



# Wai Halana

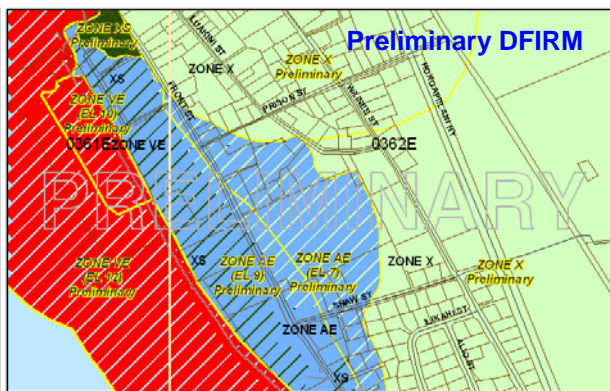
## Hawaii Flood News

### Maui County Receives New Flood Maps - Significant Changes Expected

In September 2009, FEMA debuted the new Digital Flood Insurance Rate Maps (DFIRM) for the County of Maui. That map update was a result of FEMA's effort to convert the existing paper maps into a digital format. In addition to the digital conversion, updated studies for Waikapu Stream, Kamaole Gulch, and Kaluiahakoko Stream were also included.

Now, a new set of DFIRMs has been issued in preliminary format. This past August, FEMA released a preliminary DFIRM for Maui County that incorporates several new studies. One of the changes reflect the new Hurricane Flood Insurance Study that FEMA conducted for the southern shorelines of the Hawaiian Islands. To learn more about this study, refer to the article entitled "Hawaii Coastal Study Update" on page 4 of this newsletter.

The example (below) shows an area in Lahaina on the Island of Maui, where the Hurricane Study will revise the current flood hazard risk. The effective DFIRM illustrates a portion of Front Street and surrounding areas that currently reflect a low-to-moderate flood risk [dark (XS) and light (X) green shaded areas]. However, the preliminary DFIRM is anticipated to supersede the current maps with the new hurricane study in some areas. The preliminary DFIRM (below) shows the same area along Front Street as being mapped in a high hazard risk zone (AE). For



those properties that are proposed to go from a low-to-moderate risk zone (X / XS zones) to a high risk zone (A and V zones), flood insurance may be required if a property owner has a

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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 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 DLNR or FEMA.



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The current and selected past issues are also available at:

[www.hawaiiinfip.org](http://www.hawaiiinfip.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.

**Upcoming Events**



Floodplain Management Association  
Annual Conference  
November 2 - 5, 2010  
Loews Resort on Lake Las Vegas  
Henderson, Nevada  
For more info:  
[www.floodplain.org](http://www.floodplain.org)

**PUBLIC MEETING**

November 17, 2010 - 10:30am  
Fasi Municipal Building, 9th Floor  
650 S. King Street, Honolulu, HI

The City & County of Honolulu, Department of Planning and Permitting will hold a public meeting for the purpose of considering proposed revisions to the **"Rules Related to Storm Drainage Standards"**. The proposed rules have been revised to reflect changes to:

Plate 1: Rainfall Data estimates for the 10 year annual recurrence interval

Plate 2: Rainfall Data estimates for 50 year annual recurrence intervals; and

Plate 6: Design Curves for Peak Discharge Versus Drainage Area.

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## NFIP One Year Extension Passed

### ***NFIP Extended through September 30, 2011***

On September 23, 2010, the House of Representatives passed a one year extension of the National Flood Insurance Program, extending the current program through September 30, 2011. The Senate passed the bill, S. 3814, on September 21 and the House passed it by voice vote on September 23. The measure now goes to the White House for the President's signature, which is expected to happen quickly. This is a clean extension, with no other provisions in the bill. (Full details can be found by searching for bill number S. 3814 on <http://thomas.loc.gov>)

The NFIP's authority had been set to expire in a week, on September 30, 2010. After several short-term authorizations this year and several periods of hiatus when new or renewing policies could not be written, this one year extension provides important stability and reliability to FEMA, Write Your Own insurance companies, realtors, home-builders, home buyers and sellers, and to current policy holders.

During the one year reauthorization, FEMA and the Congress will continue their consideration of needed reforms to the NFIP. The Association of State Floodplain Managers (ASFPM) will continue to provide comments to both FEMA and members of Congress as progress on reforming the program continues. Please continue to monitor ASFPM's web site ([www.floods.org](http://www.floods.org)) for updates on this and other important flood policy and program issues.



