Local Hazard Mitigation Plan

For

San Luis Coastal Unified School District

December 2021




Prepared by Category Five Professional Consultants, Inc.

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I. ADOPTION RESOLUTIONS

A. FEMA

U.S. Department of Homeland Security
FEMA Region 9
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

FEMA

February 2, 2022

Ryan Pinkerton
Superintendent/Business Services
San Luis Coastal Unified School District
1500 Lizzie Street
San Luis Obispo, CA 93405

Dear Mr. Pinkerton:

FEMA has completed its review of the *Local Hazard Mitigation Plan for San Luis Coastal Unified School District 2021* and has determined that this plan is eligible for final approval pending its adoption by San Luis Coastal Unified School District.

Formal adoption documentation must be submitted to FEMA Region 9 within one calendar year of the date of this letter, or the entire plan must be updated and resubmitted for review. FEMA will approve the plan upon receipt of the documentation of formal adoption.

If you have any questions regarding the planning or review processes, please contact the FEMA Region 9 Hazard Mitigation Planning Team at fema-r9-mitigation-planning@fema.dhs.gov.

Sincerely,

for Alison Kearns
Risk Analysis Branch Chief
Mitigation Division
FEMA Region 9

Enclosure (1)
San Luis Coastal Unified School District Plan Review Tool, dated February 2, 2022

cc: Xing Liu, Senior Community Planner, FEMA Region 9
Victoria LaMar-Haas, Hazard Mitigation Planning Chief, California Governor's Office of Emergency Services
Jennifer Hogan, State Hazard Mitigation Officer, California Governor's Office of Emergency Services

www.fema.gov

U.S. Department of Homeland Security
FEMA Region 9
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

FEMA

March 16, 2022

Ryan Pinkerton
Superintendent/Business Services
San Luis Coastal Unified School District
1500 Lizzie Street
San Luis Obispo, CA 93405

Dear Mr. Pinkerton:

The *Local Hazard Mitigation Plan for San Luis Coastal Unified School District 2021* was officially adopted by the San Luis Coastal Unified School District on March 10, 2022 and submitted for review and approval to the Federal Emergency Management Agency (FEMA). The review is complete, and FEMA finds the plan to be in conformance with the Code of Federal Regulations, Title 44, Part 201, Section 6 (44 C.F.R. 201.6).

This plan approval ensures the San Luis Coastal Unified School District's continued eligibility for funding under FEMA's Hazard Mitigation Assistance programs, including the Hazard Mitigation Grant Program (HMGP) and the Building Resilient Infrastructure and Communities program (BRIC). All requests for funding are evaluated individually according to eligibility and other program requirements.

FEMA's approval is for a period of five years, effective starting the date of this letter. Prior to **March 16, 2027**, the San Luis Coastal Unified School District must review, revise, and submit their plan to FEMA for approval to maintain eligibility for grant funding. The enclosed plan review tool provides additional recommendations to incorporate into future plan updates.

If you have any questions regarding the planning or review processes, please contact the FEMA Region 9 Hazard Mitigation Planning Team at fema-r9-mitigation-planning@fema.dhs.gov.

Sincerely,

Kathryn Lipiecki
Director, Mitigation Division
FEMA Region 9

Enclosure (1)
San Luis Coastal Unified School District Plan Review Tool, dated March 16, 2022

www.fema.gov

B. SLCUSD Board of Education

SAN LUIS COASTAL
UNIFIED SCHOOL DISTRICT

RESOLUTION NO. 16-21-22

ADOPTING A LOCAL HAZARD MITIGATION PLAN

WHEREAS, mounting costs of disaster recovery in the nation over the past decade have promoted interest in providing effective ways to minimize our country's hazard vulnerability; and

WHEREAS, the Disaster Mitigation Act of 2000 (the "Act'), also commonly known as The 2000 Stafford Act Amendments, constitutes an effort by the Federal government to reduce the rising cost of disasters; and

WHEREAS, the Act requires local governments to develop and submit mitigation plans in order to qualify for the Hazard Mitigation Grant Program project funds (42 U.S.C. 5165, Sec. 322 and 44 CFR 201.6); and

WHEREAS, the purpose of the Act was to establish a national program for pre-disaster mitigation, streamline administration of disaster relief at both the federal and State levels, and control federal costs of disaster assistance; and

WHEREAS, the San Luis Coastal Unified School District has completed a planning process, which allowed participation by the local community, and has developed a Local Hazard Mitigation Plan that meets the needs established by the Act.

NOW, THEREFORE, BE IT RESOLVED by the San Luis Coastal Unified School District Board of Education that the San Luis Coastal Unified School District Local Hazard Mitigation Plan, a copy of which is attached hereto and incorporated by reference as Exhibit A, is hereby adopted.

BE IT FURTHER RESOLVED that a copy of this Resolution shall be forwarded to the Governor's Office of Emergency Services and the Federal Emergency Management Agency.

ADOPTED this 10th day of March 2022, by the Board of Education of the San Luis Coastal Unified School District by the following roll call vote:

AYES: Mark Buchman, Eve Dobler-Drew, Kathryn Eisendrath-Rogers, Evelyn Frame, Marilyn Rodger, Chris Ungar

NOES: None

Resolution No. 16-21-22: Adopting a Local Hazard Mitigation Plan

ABSENT OR NOT VOTING: Ellen Sheffer

Chris Ungar

President or Clerk of the Governing Board of the
San Luis Coastal Unified School District

ATTESTED TO:

Ellen Sheff

Clerk or Secretary of the Governing Board of the
San Luis Coastal Unified School District

II. EXECUTIVE SUMMARY

A. General Plan Description

In the U.S., the mounting cost of disaster recovery this past decade has strengthened our country's resolve in uncovering effective ways to minimize our hazard vulnerability. Globally, there were 416 natural disasters in 2020. Climate change has increased the prevalence and severity of these disasters. The San Luis Coastal Unified District has joined a nationwide effort to develop a jurisdiction specific hazard mitigation plan. The goal of this local hazard mitigation plan is to arrive at practical, meaningful, attainable and cost-effective mitigation solutions to minimize the School District's vulnerability to identified hazards and ultimately reduce both human and financial losses subsequent to a disaster. An associated, collateral benefit is to ensure that individuals who have access and/or functional needs receive lawful and equal assistance before, during, and after a disaster or public health emergency.

After thoroughly reviewing historical data and past and present plans and technical reports, in-depth risk assessments were performed to identify and evaluate each natural and human-caused hazard that could impact the study area. The future probability of these identified hazards and their potential impact to the School District is described.

Vulnerability assessments were performed which summarized the identified hazards' impact to the District's critical structures, infrastructure and future development. An estimate of the potential dollar losses to vulnerable structures was determined.

The risk and vulnerability assessments in addition to a local capability assessment were used to determine mitigation goals and objectives to minimize long-term vulnerabilities to the identified hazards. These goals and objectives were the foundation behind the development of a comprehensive range of specific attainable mitigation actions created for SLCUSD.

An Action Plan was developed to assign responsibility and identify funding for each mitigation action. A plan to maintain, review and monitor the plan over time was created to ensure the goals and objectives are achieved and the plan remains a relevant document.

The entire process was shared with the San Luis Coastal Unified School District and an extensive group of community stakeholders. The Plan was also shared with the general public and approved by the San Luis Coastal Unified School District's Board of Education.

B. Plan Purpose and Authority

The Disaster Mitigation Act (DMA) of 2000, also commonly known as "The 2000 Stafford Act Amendments" (the Act), constitutes an effort by the Federal government to reduce the rising cost of disasters. The Act stresses the importance of pro-active disaster preparedness and mitigation planning.

Mitigation Planning Section 322 of the Act requires local governments, including school districts, to develop and submit mitigation plans in order to qualify for the Hazard Mitigation Grant Program (HMGP) project funds. It also increases the amount of HMGP funds available to states and jurisdictions within each state to meet the enhanced planning criteria, and enables these funds to be used for planning activities.

For disasters declared after November 1, 2004, the SLCUSD must have an LHMP approved pursuant to §201.6 in order to receive FEMA Pre-Disaster Mitigation (PDM) project grants or to receive post-disaster Hazard Mitigation Grant Program (HMGP) project funding. Additionally, an approved LHMP makes available access to Public Assistance Program grants which provide matching reimbursement for costs and damage as a result of a federally declared disaster. This LHMP is written to meet the statutory requirements of DMA 2000 (P.L. 106-390), enacted October 30, 2000 and 44 CFR Part 201 – Mitigation Planning, Interim Final Rule, published February 26, 2002.

To facilitate implementation of the DMA 2000, the Federal Emergency Management Agency (FEMA) created an Interim Final Rule (the Rule), published in the Federal Register in February of 2002 at section 201 of 44 CFR. The Rule spells out the mitigation planning criteria for states and local communities. Specific requirements for local mitigation planning efforts are outlined in section §201.6 of the Rule. Local jurisdictions must demonstrate that proposed mitigation actions are based upon a sound planning process that accounts for the inherent risk and capabilities of the individual communities as stated in section §201.5 of the Rule.

In developing this Local Hazard Mitigation Plan for the School District, FEMA's Multi-Hazard Mitigation Planning Guidance (March 2004 and July 2008) was strictly adhered to for the purpose of ensuring thoroughness, diligence, and compliance with the DMA 2000 planning requirements.

