should be followed as much as possible. For example, encroachments in the floodway should be a last resort. Temporary dikes to avert flooding in one area may redirect water to another area that may otherwise not experience flooding. In that case, the community may be liable for damages incurred as the

result of the temporary dike. Work closely with your community's emergency preparedness coordinator and the Idaho Department of Water Resources Stream Channel Alteration Specialist to obtain an emergency stream channel alteration permit if flood fight operations extend into the floodway or stream channel.

If the same infrastructure or parts of a community regularly are threatened by flood waters, it may be possible to get a FEMA mitigation grant to permanently protect the area. The Idaho Bureau of Homeland Security administers FEMA Mitigation Grants in Idaho. Information

about FEMA Mitigation grants is at <http://www.fema.gov/government/mitigation.shtm>. The Bureau of Homeland Security Mitigation Officer contact is David Jackson, djackson@bhs.idaho.gov.

Know the Emergency Management Coordinator

The Emergency Management Coordinator will be more than fully occupied during a flood event. Before the first snowflake melts, develop a working relationship and plan with the emergency management coordinator in your community so you have a reciprocal understanding about each other's jobs – what is expected and what is required. The Emergency Management Coordinator may be helpful



This high water mark was documented after flooding in western Washington in December 2007

in documenting high water marks, which will help you more effectively manage future floodplain development.

Document High Water Marks

The FPA must use best available information in making floodplain management decisions. Documenting conditions during a flood event can provide better information about flood-prone areas than a 20-year old Flood Information Rate Map. High water conditions likely will be linked to measurements somewhere in the basin so you will be able to correlate local flood conditions with a flow rate. USGS gaging stations are an important tool in monitoring flows on many Idaho Rivers and there probably is at least one in your watershed that will provide useful flow information. (See a related article on page 3 about the benefits to locals of USGS stream gages.)

The National Weather Service River Forecast Center for the Northwest pulls together information from USGS gages, with hydrologic information and modeling to keep constantly updated information available on the internet about major rivers in the northwest. River levels are monitored for threats of flooding. Historic information is posted about past floods, flood stage and bankfull information. <http://www.nwrfc.noaa.gov/>

Gage data will not be available for many Idaho rivers, so documenting local conditions is an important tool for FPAs. Documenting high water marks can be as simple as photographing recognizable, permanent landmarks and labeling the photo with the date and observations about when the crest occurred, extent of flooding, etc. Last December when severe flooding inundated Lewis County, Washington, county crews documented high water and with FEMA produced a best practices guide on how to capture high water marks. The best practices document is included at the end of this issue of Waterlog.

Document Structures with Substantial Damage

The regulations and calculations that apply to substantial improvement are the same for substantial damage. It is important for the FPA to be aware of what structures receive substantial damage in

a flood because many of them will be repaired or replaced later. If a structure is substantially damaged or otherwise substantially improved, it becomes a Post-FIRM building and is actuarially rated based on its risk of flooding. A substantially improved structure must be brought into compliance with NFIP regulations and other requirements in the local ordinance for new construction. That is, the structure must be elevated (or floodproofed if it is a non-residential structure) to or above the level of the 1% chance base flood, and meet other applicable requirements. (FEMA 213, 1991)

The FPA and the community building official, if there is one, are responsible for determining whether a structure has been substantially damaged. If the flood event becomes a presidentially declared disaster, assistance may be available from federal agencies that will send teams to affected communities.

There are numerous FEMA publications and reference materials on the subject of substantial damage and substantial improvement. Answers to Questions About Substantially Damaged Buildings, FEMA 213/May 1991 is available online, www.fema.gov/hazard/flood/pubs/lib213.shtm. It is a good introduction and includes bibliographies on FEMA and other publications.

WATERLOG

Waterlog is the NFIP newsletter and Flood Insurance News published quarterly by the Idaho Department of Water Resources.

