

California Earthquake Prediction Evaluation Council **CEPEC**

July 16, 2026
PUBLIC MEETING NOTICE



**CALIFORNIA EARTHQUAKE PREDICTION EVALUATION COUNCIL
(CEPEC)
MEETING NOTICE**

July 16, 2026
10:00 AM – 12:00 PM

In-Person Meeting Location:

Cal OES Headquarters, Building F
10391 Peter A McCuen Blvd, Room 2001
Mather, California 95655

Microsoft Teams Meeting Information

<https://teams.microsoft.com/meet/216039522175941?p=neweRldazilt2uscyd>

Meeting ID: 216 039 522 175 941

Passcode: X53eC6N3

Dial in by phone

[+1 415-906-4037](tel:+14159064037), [475293568#](tel:+14159064037) United States, San Francisco

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Phone conference ID: 475 293 568#

Join on a video conferencing device

Tenant key: caloes@m.webex.com

Video ID: 112 442 721 9

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CALIFORNIA EARTHQUAKE PREDICTION EVALUATION COUNCIL (CEPEC)

July 16, 2026
10:00 AM – 12:00 PM

MEETING AGENDA

I. OPENING REMARKS AND ROLL CALL (5 Minutes)

The State Geologist (Chair) welcomes members of the Council, providing opening remarks. Roll call taken to establish that a majority of the Council is present.

II. MOTION ON PREVIOUS MEETING MINUTES (5 Minutes)

Council Members may move to approve the minutes from the March 19, 2026, meeting.

III. REVIEW OF EMERGENCY MEETING PROCEDURES (5 Minutes)

The Council reviews policies and procedures for emergency meetings that occur to discuss unfolding seismic events.

IV. CEPEC ACTIVITIES DURING THE 2016 BRAWLEY SEISMIC SWARM (30 Minutes)

Dr. Greg Beroza (Stanford University) discusses how CEPEC responded to the Brawley (Bombay Beach) Seismic Swarm that occurred 2016, followed by an opportunity for Council Members to discuss the presentation.

V. SEISMIC SWARM FORECASTING (30 Minutes)

Dr. Andrea Llenos (USGS) discusses seismic swarm forecasting, followed by an opportunity for Council Members to discuss the presentation.

**VI. CASCADIA SUBDUCTION ZONE EARTHQUAKE STATISTICAL FORECASTING
REQUEST OVERVIEW (15 Minutes)**

Council considers a formal request from the National Earthquake Prediction Evaluation Council (NEPEC) to support the development of an earthquake forecast and advisory framework for the Cascadia Subduction

Zone. Chair Lancaster to review the request for consideration. The Council may determine whether an action should be taken.

VII. NOMINATING SUBCOMMITTEE UPDATES (5 Minutes)

Subcommittee Chair Funning provides updates on subcommittee activities.

VIII. CEPEC COMMUNICAITON SUBCOMMITTEE UPDATES (5 Minutes)

Subcommittee Chair McBride provides updates on subcommittee activities.

IX. NEPEC COORDINATION SUBCOMMITTEE UPDATES (5 Minutes)

Chair Lancaster provides updates on subcommittee activities.

X. OPEN COMMENT PERIOD ON AGENDA ITEMS (5 Minutes)

Public attendees provide comments on items included in the agenda.

XI. OPEN COMMENT PERIOD ON URGENT NON-AGENDA ITEMS (5 Minutes)

Public attendees provide comments on urgent items not included in the agenda.

XII. PLANNING FOR NEXT MEETING (3 Minutes)

The Council discusses administrative details and suggests potential topics for the next planning meeting.

XIII. CLOSING REMARKS (2 Minutes)

Following closing remarks, the meeting adjourns.

Adjournment

Meetings of the CEPEC are open to the public except when specifically noticed otherwise in accordance with the Bagley-Keene Open Meeting Act. The Council may act on any item listed on the agenda. Agenda items may be taken out of order to facilitate the effective transaction of business.

Statements from the Public:

Members of the public will be given an opportunity to comment before action is taken on any agenda item and during the scheduled Open Comment Period of the agenda. Comments should be addressed to the Council and should be limited to three (3) minutes or less. Although not required, speakers are requested to identify themselves by stating their name and city of residence for the official record. All remarks shall be addressed to the Council as a body. Speakers should be brief and are to limit their comments to the subject of discussion.

To submit written public comment to the Council, please send statement(s) to:

Access to Meeting and/or For More Information:

Individuals who require special accommodations, or to receive meeting materials, contact the individual below at least seven (7) days prior to the scheduled meeting date:

Samantha Layne, Cal OES
3650 Schriever Avenue, Mather, CA 95655
916-396-2700 / samantha.layne@CalOES.ca.gov

**TDD users may contact the California Relay Service TDD line at 1-800-735-2929
or Voice Line at 1-800-735-2922.**

This meeting notice is made available online, please visit the CEPEC [webpage](#).

