

Hawai`i Flash Flood Response Tool

A Web-based geographic information system (GIS)
to assist emergency managers in
decision making during severe weather



NOAA Pacific Services Center
NOAA Coastal Services Center

Background

Flood Response Challenges

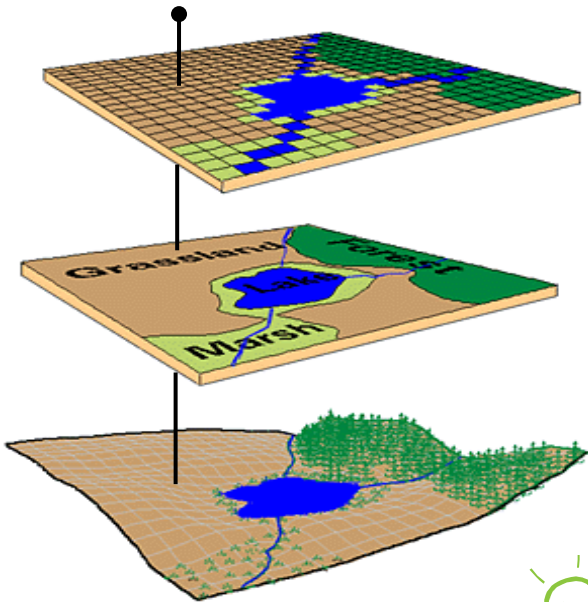


- Data exist in various file formats and resolutions
- Real time data and information are in multiple locations and not integrated with local infrastructure data
- Transferring institutional knowledge takes time and staff support
- Users are constantly checking for data updates

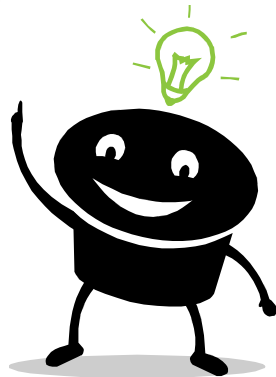


Background

Project Solutions



- Integrated approach
- Standardized data
- Simple and easy to use
- Updates automatically
- Applicable statewide



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Data and Web Services

Real-time stream flow

- U.S. Geological Survey (USGS) National Water Information System (NWIS)

Real-time precipitation

- NOAA Hydrometeorological Automated Data System (HADS)
- NOAA HydroNet

Real-time warnings

- Threshold alerts
- National Weather Service (NWS) warnings

Real-time radar

- One-hour
- Total storm
- Composite reflectivity
- Base reflectivity

Real-time weather satellite imagery

- Visible
- Infrared

Static data

Map notes

Data and Web Services

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Static data

Map notes

HFFRT Overview

[Login](#) [Register](#) [Forgot Password](#)

Log In

User

Name:

Password:

Remember me next time.

[Login](#)

Hawai'i Flood Response Tool

Registered users will have been provided credentials from the system administrator. Registered users are limited to staff within the participating organizations.

Basic Components

Map Display

The screenshot shows the Hawaii Flood Response Tool interface. The central map display shows the Hawaiian Islands with a focus on the main island of Hawaii. The interface is divided into several panels:

- Map Display:** The central map area showing the Hawaiian Islands with a scale bar and map controls.
- Data Layers:** A panel on the right titled "Map Components" containing a "Map Legend" with various layers like "Precipitation Gages", "Stream Gages", "Reservoir Gages", "Warnings", "Forecast Zones", "NFP Flood Zones", "Potential Flood Threat", "One Hour Precipitation (Inches)", "Total Storm Precipitation (Inches)", "Composite Reflectivity (dBZ)", "Base Reflectivity (dBZ)", "Visible Satellite", "Infrared Satellite", and "Map Notes".
- Location Search:** A panel on the right titled "Map Search" with a search field containing "19.71,-155.66" and "Search" and "Cancel" buttons.
- Bookmarks:** A panel on the right titled "Bookmark" with a "Custom Bookmark" section and a "Predefined Bookmark" section.
- Gage Information:** Three tables on the left side of the interface:
 - Precipitation Gage Information:**

