

County of El Dorado Climate Vulnerability Assessment

Public Workshop – May 9, 2023



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Agenda

1. Introductions
2. What is a Climate Vulnerability Assessment?
3. Overview of Planning Process
4. Phase One: Explore, Define, Initiate
5. Phase Two: Assess Vulnerability
6. Phase Three: Define Adaptation Framework and Strategies
7. Schedule and Next Steps
8. Questions/Answers



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Introductions

Project Team

County of El Dorado Planning & Building Department

- Bret Sampson – Planning Manager
- Thea Graybill – Senior Planner
- Anna Y. Quan, AICP – Associate Planner

WSP Environment & Infrastructure

- Juliana Prospero, AICP – Project Manager
- Jeff Brislawn, CFM – Senior Technical Advisor
- Nick Meisinger – Associate Planner
- Mack Chambers – GIS Specialist
- Adam Qian – Environmental Planner
- Melissa Baum – Hazard Mitigation Planner

Spatial Informatics Group

- Jason Moghaddas – Director of Operations/Natural Hazards Team



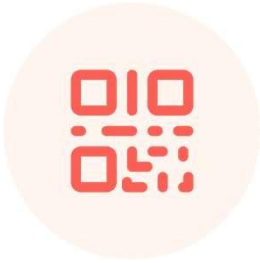
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Teams Overview: How to Participate

A screenshot of a Microsoft Teams meeting interface. The main window displays a presentation slide titled "County of El Dorado Climate Vulnerability Assessment" with the subtitle "Public Workshop – May 9, 2023". The slide features a collage of images: a landscape with a lake and mountains, a street scene with buildings, and a group of people in a meeting. The El Dorado County seal is also visible on the slide. The Teams interface includes a top navigation bar with icons for People, Chat, Reactions, Rooms, Apps, and More. A "Leave" button is highlighted in a yellow box. A "Meeting chat" window is open on the right side, showing a message input field and a "type a new message" prompt. The bottom of the screen shows the mobile interface with icons for mute, video, chat, and leave.

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Join at slido.com
#CVA

① Start presenting to display the joining instructions on this slide.

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Meeting Etiquette

- We will provide a 30-minute presentation followed by a Q&A session.
- You can share your ideas and provide feedback by using the “Chat” log.  Everyone’s ideas and input has value!
- Select “Show reactions”  and use the “Raise your hand”  button to ask questions and provide information. We also encourage everyone to participate in our polling questions through Slido.com.
- During the Q&A session, please treat everyone with respect. We all bring unique perspectives, expertise, and insight to tonight’s conversation.
- This meeting is being recorded and the slides, meeting summary, and recording will be made available after the meeting.



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Workshop Intent: What we are here for today

- Promote a respectful and collaborative atmosphere of learning about the County's CVA and Safety Element Update process
- Meet the State legislature mandate
- Facilitate a mutual exchange of information



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Workshop Intent: What we are not here for today

- Promote a learning atmosphere that is **not** supportive of a respectful and collaborative experience for all
- Debate the efficacy of current state policy or regulations
- Change current state policies or regulations



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What is a Climate Vulnerability Assessment?

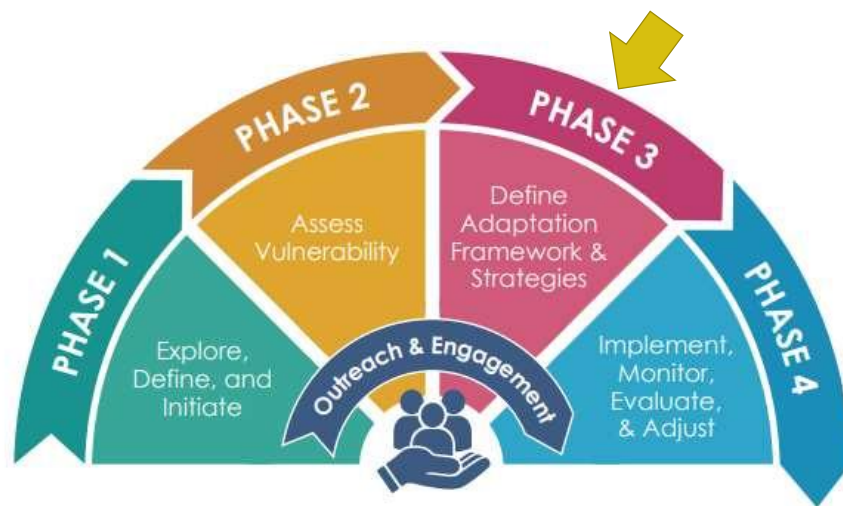
And why is it important?