C.L. "Butch" Otter, Governor

Dave Tuthill, Director

*Mary McGown, Ph.D.
State Floodplain Coordinator
mary.mcgown@idwr.idaho.gov
208-287-4928*

*Barbara McEvoy, CFM
Floodplain Specialist
barbara.mcevoy@idwr.idaho.gov
208-287-4926*

<http://www.idwr.idaho.gov/water/flood>

Designed by Laurie Macrae

USGS Stream Gages – Benefits to Locals

USGS stream gaging stations provide information needed by local, state and federal agencies to address a host of infrastructure design, operational and regulatory issues. For example, cost-effective water purification and wastewater treatment plants, dams, levees, and bridges are based on data collected at stream gages.



Stream Gage in White Bird, Idaho

The scheduling of environmentally compliant water intake and effluent discharges, effective operation of dams and reservoirs, and planning for safe and enjoyable boating and fishing activities are greatly facilitated by real-time delivery of stream flow data. Long-term stream gages help track changes in water availability. In many locations a gage installed for one use often serves many. Typical uses of stream flow data include:

- *Developing and maintaining long-term flow records*
- *Planning, designing, operating and maintaining the nation's multipurpose water management systems*
- *Issuing flood warnings to protect lives and reduce property damage*
- *Designing highways and bridges*
- *Predicting flood flows and mapping floodplains*
- *Providing for and improving the calibration of hydrologic modeling of watersheds*
- *Improving the accuracy of the hydraulic modeling of the nation's streams*
- *Improving the accuracy of the mapping of the nation's floodplains*
- *Monitoring environmental conditions and protecting aquatic habitat*
- *Protecting water quality and regulating pollutant discharges*
- *Managing water rights and trans-boundary water issues*
- *Education and research*
- *Recreational uses*

Funding USGS Stream Gages

There are two main sources of funding for stream gages. Gages in the National Streamflow Information Program (NSIP) are funded by the USGS. Stream gages in this program are of national interest and are necessary for a core network of stream gages used to correlate and collect data for managing water rights, flood prediction, water quality, research and other national purposes. To see the location of NSIP gages, follow this link: http://water.usgs.gov/nsip/nsipmaps/id/id_nsip2.html

Under the USGS Cooperative Program, the USGS installs, operates and maintains gages where the expense of the gages is shared with state or local agencies. The costs are shared where there is local interest in the data. Typically the USGS and local cooperators split equally the cost of operating and maintaining the gage.

Why You Should Be Concerned About the USGS Stream Gaging Program

The primary concern at the present time is the discontinuation of stream gages at existing locations. Although the number of active USGS stream gages in the nation has been near 7,000 for the past 20 years, many gages with long-term records have been discontinued due to lack of funding. The gages with long-term records have been extremely valuable to local cooperators for a number of years, but funding is becoming problematic. The number of new gages almost offsets the loss of the long-term gages, but it will be many years before their data are statistically significant. By eliminating a year or more of continuous records, the statistical value of the flow data is seriously jeopardized.

Funding shortfalls and increasing operational costs at federal, state and local levels have led to the elimination of many existing gaging stations and the potential for continuing losses.

In Idaho, additional gages are operated by utility companies, the Idaho Department of Water Resources and the U.S. Army Corps of Engineers. The gages are not aggregated on one map, so to find the gage data in your area may require looking at several possible sources of information.

From, *USGS Streamgages – Benefits to Locals*, Association of State Floodplain Managers, May 2007. Madison, WI.

See the NOAA Northwest River Forecast Center for an overview of stream gages in Idaho, <http://www.nwrfc.noaa.gov/>.

Apples and Oranges – NFIP and Ordinary High Water Mark

The ordinary high water mark defines the bed of a stream and is also referred to as the active channel. It is observed as a transition zone on the stream bank between aquatic vegetation, such as sedges and cattails, and terrestrial vegetation, such as perennial grasses and woody shrubs, or the area where gravel on the stream bed meets terrestrial vegetation. In areas with steep banks, an erosion scour line usually indicates the ordinary high water mark.

The ordinary high water mark is used by the U.S. Army Corps of Engineers in defining its jurisdiction according to Section 10 of the Clean Water Act. The Stream Channel Alteration Program of the State of Idaho also uses ordinary high water mark as a jurisdictional boundary as does the Idaho Department of Lands.