Gage	Name	Precipit... Rate	Accumulation Over 48 Hours
1	HKAH1 Honokanala, Kahoolawe	0	0
2	HKH1 Hakioawa, Kahoolawe	0	0
3	HKUH1 Hakalau, Hawaii	0	0
4	KAOH1 Kaneloa, Kahoolawe	0	0
5	KHOH1 Kaloko-Honokohau, Hawaii	0	0
6	KKUH1 Keamoku, Hawaii	0	0
7	KLLH1 Kealiialo, Kahoolawe	0	0
8	KRCH1 Kahuku Ranch, Hawaii	0	0
9	KTAH1 Kahuku Training Area	0	0
 - Stream Gage Information:**

Gage	Name	Gage Height	Discha...
1	16010000 Kawaikoi Stream, Kauai	1.94	3.3
2	16019000 Waiatae Stream, Kauai	0.92	4.7
3	16060000 SF Wailua River, Kauai	2.46	46
4	16068000 EB of NF Wailua River, K...	1.11	11
5	16071500 LB Opaekaa Stream, Kauai	0.73	0.41
6	16097500 Halaulani Stream, Kauai	0.81	3.9
7	16103000 Hanalei River, Kauai	1.75	62
8	16108000 Wainiha River, Kauai	1.32	42
9	16200000 NF Kaukonahua Stream, ...	1.67	2.4
 - Reservoirs Gage Information:**

Gage	Name	Gage Height	Discha...
1	16094150 Ka Loko Reservoir near ...	17.81	
2	16208400 Ku Tree Reservoir near ...	12.65	
3	16210000 Wahiawa Reservoir at S...	69.07	
4	2131331580... Upper Helemano Reserv...	30.9	
5	2132591580... Helemano 16 Reservoir, ...	3.1	
6	2133081580... Helemano 6 Reservoir, ...	23.55	
- Alerts or Warnings:** A panel at the bottom left titled "Alert / Warning Information" with a table:

Area	Event
1 Kona	Alert
- Docking Station:** A panel at the bottom showing two gage information windows:
 - Waiatae Stream, Kauai: Gage ID: 16019000 (Metadata)
 - EB of NF Wailua River, Kauai: Gage ID: 16068000 (Metadata)