- Identifies how local climate-related hazards may impact people, property, buildings and infrastructure, natural resources and the economy
- Shares information with the community on what populations and assets are most sensitive to climate change
- Legislation requires updated land use policies incorporate climate vulnerabilities and adaptation strategies
- Sets a foundation that will make El Dorado County safer and more resilient



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Overview of Planning Process



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Phase 1: Explore, Define, and Initiate

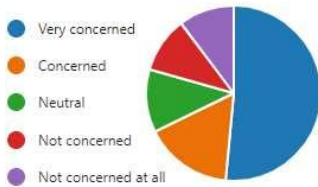
- Core County Planning Team
- Safety Element Advisory Committee (SEAC)
- Focused meetings with agencies and organizations
- Stakeholder engagement - share community stories to support dialogue about climate hazards
- Reliance on State resources and tools to develop the CVA Report
- Public outreach and engagement
- Review Draft CVA Report
- Review Draft Safety Element



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Phase 1: Public Survey and Outreach

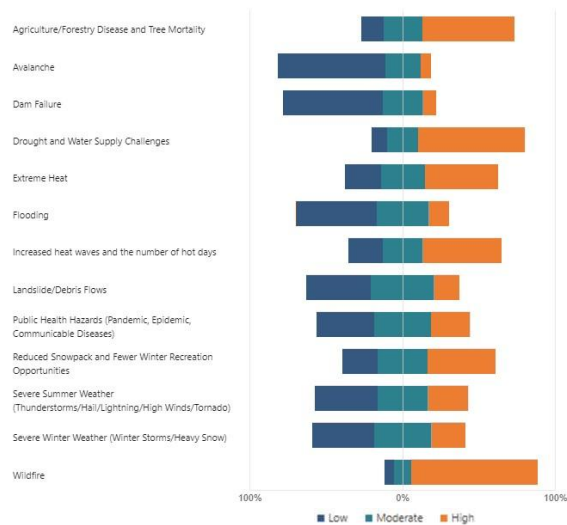
How concerned are you about the impacts of climate change?



Have you or your family been asked to evacuate from your home during an emergency in the last 10 years?



Please indicate the level of significance you perceive each climate stressor and hazard in the community you live:



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What impacts of climate change have you already experienced?

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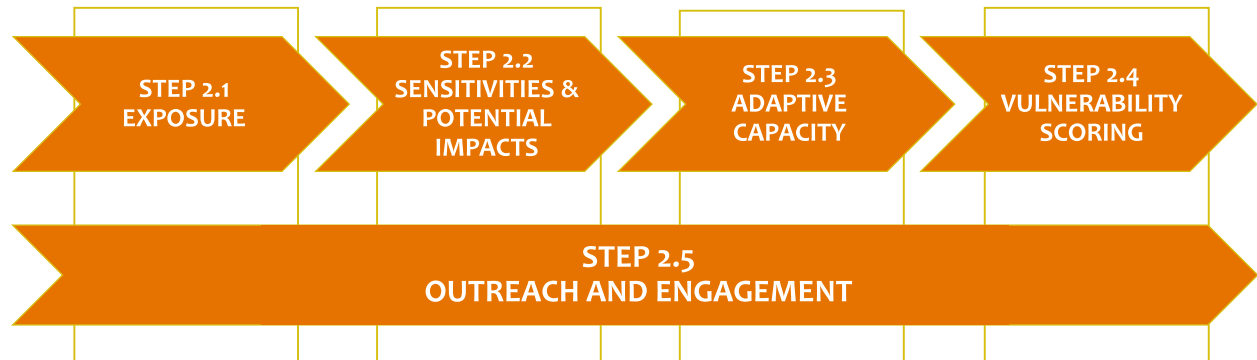
Phase 1: Foundations for the Safety Element Update

- **Adaptive Capacity:** the “combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts or moderate harm to exploit beneficial opportunities.

