



**CAL POLY**

**SEVERE WEATHER  
HAZARD SPECIFIC ANNEX**

**2024**

Department of Emergency Management  
1 Grand Avenue  
San Luis Obispo • California • 93407

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# ACKNOWLEDGEMENTS

**We would like to acknowledge contributions from the following California Polytechnic State University (Cal Poly) divisions and units, organizations, and partners:**

## **Cal Poly divisions and units, Organizations, Partners**

National Weather Service Los Angeles

California Governor’s Office of Emergency Service

California Highway Patrol

Caltrans

San Luis Obispo County Office of Emergency Services

San Luis Obispo Fire Department

Pacific Gas & Electric

American Red Cross, Santa Barbara Office

California State University System, Office of the Chancellor

Cal Poly, President’s Cabinet

Cal Poly, Office of the Provost

Cal Poly, Facilities Management and Development

Cal Poly, Student Affairs

Cal Poly, University Housing

Cal Poly, Disability Resource Center

Cal Poly, External Affairs

Cal Poly, College of Agriculture, Food and Environmental Sciences

Cal Poly, University Communications and Marketing

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## PROMULGATION

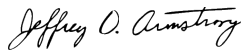
Both recent and historical disasters serve as reminders to the power of nature, and that neglecting to prepare for such events will only magnify catastrophes and increase human suffering. At California Polytechnic State University San Luis Obispo (Cal Poly), our dedication extends beyond education. Our organization enjoins the mission to educate with the missions to protect life, safeguard property, and preserve the environment.

The Cal Poly Department of Emergency Management has prepared this Standardized Emergency Management System (SEMS) and National Incident Management System (NIMS) compliant Severe Weather Hazard Specific Annex to ensure the most effective and efficient allocation of resources for the maximum benefit and protection of the campus community and all visitors during severe weather events.

This plan continues to cultivate the Whole Community process, utilizes shared governance, and establishes the campus emergency roles and responsibilities, processes, specifies policies and general procedures, and provides for planning information for the various potential hazards that may impact our campus.

While no plan can completely prevent all contingencies, reasonable plans carried out by knowledgeable and well-trained personnel can and will minimize losses.

The Cal Poly Office of the President, Administration and Finance Division, and Department of Emergency Management give their full support to this plan.



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Jeffrey Armstrong  
President  
California Polytechnic State University

08/20/2024

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Date

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## APPROVAL AND IMPLEMENTATION

This Severe Weather Hazard Specific Annex is developed in subordination to and in support of the Cal Poly Emergency Operations Plan (EOP) to facilitate responses to severe weather events. It can serve as either a stand-alone Annex or serve as a companion document to an applicable Functional Support Annex.

The Annex was developed by the Cal Poly Department of Emergency Management (DEM) based upon Cal Poly's Hazard Vulnerability Assessments, with input from Cal Poly divisions, units, and external stakeholders (hereafter, "stakeholders").

This Annex describes Cal Poly's conceptual responses and known capabilities of identified stakeholders during response and recovery phases to severe weather events. These concepts should be used by the Cal Poly divisions and units identified within this Annex to develop their specific Standardized Operating Procedures (SOP) in order to provide a more in-depth understanding of how the University will direct tactical operations. When developing SOPs, each stakeholder should consider all of the activities identified in this document directly related to their area of responsibility. Any resultant SOPs should describe how those procedures interact with, support, or require support from all stakeholders identified within this document.

Cal Poly units must ensure their SOPs consider and/or plan for all Community Members, including people with disabilities and others with access and functional needs.



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Anthony J Knight  
Executive Director  
Department of Emergency Management

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08/19/2024

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Date



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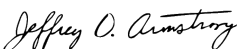
Stan Nosek  
Interim Senior Vice President  
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08/19/2024

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Date



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Jeffrey Armstrong  
President  
California Polytechnic State University

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08/20/2024

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Date

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# RECORD OF CHANGE

Number	Date	Section	Description
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# PURPOSE, SCOPE, SITUATION OVERVIEW, AND ASSUMPTIONS



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## PURPOSE

The Severe Weather Hazard Specific Annex is an extension of Cal Poly’s Emergency Operations Plan (EOP) that seeks to conceptualize a framework for coordinating Cal Poly divisional and unit-level responses prior to, during, and after a severe weather events.

Severe weather events encompass meteorological phenomena with the potential to cause potential life safety concerns, spanning from risk to personal injury to loss of human life, property damage, and/or severe social disruption.

The Annex can be used in conjunction with other annexes and plans designed for the protection of Cal Poly Community Members. Information contained in this Annex is applicable to all divisions and units operating on Cal Poly’s Campus Core, Pier, and Swanton Pacific Ranch – a satellite campus located in the County of Santa Cruz – and will be utilized in crafting or maintaining Standard Operating Procedures (SOPs) where relevant.

The Annex has been developed to meet the following priorities and goals:

- Mitigate adverse impacts of severe weather events by promoting collaboration and coordination with internal and external partners.
- Enhance situational awareness for the Cal Poly Emergency Management Organization (EMO) and allied/cooperating jurisdictions/partners during potential or actual severe weather events.
- Provide a Concept of Operations and identify roles and responsibilities for appropriate University divisions and units.
  - Outline coordination actions to be taken prior to and during severe weather events.
  - Identify actions that can be accomplished within a few hours to a few days to mitigate any severe weather impact while maintaining Cal Poly’s Mission Essential Functions (MEF).
  - Define procedures for rapid notification and response of University divisions and units, stakeholders, and the public in the event of a severe weather event.
- Ensure consistency with the State of California, the San Luis Obispo Operational Area (OA), and other local governments’ emergency response plans and operations.
- Promote multi-jurisdictional coordination and establish common Essential Elements of Information (EEI) for severe weather events.
  - Ensure consistency with National Weather Service (NWS) terminology, public messaging, and forecasts.
  - Ensure consistency with Pacific Gas & Electric (PG&E) terminology, public messaging, and forecasts.
- Ensure the consideration of key infrastructure and vulnerable populations during severe weather events.

The effectiveness of the emergency response is largely predicated upon the preparedness and capabilities of each stakeholder. Partners from each of the Cal Poly divisions and/or units, as well as private



**PURPOSE, SCOPE, SITUATION OVERVIEW, AND ASSUMPTIONS**

stakeholders, were invited to participate in a collaborated effort to organize, plan, research, and develop this Annex.



When properly implemented and executed, the guidance contained in this Annex will meet requirements to ensure the continuation of life-safety and MEFs at Cal Poly. The end state of this Annex will be achieved when major adverse impacts associated with severe weather events at Cal Poly have been successfully mitigated.

This Annex supports a whole-community approach. To effectively respond to severe weather events, each stakeholder should understand not only its internal functions and capabilities but also the capabilities of external stakeholders.

**SCOPE**

This Annex addresses integrated preparedness, response, and initial recovery activities during severe weather incidents that may have life safety impacts or may affect Cal Poly’s 16 MEFs, and applies to all public, private, non-governmental organizations (NGO), and community-based organizations (CBO) operating within Cal Poly’s holdings.

All MEFs and associated timelines, below, have been predetermined and approved as guidelines by the Executive Policy Group (EPG). However, as determined by the University President, each threshold for pausing any MEFs, services, and/or modified operations will be evaluated on an event-by-event basis. The campus will communicate these decisions through normal organizational reporting lines and coordinated through Cal Poly’s Department of Emergency Management (DEM) for initial responses or low-impact events, or the Cal Poly Emergency Operations Center (EOC) for sustained responses to more complex events.

	Function	Activity Rates	CCL	Event + 24 Hours	Event + 48 Hours	Event + 72 Hours
1	Classes (Academic Colleges)	Flexible	4	Continue	Modifications considered	Modifications considered
2	Research	Critical	3	Continue	Modifications considered	Modifications considered
3	Leadership (Executive Policy Group)	Flexible	2	Continue	Continue	Continue
4	Emergency Services	Critical	4	Continue	Continue	Continue
5	Healthcare & Counseling	Critical	2	Continue	Continue	Continue
6	Facilities & Infrastructure	Critical	3	Continue	Continue	Continue
7	Agricultural Care & Facilities	Critical	2	Continue	Continue	Continue
8	Payroll	Once a month	2	Continue	Continue	Continue
9	Housing	Critical	3	Continue	Continue	Continue
10	IT Services & Communications	Critical	3	Continue	Continue	Continue
11	Reputation Management	Virtually	3	Continue at EOC/EPG	Continue at EOC/EPG	Continue at EOC/EPG
12	Food Services	Critical	2	Continue for on-campus residents	Continue for on-campus residents	Continue for on-campus residents
13	Procurements & Contracts	Critical	1	Continue	Move to EOC	Continue at EOC
14	Fiscal Services	Critical	2	Continue	Limited services move to EOC	Continue at EOC
15	Academic Recruitment & Admissions	Once a year	2	Pause		
16	Grants & Donations	Few times a year	1	Pause		



DEM/EOC – in coordination with senior officials, divisional and unit-level staff – will develop and disseminate response plans for actions that go beyond the 72-hour mark from the time impact from a severe weather event.

This Annex also provides overarching guidance to all units and departments that support MEFs with primary and critical support functions.

All activities are in accordance with the state SEMS, which has been integrated with the federal NIMS. SEMS principles will be followed during multi-agency or multi-jurisdictional emergency management activities.

## SITUATION OVERVIEW

Cal Poly is one of the largest land-holding universities in the United States and is renowned for its "Learn by Doing" educational philosophy that encourages students to solve real-world problems by combining classroom theory with experiential laboratory exercise.

With over 3,000 faculty and staff alongside a student population in excess of 22,000, Cal Poly offers undergraduate and graduate programs in six colleges, including the College of Agriculture, Food and Environmental Sciences, and the College of Engineering, both of which are particularly well-regarded. Cal Poly's "[2035 Master Plan](#)" also seeks to grow and improve the campus over the next two decades, and projects to grow our populations by adding 800 new employees and 4,000 students.

Beyond Cal Poly's functions as an educational and residential institution, the University serves as a regional institution for the [arts](#), [athletic](#), and [experiential](#) events.

The University's main campus spans nearly 6,000 acres, making it the second-largest university campus in California with three main ingress/egress points. The campus is nestled between the Pacific Ocean and the Santa Lucia Mountains, providing it with a unique combination of coastal and mountainous habitats. Cal Poly maintains a Public Safety Unit with a Police Department and an Emergency Management Department. The University is dependent upon the City of San Luis Obispo's Fire Department and CALFIRE for fire services (a mixture of Local Responsibility Area and State Responsibility Area).

Due to the region's dynamic geography, Cal Poly maintains one communications tower that serves regional responder agencies.

The University also operates the Cal Poly Swanton Pacific Ranch – a 3,200-acre ranch in Santa Cruz County with two main ingress/egress points – that provides hands-on learning experiences for students in areas like forestry, fire management, and sustainable agriculture. This holding is served by the County of Santa Cruz's Office of Responsibility, Recovery, & Resilience, and CALFIRE as the property resides within a State Responsibility Area.

Both locations support agricultural and livestock operations, while the main campus also houses a significant population of other animals (e.g., horses, swine, poultry, felines).

Cal Poly's main campus is dotted with various types of trees, including Eucalyptus, Monterey Pines, and Coast Live Oaks, and its surrounding lands host a range of ecosystems, including riparian zones, oak woodlands, and coastal sage scrub. These rich habitats support a variety of wildlife, from deer and coyotes





## PURPOSE, SCOPE, SITUATION OVERVIEW, AND ASSUMPTIONS

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to a plethora of bird species. The campus is also close to several natural reserves, offering students unique opportunities for field study and research.

With the main campus situated on California's Central Coast, Cal Poly experiences a typical Mediterranean climate, distinguished by warm summers, and mild and wet winters.

In the spring months from March to May, the weather gradually warms, with temperatures rising from the high 60 °F to low 70 °F. The summer months are the warmest and driest months, with temperatures generally hovering between the high 70 °F and mid-80 °F, although higher temperatures in the 90 °F are not infrequent. The highest temperature ever recorded in San Luis Obispo, California was 113 °F which occurred on September 6, 2020. Additionally, San Luis Obispo experienced a heatwave in early July 2022 where temperatures reached the mid-90 °F for several consecutive days.

Temperatures decrease during the fall months, with typical ranges from the high 70 °F in early September to the mid 60s °F by late November.

The winter months bring the coolest and wettest conditions to San Luis Obispo. Temperatures generally range between the high 50 °F and low 60 °F, dipping into the low 40 °F at night. Notably, a parade of atmospheric rivers spanning January-February 2023 resulted in flooding, prompting evacuation orders, a major Federal declaration, and even a day recording nearly 4 inches of rain, marking one of the wettest 24-hour period in recent years.

San Luis Obispo County is also subject to the impacts of the El Niño-Southern Oscillation (ENSO) cycle, which are most pronounced during the winter months typically between November and March. During El Niño phases, San Luis Obispo County may experience increased rainfall, potentially leading to flooding and landslides. Conversely, during La Niña phases, the county could face drier-than-average conditions, which may exacerbate droughts and increase wildfire risks. However, while these patterns are generally observed, they are not guaranteed as the local weather is influenced by a multitude of factors beyond the ENSO cycle. For example, the 2016 ENSO was the strongest ever measured by NWS, but only produced half of seasonal average of precipitation.

While San Luis Obispo's weather is generally mild, there are some potential weather-related threats. Due to drought conditions coupled with heat and winds, the region experienced the Avila Fire in 2020, which threatened nearby areas.



## NATIONAL WEATHER SERVICE INTEGRATION

NWS is the authoritative agency in the United States for macro-level weather data, and “provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure which can be used by other government agencies, the private sector, the public, and the global community.”

The NWS Los Angeles Office also provides routine weather forecasts in addition to situational *watches*, *advisories* and *warnings*. This data and these alerts and warnings are available publicly and are ingested into a variety of automated platforms for public consumption (e.g., computer widgets, mobile devices and apps). Therefore, prudence dictates that local jurisdictions such as Cal Poly, consider NWS warning and alert products for NWS California Public Zones 341 and 342 when developing tactical response plans and communicating with Community Members.

NWS will use the following notifications in the event of severe and/or hazardous weather:

- A *watch* is issued when the risk of a hazardous or severe weather event has increased significantly, but its occurrence, location, or timing is still uncertain. **A *watch* means that hazardous weather is possible**, and its issuance provides lead times in order to prepare for the weather event. A hazardous or severe weather event may intensify to the point where NWS upgrades a *watch* to an *advisory* or a *warning*.
- An *advisory* is issued when hazardous weather is occurring, imminent, or likely. *Advisories* may relate to be less severe conditions in contrast to *warnings* that are potentially more consequential. A hazardous or severe weather event may intensify to the point where NWS upgrades an *advisory* to a *warning*.
- A *warning* is issued when a hazardous or severe weather event is occurring, imminent, or likely. **A *warning* indicates that weather conditions pose a threat to life or property**. People in the *warning* area need to take protective action.

