JULY 2015

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Hawaii Flood News

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

How Federally Subsidized Flood Insurance Can Artificially Increase the Value of Risky Homes

By Beth Daley, Senior Investigative Reporter and Senior Trainer at the New England Center for Investigative Reporting. (*Author approved republication of her original June 15, 2015 article in the Wai Halana*)

It's a central question as sea levels rise, storms become more intense, and coastal property damage skyrockets: Why do people keep rebuilding along the coast?

A recent study led by University of Massachusetts Dartmouth professor Chad McGuire tackled that question statistically. By analyzing more than 57,000 Massachusetts properties insured by the federally backed National Flood Insurance Program (NFIP), McGuire and his colleagues found that wealthy communities, on average, paid less for flood insurance than poorer communities. The findings are counter-intuitive because public policy experts expect more expensive properties to be charged more for insurance.

So I quizzed McGuire by e-mail to find out more. Here is an edited version of our Q-and-A:

Daley: What are some possible reasons for more expensive properties paying less for flood insurance?
McGuire: The history of the National Flood Insurance Program has a lot to do with it, particularly in older coastal communities like Massachusetts. Because many coastal communities had homes that existed before the NFIP program began, many of those homes have received the most generous subsidies for flood insurance. From an economic perspective, paying less for flood insurance can help increase the value of the home because the costs of insurance are artificially lowered. Since many of these homes were originally built right along the coastline, and because we tend to desire coastal properties, there is generally higher demand for these properties. All of this plays into the home being more expensive, but paying proportionately less for flood insurance.

Daley: What do lower premiums signal to an individual homeowner in harm's way?

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Wai Halana is published quarterly by the Department of Land and Natural Resources (DLNR), Engineering Division. It is supported by the Federal Emergency Management Agency (FEMA) under the Community Assistance Program. The contents of this publications is to increase awareness about the National Flood Insurance Program. The authors and publishers are solely responsible for the accuracy, and do not necessarily reflect he views of DLNR and/or FEMA.

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The current and selected past issues are also available at:
www.hawaiinfip.org

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Upcoming Events

Informational Meeting on Preliminary FEMA Flood Maps for Hawaii County

August 17– 18, 2015

The preliminary FIRM maps serve to revise and update information on the existence and severity of flood hazards in Hawaii County. The revised maps reflect the combined efforts of FEMA and Hawai'i County. The maps will be available for viewing beginning August 14th at the Hawai'i County Department of Public Works Engineering offices at either 101 Pauahi St., Suite 7 in Hilo (808 961-8327) or 74-5044 Ane Keohokalole Hwy, Building D, 1st floor of the West Hawaii Civic Center in Kona (808 323-4850). They will also be available for online viewing on the State of Hawai'i's Flood Hazard Assessment Tool (FHAT) at http://gis.hawaiinfip.org/fhat. To learn how to view the preliminary maps using the FHAT, click on the tutorial link provided on the Hawai'i NFIP Website www.hawaiinfip.org.

Residents and property owners are encouraged attend one of two Informational Public Meetings planned for August 17th and 18th. Personnel from the FEMA, the State of Hawaii's Department of Land and Natural Resources, and Hawaii County will be available to answer questions, concerns, and provide information on the mapping timeline and appeals process.