III. PLANNING PROCESS

A. DMA 2000 Requirements

DMA Requirements §201.6(b) and §201.6(c)(1):	An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include: (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval; (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information. The plan shall document the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

B. Plan Development and Public Input Process

From the onset of the planning process in the Spring of 2021, a comprehensive group of community stakeholders, and representatives from neighboring communities and school districts were invited to participate in the drafting stage of the Hazard Mitigation Plan. This included representatives from the School District, the County Office of Education, the County of San Luis Obispo, the Cities of Morro Bay, San Luis Obispo and Pismo Beach and the Los Osos Community Services District. Additionally, the planning group contained District Lease Holders, local business owners, residents, neighboring jurisdiction representatives and neighboring school districts, American Red Cross and Diablo Canyon Nuclear Power Plant representative. These individuals comprised the Hazard Mitigation Planning Group.
Please see Table 1 below for detailed list of representatives.

Informative letters and emails were sent to the School District, the County Office of Education, the County of SLO, the Cities of San Luis Obispo, Morro Bay and the Los Osos Community Services District, District lease holders, local business owners, residents, and neighboring jurisdictions to encourage their participation in the hazard mitigation planning process. *Please see Preliminary Notice to Neighboring Communities-Attachment B* Planning group meetings were held on June 7th, June 29th, September 21st and October 13th in order to: 1) Explain the benefits of constructing a Local Hazard Mitigation Plan for San Luis Coastal Unified School District, 2) Describe the planning and approval process, 3) Review local hazards of concern, 4) Listen to particular areas concerning community stakeholders, 5) Explain the risks and

vulnerability to the District's people, buildings and infrastructure, 6) Propose and discuss mitigation goals, objectives and actions, 7) Explain how mitigation actions are prioritized, 8) Describe how the mitigation actions will be carried out, and 9) Encourage stakeholder feedback and public input. A capability assessment and action plan were developed to ensure mitigation actions were realistic and attainable and to assign funding sources and responsibility for each proposed activity. These were also reviewed with planning group members.

Once the School District and the Hazard Mitigation Planning Group Members were satisfied with the newly constructed draft LHMP and the proposed mitigation goals, objectives and actions, a noticed public forum was held on October 13, 2021. This meeting was widely advertised both locally and in neighboring communities to provide an opportunity for the general public, bordering communities and regional agencies involved in hazard mitigation activities to participate in the planning process. Two weeks prior to the public forum, a Public Review Draft Hazard Mitigation Plan was posted on the SLCUSD website to enable the public and stakeholders ample time to read and evaluate it. Notice of the available Public Review Draft and also the public forum was posted on the District website which included the contractor's contact information to allow the public to easily send their input. Additionally, notice of the Plan availability and the Public Forum was posted on Parent Square, the District's communication platform, where it appeared on both the feed and the home page. Also, the School District sent out a press release (Attachment D) to the following local media agencies: San Luis Obispo Tribune, New Times, Pac Biz Times, NPG Co, SLO Span, and KCBX, KSBY, and KCOY radio stations informing them of how the general public can access the Public Review Draft Plan and attend the public forum. A separate notification letter was sent to the San Luis Obispo County Office of Emergency Services Manager in addition to City Managers from all neighboring communities (Attachment C). Additionally, the public forum was announced on Nextdoor, a neighborhood website widely used in San Luis Obispo County (Attachment D). On October 13, 2021 the contractors presented the plan highlights and proposed mitigation actions to the general public. The meeting, based on COVID-19 concerns, was held virtually using Zoom and was well attended. A Power Point presentation provided a detailed explanation of the risks and vulnerabilities the School District faced. The mitigation goals, objectives and actions were explained as were the resources that would be used to help mitigate these hazards. Following the presentation, the public was invited to attend a question-and-answer session where they had the opportunity to provide feedback about the overall Plan and proposed mitigation goals and activities. All comments were reviewed with the stakeholder group and incorporated into the Plan as appropriate. All feedback received was positive and commended the planning efforts of the School District, the Hazard Mitigation Planning Group and the consultants.

The SLCUSD Local Hazard Mitigation Planning Group was comprised of the following agency representatives and key stakeholders:

Table 1: Hazard Mitigation Planning Group Members

Name	Agency	Title	Attended All Planning Group Meetings	Identified Hazards and Assisted with Mitigation Action Development	Additional Role
Ryan Pinkerton	**SLCUSD**	Assistant Superintendent/ Business Services	Yes	Yes	District Project Manager
Rob Lewin	**Resolute Associates**	Emergency Preparedness Consultant	Yes	Yes	Project Manager
Rick Stimson	**SLCUSD**	Maintenance Supervisor	Yes	Yes	Liaison
Steve Stewart	**SLCUSD**	Safety Coordinator	Yes	Yes	Technical Specialist
Chris Bonin	**SLCUSD**	Director of Facilities	Yes	Yes	Liaison
Jeremy Koellish	**SLCUSD**	Director of Information Technology	Yes	Yes	Technical Specialist
Sheldon Smith	**County Office of Education**	Asst. Superintendent of Business	Yes	Yes	Liaison
Hugo Bastidos	**County Office of Education**	Director of Operational Services	Yes	Yes	
Andy Stenson	**Lucia Mar Unified School District**	Director of Facilities	Yes	No	
Kelly Stainbrook	**Atascadero Unified School District**	Director of Facilities	Yes	No	

Brant Lloyd	**Paso Robles Joint Unified School District**	Director of Facilities	Yes	No	
Tracey Vardas	**Pacific Gas & Electric/Diablo Canyon NPP**	Manager, Emergency Mgmt. and Public Safety	Yes	Yes	Technical Specialist
Rodger Maggio	**City of SLO**	Fire Marshal/Building Official	Yes	Yes	Technical Specialist
Tony Briggs	**American Red Cross**		Yes	Yes	
Matt Vierra	**City of Morro Bay**	Fire Marshal	Yes	Yes	
Ron Munds	**Los Osos CSD**	General Manager	Yes	Yes	
Michael Gruver	**City of Pismo Beach**	Associate Planner, Planning Division	Yes	Yes	
Jeff Jones	**Santa Maria**	Fire Chief (retired)	Yes	Yes	
Adam Ancira-Corrigan	**Parent Teacher Association**	Representative	Yes	Yes	
Neal Swanberg	**Morro Bay-Citizen at large**	Nuclear Power Plant Engineer (retired) and Emergency Planner	Yes	Yes	
Emily Miggins	**Los Osos Fire Safe Focus Group**	Disaster Preparedness Consultant and Coordinator	Yes	Yes	
Gary Orback	**Los Osos CSD Emergency Services Comm.**	Law Enforcement Officer (retired) and member	Yes	Yes	
Warren Sargent	**Los Osos CSD Emergency Services Comm.**	Educator (retired) and member	Yes	Yes	

Craig Ufferhiede	**Cambria Fire/CERT**	Disaster Preparedness Consultant	Yes	Yes	
Lonnie Rollins	**SLO County Sheriff Advisory**	Software Designer/Disaster Preparedness Consultant	Yes	Yes	
James Brescia	**County Office of Education**	County Superintendent of Schools	Yes	Yes	
Julie Turk	**Bellevue-Santa Fe Charter***	Principal	Yes	Yes	
Susan Theule	**SLO Classical Academy***	Executive and Visionary Director	Yes	No	
Megan Martin	**City of Pismo Beach**	Planning Manager, Community Development	Yes	Yes	
Bob Neumann	**Category Five Professional Consultants**	Consultant/Vice-President	Yes	Yes	Technical Specialist - Public Safety
Sheri Eibschutz	**Category Five Professional Consultants**	Consultant/ President	Yes	Yes	Facilitator/ Planner

*District Lease Holders

C. Incorporation of Existing Plans and Other Information

At the project's onset and throughout the hazard mitigation planning process, all applicable local emergency operations plans and geotechnical reports were reviewed and incorporated into this mitigation plan. The following sources were used:

- San Luis Obispo County Multi-Jurisdictional Hazard Mitigation Plan 2020 (Includes the Cities of San Luis Obispo and Morro Bay)
- San Luis Obispo County General Plan including:
    - Land Use Element
    - Open Space Element
    - Safety Element

  - Housing Element
- Diablo Canyon Nuclear Power Plant Emergency Planning Documents
- CAL FIRE/County Fire Management Plan
- California State Hazard Mitigation Plan
- Emergency Operations Plans for SLO County and the Cities of San Luis Obispo and Morro Bay
- San Luis Obispo County Dam and Levee Failure Plan
- San Luis Obispo County Flood Control - Conservation Management Guide
- Local and State land use regulations
- Past disaster declarations
- Flood Insurance Rate Maps (FIRM's)
- NASA Global Climate Change Guidance
- National Research Council Sea Level Rise for the Coast of California, Oregon and Washington

D. Plan Adoption

Once the SLCUSD's Assistant Superintendent, the District's Project Manager, the Hazard Mitigation Planning Group and the general public had an opportunity to review, ask questions and comment on the proposed plan, the newly constructed LHMP was submitted to the State Hazard Mitigation Office at Cal OES. Upon receipt of approval by the State Hazard Mitigation Office, the plan was forwarded to FEMA for approval. On February 2, 2022, FEMA completed its review of the Local Hazard Mitigation Plan for San Luis Coastal Unified School District 2021 and determined that this plan is eligible for final approval pending its adoption by San Luis Coastal Unified School District.

Adoption by the local governing body demonstrates the District's commitment to fulfilling the hazard mitigation goals and actions outlined in the plan. Adoption legitimizes the plan and authorizes responsible agencies to execute their responsibilities. The SLCUSD Board of Education adopted the plan on March 10, 2022. Subsequently, FEMA found the plan to be in conformance with the Code of Federal Regulations, Title 44, Part 201, Section 6 (44 C.F.R. 201.6) and formally approved it on March 16, 2022. FEMA's approval is for a period of five years expiring on March 16, 2027.

