# National Volcano Early Warning System Advisory Committee Meeting Summary Notes

Tuesday, July 29 – Wednesday July 30
12pm-30pm Eastern Each Day
Virtual – Microsoft Teams

## Table of Contents

# Attendees

## Day 1

### Agency Employees

- Gari Mayberry (DFO), Natural Hazards Mission Area, USGS
- Wendy Stovall, Natural Hazards Mission Area, USGS
- Seth Moran, Cascades Volcano Observatory, USGS
- David Applegate, Natural Hazards Mission Area, USGS
- Cassandra Smith, Natural Hazards Mission Area, USGS

### Advisory Committee Members

- Nelia Dunbar, New Mexico Bureau of Mines and Geology (Ret.)
- Casey Hanell, Washington Geological Survey
- Leif Karlstrom, University of Oregon
- Yvette LaDuke, California Governor's Office of Emergency Services
- Michael Manga, University of California Berkeley
- Matthew Pritchard, Cornell University
- Karen Shelton-Mur, Federal Aviation Administration
- Brian Terbush, Washington State Emergency Management Division
- Jennifer Wade, Earth Sciences Division, NSF
- Jeff Williams, Alaska Maritime Wildlife Refuge, USFWS

### Registered Guests

- Linda Rowan
- Samantha Layne
- Alice Crawford
- Lora Wilson

## Day 2

### Agency Employees

- Gari Mayberry (DFO), Natural Hazards Mission Area, USGS
- Wendy Stovall, Natural Hazards Mission Area, USGS
- Seth Moran, Cascades Volcano Observatory, USGS
- Cassandra Smith, Natural Hazards Mission Area, USGS
- Matt Haney, Alaska Volcano Observatory, USGS
- Jon Major, Cascades Volcano Observatory, USGS
- Phillip Dawson, California Volcano Observatory, USGS
- Ken Hon, Hawaii Volcano Observatory, USGS
- Michael Poland, Yellowstone Volcano Observatory, USGS

### Advisory Committee Members

- Lauren Boyd , Geothermal Technologies Office, DOE
- Nelia Dunbar, New Mexico Bureau of Mines and Geology (Ret.)
- Casey Hanell, Washington Geological Survey

- Leif Karlstrom, University of Oregon
- Michael Manga, University of California Berkeley
- Matthew Pritchard, Cornell University
- Karen Shelton-Mur, Federal Aviation Administration
- Brian Terbush, Washington State Emergency Management Division
- Jennifer Wade, Earth Sciences Division, NSF
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## Registered Guests

- Linda Rowan
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- Alice Crawford

# Day 1- July 29

## 12:00 - Welcome, where we left off, plan for the day / Leif Karlstrom, Jenn Wade

The NVEWSAC ("the Committee") co-chairs, Leif Karlstrom and Jenn Wade, went over public rules, took role call, and briefly went over the plan for the day. Then Dave Applegate, Associate Director of Natural Hazards as well as Chief Scientist for USGS gave some introductory remarks thanking members for participating and recognizing the uncertainty of the USGS budget and staffing and how that impacts the Committee's advisement.

## 12:15 - Federal budget update / Jenn Wade

Co-Chair Jenn Wade gave a brief overview of the current federal budget. Including that FY2025 is operating under a full year continuing resolution that was passed in March, while acknowledging that most agencies are still waiting for final numbers for FY25. For FY26 appropriation bills are continuing to work through congress. The www.aip.org/fyi/budget-tracker chart was shown as an example of differences in the presidential budget request vs house bill vs. senate bill.

## 12:25 - VHP updates / Gari Mayberry

Gari Mayberry, provided an update on the USGS Volcano Hazards Program. This presentation went over NVEWS implementation, priorities, and actions, VSC current responses, an introduction of the Daily Volcano Activity Report, VHP staffing, VHP funding, and collaborations with the landslide and earthquake hazards programs.

## Discussion:

**The committee asked:**
If they could know who the new APC starting in September is.

**USGS Response:**
The VHP is not at the point of announcement yet but will let the NVEWSAC know as soon as it can.

**The committee asked:**
Why there are different numbers of active volcanoes listed on different USGS products.

**USGS response:**
The number includes volcanoes that have either been active in the Holocene or have known active magmatic and hydrothermal systems (latter includes large caldera systems such as Long Valley, Valles Caldera, and Yellowstone). The number fluctuates based on geologic investigations and has gone both up and down since we began counting. We are in the process of revising the number of volcanoes, and we anticipate that the count will change again based

on new methods for counting distributed volcanic systems. We use a round number of about 170 volcanoes often when speaking to general groups. However, the official count, based on the 2018 revised threat assessment is 161. There is a lot of flexibility in lumping vs splitting, the age of the volcano, how deep underwater do we count. This overall comes down to a scientific communication issue with precision vs rounding.