In the interest of interoperability between jurisdictions within SEMS and NIMS levels, and to ensure conformity to the application of NWS terminology, it is a best practice to socialize the above terms with Cal Poly Community Members on a routine basis. Additional NWS terms may be utilized in addition to severe weather events, which are contained in Attachment A.

Cal Poly officials may receive situational *watches*, *advisories* and *warnings* through a variety of modes:

- NWS’ emailed weather briefings;
- NWS’ website;
- Enrollment in iNWS for specific county-level notifications that can be emailed and/or texted; and/or
- Enrollment in [NWSChat 2.0](#) (based on Slack) that provides real-time instant messaging between key partners and a meteorologist in NWS Los Angeles Office’s Operations segment.



The NWS Los Angeles Office is also able to “provide non-routine, weather information and services for decision-support activities during weather and non-weather emergencies.” Possible decision-support services include:

- Issuance of local alerts by way of the Emergency Alert System (EAS);
- Plume modeling for hazardous material spills and explosions;
- Spot weather reports for severe – or potentially severe – incidents;
- Situational and unique Operational Area-level weather briefings prior to and during severe weather incidents for all local jurisdictions; and
- NWS Agency Representatives (AREPS) for preparedness activities.

## PACIFIC GAS & ELECTRIC INTEGRATION

PG&E is one of the largest combined natural gas and electric emergency companies in the United States, and is regulated by the California Public Utilities Commission (CPUC) that was created by the California Legislature in 1911.

As the Investor-Owned Utility (IOU) providing natural gas and electricity to Cal Poly, PG&E initiated its Public Safety Power Shutoff (PSPS) program in 2018 that now operates in conjunction with their Enhanced Powerline Safety Settings (EPSS) program. These initiatives were developed in response to the increasing threat of wildfires, particularly those that can be sparked by electrical equipment during severe weather conditions. These programs seek to:

- **Prevent Wildfires Caused by Electrical Equipment:** downed or damaged power lines and other electrical infrastructure can be a source of ignition for wildfires, especially during high wind events or when vegetation is dry. By proactively shutting off power during extreme weather conditions, PG&E aims to prevent its equipment from starting fires.
- **Respond to High Wildfire Risk Areas:** many of PG&E’s service areas are located in regions prone to wildfires. Due to changes in climate and other factors, some of these areas have been experiencing drier conditions and more frequent high wind events, both of which can contribute to the rapid spread of wildfires.
- **Evolve from Past Incidents:** PG&E has faced significant scrutiny and legal liabilities due to its equipment being linked to some of the most destructive wildfires in California's history, such as the 2018 Camp Fire. Implementing the PSPS program is part of the company's strategy to mitigate these risks and prevent future incidents.
- **Meet Regulatory and Legal Imperatives:** as a result of past wildfires linked to utility infrastructure, state regulators and lawmakers have placed increased pressure on utility companies to take proactive measures. The PSPS program is one of these measures.
- **Prioritize Safety Over Convenience:** while power shutoffs can be inconvenient for customers and can have significant economic impacts, PG&E has determined that the safety benefits of preventing potential wildfires outweigh the downsides of temporary power outages.
- **Implement Grid Modernization and Upgrades:** while PSPS is a preventive measure, PG&E has implemented investing in modernizing its grids. This includes hardening



infrastructure, installing more resilient poles and power lines, and increasing the use of technology to monitor and respond to potential threats. These upgrades aim to reduce the need and/or narrow the impacts of PSPS events over time.

PG&E implements its programs through a combination of weather monitoring, infrastructure assessment, and strategic coordination. The primary goal is to proactively shut off power in specific areas to prevent the utility's equipment from starting wildfires during severe weather conditions:

**1. Weather Monitoring:**

- PG&E operates a Weather Safety Operations Center where they constantly monitor fire danger conditions.
- The company uses a network of weather stations to monitor real-time data on temperature, wind speeds, humidity, and other factors. They also take into account Red Flag Warnings issued by the NWS.
- Advanced weather modeling is used to predict severe weather events and assess the potential risk of wildfire ignition.

**2. Infrastructure Assessment:**

- PG&E assesses the conditions and vulnerabilities of its equipment. The age, type, and location of infrastructure play a role in determining risk.
- The utility also considers the amount of vegetation near power lines, as trees or branches falling into lines can be a major ignition source.

**3. Risk-Based Criteria:**

- PG&E uses a combination of factors to determine the need for a PSPS or EPSS event. This includes, but is not limited to, the aforementioned weather conditions and infrastructure vulnerabilities, the availability of real-time data, observations from field crews, and more.

**4. Coordination and Communication:**

- Before implementing a PSPS, PG&E tries to provide advance notice to affected customers, typically 48 hours and 24 hours prior, and then just before the shutoff. Notifications are done via calls, texts, emails, and other means.
- PG&E also coordinates with local governments, emergency services, and other community stakeholders to ensure that critical facilities (e.g., hospitals and fire stations) and vulnerable populations are prepared.
- PG&E is required by the CPUC to send “all-clear” notifications providing situation updates on powerline inspections and restoration estimates.

**5. Actual Shutoff:**

- When conditions warrant a PSPS based on the aforementioned criteria, PG&E will de-energize specific lines or circuits. The extent and duration of the shutoff depend on the perceived risk and conditions.



**6. Restoration:**

- After the severe weather conditions have passed, PG&E crews inspect the de-energized lines to ensure there's no damage or potential hazards.
- Once deemed safe, power is restored to affected areas. PG&E aims to restore power as quickly as possible, typically within 12 to 48 hours, though it can be longer in some situations.

**7. Public Awareness:**

- PG&E conducts public awareness campaigns to educate customers about the PSPS program, why it's needed, and how to prepare.

Implementing a PSPS or EPSS event is not taken lightly due to the considerable impact on customers, businesses, and communities. PG&E's goal is to balance public safety with the challenges and inconveniences of power outages.

PG&E will use the following notifications in the event of a potential PSPS event:

- **Not Planned** - Conditions that generally warrant a PSPS event are not planned at this time.
- **Elevated** - An upcoming event (a period of gusty winds, dry conditions, heightened risk) is being monitored for an increased potential of a PSPS event.
- **PSPS Watch** – PG&E's Emergency Operations Center (EOC) is activated for a reasonable chance of executing PSPS for public safety in a given county due to a combination of adverse weather and dry fuel conditions. A PSPS watch is typically only issued within 72 hours before the anticipated start of an event.
- **PSPS Warning** – PG&E's Emergency Operations Center (EOC) is activated and customers in areas being considered for PSPS have been or are being notified. This level indicates execution of PSPS is probable given the latest forecast of weather and fuels and/or observed conditions. PSPS is typically executed in smaller and more targeted areas than across an entire county. This level does not guarantee a PSPS execution as conditions and forecasts may change.

Cal Poly officials may receive situational *watches* and *warnings* through a variety of modes:

- PG&E's "7 Day Public Safety Shutoff (PSPS) Potential" emails; and
- PG&E's PSPS Portal based on ArcGIS.

The Cal Poly EMO is concerned about potential impacts to PG&E's single 60 kV circuit that powers the campus core.

## HORIZONTAL PLAN INTEGRATION

While this Annex is a subordinate component of the Cal Poly EOP, it will consider integrations with current and future planning products for a unified operational focus. This Annex will at least consider integration(s) with, but not limited to:

- “Evacuation Annex”
- “Damage Assessment Annex”
- “Hazards Vulnerability Assessment and Business Impact Analysis”
- “Integrated Preparedness Plan / Multi-Year Training and Exercise Plan”
- “Public Safety Power Shutoff Plan”
- “Recovery Plan”

### EVACUATION ANNEX

Cal Poly has developed and maintains a “Evacuation Annex” under the EOP that serves as a generalized evacuation plan that is useful for multiple situations involving whole or partial evacuations of the Cal Poly campus, and addresses preparedness, response, and recovery activities for evacuation operations.

The Evacuation Annex may be activated during severe weather incidents if life-safety of Community Members becomes a concern.

### DAMAGE ASSESSMENT ANNEX

Cal Poly will develop and maintain a “Damage Assessment Annex” under the EOP that serves as a strategic framework that guides the evaluation of impacts following an incident or disaster. It will account for the implications on infrastructure, environment, and human life, and is a crucial part of emergency management and disaster recovery.

The Damage Assessment Annex will involve periodic Rapid Needs Assessments (RNA) that will prompt initial damage assessments, followed by the detailed damage assessments of the affected areas, with trained personnel collecting and analyzing data to understand the extent and cost of the damage. These insights guide response efforts, resource allocation, and recovery plans. The findings of the assessment are documented in a comprehensive report, which is shared with relevant officials and agencies, forming the basis for requests for disaster assistance and funding.

Therefore, the EMO may anticipate the activation and utilization of the Damage Assessment Annex during the response to a severe weather incident.

### HAZARDS VULNERABILITY ASSESSMENT AND BUSINESS IMPACT ANALYSIS

Cal Poly has developed and maintains a “Hazards Vulnerability Assessment and Business Impact Analysis” (HVA) that catalogues 41 threats and hazards. Of this catalogue, there are 9 severe weather hazards with 5 severe weather complications covered by this plan, with different hazards or compositions of hazards prompting different threat responses.



Severe Weather Hazards	Threat Response	Severe Weather Complications
<ul style="list-style-type: none"> <li>• Atmospheric River Events</li> <li>• Rainstorm</li> <li>• Thunderstorm</li> </ul>	<p>Flooding</p>	<ul style="list-style-type: none"> <li>• Flash Flooding (flood ways)</li> <li>• Riverine Flooding (flood zones)</li> <li>• Mud/Landslide</li> <li>• Power Outage</li> <li>• Sinkhole</li> </ul>
<ul style="list-style-type: none"> <li>• Heat Event</li> </ul>	<p>Excessive Heat</p>	<ul style="list-style-type: none"> <li>• Power Outage</li> </ul>
<ul style="list-style-type: none"> <li>• Heat Event</li> <li>• High Wind Event</li> <li>• Thunderstorm</li> <li>• Wildfire</li> </ul>	<p>Wildland Fire</p>	<ul style="list-style-type: none"> <li>• Power Outage</li> <li>• Mud/Landslide</li> <li>• Diminished air quality for sensitive populations</li> </ul>
<ul style="list-style-type: none"> <li>• Atmospheric River Events</li> <li>• High Wind Event</li> <li>• Rainstorm</li> <li>• Thunderstorm</li> <li>• Tornado</li> <li>• Wildfire</li> </ul>	<p>Debris Management</p>	<ul style="list-style-type: none"> <li>• Power Outage</li> <li>• Hazardous Materials</li> </ul>
<ul style="list-style-type: none"> <li>• Ice/Freeze Event</li> </ul>	<p>Limited/Modified Mass Care &amp; Shelter</p>	
<ul style="list-style-type: none"> <li>• Space Weather/Solar Event</li> </ul>		<ul style="list-style-type: none"> <li>• Power Outage</li> </ul>

The HVA provides further analyses and provides a frame of reference for planning stakeholder considerations. The HVA is then foundational to severe weather preparedness, and additional preparatory measures can be planned and executed in advance of a severe weather incident in the interest of mitigating impacts.

**INTEGRATED PREPAREDNESS PLAN**

Cal Poly will develop and maintain an Integrated Preparedness Plan (IPP), as described by the FEMA Homeland Security Exercise and Evaluation Program (HSEEP) methodology, which emphasizes the importance of an IPP as an essential tool for preparing for and responding to emergencies.

An IPP is a coordinated strategy that unites various emergency management plans, policies, procedures, and resources across an organization or community to ensure a holistic response to any disaster.

The HSEEP guidance underscores that the IPP should be comprehensive, encompassing threats and hazards identified by an analytical assessment such as Cal Poly’s HVA, and should involve all relevant stakeholders, from first responders to community organizations. It also highlights that the IPP should be regularly tested and updated through exercises, drills, and real-world incidents to ensure its



effectiveness. This rigorous and continuous practice helps to identify gaps in capabilities, opportunities for improvement, and ways to enhance overall preparedness.

Data collection, analysis, and after-action reports are also key components of the HSEEP's guidance for IPPs. These activities help to track progress, improve performance, and share lessons learned, making them invaluable for building and maintaining a state of readiness. As such, the HSEEP emphasizes the need for a systematic approach to manage, maintain, and implement these plans in order to strengthen overall resilience against potential threats and hazards.

Therefore, the data gleaned from the Hot Washes, and After-Action Reports and Improvement Plans will be reflected in future iterations of the IPP.

### **PUBLIC SAFETY POWER SHUTOFF PLAN**

The comprehensive Cal Poly PSPS Plan ensures the continuity of our university's operations even during power outages implemented for public safety. Our plan focuses on maintaining our core services, ensuring the safety and well-being of our students, faculty, and staff, and minimizing disruption to our educational activities.

The PSPS Plan establishes protocols for advanced notice and communication about potential power shutoffs, which allows Community Members and response stakeholders to prepare and adapt our operations accordingly. The plan also makes considerations for backup power systems in critical facilities and services – ensuring that critical functions can continue to operate – and guides coordination with local emergency services to ensure preparedness for any secondary effects of a power shutoff, such as increased fire risk.

The PSPS Plan's framework can serve as severe weather hazard guidance for heat, and/or high wind, and/or wildfire incidents, in the interest of maintaining continuity for the University.

### **RECOVERY PLAN**

Cal Poly will develop and maintain a strategic-level Recovery Plan.