-FEMA Local Mitigation Planning Handbook 2013



Phase 2: Assess Vulnerability & Exposure Identification



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Phase 2: Primary Climate Stressors

Climate Stressor	Metric(s) Used	Climate Trend & Forecasted Changes
Increased Temperatures	<ul style="list-style-type: none"> Annual average maximum temperatures # of Extreme Heat Days/Year # of Warm Nights/Year 	<ul style="list-style-type: none"> Annual average maximum temperatures will increase noticeably (annual average maximum temperature can rise by 8.9 F by end-of-century) Increased number of extreme heat days & warm nights with higher temperature
Precipitation Variability	<ul style="list-style-type: none"> Annual average precipitation Maximum 1-day Precipitation Maximum length of dry spell 	<ul style="list-style-type: none"> More extreme precipitation events from both ends (both deluge and drought) Increased variability in the future maximum length of dry spells
Reduced Snowpack	<ul style="list-style-type: none"> Snow Water Equivalent (SWE) % of average snowpack 	<ul style="list-style-type: none"> Less snowpack that melts more rapidly Earlier snowmelt or snowpack that does not accumulate
Increased Wildfire Severity	<ul style="list-style-type: none"> Annual Average Area Burned Ketch-Byram Drought Index (KBDI) 	<ul style="list-style-type: none"> Increase in annual average acres burned # of days when KBDI > 600 will increase – severe drought, extreme wildfire risk and increased wildfire occurrence (can increase from 67 days to 118 days by end-of-century)



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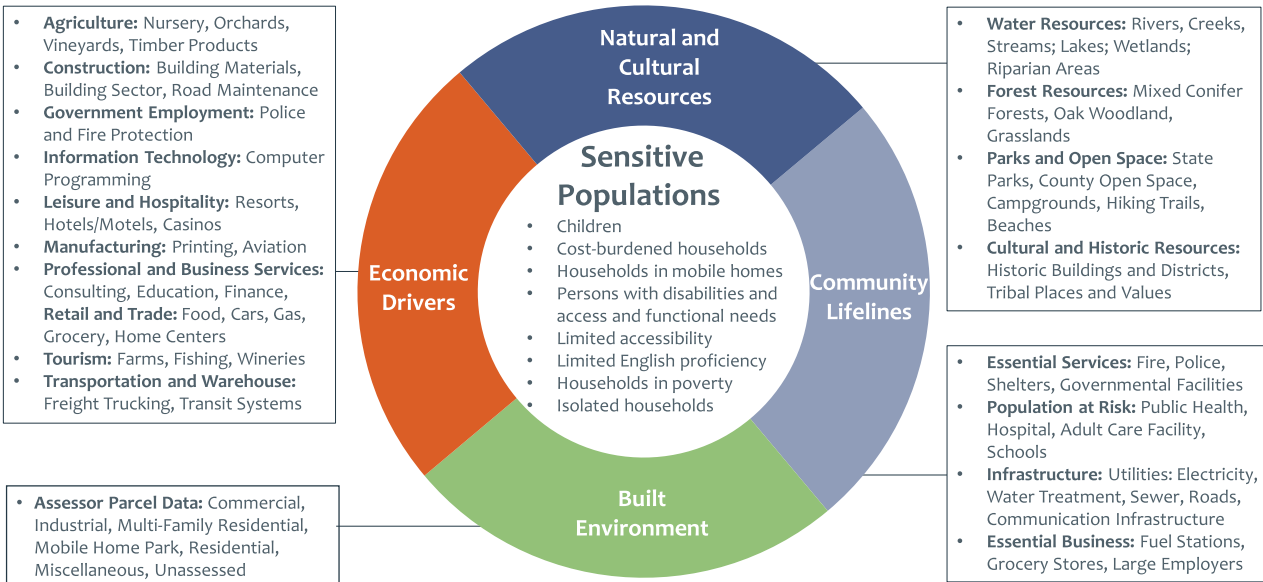
Phase 2: Secondary Climate Stressors

