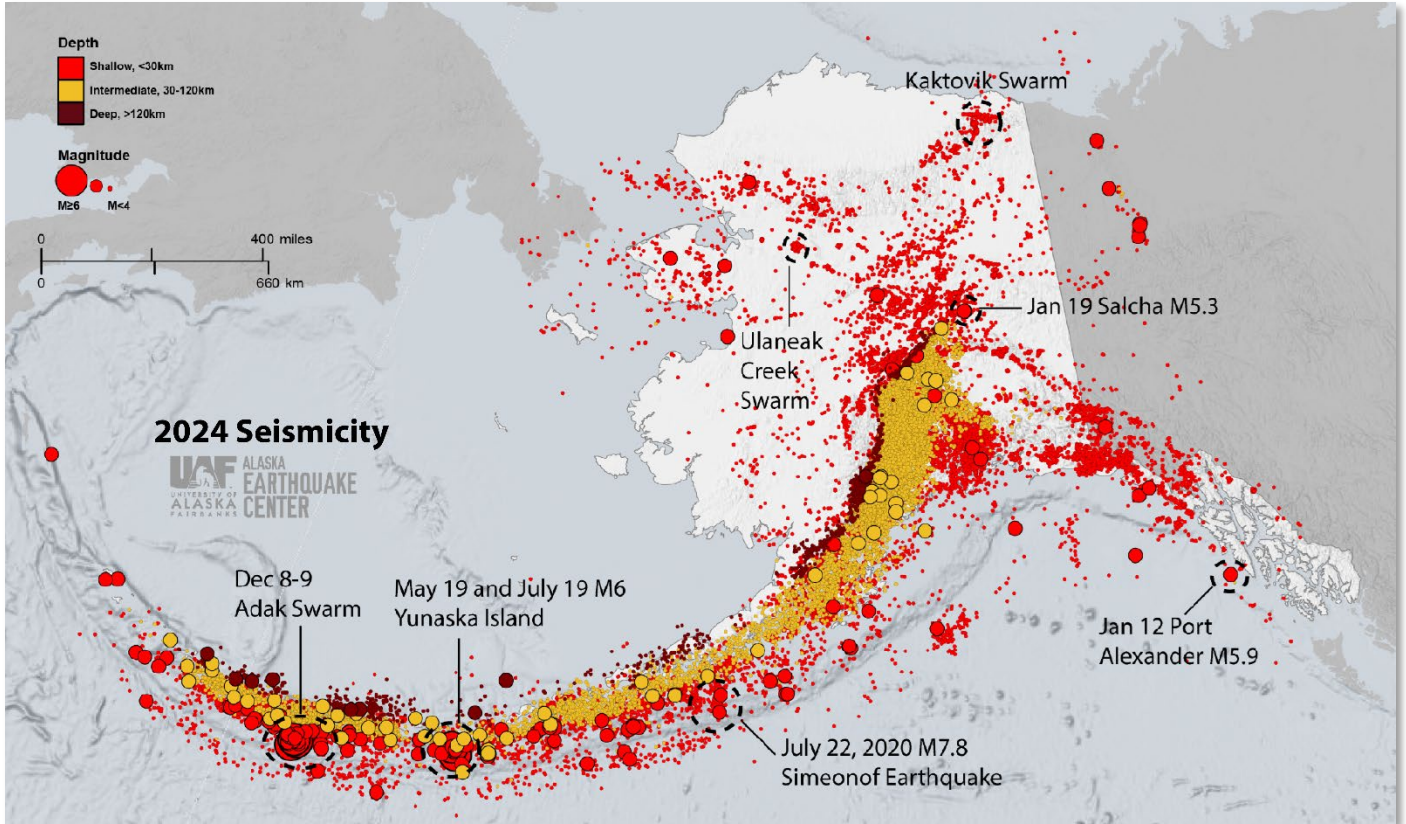


ASHSC Alaska Seismic Hazards Safety Commission



2024 ANNUAL REPORT

TO THE GOVERNOR & STATE LEGISLATURE

EXECUTIVE SUMMARY

The Alaska Seismic Hazards Safety Commission (ASHSC) continues to pursue its mission to improve seismic resilience in Alaska. Earthquake hazards exist in nearly every corner of the state and our active geology and extensive coastlines guarantee that we will continue to experience significant earthquakes and tsunamis. While there were no damaging Alaska earthquakes in 2024, we continue our earthquake and geohazards education and outreach efforts to make Alaskans more resilient.

In alarming opposition to Alaskan resilience, the National Oceanic and Atmospheric Administration (NOAA)-National Weather Service (NWS) announced intent to terminate the National Tsunami Hazard Mitigation Program (NTHMP) in federal fiscal year 2025. The NTHMP grant funds are the primary funding source for tsunami hazard mapping, education and outreach, mitigation, preparedness, and overall tsunami readiness in the United States. Ending this program will end tsunami preparedness activities in Alaska. **Please urge NOAA to continue the NTHMP program—Alaskan lives depend on it.**

The 2018 magnitude (M) 7.1 Anchorage earthquake resulted in significant geotechnical damage to structures throughout Southcentral Alaska and multiple engineering and geotechnical reports have linked this damage to the lack of statewide building code adoption and enforcement. We recommended specific steps in [Policy Recommendation 2020-1](#) to improve building code adoption and enforcement and have vocally supported two bills from the 33rd State Legislature, namely House Bill 150 and Senate Bill 197—both acts relating to statewide residential building codes. Improving the safety and functionality of our homes, schools, hospitals, and businesses following the next significant earthquake remains our top priority.