## PLANNING ASSUMPTIONS

Certain assumptions have been made for the development of this Annex that, in conjunction with the Planning Assumptions contained in the Cal Poly EOP, are foundational to the formulation of emergency management organization preparatory, triggered, and response activities for severe weather hazards:

- Severe weather hazards may occur anytime during the year and may pose serious threats to public health, life safety, academic success, property, and the environment;
  - Peak “Fire Season” spans from June through November, but wildland fire remains a year-round threat;
  - Flooding threats are most likely between the rainy months from October through April;
    - Atmospheric rivers produce 30% – 50% of California’s annual precipitation;
    - Extreme volumes of precipitation has and will impact Cal Poly’s wastewater retention ponds;
    - Extreme volumes of precipitation has and will impact local wastewater management plants;
- “Protecting Californians From Extreme Heat: State Action Plan to Build Community Resilience” states that, “Extreme heat threatens public health and safety; economic prosperity; and communities and natural systems.”
  - Excessive heat events have and can impact Cal Poly Community Members and their Supporters during times of moderate to strenuous outdoor activities:
    - Annual University Housing Move In
    - Commencement
    - Athletic events
    - Other outdoor events
- This Annex is considered to be a dynamic document, with changes being made as needed, and then documented.
- In accordance with the specified Approval and Promulgation, this Annex will be reviewed, with lessons learned and best practices being implemented to improve future responses.
- This Annex is strategic and operational in nature, as defined by the NIMS.
- Cal Poly divisions and units will be responsible for the development and implementation of individual SOPs in relation to this Annex.
- Severe weather emergencies or disasters may result in significant transportation interruptions that may complicate other response operations.
- Severe weather emergencies or disasters may require a multi-jurisdictional response.
- In flood emergencies or disasters, SEMS and NIMS will be utilized by responding agencies/divisions/units.



**PURPOSE, SCOPE, SITUATION OVERVIEW, AND ASSUMPTIONS**

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- The Cal Poly EMO is responsible for the coordination of emergency actions Cal Poly land holdings, and will commit all available resources to save lives, property, and the environment.
- Severe weather emergencies or disasters may overburden local resources and necessitate utilizing pre-identified additional resources through established mutual-aid agreements with neighboring jurisdictions or requesting assistance from the County, State, and/or California State University System, as appropriate.
- Severe weather emergencies or disasters may generate widespread public and media interest.
- Cal Poly supports the National Flood Insurance Program (NFIP) as directed by the FEMA.
- This Annex includes considerations for individuals with Access and Functional Needs (AFN) and Limited English Proficiency (LEP), as well as for animals and pets.



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# CONCEPT OF OPERATIONS

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## PRE-EVENT COORDINATION

This section of the Concept of Operations provides a framework for coordination that ensures a standardized approach is followed in the event of a potential severe weather event, as identified in the Horizontal Plan Integration section under the narrative for Cal Poly’s HVA. If the DEM Duty Officer (DO), in consultation with leadership and NWS subject matter experts, has determined that a severe weather event may pose a substantial threat or other severe weather-related issues to the University and/or its MEFs, then they may choose to begin implementing the actions detailed below.

It is important to note that each severe weather event is and will be unique; therefore, a unique threat response is required. It is the intent of this Annex to standardize the approach of Cal Poly’s internal and external coordination efforts. As such, the actions described below should be treated as guidance, NOT as requirements. The event timelines and specific details are fluid and subject to changing circumstances. Emergency officials are expected to demonstrate flexibility when crafting event specific threat response activities and use this Annex as an integral reference.

In general, the EMO should understand that the 96-hour, 72-hour, 48-hour, and 24 to 12-hour timelines are opportunities to gather information, conceptualize preliminary decisions, and perform “Triggered Preparedness Activities” described in the subsequent Organization and Assignment of Responsibilities section and subsections.

Distinct “Annual Preparedness Activities” and “Response Activities” will be presented for different Threat Responses in the subsequent Organization and Assignment of Responsibilities section and subsections.

## PRE-EVENT COORDINATION TIMELINE

Timeline	Activity (The following activities should be tailored as dictated by the specific event)	Department
<b>96 Hours (4 days) Prior to Severe Weather Event</b>	NWS provides notification of upcoming severe weather potential.	NWS
	Under consideration of NWS information and threshold considerations, the DEM DO will determine whether or not the severe weather poses a significant threat of impact.	DEM DO
	The DEM DO will compose a Spot Report and share relevant details of the NWS and/or PG&E forecast with Cal Poly stakeholders/partners, Student Affairs Division’s University Housing (SA UH) and Administration & Finance’s Strategic Business Services (SBS) units. This provides SA UH and SBS lead-time in planning for sheltering and/or other logistical needs.	DEM DO / SA UH / SBS
	The Executive Director of Public Safety and Emergency Management (EDPSEM) or designated EOC Director will begin conceptualizing preliminary decisions.	DEM



**ROLES AND RESPONSIBILITIES**

<b>Timeline</b>	<b>Activity</b> (The following activities should be tailored as dictated by the specific event)	<b>Department</b>
<b>72 Hours (3 days) Prior to Severe Weather Event</b>	As need dictates, review NWS Area Forecast Discussion report and consider requesting a Spot Forecast specific to an area relevant to Cal Poly.	NWS / DEM
	The EDPSEM or designated EOC Director will refine preliminary decisions and campus status recommendations	DEM
	Consider activation of the Cal Poly EOC after evaluation of threshold criteria and threat, or activating the EOC upon consideration of Presidential, Divisional or Unit-level requests.	DEM
	Department Operations Centers (DOC) begin to activate and finalize severe weather preparations, as necessary.	Stakeholders / Partners
	Coordinate with local jurisdictions/partners to continue pre-staging supplies in designated staging areas and monitoring potential flood areas.	Stakeholders / Partners
<b>48 Hours (2 days) Prior to Severe Weather Event</b>	The DEM DO and Cal Poly Facilities Management and Development (FMD) continues to monitor NWS and PG&E products and information.	DEM DO / FMD / NWS / PG&E
	<p>The DEM DO may be directed to host a conference call with Cal Poly stakeholders/partners and request the following information from the local jurisdictions/partners:</p> <ul style="list-style-type: none"> <li>• Current and planned preparedness/response actions (i.e., EOC/DOC activations, resource staging, flood prep activities, etc.).</li> <li>• Identify possible resource needs, limitations, and high-risk areas.</li> </ul> <p>Determine pre-storm situation reporting schedule and future conference call schedule.</p>	DEM DO / Cal Poly Stakeholders / Partners
	The EDPSEM or designated EOC Director will refine preliminary decisions and campus status recommendations	DEM
	SA UH and American Red Cross (ARC) will coordinate shelter preparation through the OA as needed.	SA UH / ARC
	If the Cal Poly Joint Information Center (JIC) not currently activated, consider activating a JIC (virtual or physical) and continue public messaging.	UCM



<b>Timeline</b>	<b>Activity</b> (The following activities should be tailored as dictated by the specific event)	<b>Department</b>
<b>36 to 24 Hours Prior to Severe Weather Event</b>	The DEM DO and FMD continues to monitor NWS and PG&E products and information.	DEM DO / FMD / NWS / PG&E
	The DEM DO may be directed to host a conference call with Cal Poly stakeholders/partners and request the following information from the local jurisdictions/partners: <ul style="list-style-type: none"> <li>• Current and planned preparedness/response actions (i.e., EOC/DOC activations, resource staging, flood prep activities, etc.).</li> <li>• Identify possible resource needs, limitations, and high-risk areas.</li> </ul> Determine pre-storm situation reporting schedule and future conference call schedule.	DEM DO / Cal Poly Stakeholders / Partners
	The EDPSEM or designated EOC Director will refine preliminary decisions and campus status recommendations.	DEM
	DEM considers development of a Situation Status Report (SitRep).	DEM
	Student Affairs (SA), Human Resources (HR), and Disability Resource Center (DRC) will coordinate with Public Information Officers (PIO) for outreach support to vulnerable populations.	SA / HR / DRC / PIO
	If the Cal Poly JIC not currently activated, consider activating a JIC (virtual or physical) and continue public messaging.	UCM
	<b>24 to 12 Hours Prior to Severe Weather Event</b>	As need dictates, review NWS Area Forecast Discussion report and consider requesting a Spot Forecast specific to an area relevant to Cal Poly.
The EDPSEM or designated EOC Director will refine preliminary decisions.		DEM
Consider activation of the Cal EOC after evaluation of threshold criteria and threat, or activating the EOC upon consideration of Presidential, Divisional or Unit-level requests.		DEM
DOC begin to activate and finalize flood preparations, as necessary.		Stakeholders / Partners
Local jurisdictions/partners to continue pre-staging supplies in designated staging areas and monitoring potential flood areas.		Stakeholders / Partners





<b>Timeline</b>	<b>Activity</b> (The following activities should be tailored as dictated by the specific event)	<b>Department</b>
<b>24 to 12 Hours Prior to Severe Weather Event</b>	The EDPSEM or designated EOC Director will refine preliminary decisions.	DEM
	DEM will meet with Core EPG members to discuss strategies and options prior to meeting with the President.	DEM / EPG (Provost, SVP A&F, VP SA, UCM VP, CS, HR VP)
	DEM will meet with the President with optional attendance from Core EPG members to convey strategies and options and receive direction. President will make final decision regarding planned status of campus during inclement weather.	DEM / President
<b>Severe Weather Arrival</b>	NWS to continue with updated briefings on the severe weather events via conference call.	NWS
	As need dictates, review NWS Area Forecast Discussion report and consider requesting a Spot Forecast specific to an area relevant to Cal Poly for the next 24 hours.	NWS / DEM

## EVENT COORDINATION TIMELINE

<b>Timeline</b>	<b>Activity</b> (The following activities should be tailored as dictated by the specific event)	<b>Department</b>
<b>0 to 12 Hours After Severe Weather Arrival</b>	In general, departments are monitoring severe weather impacts on their life safety, operations, properties, facilities, and continuity, and providing status updates to DEM/EOC.	All
	Provide situation updates to Core EPG members as necessary.	EDPSEM/ EOC Director
	Provide situation updates to other jurisdictions as necessary.	DEM/EOC
	Develop and distribute Situation Reports as necessary.	DEM/EOC



<b>12 to 24 Hours After Severe Weather Arrival</b>	Continue to monitor severe weather impacts on their life safety, operations, properties, facilities, and continuity, and providing status updates to DEM/EOC.	All
	Develop suggested strategies and options for the next 24, 48, and 72 hours with stakeholders and partners.	DEM/EOC
	Provide situation updates to Core EPG members as necessary.	EDPSEM/ EOC Director
	Provide situation updates to other jurisdictions as necessary.	DEM/EOC
	Develop and distribute Situation Reports as necessary.	DEM/EOC

## **PUBLIC INFORMATION AND WARNING**

### **PUBLIC INFORMATION MESSAGING CONSIDERATIONS**

Prior to the arrival of a severe weather event that may impact Cal Poly, the following items should be considered for public messaging:

- Potential magnitude/severity of severe weather events on life, property, the environment, and the economy;
- Probability of occurrence (based upon history and future expectations);
- Threat/hazard assessment;
- Vulnerabilities;
- Consequences;
- External assistance requirements;
- Evacuation plans; and
- Requirements for individuals with access and functional needs.

### **JOINT INFORMATION CENTER ACTIVATION CONSIDERATIONS**

Activation of a JIC, whether physical or virtual, should be considered during the following circumstances:

- 2 or more Cal Poly Division or Units impacted;
- Large/Complex incidents;
- Large scale evacuations;



## ROLES AND RESPONSIBILITIES

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- Public Health Department Advisories;
- Major utilities outages; and
- Impacted roadways throughout the OA and campus.

## PUBLIC ALERTING AND NOTIFICATIONS

During an emergency, NWS, the County, local governments, special districts, NGOs, CBOs, and private companies should coordinate their messaging efforts to ensure that complete and accurate information is disseminated to the public to include individuals with access and functional needs.

Cal Poly has various systems in place for disseminating warnings and emergency information to the public, which are described in the Cal Poly EOP.

## EVACUATION CONSIDERATIONS

Severe weather events or other disasters may result in the need to evacuate Community Members. The EOC or DEM DO will refer to Cal Poly's Evacuation Plan for evacuation considerations.

## REOCCUPATION CONSIDERATIONS

Prior to evacuees returning to their impacted areas, the Cal Poly EMO will consider the health, safety, viability findings, and recommendations from the County Health Agency, Cal Poly Environmental Health and Safety (EH&S), SA UH, CAFES, and other involved response stakeholders and partners.

Once the above recommendations have been considered, the following checklist should be contemplated:

- Identify reoccupation date and time;
- Identify area(s) to be re-entered;
- Type of re-entry;
- Only homeowners/landowners with identification;
- General public;
- Other considerations:
  - Is the threat mitigated?
  - Are power lines secured?
  - Are transportation systems hazards mitigated, i.e., roads cleared, bridges inspected, hazard trees removed, etc.?

# ROLES AND RESPONSIBILITIES

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This Roles and Responsibilities section provides an overview of the severe weather triggers and considerations for key functions that Cal Poly Divisions their Critical Support Function units should undertake prior to and during a severe weather hazard. This section also weaves in the roles and responsibilities that state and local organizations may play, as assisting and cooperating agencies, in supporting local operations.

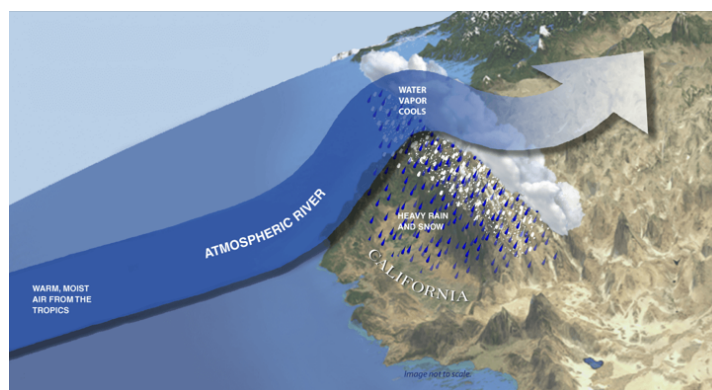
## FLOODING THREAT RESPONSE

Flooding is the most frequent and costliest weather disaster in the United States, and its costs are projected to rise as the climate warms. Flooding threats and responses can develop from a singular weather hazard, or from congruence of weather hazards. The common threat that these hazards present is a surplus of water that exceeds Cal Poly’s infrastructure capabilities or capacities, such as waterways, and drainage and/or wastewater retention systems. Intense volumes and/or rates of precipitation brought on by atmospheric rivers, rainstorms, and thunderstorms can cause:

- Flash flooding (flood ways) during sustained downpours in conjunction with saturated soils; and/or
- Riverine flooding (flood zones) as the volume of runoff increases and exceeds the capacities of waterways; and/or
- Mudslides and landslides – also referred to as “mass wasting” – can occur on slopes as water loads cause soil saturation, thereby increasing weight while decreasing shear strength, to a failure point where gravitational force takes effect; and/or
- Power outages due to storm damage to electrical infrastructure (e.g., transmission lines, power lines, substations, transformers, and localized electrical equipment); and/or
- Sinkholes as water saturation causes subsurface erosion, resulting in surface collapse.

## ATMOSPHERIC RIVERS EVENTS

Atmospheric rivers are long, flowing regions of the atmosphere that carry water vapor through the sky. They are generally 250 to 375 miles wide and can be more than 1,000 miles long. While rivers on land generally flow downhill, atmospheric rivers flow in the direction of moving air created by weather systems.