Secondary Climate Stressor	Metric(s) Used	Climate Trend & Forecasted Changes
Agricultural Disease and Tree Mortality	<ul style="list-style-type: none"> # Acres in High Tree Mortality Zones # Acres affected by Pests/Blight 	<ul style="list-style-type: none"> Increases in both agricultural and forestry disease and tree mortality
Avalanche	<ul style="list-style-type: none"> # of Avalanches Impacting Humans 	<ul style="list-style-type: none"> Likely an increase in avalanches, followed by a decrease as more snow falls as rain
Drought	<ul style="list-style-type: none"> Length of Drought Snowpack Levels 	<ul style="list-style-type: none"> Longer and more extreme drought events
Extreme Heat	<ul style="list-style-type: none"> # of Extreme Heat Days & Warm Nights Annual Average Maximum Temperatures 	<ul style="list-style-type: none"> More frequent extreme heat days with higher temperatures (can increase from 4 days/year to 65+ days/year by end-of-century)
Flooding	<ul style="list-style-type: none"> Area Flooded Annually Maximum One Day Precipitation 	<ul style="list-style-type: none"> Increased flooding earlier in Spring, decrease in water supply as year progresses 4,415 people live within 1% annual chance floodplains
Landslide and Debris Flow	<ul style="list-style-type: none"> # of Recorded Landslides and Debris Flows 	<ul style="list-style-type: none"> Increased risk due to increased wildfire and changes in precipitation patterns 133,652 people live within landslide-prone areas
Severe Weather	<ul style="list-style-type: none"> High Wind Speeds Maximum and Minimum Annual Temps 	<ul style="list-style-type: none"> More frequent and extreme severe weather events
Wildfire	<ul style="list-style-type: none"> Acres burned per year Ketch-Byram Drought Index (KBDI) 	<ul style="list-style-type: none"> An increase in total acres burned annually More days with severe drought, extreme wildfire risk and increased wildfire occurrence 150,955 people live within at least moderate fire threat zones



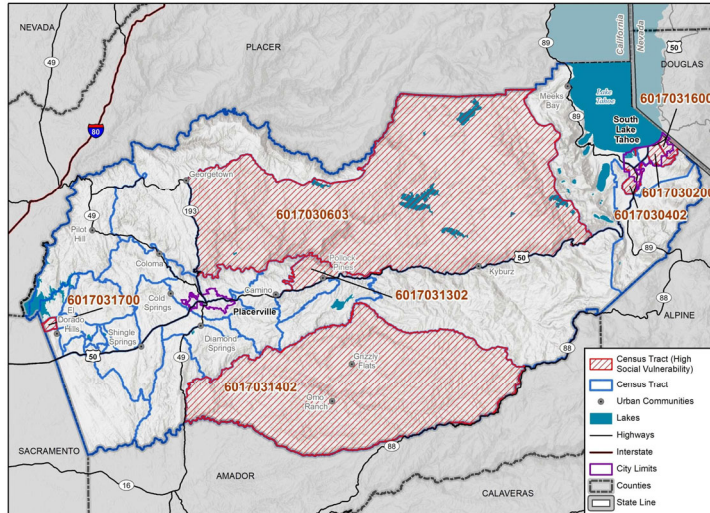
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Phase 2: What Assets are vulnerable to these hazards?



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Phase 2: Who will be at most risk to climate change effects?



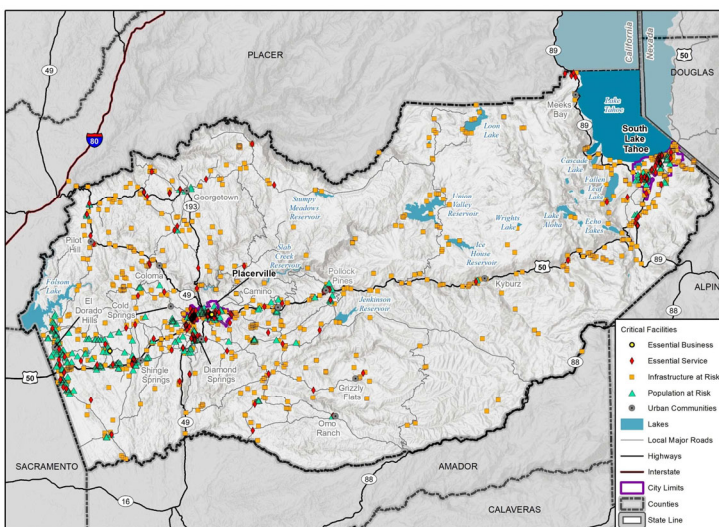
- Where the most sensitive and socially vulnerable populations live in the County
- Used US Census data, FEMA NRI, CalEnviroScreen, California Healthy Places Index to identify the most vulnerable census tracts
- Focuses the development of adaptation strategies to address the needs of those with the least access to resources to adapt
- Census tracts highlighted in red showed up **at least twice** in the different social vulnerability related data sources and tools

Map compiled 11/2022.
Intended for planning purposes only.
Data Source: El Dorado County,
NRI FEMA November 2021, CalEnviroScreen 4.0,
American Community Survey, California Healthy Places Index



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CVA Results: Which critical facilities will be affected?