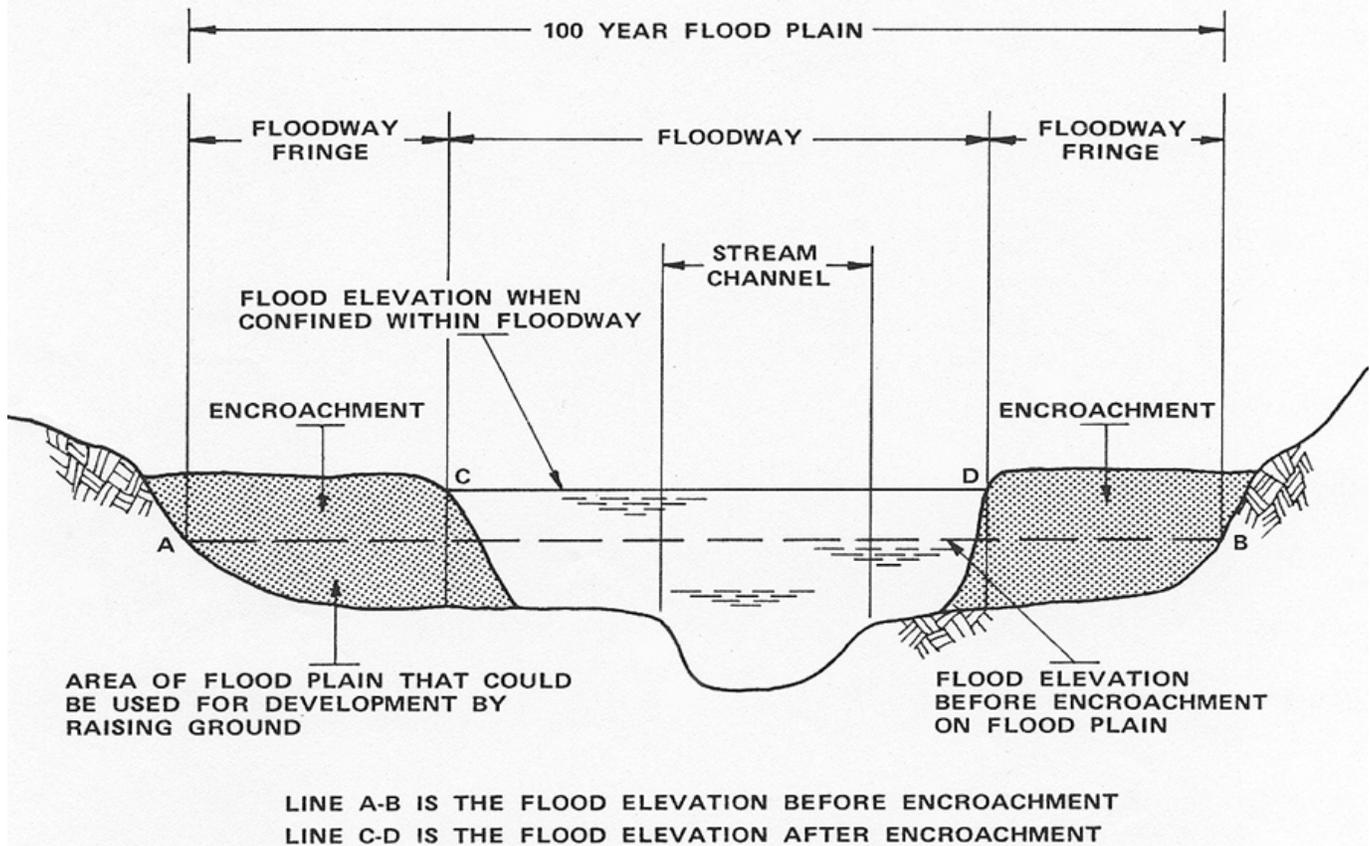
The ordinary high water mark has no meaning in the National Flood Insurance Program. The NFIP floodway relationships extend beyond the ordinary high water mark. The base flood (1% chance of occurring in any year), extends across a floodplain far beyond an ordinary high water mark. A 1% chance flood is not ordinary.