Please see FEMA and SLCUSD Board of Education adoption resolutions on pages 6 through 9.

IV. DISTRICT PROFILE

A. School District Background

San Luis Coastal Unified School District was established in 1964 and represents the communities of Avila, Edna Valley, Los Osos, Morro Bay, and San Luis Obispo and currently has an enrollment of approximately 7,500 students. Small neighborhood schools are a hallmark of the District where students are educated from preschool through twelfth grade and a world-class adult school program offers unique, life-improving courses to thousands of community members.

The district has 17 schools and well over 900 employees. The annual budget is approximately $106,000,000. In 2014, the voters approved a $177 million facility bond to address necessary needs of our schools. The two major high schools, San Luis Obispo and Morro Bay High Schools, are receiving a majority share of those funds.

B. Governing Body

The SLCUSD Board of Education is comprised of seven elected trustees who are responsible for developing and adopting policies, curriculum and the budget, overseeing facilities issues, employing the superintendent, providing community advocacy, setting direction, offering support and ensuring accountability for the School District and its schools.

C. Support Agency

San Luis Obispo County Office of Education (SLOCOE)

SLOCOE supports the work of SLCUSD and the other 9 school districts within San Luis Obispo County. They provide both academic and financial support and offer a variety of professional development and training opportunities for both teaching and non-teaching staff. They provide instruction for high-need students and operate California State Preschool classes. SLOCOE provides a County-wide perspective on educational issues arising locally or at the state or national level. Additionally, SLOCOE gives assistance to its school districts to ensure fiscal solvency and has the statutory authority to excise fiscal oversight for the districts.

SLOCOE ***Business Services*** works to support and sustain the District's public schools with regards to:

- Fiscal oversight, budget projection and advisory services
- Purchasing services for classroom and office supplies
- Accounting services
- Payroll auditing and processing
- Safety program collaboration
- Inter-district collaboration
- Attendance reporting

- Maintenance, transportation and operational services for special education and alternative education programs

The ***County Board*** works in conjunction with the superintendent to establish SLO COE priorities and direction through its budgetary responsibilities and leadership.

Schools Insurance Program for Employees

The Schools Insurance Program for Employees (SIPE) was established in 1977 as a public agency joint powers authority (JPA) that provides a self-insured workers compensation program and risk management services to the public school districts and a community college district in San Luis Obispo, California.

D. District Boundaries

The southern district boundary of San Luis Coastal Unified School District begins on Lopez Drive at the entrance to the Trout Farm and moves in a clockwise fashion. It runs down the center of Lopez Drive toward the southwest until reaching Orcutt Road. From there, the line turns to the northwest, proceeding through the center of Orcutt Road until reaching the Chamisal Vineyards. The line continues to the southwest crossing between number 2200 on the north and number 2199 on the south. Corbett Canyon Vineyards lies outside the district. The line then crosses Carpenter Canyon Road at the same address range, with the Cold Canyon Landfill property being the last parcel within the district. As the boundary continues toward the southwest, the line crosses West Ormonde. Approximately one-half mile from this crossing, the line makes a 95 degree turn to the northwest until it meets West Pismo Creek in Price Canyon. The boundary then proceeds down the creek making a sweeping semi-circle. At approximately halfway through this arc, the line again turns to the northwest. This occurs somewhere near the location of a rusty gate on the northwest side of the road. At this point, the line continues into uninhabited areas to the north of Pismo Beach, finally descending from the hills to the creek running between Solano Road and Seacliff Drive. The condominium developments north of Highway 101 are not in the district.

The northern district boundary runs from the ocean to the last development on the northern edge of Morro Bay. It then cuts across Chevron property, intersecting and joining Toro Creek Road at a point which can be identified by foundation ruins on the south side of the road. From here, the line runs down the center of the creek until reaching the fence line on the left of the Chevron pump building. From this point, it angles away from the road to the northeast, encompassing all residences on both sides of the lower portion of Toro Creek Road. The line then crosses over to Highway 41 approximately 8.5 miles from Highway 1. It then proceeds along the ridgeline until reappearing on Lopez Drive.

External Boundaries Frequently Questioned

Southern Boundary

Lopez Drive: All residences on the north side of Lopez Drive between Orcutt Road and the Trout farm are within the district.

Orcutt Road: All residences on the northeast side of Orcutt Road to Lopez Drive and all residences on the southwest side south of the Chamisal Winery are within the district. The division occurs between the addresses of 7499 and 7500; addresses of 7499 or less are within the district.

Corbett Canyon: All residences with street addresses of 2200 or greater are within the district. The Corbett Canyon Winery lies on the opposite side of the dividing line, outside the district.

Carpenter Canyon Road: All residences with street addresses of 2200 or greater are within the district. Cold Canyon Landfill is the last parcel before the line. Patchett Lane lies well on the other side of the line, outside the district.

Spyglass Area: Everything north of the creek running from Spyglass Park to US 101 is within the district. This area includes all of Solano Drive and Spyglass Drive. The development across the freeway lies outside the district boundaries.

Northern Boundary

Toro Creek Road: Except for the first house on the north side of Toro Creek Road, all other residences are within the district. The boundary runs well to the north of all residences along that side of the road.

Highway 41: At approximately 8.5 miles east on Highway 41, street addresses begin appearing. All parcels having addresses from 16999 to 16000 lie within the district boundaries. Atascadero Unified School District addresses start at 15999 and appear shortly before Halfway Station.

An interactive map to locate school boundaries can be found at:

http://apps.schoolsitelocator.com/?districtcode=00200

E. Geography/Topography

The SLCUSD resides in the County of San Luis Obispo which is located on the Central Coast of California 190 miles (310 km) north of Los Angeles and 230 miles (370 km) south of San Francisco. The geographical coordinates of San Luis Obispo are 35.283 deg latitude, -120.660 deg longitude, and 226 ft elevation. The County contains 3,316 square miles and stretches along 80 miles of coastline. The highest point is Caliente Mountain (5,104 feet) and the lowest point is sea level.

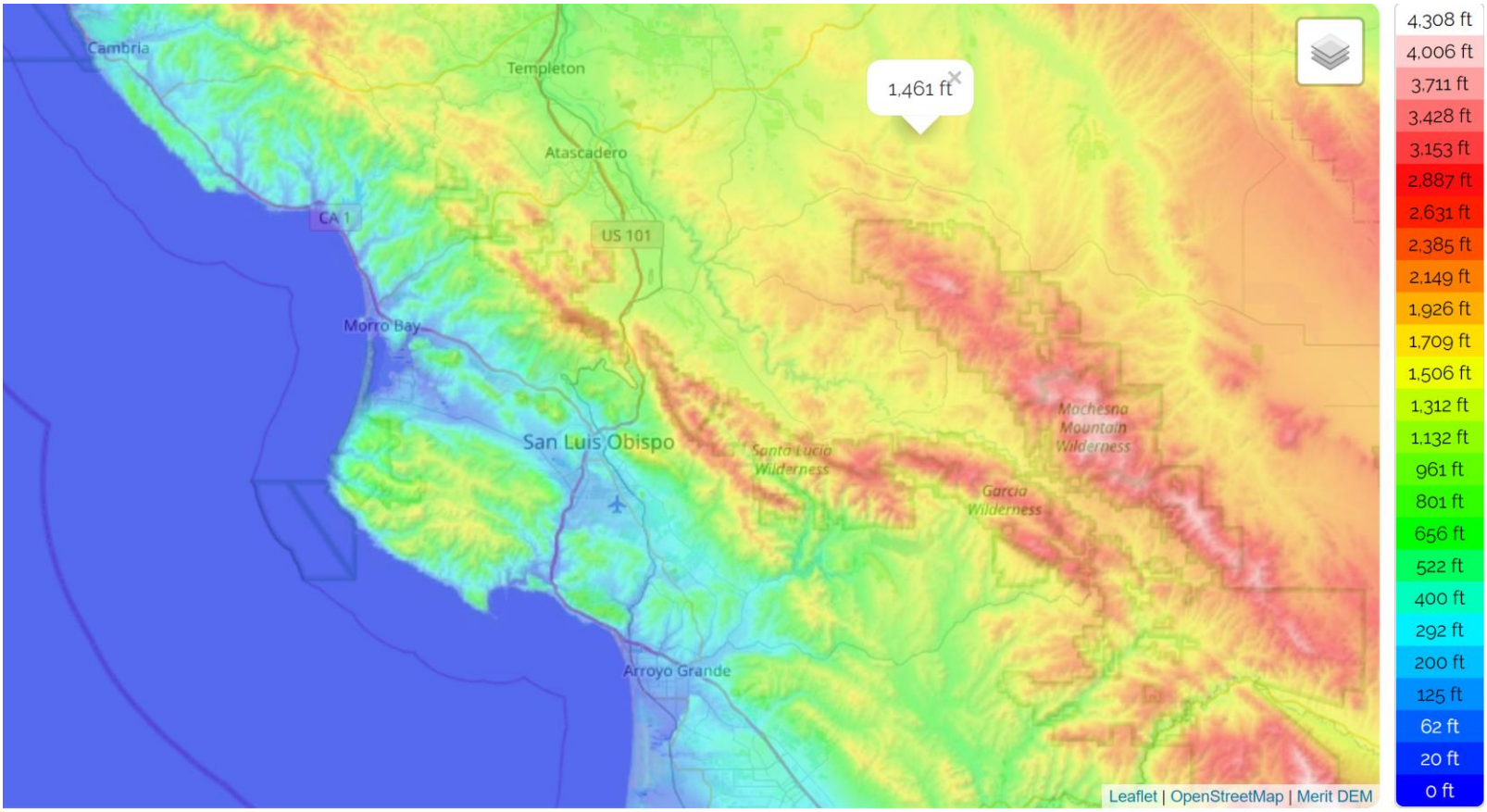
San Luis Obispo is accessible via U.S. Highway 101 from the north and south. Additionally, portions of the county can be reached via scenic Highway 1 and State highways 41, 46, 58 and 166. The County

is bordered by Monterey County to the north, Santa Barbara County to the south, Kern County to the east and Kings County to the northeast. East of the County, the Santa Lucia Mountains are found which are the headwaters for San Luis Obispo Creek whose watershed encompasses 84 square miles (220 km^2) surrounding the city and which flows to the Pacific Ocean at Avila Beach.

