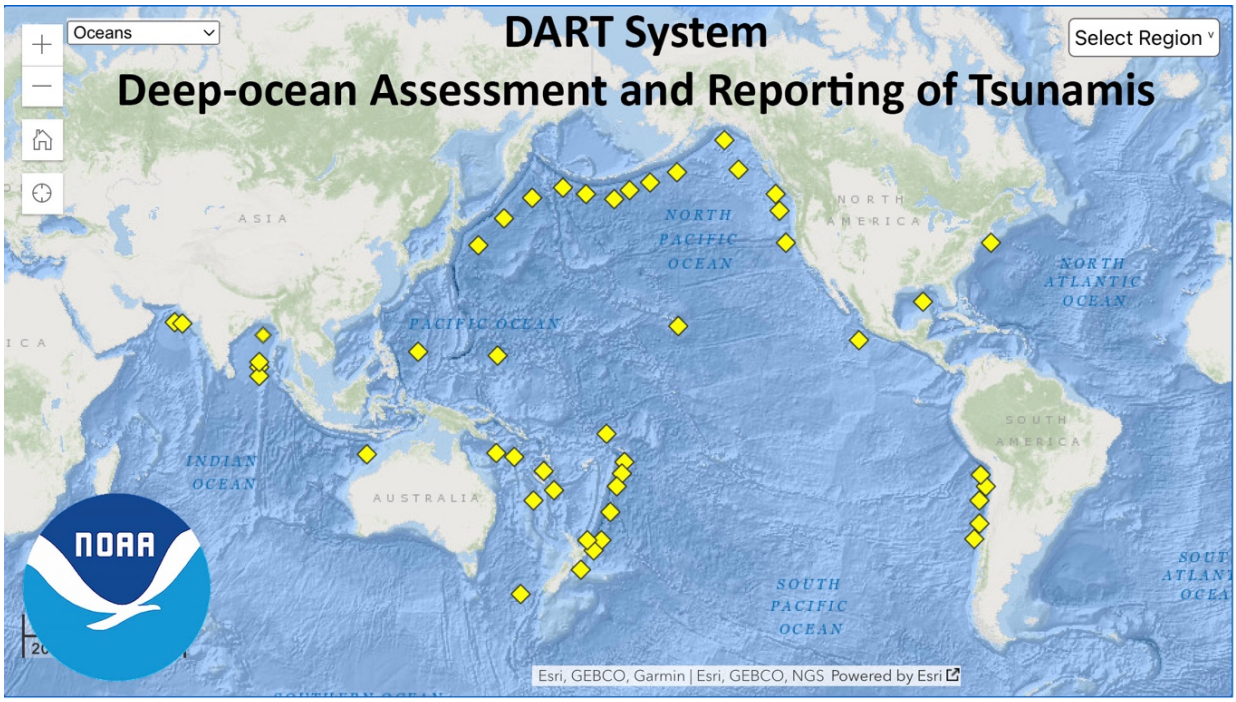
Times Standard

Not My Fault: NOAA's tsunami program needs strengthening not budget slashing

Lori Dengler for the Times-Standard

Posted March 8, 2025
https://www.times-standard.com/2025/03/08/lori-dengler-noaas-tsunami-program-needs-strengthening-not-budget-slashing/



NOAA's DART tsunami detection network. Yellow diamonds show the current locations of pressure sensors that sit on the seafloor surface and continuously measure the weight of the overlying water column and can detect tsunamis as small as an inch in height.

It's been a rough time for my colleagues at the National Oceanographic and Atmospheric Administration (NOAA). Nearly 900 positions have been eliminated over the past two weeks, just over 7% of NOAA's work force according to Washington Senator Cantwell.

The budget reductions have only just begun and are likely to have both intended and unintended consequences. Here's my take on what is known, and where we could be headed. I'll start by taking a look back a previous rounds of reductions in force (RIF). It's not our first rodeo.

The first major RIF that I remember was in 1980 under the Reagan administration. Immediately after entering office, Reagan implemented a hiring freeze on all federal agencies with civilian employees. His January 20, 1980, memorandum stated, "This action is necessary because the national budget is out of control." One of the results was the en masse dismissal of Air Traffic Controllers.

The hiring freeze was only the first salvo. Reagan's $39 billion in budget cuts required massive reductions in the federal workforce and in the first years of his administration, an estimated 33,000 workers lost jobs. Economists and historians still argue about the impacts of job cuts coupled with tax cuts and their roles in curbing inflation and triggering a recession. In the end, the job cuts were unsustainable and by the end of his administration in 1989, the federal workforce had increased by about 95,000 over pre-Reagan levels.

Fast forward to March 1993 when Bill Clinton stated, "Our goal is to make the entire federal government less expensive and more efficient, and to change the culture of our national bureaucracy away from complacency and entitlement toward initiative and empowerment." Nudged in part by the Newt Gingrich led congress, he proposed the National Partnership for Reinventing Government and between 1993 and 1998, it eliminated over 100 programs, 250,000 federal jobs, consolidated 800 agencies, and increasingly outsourced jobs to non-government contractors.

All government agencies were affected. The largest hits were to the Department of Defense which took over half of the reduction in permanent positions and becoming dependent on external contractors. But no agencies were spared and many of my generation just beginning their careers in the USGS were impacted.