Compare the river cross sections in the two drawings. The NFIP diagram, “Floodway Relationships,” depicts the stream channel as the narrowest point of the identified river. That roughly corresponds to the area between the ordinary high water marks depicted in the Corps of Engineers Regulatory Jurisdiction diagram.

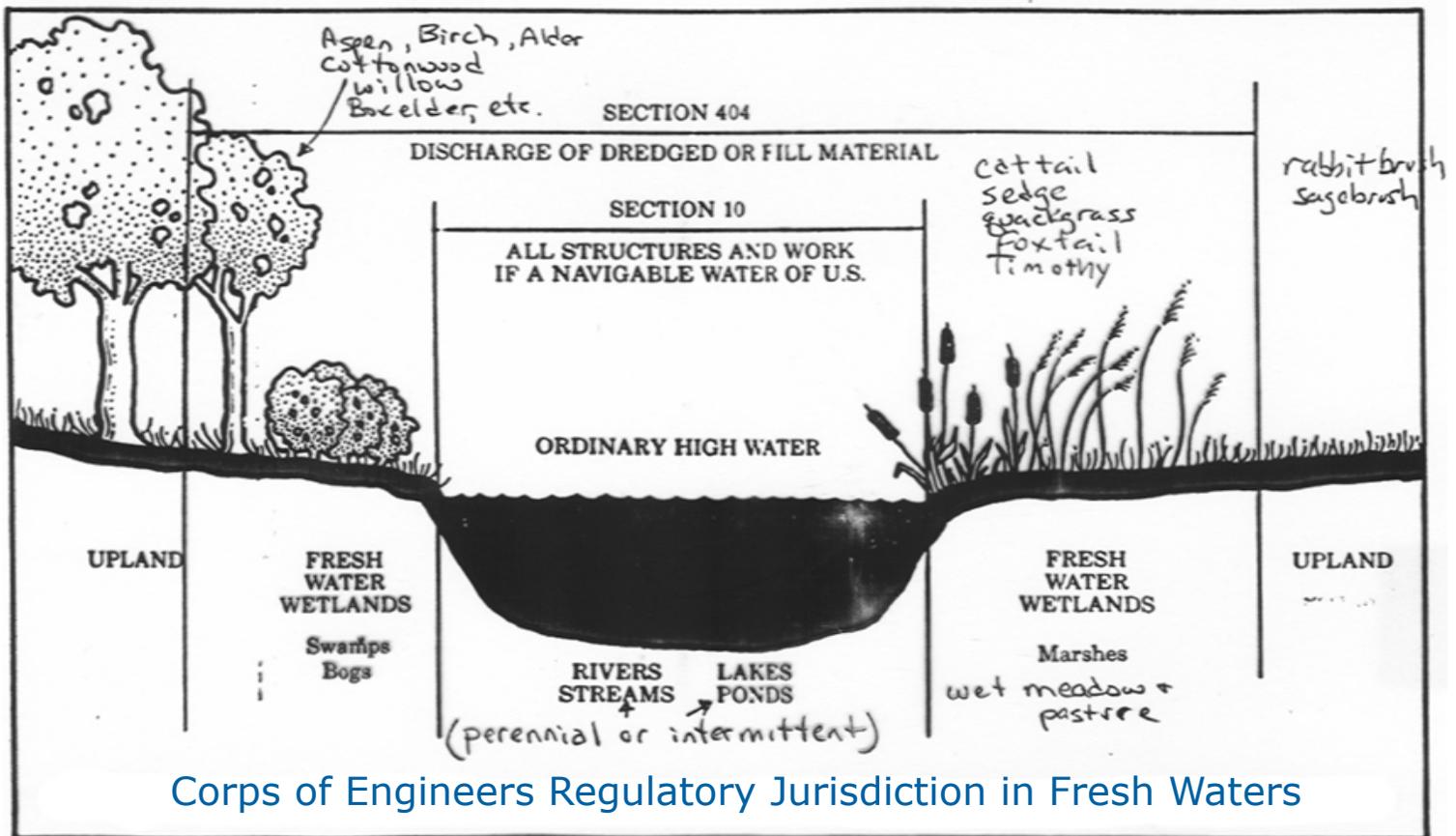
The ordinary high water mark differs from the documented high water mark discussed on page 5. A high water mark from flooding will be much higher than the ordinary high water mark and will not be as visible after a period of time.