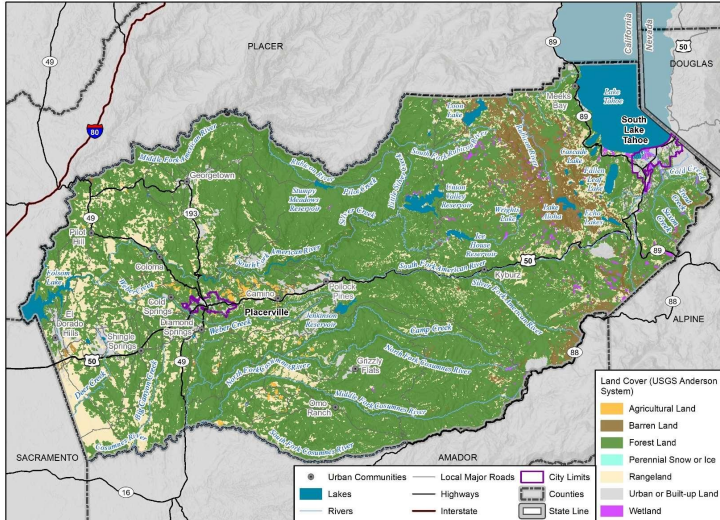
County Asset Category	# Number of Facilities
Essential Service	315
Essential Business	3
Population at Risk	258
Infrastructure at Risk	698
Total	1,274

Map compiled 2/2023.
Intended for planning purposes only.
Data Source: HFD, National Inventory of Dams (NID),
Department of Water Resources (DWR), and El Dorado County



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CVA Results: How will natural and cultural assets be affected?

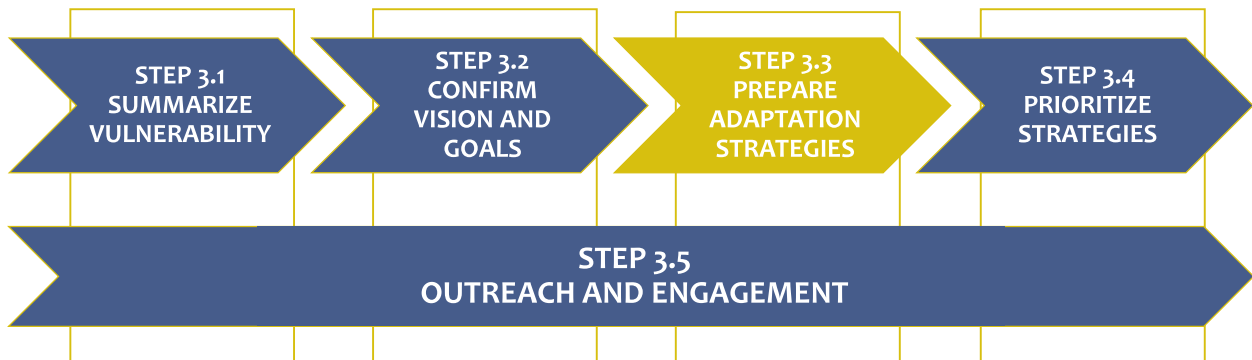


wsp Map compiled 1/2023;
intended for planning purposes only.
Data Source: El Dorado County, USDA, USFS

- 460,000 acres include the Eldorado National Forest
 - 898,000 people visit annually and contribute \$116.4 million to the local economy
- Changing conditions will alter the distribution of riparian vegetation and species
- Parks are prone to flooding, landslide, and wildfire risk; impacts are limited to temporary closures during repairs
- Shingle Springs Band of Miwok Indians and the Washoe Tribe traditional practices involve seasonal practices; these cultural heritages would be impacted

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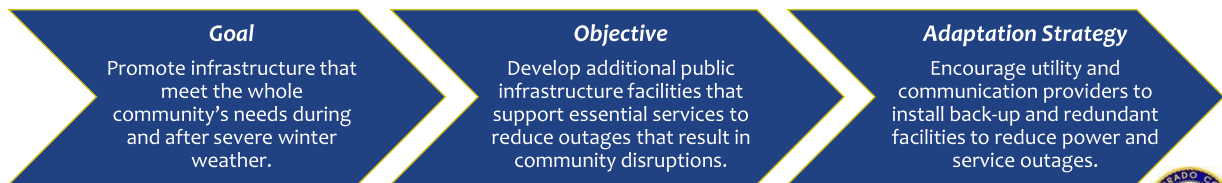
Phase 3: Adaptation Framework Planning Process