How do RIFs work? In the mid-1990s agencies were told to develop position reduction plans. This meant identifying their more critical programs and eliminating those deemed less important. All government employees have seniority based on the number of years of service. If a person who had worked for many years was in an eliminated program, they could bump someone of less tenure in a program that was being maintained, as long as they could claim minimal qualifications for the role.

1995 was very ugly in the USGS. Thirty-seven percent of the USGS workforce were terminated in a single day in October 1995. Numbers don't tell the true story of the impacts. Over 100 senior scientists took the option of pushing someone of less seniority out of a job. Everyone was put in an untenable position. The person taking the reassignment was often not as qualified as the person they replaced. It ruined collegial relationships and productivity. Thirty years later, the anger persists.

We don't know the size and nature of the current administration's impending RIF or how targeted they will be. The initial executive order cut employees in probationary or temporary status. This included newer employees and people who may have worked for decades in government but had only recently received promotions. These are rising stars – generally younger, innovative, and more tech savvy. At the USGS it included all of the USGS Mendenhall Scholars – the postdoctoral program that supports some of the brightest recent PhD graduates in the field.

Uncertainty is the operative word for today. We don't know how large the RIF will be. I've seen estimates between 10 to 50% of the entire federal workforce, potentially much larger than the cuts of the Reagan and Clinton eras. We don't know if they will be targeted to certain agencies or programs. Rumors are running rampant leaving federal workers and the people they work with outside of government in turmoil.

Uncertainty is bad for business, bad for research, bad for productivity, and terrible on morale. I am on NOAA's Tsunami Science and Technology Advisory Panel (it is a volunteer position and I don't get paid) and I know a number of people fairly high up in the organization. For the last few weeks, I've been asking what they know or expect, and the answer is a unanimous "we don't know."

The US tsunami program is a very small part of NOAA. It includes the two tsunami warning centers, tsunami research at the Pacific Marine Environmental Laboratory in Seattle and underpins state tsunami hazards reduction programs through the National Tsunami Hazards Mitigation Program (NTHMP). Full disclosure – grants from the NTHMP have funded much of our North Coast tsunami outreach effort including the newest edition of Living on Shaky Ground.

In the first round of cuts, the tsunami program lost its administrator, the person who coordinates the different pieces of the program, several support personnel, and a newly hired forecaster at the Pacific Tsunami Warning Center. Two recently approved positions at the International Tsunami Information Center were frozen.

I am far more concerned about what might be happening next. Two years ago, NOAA finally recognized the need to put the two tsunami warning centers on a common operating system truly capable of backing each other up. At present, the centers in Hawaii and Alaska use different hardware and software and operate under separate administrative parts of NOAA. I am worried that budget cutting could set this project back, continuing the current inefficient system.

I am even more concerned about the maintenance and support of our offshore tsunami detection system and state tsunami programs. The Deep-ocean Assessment and Reporting of Tsunamis (DART) has been a huge step forward in our ability to assess the potential of a tsunami to cause damage.

There are currently 39 DART instruments owned and serviced by NOAA in the Pacific, and off the US East and Gulf coasts. Located in deep water, they are invaluable in assessing threat for tsunami produced by great earthquakes far away. Using the data from several DART instruments off the coast of Japan in March 2011 a peak amplitude of 2.5 meters was made for Crescent City. The measured peak was 2.49 meters. This assessment of the likely threat was important in the response.

DART instruments are located in very rough environments subjected to massive waves, winds, and extremes of temperatures. Maintenance requires regular ship visits, another part of NOAA potentially under the budget axe. And we could really use more of them. Our closest DARTS are offshore of Mendocino and Oregon. Had there been an instrument in the Gorda plate offshore of Humboldt County, our December 5th Warning might have been canceled more quickly. DARTs have the potential to yield even more information through the application of AI and machine learning. But this is new research and requires new experts and careful testing before it can become operational.

My little plea for the tsunami program is being echoed throughout the country for earthquakes, landslides, extreme weather, wildfire, floods, and so forth and so on. We've

developed state of the art systems for detection, interpretation, and response to events that we know can harm us. With new technology and analytic techniques, we can do better – improving forecasts, making them more quickly, and communicating them more clearly. It's not the time to turn our backs.

Note: California's Tsunami Preparedness Week starts on March 22 but here on the North Coast we are getting a jump start. Next Wednesday March 12, Cal Poly Humboldt will be hosting an evening presentation on the December 5 M7.0 Mendocino fault earthquake and tsunami. It will be held in the Goodwin Forum in Nelson Hall East on the Humboldt Campus from 5:30 – 7:00 PM. Learn about what happened, the earthquake early warning system, the tsunami Warning and preparedness tips. If you can't attend in person, go to https://tinyurl.com/mrkra5z4 for a link to join via Zoom.

Lori Dengler is an emeritus professor of geology at Cal Poly Humboldt, and an expert in tsunami and earthquake hazards. The opinions expressed are hers and not the Times--Standard's. All Not My Fault columns are archived online at https://kamome.humboldt.edu/taxonomy/term/5 and may be reused for educational purposes. Leave a message at (707) 826-6019 or email Kamome@humboldt.edu for questions and comments about this column or to request copies of the preparedness magazine "Living on Shaky Ground."