**Department of Land and Natural Resources Engineering Division** 

#### April 2011

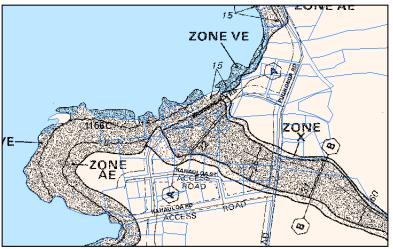
### **Rebuilding after the Tsunami**

awaii Flood

The arrival of the March 11th tsunami in Hawaii came almost 65 years after Hawaii's most destructive tsunami crashed upon our shores and killed 159 people on April 1, 1946. Estimates of damage in Hawaii from the tsunami that was spawned after a 9.0 earthquake rocked Japan exceeded \$25 million dollars. The destructive tsunami was felt across the State, but the west side of the Big Island from Kapulehu to Napo'opo'o suffered the most damage.

On April 8, 2011, President Obama declared a Major Disaster for Hawaii (DR-1967) from last month's tsunami. The Declaration will make available Federal aid to help the State and local government repair public infrastructure.

For the damages suffered by private property owners, the rebuilding process may result in new and substantially damaged structures having to comply with local floodplain management regulations. For example, homes destroyed by the tsunami along Manini Beach Road in South Kona will likely have to elevate new structures when they are rebuilt. Local building officials will have to review building permit applications and determine if the substantially damaged structures are in a high hazard flood zone (A or V zones) based on FEMA's Flood Insurance Rate Map (FIRM). The FIRMs provide Base Flood Elevations (BFE) in areas that are designated as an AE or VE zone. The BFE is the computed water surface elevation anticipated during the base flood (a.k.a 100-year event). The BFE is the regulatory requirement for the elevation or flood-



Excerpt of FIRM in the vicinity of Kealakekua Bay

proofing of new, substantially improved, and substantially damaged structures.

Continued on Page 2



Rebuilding After the Tsunami



Thoughts from the Editor: "What do you mean I'm not eligible?"

NFIP October 1, 2011, Rate and Rule Changes: A Summary FEMA Administrator Agrees to Cochran & Wicker Request to End "WITHOUT LEVEE" ANALYSIS IN NEW FLOOD MAPS



FEMA's New Approach to Levees, Frequently Asked Questions

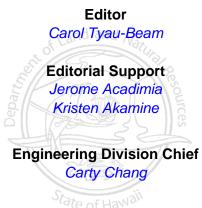
### Featured Articles ...



Upcoming Changes to FEMA's Regulatory Flood Products



NFIP October 1, 2011, Rate and Rule Changes: A Summary (continued) 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 under the Community Assistance Program. The contents of this publication is to increase awareness about the National Flood Insurance Program. The authors and publisher are solely responsible for the accuracy, and do not necessarily reflect the views of the DLNR or FEMA.



The current and selected past issues are also available at:

#### www.hawaiinfip.org

We welcome your comments and suggestions, as well as, newsworthy articles. Your submissions may be sent to the Department of Land and Natural Resources, Engineering Division, P.O. Box 373, Honolulu, Hawaii 96809.

If you'd like to receive Wai Halana via email or wish to be removed from our mailing list, contact Jerome Acadimia at (808) 587-0254.



#### Continued from Page 1: Rebuilding After the Tsunami

Older homes that were built before local communities entered the National Flood Insurance Program (NFIP), did not have FIRM maps and floodplain management regulations in place that required homes to be elevated to a specified height. Therefore, a lot of the older homes built before the 1980s, along the coast or riverine areas, were



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Before Tsunami



built on a slab-on-grade foundation or constructed slightly elevated on a post and pier construction. Today, new residential construction in identified high hazard flood zones, based on FEMA's FIRMs, must be elevated. The intent is to allow the base flood to pass beneath the lowest floor in an effort to protect the main structure from being destroyed or in the case of the house pictured to the left, swept away by a tsunami wave. Local floodplain management regulations also restrict the use of the area below the lowest floor to: parking, building access, and limited storage. These regulations are not

always popular, but they are in place for a very important reason: The protection of life and property.