San Luis Obispo is a seismically active area with a considerable number of nearby faults including the San Andreas Fault. Reaching between the Cities of San Luis Obispo and Morro Bay are the craggy peaks of the Nine Sisters, a chain of volcanic plugs (leftover, congealed lava that once filled volcano vents millions of years ago) dividing the Chorro and Los Osos Valleys. Six of these peaks are open to the public for recreation.

SLO County Topography Maps:

SLO County topography in green (low), yellow (moderate), and red (high elevation) and the main highways as red lines.



San Luis Obispo County, California, United States (35.35402 -120.37572)

Source: Maps were constructed by authors with topographic data from SLO County and UCSB Bren School and roads data from California Department of Transportation

F. Schools

SLCUSD has fifteen preschool-12th grade schools that serve nearly 7,500 students. Additionally, there is an Adult School which offers a wide assortment of classes to the general community. Several SLCUSD schools have been recipients of the National Blue-Ribbon Schools and California Distinguished Schools award programs.

Elementary Schools:

- Baywood Elementary
- Bishop's Peak Elementary
- C.L. Smith Elementary
- Del Mar Elementary
- Hawthorne Elementary
- Los Ranchos Elementary
- Monarch Grove Elementary
- Pacheco Elementary
- Sinsheimer Elementary
- Teach Elementary

Additionally, the District has authorized Bellevue-Santa Fe Charter School (K-6th) for over twenty years which is located on a District owned site.

Middle Schools:

- Laguna Middle School
- Los Osos Middle School

High Schools:

- Morro Bay High School
- Pacific Beach High School
- San Luis Obispo High School

Adult School:

- Adult School
- Parent Participation Program

G. School Attendance Areas

Elementary School Attendance Areas:

Baywood Elementary: This area's northern boundary is an imaginary line running from the bay through the State Park to Cuesta College and Del Mar Elementary's southern boundary. It includes residences north of the line running from the bay, beginning at a point east of Broderson to the corner of Ramona Avenue at 4th Street, down the center of Ramona Avenue from 4th Street to 12th Street, east of the line running down the center of 12th Street from Ramona to Nipomo, south of the line running down the center of Nipomo to 9th Street, east of the line running down the center of 9th Street to the intersection of Los Osos Valley Road and the north side of Los Osos Valley Road between 9th Street and South Bay Boulevard. The eastern boundary is South Bay Boulevard from the corner of South Bay Boulevard and Los Osos Valley Road to Pismo Avenue and north of an imaginary line extending from Pismo Avenue east to Turri Road, including those residences on the west end of Turri Road to the intersection of Turri Road and the State Park.

Bishop's Peak Elementary: This area includes the west side of Highway 101 from the Madonna Road intersection, north to the Southern Pacific Railroad tracks minus Fernandez Road and Fernandez Lane, then southeast along the eastern side of the tracks to the intersection with Ella Street then northeast along the northeast side of Ella Street to the intersection with Johnson Avenue then following an imaginary line to the Eastern District boundary. The north boundary extends from Highway 1 and Cuesta College northeastward following an imaginary line to the eastern district boundary and the north boundary extends from Highway 1 and Cuesta College westward to the intersection of Turri Road and Los Osos Valley Road. All residences in this general area are included within this boundary. The Bishop's Peak boundary also includes Sycamore Canyon Drive and Valle Vista Place. The boundary continues eastward around the north side of the Laguna Lake Park and Open Space to the intersection of Highway 101 and Madonna Road.

Del Mar Elementary: This area includes everything north of an imaginary line running from the bay through Morro Bay State Park to Cuesta College to the district's northern boundary.

Hawthorne Elementary: This area's southern boundary is marked by the northern side of Prado Road east along Prado Road to the city limits then north jogging around the eastern side of Calle Jazmin following the city limits to the South Hills open space then east along the ridge line eastward to the intersection of Rockview Place and Highway 227 then southeast along the east side of Highway 227 to the intersection with Industrial Way then eastward along the north side of Industrial Way to the railroad tracks then northwest along the west side of the railroad tracks to the intersection with Highway 101. The western boundary begins at the intersection of Prado Road and Highway 101 then north along the eastside of Highway 101, including Fernadez Road and Fernadez Lane, to the intersection with the Southern Pacific Railroad tracks.

Los Ranchos Elementary: This includes areas east of Highway 101 beginning at the point it meets Ontario Road. From there the boundary goes north along the eastside of Highway 101 to the intersection with South Higuera Street then follows the eastside of South Higuera Street to its intersection with Suburban Road; then west along Suburban Road to an imaginary line running north from Suburban Road to the intersection of Long Street and Tank Farm Road; then east along Tank Farm Road to Highway 227; northwest along Highway 227 to Industrial Way; then northeast along the southside of Industrial Way to the Southern Pacific Railroad tracks, then follows the eastside of the railroad tracks northwest to the intersection with Orcutt Road, then east along the Southside of Orcutt Road turning southeast at the intersection with Johnson Avenue, still on Orcutt Road, to the intersection with Tank Farm Road then continuing east following an imaginary line to the district eastern boundary edge. At this point, the district boundary moves in a clockwise direction southeasterly and turning westerly, inclusive of Varian Ranch, to the external district boundaries.

Monarch Grove Elementary: This boundary area follows an imaginary line from the bay, east of Broderson to the intersection of 4th Street and Ramona Avenue; down the center of Ramona Avenue to 12th Street; down the center of 12th Street to Nipomo Avenue; turning west down the center of Nipomo Avenue; extending to 9th Street down the center of 9th Street to Los Osos Valley Road at the intersection of 9th Street then east running down the center of Los Osos Valley Road to South Bay Boulevard. The area also includes residences east of South Bay Boulevard; and south of an imaginary line running from Pismo Avenue east to Turri Road. All residences on Clark Valley Road are considered within this boundary area.

Sinsheimer Elementary: Beginning at the intersection of the Southern Pacific railroad tracks and Ella Street the area is bounded on the north by the southeast side of Ella Street, then an imaginary line extending from the intersection of Ella Street and Johnson Avenue to the eastern district boundary Beginning at Ella Street and the Southern Pacific Railroad tracks on the west moving southeast following the eastside of the railroad tracks to the intersection with the north side of Orcutt Road then east following the north side of Orcutt Road and turning southeast along Orcutt Road at the Johnson Avenue intersection until Orcutt Road intersects with Tank Farm Road then continuing east along an imaginary line to the external eastern district boundary.

C. L. Smith Elementary: This area includes all housing tracts in the Laguna Lake area on the west side of Highway 101 from the Madonna Road/101 intersection on the north, then south along the Westside of Highway 101 to the intersection with Prado Road then east along the southside of Prado Road to the city limits then north following the city limits, jogging around the eastside of Calle Jazmin, then continuing north along the city limits to the South Hills Open Space then east along the ridgeline to the intersection of Rockview Place and Highway 227 then southeast along the westside of Highway 227 to Tank Farm Road then west along the north side of Tank Farm Road to Long Street, then following the western side of an imaginary line extending south from Long Street to Suburban Road,

the northern side of Suburban Road to South Higuera then southwest along the western side of South Higuera to the Highway 101 intersection then south along Highway 101 to the intersection with Ontario Road including Cloverridge Lane, then eastward to the eastern District Boundary and then continuing southward to the district boundary on the south, including Spyglass Point and Sunset Palisades. The western boundary extends to the Pacific Ocean including Avila Beach, Port San Luis, See Canyon and includes everything southeast of Valle Vista Place through the intersection of Via Laguna Vista and Valle Vista Place (no residences on Valley Vista Place are included within the Smith area)

Middle School and High School Attendance Areas:

Students who attend Bishop's Peak, C.L. Smith, Hawthorne, Los Ranchos, Pacheco, Sinsheimer and Teach elementary schools transition to Laguna Middle School and San Luis Obispo High School. Students who attend Baywood, Del Mar and Monarch Grove elementary schools transition to Los Osos Middle School and Morro Bay High School.

Attendance Areas Frequently Questioned

There are lines drawn down the center of select streets denoting that students living on opposite sides of the street attend different schools. The divisions between the coastal and the San Luis Obispo schools are more or less characterized by large areas without residential development and logical bus turnarounds at the edges of these areas.

Los Osos Valley Road/ Turri Road/Clark Road: All residences on the east end of Turri Road attend San Luis schools (Bishop's Peak Elementary, Laguna Middle School, San Luis Obispo High School). Residences on Clark Valley Road, and in the general vicinity of Clark Valley Road and to the west, attend coastal schools (Monarch Grove Elementary, Los Osos Middle School, MBHS). For that area between Clark Valley and Turri, no clear definition exists.