**Committee comment:**
Having different numbers in different spots seems to cause confusion, and some distrust in the organization. Getting consistent numbers will be important to continue public trust in scientists/USGS.

**The committee asked:**
What is the international monitoring community is focused on/thinking about/seeing as challenges/opportunities in similar situations to NVEWS.
**USGS response:**
NZ colleagues have shared experiences in building national systems and that they share similar issues with resources to monitor at appropriate level. NVEWS interacts with international partners on logistics, access, resources, and staffing that are universal problems.

**The committee asked:**
Who is the volcano-generated tsunami postdoc? The committee noted that it would be great for the postdoc working on the volcano-generated tsunami to work with the NWS/NTWC.
**USGS response:**
The tsunami post doc is Daniel O'Hara | U.S. Geological Survey and the USGS will ensure that he is linked in with the NWS via FUMES and Charlie Mandeville.

## Links Shared:

- Advisory committee on landslides: https://www.usgs.gov/programs/landslide-hazards/advisory-committee-landslides-acl
- Scientific Earthquake Studies Advisory Committee (SESAC): https://www.usgs.gov/programs/earthquake-hazards/scientific-earthquake-studies-advisory-committee-sesac
- NOAA Implementation Plan- Implementation Plan for the National Oceanic and Atmospheric Administration's Modernization of the National Volcano Early Warning and Monitoring System Pursuant to the National Defense Authorization of Fiscal Year 2023

## 12:45 - NVEWS re-authorization and membership update / Cassandra Smith

Cassandra Smith provided an update on where the NVEWS authorization is in Congress. H.R. 3176 sponsored by Rep. Begich has passed out of committee with unanimous consent. S. 1052 sponsored by Se. Murkowski has been referred to the Committee on Energy and Natural Resources. Smith also provided an update on the NVEWSAC membership going over which members have departed and the process for nominating new members. She noted that a notice for nominations should be published in the Federal Registry Notice soon.

## Discussion

**The committee asked:**

Would it be helpful to find additional co-sponsors for NVEWS reauthorization in the House?
**USGS response:**
It cannot comment on this, but that the USGS is always happy to provide education to those interested on the Hill. It was noted that the recent Mt Adams earthquake swarm resulted in congressional interest and USGS representatives met with staffers in November to discuss it.

**The committee asked:**
How would an extended lapse in the reauthorization affect the work of the Committee and NVEWS work?
**USGS response:**
NVEWS has not been authorized since 2023 however, it will continue to work and meet as it has been. VHP is still authorized to do monitoring so we can continue to work on these topics.

**The committee asked:**
How long will it take from the nomination process for new members to join the committee?
**USGS response:**
It may take months to go through the full process from USGS to DOI to White House for member approval.

## 1:15 – Lightning-talk-style updates

- After a short break the Committee reconvened to have lightning-talk-style updates from each member of the Committee. These updates focused on NVEWS-relevant updates, wins, or challenges that the committee member had. Each member had 2 minutes for their update.
- Neilia Dunbar shared information on a recent paper on quaternary volcanoes in the Rio Grande rift along the Jemez lineament in NM.
- Casey Hanell shared about the NVEWS presentation at the Association of American State Geologists meeting, continued outreach on volcano hazard awareness and significant interest in the recent earthquake swarm at Mt. Rainier.
- Yvette LaDuke shared that there is a new staff member of CalOES (Samantha Layne) dedicated 70% to volcano program work with the CalVO collaboration, that the Volcano Con Ops plan for California is in final review, that duty officers are training on volcano hazards, and that there is renewed focus on interstate/regional eruption planning.
- Leif Karlstrom shared that there is progress on a statistical approach for assessing the completeness and recurrence of eruptions with a new NSF funded postdoc Chris Haper, that a grant has been submitted to work on joint geodetic and seismic data interpretation, and that USGS/NSF Intern Keel Wilde will be working with HVO through December on synthesizing continuous gravity with GNSS/tilt data to understand short term ground deformation episodes.
- Michael Manga shared upcoming research plans for a research cruise on the Australian RV Investigator to study the Hunga Tonga Hunga Hapai eruption. He notes that offshore deposits of eruptions have highly faithful records of the frequency of eruptions.
- Matthew Pritchard shared insights from the pre-IAVCEI workshop ‘Using Satellite Data for Volcano Monitoring” that had ~50 attendees. Plans are in progress to have an online version of the training in 2026 focused on volcano observatories.