Data Layers

Location Search

Bookmarks

Gage Information

Alerts or Warnings

Docking Station



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Functionality

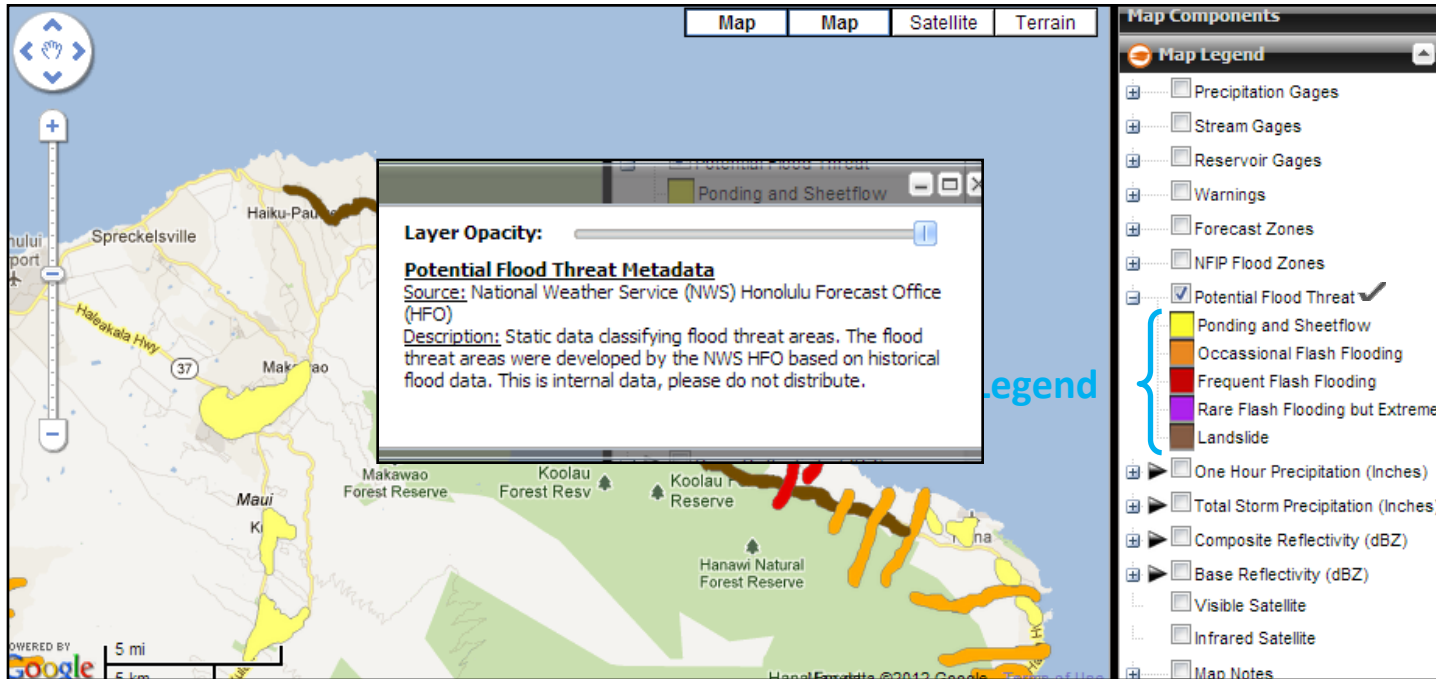
Customize Tables

Gage	Name	Precipitat... Rate	Accumulation Over 48 Hours	
1	WEXH1	Waiakea Exp Stn, Hawaii	0.54000002	
2	PLIH1	Pali 2, Hawaii	0.11999999	
3	HILO1	Chiefess Kapiolani ES, ...	0.08999998	
4	WAIAK	Waiakeawaena ES, Ha...	0.07999999	
5	PHTO	Hilo International Airport...	0.6	0.07
6	PHSF	Bradshaw Army Air Fie...	0	0.05999999
7	KPKNP	Kohala MS, Hawaii	0	0.02999999
8	PHMU	Waimea-Kohala Airport,...	0	0.02999999
9	KKIJH1	Keamoku, Hawaii	0	0.00999999

Sort Ascending
Sort Descending
Columns

- Gage
- Name
- Precipitation Rate
- Accumulation Over 48 Hours

Map Elements



Legend

Table of Contents

Gage Information

Precipitation Gages →

Stream Gages →

Reservoir Gages →

Hawaii Flood Response Tool

Map Legend

- Precipitation Gages
- Stream Gages
- Reservoir Gages
- Warnings
- Forecast Zones
- NFP Flood Zones
- Potential Flood Threat
- One Hour Precipitation (Inches)
- Total Storm Precipitation (Inches)
- Composite Reflectivity (dBZ)
- Base Reflectivity (dBZ)
- Visible Satellite
- Infrared Satellite
- Map Notes

Precipitation Gage Information

Gage	Name	Precipitat... Rate	Accumulation Over 48 Hours
1	HKUH1	Hakalau, Hawaii	0
2	KHOH1	Kaloko-Honokohau, Ha...	0
3	KKUH1	Keamoku, Hawaii	0.00999999
4	KRCH1	Kahuku Ranch, Hawaii	0
5	MLBH1	Mauna Loa, Hawaii	0
6	PKAH1	PTA Kipuka Alala, Hawaii	0
7	PKVH1	PTA West, Hawaii	0
8	PLH1	Pali 2, Hawaii	0.11999999
9	PTRH1	PTA Range 17, Hawaii	0

Stream Gage Information

Gage	Name	Gage Height	Discha...
1	16704000	Wailuku River, Hawaii	2.01
2	16717000	Honoli Stream, Hawaii	2.58
3	16720000	Kawainui Stream nr Kam...	1.12
4	16725000	Alakahi Stream, Hawaii	1.51
5	16770500	Paauu Gulch at Pahala, ...	0.8