# New Lower Cost Insurance Option

## Preferred Risk Policy (PRP) Extension Eligibility Program



### Why the PRP Extension?

Flood maps are changing as the assessment of flood risks changes due to community development, aging flood control structures, natural changes to topography, and better technology. The NFIP wants to ease the transition for property owners who have been newly mapped into a high-risk flood zone and the mandatory flood insurance purchase requirements that go along with map changes. If your property was previously in a low-to-moderate risk flood zone (B, C, X) and subsequently mapped into a high-risk flood zone (A and V zones) on or after October 1, 2008, you may be eligible for the lower-cost Preferred Risk Policy for up to 2 years after the latter of the two following dates:

- The effective date of the map revision, or
- January 1, 2011

### Who is eligible?

- Property owners of buildings that have been newly mapped into high-risk flood zones (e.g., labeled with A, AE, AO, AH or V, or VE on the flood maps) due to a map revision on or after October 1, 2008, and before January 1, 2011, are eligible to receive a PRP for two policy years effective between January 1, 2011 and December 31, 2012. So, policies issued as standard-rated policies or converted to standard-rated policies following a map change on or after October 1, 2008, could be converted to the lower-cost PRP for two years beginning on the first renewal effective on or after January 1, 2011. On the third year, they may then be eligible for additional savings through grandfathering.
- Property owners of buildings that are newly mapped into a high-risk flood zone due to a map revision on or after January 1, 2011, are eligible to receive a lower-cost PRP for two policy years from the map revision date. On the third year, they may then be eligible for additional savings through grandfathering.

### What you will need to do:

Talk to your agent. Previous and current flood zone documentation for your property will be needed to validate your PRP extension eligibility. Historic maps and current effective maps are available through FEMA's Map Service website: [www.msc.fema.gov](http://www.msc.fema.gov). If you have questions or would like more information, you can call the NFIP Help Center at 1-800-427-4661 for assistance.

Floodsmart.gov 



## NOAA Grant to Help Hawaii Improve Flood Mitigation Plans

NOAA has awarded the State of Hawaii a planned three-year grant totaling \$560,253, to improve the state's flood mitigation plan. The grant is part of the NOAA Pacific Services Center's Coastal Resilience Networks (CRest) program.

With the support of Sen. Daniel K. Inouye, the new CRest grant program addresses the need, documented by the Pacific Risk Management Ohana (PRiMO), to fund programs that help communities withstand the risks of coastal hazards.

"As much as we need the rain to nourish our islands, it has the potential to flood our low-lying neighborhoods and communities situated near the ocean, in flood plains, or near streams. These funds will help planners

and first responders prepare our communities for heavy rain and flooding," said Sen. Inouye.

The updated plan will include improved flood and flood-related hazards information, and help federal and state agencies to make the decisions needed to prevent flooding disasters. The Hawaii Statewide Flood Mitigation Plan also provides public educational information about flood risks, flood histories, hydrologic data, land-use regulations, plus a library of flood studies and post-flood reports. This information will all be updated as part of this grant. The effort to update the plan is scheduled to begin this month.

NOAA Press Release (10/20/10)