California Earthquake Prediction Evaluation Council **CEPEC**

PREVIOUS MEETING MINUTES
March 19, 2026

California Earthquake Prediction Evaluation Council (CEPEC)

March 19, 2026
10:00am – 12:00pm

I. OPENING REMARKS AND ROLL CALL

- Jeremy Lancaster, California Earthquake Prediction Evaluation Council (CEPEC) Chair, called the meeting to order and stated the purpose of the Council.
- Roll call was conducted to establish quorum.

Council Member	In-Person	Virtual	Absent
Jeremy Lancaster, Chair, California Geological Survey	X		
Dr. Wendy Bohon, Vice Chair, California Geological Survey	X		
Dr. Greg Beroza, Stanford University			X
Dr. Morgan Page, United States Geological Survey		X	
Dr. Diego Melgar, University of Oregon			X
Dr. Gareth Funning, University of California Riverside		X	
Dr. Taka'aki Taira, University of California Berkeley		X	
Dr. Zachary Ross, California Institute of Technology		X	
Dr. Justin Rubinstein, United States Geological Survey			X
Dr. Sara McBride, California Governor's Office of Emergency Services, Seismic Safety Commission	X		

II. PUBLIC COMMENT ON AGENDA ITEMS

- No public comments were received on items listed on the agenda.

III. APPROVAL OF PREVIOUS MEETING MINUTES

- No public comments were received on the meeting minutes for November 6, 2025.
- Chair Lancaster called for a motion to approve the previous meeting minutes.

- Council Member Funning made the motion to approve the previous meeting minutes, which was seconded by Council Member Bohon.
- A roll call vote was conducted, and the motion to approve the previous meeting minutes passed.

Council Member	Yes	No	Not Present
Dr. Wendy Bohon, Vice Chair, California Geological Survey	X		
Dr. Greg Beroza, Stanford University			X
Dr. Morgan Page, United States Geological Survey	X		
Dr. Diego Melgar, University of Oregon			X
Dr. Gareth Funning, University of California Riverside	X		
Dr. Taka'aki Taira, University of California Berkeley	X		
Dr. Zachary Ross, California Institute of Technology	X		
Dr. Justin Rubinstein, United States Geological Survey			X

IV. REVIEW OF EMERGENCY MEETING PROCEDURES

- This topic was omitted from the meeting.

V. OPERATIONAL AFTERSHOCK FORECASTING

- This topic was originally scheduled to be agenda item six (6).
- Council Member Page discussed aftershock and foreshock probabilities in California and past sequences where CEPEC has been involved.
 - Earthquakes occurring near known major faults are not statistically larger than earthquakes occurring elsewhere and do not produce more aftershocks.
 - The United States Geological Survey (USGS) produces publicly available aftershock forecasts following earthquakes over M4 in the United States and though in a swarm situation ad-hoc forecasts can be produced, there is still uncertainty regarding the duration of the swarm.
 - Fault-based models assume non-Gutenberg-Richter behavior, producing forecasts that consider nearby hazardous faults and are sensitive to uncertainties in fault proximity.

- Council Member Funning remarked there has not been a major earthquake on a known fault since the development of aftershock predictions. How do models change when an earthquake occurs on a well-studied fault?
 - Council Member Page responded it is difficult to know due to many exceptions, and this remains an open question.
- Council Member Funning asked how the models are updated.
 - Council Member Page stated that updates occur every hour for four (4) hours based on how tectonic regionalization affects the productivity of the sequence. After four (4) hours, data of the observed aftershocks is considered to make further predictions.
- Council Member McBride stated the work done on the Bombay Beach swarm was used to argument for a standardized template as having pre-approved templates establishes a time-saving protocol.
- Council Member Bohon asked about the ideal timeframe for public messaging; where is the point when uncertainties have lessened but it is still early enough in the sequence to be useful to make predictions?
 - Council Member Page responded it can take hours to days to get a source, but it depends on how many aftershocks occur and a source cannot be derived from the early aftershocks. The worst-case scenario is a few days before a trustworthy source is available, but it depends on the productivity of the sequence.
 - Council Member Funning stated that aftershock maps are available and helpful to those in the field, but speed of availability can also be an issue.
- Council Member Taira asked for clarification on “swarm.”
 - Council Member Page stated that whether models are created for swarms is dependent on staff and media interest, so models are not developed for every swarm. There is also no reliable definition of a swarm. There is no automatic message to detect swarms or produce swarm forecasts.
- Chair Lancaster stated the Council should consider when the conditions of the operational aftershock forecasts satisfy the needs of the advisory body versus doing additional modeling to identify the potential for larger earthquakes.
 - Council Member Page stated this topic should also be discussed with USGS to ensure consistency and unified messaging.

