TsuInfo Alert

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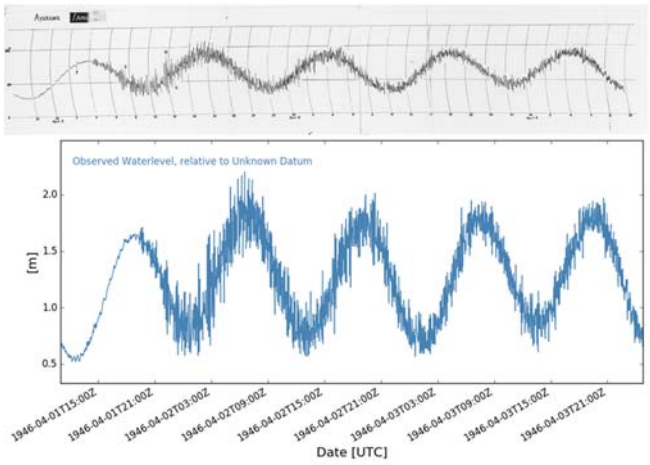
NOAA Big Earth Data Initiative Story Map

By Matt Lancaster NCEI's Center for Coasts, Oceans, and Geophysics

With funding through the NOAA Big Earth Data Initiative (BEDI), NCEI, in partnership with NOAA Pacific Marine Environmental Laboratory (PMEL), recently published an Esri Story Map (https://noaa.maps.arcgis.com/apps/MapSeries/index.html?appid=c466d465750f4e1b8d737cc3e7c0046f) about its initial work to rescue, document, reformat, and archive segments of historic marigram records which are recorded measurements of the 1946, 1952, 1960, and 1964 tsunamis. These four tsunami events, all generated in the Pacific Ocean, are historically important but data during each were at risk of being lost. The 1946 tsunami was the impetus for establishment of the Pacific Tsunami Warning Center. The 1952, 1960, and 1964 tsunamis were each generated by three of the greatest of all recorded earthquakes. The 1960 tsunami, in particular, was generated by the largest earthquake ever recorded, a magnitude 9.5 off the central coast of Chile and led to the formation of the International Tsunami Warning System in the Pacific. Measurements of these tsunamis are expected to provide researchers with important information linking earthquake rupture to tsunami generation and propagation characteristics. Preservation efforts transformed segments of each of the fragile paper records to usable digital data that aid tsunami researchers and operational agencies with a responsibility for issuing warnings during a tsunami event. The data and their metadata are available for download from NCEI at https://www.ngdc.noaa.gov/hazard/tide.shtml. NCEI is presently working on its second BEDI project to preserve select marigrams from 1854, 1883, 1896, 1933, and 1968 tsunami events.



The original marigram of the April 1, 1946 tsunami from Ayukawa, Japan and a plot of its conversion to digital data.

In this issue:

WASHINGTON STATE DEPT OF NATURAL RESOURCES
WASHINGTON GEOLOGICAL SURVEY

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http://www.dnr.wa.gov/programs-and-services/geology/geologic-hazards/tsunamis/tsuinfo-alert

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NATIONAL TSUNAMI HAZARD MITIGATION PROGRAM LIBRARY CATALOG:
http://d92019.eos-intl.net/D92019/OPAC/Index.aspx

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New NOAA Story Map Highlights Tsunamis

Last spring, NOAA leadership launched a series of story maps to highlight NOAA science, service, and stewardship. Originally intended as an internal communications tool, the story maps are also reaching external audiences and educating them about the agency's work. The latest NOAA Story Map focuses on the important work the agency and its partners are doing to reduce the impacts of tsunamis around the world.

It's available for viewing, and sharing, at:

https://noaa.maps.arcgis.com/apps/Cascade/index.html?appid=dca0ecc34eda494698544b9362e3aeec

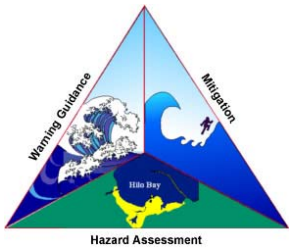
2018-2023 NTHMP Strategic Plan

By Rocky Lopes, NTHMP Administrator

Have you heard the expression, "a camel is a horse designed by a committee?" That expression is used to be critical of group decision-making by committee.

However, what this criticism does not take into account is the dedication, commitment, and collaboration of experienced NTHMP representatives when tasked to develop a major product.

The current NTHMP Strategic Plan covers the period from 2013 – 2017. It was written following the publication and discussion of the National Academies of Science report titled *Tsunami Warning and Preparedness: An Assessment of the U.S. Tsunami Program and the Nation's Preparedness Efforts* in October, 2010. It was also written under different times when the *2007 Tsunami Warning and Education Act* was the governing legislation.