Atmospheric rivers usually begin over tropical regions. Warm temperatures there cause ocean water to evaporate and rise into the atmosphere. Strong winds help to carry the water vapor through the atmosphere. As atmospheric rivers move over land, the water vapor rises up farther into the atmosphere. It then cools into water droplets, which fall as precipitation.

One well-known atmospheric river called the “Pineapple Express” picks up warm, moist air near Hawaii. When the Pineapple Express hits land in the Western United States and Canada, it can cause heavy rain and snow. In California, it can cause up to 5 inches of rain in a day.

Scientists monitor atmospheric rivers to plan for emergencies and water supply issues. The National Oceanic and Atmospheric Administration (NOAA) GOES West weather satellite captures images and information, such as the amount and location of moisture in the atmosphere (integrated water vapor, or IWV) on the West Coast, as often as every 5 minutes. This is important for weather forecasters to make accurate forecasts of heavy rain and flash flooding (integrated water vapor transport (IVT) models). Accurate forecasting of these events can help people prepare and stay safe.

Historically, the five-level scale developed by the Center for Western Weather and Water Extremes (CW3E) at the Scripps Institution of Oceanography is used to describe and categorize atmospheric rivers.

Category	Strength	Impact	Maximum IVT
1	Weak	Primarily beneficial	≥ 240-500
2	Moderate	Mostly beneficial, also hazardous	≥ 500-750
3	Strong	Balance of beneficial and hazardous	≥ 750-1,000
4	Extreme	Mostly hazardous, also beneficial	≥ 1,000-1,250
5	Exceptional	Primarily hazardous	≥ 1,250

Typically, Southern California experiences one Category 2 or Category 3 atmospheric rivers per annum, and averages one Category 4 atmospheric river every decade. However, a succession of atmospheric rivers has been known to occur – often referred to as a “parade of atmospheric rivers” or “atmospheric river families,” as was experienced at Cal Poly during the winter storms of January 2023.

Atmospheric river frequency and intensity can be influenced by the ENSO cycle.

### **RAINSTORMS AND THUNDERSTORMS**

Severe rainstorms and thunderstorms presenting flood threats can occur when storm systems moving along cold weather fronts either slows or stalls over a particular area, potentially forming additional storm systems, while resulting in a prolonged period of rainfall. These storms are generally associated with cumulonimbus cloud formations and can range from months of October through April.

NWS often uses a rainfall rate of >0.3” per hour as a starting point for possible flash flooding in urban or poor-drainage areas.



NWS also utilizes the statistical concepts of a “100-year storm” and a “500-year storm” to convey probabilities and severity of rainstorms and thunderstorms. A “100-year storm” suggests a 1% probability of a severe storm producing <7” of precipitation within a 24-hour period, while a “500-year storm” suggests a 0.2% probability of a severe storm producing up to 15” of precipitation within a 24-hour period.

The frequency and intensity of severe rainstorms and thunderstorms can also be influenced by the ENSO cycle, which is a periodic warming of ocean surface temperatures, potentially leading to increased evaporation that fuels the development of storm systems. The ENSO cycle can influence weather patterns around the globe, and the relationships between ocean temperatures and storm systems remains complex and not guaranteed.

### **ANNUAL PREPAREDNESS ACTIVITIES**

On an annual basis and in advance of flooding threats (Octobers and Novembers), the College of Agriculture, Food, and Environmental Sciences’ (CAFES) Agriculture Operations (AgOPS) department will pump down and empty wastewater retention ponds (e.g., “lagoons” and “ponds”).

Administration & Finance’s (A&F) FMD unit will coordinate with SBS to ensure that:

- Adequate quantities of floodlighting materials are on hand in order to sufficiently respond to a flooding event brought on by atmospheric river events:
  - Sand;
  - Pallets of sandbags;
  - Wattles;
  - Aggregate materials;
- Complimentary materials and resources (e.g., sand and empty sandbags) are intelligently staged as a precautionary tactic to facilitate ready access and to prevent geographical separation.

### **TRIGGERED PREPAREDNESS ACTIVITIES**

If a flood threat is predicted to impact the Central Coast region, NWS will begin the issuance of watches, advisories, and warnings. Upon receipt of such notifications:

- The DEM DO will develop and disseminate communications to relevant stakeholders:
  - Spot Reports to the President’s Cabinet and EOC staff;
  - Severe Storm Conference Call (see Attachment C), as needed; and
  - Group text messages to response stakeholders and college Deans.

Cal Poly divisional and unit-level stakeholders will consider the initiation of the following preparedness activities:

- FMD may inspect storm drains on the campus core;
- FMD may deploy sandbags to known problematic areas of the campus core;





## ROLES AND RESPONSIBILITIES

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- CAFES will consider relocating equipment out of known floodplains or flood-prone areas;
- The Office of the Provost will consider whether the threat potentials merit the cancellation of classes, class sections, labs, activities, and research – in part, or in full – in the interest of life-safety;
  - Coordinate with Cal Poly Deans and Associate Deans from the colleges;
  - Develop recommendations for alternative academic options for instruction or the making up of missed class sections, labs, or activities;
- A&F will consider whether the threat potential merits the closure of campus and the release of employees that do not serve Cal Poly’s MEFs; and
- UCM will consider the convening of the Cal Poly JIC to begin coordinating the development of public messaging;
- UH will ensure that all known flood areas are prepared and emergency supplies are ready for deployment.

## RESPONSE ACTIVITIES

Prior to a flood threat impacting Cal Poly, the EMO may begin activating on an incremental and situational basis. The purpose of this activation is to facilitate the coordination and collaboration of divisions and units, as well as to facilitate the coordination and collaboration with external agencies within the SEMS and NIMS structure, and/or external agencies through the State’s Multi-Agency Coordination System (MACS).

As per the EOP, any Cal Poly Division or divisional unit may request the activation of the EOC. The EOC may also be activated by the EOC Director or their designee.

The EOC may be activated at a Level III status (lowest level, essential/minimal staffing with essential capabilities), up to a Level I status (highest level, with the most staff and with the most capabilities). Upon activation of the EOC, the following activities will be **considered**:

- Developing and maintaining situational awareness and the promotion of a common operating picture, by way of:
  - Collecting, processing displaying information from:
    - NWS forecasts, weather briefings, and other notifications;
    - Activated Cal Poly DOCs;
      - FMD;
      - UH;
      - CPPD Dispatch reporting flooding issues to FMD;
    - Local agencies;
      - Thoroughfare impacts;
      - Infrastructure impacts;



- EOC Liaison Officer, e.g.;
  - School district status;
  - Independent school status;
- Operation Section Branch Directors;
  - Especially Mass Care and Shelter; and
  - Especially AgOPS with considerations for animal evacuations;
- RNA through FMD's Help Desk reports of custodial utilization
- Disseminating intelligence and promoting a common operating picture through:
  - Initiate Pre-Event Coordination Timeline;
  - Incident Status Summaries (ICS-209);
  - Situation Reports;
  - PolyAlert mass notifications;
- Developing action plans;
  - Accomplish the temporary reassignment of classes, class sections, labs to suitable academic spaces through coordination with Academic Scheduling department;
  - CAFES Farm Operations will clear debris in engineered waterways (not creeks or natural waterways);
  - Clearing debris from landslides and runoff;
- Collaboration and coordination with state, local, and other allied agencies;
  - EH&S will coordinate with the California State Water Resources Control Board for concerns regarding permits;
- Activation of the Evacuation Plan for localized emergency evacuations:
  - Reviewing evacuation orders with the Disability Integration Advisor;
  - Describe how Cal Poly will prioritize repopulation efforts;
- Activation of the Mass Care and Shelter Plan
  - Coordinating the establishment of a Community Support Centers to provide temporary aid to stranded Community Members;
    - Ensuring that temporary aid is provided to Community Members by validating My Cal Poly Portal access;
- Coordinating Public Information through direction from:
  - The President's Cabinet;
  - The Office of the Provost;
  - UCM and/or the Cal Poly JIC;



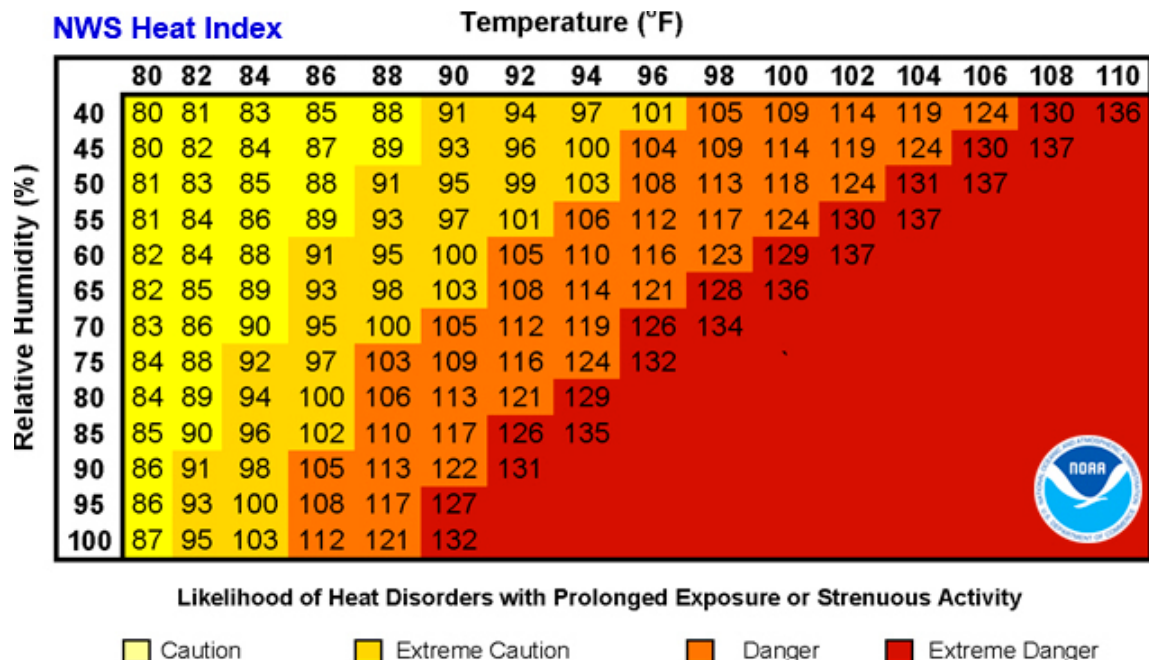
- Standing up a hazard-specific call center to facilitate the resolution of non-emergency queries from Community Members
- Coordinating needed and scarce resources
  - Through the OA;
  - Through mission tasking;
  - Through mutual aid agreements;
    - “California Disaster and Civil Defense Master Mutual Aid Agreement;” and
    - “The California State University Campus Emergency Management Mutual Assistance Agreement.”

## EXCESSIVE HEAT THREAT RESPONSE

Excessive heat is the leading weather-related threat in the United States. “A combination of extreme heat and humidity can lead to heat-related illness, including heat cramps, heat exhaustion, and heat stroke. Heat-related illness can occur when the ability of the body to cool itself is challenged, or when there are insufficient levels of fluid or electrolytes in the body due to sweating or dehydration.” In general, heat-related illnesses increase as the combination of temperature and relative humidity increase.

### HEAT INDEX

NWS maintains the “Heat Index” chart – “a subjective measure of what it feels like...when relative humidity is factored into [ambient] temperature.”





High ambient temperatures coupled with high humidity levels challenges a person’s body in maintaining homeostasis, as a body is dependent upon the evaporation of perspiration to cool itself. When relative humidity is high, the increased moisture content in the air reduces the rate of evaporation for perspiration, leading to a reduced ability to shed heat. “Therefore, the body feels warmer when it’s humid.”

The Heat Index model is the foundation to understanding the impacts of excessive heat on a person. This model is limited because its “values were devised for shady, light wind conditions, exposure to full sunshine can increase heat index values by up to 15°F.”

### WET BULB GLOBE TEMPERATURE

NWS also maintains predictions for Wet Bulb Globe Temperatures (WBGT), which uses additional variables in addition to the Heat Index in order to project subjective temperatures. These additional variables include wind and solar radiation (ambient temperatures measured in the sun; the Heat Index model measures ambient air temperatures in the shade). The WBGT model is a “particularly effective indicator of heat stress for active populations such as outdoor workers and athletes.”

	WBGT	HEAT INDEX
Measured in the sun	●	●
Measured in the shade	●	●
Uses temperature	●	●
Uses relative humidity	●	●
Uses wind	●	●
Uses cloud cover	●	●
Uses sun angle	●	●

The Cal Poly EMO should consider that asphalt, pavement, and synthetic lawns under full sun can add 30°F – 45°F to the ambient air temperature. Also, “WBGT values of 90 or greater are dangerous for strenuous outdoor activities.”

### NWS EXCESSIVE HEAT PRODUCTS

Each NWS Forecast Office issues heat-related alert products, as conditions warrant. NWS local offices often collaborate with local partners to determine when an alert product should be issued for a local area. The issuance of these alert products occurs via a combination of Internet updates, GIS data, emails, and text messages. Alert products include:

- **Hazardous Weather Outlook for Excessive Heat**



Included populations should be aware that a period of excessive heat is possible within the next three to five days. An excessive heat advisory or excessive heat warning may eventually be needed.

- **Excessive Heat Watch**

Included populations should be prepared for a prolonged period of hazardous excessive heat that is possible within approximately 48 hours.

- **Excessive Heat Advisory**

Included populations should take action for a period of excessive heat that is expected. The combination of hot temperatures and high humidity will create a situation in which heat-related illnesses are possible.

- **Excessive Heat Warning**

Included populations should take action for a prolonged period of dangerous excessive heat that is expected within approximately 24-hours. The combination of hot temperatures and high humidity exceeding 105°F on the Heat Index for over two hours, will create a dangerous situation in which heat-related illnesses are likely.

## ANNUAL PREPAREDNESS ACTIVITIES

On an annual basis, EH&S will consider collaborating with the Cal Poly External Affairs department in issuing special Heat Prevention awareness messages to graduating students in advance of Commencement in June. Such messaging should encourage hydration, provide awareness of the “personal risk factors for heat illness” involving the consumption of alcoholic and caffeinated products, and provide awareness of heat stress symptoms.

EH&S also provides monthly Heat Prevention trainings during May through October.

