

GSA LUNCHEON

DECEMBER 2019

SPEAKER

Dr. Summer Ohlendorf, U.S. National Tsunami Warning Center (NWS/NOAA)

TITLE

Tsunami detectives in the Weather Service: seismic and sea level data analysis at the National Tsunami Warning Center

ABSTRACT

The U.S. NTCWC has a mission to provide accurate and timely tsunami warnings for the continental United States and Canada. To this end, the center ingests thousands of seismic and sea level data channels in real or near real time. Systems routinely process over ten thousand quakes per month, and duty scientists respond to about 600 alarms per month. A mission requirement to issue initial tsunami messages within 5 minutes of earthquake origin time means that redundancy, low latency, and efficiency of analysis and messaging are key. That said, there are physical and other limitations on what can be known about a particular tsunami source at different points in time. Forecasting the waves involves iteratively measuring observations and inverting for or scaling the most appropriate models.

Recent advancements such as running high resolution inundation forecasting on GPU servers are helping to decrease the amount of time between detection of a tsunamigenic event and release of a high quality tsunami forecast.

BIOGRAPHY

Summer is a seismologist who has been working at the National Tsunami Warning Center in Palmer for 4 years, initially as their first Intern Watchstander and now as full Watchstander/ Duty Scientist. She holds a B.A. in Geophysics from U.C. Berkeley and M.S. and Ph.D in Geophysics from University of Wisconsin-Madison. A California native, Summer fell in love with Alaska during field experiences in the Alaska Peninsula and Aleutians as a grad student, and is now happy to call Palmer home. Her research background largely revolves around volcanic systems and includes moment tensor calculation, earthquake relocation, body wave and ambient noise tomography, and ambient noise interferometry.

These days, she has particular passions for science communication and emergency preparedness. She puts these to work as a member of the National Tsunami Hazard Mitigation Program's Mitigation and Education Subcommittee.