

State of Hawaii tsunami 5-year review (1997–2001)

Brian S. Yanagi

*Civil Defense Division, State of Hawaii, Honolulu, Hawaii, U.S.A.*¹

Abstract. The national tsunami hazard mitigation program has reenergized Hawaii's tsunami mitigation efforts. The program has provided funding for enhanced hazard assessment, warning, response, and public awareness. However, there are three immediate concerns to the Hawaii civil defense system:

1. reduction of tsunami warning system "false alarm" evacuations,
2. transmission of timely and accurate tsunami warning system forecasts to the civil defense system,
3. public awareness. Since it has been about 40 years since a destructive Pacific-wide tsunami has struck the Hawaiian islands, there is concern that a significant portion of the general public will not heed civil defense evacuation directives and place themselves in harm's way.

After devastating losses from the 1960 Chile and 1946 Aleutian tsunamis, Hawaii built a statewide tsunami emergency response system. The system currently consists of unified state/county emergency plans, evacuation maps in telephone books, a coordinated statewide siren system tied into an emergency alert system, and front line emergency response personnel.

1. Summary of Mitigation Activities of Past 5 Years

Due to its long history of destructive tsunamis in the 20th century, the State of Hawaii has undertaken many successful, ad hoc mitigation actions. Unfortunately, many mitigation efforts were pursued only after lives and property were lost. However, since 1960, there has not been a distant tsunami destructive to Hawaii. As a result, there has been a lack of a funded, long-term effort to mitigate tsunamis. Concurrently, an entire generation of Hawaii residents has been raised with little knowledge or experience of the tsunami hazard.

The NTHMP has reinvigorated the State of Hawaii's tsunami mitigation activities. Over the past 5 years, various mitigation initiatives have been accomplished due to the growing success of the NTHMP. Activity budget expenditures appear as NTHMP funding/(State of Hawaii in kind funding).

- "April Tsunami Awareness Month" public relations campaigns
- Production of a State Tsunami Safety Video
- Production of a State Tsunami Safety Brochure
- Periodic meetings of a Tsunami Working Group to coordinate tsunami activities of NOAA, USGS, State and County Civil Defense, State

¹Civil Defense Division, State of Hawaii, 3949 Diamond Head Rd., Honolulu, HI 96816-4495, U.S.A. (byanagi@scd.hawaii.gov)

Warning Point, and University of Hawaii Tsunami Scientific community. These activities include hazard assessment, development of warning guidance, and evacuation planning.

- Purchase and statewide dissemination of over 1000 Emergency Alert System (EAS) Radios that provide near real time NOAA tsunami information and evacuation instructions
- Purchase of 30 alphanumeric pagers and 5-year servicing contract for the State Civil Defense staff to receive NOAA tsunami bulletins 24 hours a day/7 days a week
- Purchase of computers in the Emergency Operation Center (EOC) to rapidly and effectively respond to tsunami events

Also, the State of Hawaii strongly supports NOAA's Deep Ocean Assessment and Reporting of Tsunami (DART) program. The deployment of three Tsunami Buoys in the Alaska Aleutian Islands will help to detect tsunamis in the deep ocean headed for Hawaii. This will assist in reduction in the number of "false alarm" warnings and economically costly evacuations. Expansion of the DART program is highly encouraged.

2. Mitigation Plans for the Next 5 Years

With continued funding from the NTHMP, the State of Hawaii can continue to expand tsunami public relations campaigns; conduct Tsunami Working Group coordination meetings, and conduct Emergency Operations Center enhancements to effectively respond to tsunami events. Furthermore, the State's Tsunami Advisors are drafting a Post Tsunami Survey Plan. The Plan serves as a clearinghouse to coordinate local/national/international scientific efforts in documenting wave run up and inundation measurements in the next destructive tsunami event.

3. Budget

For the past few years, Hawaii has received about \$50,000 annually in mitigation funds. Hawaii provided \$50,000 annually in state in kind contributions.

For the next 5 years, assuming a similar \$50,000 NTHMP annual state mitigation budget, Hawaii will contribute a total of \$250,000 in state in kind contributions (\$50,000 per year).

	NTHMP	State of Hawaii (in kind contribution)
Public Awareness Campaigns	\$20,000	(\$20,000)
EOC Enhancements	20,000	(20,000)
Tsunami Working Group Meetings	5,000	(5,000)
Travel	5,000	(5,000)
Total	\$50,000	(\$50,000)