Highway 1/County Office of Education: All residences to the north of Cuesta College and County Office of Education attend coastal schools (Monarch Grove Elementary, Los Osos Middle School, Morro Bay High School). All residences to the south attend San Luis Obispo schools (Bishop's Peak Elementary, Laguna Middle School, San Luis Obispo High School).

H. District Lease Holders

In addition to the occupied public schools listed above, the District has a number of properties that are currently being leased out to a variety of private academic and non-academic institutions. These include:

Table 2: District Lease Holders

Location	Original Location of	Current Lease Holder
165 Grand Ave #2007 San Luis Obispo, CA 93405	Teach Elementary	SLO Classical Academy
1989 Vicente Drive San Luis Obispo, CA 93405	Vicente Elementary	County of SLO Mental Health Services
1989 Vicente Drive San Luis Obispo, CA 93405	Vicente Elementary	Family Partnership Charter School
1130 Napa Morro Bay, CA 93442	Morro Elementary	Family Partnership Charter School
1130 Napa Morro Bay, CA 93442	Morro Elementary	Outside Now Nature Academy
1130 Napa Morro Bay, CA 93442	Morro Elementary	Revamp Training Studio
1130 Napa Morro Bay, CA 93442	Morro Elementary	Shoreline Calvary Chapel
1130 Napa Morro Bay, CA 93442	Morro Elementary	Teri and David Brown
1130 Napa Morro Bay, CA 93442	Morro Elementary	Copper Dragon Art Studio
880 Manzanita Drive Los Osos, CA 93402	Sunnyside Elementary	Wishing Well Preschool
880 Manzanita Drive Los Osos, CA 93402	Sunnyside Elementary	Adventure Kids Learning and Children's Center
880 Manzanita Drive Los Osos, CA 93402	Sunnyside Elementary	CAL FIRE

880 Manzanita Drive Los Osos, CA 93402	Sunnyside Elementary	CAPSLO
880 Manzanita Drive Los Osos, CA 93402	Sunnyside Elementary	Stepping Stone University
501 Sequoia Street Morro Bay, CA 93442	Del Mar Elementary	CAPSLO
1401 San Luis Bay Drive San Luis Obispo, CA 93405	Bellevue Santa Fe Charter School	Bellevue Santa Fe Charter School (an Independent Charter School-has consecutive 5-year MOUs w/District)

I. Facility Conditions and Maintenance

District facilities are all in very good shape. SLCUSD goes to great lengths to ensure that all the District's schools are clean, safe, and functional. To facilitate this effort, the district uses a facility survey instrument developed by the State of California Office of Public School Construction. The results of this survey are available at the Buildings, Grounds and Transportation office. Safety Inspection surveys for each District school can be found in Attachment E.

Upkeep, Repairs and Maintenance

The District maintenance staff make certain that repairs necessary to keep the school in good working order are completed in a timely fashion. A work order process is used to ensure efficient service and that emergency repairs are given the highest priority. Many of the District's facilities were rehabilitated as part of the 1996 Measure A Building Program.

Additionally, the San Luis Obispo County Board of Education has adopted cleaning standards for all schools within the district. A summary of these standards is available at Buildings, Grounds and Transportation Department. School principals work with custodial staff to develop cleaning schedule that ensure schools are both clean and safe.

SLCUSD participates in the State School Deferred Maintenance Program, which is one of the programs included in SBX34 and is allowed the flexibility to be used for any educational purpose. The District has continued using the state funding to assist school districts with expenditures for major repair or replacement of existing school building components. Typically, this includes roofing, plumbing, heating, air conditioning, electrical systems, interior or exterior painting, and floor systems.

J. Communities

The County of San Luis Obispo is comprised of the following incorporated cities:

- Arroyo Grande
- Atascadero
- Grover Beach
- Morro Bay
- Paso Robles
- Pismo Beach
- San Luis Obispo

County unincorporated communities and census designated places (CDP) include:

- Avila Beach
- Blacklake
- Callender
- California Valley
- Cambria Cayucos
- Cholame
- Creston
- Edna Valley
- Garden Farms
- Halcyon
- Harmony
- Lake Nacimiento
- Los Berros
- Los Osos-Baywood Park
- Los Ranchos
- Nipomo
- Oak Shores
- Oceano
- Pozo
- San Miguel
- San Simeon
- Santa Margarita
- Shandon
- Templeton
- Whitley Gardens
- Woodlands

The County also contains a large number of Service Areas and Community Services Districts (CSDs). These CSD's provide many services for community members such as fire protection and ambulance services, garbage collection, water, wastewater management and utilities.

San Luis Coastal Unified School District services the communities of Avila Beach, Edna Valley, Los Osos and the Cities of Morro Bay and San Luis Obispo.

K. Utilities

The following companies provide utility services to the School District:

Table 3: Utility Providers

Utility	Provider
Electric	Pacific Gas and Electric
Natural Gas	Southern California Gas Company
Telephone	AT&T, SBC Pacific Bell, and Charter
Water and Wastewater Services	City of San Luis Obispo Utilities Department City of Morro Bay Utilities Division County of San Luis Obispo (wastewater in Los Osos)
Garbage	San Luis Garbage Company Morro Bay Garbage Mission Country Disposal

L. Climate and Weather

San Luis Obispo County boasts a perfect Mediterranean marine climate. Most days are warm and sunny with an average temperature of 70°F. The summers are pleasant and mild and winter daytime temperatures average about 60°F. As the School District encompasses both the Cities of San Luis Obispo and Morro Bay and the community of Los Osos, the climate varies based on location with Los Osos and Morro Bay having slightly cooler days than the City of SLO due to their close proximity to the Pacific Ocean.

Table 4: Climate

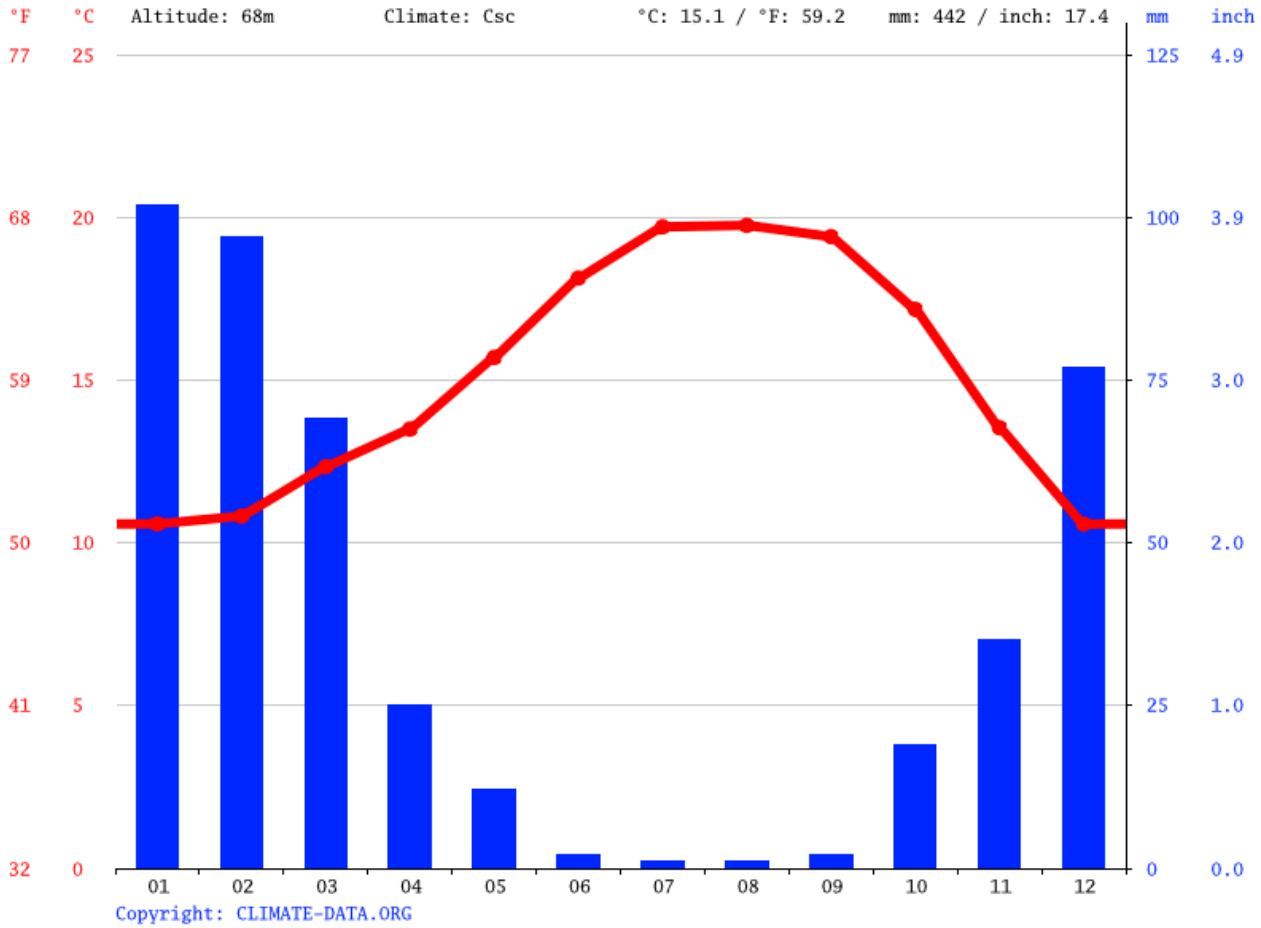
	City of San Luis Obispo	Los Osos	Morro Bay	United States
Rainfall-the annual rainfall in inches.	20	18	19	38
Snowfall-the annual snowfall in inches.	0	0	0	28
Precipitation -the avg. number of days with measurable precipitation over .01 inch	51	50	50	106
Sunny-the avg. number of days per year that are predominantly sunny.	287	286	284	205
Average July High	74	70	70	86
Average January Low	43	43	44	22
Comfort Index*-Higher values indicate a more comfortable year-round climate.	8.8	8.7	8.8	7
UV Index^- a measure of an area's exposure to the sun's ultraviolet rays.	5.3	5.3	5.3	4.3
Elevation-the elevation or altitude in feet.	233	131	62	2443

***In calculating comfort index, the average high and low temperatures for every day of the year were collect. The index uses the number of days annually where the high temperature fell within the commonly accepted comfort range of 70-80°F. Places were penalized for being hot and sticky, using summer dew point values.