- Karen Shelton-Mur shared information on the International Civil Aviation Organization (ICAO)'s International Airways Volcano Watch program which has led to new global requirements for quantitative volcanic ash concentrations.
- Brian Terbush shared insights from the recent Adams and Rainer swarms and how these events have led to updates to the region's coordination plans. He also shared that they have recently done a Reddit AMA that went well and offered to share insights if others plan to do similar events.
- Jenn Wade shared that geohazards remain a priority for NSF. The EAR section has reorganized into 4 clusters – one of which is 'Chemical Evolution of the Solid Earth and Volcanology.'
- Jeff Williams shared information on how the Alaska Maritime National Wildlife refuge has 40-50 volcanos and although as Deputy Refuge Manager they don't do research they are a key support for Alaska Volcano Observatory research in the area.

## Link Shared:

- https://pubs.geoscienceworld.org/gsa/geosphere/article/20/2/505/636094/A-temporal-dissection-of-late-Quaternary-volcanism.)
- https://www.reddit.com/r/IAmA/comments/1knayci/45_years_ago_this_month_mt_st_helens_erupted_we/?sort=confidence
- Division of Earth Sciences reorg info: https://www.nsf.gov/geo/updates/realigning-nsf-division-earth-sciences
- NSF EO Updates: https://www.nsf.gov/executive-orders
- NSF Priority Updates: https://www.nsf.gov/updates-on-priorities

## 1:45 - Current activity relevant to NVEWS: Spurr, Kilauea, etc / Seth Moran

Seth Moran gave an overview of NVEWS including what has happened since the last NVEWSAC meeting. The first section focused on recent volcanic activity and responses including overviews of the following events:

- Mount Adams unrest, August – November 2024 (CVO Information Statement)
- Mount Spur unrest, April 2024 – ongoing (AVO Alert Level change to Yellow)
- Kilauea eruption: 29 episodes inside caldera between December 2024 – July 2025 (HVO Alert Level Orange)
- Mount Rainier swarm, July 2025 (CVO Information Statement)

## Discussion:

**The committee asked:**
Who is responsible for the airborne flights at Spurr? i.e. what company? are they flights operated by the VO?

**USGS response:**
The flights are contracted through the Alaska Division of Geophysical and Geological Surveys as part of AVO.

**The committee asked:**
Is the multi-GAS data a continuous timeseries? Is it published in near-real-time like the geophysical data?

**USGS response:**
The multi-GAS data are not always published in near-real-time, but the Spurr multi-GAS is being posted to the AVO website. Additionally, at Mount St. Helens the telemetry network is available for the data to be transmitted but to conserve power, the station turns itself off and on according to a schedule. It measures for 30 minutes every 6 hours. So, it's continuous in the sense that multiple measurements are made every day, but it's not on all the time.

**The committee asked:**
Is there was any forecast on how long the sequence of eruptions in Hawaii will continue?
**USGS response:**
HVO is taking a wait and see approach but looking at tilt and it keeps maintaining trends towards eruption. Noted that HVO SIC will be at the meeting tomorrow.

**The committee asked:**
Is the lack of monitoring at Mount Adams due to money or the wilderness status and the difficulty of navigating that aspect.
**USGS response:**
Mount Adams is ranked as High but not Very High threat, so it is of a lesser priority. In addition, it is very difficult to work on due to the snow and ice preventing installs above the tree line. Permitting plans are also complicated as the land is split ½ wilderness and ½ Yakima nation tribal lands. However, the swarm brought attention to the issue and more stations are being installed but several of these new stations are too far away to 'count for NVEWS.'

## 2:15 - Threat-level reassessment; VSC Update broadly / Seth Moran

Moran then gave an overview of the Threat-Level Reassessment project including rational for the reassessment, the composition of the team assigned to do the reassessment, recent guidance from the VHP Program Council, and progress over the last year. Moran also discussed recent VSC staffing changes, and the NVEWS completeness level of monitoring networks across the observatories.

## Discussion

**The committee asked:**
What is the timeline for the public release of the revised rankings?
**USGS response:**
It depends on the committee and whether the October internal deadline can be met. There are many issues to work through. Once the rankings are presented to the program council in October, the timing will depend on whether further revisions are needed. The goal is to release a high-quality product.