Regulations for the NFIP do not include the term “ordinary high water mark.” A local ordinance may use the term if it establishes a line for a setback, for example, but it is meaningless in meeting the minimum requirements of the NFIP.

Floodway Relationships



This is a cross section of a river showing the terminology and relationships used in the National Flood Insurance Program



NFIP 101 Workshops 2008



More than 60 people attended the NFIP 101 workshop in Meridian in February.

Workshops across the state, when not disrupted by severe winter weather, have been well attended and highly rated. After the April workshops in northern Idaho we will distribute surveys to get your opinions and ideas on what other training opportunities you want and how the information can be delivered. Providing information to those who do floodplain management is a top task of the state coordinator's office. The survey results will help us target the limited training resources to be most helpful and effective.

Ask Johnny Floodplain, CFM

Dear Johnny Floodplain,

I've been dumping my lawn waste in the creek behind my house for years. Now some guy from FEMA says it's a bad thing to do and I have to stop. All this time I thought I was feeding fish. What's the real story?

Rip Rapp

Dear Rip:

What? You don't like your neighbor? You want his property to flood in the next heavy rain? Is your only concern that your lawn looks nice? You should know that dumping anything into a creek, river, or stream can potentially impede or change the flow of water and cause issues. Despite what you think, most putrescible material doesn't decay overnight. It has to go somewhere. It usually travels downstream until it catches on something or is deposited in a low flow area. You inadvertently could be clogging fish ladders and culverts with debris. Either way, it will modify the floodplain. If enough debris accumulates, it could dam the river and cause backups and flooding, but that's not the only problem.

Lawn debris such as grass clippings can contain pesticides, herbicides, and fertilizer. These things have several effects. Pesticides may kill insects that are providing food for fish. Herbicides kill algae and other tiny plants that are food and also oxygenate the water. Fertilizers have the opposite effect causing plant and algae blooms that make water turbid and ugly. It's the equivalent of dumping 500 plates of spaghetti in your dining room and telling you to eat your way out of the mess.

Sticks are worse. They catch on bigger sticks and logs, eventually catching smaller sticks, which catch smaller ones that can eventually form natural dams. Another effect occurs at bends in the river. Soil can erode at the fast flowing, outer part of the stream and deposit at the inner, slow moving area. This changes the shape of the land. If a stream serves as the boundary of your property, then you are either losing or gaining land, depending on your

perspective. The bottom line is, it ain't good. Water is a resource that we all share. We need to work together to protect it. Put your yard waste in an approved can for collection, or start a compost pile and use it in your garden. And if I had an organized, OPS plan that was coordinated with other outreach program, I could probably tell you who to call to help you with that.

Johnnie Floodplain is the alter ego of Nick Delmedico, a Certified Floodplain Manager with FEMA. If you have questions you'd like to see answered in a future column, e-mail to nicholas.delmedico@dhs.gov or write to Nick at FEMA Region X, 130 - 228th Street SW, Bothell, WA 98021-9796.

Linda Ryan – ISO/CRS Specialist – Idaho

Linda Ryan has been recently been reassigned the State of Idaho as part of the territory she covers for the Community Rating System (CRS) Program. Linda previously worked in Idaho in 2002 – 2003. Linda was a CRS Coordinator for Tillamook County, OR (achieving a CRS Class 6) before continuing her career with ISO. Linda covers the states of Alaska, Hawaii, Washington and most of Oregon in addition to Idaho. She has been very successful in getting new communities to join the CRS as well as helping participating communities improve their CRS Classifications. Her territory includes one Class 2 (King County, WA), one Class 3 (Pierce County, WA), one Class 4 (Skagit County, WA) and ten Class 5 communities. Linda looks forward to helping Idaho communities enjoy the benefits of the CRS Program. Linda can be contacted at:

Linda Ryan
ISO
270 Bluebird Lane
Tillamook, OR 97141
#503-842-0029
lryan@iso.com



FEMA

Best practices

Disaster Mitigation Working in Washington

High Marks for Accuracy: Tracking Flood Levels in Lewis County



Matt Hyatt and Martin Roy review maps displaying high water mark locations.