SAVE THE DATE

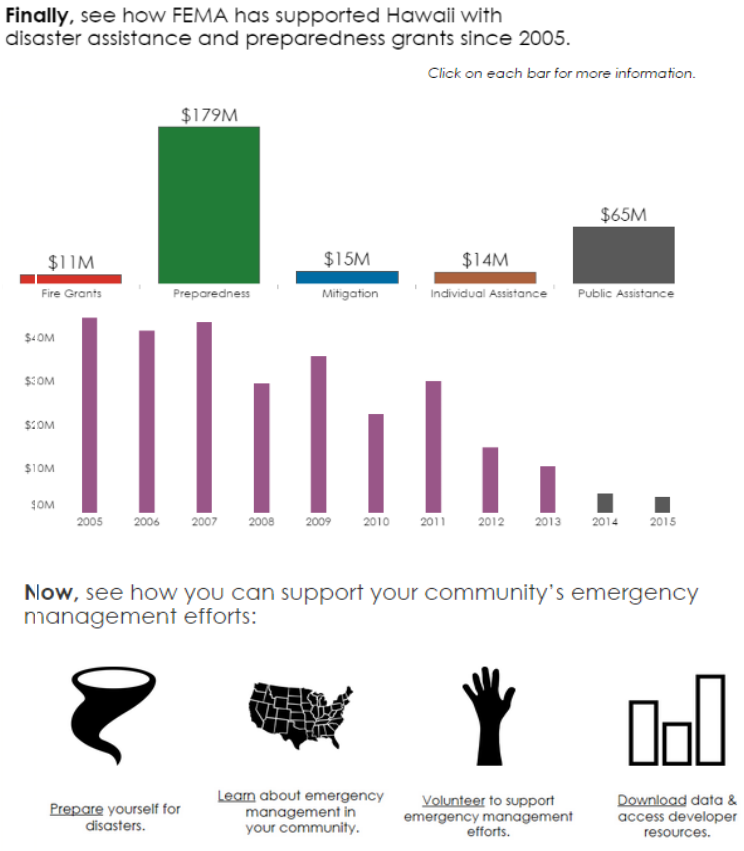
Monday, August 17, 2015
Aupuni Center (101 Pauahi Street, Hilo 96720)
Doors open 4:30 pm – 8:00 pm, presentation 6:00 pm-7:00 pm

Tuesday, August 18, 2015
West Hawaii Civic Center (75-5044 Ane Keohokalole Highway, Bldg G, Kailua Kona 96740)
Doors open 4:30 pm – 8:00 pm, presentation 6:00 pm-7:00 pm

New FEMA Data Visualization Tool Unveiled

FEMA launched a new data visualization tool June 11 that enables users to see when and where disaster declarations have occurred across the country. As hurricane season kicks off, the tool helps provide important information about the history of hurricanes and other disasters in their communities and what residents can do to prepare.

The data visualization tool is accessible at fema.gov/data-visualization and allows users to view and interact with a wide array of FEMA data. Through an interactive platform, users can view the history of disaster declarations by hazard type or year and the financial support provided to states, tribes and territories, and access public datasets for further research and analysis. On the site, you can see compelling visual representations of federal grant data as it relates to fire, preparedness, mitigation, individual assistance and public assistance.



Continued from Page 1 "*How Federally Subsidized Flood Insurance Can Artificially Increase the Value of Risky Homes*"

McGuire: Insurance premiums signal risk to the insured. If we engage in risky behaviors, like smoking or getting into car accidents, then our medical and auto insurance premiums are higher. The higher premiums tell us something about the riskiness of our actions. When government subsidizes, or artificially lowers, flood insurance premiums, there is a disconnect between the actual risk and how we perceive that risk. The effect can be people willing to engage in risky behaviors and, in some cases, invest more than they otherwise would in risky areas.

Daley: Who winds up paying for that lower risk?
McGuire: Our current system of public insurance and public disaster relief places a lot of the onus of flood risk on the taxpayer. This is certainly the case when subsidized flood insurance encourages additional coastal development and helps to maintain higher coastal home values. Also, the NFIP itself does not have the ability to pool risk since it generally applies only to flood-prone areas and it has no ability to develop a reserve in years when premiums collected exceed payouts for flood losses. Thus, for these reasons, the U.S. taxpayer is ultimately responsible no matter where they reside across the country.

Daley: What are some solutions?
McGuire: Fundamentally, insurance needs to do its job. The NFIP needs to act like a normal insurance company and work towards developing a system of pooling risk and charging premiums that reflect the actual risks of coastal living. Coastal communities have become reliant on the subsidies allowing inflated home valuations that lead to investments that might not be supported under normal market conditions. Removing subsidies will provide coastal communities a clearer signal of the actual risks posed, allowing behaviors to realign around those actual risks.