**The committee asked:**
Is there a way the NVEWSAC can be helpful?
**USGS response:**
Possibly through vetting. Seth will provide a progress briefing at the next meeting.

**The committee noted:**
It is difficult to make progress on NVEWS, NVIS, and watch office efforts due to staffing losses and vacancies.

**The committee asked:**
The Rainier lahar detection system "doesn't count." Has this been considered?
**USGS response:**
Originally, the NVEWS coverage area was defined as a 20 km radius focused on a single vent, which did not account for rifts, fields, or calderas. Now polygons are used. NVEWS was designed for detecting unrest at a single vent, whereas Rainier lahars can occur with or without an eruption. Expanding criteria could significantly increase monitoring needs, which is challenging. Rainier's scenario is outside the original NVEWS design.

**The committee asked:**
Is NVEWS considering the Black Diamond explosion that occurred at Yellowstone? Does it fall under the Advisory Committee's purview?
**USGS response:**
Discussions are ongoing. A station was installed yesterday, which counts toward NVEWS coverage. Hydrothermal hazards like this present challenges similar to DVF scenarios, and YVO is evaluating monitoring strategies.

**The committee asked:**
Given staffing constraints, do we have enough personnel to actively monitor, or are data streams being lost?
**USGS response:**
We are meeting core monitoring needs and responding in time, but challenges remain. For example, HVO is doing an excellent job but feels stretched and unable to capture all ephemeral activity. Staffing shortages are impacting progress on NVEWS goals, such as delayed Mauna Loa station installations due to Kīlauea response demands. We will maintain existing capabilities, but advancing projects is limited by staffing.

**The committee asked:**
Are there conversations between NVEWS and LHP about lahar early warning and debris flow early warning?
**USGS response:**
Yes, there is significant overlap and ongoing discussions. Many lahars coincide with volcanic activity, so coordination is important. Historically, VHP and CVO had more hydrology expertise, but this has decreased due to retirements, while LHP has grown.

**The committee asked:**
Is the hiring freeze affecting deployment? Can cooperative agreements help?
**USGS response:**
Staffing is a major constraint. Cooperative agreements with 4–5 universities exist and include some instrumentation work, but they have a 1–2 year lag and require detailed SOWs. For example, UW is doing several projects this year. Permitting is also a challenge—many sites are in wilderness areas, so VOs must handle permitting logistics, which requires staff. Some contracting is possible (e.g., at MSH) but not in all areas.

**Links Shared:**
WGS graphics including volcano graphics. All are available for any use with or without modification with attribution: https://www.flickr.com/photos/wastatednr/albums/

## 2:45 – Public Comments

There were no public comments.

## 2:30 – 3:00 - Day 1 Wrap-up / Leif Karlstrom, Jenn Wade

The co-chairs thanked the committee, USGS, and public attendees for their attention and participation. They gave a brief overview of what the agenda would be for the following day and adjourned the meeting at 3:00pm.

# Day 2 - July 30

## 12:00 - Welcome, plan for the day / Jenn Wade, Leif Karlstrom

The co-chairs welcomed the committee, USGS, and public attendees. Roll Call of members and USGS coordination team was done, and a review of public participation rules was announced.

## 12:05 - Reports from the Observatory SICs / Jenn Wade moderator

In this section each Volcano Observatory Scientist-in-Chare had 20 minutes to present and 5 minutes for questions.

## Yellowstone Volcano Observatory - Mike Poland

The Yellowstone Volcano Observatory update for NVEWSAC consisted of a brief review of the different organizations that make up YVO, the boundaries of the VO, and key monitoring aspects. YVO is more than just Yellowstone, it also is responsible for the Southwest volcanic fields and distributed volcanism. Key monitoring advances include increasing infrasound monitoring of hydrothermal features within Yellowstone National Park. Specific Questions that YVO had for the NVEWSAC included:

- How important is distributed volcanism?
- Where does Yellowstone hydrothermal work rank compared to other projects?
- Should Idaho be part of YVO?

*Discussion*

**The committee asked:**
What resources are needed to monitor hydrothermal systems for public safety?
**USGS response:**
1–2 multi-instrument stations per major geyser basin. Some events are very quiet, so a second site helps triangulate signals. This also supports estimating annual hydrothermal explosion frequency. Seismic and infrasound instruments are most important, along with one GPS per basin.

