**Scientific Earthquake Studies Advisory Committee (SESAC) Summer 2025 Meeting: Minutes**
*minutes were chair certified for accuracy on 08/27/2025*

***Session 1:*** *Wednesday, July 30, 9-11a MT*

9:00a – welcome, logistics

9:10a – State of the Program (Gavin Hayes)

10:10a – GHSC (Ryan Gold)

10:35a – ESC Update (Christine Goulet)

***Session 2:*** *Wednesday, July 30, 12-1:30p MT*

12:00p – Q&A

12:30p – Special Presentation – Myanmar EQ Response

1:00p – Open Discussion

***Session 3:*** *Wednesday, July 30, 2-3p MT*

2:00p – ANSS Update (Long)

2:30p – Discussion

Committee members present: Michael Hamburger, Aaron Velasco (arrived mid-way through Session 1), Tim Melbourne, Maureen Long, Ann Meltzer, Ramon Arrowsmith (not present for Session 3), Mike Oskin

USGS: Gavin Hayes, Ryan Gold, Christine Goulet, Dave Applegate (Session 1 only), Cecily Wolfe, Mike Blanpied (not continuously present), Allison Faris

Guests: Jonathan Stewart (part of day only)
USGS Guests: Sue Hough (Session 2), Will Yeck (Session 2), Nadine Reitman (Session 2)

**Notes:**
*Session 1*

After introductions, Acting AD for Natural Hazards Dave Applegate provided some remarks to the committee, thanking them for their service, and discussing some of the recent developments across USGS and within the Natural Hazards Mission Area.

Gavin Hayes summarized the state of the Program, including recent changes to the program structure, budget proposals, NEHRP activities, past SESAC recommendations, external research grants, and program highlights. This was followed by an Earthquake Science Center (ESC) update by Christine Goulet, and a Geologic Hazards Science Center (GHSC) update from Ryan Gold.

- Questions and discussion about ShakeAlert and the potential for expansion – how will ShakeAlert management structure expand as the system expands? GH responded that this is an active area of planning and discussion.

- Comment on the importance of AI for the program in future – both in monitoring and research. The program has demonstrated progress in both areas already. A committee member flagged a recent Physics Today article about earthquake forecasting, and AI/ML, and noted that USGS can be a leader for earthquake science in this field.

- Questions and discussion about the GSN IceCube collaboration and potential instrument deployment. Comment that this is an exciting opportunity.

- Question about Cloud costs caused by web traffic spikes after major earthquakes.

- Discussion about strategies to promote the importance of USGS EHP science, and how to focus the upcoming SESAC report.

- Discussion about staffing capacity at Centers and associated challenges. Should Centers let things fail rather than expecting staff to perform extra duties?

- Question and discussion about capacity loses caused by staffing attrition over the past 6 months. The committee expressed concern over the loss of embedded IT staff associated with the consolidation of core functions to DOI.  The committee was also concerned about the lack of Mendenhall post-doc recruitment and the reduced summer internship program in 2025.

*Session 2*

USGS guests (Hough, Yeck, Rietman) gave an overview of EHP activities in Myanmar, and the program response to the 3/28/25 M7.7 Myanmar earthquake, including discussion of key earthquake response products.

- Committee members commented that they were blown away by the suite of information products provided by the program in response to this earthquake, and in particular flagged the usefulness of the surface rupture offset mapping product generated after this event using satellite data.

- A committee member commented that this earthquake, and the recent Kamchatka, Russia, event, could offer opportunities for science diplomacy. The committee raised concerns about the impact of the closure of USAID and potential implications for the Earthquake Disaster Assistance Team and associated long-term earthquake preparedness.

- The committee requested an update on the status of the Earthquake Disaster Assistance Team at a future meeting (**ACTION**).

- The committee flagged the importance of the GSN for critical observations of these earthquakes (Myanmar and the recent Kamchatka, Russia, event), and the value of studying these international events for advancing US interests.

- The committee discussed the format and content of the upcoming annual report.

*Session 3*

Maureen Long (chair, Advanced National Seismic System Steering Committee) provided an update on the ANSS.

- The committee asked questions about the ShakeAlert following the Julian, CA earthquake in April 2025, and the magnitude over-estimate, versus the very positive public perception of the alert. The committee asked if there were plans for follow up work with a social science focus, and what the implications for over-alerting might be.

- The committee asked questions about the Google Android Earthquake Alert System.