## TRIGGERED PREPAREDNESS ACTIVITIES

Upon receipt of an NWS Hazardous Outlook for Excessive Heat or an Excessive Heat Watch – as described above – the DEM DO will determine whether the Heat Product will affect the Campus Core by referring to the [Cal Poly Heat Dashboard](#). If it is determined that the Campus Core is within the forecasted area, the DO will consider forwarding the NWS Heat Product to the following stakeholders, in full or in part:

- ASI Children’s Center
- Cal Poly Athletics
- Cal Poly Preschool Learning Lab
- Cal Poly Public Safety
- College Deans
- External Affairs (during the months of June)
- EH&S



## ROLES AND RESPONSIBILITIES

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- Mustang Band
- Strategic Enrollment Management's Welcome Center
- University Housing

If an NWS Hazardous Outlook for Excessive Heat or an Excessive Heat Watch is projected to affect any stakeholder-scheduled outdoor activity, the stakeholder will consider:

- Rescheduling the activity's timeframe to an earlier and cool timeframe; or
- Rescheduling the activity's date to a date where the weather will be less hazardous.

If stakeholder-scheduled outdoor activity schedules cannot be modified, the stakeholder should consider their respective outdoor activities for the Heat Product's time frame and consider advising their Community Members and Supporters to:

- Wear lightweight, loose fitting, light-colored clothing;
- Minimize direct exposure to the sun and seek shaded areas as much as possible;
- Maintain hydration;
- Cool down by going indoors or seek air-conditioned spaces (such as buses and shuttles); and
- Slow down movement and take frequent breaks.

These stakeholders should also consider acquiring and deploying:

- Additional/Sufficient misting fans;
- Additional/Sufficient bottled water caches; and
- Additional/Sufficient shade structures.

## RESPONSE ACTIVITIES

- The President or their designee will consider the cancellation or rescheduling of any major events with attendance over 1,000 persons or implementing mitigation measures such as cooling stations, shade tents, etc
  - University Communications and Marketing will consider facilitating public communications in support of Presidential direction with the appropriate communicator(s).

## WILDLAND FIRE THREAT RESPONSE

San Luis Obispo County experiences a Mediterranean climate, distinguished by its wet winters, followed by hot, dry summers and mild, leading to conditions conducive to fire outbreaks; wet winters encourage the vegetative growth that dries during the summer months with low relative humidity (RH) and accumulates as fuel loads for fires. These risk levels increasing during periods of extreme heat.

The county also experiences effects of annual Santa Ana winds, which originate from the desert and move towards the coast. These winds can contribute to the escalation and rapid spread of fires, increasing their intensity and complicating containment efforts. These winds may also bring ashfall and worsen air quality, either through direct effect, or through wildland fires from adjacent regions.

The landscape and topography of San Luis Obispo County presents additional challenges. The hilly and mountainous terrain can accelerate the spread of fires and impede firefighting operations due to access difficulties. The Wildland-Urban Interface (WUI), where human settlements meet wildland vegetation, further amplifies these risks as fires can readily spread between these intermingled areas.

Moreover, periods of drought are common in the region, which increases the flammability of vegetation and adds to the overall fire risk. Pest infestations, such as those caused by bark beetles, can also contribute to this risk by creating an excess of dead, easily ignitable vegetation.

Lastly, human activity is a significant factor in the ignition of fires. This can be due to deliberate acts like arson or unintentional incidents such as sparks from machinery, unattended campfires, or power lines. As the population and recreational use of wildland areas increase, the likelihood of fire ignition also rises.

Given these conditions, San Luis Obispo County faces substantial wildland fire risks, particularly during dry seasons. As part of the response to this threat, fire management strategies like vegetation management and controlled burns are implemented to reduce risk levels.

### **ANNUAL PREPAREDNESS ACTIVITIES**

On an annual basis, EH&S will perform preparedness activities as identified in the IPP, for example (but not limited to):

- Consider hosting periodic awareness presentations for Community Members (e.g., “Safety Jam” for personal fire preparedness and response);
- Consider collaborating and coordinating with University Housing for emergency evacuation drills; and
- Comply with regular Title XIX Fire Inspections.

On an annual basis, FMD will perform preparedness activities as identified in the IPP, for example (but not limited to):

- Consider hosting periodic awareness presentations for Community Members (e.g., “Wildfire Preparedness” for personal fire preparedness and response);
- Consider refreshing environmental control air filters, when appropriate; and
- Consider trimming of problematic trees.

On an annual basis, CAFES will perform preparedness activities as identified in the IPP, for example (but not limited to):



## ROLES AND RESPONSIBILITIES

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- CAFES’ AgOPS will consider hazardous fuel mitigation through discing vegetation near major thoroughfares;
  - Crops Unit will perform discing of grassy areas alongside Highway 1 during Spring Quarter (Q2);
- CAFES’ Animal Sciences will consider hazardous fuel mitigation through strategic grazing of pasturelands;
  - Utilize cloven animals (e.g., cattle, sheep, goat, horses) to graze pastures (see Attachment C for Pasture Inventory) during the first half of the year, and throughout the year; and
- CAFES will consider advising that Community Members minimize/reduce any field work that might cause ignitions.

On an annual basis, Cal Poly’s Public Safety Unit, through its Police Department (CPPD) and DEM will consider:

- Coordinating structure protection drills with the San Luis Obispo Fire Department;
- Coordinating with EH&S for fire extinguisher maintenance (each patrol unit is equipped with a pair of fire extinguishers);
- Patrolling the WUI to assess hazardous fuel loads; and
- Participating in PG&E PSPS trainings.

### **TRIGGERED PREPAREDNESS ACTIVITIES**

The NWS Weather Field Office (WFO) Los Angeles/Oxnard maintains “Red Flag Criteria” for Public California Zone 341 and 342. Red Flag Warnings may be issued when there are dry fuels in conjunction with any one of the following conditions:

- Relative Humidity is 15% or less with;
  - Sustained winds of 25 mph or greater for 6 hours or more; or
  - Frequent gusts of 35 mph or greater for 6 hours or more; or
- Relative Humidity of 10% or less with;
  - Sustained winds of 15 mph or greater for 6 hours or more; or
  - Frequent gusts of 25 mph or greater for 6 hours or more; or
- Widespread and/or significant Dry Lightning; or
- Other (forecaster discretion) – unusual but significant meteorological and/or fuel conditions in coordination with the National Interagency Fire Center’s (NIFC) (GACC) for Southern California (OSCC) or local agency.

Upon receipt of an NWS Red Flag Warning, the DEM (DO) will relay the Warning to response stakeholders by way of group text message. Upon receipt of the Red Flag Warning:

- The DEM DO will cross reference the PG&E PSPS Portal for concurrence and make report if PG&E states that there are planned PSPS outages;





## ROLES AND RESPONSIBILITIES

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- CPPD will maintain awareness of hazardous fuel loads in proximity to residential areas and thoroughfares;
- University Housing and UCM may collaborate to develop messaging that encourages Community Members to compile Go Bags and make ready to evacuate;
- UH will ensure that emergency supplies are ready for deployment;
- The Disability Resource Center may collaborate with UCM to encourage Community Members who have disabilities or access and functional needs to be aware of their environment and make ready to evacuate.

## RESPONSE ACTIVITIES

Prior to a wildland fire threat impacting Cal Poly, the EMO may begin activating on an incremental and situational basis. This purpose of this activation is to facilitate the coordination and collaboration of Cal Poly Divisions and divisional units, as well as to facilitate the coordination and collaboration with external agencies within the SEMS and NIMS structure, and/or external agencies through the State's MACS.

As per the EOP, any Cal Poly division or unit may request the activation of the EOC. The EOC may also be activated by the EOC Director or their designee.

The EOC may be activated at a Level III status (lowest level, essential/minimal staffing with essential capabilities), up to a Level I status (highest level, with the most staff and with the most capabilities). Upon activation of the EOC, the following activities will be **considered**:

- Developing and maintaining situational awareness and the promotion of a common operating picture, by way of:
  - Collecting, processing displaying information from:
    - NWS forecasts, weather briefings, and other notifications;
    - Activated Cal Poly DOCs;
      - FMD;
      - UH;
      - CPPD Dispatch reporting fire-related issues to FMD;
    - Local agencies;
      - Evacuation impacts;
      - Evolution of fire perimeter(s);
      - Thoroughfare impacts;
      - Infrastructure impacts;
    - EOC Liaison Officer, e.g.;
      - Response agency responses and statuses;

- School district status;
- Independent school status;
- Operation Section Branch Directors;
  - Especially Mass Care and Shelter; and
  - Especially AgOPS with considerations for animal evacuations;
  - Especially EH&S for consideration of the [Wildfire Smoke Policy](#) (when the Air Quality Index is measured at >150);
- Operations and Logistics Sections respirator distribution operations if air quality becomes unhealthy, especially for sensitive groups;
- RNA through FMD's Help Desk reports of custodial utilization;
- Disseminating intelligence and promoting a common operating picture through:
  - Initiate Pre-Event Coordination Timeline;
  - Incident Status Summaries (ICS-209);
  - Situation Reports;
  - PolyAlert mass notifications;
- Developing action plans;
  - Accomplish the temporary reassignment of classes, class sections, labs to suitable academic spaces through coordination with Academic Scheduling department;
  - Clearing debris from Cal Poly land holdings;
- Activation of the Evacuation Plan for localized emergency evacuations:
  - Reviewing evacuation orders with the Disability Integration Advisor;
  - Describe how Cal Poly will prioritize repopulation efforts;
- Activation of the Mass Care and Shelter Plan
- Coordinating the establishment of a Community Support Centers to provide temporary aid to stranded Community Members;
  - Ensuring that temporary aid is provided to Community Members by validating My Cal Poly Portal access;
- Coordinating Public Information through direction from:
  - The President's Cabinet;
  - The Office of the Provost;
  - UCM and/or the Cal Poly JIC;



- Standing up a hazard-specific call center to facilitate the resolution of non-emergency queries from Community Members
- Coordinating needed and scarce resources
  - Through the OA;
  - Through mission tasking;
  - Through mutual aid agreements;
    - “California Disaster and Civil Defense Master Mutual Aid Agreement;” and
    - “The California State University Campus Emergency Management Mutual Assistance Agreement.”

## **DEBRIS MANAGEMENT THREAT RESPONSE**

Debris management threat responses are an integral aspect of emergency planning, especially in areas prone to high wind, thunderstorm, and/or tornado threats, in conjunction with flooding and wildland fire threats that have been treated in sections above.

The University's geographic setting, coupled with regional weather patterns, and limited ingress and egress points, necessitates a robust approach to understanding and managing the potential for severe weather-generated debris during the response phase of an incident, or during the structured recovery phase.

Debris comes in many shapes and sizes, and varies based on the source. The mix of debris will affect the type of equipment that is most efficient for debris removal and disposal. Using the wrong equipment to remove debris can extend the timeframe for debris clearance and dramatically increase the cost of debris operations.

<b>Type</b>	<b>Example</b>
Vegetative	Large piles of tree limbs and branches piled on the public rights-of-way
Construction and Demolition (C&D)	Damaged components of buildings and structures—wood, glass, metal, roofing material, tile, carpeting, concrete, equipment
Hazardous Waste	Waste with properties that make it potentially harmful to human health or the environment
White Goods	Household appliances
Soil, Mud, Sand	Deposits on improved public property and rights-of-way from floods, landslides, and storm surges
Vehicles and Vessels	Abandoned vehicles or vessels blocking ingress/egress in public-use areas
Putrescent Debris	Decomposed animal carcasses



Infectious Waste	Contaminated animal waste, human blood, pathological waste, discarded medical instruments
Chemical, Biological, Radiological, and Nuclear-Contaminated Debris	Debris contaminated with hazardous materials from an explosive event with chemical, biological, radiological, or nuclear threat agents

During an active incident, flooding hazards are capable of producing debris ranging sediment and mud caused by erosion, water-borne debris (e.g., branches, trees, refuse) that can accumulate and clog waterways, and environmental contamination requiring extensive remediation. Similarly, wildland fires are capable of directly producing debris ranging from burned trees to damaged/destroyed structures and personal effects. Wildland fires can also result in secondary landslide/mudslide hazards for years after a response phase has concluded.

High winds, thunderstorms, and tornados have the capacity to transform ordinary objects into hazards, breaking tree limbs, dislodging building materials, and lifting unsecured items into the air. This debris can block roads and other thoroughfares, damage property, and endanger individuals.

Thunderstorm hazards present a tangible threat to institutions like Cal Poly. The very nature of a thunderstorm combines multiple elements – wind, rain, lightning, and in some cases, hail – can result in both immediate and long-term challenges.

Strong winds associated with thunderstorms can dislodge tree branches, roofing materials, and unsecured objects, turning them into potentially dangerous projectiles and debris. Lightning is another significant concern; direct strikes can cause immediate damage to structures, potentially leading to fires. Additionally, lightning can strike trees, causing them to fall or shed branches, adding to the debris problem. Lightning strikes can also down electrical transmission lines, raising the risk of electrocution if transmission circuits fail to deactivate.

On May 5, 1998, a tornado was observed in the early morning hours in proximity to Cal Poly, with recorded wind speeds ranging from 60-70 mph, with windspeed peaking at 86 mph.

<b>Incident Type</b>	<b>Potential Debris</b>
Flood	<ul style="list-style-type: none"> <li>• C&amp;D: Building materials (e.g., drywall, wood)</li> <li>• C&amp;D: Furniture and other household goods (some may be water soaked)</li> <li>• C&amp;D: Infrastructure debris</li> <li>• White Goods: Appliances</li> <li>• Vehicles and Vessels</li> <li>• Vegetation</li> <li>• Hazardous Waste: Household and commercial</li> <li>• Soil, Mud, Sand: Mud carried in flood waters or resulting from mudslides</li> </ul>



Fire	<ul style="list-style-type: none"> <li>• White Goods: Appliances</li> <li>• Vehicles and Vessels: Vehicles</li> <li>• Vegetation</li> <li>• Hazardous Waste: Household and commercial</li> <li>• C&amp;D: Building materials (some may be water soaked)</li> <li>• C&amp;D: Furniture and other household goods (some may be water soaked)</li> <li>• C&amp;D: Infrastructure debris</li> <li>• Note that charred wood, ash, and construction material may present pickup and disposal problems.</li> </ul>
Tornado	<ul style="list-style-type: none"> <li>• C&amp;D: Building materials (e.g., drywall, wood, metal, brick, stone, glass)</li> <li>• C&amp;D: Furniture and other household goods</li> <li>• C&amp;D: Infrastructure debris</li> <li>• White Goods: Appliances</li> <li>• Vehicles and Vessels: Vehicles</li> <li>• Vegetation: Including large trees</li> </ul>

Qualified debris removal work:

- Eliminates immediate threats to life, public health, and safety;
- Eliminates immediate threats of significant damage to improved property; and/or
- Ensures economic recovery of the affected community to benefit the community at large.

