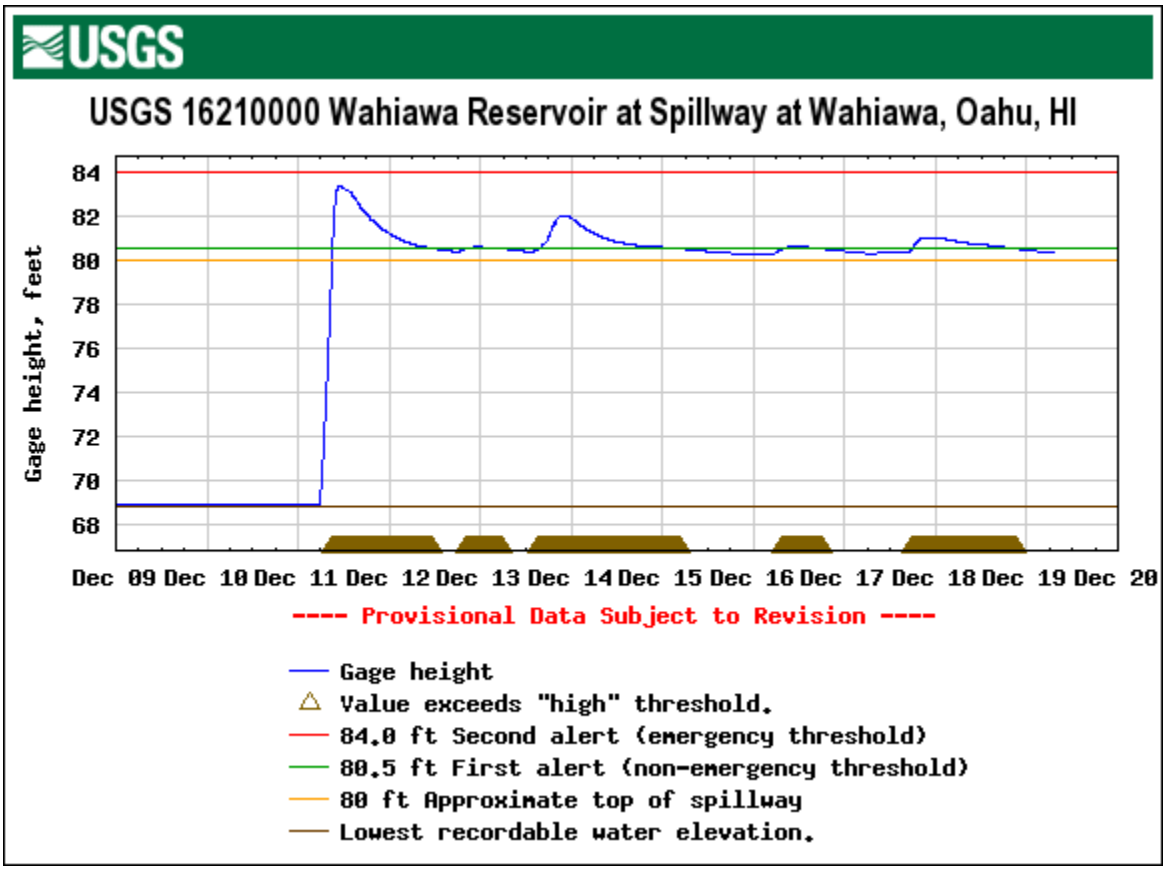
Peak Gage-Height and Flow Data for Selected Oahu Streams, December 2008

Heavy rainfall occurred on the islands of Oahu and Kauai during the period December 11-14, 2008. On Oahu, the central part of the Koolau Mountains received over 15 inches of rain, and much of the Waianae Mountains received over 10 inches of rain. Click here for a National Weather Service (NWS) summary of rainfall totals and a meteorological description of the event.

In central Oahu, water flowed rapidly from the Koolau Mountains into Lake Wilson (Wahiawa Reservoir). The water level in the reservoir rose 14 feet within a few hours. Data from the USGS gage on the reservoir, in addition to other gages operated by USGS and NWS, were used by State and County agencies to coordinate emergency response.