Daley: What other research are you doing in this area?
McGuire: I'm very interested in how current public policies affect human behavior, particularly how we perceive risk. I've been talking and writing about the relationship between actual and perceived risk for a few years now. But I'm also interested in how coastal communities can move forward in a world where the climate is changing in a way that includes sea level rise. A particular area of interest is the development of land-use strategies that help protect coastal ecosystem values as sea levels rise. The hard part of this work is making land use planning decisions today with a different looking future in mind. The legal and policy implications are substantial, but that just makes the work all the more interesting.

of Pre-FIRM Policies in Hawaii

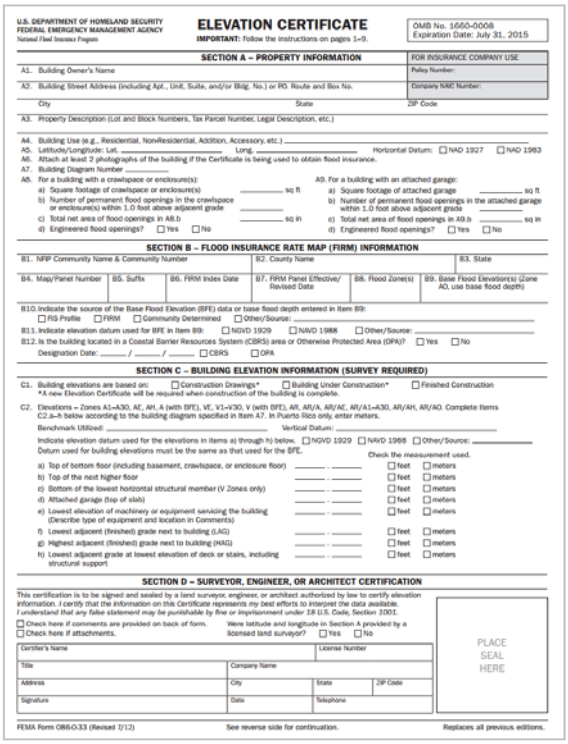
Flood Zone	Oahu	Maui	Kauai	Hawaii
A Zone Pre-FIRM Policies	10,195	4,544	978	1040
V Zone Pre-FIRM Policies	926	865	287	672
$ of Closed Paid Losses (Pre-FIRM A&V Zones)	$15,808,555	$3,564,885	$9,692,859	$12,541,325
$ of Closed Paid Losses (Pre-FIRM X Zones)	$4,729,346	$1,355,118	$13,317,917	$2,112,614

Professor McGuire's study and Beth Daly's article brings to light a similar situation we face here in Hawaii with our many coastal developments. The analogy in Professor McGuire's study of the Massachusetts community may not be entirely similar for Hawaii in that coastal properties here may be "more expensive" because of land value than building value. It's been over 22 years since Hawaii has been devastated by a catastrophic disaster (Hurricane Iniki, 1992). Our pre-FIRM (structures built before flood maps and flood development regulations were adopted) building stock remains relatively high in areas mapped in a Special Flood Hazard Area (A or V zones). Although the Homeowners Flood Insurance Affordability Act of 2014 aims to eventually bring the flood insurance premiums of these structure in line with actuarial rates, they are still eligible for subsidized rates. The table* above is a summary of pre-FIRM policies Statewide and the number of paid losses in Special Flood Hazard Areas and Non-Special Flood Hazard Areas (X zones). Keep in mind this does not account for the actual number of structures that are in a Special Flood Hazard Area, it's just the number of property owners that are carrying a flood policy.

~ Thoughts from the Editor

Source: *CIS data as of 2/28/15

FEMA Elevation Certificate Set to Expire July 31, 2015



U.S. DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY
National Flood Insurance Program

ELEVATION CERTIFICATE
IMPORTANT: Follow the instructions on pages 1–9.

OMB No. 1660-0008
Expiration Date: July 31, 2015

SECTION A – PROPERTY INFORMATION | FOR INSURANCE COMPANY USE

A1. Building Owner's Name | Policy Number:

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. | Company NAIC Number:

City | State | ZIP Code

A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.)

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.)
A5. Latitude/Longitude: Lat. Long. Horizontal Datum: ☐ NAD 1927 ☐ NAD 1983
A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.
A7. Building Diagram Number
A8. For a building with a crawlspace or enclosure(s):
a) Square footage of crawlspace or enclosure(s) sq ft
b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade
c) Total net area of flood openings in A8.b sq in
d) Engineered flood openings? ☐ Yes ☐ No
A9. For a building with an attached garage:
a) Square footage of attached garage sq ft
b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade
c) Total net area of flood openings in A9.b sq in
d) Engineered flood openings? ☐ Yes ☐ No

SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. NFIP Community Name & Community Number | B2. County Name | B3. State

B4. Map/Panel Number | B5. Suffix | B6. FIRM Index Date | B7. FIRM Panel Effective/ Revised Date | B8. Flood Zone(s) | B9. Base Flood Elevation(s) (Zone AO, use base flood depth)

B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9:
☐ FIS Profile ☐ FIRM ☐ Community Determined ☐ Other/Source:
B11. Indicate elevation datum used for BFE in Item B9: ☐ NGVD 1929 ☐ NAVD 1988 ☐ Other/Source:
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? ☐ Yes ☐ No
Designation Date: / / ☐ CBRS ☐ OPA

SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: ☐ Construction Drawings* ☐ Building Under Construction* ☐ Finished Construction
*A new Elevation Certificate will be required when construction of the building is complete.
C2. Elevations – Zones A1–A30, AE, AH, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO. Complete Items C2.a–h below according to the building diagram specified in Item A7. In Puerto Rico only, enter meters.
Benchmark Utilized: Vertical Datum:
Indicate elevation datum used for the elevations in items a) through h) below. ☐ NGVD 1929 ☐ NAVD 1988 ☐ Other/Source:
Datum used for building elevations must be the same as that used for the BFE. Check the measurement used.
a) Top of bottom floor (including basement, crawlspace, or enclosure floor) ☐ feet ☐ meters
b) Top of the next higher floor ☐ feet ☐ meters
c) Bottom of the lowest horizontal structural member (V Zones only) ☐ feet ☐ meters
d) Attached garage (top of slab) ☐ feet ☐ meters
e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) ☐ feet ☐ meters
f) Lowest adjacent (finished) grade next to building (LAG) ☐ feet ☐ meters
g) Highest adjacent (finished) grade next to building (HAG) ☐ feet ☐ meters
h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support ☐ feet ☐ meters

SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information. *I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.*
☐ Check here if comments are provided on back of form. ☐ Check here if attachments.
Were latitude and longitude in Section A provided by a licensed land surveyor? ☐ Yes ☐ No
Certifier's Name | License Number
Title | Company Name
Address | City | State | ZIP Code
Signature | Date | Telephone
PLACE SEAL HERE

FEMA Form 086-0-33 (Revised 7/12) See reverse side for continuation. Replaces all previous editions.

FEMA's Elevation Certificate form is set to expire on July 31, 2015, and revisions are being considered.

Pending approval by the Office of Management and Budget, two revisions to the current EC have been proposed:

1) addition of a new building diagram (2B) that will show a true basement with access to the outside via a subgrade door and steps up to the ground level, and

2) a checkbox to indicate if a property is in a LiMWA area (Limit of Moderate Wave Action) with instruction to provide related information (if any) in the comment section

The new DHS standards may also impact the look of the form. There is typically a 12-month "phase in" period during which both the old and new forms can be used. Elevations certified after the last day of the transition period must use the new form. When the new form is approved and released, it will be available on FEMA's website (www.fema.gov) and on the Hawaii NFIP website (www.hawaiinfip.org), as well as integrated into the Hawaii Flood Hazard Assessment Tool's Elevation Certificate Initiation Tool.

Floodplain Manager's Notebook

By Rebecca Quinn, CFM

Nearly 30 states, the District of Columbia, and all US territories adopt building codes at the state level and mandate local enforcement. Thousands of communities in other states voluntarily adopt building codes. FEMA estimates nearly 70 percent of communities in the NFIP enforce building codes (that's about 15,400 of the slightly more than 22,000 participating communities). Almost without exception, codes that govern the design and construction of buildings are based on the International Codes® (I-Codes). FEMA deems the flood provisions of the 2015, 2012, and 2009 editions of the I-Codes meet or exceed the minimum requirements of the NFIP for buildings and structures.

In many communities the floodplain administrator is also the building official, but in many others, the two positions are held by different people, sometimes in different departments. I-Codes have included flood provisions for more than a decade. It's past time for floodplain and building professionals to come together to do what FEMA calls "coordinating." There are several benefits to relying on building codes to meet NFIP requirements, laid out in detail in Chapter 2 of the latest edition of *Reducing Flood Losses Through the International Codes: Coordinating Building Codes and Floodplain Management Regulations* and summarized at the end of this column.