^ This is a combination of sunny weather, altitude and latitude.

Source: Bestplaces.net: 2021 Compare Cities Climate (2019 data)

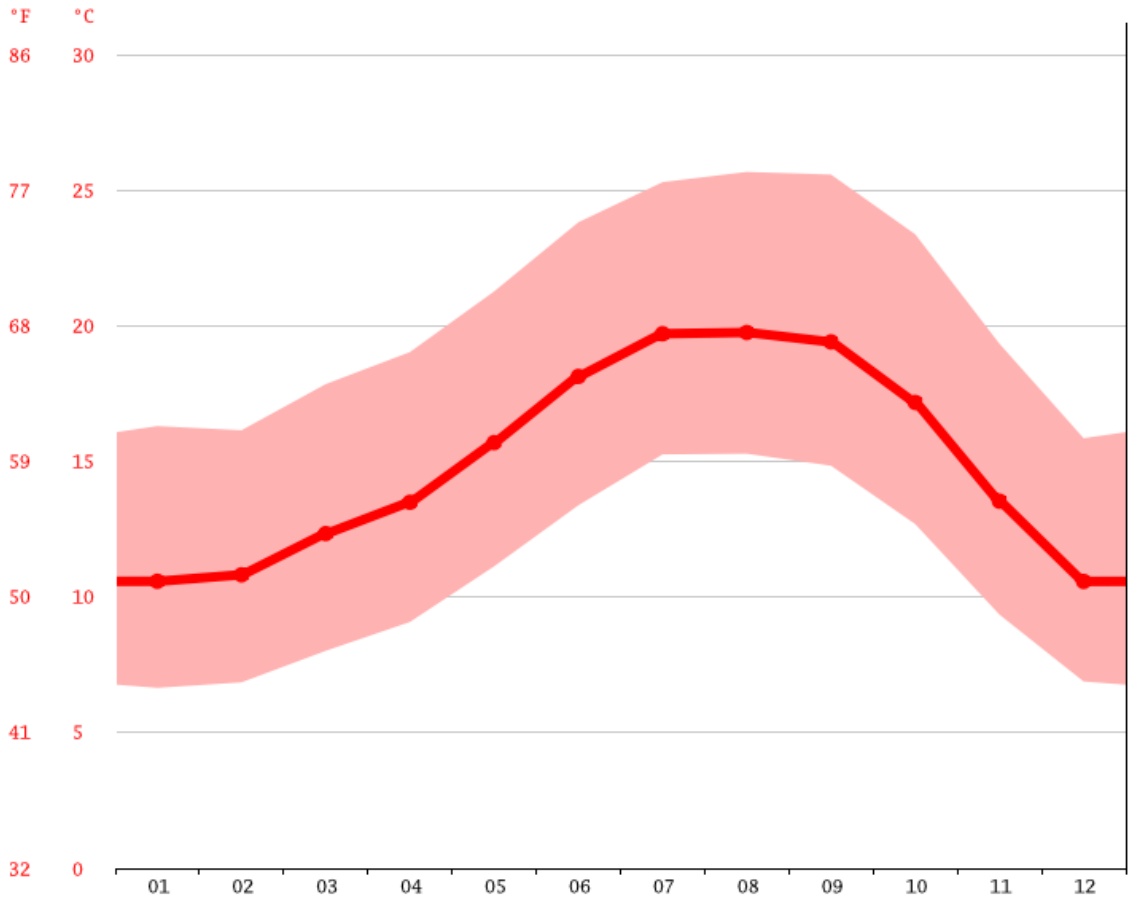
Annual Rainfall and Temperature Graph for San Luis Obispo County



The Annual Average Rainfall for communities within the District ranges from 18 to 22 inches. The driest month is July. There is 1 mm | 0.0 inch of precipitation in July. Most precipitation falls in January, with an average of 102 mm | 4.0 inch.

Source: Climate-data.org (2021)

Average Temperature-San Luis Obispo County



With an average of 19.8 °C | 67.6 °F, August is the warmest month. In December, the average temperature is 10.6 °C | 51.0 °F. It is the lowest average temperature of the whole year.

Source: Climate-data.org (2021)

Table 5: Weather Averages-San Luis Obispo County

	January	February	March	April	May	June	July	August	September	October	November	December
Average Temperature	10.6 °C (51) °F	10.8 °C (51.5) °F	12.3 °C (54.2) °F	13.5 °C (56.3) °F	15.7 °C (60.2) °F	18.1 °C (64.6) °F	19.7 °C (67.5) °F	19.8 °C (67.6) °F	19.4 °C (66.9) °F	17.2 °C (62.9) °F	13.5 °C (56.4) °F	10.6 °C (51) °F
Minimum Temperature	6.6 °C (44) °F	6.9 °C (44.3) °F	8 °C (46.4) °F	9.1 °C (48.3) °F	11.1 °C (52) °F	13.4 °C (56.1) °F	15.3 °C (59.5) °F	15.3 °C (59.5) °F	14.8 °C (58.7) °F	12.7 °C (54.8) °F	9.4 °C (48.8) °F	6.9 °C (44.4) °F
Maximum Temperature	16.3 °C (61.3) °F	16.1 °C (61.1) °F	17.8 °C (64.1) °F	19 °C (66.3) °F	21.3 °C (70.3) °F	23.8 °C (74.9) °F	25.3 °C (77.5) °F	25.7 °C (78.2) °F	25.6 °C (78) °F	23.4 °C (74.1) °F	19.3 °C (66.8) °F	15.9 °C (60.5) °F
Precipitation / Rainfall mm (in)	102 (4)	97 (3.8)	69 (2.7)	25 (1)	12 (0.5)	2 (0.1)	1 (0)	1 (0)	2 (0.1)	19 (0.7)	35 (1.4)	77 (3)
Humidity(%)	70%	73%	70%	66%	64%	64%	67%	68%	65%	64%	66%	69%
Rainy days	6	6	4	3	1	0	0	0	0	1	3	5
Average Sun hours	7.7	7.8	9.0	9.9	10.6	11.1	10.8	10.3	9.6	9.0	8.2	7.4

The precipitation varies 101 mm | 4 inch between the driest month and the wettest month. The average temperatures vary during the year by 9.2 °C | 16.5 °F.

Source: Climate-data.org (2021)

M. Transportation Systems

U.S. Highway 101 is a major north-south highway that runs through the states of California, Oregon and Washington. This route is the north-south backbone of interregional and subregional circulation in SLO County. Other major transportation arteries in the County include State Highways 1, 33, 41, 46, 58, 166, 227 and 229.

San Luis Obispo County has three airports. San Luis Obispo County Regional Airport, McChesney Field is a newly built civil airport in the southern part of the City of SLO which currently serves three major airlines. This is the only commercial airport in the County. The airplane landing approach is in close proximity to Los Ranchos School. In the southern portion of the County, Oceano County Airport is a public airport in Oceano, which has a single runway, no control tower and is primarily used for general aviation. In the northern portion of the county is Paso Robles Municipal Airport which has two runways and one helipad.

San Luis Obispo also has Amtrak passenger rail service. San Luis Obispo station is located in the City of SLO. The station is the northern terminus of Amtrak's Pacific Surfliner which travels from San Diego to San Luis Obispo. This station also serves the Coast Starlight which runs from Los Angeles to Seattle, Washington. The train tracks are located in proximity to three schools in the District: Los Ranchos Elementary, Sinsheimer Elementary and San Luis Obispo High School.

The cities of Atascadero, Paso Robles and San Luis Obispo operate their own local bus services which connect with San Luis Obispo Regional Transit Authority (SLORTA) routes. Intercity service is provided by Greyhound.

N. Area Profile Considerations

The population growth of San Luis Obispo County is presently stagnate, similar to what is occurring throughout the State of California. 2020 marked the second year in a row that the County's population declined. The birthrate also dropped and elderly baby boomers passed away, some due to COVID-19. The State Department of Finance demographics unit claims that this is the fourth time since record-keeping began in the 1940's that San Luis Obispo County's population has decreased-three of those declines occurred over the past decade.