Careful consideration and planning are necessary to ensure that debris management threat responses are both efficient and expeditious in the interest of preserving continuity of operations, and the University’s MEFs. For a large and complex institution like Cal Poly, the challenges are amplified, encompassing not just immediate safety concerns but also longer-term issues such as facility functionality, environmental stewardship, and community well-being.

**ANNUAL PREPAREDNESS ACTIVITIES**

On an annual basis, Cal Poly units and departments will maintain the Campus Core by:

- FMD Landscaping will coordinate and maintain the disposal of vegetative waste;
  - CAFES AgOps will coordinate and maintain the disposal of vegetative waste on agricultural holdings;
- FMD will coordinate and maintain the disposal of C&D waste;
- FMD EH&S will coordinate and maintain the disposal of hazardous waste;
- Custodial staff will coordinate and maintain disposal of white goods waste;
- FMD will coordinate and maintain the disposal of soil, mud, sand;
- Public Safety’s Transportation and Parking Services (TAPS) will coordinate and maintain the disposal of vehicles;



- CAFES AgOps will coordinate and maintain the disposal of putrescent debris;
- EH&S and Campus Health and Wellbeing will coordinate and maintain the disposal of infectious waste.

### **TRIGGERED PREPAREDNESS ACTIVITIES**

### **RESPONSE ACTIVITIES**

The response phase occurs during and immediately after an event, to clear emergency access routes, eliminate immediate threats to life and property, restore essential services, and facilitate damage assessments, especially damage to critical facilities. Examples include:

- Clearing high-priority roads, critical facilities, and infrastructure.
- Opening debris management sites (DMS) for temporary debris storage and volume reduction.
- Addressing legal, environmental, and health issues.
- Informing Community Members when debris operations will take place in their neighborhoods.
- Documenting costs. Coordinating and tracking personnel and equipment.
- Using force account labor and/or contractors for debris removal.

Incidents or responses that require coordinated debris removal will have already necessitated a EOC activation. The EOC Operations Section Chief and/or their Deputy will coordinate with the Operations Section Facilities Branch Director to:

- Estimate volume of debris in cubic yards;
  - estimate the quantity and mix of debris;
  - determine its impact on critical facilities;
  - identify its impact on residential, academic, and commercial areas;

### **RECOVERY ACTIVITIES FOR THREAT RESPONSES**

Following an EOC activation, and once the EOC's planning processes are underway, Cal Poly's Disaster Recovery Organization (DRO) may be activated in accordance to the Cal Poly Recovery Plan and in concurrence with the EOC activation. The purpose of this activation is to facilitate the recovery processes through the coordination and collaboration of Cal Poly divisions and units, as well as to facilitate the coordination and collaboration with external agencies within the SEMS and NIMS structure.

Once the recovery organization is activated, information and intelligence will be shared between the emergency response and recovery organizations where the DRO will establish its own goals,

objectives, and priorities in accordance with National Disaster Recovery Framework (NDRF) concepts.

- Infrastructure Systems Recovery Support Function:
  - In conjunction with recognized damage assessment concepts, response officials from involved departments may conduct “windshield surveys” to indicate whether a structure can be:
    - Lawfully occupied – Green
    - Restricted for lawful entry, occupancy, and use – Yellow
    - Closed for occupancy and use – Red
  - In conjunction with the Damage Assessment Plan, the FMD Help Desk and FMD Custodial staff will perform RNAs for the buildings that they are assigned with color-coded assessments with respect to continuity of Cal Poly MEFs;
  - In conjunction with the Damage Assessment Plan, FMD engineers and/or allied engineers will reference the RNAs and other intelligence products to determine whether Applied Technology Council (ATC)-20 Rapid Evaluations are necessary;
  - In conjunction with the Damage Assessment Plan, FMD engineers and/or allied engineers will reference the ATC20 Rapid Evaluations and perform ATC20 Detailed Evaluations;
  - FMD and Risk Management will collaborate to determine recovery of impacted infrastructure projects in a fiscally responsible manner that comports with federal procurement standards;
    - FMD will preserve evidence for investigators, if necessary;
    - FMD will determine whether restoration and recovery of impacted infrastructure projects can be accomplished through the trades or if the complexity of recovery will require outside services, in part or in whole;
      - FMD will document and track, and report on project statuses;
      - FMD will develop and submit any necessary environmental reviews (e.g., California Environmental Quality Act, National Emergency Policy Act, FEMA Environmental and Historic Preservation)
      - EH&S will inspect debris and other impacts to determine if there is evidence of presence of hazardous materials that will need to be remediated to preserve the environment;
      - EH&S will coordinate with the State Fire Marshall
    - Risk Management will determine whether insurance claims can be made on impacted infrastructure projects;
- Economic Recovery Support Function:



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- Dean of Students will amplify the Cal Poly Cares program to provide “limited financial assistance to currently enrolled Cal Poly students who are unable to meet immediate, essential expenses because of temporary hardship related to an unexpected situation.”
- HR will amplify the Employee Assistance Program (EAP, “to help faculty, staff, and their household members with personal and workplace challenges.” Through HR’s EAP, faculty and staff can access emotional wellbeing, financial, and legal resources through Empathia LifeMatters;
- In the event of a local disaster proclamation that is supported by a presidential disaster declaration:
  - The DRO will collaborate with intra-university stakeholders, and through the with the San Luis Obispo Operational Area and Chancellor’s Office recovery organizations, to develop and submit “Preliminary Damage Assessments (PDA)” or “List of Projects (LOP);”
  - The DRO will attend a Joint Preliminary Damage Assessment meeting with County, State, and FEMA representatives;
  - The DRO will attend FEMA Applicant Briefing;
  - The DRO will submit a Request for Public Assistance (RPA) within 30 days of the Presidential Declaration date;
    - The DRO will enroll in and maintain projects in FEMA’s Grants Portal for disaster cost recovery;
      - The DRO will fulfill all EE) requests in the Grants Portal
  - The DRO will attend Exploratory Call with FEMA’s assigned Program Delivery Manager (PDMG);
  - The DRO will attend a Recovery Scoping Meeting within 21 days following the Exploratory Call;
    - The DRO will attend PDMG site inspection meetings with State and Federal partners;
  - The DRO will coordinate with recovery stakeholders to ensure that recovery projects are executed and closed out;





- Community Assistance Recovery Support Function:
  - The DRO Director will coordinate with the Executive Director of Public Safety and Emergency Management and the EPG to coordinate local goals, objectives and priorities designed to facilitate the recovery of the University, the City, and the County;
- Housing Recovery Support Function:
  - The Student Affairs division, represented by the Dean of Students unit, will seek to coordinate housing relief for currently enrolled Cal Poly students who reside off-campus and are adversely impacted by disasters;

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## AUTHORITIES

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## AUTHORITIES

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This section of the base plan documents the legal basis for emergency operations and activities.

**Authorities and References Checklist**

- Include lists of laws, statutes, regulations, ordinances, executive orders, and formal agreements relevant to emergencies (e.g., MAAs), including applicable state-designated public-alerting authorities for the activation of EAS and WEAs.
- Specify the extent and limits of the emergency authorities of the senior official, including the conditions under which these authorities become effective and when they terminate.
- Pre-delegate emergency authorities (i.e., enabling measures for specific emergency-related authorities of the elected or appointed leadership or their designated successors).
- Include provisions for COOP and COG (e.g., the succession of decision-making authority and operational control) to perform critical emergency functions.
- Identify and describe the federal, state and local laws that specifically apply to developing and implementing this plan, including (but not limited to) the following:
  - Local and regional ordinances and statutes;
  - State laws or revised code sections on emergency management and homeland security;
  - State administrative code sections on roles, responsibilities and operational procedures;
  - State attorney general opinions; and
  - Federal laws, regulations and standards (e.g., Stafford Act, FEMA policy, ADA, civil rights).
- Identify and describe the reference manuals to develop the plan and/or help prepare for and respond to disasters or emergencies, including (but not limited to) general planning tools, technical references and computer software.
- Identify/define words, phrases, acronyms and abbreviations that have special meaning and ensure that they are used appropriately.
- Identify words, phrases, acronyms and abbreviations that may be offensive to some members of the community, and ensure they are excluded from communications.

# ATTACHMENT A: ACRONYMS

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Acronym	Term	Description
A&F	Administration & Finance	A&F is the steward of Cal Poly's resources and comprises eight units that fulfill major operational roles for the university. With an annual budget of \$101.4 million, A&F is responsible for capital project planning and maintenance of nearly six million square feet of space in the 150 major buildings on campus.
AFN	Access and Functional Needs	The California Government Code Section 8593.3 defines Access and Functional Needs as “Individuals who have: Developmental, intellectual, or physical disabilities; Chronic conditions or injuries; Limited English proficiency or non-English speaking; Or individuals who are: older adults, children, or pregnant; living in institutional settings; or Low-income, homeless, and/or transportation disadvantaged.”
AgOPS	Agricultural Operations	<p>Agricultural Operations (Ag Ops) is a large, diversified ranching and farming support department within the College of Agriculture, Food and Environmental Sciences (CAFES). Ag Operations encompasses Cal Poly's 6000-plus acres of farming and ranching operations, which include Peterson, Serrano, Escuela, Walters and Chorro Creek Ranches. Ag Ops also supports the college's Swanton Pacific Ranch, comprised of an additional 3,300 acres.</p> <p>Specialized academic learning facilities supported by Ag Ops include the Equine Center, Beef Cattle Evaluation Center, Rodeo Unit, Dairy Science, Swine Center, Poultry Center, Sheep Unit, Beef Center, and Horticulture &amp; Crop Science Units.</p>
ARC	American Red Cross	A nonprofit, tax-exempt, charitable institution pursuant to a charter granted by the United States Congress. ARC has the legal status of “a federal instrumentality,” with charter requirements to carry out responsibilities delegated by the federal government. Among these responsibilities are to maintain a system of domestic and international disaster relief, including mandated responsibilities under the National Response Framework coordinated by the FEMA.
AREP	Agency Representative	An Agency Representative is an individual assigned to an incident from an assisting or cooperating agency who has been delegated full authority to make decisions on all matters affecting that agency's participation at the incident.

Acronym	Term	Description
ASI	Associated Students, Inc.	The mission of Associated Students, Inc. is to enhance the quality of student life and to complement the educational mission of Cal Poly through meaningful social, cultural, recreational, and educational programs. We provide valuable experiences through student advocacy, shared governance, student employment, and leadership opportunities.
ATC	Applied Technology Council	The Applied Technology Council is a nonprofit research organization based in California which studies the effects of natural hazards on the built environment and how to mitigate these effects, particularly earthquakes. It was founded through the efforts of the Structural Engineers Association of California in 1973. It does not develop building codes but does develop manuals which summarize information for engineers, and this information is sometimes used in codes, standards, and specifications.
C&D	Construction and Demolition	Construction and demolition debris can be defined as damaged components of buildings and structures such as lumber and wood, gypsum wallboard, glass, metal, roofing material, tile, carpeting and floor coverings, window coverings, pipe, concrete, fully cured asphalt, equipment, furnishings, and fixtures.
CAFES	College of Agriculture, Food, and Environmental Sciences	Cal Poly's College of Agriculture, Food, and Environmental Sciences has used a Learn by Doing approach to prepare leaders in sustainable agriculture, food systems, and environmental and life sciences who are prepared to address challenges related to food security and meet increasing environmental demands at both the state and global level.
CBO	Community Based Organization	Community Based Organizations are public or private nonprofit organizations of demonstrated effectiveness that— (A) is representative of a community or significant segments of a community; and (B) provides educational or related services to individuals in the community.
CPG	Comprehensive Preparedness Guide	Comprehensive Preparedness Guide (CPG) 101 provides guidance for developing emergency operations plans. It promotes a common understanding of the fundamentals of risk-informed planning and decision making to help planners examine a hazard or threat and produce integrated, coordinated, and synchronized plans.

Acronym	Term	Description
<b>CPPD</b>	Cal Poly Police Department	The Cal Poly Police Department protects and serves the university community and surrounding area through active involvement and a commitment to an educational model of being responsive, non-escalatory, and restorative, not punitive, when possible.
<b>CPUC</b>	California Public Utility Commission	CPUC works to protect consumers and ensure the provision of safe, reliable utility service and infrastructure at reasonable rates, with a commitment to environmental enhancement and a healthy California economy.
<b>CS</b>	Chief of Staff	The Chief of Staff is an executive-level member of the President's Cabinet who supports the University President and other top-level executives. The Chief of Staff provides leadership in project management and implementing strategic planning processes.
<b>CW3E</b>	Center for Western Weather and Water Extremes	Provide 21st Century water cycle science, technology and outreach to support effective policies and practices that address the impacts of extreme weather and water events on the environment, people and the economy of Western North America.
<b>DEM</b>	Department of Emergency Management	The Cal Poly Department of Emergency Management provides planning, preparedness, training, business continuity services and management for all potential hazards to the Cal Poly campus.
<b>DMS</b>	Debris Management Site	Debris Management Sites are temporary locations where debris can be hauled and segregated for recycling or reduction. Recycling may take place onsite or may be picked up by a recycling firm. Reduction, especially of woody debris, usually occurs at a DMS. Reduced debris can be used for other purposes. For example, mulch can be provided to the public. Otherwise, the debris is hauled to a landfill or final disposition location.
<b>DO</b>	Duty Officer	The Cal Poly DEM Duty Officer is the first point of contact for response to emergencies or disasters that may impact the campus as well as serve as the point of contact for after-hours emergency management correspondence.
<b>DOC</b>	Department Operations Center	Department Operations Center serves as a coordination point for departmental level emergency response activities during major incidents and planned events. It provides direct support to any field level command post(s), established Incident Management Teams, activated Emergency Operations Centers, and provides situational updates to key Department Members.