# Hawaii Coastal Study Update

*Eric Simmons, FEMA Region IX*

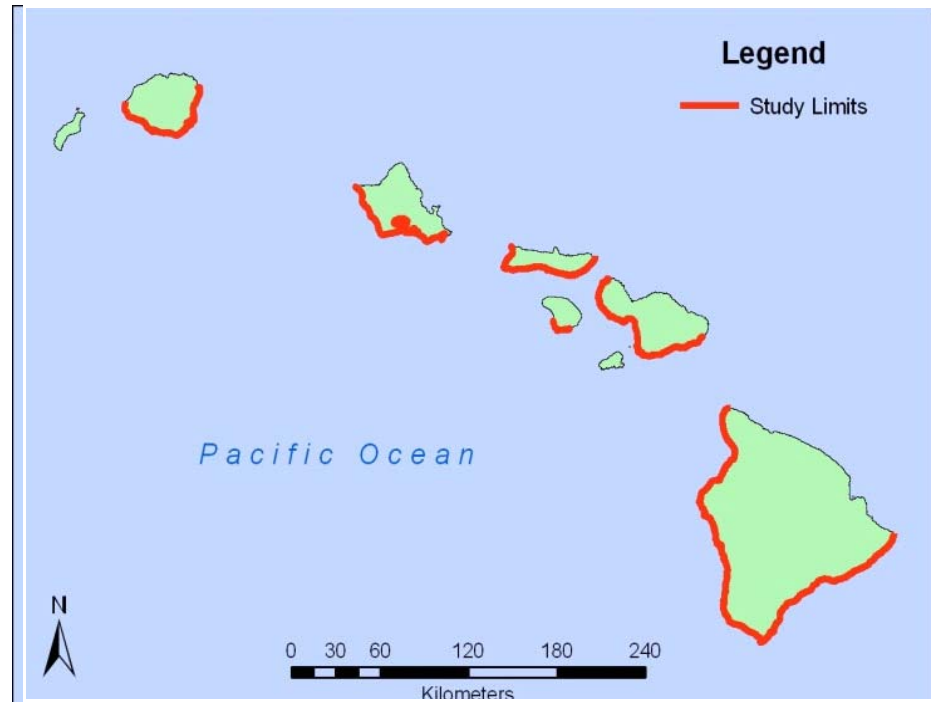
Hurricane Iniki reached the Hawaiian island of Kauai on September 11, 1992, with flood surges from 17 to 22 feet and winds topping out at 125 miles per hour. It was the costliest and most powerful storm on record for Hawaii. Storm surge and wave action caused massive beach-face erosion and overwash of the coastline reaching up to 1,000 feet inland. The most extensive damage and flooding were along the southern shores due to the storm's track from the south.

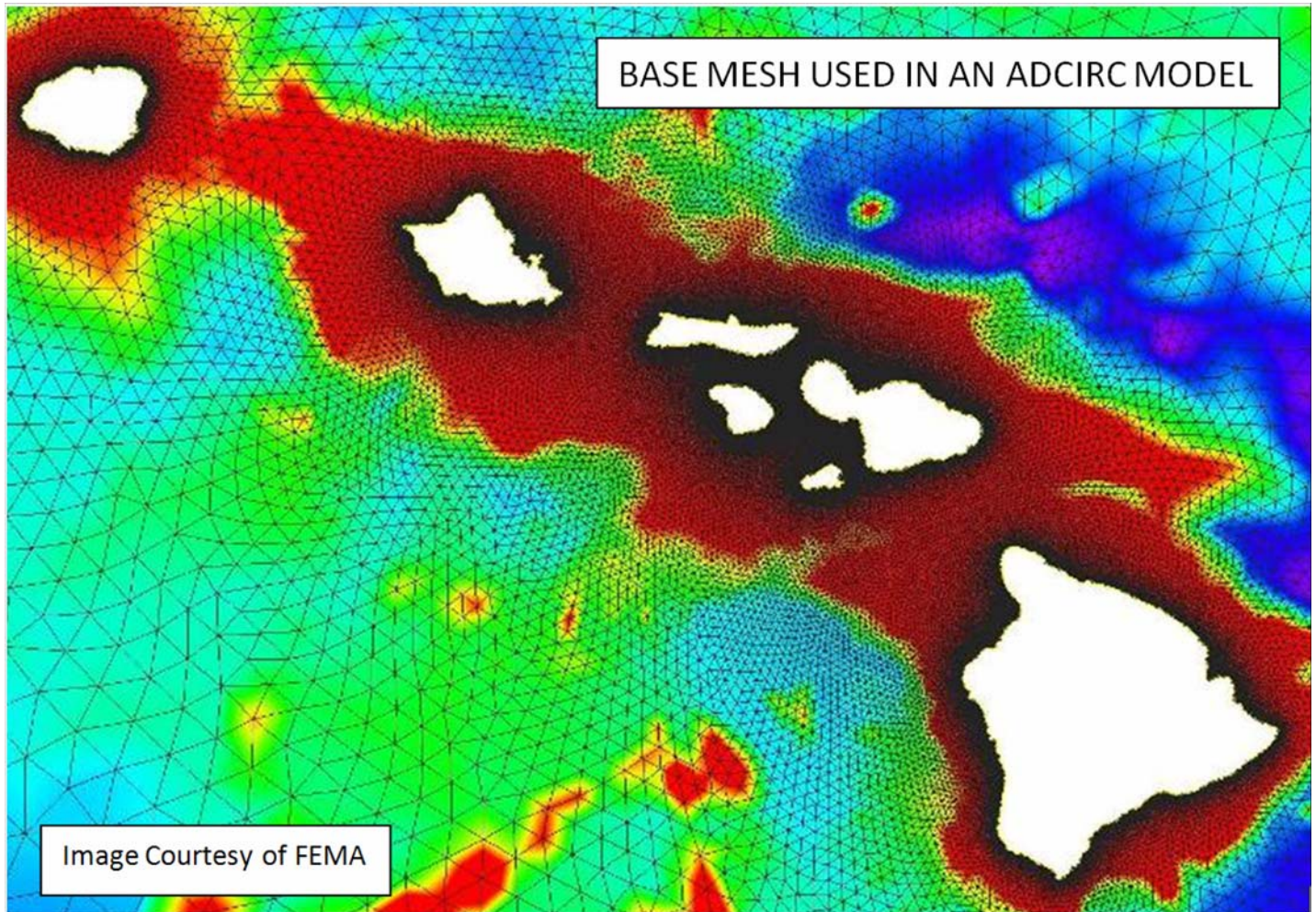
For twenty years the flood insurance zones and coastal base flood elevations for the Hawaiian Islands were primarily based on tsunami modeling which may under predict flood risk along the southern coastlines. Therefore, the Federal Emergency Management Agency (FEMA) is updating the Flood Insurance Rate Maps for the 6 major Hawaiian Islands to update flood hazard information and reflect risk from hurricanes. The study limits of the coastal updates along the southern coastlines are shown in the figure to the right. This new coastal flood assessment is resulting in both increases and decreases in flood elevations and inundation areas.