This decline in population growth translates into a decrease in student enrollment. From the 2018-2019 school year to the 2019-2020 school year, SLCUSD saw a drop of 43 students. This past year (2020-2021), all California schools saw their biggest enrollment decline as the result of the COVID-19 pandemic. Pandemic restrictions forced all public schools in SLO County to close their campuses and engage in online learning. Resultantly, the state experienced an enrollment decrease in kindergarten through 12th grade which was five times greater than their average enrollment in recent years. For San Luis Obispo County, this decrease in enrollment equates to the loss of millions of dollars in state funding for most of the County's school districts as the loss of one student typically equates to a loss of approximately $10,000 in state funding. The pandemic caused unemployment rates to temporarily shoot up, which likely forced many families to relocate to other cities with more affordable housing. School officials are hopeful that students who disenrolled in the 2020-21 school year will return in this fall. Because San Luis Coastal Unified School District is funded by local property taxes, they are shielded from the negative impact felt by the sharp declining enrollment.

Although SLO County school districts including SLCUSD are presently receiving COVID-19 relief funding from both federal and state governments, these are one-time funds which must be used in their allotted time period. The District is using the COVID-19 relief funding on measures which protect students and staff such as the purchase of personal protective equipment and enhanced sanitation. These funds enable local schools to save general fund dollars.

Source: San Luis Obispo Tribune: Population decreases in San Luis Obispo County-December 18, 2020.

Source: San Luis Obispo Tribune: SLO County schools may lose millions in funding after enrollment drop during COVID-March 29, 2021

O. Development Trends

During the 2013-14 school year, San Luis Coastal Unified School District worked with PMSM Architects to develop a new Facilities Master Plan. The process included updating educational specifications, conducting a needs assessment, and putting together a vision for potential facility plans throughout the district. The plan provides macro-level information about the buildings, grounds, existing conditions, and enrollment within the district and overlays it on each site to help visualize the potential transformation into a more optimal facility for teaching and learning. A website was created to centralize all the data in an easy to understand, readily accessible format. This document's primary purpose is to aid SLCUSD in making long-range facilities planning decisions about future new construction, modernization, and deferred maintenance projects.

Components of the Facilities Master Plan include:

1. Education Specifications

The Education Specifications focuses on two main points: (1) what and how are we teaching (2) what facilities are needed. These documents will be used by architects and planners as the guide to develop our projects. They were created through a collaborative effort of SLCUSD educators, administrators, facilities managers, parents, community members, planners, and architects.

The Education Specifications bridge the education program with physical requirements for 21st Century learning. Although this document covers development expected over the course of many years, it should be reviewed and updated annually in order for it to remain complimentary to the district's future programs as curriculum and educational trends and goals are modified.

2. Needs Assessment

Analysis of current facilities, landscaping, furnishings, equipment, and materials at each of the district's sites. The needs assessment rates each of these areas using a scale system.

3. Site Master Plans

The Site Master Plans overlays the needs assessments and educational specifications on each site to see how they can be transformed into an optimal facility based on the educational goals and objectives we have as a district and community. Following each plan is a budget for the possible projects at each site. These budgets are not an indication of actual plans and the list is not prioritized.

On June 24, 2014, the Board passed a resolution to place a General Obligation Bond measure (Measure D) on the November 2014 ballot. The measure was approved, authorizing the district to increase its debt by $177 million through issuing general obligation bonds in that amount. District officials estimated that an additional annual property tax levy of $49 per $100,000 of assessed property value would be required to repay these bonds.

With the total cost of the projects in the Facility Master Plan at close to $400 million, the Board created a prioritized list and continues to look for available funds to make progress on these needed improvements. San Luis Obispo High School and Morro Bay High School, which showed the greatest need have been the main focus. An earlier measure, Measure A, went to upgrading the elementary and middle schools, which overall are functioning effectively.

Utilizing the 2014 facility bond, SLCUSD has been steadily upgrading multiple school sites including repaving parking lots, installing energy efficient LED lights districtwide, creating new playgrounds and installing a new phone system with vastly improved capacity. Additionally, both San Luis Obispo and Morro Bay High schools are currently undergoing modernization which includes ADA compliance, security, fencing and gates, and lighting.

The District is currently in the process of updating their 2013-14 PMSM Facilities Master Plan. Preliminary findings indicate that Baywood Elementary School will need a major retrofit to provide a more secure campus. Additionally, the District anticipates upgrading and modernizing many of their facilities. The funding source for these projects may require the issuance of a voter approved General Obligation Bond in the near future.

As noted above declining enrollment coupled with and a lack of water and wastewater treatment capacity in the communities of Morro Bay, Los Osos has and will most likely continue to limit significant development in those portions of the District. The City of San Luis Obispo currently has five major subdivisions in process intended to create approximately1300 new single-family residences. These additional units will not require additional new school construction.

The District is automatically notified by the various planning departments of any new development that could potentially impact the District. The Superintendent of Business Services and the Director of Facilities serve as the liaison between the District and the County and Cities building departments.

Source: San Luis Coastal Unified School District Website, www.slcusd.org 2021

V. RISK ASSESSMENT

A. DMA 2000 Requirements

DMA Requirement §201.6(c)(2)(i):	The risk assessment shall include a description of the type of all natural hazards that can affect the jurisdiction.
DMA Requirement §201.6(c)(2)(i):	The risk assessment shall include a description of the location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.
DMA Requirement §201.6(c)(2)(iii):	For multi-jurisdictional plans, the risk assessment must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

B. Hazard Identification

The following natural and human-caused/technological hazards can impact this planning area:

- **Extreme Weather:**
  - **Extreme Heat**
  - **Freeze**
  - **Hail Storms**
  - **Snowfall**
  - **Thunderstorms**
  - **Windstorms**
  - **Coastal Erosion**
- **Wildland Fire**
- **Drought**
- **Tsunami**
- **Flood**
- **Earthquake:**
  - **Faulting**
  - **Liquefaction**
- **Cyber Security**
- **Utility Failure**
- **Nuclear Power Plant**
- **Hazardous Materials**
- **Active Shooter**

Natural Hazards Omitted:

While certain portions of the County are susceptible to landslides and sinkage, none of the District's facilities are located in areas that are threatened by these events thus they have been omitted from this plan.

In predicting the probability and severity of each hazard, the following guidelines have been utilized:

PROBABILITY

LOW: There has been no past history or very minimal record of the hazard event impacting the study area. However, the possibility of this hazard occurring, while limited, does exist.

MEDIUM: This hazard has impacted the study areas in the past, however the occurrence and impact has been limited. This hazard event may occur again in the future.

HIGH: Given the study area's past history of this hazard event impacting the area on a reoccurring basis, it is likely that this event will occur again.

SEVERITY

LOW: The damage is expected to be minimal. There is no expected loss of life and limited injuries to the general public. On-duty first responders or public works crews should be able to manage the event and deal with the impacts. Financial losses will be limited.

MEDIUM: The damage should be limited and confined to the community or neighboring jurisdictions. There may be life loss and injuries. San Luis Obispo County Mutual Aid resources should be able to manage the event or deal with the impacts. Financial losses could be significant.

HIGH: The damage could be widespread and severe. Multiple deaths and casualties may occur. Out of County Mutual Aid resources will most likely be required to manage the event or deal with the impacts. Financial losses are expected to be significant.

C. Climate Change-Global Warming

Global warming occurs when carbon dioxide (CO_2) and other air pollutants and greenhouse gases collect in the atmosphere and absorb sunlight and solar radiation that have bounced off the earth's surface. Normally, this radiation would escape into space, but these pollutants, which can last for years to centuries in the atmosphere, trap the heat and cause the planet to get hotter. That's what is known as the greenhouse effect.

Data gathered by NASA and NOAA indicate that the planet's average surface temperature has risen about 2.0 degrees Fahrenheit (1.1 degrees Celsius) since the late 19th century, a change driven largely by increased carbon dioxide and other human-made emissions into the atmosphere. Most of the warming happened in the past 35 years, with 16 of the 17 warmest years on record occurring since 2001. 2020 was found to be one of the warmest years in our planet's history.

Most of the warming in recent decades is very likely the result of human activities. In the United States, the burning of fossil fuels to make electricity is the largest source of heat-trapping pollution, producing about two billion tons of CO_2 every year. Coal-burning power plants are by far the biggest polluters. The country's second-largest source of carbon pollution is the transportation sector, which generates about 1.7 billion tons of CO_2 emissions a year.

Scientists agree that the earth's rising temperatures are fueling longer and hotter heat waves, more frequent droughts, heavier rainfall, and more powerful hurricanes. In 2015, for example, scientists said that the ongoing drought in California, the state's worst water shortage in 1,200 years, was intensified by 15 to 20 percent by global warming. Further, the odds of similar droughts happening in the future have roughly doubled over the past century. In 2016, the National Academies of Science, Engineering, and Medicine announced that it's now possible to confidently attribute certain weather events, like some heatwaves, directly to climate change.

The earth's ocean temperatures are getting warmer, which means that tropical storms can pick up more energy. It is possible that global warming could turn a category 3 storm into a more dangerous category 4 storm. In fact, scientists have found that the frequency of North Atlantic hurricanes has increased since the early 1980s, as well as the number of storms that reach categories 4 and 5. In 2005, Hurricane Katrina, the costliest hurricane in U.S. history, struck the city of New Orleans. The second costliest was Hurricane Sandy which pummeled the East Coast in 2012.