The description of the importance of this coordination is prefaced with what is, in my opinion, an understatement: "As a rule, having multiple regulatory instruments govern the same thing can be problematic." Two reasons are given: wording differences may be interpreted to be meaningful and there are differences in requirements. The I-Codes have several provisions that exceed the NFIP minimums and many that are more detailed than NFIP regulations. Importantly, Chapter 3 of Reducing Flood Losses lays out the differences in considerable detail.

Perhaps the most important reason to "coordinate" isn't explicitly addressed in that publication: liability. I understand each state may have differences in how professional responsibility is set forth in statute or regulation, and every state probably has case law bearing on liability for enforcement of building codes and local regulations. But let's lay aside those possible differences and consider liability in a broader sense.

I've met many local floodplain managers who were unaware their mandated building codes include flood provisions (to be fair, I've met plenty of building officials in the same boat!). My guess is they've been handling applications to build in flood hazard areas the way they always have – applying locally adopted regulations. Of course,

Continued on Page 6

‘Extreme’ Tsunami Map Places 330,000 More in Danger Zones

Honolulu Star Advertiser (July 24,2015) By Marcel Honoré

City emergency officials joined Honolulu Mayor Kirk Caldwell on Thursday to unveil broadened tsunami evacuation maps for the island, which now include large inland swaths of Oahu vulnerable to rare, extremely strong tsunamis.

The officials also debuted a new downloadable disaster-preparedness mobile app customized for the island.

The new so-called “extreme tsunami evacuation zones” typically lie farther inland, according to new maps provided by the city Department of Emergency Management.

If an especially strong earthquake threatens Oahu with a tsunami, people in these extreme zones, which are shaded in yellow on official maps, would be alerted to evacuate along with those in the regular zones closer to the ocean.

That would likely involve a magnitude-9 earthquake or stronger, striking at a shallow-enough depth, said DEM Deputy Director Peter Hirai.

Some 90,000 people live in the regular evacuation zones, while another 330,000 people live in the extreme zones, he added. The University of Hawaii at Manoa’s Tsunami Inundation Mapping project helped put the new models together, according to a DEM flier.

The updated maps have been posted at the department’s webpage, at honolulu.gov/dem.html

The app, dubbed “ReadyHawaii,” allows families to put together a disaster plan, arrange a shared meeting place, get local emergency contacts and peruse maps to find shelters, along with tsunami evacuation zones and “refuge areas” that have been deemed safe to get to in such an event.

The app’s maps don’t yet include the extreme evacuation zones, but they’re expected to be added in the next couple of weeks or so, DEM officials said.

ReadyHawaii is free to download. It’s an information resource designed to help Oahu residents and families plan in advance, but not as an alert service during a real-time disaster. For such alerts, residents can set up a free account at Nixle.com

At Thursday’s briefing, officials with the Pacific Tsunami Warning Center said Hawaii remains especially vulnerable to tsunamis generated by any large quakes in the Aleutian Islands.

“There a larger fraction of the energy comes right at us,” said Gerard Fryer, a senior geophysicist with the warning center. Aleutian-based earthquakes in the high 8.0-magnitude range could cause flooding in Oahu’s newly designated extreme tsunami zones, Fryer said.

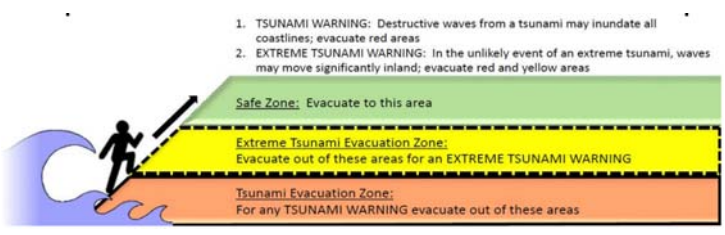
The 1946 tsunami, which killed 159 people in Hawaii, was generated by a magnitude-8.1 quake in the Aleutians.

If the quake centers in other regions, it would likely have to be at least 9.0 in magnitude for a tsunami to reach Oahu’s extreme regions, he added.

“We’re still working out these things, running the models,” Fryer said.

Pacific Tsunami Warning Center officials would need about 25 minutes to decide whether a tsunami triggers an “extreme” designation — but if the quake was in the Aleutians, that would still leave them about four hours to evacuate people before such a tsunami would hit Hawaii, Fryer said.