The Advanced Circulation Model (ADCIRC) was developed by the U.S. Army Corps of Engineers (USACE) and selected to compute the storm surge (stillwater) elevations for the Hawaii coastal study. ADCIRC is a two dimensional depth integrated, finite element, hydrodynamic model that solves the equations of motion for a moving fluid on a rotating earth. Water surface elevations are obtained from the solution of the depth-integrated continuity equation. The model has the capability to simulate tidal circulation and storm surge propagation of hurricanes over large domains and provides highly detailed results along shorelines.

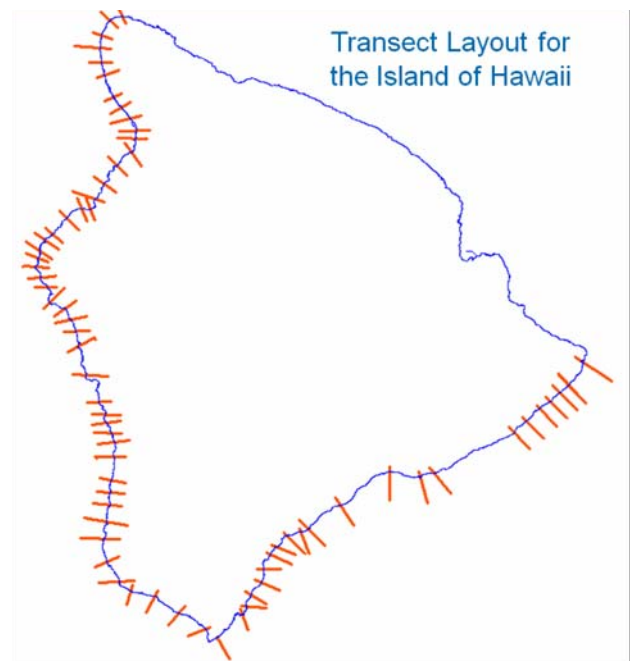
The ADCIRC grid, as seen below, was sourced from an existing grid developed by the USACE. The USACE grid was used for offshore areas, whereas higher resolution nearshore and topographic coverage was added around the islands of Kauai, Oahu, Molokai, Lanai, Maui, and Hawaii. The topographic portion of the ADCIRC grid was populated with Light Detection and Ranging (LiDAR) data collected for the study along the southern coasts. This LiDAR data were collected in fall of 2006, post-processed to bare earth, and quality controlled to meet FEMA mapping standards. The USACE Joint Airborne LiDAR Bathymetry Technical Center of Expertise (JALBTCX) provided bathymetric LiDAR collected in 1999 and 2000.