In addition to the regulatory requirements of the NFIP, there is also a flood insurance component. New and substantially improved structures not built in compliance of the floodplain management regulations can expect to pay significantly higher flood insurance premiums.



After Tsunami

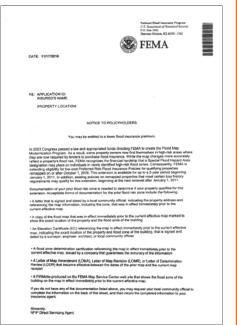


# What do you mean I'm not eligible ??

Around November of last year, I began to receíve calls from ínsurance agents and property owners regarding a letter that they received, which was titled "NOTICE TO POLICY-HOLDERS - You may be entitled to a lower flood insurance premium". The timing of this letter and when these letter began to surface, coincided with impending map changes for the City and County of Honolulu that took effect on January 19, 2011.

This letter has caused a great deal of confusion and frustration because property owners were under the impression that if they provide one of six forms of documentation listed in the letter, they could be eligible for a low cost Preferred Risk flood Insurance Policy (a.k.a. PRP Policy). Before I explain why all the hubbub, I need to explain how FEMA's grandfathering provision works.

As summarized in a FEMA Fact Sheet, "..... Being mapped into a higher risk zone or a change in the Base Flood Elevation (BFE) can result in an increase in flood insurance premium. It is important that property owners understand their options following changes to their community's Flood Insurance Rate Maps (FIRMs). To recognize property owners who owned a policy before the maps became effective, or who built to the correct standards relative to the flood map in



effect at the time of construction, the National Flood Insurance Program (NFIP) has "Grandfather" rules to allow these property owners to benefit in the flood insurance rating of their building. This rating results in a cost savings to policy holders compared to a potential higher premium rate that results from a map revision."

So back to the hubbub ... Well it turns out, in most cases the folks receiving this letter did not qualify for the PRP Policy because they are already located in a high risk flood zone ... and they have a flood insurance policy because they are required by their lender as a condition of their mortgage. The grandfathering provision for the PRP Policy is most beneficial for property owners who DON'T currently have a flood insurance policy and is going to be remapped from a low-to-moderate risk zone (X zones) to a high hazard zone (A and  $\vee$  zones). So before you get your hopes up on reducing your flood insurance premiums, check to see what flood zone you were in prior to the January 19, 2011 map change. This can be done by either viewing the historical flood maps at FEMA's Map Service Center (www.msc.fema.gov) or the Hawaii Flood Hazard Assessment Tool (http::/ gís.hawaíínfíp.org/fhat).



### NFIP October 1, 2011, Rate and Rule Changes: A Summary

### **Premium Increases**

Premiums will increase an average of 4% for policies written or renewed on or after October 1, 2011. The average premium change by zone varies as described below. The premium for a particular policy may change more or less than the average change.

### V Zones (coastal high-velocity zones)

Rate increases are being implemented again this year as a result of the Heinz Center's Erosion Zone Study, which clearly indicates that current rates significantly underestimate the increasing hazard from steadily eroding coastlines.

- Post-FIRM V Zones: Premiums will increase 4%.
- Pre-FIRM V Zones: Premiums will increase 7%.

#### **A Zones** (non-velocity zones, which are primarily riverine zones)

Post-FIRM A1-A30 and AE Zones: Premiums will increase 5%.

- Pre-FIRM AE Zones: Premiums will increase 5% to slightly decrease the amount of subsidy in our Pre-FIRM rate.
- AO, AH, AOB and AHB Zones (shallow flooding zones): Premiums will increase less than 1%.
- Unnumbered A Zones (remote A Zones where elevations have not been determined): Premiums will increase 6%. - A99 Zones (approved flood mitigation projects, e.g., levees still in the course of construction) and AR Zones: Premiums will increase 5%.