“The isolation of Hawaii saves us in this event,” he said. There’s nothing that indicates that the islands are overdue for such an extreme tsunami, Fryer added.



Continued from Page 4, Floodplain Manager's Notebook

unless an owner has a knowledgeable design engineer or architect, that could mean some buildings don't comply with the building code. By itself, that might expose the building official – or the community – to some liability.

Let's consider a scenario that happens to be based on a real situation, although I won't identify the community or the state. Consider "Shoreville," a community with floodplain management regulations that require buildings to meet the NFIP minimum elevation requirements (i.e., no freeboard). Shoreville is also required to enforce the state building codes.

Not long ago Shoreville's building department issued multiple permits for large buildings in the special flood hazard area and all were constructed with the lowest floors at the BFE. Unfortunately, the code that governs buildings other than 1- and 2-family dwellings (i.e., the International Building Code) refers to ASCE 24 for elevation requirements. And those elevations are higher than what's called for in the city's regulations.

If you haven't already checked out ASCE 24, you may not know its minimum elevation requirement is BFE plus 1 foot (and even more freeboard depending on the importance of the building). FEMA posts Highlights of ASCE 24 (in the 2005 and 2014 editions) on the Building Code Resources webpage.

So, Shoreville has differences between two regulatory instruments and, as illustrated in FEMA's documents comparing NFIP and I-Codes, some of those differences are meaningful. Thus, designers, buildings and owners who meet local flood rules by placing the lowest floor of a commercial building at the BFE violate the building code. In my opinion, the building official shares some responsibility.

I'm not sure how the situation came to light, but an investigative body found misconduct on the part of Shoreville's structural plans reviewer and the building official for wrongly approving permits that didn't meet the flood zone requirements in the state building code. One was quoted saying he'd not been aware of the building code requirements. Neither is still employed with Shoreville and the findings were referred to the state's professional licensing board.

A good question might be why would an owner get upset if the community didn't require BFE plus 1 foot, which, after all, costs at least marginally more than building at the BFE? My guess is the owners of the buildings in Shoreville raised the issue because they were just as concerned (if not more so) with not qualifying for lower flood insurance premiums due to that "plus one foot" as they were with not complying with the code.

The lessons? Clearly one lesson is local officials should pay attention to the specifics of their requirements. But the bigger takeaway is simple. I encourage NFIP state coordinators to read Reducing Flood Losses, look at their state model ordinances, and work through the Chapter 4 questions related to coordinating ICodes and floodplain management regulations. Local officials can do the same, especially in those states that don't mandate enforcement of building codes. As more communities start paying attention to the benefits of relying on the flood provisions in building codes, there will likely be a growing demand for code-coordinated model ordinances – FEMA's model ordinance is a good place to start. In conjunction with the Florida State Floodplain Management Office, I helped develop such a model in 2013. More than half of Florida's 468 NFIP communities have adopted it and the rest are expected to do so in the next two years.

Model Code-Coordinated Ordinances. Reducing Flood Losses links to three versions of a code-coordinated model ordinance prepared by FEMA.

Before adopting ordinances based on these models, States Coordinators should ask for FEMA assistance, and communities should ask for state assistance.

Continued on Page 8

FLOOD MAPS Updates

Are you currently doing work in the Counties listed here? If so, please take note that FEMA has approved the following Letter of Map Changes (LOMCs) to the flood hazard information shown on the effective Flood Insurance Rate Maps.

City and County of Honolulu

Type: LOMA
FIRM Panel 0270J
Revision Date: June 5, 2015
FEMA Case Number: 15-09-1218A
Flooding Source: Keaahala Stream

On-line readers can view LOMC **here**

Type: LOMR-FW
FIRM Panel 0352F
Revision Date: May 22, 2015
FEMA Case Number: 15-09-1320A
Flooding Source: Kalihi Stream

On-line readers can view LOMC **here**

Type: LOMR-F
FIRM Panel 0366F
Revision Date: June 26, 2015
FEMA Case Number: 15-09-1983A
Flooding Source: Ala Wai Canal

On-line readers can view LOMC **here**

Living with Levees: A Shared Responsibility Information for Property Owners

What is a Levee?