- The committee asked about use of DYFI? Questionnaire responses as a way to independently assess EEW system performance (e.g., Wald et al. recent article).

- The committee discussed budget proposals for the program in the context of ShakeAlert.

**Session 4:** *Thursday, July 31, 9-11a MT*

9:00a – welcome, logistics

9:10a – NSHM & NEPEC Updates (Blanpied)

9:40a – Discussion (Hamburger to moderate)

**Session 5:** *Thursday, July 31, 12-1:30p MT*

12:00p – Special Presentation – ENS2

12:30p – Open Discussion (Hamburger to moderate)

**Session 6:** *Thursday, July 31, 2-3p MT*

2:00p – Discussion, Plans for FY2025 Report

Committee members present:  Michael Hamburger, Aaron Velasco, Tim Melbourne, Maureen Long, Ann Meltzer, Ramon Arrowsmith (not present for Session 6), Mike Oskin

USGS:  Gavin Hayes, Ryan Gold, Christine Goulet, Cecily Wolfe, Mike Blanpied (not continuously present), Allison Faris

Guests: Jonathan Stewart (part of day only)
USGS Guests: Marcos Alvarez (Session 5), Glenn Biasi (Session 5)

**Notes:**
*Session 4*

Ramon Arrowsmith (chair, National Earthquake Prediction Evaluation Council) provided an update about efforts to repopulate the NEPEC, and plans for a first meeting of the group this fall.

- The committee discussed a NEPEC role in helping to debunk earthquake predictions.

- The committee discussed the role NEPEC could play in discussions surrounding the Hayward Fault and Parkfield earthquake cycles.

- The committee discussed valuable skillsets that might be useful for NEPEC discussions (e.g., social science, insurance industry).

- The committee discussed the blurry lines between earthquake forecasting and EEW, and the potential for overlapping advice from different advisory structures.

Ann Meltzer (also a member of the Advisory Committee for Earthquake Hazards Reduction, a Federal Advisory Committee overseeing NEHRP activities and managed by NIST) provided an update on ACEHR activities and recommendations.

- The committee asked for a budget breakdown for earthquake-related funding across NEHRP agencies.

- The committee discussed the ACEHR effort to analyze and review past recommendations from that committee.

- The committee discussed topics for their annual report.

- The committee requested information from Centers on staffing capacity and vacancies.

- The committee requested further information on the March 2025 ShakeAlert outage.

- The committee discussed the Federal role, versus States; that hazards cross borders and impact multiple states; and that pushing oversight of hazard modeling to states would require experts in every state for these functions, which would be extremely inefficient (versus a centralized, federal approach).

*Session 5*

USGS guests (Alvarez, Biasi) gave an overview of recent updates to the EHP Earthquake Notification Service.

- The committee commented that they were impressed with the large number of ENS users, and asked for information on user demographics. MA responded.

- The committee asked for information on other Earthquake data feeds. GH responded.

- The committee expressed appreciation for the product and the updates.

- The committee asked about EHP use of social media for information and product dissemination. GH responded.

- The committee asked about ways to reduce the number of emails/texts to an individual user. MA and GB responded with details of the customizable settings and user control.

The committee proceeded with a general discussion. Topics included future SESAC meetings, committee membership, and topics for the annual report. On the topic of AI, the committee noted that AI learns from data fed to it; to be a leader in AI, you have to invest in data and infrastructure. The committee also commented on the loss of social science expertise in the program, and that this is an important skill to prioritize in future recruitment.

The committee asked that the regular monthly calendar meeting slot be refreshed for another year; GH will explore approval and a Federal Register Notification (**ACTION**).

*Session 6*

Jon Stewart (chair, National Seismic Hazard Model Steering Committee) and Mike Blanpied (USGS) provided an update of NSHM project activities, including progress towards an updated model for Puerto Rico and the U.S. Virgin Islands, the schedule for which has been accelerated in response to Congressional funding and support. The models are on track for release on schedule this calendar year.

- The committee commented that the NSHM needs to improve the handling of induced seismicity, noted past short-term forecasts for induced earthquakes, and asked about such models being reconsidered in future. GH responded.

- The committee asked how the NSHM is communicated and disseminated and suggested companion products like scenarios be more systematically considered. JS responded and noted that the USGS is already working on this.

- The committee asked about the use of fractiles in the NSHM. JS responded.

The meeting concluded with a general discussion on the plans for the SESAC annual report structure and content.