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Phase 3: Adaptation Strategies

- Enhance resiliency to the natural hazards and support long-term adaptation
- Strengthen existing policies and programs already in place at the County



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Phase 3: Relationship to the Safety Element Update



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Select five topics that you think are most important to include in the Safety Element Update.

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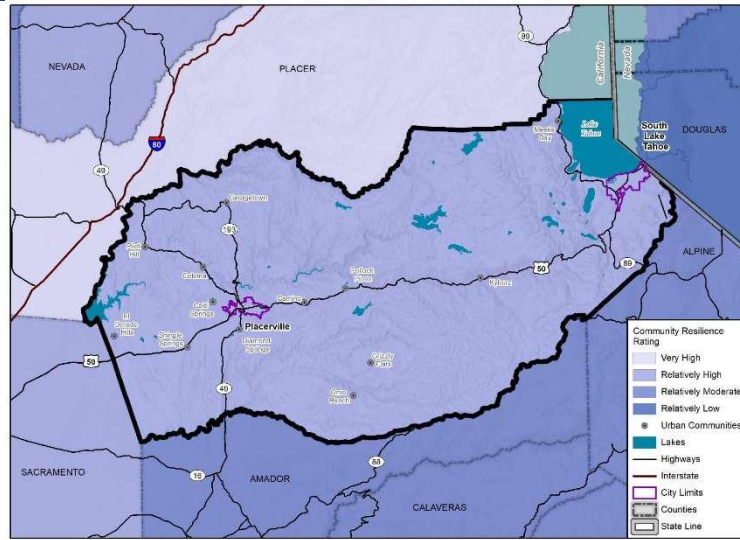
Phase 3: Safety Element Goals

Source	Goal
Safety Element	A coordinated approach to hazard and disaster response planning.
	Minimize fire hazards and risks in both wildland and developed areas.
	Minimize the threat to life and property from seismic and geologic hazards.
	Protect the residents of El Dorado County from flood hazards.
	Ensure that County residents are not subjected to noise beyond acceptable levels.
	Increase resiliency to natural hazards exacerbated by climate change by protecting lives and reducing damages and losses to property and impacts to public health and safety.
Other General Plan Element Goals	Manage and control storm water runoff to prevent flooding, protect soils from erosion, prevent contamination of surface waters, and minimize impacts to existing drainage infrastructure.
	Adequate and comprehensive emergency services, including fire protection, law enforcement, and emergency medical services.
	Conserve and protect the County's soil resources.
	Conserve, enhance, and manage water resources and protect their quality from degradation.



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Phase 3: Community Resilience Rating



“Community resilience is the ability of a community to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions.”

- FEMA National Risk Index
Community Resilience



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Phase 3: Regulatory Adaptive Capacity

Current Status	Regulatory Tool
Active in County	Local Hazard Mitigation Plan*
	Community Wildfire Protection Plans*
	Urban Water Management Plan
	Emergency Operations Plan
	Fire Adapted 50 Project
	Vegetation Management and Defensible Space Ordinance*
	Zoning Ordinance
In Progress	Greater Placerville Wildfire Evacuation Preparedness Study
	Office of Wildfire Preparedness and Resilience Wildfire Strategy
Not Active in County	Evacuation Plan – Would aid in the safe and efficient evacuation of people during an emergency event
	Community Health Plans & Assessments – Would promote the health and well-being of community members

* Denotes an update in progress



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Phase 3: Administrative and Technical Adaptive Capacity

- Building and Planning Department
 - Floodplain Administrator
- Surveyor's Office
 - GIS Systems Program
- El Dorado County Air Quality Management District
- Chief Administrative Office
 - Office of Wildfire Preparedness and Resilience
 - Emergency Preparedness and Response
 - Parks, Trails, and River Management Department
- Sheriff's Office
 - Office of Emergency Services
- Environmental Management Department
 - Environmental Health Program
 - Vector Control Program
- Twelve Fire Protection Districts



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Phase 3: Fiscal Capacity



Preparedness Grants
Preparedness grants support our citizens and first responders to ensure we work together as a nation to build, sustain and improve our capability to prepare for, protect against, respond to, recover from and mitigate terrorism and other high-consequence disasters and emergencies.