**The committee asked:**
What about hazard assessment for distributed volcanic fields? These are different—does more work need to be done in the short term?
**USGS response:**
Yes. Matt Zimmerer's work in New Mexico reviewed Quaternary volcanism to develop recurrence intervals. Similar work is lacking in Utah and Arizona, where past eruptions have crossed current highways. Geologic mapping is a necessary starting point.

**The committee asked:**
Is additional geological mapping needed beyond geochronology?
**USGS response:**
The existing maps are good, but geochemistry data is missing—particularly related to magma storage and ascent rates. Existing work is limited and sometimes contradictory.

**The committee asked:**
Monitoring is useful for documenting geyser events afterward, but can these signals provide precursory warning?
**USGS response:**
InSAR has detected precursors in Japan. More InSAR tasking is being done for Yellowstone, though high-resolution limitations meant Biscuit Basin was missed. A full monitoring system at all tourist locations is unlikely to be feasible. More work is needed to understand precursor signals; InSAR data will help determine eruption frequency, which informs that understanding.

## Alaska Volcano Observatory - Matt Haney

The Alaska Volcano Observatory update for NVEWSAC went over current staffing across all partner organizations, recent accomplishments, ongoing projects, Spurr response, and challenges and opportunities that AVO is facing. Following the recent example set at CVO, AVO is planning to host an Open House event for the public in the April/May timeframe of 2026.

*Discussion*

**The committee asked:**
Can you provide more detail about geothermal exploration on Augustine?
**USGS response:**
The work is led by the GeoAlaska group, focusing on the southern side of the island. USGS has been in close contact to share institutional knowledge of the volcano and logistics. The project is still in the exploration phase, including gravity and magnetic surveys. Images have been shared with AVO.

**The committee asked:**
What are the water quality considerations for Spurr?
**USGS response:**
The concern is how Anchorage's municipal reservoir would be affected by ashfall and water use after an eruption. Washing ash off surfaces helps prevent scratching but increases water demand. During the 1992 eruption, water usage spiked. Coordination with utilities is needed so they can prepare for increased demand.

**The committee asked:**
How does OVERT (Observatory Volcanic Event Response Team) integrate monitoring and science?
**USGS response:**
The OVERT team provides a conceptual model to the monitoring team, and plans are developed collaboratively to maximize scientific value while addressing monitoring needs. This approach is generating exciting datasets.

## California Volcano Observatory - Phil Dawson

Phil Dawson noted that he recently started as SIC and introduced himself and his background. The California Volcano Observatory update provided historical background on the observatory and how it is different to other observatories in that most monitoring work is funded by the VO through the USGS Earthquake Science Center. The presentation went through current NVEWS monitoring status and processes, and challenges related to funding and permitting.

*Discussion*

**The committee asked:**
What are examples of challenges with permitting?
**USGS response:**
At Lassen National Park, many analog stations are on 30–40-year permits. Updating these stations or adding new ground footprint requires NEPA review and archaeological investigations. There are no staff currently available to process these permits. Re-permitting existing stations is taking as long as permitting new sites.

**The committee asked:**
You showed examples of physics-based models. Are there plans to include quantitative data as well?
**USGS response:**
Yes. Currently, we do not automatically catalog tremor or long-period events well; identifying and characterizing these events takes time. Our team is working to integrate physics into this process to improve monitoring. This is the future direction for volcano monitoring.

## Hawaiian Volcano Observatory - Ken Hon

The Hawaiian Volcano Observatory presentation discussed topics including staffing, where the lack of long-term staff members leads to limited deep knowledge of Hawaiian volcanoes and eruptions, as well as the culture of the observatory and its local relationships. For example although Native Hawaiians are not an officially designated tribe, collaboration with the community is essential—working respectfully by “asking permission” rather than acting solely for science. Strong partnerships exist with HI Civil Defense, HI Volcanoes National Park and University of Hi-Hilo. Hon then went on to describe the current eruption, its monitoring, and

hazards. Real-time cameras are vital for public information and preventing misinformation. If the current eruption continues for 5–10 years, the HMM crater may disappear. The ongoing eruption offers significant opportunities for research, observation, and outreach. About 250 instruments monitor the landscape, but equipment can be vulnerable to vandalism. Continuous 24/7 monitoring remains a major challenge for HVO give staff limitations.

*Discussion*

**The committee asked:**
What type of geochemical work has been done on the newest activity?
**USGS response:**
Work is being done on-site and with the University of Hawaii. HVO has conducted geochemical analyses for both Kīlauea and Mauna Loa, using direct petrology measurements to support hazard assessments.