### FEMA ADMINISTRATOR AGREES TO COCHRAN & WICKER REQUEST TO END "WITHOUT LEVEE" ANALYSIS IN NEW FLOOD MAPS

WASHINGTON, D.C. – U.S. Senators Thad Cochran (R-Miss.) and Roger Wicker (R-Miss.) today praised the Federal Emergency Management Agency (FEMA) decision to end its current policy of disregarding some levees and flood control structures in the process of updating Flood Insurance Rate Maps (FIRMs).

FEMA Administrator Craig Fugate today informed the Senators that he has directed his agency to discontinue the practice of using "without levee" modeling in the FIRM modernization process. Early last month, Cochran, Wicker, and U.S. Senators Dick Durbin (D-III.) and Mark Pryor (D-Ark.) spearheaded a letter to Fugate that was signed by 27 Senators—14 Republicans and 13 Democrats in all—asking that "without levee" modeling be terminated because it completely wiped some flood control structures off the map instead of more precisely determining their effectiveness.

"I appreciate Administrator Fugate's common sense decision to use modeling methods that more accurately reflect existing flood protection around the country. Recent heavy rains in Mississippi remind us that flood risks are real and that the flood map modernization process is a necessary part of protecting ourselves. Those at risk should purchase flood insurance," **Cochran** said. "This is just the beginning of our effort to find more practical solutions that protect communities and jobs as Congress considers a broad reauthorization of the National Flood Insurance Program."

"I am glad that FEMA was willing to work with us and take another look at the methodology so all communities receive fair treatment in determining their flood zone status," said **Wicker**. "It makes sense to take existing flood control structures into account. This should be a significant help to residents in areas that faced higher insurance rates."

In correspondence delivered to Senators today, Fugate announced that he has directed FEMA staff to end the use of the "without levee" standard, agreeing with the Senators that his agency has the technical ability to affordably and efficiently produce more accurate flood maps.

"In order to increase the credibility of our Flood Insurance Rate Maps in areas where levees are not accredited, I have directed my staff to replace the 'without levee" modeling approach with a suite of methodologies that are technically-sound, credible and cost-effective," **Fugate** wrote. "The approach will better meet the needs of our citizens while providing more precise results that better reflect the flood risk in areas impacted by levees."

Fugate also indicated that FEMA "will temporarily withhold issuing final determinations for those communities whose levees do not meet accreditation requirements and would clearly benefit from this new approach."

FEMA indicated that mapping will be delayed by a matter of months in these situations as it determines the methodologies and policies it will have to put in place to replace the "without levee" approach. As it moves forward in making these determinations, FEMA has said it would engage the public to ensure the new approach is suitable for those affected.

The FEMA Administrator's decision addresses the concerns raised by the Senators, who argued that discounting the existence of uncertified levees and flood control structures ignored actual flood protection and could require property owners in those areas to purchase National Flood Insurance Program policies unnecessarily.

If FEMA determines an area has a 1 percent annual chance of flood, property owners in that area are required to purchase National Flood Insurance Program coverage to protect against such hazards if their mortgage is backed by the federal government. Communities across the country have complained that FEMA and the Army Corps of Engineers have disregarded locally-funded flood control projects and repairs that may provide some level of actual protection in the development of the new flood maps.

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Cochran, Durbin, Pryor and Wicker have joined forces to continue to seek out bipartisan, responsible and cost-effective solutions to the challenges facing communities protected by flood control infrastructure.

### FEMA's Approach to Levees Frequently Asked Questions ....

### Q: Why is FEMA changing the way it maps levees?

A: The "without levee" approach is an effective tool to identify flood risk behind uncertified levees. FEMA recognizes, however, that advances can enable FEMA to use improved models and tools to provide more precise flood risk information, and we are committed to updating our mapping methodology. FEMA also is engaged in a systematic effort to reform the National Flood Insurance Program (NFIP), and we view a change in the manner in which we map levees that do not meet the criteria for accreditation as a step toward a long-term solution.

## **Q: What is FEMA doing to improve its analysis of levees?**

A: FEMA is developing a series of targeted modeling approaches to replace the current "without levee" approach.

### Q: Are FEMA and the U.S. Army Corps of Engineers (USACE) aligned in this effort?

A: FEMA and USACE have been and will continue to work as a team to develop the new approach.