The storm data applied in this study were selected to represent the range of different storm magnitudes impacting the study area based on historical records. Storm selection was limited to events passing within 200 miles of at least two islands in the study area. In total, 11 hurricane and tropical storm events were selected for storm surge modeling. Due to the limited number of historical storms identified, the historical events were duplicated and shifted laterally in order to represent the potential range of tracks that future storms may take. In total, 100 storms were then input into the ADCIRC model. The modeling results were used in developing updated statistical treatments for return period stillwater elevations within the study area.





Once the updated stillwater elevations were determined, wave height calculations were applied to the inundation areas following the methodology in FEMA's Guidelines and Specifications for Flood Hazard Mapping Partners. The figure to the right illustrates the transect locations for Hawaii County. A transect is a profile of ground and bathymetric elevations perpendicular to a shoreline. Transects are located to represent conditions in their locality. Along each transect, wave envelopes are computed considering the combined effects of ground elevation, vegetation, and physical features. Between transects, flood elevations are interpolated using topographic maps, land-use, land-cover, and engineering judgment to determine the extent of flooding. The mapping for this detailed hurricane flood study is then combined with previous mapping to produce updated Flood Insurance Rate Maps for the four Hawaiian Counties. The hurricane coastal study was completed last summer, and the Counties of Kauai and Honolulu are the first to have their Flood Insurance Rate Maps updated to incorporate the results. A series of public meetings are being held to answer questions on building permits, insurance, and flood risk.



The public may also view the current and new preliminary flood maps by visiting the State's Flood Hazard Assessment tool at <http://gis.hawaiiinfip.org/fhat/>.





# Flood Insurance Rate Maps *Updates*

COUNTDOWN  
TO NEW DFIRMS



The new Digital Flood Insurance Rate Maps (DFIRM) for the County of Kauai and the City and County of Honolulu are set to become effective on November 26, 2010 for Kauai and January 19, 2011 for Oahu. If your property is affected by the proposed map changes, make sure to talk with your insurance agent **BEFORE** the effective date to fully understand the consequences these revisions will have on flood insurance requirements.

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: July 13, 2010

FEMA Case Number: 10-09-1844A

Flooding Source: Sheet Flow

On-line readers can view LOMC [here](#)

Type: LOMA

FIRM Panel 0351E

Effective Date of the Revision: June 28, 2010

FEMA Case Number: 10-09-2617A

Flooding Source: Pacific Ocean

On-line readers can view LOMC [here](#)

## Hawaii County

Type: LOMR

FIRM Panel 0870C, 0880C, 0890C, 0859D

Effective Date of the Revision: October 15, 2010

FEMA Case Number: 09-09-2120P

Flooding Source: Waiakea Tributary 3A Flood Zone

On-line readers can view LOMC [here](#)

LOMCs can also be viewed and downloaded from the Hawaii Flood Hazard Assessment Tool (FHAT) at:

[www.hawaiiinfip.org](http://www.hawaiiinfip.org)

## Viewing Preliminary Flood Maps on FHAT

A video tutorial is now available to help users view preliminary flood maps on the FHAT. The link to the video can be accessed at: [www.hawaiiinfip.org](http://www.hawaiiinfip.org)



## What Happens to LOMCs When New Flood Maps are Published?

*A LOMC is a letter which reflects an official revision to an effective NFIP map. LOMCs are issued in place of the physical revision and republication of the effective map.*

From time to time a developer or property owner may apply to FEMA for a Letter of Map Change (LOMC) to remove their development, property, or structure from the Special Flood Hazard Area citing that the development is not impacted by the 100-year floodplain due to a variety of reasons. If the proper technical documentation supports a map change request, FEMA may approve the LOMC. However, there are instances where FEMA may restudy a particular area that would result in a physical map revision whereby a new flood map is published with updated flood hazard information.

One might think that all previously approved map changes would no longer be valid since a newer map would supersede the older map change. That isn't always the case. When FEMA republishes a new flood map, they carefully review all previously approved LOMCs to see if they are still valid based on the updated flood hazard data.