Reservoirs Gage Information

No reservoir gages

Alert / Warning Information

Area	Event
1	Big Island Summit; Haleakala Summit

Map Components

Map Search

Enter Latitude, Longitude or Address :
19.71,-155.66

Enter an Address into search field then click the Search Button. Ex: Punahale Street, HI Hawaii OR Enter a Latitude and Longitude: 19.71,-155.66

Search Cancel

Bookmark

Custom Bookmark

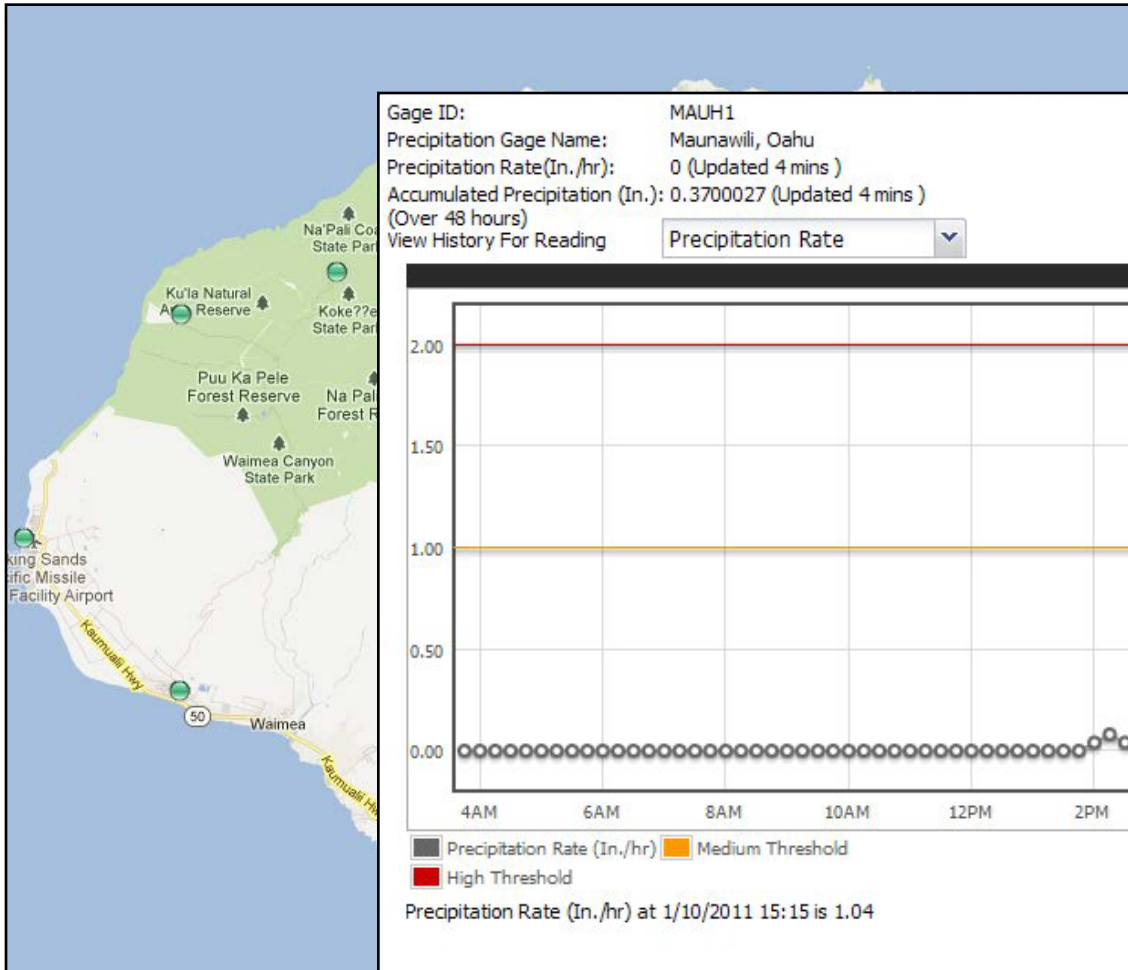
Select a bookmark. [dropdown] [refresh]