#### Q: Will the public be involved?

A: Yes. FEMA will invite the public to review and comment on the new approach and subsequent guidance.

#### Q: What about maps already in effect?

A: The new approach will be applied to ongoing and future mapping projects. If a community has questions about existing Flood Insurance Rate Maps (FIRMs), it should coordinate with the appropriate FEMA Regional representative to discuss future map updates.

## Q: Will the new approach result in smaller Special Flood Hazard Areas (SFHAs)?

A: Not always. SFHAs may decrease, increase or stay the same size as a result of the new approach. The current approach may have overestimated or underestimated flood hazards to some extent. In some scenarios, the anticipated flood risk may be greater than previously identified using our current approach.

#### Q: Will this new approach impact insurance rates?

A: The rate will be based on the flood hazard identified through the new approach and other factors involved with the particular structure being rated, but the method for rating is not changing.

#### Q: Will FEMA consider levees with less than a 100year level of protection?

A: Yes. FEMA is analyzing more precise ways to model flood risk behind levees that are not currently accredited to provide protection against a 1-percentannual-chance flood (100-year flood). As FEMA continues work on NFIP reform, we will investigate ways to more accurately rate policies in areas behind levees with less than 1-percent-annual-chance flood protection.

## Q: Why can't FEMA rate these types of insurance policies today?

A: Rating policies in areas behind levees with less than 1-percent-annual-chance flood protection may require new or modified flood risk zones that do not exist today. This and other considerations may require regulatory and legislative changes.

### Q: How soon will the new approaches be developed and in place?

A: A date is not yet set for implementation, but FEMA is working to implement a new approach as soon as possible.

#### Q: Is the new approach going to be applied to every new mapping activity with unaccredited levees, or do communities need to request it?

A: It will be applied to all new and ongoing mapping activities.

## Q: Will my community and/or levee owner still be required to provide FEMA data?

A: Yes. The data requirements for levee accreditation in 44 C.F.R. Section 65.10 will not change, and more precise modeling likely will require more levee data. Communities and/or levee owners still will need to provide data on their levees to enable FEMA to accurately assess the flood risk.

#### Q: If a community does not agree with the FEMA analysis used in its flood risk study, can it provide FEMA with additional or more detailed information? A: Yes. As with any study performed by FEMA, local communities can provide additional information for consideration.

## Q: Can a community still appeal the findings on the FIRM?

A: Yes. The administrative process currently in effect for flood hazard maps will remain unchanged. There will be an administrative appeal period following issuance of the preliminary FIRM during which a community can provide additional scientific and technical data.

## **Q:** How will the new approach impact the cost of FEMA's flood studies?

A: We are anticipating additional costs for a deeper level of analysis. FEMA will evaluate the cost of applying additional analyses against the value added for a particular study or community based on the risk present in that area. Where there are high levels of risk, additional analysis may be appropriate.

### **Q: Will FEMA help pay for certification of levees?**

A: No. FEMA's authority and mission are in the identification of risk and not in the assessment of the design, construction and maintenance of levees.

# **Q: Will FEMA finalize maps for communities using the "without levee" analysis?**

A: No. FEMA will delay finalizing maps for communities where a levee cannot be accredited until the new approach is finalized.



### **Flood Insurance Rate 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 to the flood hazard information shown on the effective Flood Insurance Rate Maps.

### Maui County

Type: LOMA FIRM Panel 0588E Effective Date of the Revision: February 1, 2011 FEMA Case Number: 11-09-0481A Flooding Source: Sheet Flow

On-line readers can view LOMC here

Type: LOMR-VZ FIRM Panel 0678E Effective Date of the Revision: February 24, 2011 FEMA Case Number: 11-09-1673A Flooding Source: Pacific Ocean

On-line readers can view LOMC here

Type: LOMR FIRM Panel 0381E / 0383E Effective Date of the Revision: February 24, 2011 FEMA Case Number: 10-09-3595P Flooding Source: Kope Gulch

On-line readers can view LOMC here

### **FEMA Map Information eXchange** Introduces New Live Chat Service



Chat With Us The FEMA Map Information eXchange (FMIX) is pleased to an-

nounce a new service called Live Chat. Live Chat provides the opportunity to interact with Map Specialists in real-time via an online portal. Map Specialists can provide assistance on a variety of topics including Letters of Map Changes (LOMCs), Elevation Certificates and the release of new flood maps.