- Michael Blanpied with the National Earthquake Prediction Evaluation Council (NEPEC) stated NEPEC has been reconstituted but has not yet held a meeting. However, there have been discussions between USGS, California Geological Survey (CGS) and the Governor's Office of Emergency Services (Cal OES), stressing the need for communication and collaboration on public messaging.
- Chair Lancaster stated this discussion will continue in subcommittee meetings.

VI. HISTORY OF THE CALIFORNIA EARTHQUAKE ADVISORY PLAN

- This topic was originally scheduled to be agenda item five (5).
- Dr. Jim Goltz (Seismology Lab, UC Berkeley) reviewed CEPEC's historical procedures, including the development of the California Short-Term Earthquake Response Plan and the California Earthquake Advisory Plan.
 - The Council should meet regularly and revise the outdated California Earthquake Advisory Plan.
 - Advisories should add the potential for consequences of a larger earthquake occurring.
 - The Council should establish a protocol for responding to potential precursory seismic activity in the Cascadia Subduction Zone.
 - Due to turnover, Cal OES Executive Staff should be briefed periodically on the nature and functions of CEPEC.
- Council Member McBride asked for specific details as to how the California Earthquake Advisory Plan should be updated and the critical elements to prioritize.
 - Dr. Goltz stated thresholds and processes should be evaluated for possible updates. For emergency management, telecommunications and dissemination of information (i.e., procedures Cal OES uses to communicate with operational areas, type of information to include in the commutation) need to be updated.
 - Dr. Goltz emphasized that the probability of a mainshock following a foreshock declines quickly, often before CEPEC convenes, affecting advisory relevance.
 - Council Member Page stated the levels of probability and what is expected to happen should be reconsidered based on current technology.

- Council Member Funning asked what should be discussed during regular CEPEC meetings when there is no imminent action required of the Council regarding current seismic activity.
 - Dr. Goltz suggested reviewing new research, identifying gaps, and discussing significant events and locations. Regular meetings also allow council members to learn the areas of expertise of fellow members.
 - Council Member Page added regular meetings would serve as an ideal opportunity to develop pre-approved templates and determine preferred, reasonable forecasting models to avoid making decisions during a crisis.
- Chair Lancaster asked Dr. Goltz to expand on including consequences in communications.
 - Dr. Goltz cited L'Aquila (2009) as a cautionary example. Scientists should identify the hazard and allow Cal OES to determine the necessary actions. A statement of probability is not as impactful to emergency managers as potential consequences. However, it is important to be cautious in identifying consequences. Communications should consider what is critical to emergency managers and the public.
- Council Member Funning stated the recommendation to produce more scenarios for potentially triggered earthquakes can be explored by the Council. The USGS has created scenarios in the past in few very specific places but there are not enough of these types of models right now.
 - Dr. Goltz stated that combining loss estimates from HAZUS with ShakeMap technology created more realistic scenarios for exercises. Loss estimation is a technology that could be used to develop advisory message content.
- Chair Lancaster stated these suggestions will be discussed by the Communications Subcommittee, though some may require another subcommittee.

VII. ESTABLISH COMMUNICATIONS SUBCOMMITTEE

- Chair Lancaster stated the purpose of the Communications Subcommittee is to identify scenarios that may require an advisory and coordinate with Cal OES to determine actions based on CEPEC deliberations.

- This subcommittee will be responsible for working with Cal OES updating the Advisory Plan and advisory statement templates; CEPEC will provide recommendations on the advisory statements, but the development of the statement is the charge of Cal OES.
- Chair Lancaster asked for three (3) council members to serve on the Communications Subcommittee for a term of 6-9 months, with the following three (3) volunteers:
 - Council Member Page
 - Council Member Bohon
 - Council Member McBride
- A chair will be established in the first subcommittee meeting and, in accordance with the CEPEC bylaws, the chair can appoint ad-hoc members.
- For public comment, Michael Blanpied stated that NEPEC has also considered discussion topics for non-emergency meetings.
 - Chair Lancaster noted this as a future action item.
- Chair Lancaster called for a motion to approve the members of the Communications Subcommittee.
 - Council Member Funning made the motion to approve the members of the subcommittee, which was seconded by Council Member Ross.
 - A roll call vote was conducted, and the motion to approve Council Members Page, Bohon, and McBride to serve on the Communication Subcommittee passed.