The Alaska Earthquake Center (AEC) reported 39,836 seismic events in Alaska and neighboring regions in 2024, 188 of which were reported felt in Alaska communities. The largest earthquakes were two magnitude 6.3 events that were part of a swarm of M6 events on December 8-9 in the Andreanof Islands region of Alaska. The first occurred on December 8 at 19:57:07 UTC, and the second occurred at 00:15:30 on December 9, followed by an M6.1 23 minutes later. Other strong earthquakes include two M6.0 events, one on May 19 and one on July 19, both south of Yunaska Island in the Islands of Four Mountains region of the Aleutians, and the strongest mainland earthquake, a M5.9, off the coast of Port Alexander in Southeast Alaska on January 12. Monitoring of the 2020 M7.8 Simeonof sequence continues, but all other previous sequences and swarms have dropped below one event per day and are no longer being tracked at the Alaska Earthquake Center.

We are proud of the Commission's work and welcome the opportunity to further discuss our activities.

Barrett Salisbury, DGGs, Chair
Colin Maynard, Vice-Chair

Cover Photo: 2024 Alaska seismic summary map from the Alaska Earthquake Center

**ALASKA SEISMIC HAZARDS SAFETY COMMISSION
ANNUAL REPORT TO THE GOVERNOR
& STATE LEGISLATURE FOR 2024**

INTRODUCTION

This report¹ summarizes the ASHSC's business, activities, and accomplishments in 2024 as related to its statutory powers and duties (AS 44.37.067) on behalf of the Governor, Legislature, local governments, and the public and private sectors, which include:

- *Recommending goals and priorities for mitigating seismic hazards (e.g. strong ground shaking, landslide, avalanche, liquefaction, tsunami inundation, fault displacement, and subsidence);*
- *Recommending policies including needed research, mapping, and monitoring programs;*
- *Reviewing the practices for recovery and reconstruction after a major earthquake and to recommend improvements to mitigate losses from similar future events; and,*
- *Gathering, analyzing, and disseminating information of general interest on seismic hazard mitigation to reduce the state's vulnerability to earthquakes.*

Alaska has more earthquakes than any other region of the United States and is one of the most seismically active areas of the world. The next significant earthquake and potential tsunami could happen at any time and we must continue to improve our seismic resilience now, before the next disaster occurs. The risks to public safety and infrastructure from future events can be greatly reduced through proper planning, design, construction, and continued education and outreach.