2017 saw three major influences on the NTHMP Strategic Plan:

- The *2017 NTHMP External Review Report* – TWEA called for an external review to be conducted every five years. The 2017 External Review made a number of recommendations for the NTHMP Coordinating Committee to consider.
- Enactment of the *Tsunami Warning, Education, and Research Act (TWERA) of 2017*. TWERA is a major update to TWEA. It has many recommendations for the NTHMP.
- The NTHMP Subcommittees reviewed achievements, outcomes, and some "misses" in the *2013-2017 NTHMP Strategic Plan*. Some elements to carry forward were selected.

Dr. Grant Cooper, NTHMP Chair, appointed a Work Group who wrote a draft of the *2018-2023 NTHMP Strategic Plan*. Through a one-day in-person meeting and six conference calls, these dedicated individuals wrote, mediated, negotiated, and produced a product of which the NTHMP can and should be very proud.

The new NTHMP Strategic Plan follows the format of FEMA's Strategic Plan in being concise and theme-oriented, with photos and graphics from NTHMP partners to illustrate concepts in the Plan. Content is high-level and strategic, not tactical. The tactical components that will work with the new Strategic Plan will be Annual Work Plans developed by each subcommittee. Separating the tactical and milestone components from the Strategic Plan will ensure that the new Strategic Plan will be evergreen and will not require updating during its five-year life.

The new Strategic Plan has been shared in draft form with the NTHMP Coordinating Committee. It will be discussed and adopted at the NTHMP Annual Meeting in Seattle on February 1. The new Strategic Plan will be published and made publicly available after it is formally adopted by the Coordinating Committee.

Hats off to a "committee" that works: Mike Angove, Diego Arcas, Tamra Biasco, Corina Forson, Juan Horrillo, Kevin Miller, Kevin Richards, Althea Rizzo, Christa von Hillebrandt-Andrade and Rick Wilson. We appreciate the leadership from Dr. Cooper whose skill and capability with strategic planning was exceptionally helpful. It was my pleasure to facilitate the process of creating this new Strategic Plan. We are looking forward to having it approved and released in February!

Busy NTHMP Annual Meetings Week Planned

By Rocky Lopes, NTHMP Administrator

What used to be called "the NTHMP Annual Meeting" has evolved into a week of ten meetings within four-and-a-half days. Orchestrating this effort is a major feat!

Gone are the days of having 3 short subcommittee meetings followed by a tsunami-topic 1.5-day annual meeting with an add-on Coordinating Committee meeting that talked mostly about grants.

Hosted by NOAA's Pacific Marine Environmental Lab in Seattle January 29 – February 2, we will see:

- Three subcommittee meetings than range from four to six hours each
- Meeting of the Island Caucus
- Session to discuss mitigation & recovery planning
- Joint working session to facilitate NTHMP subcommittee collaboration
- One-day (traditional) tsunami-topic "annual" meeting
- Special session to discuss implementation of the new NTHMP Strategic Plan
- Dedicated session to discuss NOAA/NWS Tsunami Activities Grants
- Three-hour meeting of the NTHMP Governance Body – the Coordinating Committee

2017 NTHMP Annual Meeting Attendees

All of these meetings except the Grantees and Coordinating Committee are open to anyone to attend and participate.

What's different this time?

- Instead of a string of PowerPoint presentations giving respective partner updates, we will use a highly interactive and engaging method to use partner-prepared posters and conduct an interactive Q&A session with them. This process will shorten the partner presentation time, but will ensure that this important activity is covered.
- Outside speakers have been invited to explain how to work with the National Science Foundation and also from the "user community" – people who have applied NTHMP-developed products in their work.
- Considering the massive impact of Hurricanes Irma and Maria, we will hear from our colleagues in the Caribbean about their ongoing recovery efforts.
- The NTHMP will discuss the suggestion in the *2017 External Review Report* regarding "mitigation and recovery" and identify volunteers to write a proposal for the NTHMP Coordinating Committee about this matter.
- The new *2018-2023 NTHMP Strategic Plan* will be discussed and adopted by vote. This new Strategic Plan is different from its predecessors, and will work with tactical Annual Work Plans that subcommittees will be preparing.

And we'll get all of this done in four-and-one-half days. Whew! Come prepared to work!

To register and get more information about this meeting, please visit:

http://nws.weather.gov/nthmp/2018annualmeeting/index.html

American Samoa Seismic Monitoring Project

By Jacinta Brown and Lealofisa Moliga , American Samoa Dept. of Homeland Security

EXECUTIVE SUMMARY

- This report describes the operation of the IESE seismic station network that was installed in American Samoa in June/July 2016.
- The earthquake data, recorded between 1 July, 2016 and 1 February, 2017, is discussed.
- The area reported on, lies between Latitude: 12°S to 20.5°S, and Longitude: 168° W to 176°W.
- The recorded data was analysed by a triggering algorithm tailored to the identification of candidate local and region events.
- More than 15700 candidate events were manually inspected to investigate, if they were a local, or regional earthquake.
- 635 regional earthquakes were identified and located at distances greater than 100km from the islands of Tutuila and Ta'u.
- 12 local earthquakes were identified within a 100km radius of the island of Tutuila.
- In comparison, the USGS event catalogue contained 179 earthquakes located within the same reporting area, none of which are within the local region (<100km).
- A velocity model has been estimated to allow the location of earthquakes.
- The regional earthquakes were used to estimate the borehole station horizontal component orientations.
- Future uses of the network are discussed, and its potential use as a volcano monitoring network is presented.