Map Specialists are available for online chat Monday through Friday, from 9 a.m. to 11 a.m. and 3 p.m. to 5 p.m. Eastern Time. To use Live Chat, visit the FMIX Web site at https://www.floodmaps.fema.gov/fhm/ fmx main.html. You can also reach the FMIX by telephone at 1-877-FEMA MAP (1-877-336-2627) or by e -mail at FEMAMapS-pecialist@riskmapcds.com.

### Upcoming Changes to FEMA's **Regulatory Flood Products**

Written by: Scott McAfee, CFM, GISP (FEMA)

### OVERVIEW:

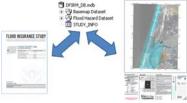
FEMA's regulatory flood products include the Flood Insurance Rate Map (FIRM), the Flood Insurance Study (FIS), and the FIRM Database. Changes will be optional for maps started in FY 2010 and required for those started in FY 2011 and beyond. FEMA's goals in updating these products under Risk MAP were to:

- 1. Have the database be the source of all other products;
- 2. Make the maps more user friendly;
- 3. More accurately place flood hazard data on the maps;
- 4. Reduce the costs of creating and maintaining the products: and
- 5. Better suit the database to software tools and the Internet

### **SPECIFIC CHANGES:**

### FIRM Database:

- FEMA modified the database structure to store all • elements needed to create the map and FIS;
- Removed elements no longer needed due to FIRM changes; and
- Made specific changes to better enable product creation and tool usage.



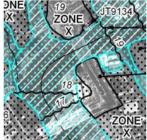
### Flood Insurance Study:

- FEMA changed the cover, hyperlinked the table of • contents, and used more tables instead of free text;
- Added the map index and some "Notes to Users" that were removed from the map collar;
- Added sections on watershed specifics, Coastal Barrier Resource Systems, Levees, and Alluvial Fan Analysis; and
- Revised the Coastal Section.

### Flood Insurance Rate Maps:

- FEMA reformatted the map to "D" size (24"x36") for • easier plotting;
- Streamlined the notes and legend; •
- Better emphasized flood zones and other important features through color and other design changes;
- Simplified some symbols and removed benchmarks; •
- Simplified the legend with the full legend appearing in the FIS; and
- Reconfigured display of Base Flood Elevations (BFEs) for better accuracy and lower cost (see back page).





### Changes in how BFEs will be displayed on FIRMs

Scott McAfee, CFM, GISP (FEMA)

Base Flood Elevations (BFEs) are not being removed from Flood Insurance Rate Maps (FIRMs), but they will be shown differently once pending changes to the current FIRM specification take effect. These revisions will reduce production costs and improve the accuracy of flood maps, but a small percentage of users may be uncomfortable with the change.

Currently, riverine BFEs are displayed as wavy lines that are perpendicular to the stream. They are spaced every whole foot of elevation and labeled with that elevation rounded to the nearest foot. Their accuracy is suspect because they are rounded, interpolated, and sometimes moved to make room for other features such as cross sections.

The revision to Appendix K will remove most wavy lines and instead place the Base Flood Elevation on the cross sections. Most cross sections are surveyed or created from topography, and are considered to be placed accurately. Cross sections will be labeled with elevations to the tenth foot, making them more precise than current BFEs. More of the modeled cross sections will be added to the map as necessary to allow at least one foot vertical spacing or better, unless crowding becomes an issue. Additional interpolated cross sections may also be added. Unlike current BFEs, however, cross sections will not be evenly spaced.