A levee is a manmade structure, such as an earthen embankment, that helps contain or control the flow of water during a flood. Many levees were first built by farmers to protect agricultural areas from frequent flooding – some of these date back more than 150 years. These same levees are now in place in residential areas, where they do not provide as much protection as residents would like to believe. Other levees were designed to help reduce risk to urban areas, but only from a certain size of flooding event. It is important to remember that any levee can be overtopped by large floods, and that levees require regular maintenance to retain their level of protection.

Levees Do Not Eliminate Risk

Levees reduce risk during certain flood events. They do not provide complete protection from flooding. They can and do deteriorate over time and must be maintained to retain their effectiveness. When levees fail, or are overtopped, the results can be catastrophic. In fact, the flood damage can be greater than if the levee had not been built. Even without a major flood, levees can fail if they are not properly maintained. Improper drainage, erosion, seepage, subsidence, and even earthquakes can all lead levees to fail and result in catastrophic flooding. As a property owner living or working near a levee, it is important for you to understand the risks associated with levees and the steps you can take to prepare for potential floods and help provide financial protection.

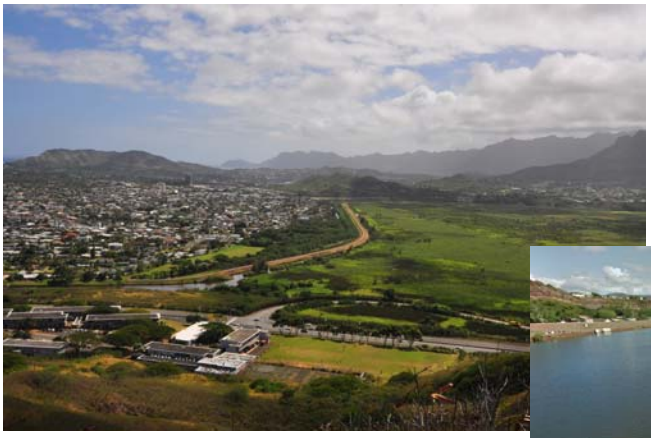
Take an Active Role in Flood Protection

You can take steps to protect your property, and more importantly, your life and the lives of your family members in the event of a flood. It is important to take action now, to be aware of your risk, and to be prepared should flooding occur. Here are some tips:

- Be aware of any levees in your area. Check with your local government officials to find out if you live in an area near a levee. You should also ask about the condition of the levee. Has it been recently inspected? How large a flood is it intended to protect against? What areas are likely to flood if the levee fails or is overtopped?

- Understand your flood risk. Find out where your home is in relation to any levees, and whether or not you are in a mapped floodplain.

- Prepare for the worst. Make sure you have an emergency plan for your family, and be aware of local evacuation procedures. Protect yourself financially by purchasing flood insurance. Most homeowner insurance policies do not cover damage from flooding.



Kawainui Marsh Levee, Oahu

Hanapepe Levee, Kauai

Waimea Levee, Kauai

Dept of Land & Natural Resources
Engineering Division
P.O. Box 373
Honolulu, HI 96809

Continued from Page 6, Floodplain Manager's Notebook

See Chapter 2 of Reducing Flood Losses to read the advantages of relying on building codes to govern the design and construction of buildings in SFHAs, among them:

- *Fewer conflicts (or no conflicts) between two sets of regulations – eliminating burdens on owners, engineers, architects, builders, and local officials who no longer need to identify and resolved differences;*
- *All hazard-related building requirements are in one place, making it easier on designers;*
- *Improved construction quality;*
- *Codes have some "higher standards" and some more specific provisions than the NFIP;*
- *Strengthened enforcement, because enforcement procedures and authority are established in building codes;*
- *Effective, routine inspections, because building departments conduct multiple inspections at different times during construction; and*
- *Improved compliance with requirements for existing buildings.*

Source: ASFPM Insider, May 2015

Hawaii County Floodplain Manager

After serving many years as Hawaii County's Floodplain Manager, Mr. Frank DeMarco has earned his well deserved retirement . Much Mahalo for all your hard work !!

Please UPDATE your contact info: Hawaii County's Acting Floodplain Manager is Mr. Carter Romero, CFM.

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(808) 961-8943

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Honolulu, Kauai, Maui County Floodplain Managers