COMMISSION BUSINESS

Membership

The ASHSC membership represents a broad cross-section of Alaskan professionals which allows for a unique perspective on seismic hazards. We have representatives from the scientific sector who study modern and prehistoric earthquakes, engineers who design our infrastructure to minimize earthquake risk, and government representatives and emergency managers who mitigate against and respond to earthquake disasters.

¹ The Commission's documents (e.g., annual reports, meeting agendas and minutes, strategic and operating plans, policy recommendations and white papers, etc.) are available on our website: <https://seismic.alaska.gov>



TABLE 1: COMMISSION MEMBERSHIP

COMMISSIONER / OCCUPATION / RESIDENCE	REPRESENTATION
Barrett Salisbury, PhD - Chair Earthquake Geologist, DGGs; Fairbanks	Alaska Department of Natural Resources
§ Nicholas Murray, PE, SE Bridge Engineer, AK DOT&PF; Juneau	Public/Restricted (1/3)
Bryan Fisher Director, DHS&EM; Anchorage	Alaska Department of Military & Veterans Affairs
Liam Knecht Architect, USCG; Juneau	Federal Agency
§ Tom Bergey Mat-Su School Board President; Wasilla	Local Government (1/3)
§ Aaron Baczuk Emergency Manager, City of Valdez; Valdez	Local Government (2/3)
Colin Maynard, PE, SE, F.NSPE Retired Structural Engineer; Anchorage	Public/Restricted (2/3)
Theresa Harmon Administrative Assistant, DGGs; Fairbanks	n/a
† Dan Neuffer, PE Geotechnical Engineer, Palmer	Public/Restricted
* Natalia Ruppert, PhD – Vice Chair Seismologist, UAF; Fairbanks	University of Alaska

† Resigned this year § Re-appointed this year *End of Term reached

With only seven of 11 seats filled, the ASHSC is actively recruiting for an insurance industry, local government representative from a seismically active area, a public/restricted, and a University of Alaska representative.

Meetings

The ASHSC conducted ten regular business meetings in 2024, all of which were public (January 18, February 15, March 11, April 17, May 16, June 20, August 15, September 19, November 19-20, and December 19). The March 11 and November 19-20 meeting were conducted in person in Juneau and Anchorage, respectively.

Ethics Act (AS 39.52)

The ASHSC submitted quarterly ethics reports to the Department of Law in 2024, with no written determinations, requests for determinations, or suspected potential violations.

Finances

The ASHSC's expenditures in 2024 (SFY24) totaled \$8,286.16 out of an annual budget of \$10,000.

ACTIVITIES & ACCOMPLISHMENTS

This section summarizes our activities and accomplishments during the last year. These accomplishments include activities addressed by the full Commission along with the actions of working groups and individual commissioners working on related business.

- **Participated in DHS&EM-facilitated Tsunami Operations Workshop and Rural Resilience Workshop for Southcentral and Prince William Sound communities on the 60 anniversary of the 1964 Great Alaska Earthquake**



As part of the National Tsunami Hazard Mitigation Program (NTHMP), Commissioner Salisbury participated in several DHS&EM-led earthquake and tsunami workshops to educate coastal Alaska communities about local hazards and how to prepare and respond to emergencies. Working with community governments, emergency responders, and law enforcement, we interacted with over three dozen at-risk

communities in 2024. As mentioned earlier, the NTHMP program is at risk of being eliminated.