For Letter of Map Revisions (LOMR), FEMA will evaluate if the modifications approved by the LOMR can be incorporated into the new flood maps. For Letter of Map Amendments (LOMA) and Letter of Map Revisions based of Fill (LOMR-F), FEMA will evaluate these map changes to see if they continue to be valid based on the new flood hazard studies. If so, FEMA will revalidate the previously approved LOMA and/or LOMR-F one day after the revised flood map becomes effective.

Unfortunately, there may be instances when a LOMC would not be incorporated or revalidated because the new detailed flood hazard information supersedes the previously approved map change for various reason like revised hydrologic and hydraulic analysis or updated topographic information, to name a few.

This review of the previously issued LOMCs, is summarized in a document prepared by FEMA called a Final Summary of Map Actions (SOMA). This document is typically issued six months prior to the new maps becoming effective.

To view the Final SOMA for the upcoming map updates for Kauai and Oahu, visit: [www.hawaiiinfip.org](http://www.hawaiiinfip.org) and download the document from the LATEST NEWS section.



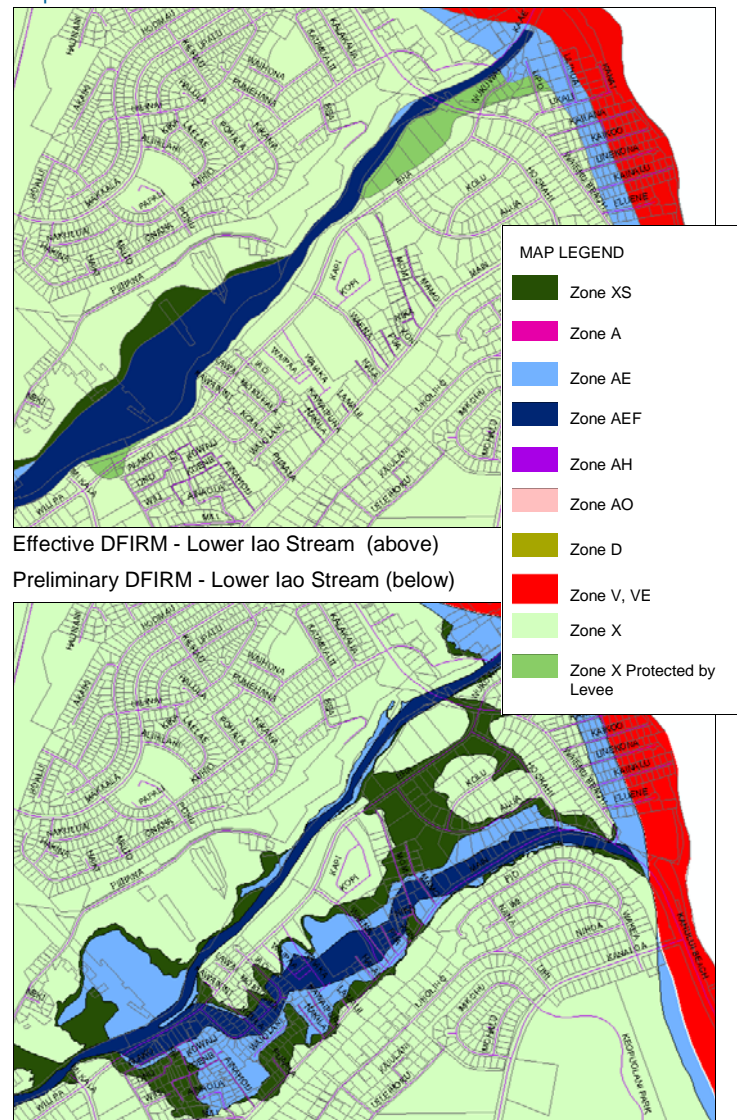
federally backed mortgage. Also, properties in a high risk flood zone must comply with the County Floodplain Management Ordinance when constructing a new or substantially improved structure(s). The County of Maui is currently planning public outreach meetings to educate property owners and business owners on the consequences of these map changes.

Another significant map change anticipated is the result of the de-accreditation of two levee systems in Maui County. Currently, the community's DFIRMs reflect flood protection from a 1 percent chance event along the Iao Stream (Maui) and Kaunakakai Stream (Molokai) – the maps show the areas on the landward side of these levees as low-to-moderate risk.

When levees can no longer meet federal standards or documentation by the levee owner has not been provided to FEMA to make such determination, then FEMA will revise the flood hazard maps to reflect a de-accreditation of the structure.