Flooding was reported in many parts of Oahu. Provisional gage-height data collected during the storm indicate that many streams were flowing at rates near or above the peak of record for several USGS stream gages, although the actual peak gage-height and flow values will not be known until more detailed field surveys and hydrologic calculations are completed. The table below provides provisional gage-height and flow data for selected stream gages, along with the historic peak of record gage height and flow. The number of years of peak gage-height and flow data for each stream gage is also shown. The table of gage-height and flow data will be updated as more information becomes available. A map showing the location of the gages is provided below.

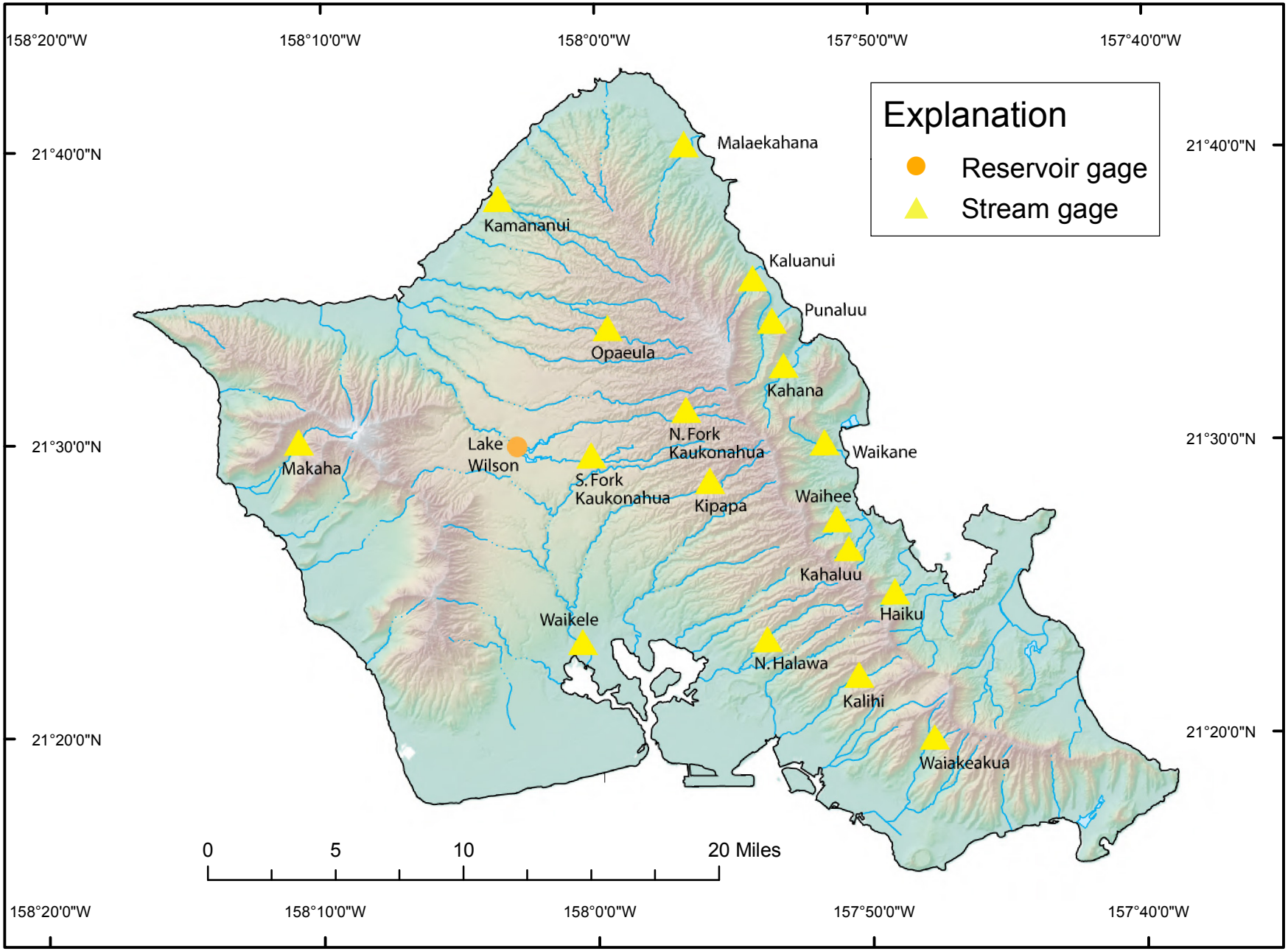
Information for Kauai will be made available once data have been checked for accuracy. The information provided here is provisional and subject to revision.