When a community is subjected to flooding, quickly marking floodwater heights becomes critically important. Capturing highly perishable flood elevation information has significant benefit for flood hazard mapping and long-term community planning. Too often, due to competing response and recovery needs, the task of collecting water height data is overlooked or delayed. When such markings are lost whether due to the passage of time, the rebuilding process or subsequent rain events, the advantages afforded by their collection are significantly reduced.

Lewis County, Washington has a long history of damaging floods originating from three major rivers (the Chehalis, Cowlitz, and Nisqually) as well as numerous tributaries, including the Newaukum and Skookumchuck Rivers.

“Past floods have really taught us a lesson,” said Martin Roy, a senior engineer and surveyor for the Lewis County Department of Public Works. “When there is a significant delay in gathering data, my crews are seriously hampered trying to find accurate high water marks, as many of them are often washed away, removed or cleaned up by the time we get there.”

On December 1st, 2007 Lewis County was again inundated by a flood of record

proportions. This time, the Chehalis River overflowed its banks and poured huge amounts of water into the streets and structures of several Lewis County communities. Water levels were recorded as high as nearly ten feet above the Chehalis’ normal flood stage in some areas.

Having learned the lesson from delays in previous floods, Martin Roy and his team did not hesitate to act.

“The flood occurred on a Monday,” said Mr. Roy. “On Tuesday afternoon, as the water was still receding, we were out marking peak water elevations.”

The procedure to capture water elevation data is initially simple. A series of points are marked throughout an impacted community. These can take the form of marks made on walls, nails driven into telephone poles, and other similar methods of indicating how high the water actually reached. At each point, a Global

“We’re serving the citizens of our community by providing them with information that will help them build their homes safer and stronger.”



Martin Roy indicates one of the high water marks made on a building in Lewis County.

Positioning Satellite (GPS) reading is taken and a description of the area and marking is noted.

“You need to blanket an area with a lot of markings,” said Mr. Roy. “You scatter them thoroughly throughout the community so that if you lose some over time, you won’t be completely out of luck.”

After durable markings are placed and catalogued, surveyors can return at a later date to determine the elevation of the high water marks using precise instruments.

Previously, high water mark collection in Lewis County was funded by matching grants provided by the Washington Department of Ecology’s Flood Control Assistance Account Program (FCAAP), resulting from a channel migration study. This year the Department of Ecology is assisting directly in the high water marks study with the contribution of equipment and personnel.

In addition to the water mark tracking in Lewis County, the Cities of Chehalis and Centralia are conducting a similar study in their communities. The combined data will result in a much more detailed and accurate understanding of the December 1st floods.

“We’re teaming up with the Cities, the State’s Department of Ecology, and the Federal Emergency Management Agency (FEMA) to complete the collection of elevations,” said Matt Hyatt, Lewis County’s Geographic Information System (GIS) Manager. “Our GIS Division is acting as the central location for collecting and distributing the maps and information that will aid in the planning effort. Once all the elevations have been surveyed by the different agencies, we’ll compile them into a single map which will demonstrate the extent and depth of the inundation area, and assist analysis by the flood engineers and specialists to better understand the exact nature of this event.”

Having such data improves the quality and accuracy of flood hazard mapping, flood insurance studies and flood risk analysis. Greater detail in high water mark tracking assists in the approval and success of grant applications, and helps with prioritization of elevation and acquisition projects.

“The more accurate the data is, the more uses it has,” said Mr. Roy. “Ultimately, the real beneficiaries of the process are the people who live here. We’re serving the citizens of our community by providing them with information that will help them build their homes safer and stronger. We’re getting them data that will help them get insurance, so they can get a mortgage.”

Understanding the risks posed by future flooding can only begin by understand-

ing flood events that have already occurred. High water mark collection assists a community in documenting damage sustained in a flood, and provides vital knowledge needed to avoid future damage to homes and businesses. More importantly, a better understanding of flood hazards may save lives.