Over the past two decades, funding support from NOAA's yearly NTHMP grants have enabled states and territories to undertake and maintain the following critical activities. Without continued funding, these efforts will cease in Alaska:

- **Local tsunami education and preparedness efforts**, which include public outreach, education campaigns, workshops, and other training for the public, elected officials, and emergency management.
- **Tsunami alerting** via state and territory communication processes with hundreds of local partners and coordination with NOAA's Tsunami Warning Centers.
- **Tsunami hazard modeling** to improve understanding of tsunami risk to coastal communities from both local and distant tsunamis, as well as the risk from multi-hazard flood impacts from coastal storms and sea-level rise.

- **Evacuation and response planning**, including the creation of tsunami hazard zone and evacuation maps, community-specific evacuation brochures, wave simulations, response plans, and the facilitation of community evacuation drills.
 - **Mitigation and recovery planning** to prevent immediate and long-term impacts from tsunamis, including the construction of tsunami vertical evacuation structures, which are necessary for survival in areas throughout the U.S. where tens of thousands will not be able to evacuate before a local tsunami arrives.
- **Valdez Alaska Exercise (EX) and Maritime Guidance Workshop**

In May and June 2024, Commissioner Baczuk, Emergency Manager for the City of Valdez, organized a full-scale earthquake, landslide, and tsunami exercise for local, state, and federal incident management teams to practice disaster response. The exercise involved many supporting agencies from around Alaska and focused on operational communications and coordination, public warning and messaging, and mass care and emergency medical services. The geologic hazards addressed in the exercise were developed in consultation with scientific specialists and allowed stakeholders test capabilities for notification, evacuation, and continuity of operations following a realistic practice scenario.



Following the Alaska EX, the City of Valdez, Nuka Research and Planning Group, LLC, and the Prince William Sound Regional Citizens' Advisory Council hosted a Tsunami Hazards Guidance Workshop for Vessel Operators to better understand the risks to vessels posed by geological hazards and tsunamis and to review vessel operator guidance. Workshop participants included technical landslide and tsunami modeling experts, vessel operators and harbormasters, local, state, and federal agencies, and other local stakeholders.

- **Pursuit of improved building code adoption and enforcement in Alaska**

In partnership with the Alaska Department of Homeland Security & Emergency Management (DHS&EM), the ASHSC defined the scope of work for a contracted study on evaluating building code use in Alaska. Funds for the work are available from the Federal Emergency Management Agency (FEMA) through the National Earthquake Hazards Reduction Program (NEHRP) Individual State Earthquake Assistance (ISEA) program. The ongoing, multi-year project seeks to clarify the current state of building code adoption and enforcement in Alaska, to analyze successful approaches of other seismically active states, and to provide clear recommendations for improvements in Alaska.

To this end, we have offered our support for House Bill 150 and Senate Bill 197—both acts relating to statewide adoption of residential building codes. We formed a subcommittee with members from the insurance industry, the Alaska Housing Finance Corporation, the Alaska Department of Public Safety, and the Municipality of Anchorage Geotechnical Advisory Commission to discuss hurdles to these active bills and to brainstorm ways to improve our understanding of the current situation and provide a roadmap towards achieving the recommendations outlined in Policy Recommendation 2020-1².

- **Continued multi-agency Barry Arm landslide monitoring and outreach**

Commissioners Ruppert and Salisbury continue to participate in the multi-agency task force studying the potential for a significant tsunami to be generated by a massive subaerial landslide in the Barry Arm of Prince William Sound. Such a tsunami would be dangerous to watercraft, fisheries, and several population centers including the City of Whittier.

Multiple instruments, including an infrasound array, seismometers, cameras, weather and soil data loggers, ground-based radar, and water-level sensors have been established as part of an early warning system in the event of a mass movement.

The AK Division of Geological & Geophysical Surveys continues to maintain a website³ and listserv for regular updates and important announcements from the multi-agency team.

² https://seismic.alaska.gov/download/ashsc_meetings_minutes/pr_2020-1_code_adoption_and_enforcement.pdf

³ <https://dgggs.alaska.gov/hazards/barry-arm-landslide.html>