In the case of Iao Stream, the top map (right) illustrates the current 100-year flood plain as depicted on the effective DFIRM. The areas shaded in blue and red show the high risk zones. However, the preliminary DFIRM map (below right) proposes to increase the high hazard flood zone areas as a result of the de-accreditation.

The preliminary DFIRMs have been added to the Hawaii Flood Hazard Assessment Tool (FHAT) for public viewing (<http://gis.hawaiiinfip.org/fhat>). To learn how to view the preliminary maps using the FHAT, click on the link provided on the Hawaii NFIP Website ([www.hawaiiinfip.org](http://www.hawaiiinfip.org)).



## New Tool to Compare Current and Proposed Map Changes



The Department of Land and Natural Resources continues to look for ways to improve the Hawaii Flood Hazard Assessment Tool (FHAT). The latest feature that will be added to the FHAT sometime in November, is the **PRELIMINARY DATA ANALYSIS** Tool.

This tool will allow users to easily compare the effective flood hazard data against proposed changes to the flood maps by selecting a point on the map. The FHAT will return flood hazard data for the effective and preliminary maps in tabular format.



**Preliminary Data Analysis Tool**  
<http://gis.hawaiiinfip.org/fhat>

**Hawaii - National Flood Insurance Program Flood Hazard Assessment Tool**

Zoom In Zoom Out Pan Measure Full View Last View Select Parcel LOMC Report Datasheet Home

**PRELIMINARY DATA ANALYSIS**

A comparison can be made between the effective and preliminary DFIRM datasets. Use the tool below to click a point for comparison.

Latitude: 20.89628  
Longitude: -156.49376

Effective Zone: X  
Effective BFE: n/a

Preliminary Zone: AE  
Preliminary BFE: Varies (122-129)

Flood Insurance Studies (FIS)  
Island Number

HELP...

Using Toolbox Buttons  
Property Search  
Letter of Map Changes  
Elevation Certificate

County: MAUI TMK: (2) 3-4-048-007 Address: 45 WAIOLANI PL LOMC: NONE Clear Map

Preliminary DFIRM Disclaimer: If this map has been identified as "PRELIMINARY", please note that it is being provided for commenting purposes only and is not to be used for official/legal decisions or regulatory compliance.





*Make Hawaii a Great  
Place to Live !*

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Engineering Division  
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Board of Land and Natural Resources

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Dr. Samuel M. Gon III

## New Engineering Division Chief



Mr. Carty Chang was recently selected to head the Department of Land and Natural Resources, Engineering Division. Mr. Chang has been acting as the Division head since last September after the departure of former chief, Mr. Eric Hirano.

The Engineering Division has two branches: Planning Branch and the Design Inspection and Safety (DIS) Branch. The State Dam Safety Program and the Floodplain Management Program operates under the DIS Branch.

Over the past year, Mr. Chang has been getting up to speed with the State Dam Safety Program and the National Flood Insurance Program. He has been actively working with the Dam Safety / Flood Control Section staff and learning about the section's regulatory functions.

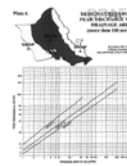
***Congratulations Carty!!!***



Continued from Page 2, "Public Hearing"

### Description of the Proposed Amendments:

The existing "**Rules Related to Storm Drainage Standards**", Plates 1 and 2, are being revised to reflect updated precipitation frequency data from the National Oceanic and Atmospheric Administration (NOAA), and Plate 6 is being revised to reflect updated stream flow data from the United States Geological Survey (USGS).



The Hydrology Criteria are being revised to allow the City to accept modifications from the Plate 6 peak discharge values for drainage areas greater than 100 acres.

Persons who wish to testify may either do so in person at the public hearing or submit written testimony. Written testimonies will also be accepted for ten days after the public hearing.

Copies of the proposed amendments may be reviewed or obtained at the Department of Planning and Permitting, Site Development Division, 8<sup>th</sup> Floor, Frank F. Fasi Municipal Building, 650 South King Street, Honolulu, Hawaii 96813, during normal business hours (7:45 AM to 4:30 PM, Monday thru Friday). Copies of the proposed amendments will also be mailed at no cost to any interested person who requests a copy by writing to the above address or by calling 768-8097.