## Cascades Volcano Observatory - Jon Major

The Cascades Volcano Observatory presentation included overviews of staffing, project updates, recent activity at Rainier, challenges and opportunities and the future directions of the observatory. CVO houses staff from across the USGS (not just the volcano science center) and there are people with much expertise from various disciplines. The number of staff are growing even with retirements. Two primary partnerships are through coop agreements (University of WA/Pacific Northwest Seismic Network and University of OR) for monitoring and some research. Primary hazards, lahars, ashfall, and post-eruption sedimentation are key research areas.

*Discussion*

**The committee asked:**
Should outreach and community engagement be included as part of NVEWS?
**USGS response:**
Yes. Outreach is essential to ensure that the warning component of NVEWS is understood by communities, especially related to lahars and Mount Rainier.

**The committee asked:**
Can you elaborate on post-eruption sedimentation issues?
**USGS response:**
Before the 1980 Mount St. Helens eruption, the scale of this problem was not anticipated. Decades later, the U.S. Army Corps of Engineers is still addressing these issues. Similar long-term sedimentation impacts have occurred at other Cascade volcanoes. For example, lahars

from Mount Baker down the Nooksack River have caused the river to change course into Canada, creating international concerns.

## General Discussion

**The committee asked:**
What are the future directions for early warning or hazard assessment that we should consider?
**USGS response:**

- Hazard mapping is being used by insurance companies for risk assessment, which has socio-economic repercussions. Messaging must be done carefully, with scientists engaging as community members, not just academics.
- Distributed volcanic fields (DVF) present challenges for early warning because basin and range swarms can involve faults that are also potential magma conduits. Distinguishing tectonic versus magmatic signals requires strong background knowledge. DVFs are large and would require different monitoring strategies and significantly more funding and equipment.
- Instrumentation plans must consider maintenance, which is resource-intensive and often overlooked. Lahar monitoring is an example where communities want systems installed but post-installation needs are ignored.
- The American Samoa experience showed that equipment going offline without communication caused loss of community trust.
- Emerging focus areas include energy (geothermal), critical minerals, tribal relations, DVFs, and monitoring & evaluation (M&E) capacity.

**The committee asked:**
Given the challenges of maintaining a 24/7 Duty Scientist, are there opportunities for one person to serve multiple observatories?
**USGS response:**
Reliability and staffing limitations make this difficult. Some cross-observatory assistance exists, but duty scientist work generally requires local presence. Current staff are already stretched.

**The committee asked:**
Is there research into artificial intelligence/machine learning (AI/ML) that could help mitigate staffing and resource limitations?
**USGS response:**
Yes, some AI/ML work is underway, mainly using machine learning to process data alongside human analysts. A key challenge is that AI/ML models are only as good as the datasets they are trained on, and volcanoes often behave in new, unexpected ways that disrupt trained models.

Examples include:

- A Mendenhall Postdoc working on InSAR ML.

- AVO research advancing toward operational use for seismic and infrasound data, with work done at UAF.
- Thermal anomaly detection projects.
- Another Mendenhall Postdoc applied ML for tephra correlations.

AI/ML is increasingly integrated into data assimilation efforts.

## 2:50 – Public Comment

**Public Question (Alice Crawford – NOAA):**

1. Can NOAA's 24/7 systems be leveraged for volcanic hazard warnings?
2. What role do the Volcano Observatories (VOs) see for remote sensing capabilities now and in the future?

**USGS response:**
Remote sensing is a critical component of AVO's monitoring system. It is still being considered whether volcano observatories should develop independent 24/7 capabilities or integrate with the National Weather Service's systems. Distributing 24/7 staff across VOs is essential, and additional geophysical staff would be beneficial. Remote sensing is also important for the international Volcano Disaster Assistance Program (VDAP), and lessons learned from VDAP help improve NVEWS.

**Public Question:**
Does USGS see itself shaping future satellite capabilities based on volcano monitoring needs?

**USGS response:**
Yes. USGS staff, including Mike Poland and Dave Schneider actively participate in related discussions and provide input when opportunities arise.

## 2:55 - Day 2 Wrap-up / Leif Karlstrom, Jenn Wade

The cochairs thanked and dismissed the SICs and went over the next steps for how the committee would communicate for report writing and planning the next meeting.

**Certified by the NVEWSAC Chairs 08/07/2025**

**Jennifer Wade, co-Chair**
**U.S. National Science Foundation, Division of Earth Sciences**

**Leif Karlstrom, co-Chair**
**University of Oregon, Department of Earth Sciences**