<b>Acronym</b>	<b>Term</b>	<b>Description</b>
<b>DRC</b>	Disability Resource Center	The Disability Resource Center cultivates an accessible and inclusive community where students with permanent and temporary disabilities have an equal opportunity to participate in all aspects of campus life. The DRC facilitate student learning and access through partnerships with students, faculty, and staff.
<b>DRO</b>	Disaster Recovery Organization	An ad hoc organization activated in response to major incidents and planned events whose mission is to coordinate and facilitate recovery efforts.
<b>EAP</b>	Employee Assistance Program	The Employee Assistance Program helps faculty, staff, and their household members with personal and workplace challenges. This program provides individual assessment and referral, solution-oriented personal issue resolution, face-to-face and virtual counseling, life management services, and other resources aimed at assisting members with a variety of issues.
<b>EAS</b>	Emergency Alert System	The Emergency Alert System is a national public warning system commonly used by state and local authorities to deliver important emergency information, such as weather and AMBER alerts, to affected communities. EAS Participants – radio and television broadcasters, cable systems, satellite radio and television providers, and wireline video providers – deliver local alerts on a voluntary basis, but they are required to provide the capability for the President to address the public during a national emergency.
<b>EEI</b>	Essential Elements of Information	Essential elements of information (EEI) is any critical intelligence information required by intelligence consumers to perform their mission. The EEI are specific to a particular event, thing, or other target individual. The EEI are written out in advance as questions by consumers of the EEI information. Then, the EEI questions are used by collectors of the information that may not be in direct contact with the consumer at the time the information is collected. A specific set of EEIs are used by collectors to develop a collection plan to find the answers to the questions in the EEIs. EEIs are also used in non-intelligence fields, such as responders to crisis events or medical emergencies.

Acronym	Term	Description
<b>EH&amp;S</b>	Environmental Health and Safety	Environmental Health and Safety assists the campus in providing a safe and healthful workplace through the development and implementation of programs which minimize the risk of occupationally related injury or illness. Also, EH&S develops and implements programs to ensure the safe use, handling and storage of hazardous materials and appropriate and compliant disposal of hazardous wastes. These are accomplished through employee training programs, procedures and policies, and compliance surveys.
<b>EMO</b>	Emergency Management Organization	An Emergency Management Organization consists of all officers and employees of a jurisdiction, together with all volunteers and all groups, organizations and persons commandeered, with all equipment and material publicly owned, volunteered, commandeered or in any way under the control of jurisdiction personnel, for the support of the conduct of emergency operations.
<b>ENSO</b>	El Niño-Southern Oscillation	A warming of the ocean surface, or above-average sea surface temperatures, in the central and eastern tropical Pacific Ocean.
<b>EOC</b>	Emergency Operations Center	The EOC is the focal point for coordination of emergency planning, training, response and recovery efforts. Its processes follow the National All-Hazards approach to such major disasters as fires, floods, earthquakes, acts of Cal Poly that require involvement by multiple university divisions, units, departments, other local stakeholders, and even regional response agencies.
<b>EOP</b>	Emergency Operations Plan	The Emergency Operations Plan serves as an all-hazard emergency management guidance document, built upon scalable, flexible, and adaptable coordinating systems to align key roles and responsibilities across the university when a complex emergency or disaster occurs. The EOP procedures are designed to protect the lives of students, faculty, staff, and visitors and to protect University property through the effective use of University and community resources and personnel. The plan describes both authorities and practices for managing and coordinating the response to incidents that range from the serious but purely isolated, to large-scale incidents and natural disasters.
<b>EPG</b>	Executive Policy Group	The Cal Poly Executive Policy Group is the senior executive level oversight and decision-making body for Cal Poly during a crisis situation. The EPG has the authority to make strategic policy-level, financial, and legal decisions in response to the incident or event.

Acronym	Term	Description
<b>EPSS</b>	Enhanced Powerline Safety Settings	Enhanced Power Line Safety Setting cause power to go out faster when an issue is identified. EPSS is enabled by devices that will operate to prevent potential arcs and sparks that could result in fire ignitions. When a line with the EPSS trips or shuts off service, PG&E is required to patrol the entire de-energized line before restoring power.
<b>FEMA</b>	Federal Emergency Management Agency	The Federal Emergency Management Agency is an agency of the United States Department of Homeland Security (DHS). The agency's primary purpose is to coordinate the response to a disaster that has occurred in the United States and that overwhelms the resources of local and state authorities.
<b>FMD</b>	Facilities Management and Development	Facilities Management and Development is a unit within the Administration and Finance Division (AFD), which is responsible for the planning, design, construction, operations, maintenance, and repair of University facilities and grounds.
<b>GACC</b>	Geographic Area Coordination Center	The United States and Alaska are divided into 11 Geographic Areas for the purpose of incident management and mobilization of resources (people, aircraft, ground equipment). Within each Area, an interagency Geographic Area Coordinating Group, made up of Fire Directors from each of the Federal and State land management agencies from within the Area, is established. Working collaboratively, the GACG's mission is to provide leadership and support not only for wildland fire emergencies, but to other emergency incidents (i.e., earthquakes, floods, hurricanes, tornadoes, etc.), as necessary.
<b>HR</b>	Human Resources	The Human Resources office is part of the University Personnel Division. HR provide information and expertise in the areas of staff recruitment and employment, benefits, classification, compensation, equity programs, training and development, educational fee waiver, and employee relations programs.
<b>HSEEP</b>	Homeland Security Exercise and Evaluation Program	HSEEP methodology provides a set of guiding principles for exercise and evaluation programs, as well as a common approach to exercise program management, design and development, conduct, evaluation, and improvement planning. Through the use of HSEEP, the whole community can develop, execute, and evaluate exercises that address the preparedness priorities. These priorities are informed by risk and capability assessments, findings, corrective actions from previous events, and external requirements.

Acronym	Term	Description
<b>HVA</b>	Hazards Vulnerability Assessment and Business Impact Analysis	The Hazards Vulnerability Assessment and Business Impact Analysis analyzes hazards/threats that pose a risk to the California State Polytechnic University San Luis Obispo (Cal Poly), associated impacts to Mission Essential Functions (MEF), defines criticality level of MEFs, and provides detailed assessments of the impacts of hazards/threats upon MEFs.
<b>IOU</b>	Investor-Owned Utility	Investor-owned utilities are private enterprises acting as public utilities. Examples may range from a family that owns a well on their property to international energy conglomerates.
<b>IPP</b>	Integrated Preparedness Plan	Multi-year Integrated Preparedness Plans document a continuous process of planning, organizing/equipping, training, exercising, and evaluating/improving that ensures the regular examination of everchanging threats, hazards, and risks. Preparedness priorities are developed to ensure that the needed preparedness elements are incorporated through this continual and reliable approach to achieve whole community preparedness.
<b>IVT</b>	Integrated Water Vapor Transport	Integrated Water Vapor Transport is measured in climate and weather models, or from dropsonde or radiosonde observations. IVT is calculated by vertically integrating the wind speed and moisture in the atmosphere and is the measurement that is most often used to describe the intensity of an atmospheric river.
<b>IWV</b>	Integrated Water Vapor	Integrated Water Vapor is calculated by vertically integrating the moisture in the atmosphere. The units are typically cm of liquid water (the amount of water that would form if all the vapor in the atmosphere overhead was condensed and gathered on the surface).
<b>JIC</b>	Joint Information Center	A Joint Information Center is an ad hoc coordination entity that is established to coordinate all incident-related public information activities and serves as the central point of contact for all news media.
<b>LEP</b>	Limited English Proficiency	Limited English proficiency is a term used in the United States that refers to a person who is not fluent in the English language, often because it is not their native language.
<b>LOP</b>	List of Projects	An organized catalog of estimated damages and response costs associated with any particular disaster, which is itemized in FEMA's Grant Portal for the purpose of justifying and tracking Public Assistance.

Acronym	Term	Description
<b>MACS</b>	Multi-Agency Coordination System	The second component of Command and Management in NIMS is Multiagency Coordination Systems (MACS). Multiagency coordination is a process that allows all levels of government and all disciplines to work together more efficiently and effectively. A MACS is often initiated when there are multiple jurisdictions, multiple agencies and possibly multiple events.
<b>MEF</b>	Mission Essential Function	Mission Essential Functions are the limited set of an organization's functions that must be continued throughout, or resumed rapidly after, a disruption of normal operations. MEFs are the backbone of continuity planning.
<b>NDRF</b>	National Disaster Recovery Framework	The National Disaster Recovery Framework enables effective recovery support to disaster-impacted states, tribes, territorial and local jurisdictions. It provides a flexible structure that enables disaster recovery managers to operate in a unified and collaborative manner. The NDRF focuses on how best to restore, redevelop and revitalize the health, social, economic, natural and environmental fabric of the community and build a more resilient nation.
<b>NFIP</b>	National Flood Insurance Program	The NFIP provides flood insurance to property owners, renters and businesses, and having this coverage helps them recover faster when floodwaters recede. The NFIP works with communities required to adopt and enforce floodplain management regulations that help mitigate flooding effects.
<b>NGO</b>	Non-Governmental Organization	A Non-Governmental Organization is defined by the United Nations as "a not-for profit, voluntary citizen's group that is organized on a local, national or international level to address issues in support of the public good".
<b>NIFC</b>	National Interagency Fire Center	NIFC is home to the national fire management programs of each federal fire agency, along with partners including the National Association of State Foresters, the U.S. Fire Administration, and the National Weather Service. The role of the agencies at NIFC has grown to include all types of fire management, including hazardous fuels treatments, integrated fire and land-use planning, and more. Fire management under this larger umbrella is designed to achieve not only suppression goals, but to accomplish a broad spectrum of natural resource objectives, and do so in an efficient, cost-effective manner.





Acronym	Term	Description
<b>NIMS</b>	National Incident Management System	The National Incident Management System guides all levels of government, nongovernmental organizations and the private sector to work together to prevent, protect against, mitigate, respond to and recover from incidents. NIMS provides stakeholders across the whole community with the shared vocabulary, systems and processes to successfully deliver the capabilities described in the National Preparedness System. NIMS defines operational systems that guide how personnel work together during incidents.
<b>NOAA</b>	National Oceanic and Atmospheric Administration	NOAA's mission is to understand and predict a changing environment, from the deep sea to outer space, and to manage and conserve America's coastal and marine resources.
<b>NWS</b>	National Weather Service	The National Weather Service provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy.
<b>OA</b>	Operational Area	Under SEMS, the operational area means and intermediate level of the state's emergency management organization which encompasses the county and all political subdivisions located within the county including special districts.
<b>OSCC</b>	Operations Southern California Center	Southern California Geographic Coordination Center is the focal point for coordinating the mobilization of resources for wildland fire and other incidents throughout the Geographic Area. Located in Riverside, CA, the Center also provides Intelligence and Predictive Services related-products designed to be used by the internal wildland fire community for purposes of wildland fire and incident management decision-making.
<b>PDA</b>	Preliminary Damage Assessment	Preliminary Damage Assessments are conducted to enable FEMA — as well as state, local, tribal, and territorial partners — to determine the magnitude of damage and impact of disasters.
<b>PDMG</b>	Program Delivery Manager	The Public Assistance Program Delivery Manager provides customer service to assigned applicants throughout the Public Assistance grant management process. The PDMG will guide applicants and sub-applicants through the complicated Public Assistance Process.
<b>PG&amp;E</b>	Pacific Gas & Electric	PG&E provides natural gas and electricity to 5.2 million households in the northern two-thirds of California, from Bakersfield and northern Santa Barbara County, almost to the Oregon and Nevada state lines.



<b>Acronym</b>	<b>Term</b>	<b>Description</b>
<b>PHD</b>	Public Health Department	The Public Health Department is a division within the Health Agency that promotes and protects the health of San Luis Obispo County communities.
<b>PIO</b>	Public Information Officer	The individual responsible for communicating with the public, media, and/or coordinating with other agencies, as necessary, with incident related information requirements.
<b>PSPS</b>	Public Safety Power Shutoff	A Public Safety Power Shutoff is a preventative system that utility companies use when they predict extreme weather conditions that could cause a fire. Among many other weather conditions, wind and trees can interfere with electrical transmission and distribution lines, which can ignite fires.
<b>RH</b>	Relative Humidity	Relative humidity (expressed as a percent) also measures water vapor, but RELATIVE to the temperature of the air. In other words, it is a measure of the actual amount of water vapor in the air compared to the total amount of vapor that can exist in the air at its current temperature.
<b>RNA</b>	Rapid Needs Assessment	A Rapid Needs Assessment is a tool that helps collect and analyze information about the situation, the resources, and the gaps in a humanitarian response.
<b>RPA</b>	Request for Public Assistance	After a federal declaration, the recipient (i.e. state, tribe, or territory) conducts Applicant Briefings to inform potential applicants (i.e. state, local, tribal, territorial, and PNP officials) of the assistance available and how to apply. Applicants must then file a Request for Public Assistance within 30 days of the date their respective area is designated by the federal declaration.
<b>SA</b>	Student Affairs	Student Affairs promotes student success throughout the Cal Poly experience by providing Learn by Doing opportunities, delivering innovative student-centered programs, supporting personal growth, encouraging lifelong connections and empowering all students within a safe, inclusive and supportive environment.
<b>SA UH</b>	Student Affairs University Housing	University Housing provides an inclusive living experience for more than 8,000 Cal Poly students. Engaging programs, led by professional staff and peer leaders in diverse Residential Learning Communities, provide a foundational experience that supports Learn by Doing, encourages excellence, and promotes student success.

Acronym	Term	Description
<b>SBS</b>	Strategic Business Services	Strategic Business Services provides advisory support to the campus in areas of procure-to-pay (contracting, purchasing, logistics, accounts payable), travel, enterprise risk management and real estate. SBS ensures everyday University business keeps flowing while it grows its suite of entrepreneurial initiatives including public-private partnerships, off-campus real estate dealings, on-campus commercial and research activity and various collaborative/ strategic purchasing efforts with public and private partners.
<b>SEMS</b>	Standardized Emergency Management System	SEMS is the cornerstone of California's emergency response system and the fundamental structure for the response phase of emergency management. The system unifies all elements of California's emergency management community into a single integrated system and standardizes key elements. SEMS incorporates the Incident Command System, Multi/ Inter-agency coordination, mutual aid, and the Operational Area concept.
<b>SitRep</b>	Situation Report	A Situation Report is a concise operational document intended to support the coordination of responses in a complex event or disaster. It should provide an update on the current needs, response and gaps in a given complex event or disaster.
<b>SOP</b>	Standard Operating Procedure	A Standard Operating Procedure provides clear-cut directions and detailed instructions needed to perform a specific task or operation consistently and efficiently.
<b>SVP A&amp;F</b>	Senior Vice President of Administration & Finance	The Senior Vice President of Administration & Finance oversees a broad portfolio that includes budget and fiscal management, facilities management, construction and planning, procurement, risk management, public safety, internal audit, and oversight of the Cal Poly Corporation.
<b>TAPS</b>	Transportation and Parking Services	TAPS provides vital parking services, including permits and event parking for the Cal Poly community, TAPS is also committed to helping Cal Poly decrease its greenhouse gas emissions, ensuring free public transportation for students and staff to campus from throughout the county, increasing safety with an on-campus evening shuttle
<b>UCM</b>	University Communications and Marketing	The University Communications and Marketing Division provides consultation and planning for executive leadership communications, campus communications, etc.