Floodplain managers should still use Flood Profiles from the Flood Insurance Study for permitting and other official purposes. This is the most accurate method for determining Base Flood Elevations. Those





who use this method will not be affected by the FIRM changes. A small number of floodplain managers, insurance agents, and other users *do* use the

FIRM to determine Base Flood Elevations. FEMA plans to provide outreach, guidance, and updates to tools and documentation in order to successfully transition these users to the new map. Also, changes to the FIRM Database will make possible the creation of tools to automatically determine the BFE from the digital data, which would benefit these users as well.

The new specification will apply to major studies started in FY 2010 and later. Maps made to this specifica-

Continued from Page 3: NFIP October 1, 2011, Rate and Rule Changes: A Summary

X Zones (zones outside the Special Flood Hazard Area)

- Standard Risk Policy: Premiums will increase 5%.

- Preferred Risk Policy (PRP): Premiums will remain unchanged.

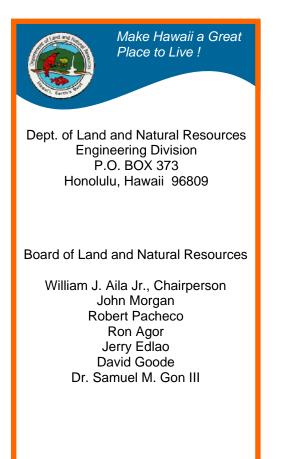
Mortgage Portfolio Protection Program (MPPP): Premiums will increase about 5%.

Provisional and Tentative Rates: Provisional rates and tentative rates were revised.

**Elevation Rating:** FEMA will require elevation rating for all new business applications for policies covering Post-FIRM buildings in Zones AH, AO, and unnumbered A. Policies for buildings in unnumbered A and AH zones will require an Elevation Certificate (EC); policies for buildings in Zone AO will require an EC or a letter of compliance from the community official. This requirement does not apply to transfer/rollover transactions.

**Optional Rating for Zones AO, AH:** "With Certification of Compliance" rates are to be used when the EC shows that the lowest floor elevation used for rating is equal to or greater than the community's elevation requirement. This rule applies to all building types, including buildings with Basement/Enclosure/Crawlspace/ Subgrade Crawlspace.

<u>Optional Reduction of Coverage When Converting a PRP Issued in Error to a Standard-Rated Policy</u>: When converting a Preferred Risk Policy (PRP) that was issued in error to standard rating, the insured will be provided 30



#### Continued from Page 7: NFIP October 1, 2011, Rate and Rule Changes: A Summary

days from notification of the underpayment to elect to delete or reduce coverage in order to wholly or partially reduce the underpayment amount. This change must be implemented no later than October 1, 2011, but may be implemented sooner.

The following elements must be included in the underpayment notification:

- The previous coverage amount;
- The underpayment amount for the previous coverage limits;
- Reduced amount of coverage based on premium already received;
- Option to adjust coverage within the original coverage limits within 30 days of the underpayment notification; and
- Statement that any related additional premium due must be included with the endorsement request and received within 30 days of the underpayment notification.

In addition to validating the flood zone for PRPs, the insurer must validate the building's loss history against the Repetitive Loss file provided by the NFIP before issuing new business or sending renewal notices for existing PRPs.

<u>Clarification of Obstruction Types 70 and 80</u>: The TRRP Plan will clarify how obstruction types 70 (with letter of compliance) and 80 (without letter of compliance) relate to the optional Post-FIRM rating of Pre-FIRM buildings with subgrade crawlspaces in Zones A, AE, A1-A30, AO, AH, and D.

- Pre-FIRM buildings usually will not have a letter of compliance (as indicated by code 70), but may meet the
  proper openings definition and, therefore, be eligible for a lower rate. In such cases, use obstruction code 80
  (without letter of compliance), but apply the proper openings credit.
- CRS discounts always apply to Pre-FIRM buildings, even when the lowest floor elevation is below the Base Flood Elevation (BFE).
- Post-FIRM buildings using obstruction type 80, with an elevation difference of 1 foot or more below the BFE, are ineligible for the CRS discount, whether rated with or without proper openings.

To read the complete summary of changes, visit: http://bsa.nfipstat.com/wyobull/2011/w-11020.pdf