Typical American Samoa telemetered microseismic recording station checked by geoscience technician Matthew Erickson.

Contact Jacinta Brown for access to full report:

j.brown@asdhs.as.gov

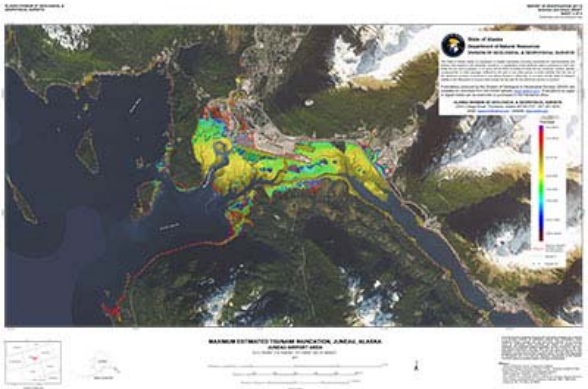
Tsunami Inundation Maps for Juneau, Alaska

By D.J. Nicolsky, E.N. Suleimani, R.D. Koehler, and J.B. Salisbury

Publication: Alaska Division of Geological & Geophysical Surveys Report of Investigation 2017-9

CITATION: Nicolsky, D. J.; Suleimani, E. N.; Koehler, R. D.; Salisbury, J. B., 2017, Tsunami inundation maps for Juneau, Alaska: Alaska Division of Geological & Geophysical Surveys Report of Investigation 2017-9, 66 p., 5 sheets, http://doi.org/10.14509/29741.

LINK TO PUB: http://www.dggs.alaska.gov/pubs/id/29741



RESEARCH & NTHMP EVENTS

CURRENT TSUNAMI RESEARCH

Akoh, Ryosuke; Ishikawa, Tadaharu; Kojima; Takashi; Tomaru, Mahito; Maeno, Shiro, 2017, High-resolution modeling of tsunami run-up flooding: a case study of flooding in Kamaishi city, Japan, induced by the 2011 Tohoku tsunami: Natural Hazards and Earth Systems Sciences, v. 17, 1871-1883, https://doi.org/10.5194/nhess-17-1871-2017.

Goff, J.; Golitko, M.; Cochrane, E.; Curnoe, D.; Williams, S.; Terrell, J., 2017, Reassessing the environmental context of the Aitape Skull: The oldest tsunami victim in the world?: PLoS ONE, v. 12, no. 10, https://doi.org/10.1371/journal.pone.0185248.

Marriner, N.; Kaniewski, D.; Morhange, C.; Flaux, C.; Giaime, M.; Vacchi, M., Goff, J., 2017, Tsunamis in the geological record: making waves with a cautionary tale from the Mediterranean: Science Advances, v. 3, DOI: 10.1126/sciadv.1700485.

Muhammad, Ario; Goda, Katsuichiro; Alexander, N. A.; Kongko, Widjo; Muhari, Abdul, 2017, Tsunami evacuation plans for future megathrust earthquakes in Padang, Indonesia, considering stochastic earthquake scenarios: Natural Hazards and Earth Systems Sciences, v. 17, p. 2245-2270, https://doi.org/10.5194/nhess-17-2245-2017.

National Academies of Sciences, Engineering, and Medicine, 2017, Emergency Alert and Warning Systems: Current Knowledge and Future Research Directions: The National Academies Press, Washington, DC., https://doi.org/10.17226/24935.

UPCOMING NTHMP & RELATED EVENTS

- January 29-February 2, 2018—NTHMP Annual Meeting (Seattle, Washington) http://nws.weather.gov/nthmp/2018annualmeeting/index.html
- February 11-16, 2018—AGU Ocean Sciences Meeting (Portland, Oregon) https://osm.agu.org/2018/
- May 14-17, 2018—Joint Conference of the Latin American and Caribbean Seismological Commission and the Seismological Society of America (Miami, Florida) http://seismology2018.org/
- May 7-9, 2018—8th International Symposium on Submarine Mass Movements and Their Consequences (Victoria, British Columbia) http://igcp640.oceannetworks.ca/
- June 3-8, 2018—15th Annual Meeting Asia Oceania Geosciences Society (AOGS) (Honolulu, Hawaii) http://www.asiaoceania.org/aogs2018