Predefined Bookmark

South Big Island (HIZ024) [dropdown]

Map data ©2012 Google - Terms of Use

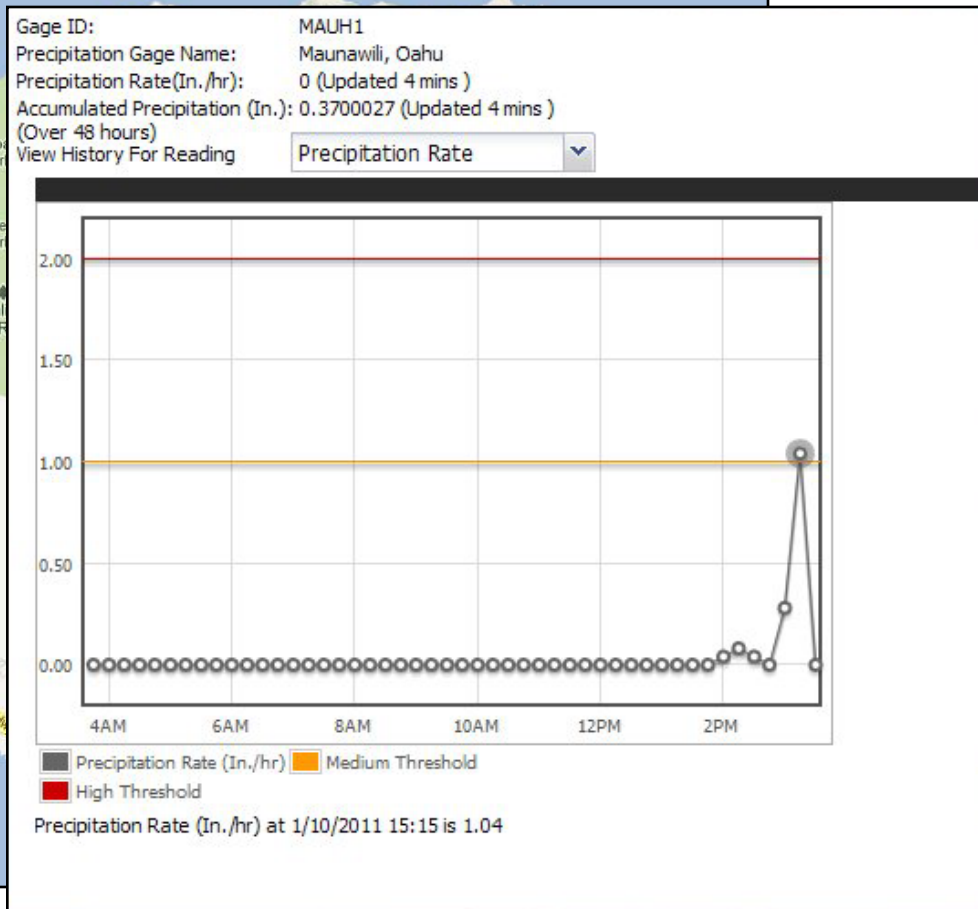
Gage Information



Precipitation Gages 

Gages 

Reservoir Gages 



Hawai`i Flood Response Tool Partners

- National Weather Service (NWS) Office of Hydrologic Development
- NWS Honolulu Forecast Office
- NWS Pacific Region Headquarters
- National Environmental Satellite, Data, and Information Service (NESDIS) Satellite Services Division
- NESDIS Infusing Satellite Data into Environmental Applications (IDEA) Center
- U.S. Geological Survey Pacific Islands Water Science Center
- Pacific Disaster Center
- Pacific Islands Ocean Observing System



NOAA Pacific Services Center
NOAA Coastal Services Center

Hawai`i Flash Flood Response Tool

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