The flow of water in a stream depends on several factors. Gage height cannot be used to directly compare flows between different gages or different storms.

Provisional peak gage-height and flow data for selected stream gages on Oahu, December 11, 2008

[Values in **bold** are new, or equivalent to, historic peak of record; Ht., height; ft, feet; yr, year; cfs, cubic feet per second; TBD, to be determined]

Station Number	Station Name	Dec. 11, 2008 Peak			Historic Peak				
		Gage Ht. (ft)	Flow (cfs)	Recurence Interval (yr)	Gage Ht. (ft)	Date	Flow (cfs)	Date	Years of Record
	Central Oahu, draining northward								
16200000	NF Kaukonahua Str abv RB, nr Wahiawa	14.10	**6,290**	50 - 100	13.20	10/28/1981	5,490	1/1/1933	83
16208000	SF Kaukonahua Str at E pump, nr Wahiawa	12.40	**6,360**	50 - 100	11.33	4/15/1963	5,460	4/15/1963	49
16345000	Opaeula Str nr Wahiawa	14.53	5,200	25 - 50	13.66	3/8/2006	5,540	7/17/1974	49
	Central Oahu, draining southward								
16212800	Kipapa Str nr Wahiawa	9.80	2,730	TBD	12.67	3/21/1991	6,370	3/21/1991	48
16213000	Waikele Str at Waipahu	19.70	TBD	TBD	14.82	11/28/1954	13,600	11/28/1954	55
	Leeward Oahu								
16211600	Makaha Str nr Makaha	6.32	TBD	TBD	9.54	11/14/1996	2,680	11/14/1996	48
	Windward Oahu								
16304200	Kaluanui Str nr Punaluu	13.13	TBD	TBD	11.90	1/6/1982	2,390	1/6/1982	41
16303000	Punaluu Str nr Punaluu	7.41	2,370	TBD	8.87	2/12/1994	6,900	3/20/1991	54
16296500	Kahana Str at alt 30 ft nr Kahana	9.55	TBD	TBD	9.39	5/6/2002	7,580	5/6/2002	48
16294900	Waikane Str at alt 75 ft at Waikane	10.76	3,940	2 - 5	10.76	2/4/1965	8,800	2/4/1965	48
16284200	Waihee Str nr Kahaluu	5.79	506	2	7.93	3/21/1991	1,530	3/21/1991	32
16283200	Kahaluu Str nr Ahuimanu	3.40	203	< 2	6.05	9/18/1994	932	3/19/2006	24
16275000	Haiku Str nr Heeia	3.36	407	< 2	7.94	5/2/1965	5,740	5/2/1965	67
	North Shore								
16310501	Malaekahana Str at alt 30 ft nr Kahuku	18.03	TBD	TBD	14.45	4/2/2006	4,640	4/15/1963	49
16330000	Kamananui Str at Maunawai	10.86	6,320	10	15.84	11/20/1990	16,800	11/20/1990	49
	Honolulu								
16226200	N. Halawa Str nr Honolulu	10.45	783	< 2	12.35	3/19/2006	2,050	3/19/2006	24
16229000	Kalihi Str nr Honolulu	7.07	610	TBD	13.90	1/16/1921	6,510	2/13/1932	91
16240500	Waiakeakua Str at Honolulu	3.88	788	2	10.40	1/16/1921	3,890	2/4/1965	89


158°20'0"W
158°10'0"W
158°0'0"W
157°50'0"W
157°40'0"W
21°40'0"N
21°30'0"N
21°20'0"N
Explanation
Reservoir gage
Stream gage
Malaekahana
Kamananui
Kaluanui
Punaluu
Opaeula
Kahana
N. Fork Kaukonahua
Lake Wilson
Makaha
S. Fork Kaukonahua
Kipapa
Waikane
Waihee
Kahaluu
Haiku
Waikele
N. Halawa
Kalihi
Waiakeakua
0
5
10
20 Miles