National Dam Safety Program State Assistance Grant
The National Dam Safety Program State Assistance Grant provides assistance to encourage the establishment and maintenance of effective state programs intended to ensure dam safety, to protect human life and property, and to improve state dam safety programs.



Emergency Food and Shelter Program
The Emergency Food and Shelter Program (EFSP) is a FEMA-funded program that supplements and expands ongoing work of local nonprofit and governmental social service organizations to provide shelter, food and supportive services to individuals and families who are experiencing, or at risk of experiencing, hunger and/or homelessness.



National Earthquake Hazards Reduction Program Earthquake State Assistance Grant Program
The FEMA National Earthquake Hazards Reduction Program (NEHRP) Earthquake State Assistance Grant Program reduces the risks of life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake risk reduction programs.

Federal

- Building Resilient Infrastructure and Communities (BRIC)
- Hazard Mitigation Grant Program (HMGP)
- Fire Management Assistance Grant (FMAG) Program
- Assistance to Firefighters Grant (AFG)

CA Grants Portal

CALIFORNIA GRANTS PORTAL

The California Grants Portal - your one destination to find all state grant and loan opportunities provided on a first-come or competitive basis.

Visit grants.ca.gov to find funding opportunities for you and your community.

View DWR's Forecasted Grants

View DWR's Active Grants

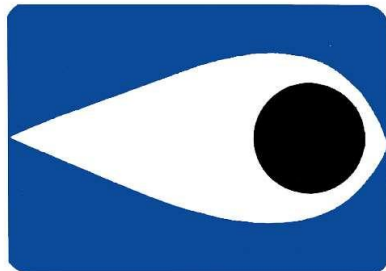
State

- DWR Water Resource Grants
- Prepare California Grants
- California Wildfire Mitigation Program (CWMP)
- Adaptation Planning Grant Program (APGP)
- Integrated Regional Water Management (IRWM) Grants



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Phase 3: Organizational and Outreach Adaptive Capacity



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Phase 3: Opportunities for Adaptive Capacity Building

Long-Term Adaptation

- Tree planting
- Shade structures
- Roof/snow load inspections
- Cooling centers
- Wildfire fuels treatment projects (i.e., mechanical, prescribed burning, thinning, etc.)
- Electrical power grid resiliency programs
- Forest health and watershed protection projects
- Evacuation route development

Short-Term Adaptation

- Energy efficient appliances
- HVAC upgrades
- Home hardening
- More shelters
- Defensible space
- Better utilization of material generated from fuels reduction – biomass, saw logs
- Prescribed fire projects
- Generators for critical facilities



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What climate adaptation strategies do you think should have highest priority?

① Start presenting to display the poll results on this slide.

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Schedule and Next Steps

	Deliverable Description	Date
CVA	Public Review Draft CVA Available	May 2, 2023 – May 21, 2023
	SEAC Draft Safety Element	June 2023
Safety Element	SEAC Work Session #4	July 2023
	Review of SEAC Draft Safety Element	July/August 2023
	Stakeholder Workshop #1	August 2023
	Public Workshop #1	September 2023
	Revised SEAC Draft Safety Element	TBD – Late Fall
	Public Workshop #2	TBD – Early Winter
	Planning Commission & Board of Supervisor Workshops	TBD – Early Winter



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Stay Involved: How to continue to participate

- El Dorado County General Plan Safety Element webpage:
<https://www.edcgov.us/Government/longrangeplanning/Pages/General-Plan-Safety-Element-Update.aspx>
- Review the Public Draft CVA:
https://www.edcgov.us/Government/longrangeplanning/Documents/El%20Dorado%20CVA_Public%20Review%20Draft_05.01.23F.pdf
- Sign up for project email notifications
- Attend a future virtual public workshop in Summer 2023



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Questions & Answers

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Safety Element Update Webpage:

<https://www.edcgov.us/Government/longrangeplanning/Pages/General-Plan-Safety-Element-Update.aspx>

Review the Public Review Draft CVA:

https://www.edcgov.us/Government/longrangeplanning/Documents/El%20Dorado%20CVA_Public%20Review%20Draft_05.01.23F.pdf



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