Council Member	Yes	No	Not Present
Dr. Wendy Bohon, Vice Chair, California Geological Survey	X		
Dr. Greg Beroza, Stanford University			X
Dr. Morgan Page, United States Geological Survey	X		
Dr. Diego Melgar, University of Oregon			X
Dr. Gareth Funning, University of California Riverside	X		
Dr. Taka'aki Taira, University of California Berkeley	X		
Dr. Zachary Ross, California Institute of Technology	X		

Dr. Justin Rubinstein, United States Geological Survey			X
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VIII. ESTABLISH NOMINATING SUBCOMMITTEE

- Chair Lancaster stated the purpose of the Nominating Subcommittee is to identify volcanic experts for consideration by CEPEC to be the final voting member of the Council.
- Chair Lancaster asked for three (3) council members to serve on the Nominating Subcommittee for up to two (2) years, with the following three (3) volunteers:
 - Council Member Funning
 - Council Member Taira
 - Council Member Ross
- A chair will be established in the first subcommittee meeting.
- No public comment was received for this topic.
- Chair Lancaster called for a motion to approve the members of the Nominating Subcommittee.
 - Council Member Page made the motion to approve the members of the subcommittee, which was seconded by Council Member Bohon.
 - A roll call vote was conducted, and the motion to approve Council Members Funning, Taira, and Ross to serve on the Nominating Subcommittee passed.

Council Member	Yes	No	Not Present
Dr. Wendy Bohon, Vice Chair, California Geological Survey	X		
Dr. Greg Beroza, Stanford University			X
Dr. Morgan Page, United States Geological Survey	X		
Dr. Diego Melgar, University of Oregon			X
Dr. Gareth Funning, University of California Riverside	X		
Dr. Taka'aki Taira, University of California Berkeley	X		
Dr. Zachary Ross, California Institute of Technology	X		
Dr. Justin Rubinstein, United States Geological Survey			X

IX. ESTABLISH NEPEC COORDINATION SUBCOMMITTEE

- Chair Lancaster stated the purpose of the NEPEC Coordination Subcommittee is to collaborate with NEPEC on procedures for handling earthquake forecasts and predictions, including emerging methodologies, and discussing the Cascadia Subduction Zone.
- Chair Lancaster asked for three (3) council members to serve on the Nominating Subcommittee for two (2) years, with the following volunteer:
 - Council Member Page
- Council Members Beroza and Melgar were suggested as possible subcommittee members, however this will be discussed at the next meeting.
- A chair will be established in the first subcommittee meeting.
- No public comment was received for this topic.
- Chair Lancaster called for a motion to approve the member of the NEPEC Coordination Subcommittee.
 - Council Member Bohon made the motion to approve the member of the subcommittee, which was seconded by Council Member Funning.
 - A roll call vote was conducted, and the motion to approve Council Member Page to serve on the NEPEC Coordination Subcommittee passed.

Council Member	Yes	No	Not Present
Dr. Wendy Bohon, Vice Chair, California Geological Survey	X		
Dr. Greg Beroza, Stanford University			X
Dr. Morgan Page, United States Geological Survey	X		
Dr. Diego Melgar, University of Oregon			X
Dr. Gareth Funning, University of California Riverside	X		
Dr. Taka'aki Taira, University of California Berkeley	X		
Dr. Zachary Ross, California Institute of Technology	X		
Dr. Justin Rubinstein, United States Geological Survey			X

X. OPEN COMMENT PERIOD

- Michael Blanpied stated NEPEC is planning to meet soon and coordination with CEPEC will be discussed.
 - Chair Lancaster stated NEPEC representatives should coordinate with the CEPEC Chair and Vice Chair until the NEPEC Coordination Subcommittee is active.

XI. PLANNING NEXT MEETING

- Council Member Bohon suggested inviting Andrea Llenos to a future meeting to discuss earthquake swarm forecasting.
- Council Member McBride suggested inviting Matt Gerstenberger to a future meeting to discuss New Zealand aftershock forecasting.
- Chair Lancaster stated that finalizing the establishment of the NEPEC Coordination Subcommittee will also be included in the next meeting.
 - The next CEPEC meeting will continue the 4-month cycle and be at 10:00am on Thursday, July 16, 2026.
- Chair Lancaster and/or Vice Chair Bohon will work with the subcommittees to establish a schedule for meetings and subcommittee chairs will report on discussions at the next CEPEC meeting.
 - As per the Bagley-Keene Open Meeting Act, subcommittees must disclose discussions in general terms.

XII. CLOSING REMARKS

- Chair Lancaster adjourned the meeting.