Acronym	Term	Description
<b>VP SA</b>	Vice President of Student Affairs	The Vice President of Student Affairs leads one of the largest divisions on campus with a variety of support and academic services that promote student success. The VP SA oversees almost two dozen departments and programs that assist students through their college careers and beyond. The VP SA oversees the division's leadership, fiscal and strategic planning, campus dining programming, and working relationships with the California State University Chancellor's Office.
<b>WBGT</b>	Wet Bulb Globe Temperature	The Wet Bulb Globe Temperature is a measure of the heat stress in direct sunlight, which takes into account: temperature, humidity, wind speed, sun angle and cloud cover (solar radiation). This differs from the heat index, which takes into consideration temperature and humidity and is calculated for shady areas.
<b>WFO</b>	Weather Forecast Office	The National Weather Service has 122 Weather Forecast Offices across the United States, Puerto Rico and Guam staffed 24/7 with meteorologists dedicated to providing weather expertise at a more-localized level to the public.
<b>WUI</b>	Wildland-Urban Interface	The Wildland–Urban Interface is a zone of transition between wilderness (unoccupied land) and land developed by human activity – an area where a built environment meets or intermingles with a natural environment. Human settlements in the WUI are at a greater risk of catastrophic wildfire.

# ATTACHMENT B: NWS GLOSSARY

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## NWS GLOSSARY

<b>100-year Flood</b>	A statistic that indicates the magnitude of flood which can be expected to occur on average with a frequency of once every 100 years at a given point or reach on a river. The 100-year flood is usually developed from a statistical distribution that is based on historical floods. This is also called a base flood.
<b>100-year Flood Plain</b>	The flood plain that would be inundated in the event of a 100-year flood.
<b>Ablation</b>	Depletion of snow and ice by melting and evaporation.
<b>Absorption</b>	The process in which incident radiant energy is retained by a substance by conversion to some other form of energy.
<b>Abutment</b>	The part of a valley or canyon wall against which a dam is constructed. Right and left abutments are those on respective sides of an observer looking downstream.
<b>Abutment Seeping</b>	Reservoir water that moves through seams or pores in the natural abutment material and exits as seepage.
<b>Accretion</b>	The growth of a precipitation particle by the collision of a frozen particle with a supercooled liquid water droplet which freezes upon impact.
<b>Accuracy</b>	Degree of conformity of a measure to a standard or true value; in other words, how close a predicted or measured value is to the true value.
<b>Acid Precipitation</b>	Precipitation, such as rain, snow or sleet, containing relatively high concentrations of acid-forming chemicals that have been released into the atmosphere and combined with water vapor; harmful to the environment.
<b>Acid Rain</b>	Rain containing relatively high concentrations of acid-forming chemicals that have been released into the atmosphere and combined with water vapor; harmful to the environment.
<b>Acre-foot</b>	The amount of water required to cover one acre to a depth of one foot. An acre-foot equals 326,851 gallons, or 43,560 cubic feet.
<b>Action Stage</b>	The stage which, when reached by a rising stream, represents the level where the NWS or a partner/user needs to take some type of mitigation action in preparation for possible significant hydrologic activity. The appropriate action is usually defined in a weather forecast office (WFO) hydrologic services manual. Action stage can be the same as forecast issuance stage (see / forecast issuance stage/).
<b>Active</b>	In solar-terrestrial terms, solar activity levels with at least one geophysical event or several larger radio events (10cm) per day (Class M Flares)
<b>Active Conservation Storage</b>	In hydrologic terms, the portion of water stored in a reservoir that can be released for all useful purposes such as municipal water supply, power, irrigation, recreation, fish, wildlife, etc. Conservation storage is the volume of water stored between the inactive pool elevation and flood control stage.
<b>Advisory</b>	Highlights special weather conditions that are less serious than a warning. They are for events that may cause significant inconvenience, and if caution is not exercised, it could lead to situations that may threaten life and/or property.
<b>Aerosol</b>	A system of colloidal particles dispersed in a gas, such as smoke or fog.
<b>Air Toxin</b>	Toxic air pollutant.
<b>Alert Stage</b>	The stage which, when reached by a rising stream, represents the level where appropriate officials (e.g., county sheriff, civil defense officials, or bypass gate operators) are notified of the threat of possible flooding. (Used if different from action stage, and at the discretion of the WFO or river forecast center [RFC].) The term "alert stage" is to be used instead of warning stage. Monitor stage or caution stage may be used instead of alert stage in some parts of the country.
<b>Ambient</b>	Of the surrounding area or environment.
<b>Amplitude</b>	The maximum magnitude of a quantity. Often used to refer to the maximum height of a wave.
<b>Annual Exceedance Probability (AEP)</b>	The probability that a stream reach will have a flow of a certain magnitude in any given year.
<b>Anthropogenic Source</b>	A pollutant source caused or produced by humans.



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<b>Apparent Temperature</b>	A measure of human discomfort due to combined heat and humidity (e.g., heat index).
<b>Area Forecast Discussion</b>	This National Weather Service product is intended to provide a well-reasoned discussion of the meteorological thinking which went into the preparation of the Zone Forecast Product. The forecaster will try to focus on the most particular challenges of the forecast. The text will be written in plain language or in proper contractions. At the end of the discussion, there will be a list of all advisories, non-convective watches, and non-convective warnings. The term non-convective refers to weather that is not caused by thunderstorms. An intermediate Area Forecast Discussion will be issued when either significant forecast updates are being made or if interesting weather is expected to occur.
<b>Area Source</b>	An array of pollutant sources, so widely dispersed and uniform in strength that they can be treated in a dispersion model as an aggregate pollutant release from a defined area at a uniform rate. Compare line source and point source.
<b>Arid</b>	An adjunctive applied to regions where precipitation is so deficient in quantity, or occurs at such times, that agriculture is impracticable without irrigation.
<b>Ashfall Advisory</b>	An advisory issued for conditions associated with airborne ash plume resulting in ongoing deposition at the surface. Ashfall may originate directly from a volcanic eruption, or indirectly by wind suspending the ash.
<b>Bankfull</b>	The water level, or stage, at which a stream, river or lake is at the top of its banks and any further rise would result in water moving into the flood plain.
<b>Bankfull Stage</b>	An established gage height at a given location along a river or stream, above which a rise in water surface will cause the river or stream to overflow the lowest natural stream bank somewhere in the corresponding reach. The term "lowest bank" is however, not intended to apply to an unusually low place or a break in the natural bank through which the water inundates a small area. Bankfull stage is not necessarily the same as flood stage.
<b>Black Ice</b>	Slang reference to patchy ice on roadways or other transportation surfaces that cannot easily be seen.
<b>Breach</b>	In hydrologic terms, the failed opening in a dam.
<b>Breezy</b>	15 to 25 mph winds
<b>Brisk</b>	15 to 25 mph winds
<b>Burst</b>	In solar-terrestrial terms, a transient enhancement of the solar radio emission, usually associated with an active region or flare.
<b>Bust</b>	Slang for an inaccurate forecast, especially one where significant weather (e.g., heavy snowfall) is predicted but does not occur.
<b>Caution Stage</b>	The stage which, when reached by a rising stream, represents the level where appropriate officials (e.g., county sheriff, civil defense officials, or bypass gate operators) are notified of the threat of possible flooding. Alert stage or caution stage are used instead of caution stage in some parts of the country.
<b>Cell</b>	Convection in the form of a single updraft, downdraft, or updraft/downdraft couplet, typically seen as a vertical dome or tower as in a towering cumulus cloud. A typical thunderstorm consists of several cells.  The term "cell" also is used to describe the radar echo returned by an individual shower or thunderstorm. Such usage, although common, is technically incorrect.
<b>Civil Emergency Message</b>	A message issued by the National Weather Service in coordination with Federal, state or local government to warn the general public of a non-weather related time-critical emergency which threatens life or property, e.g. nuclear accident, toxic chemical spill, etc
<b>Cubic Feet per Second</b>	the flow rate or discharge equal to one cubic foot (of water, usually) per second. This rate is equivalent to approximately 7.48 gallons per second. This is also referred to as a second-foot.





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<b>Circulation</b>	The flow, or movement, of a fluid (e.g., water or air) in or through a given area or volume.
<b>Climate</b>	The composite or generally prevailing weather conditions of a region, throughout the year, averaged over a series of years.
<b>Coastal Flooding</b>	Flooding which occurs when water is driven onto land from an adjacent body of water. This generally occurs when there are significant storms, such as tropical and extratropical cyclones.
<b>Coastal Waters</b>	Includes the area from a line approximating the mean high water along the mainland or island as far out as 100 nautical miles including the bays, harbors and sounds.
<b>Composite</b>	An average that is calculated according to specific criteria. For example, one might want a composite for the rainfall at a given location for all years where the temperature was much above average.
<b>Conservation Storage</b>	In hydrologic terms, storage of water for later release for usual purposes such as municipal water supply, power, or irrigation in contrast with storage capacity used for flood control.
<b>Convection</b>	Generally, transport of heat and moisture by the movement of a fluid.  In meteorology, the term is used specifically to describe vertical transport of heat and moisture in the atmosphere, especially by updrafts and downdrafts in an unstable atmosphere. The terms "convection" and "thunderstorms" often are used interchangeably, although thunderstorms are only one form of convection. Cbs, towering cumulus clouds, and ACCAS clouds all are visible forms of convection. However, convection is not always made visible by clouds. Convection which occurs without cloud formation is called dry convection, while the visible convection processes referred to above are forms of moist convection.
<b>Crown Fire</b>	A fire where flames travel from tree to tree at the level of the tree's crown or top.
<b>Crowning</b>	Movement of a fire from the understory into the crown of a forest canopy.
<b>Current</b>	A horizontal movement of water. Currents may be classified as tidal and nontidal. Tidal currents are caused by gravitational interactions between the sun, moon, and earth and are a part of the same general movement of the sea that is manifested in the vertical rise and fall, called TIDE. Tidal currents are periodic with a net velocity of zero over the tidal cycle. Nontidal currents include the permanent currents in the general circulatory systems of the sea as well as temporary currents arising from more pronounced meteorological variability. The SET of a current is the direction toward which it flows; the DRIFT is its speed.
<b>Cyclic Storm</b>	A thunderstorm that undergoes cycles of intensification and weakening (pulses) while maintaining its individuality. Cyclic supercells are capable of producing multiple tornadoes (i.e., a tornado family) and/or several bursts of severe weather.
<b>Cyclogenesis</b>	The formation or intensification of a cyclone or low-pressure storm system.
<b>Cyclone</b>	A large-scale circulation of winds around a central region of low atmospheric pressure, counterclockwise in the Northern Hemisphere, clockwise in the Southern Hemisphere.
<b>Cyclonic Circulation</b>	Circulation (or rotation) which is in the same sense as the Earth's rotation, i.e., counterclockwise (in the Northern Hemisphere) as would be seen from above. Nearly all mesocyclones and strong or violent tornadoes exhibit cyclonic rotation, but some smaller vortices, such as gustnadoes, occasionally rotate anticyclonically (clockwise). Compare with anticyclonic rotation.
<b>Dam</b>	In hydrologic terms, any artificial barrier which impounds or diverts water. The dam is generally hydrologically significant if it is:



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	<ol style="list-style-type: none"><li>1. 25 feet or more in height from the natural bed of the stream and has a storage of at least 15 acre-feet.</li><li>2. Or has an impounding capacity of 50 acre-feet or more and is at least six feet above the natural bed of the stream.</li></ol>
<b>Dam Failure</b>	In hydrologic terms, catastrophic event characterized by the sudden, rapid, and uncontrolled release of impounded water.
<b>Derecho</b>	A widespread and usually fast-moving windstorm associated with convection. Derechos include any family of downburst clusters produced by an extratropical MCS, and can produce damaging straight-line winds over areas hundreds of miles long and more than 100 miles across.
<b>Diurnal</b>	Daily; related to actions which are completed in the course of a calendar day, and which typically recur every calendar day (e.g., diurnal temperature rises during the day, and diurnal falls at night).
<b>Downburst</b>	A strong downdraft current of air from a cumulonimbus cloud, often associated with intense thunderstorms. Downdrafts may produce damaging winds at the surface.
<b>Drizzle</b>	Precipitation consisting of numerous minute droplets of water less than 0.5 mm (500 micrometers) in diameter.
<b>Drought</b>	Drought is a deficiency of moisture that results in adverse impacts on people, animals, or vegetation over a sizeable area. NOAA together with its partners provides short- and long-term Drought Assessments.
<b>Drought Index</b>	In hydrologic terms, computed value which is related to some of the cumulative effects of a prolonged and abnormal moisture deficiency. (An index of hydrological drought corresponding to levels below the mean in streams, lakes, and reservoirs.)
<b>Dry Thunderstorm</b>	Generally a high-based thunderstorm when lightning is observed, but little if any precipitation reaches the ground. Most of the rain produced by the thunderstorm evaporates into relatively dry air beneath the storm cell. May also be referred to as "dry lightning".
<b>Erosion</b>	In hydrologic terms, wearing away of the lands by running water, glaciers, winds, and waves, can be subdivided into three processes: Corrasion, Corrosion, and Transportation. Weathering, although sometimes included here, is a distant process which does not imply removal of any material
<b>Excess Rain</b>	In hydrologic terms, effective rainfall in excess of infiltration capacity.
<b>Excessive Heat</b>	Excessive heat occurs from a combination of high temperatures (significantly above normal) and high humidities. At certain levels, the human body cannot maintain proper internal temperatures and may experience heat stroke. The "Heat Index" is a measure of the effect of the combined elements on the body.
<b>Excessive Heat Outlook</b>	This CPC product, a combination of temperature and humidity over a certain number of days, is designed to provide an indication of areas of the country where people and animals may need to take precautions against the heat during May to November.
<b>Excessive Heat Warning</b>	Issued within 12 hours of the onset of the following criteria: heat index of at least 105°F for more than 3 hours per day for 2 consecutive days, or heat index more than 115°F for any period of time.
<b>Excessive Heat Watch</b>	Issued by the National Weather Service when heat indices in excess of 105 °F (41 °C) during the day combined with nighttime low temperatures of 80 °F (27 °C) or higher are forecast to occur for two consecutive days.
<b>Excessive Rainfall Outlook (ERO)</b>	A graphical product in which the Weather Prediction Center (WPC) forecasts the probability that rainfall will exceed flash flood guidance (FFG) within 40 kilometers (25 miles) of a point.





# ATTACHMENT C: PASTURE INVENTORY

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# Severe Weather Hazard Specific Annex Final

Final Audit Report

2024-08-21

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