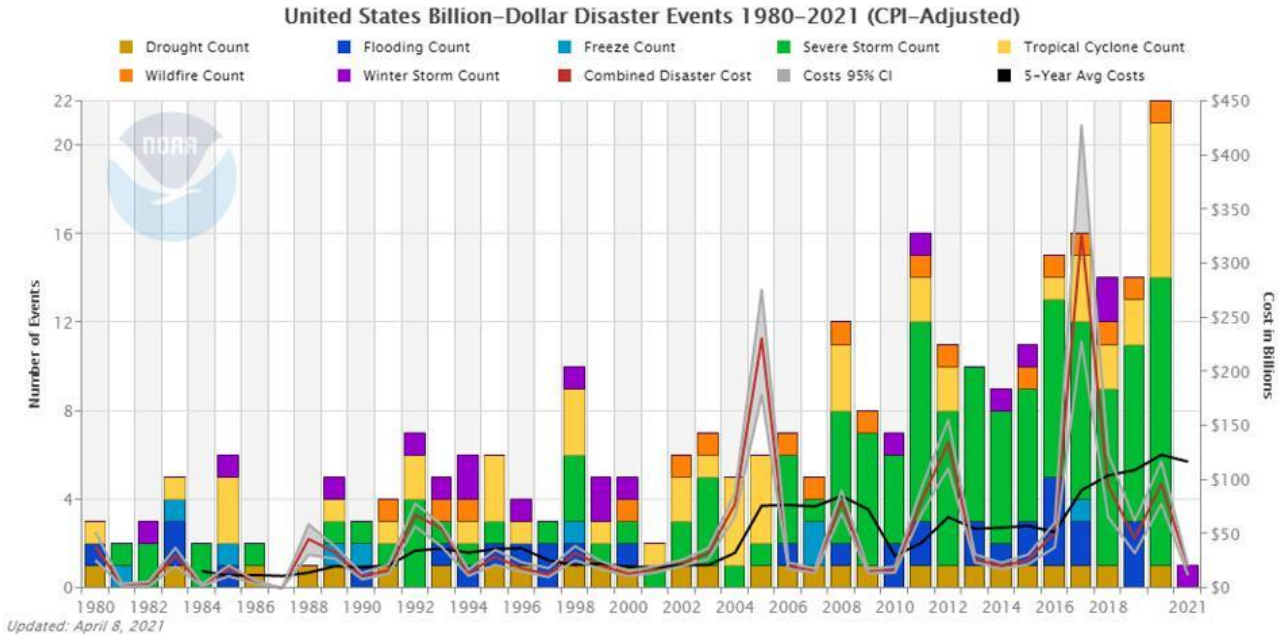
Source: NASA – Global Climate Change 2018

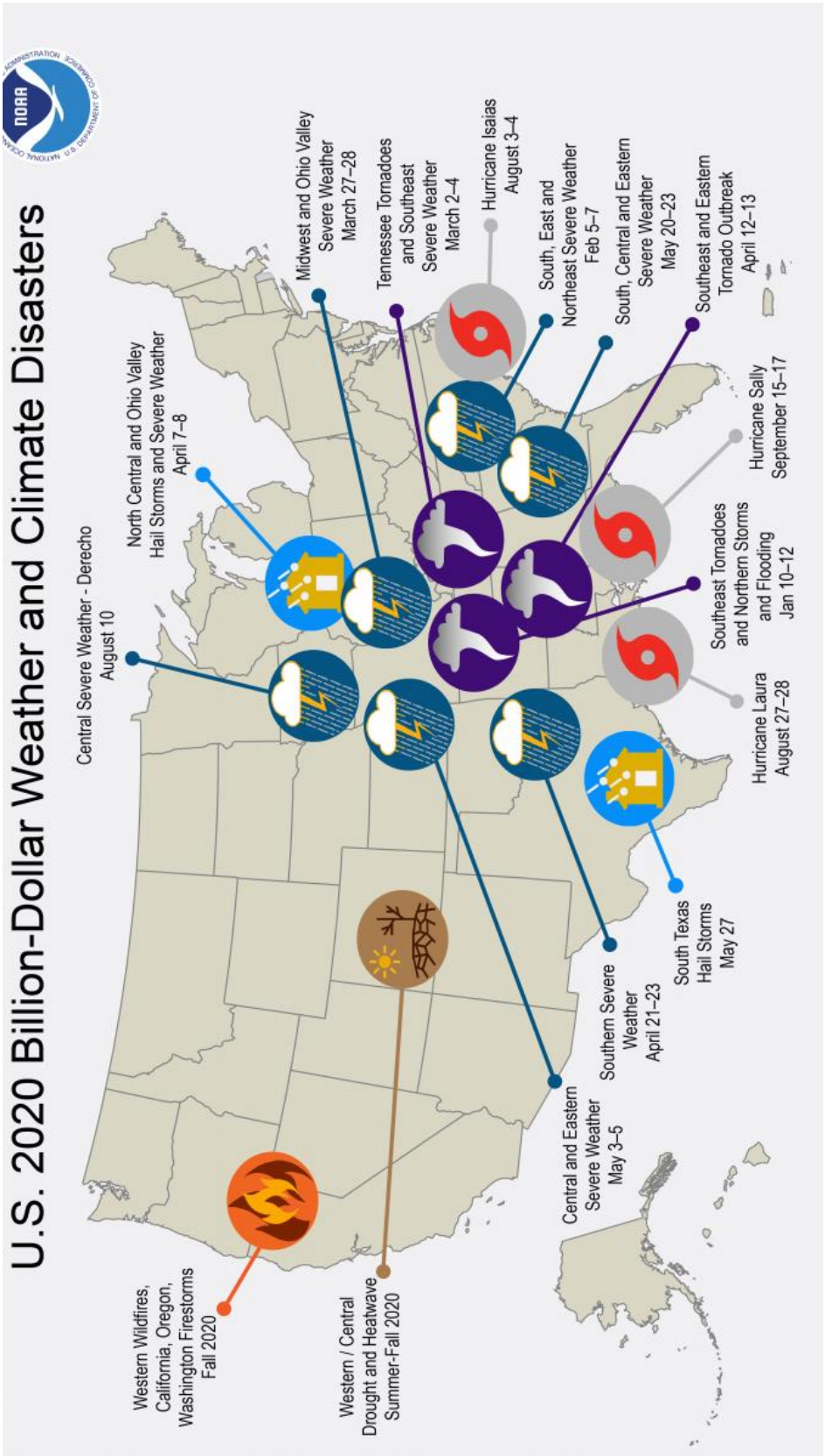
Each year, scientists learn more about the consequences of global warming, and many agree that environmental, economic, and health consequences are likely to occur if current trends continue. These impacts include:

- Melting glaciers, early snowmelt, and severe droughts will cause more dramatic water shortages and increase the risk of wildfires in the American West.
- Forests, farms, and cities will face troublesome new pests, heat waves, heavy downpours, and increased flooding. All these factors will damage or destroy agriculture and fisheries.
- Disruption of habitats such as coral reefs and Alpine meadows could drive many plant and animal species to extinction.
- Allergies, asthma, and infectious disease outbreaks will become more common due to increased growth of pollen-producing ragweed, higher levels of air pollution, and the spread of conditions favorable to pathogens and mosquitoes.

The impacts of global warming are being felt across the globe. Extreme heat waves have caused tens of thousands of deaths around the world in recent years. In July of 2021 the Pacific Northwest of the United States experienced a record shattering heat wave. Over 60 weather stations reported their highest ever recorded temperatures. And in an alarming sign of events to come, Antarctica has been

losing about 134 billion metric tons of ice per year since 2002. This rate could speed up if the population continues burning fossil fuels at the current pace, some experts claim, causing sea levels to rise several meters over the next 50 to 150 years.




U.S. 2020 Billion-Dollar Weather and Climate Disasters
Central Severe Weather - Derecho
August 10
North Central and Ohio Valley
Hail Storms and Severe Weather
April 7–8
Midwest and Ohio Valley
Severe Weather
March 27–28
Tennessee Tornadoes
and Southeast
Severe Weather
March 2–4
Hurricane Isaias
August 3–4
South, East and
Northeast Severe Weather
Feb 5–7
South, Central and Eastern
Severe Weather
May 20–23
Southeast and Eastern
Tornado Outbreak
April 12–13
Hurricane Sally
September 15–17
Southeast Tornadoes
and Northern Storms
and Flooding
Jan 10–12
Hurricane Laura
August 27–28
South Texas
Hail Storms
May 27
Southern Severe
Weather
April 21–23
Central and Eastern
Severe Weather
May 3–5
Western / Central
Drought and Heatwave
Summer-Fall 2020
Western Wildfires,
California, Oregon,
Washington Firestorms
Fall 2020

Sea Level Rise Projections for California

Tide gauges and satellite observations show that in the past century, mean sea level in California has risen 8 inches (20 cm), keeping pace with the global rise. In the past 15 years however, mean sea level in California has remained relatively constant, and may have been suppressed due to factors such as offshore winds and other oceanographic complexities. Bromirski et al. postulate that persistent alongshore winds have caused an extended period of offshore upwelling that has both drawn coastal waters offshore and replaced warm surface waters with cooler deep ocean water. Both of these factors could offset the global sea level rise trend in this region. However, localized sea level suppression will not continue indefinitely. As the Pacific Decadal Oscillation, wind, and other conditions shift, California sea level will continue rising, likely at an accelerated rate. Sea level is projected to increase by 17 to 66 inches (42 to 167 cm) along much of the California coast by the year 2100. The reason for this is when water warms, it expands because of the thermal expansion of the upper levels of the ocean. That, in addition to melting glaciers and ice sheets in both hemispheres, pushes sea levels higher over time. The variation in sea level is a vital indicator of climate change.

Source: NRC 2012; Bromirski et al. 2011, 2012

Source: 2012 National Research Council Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future report

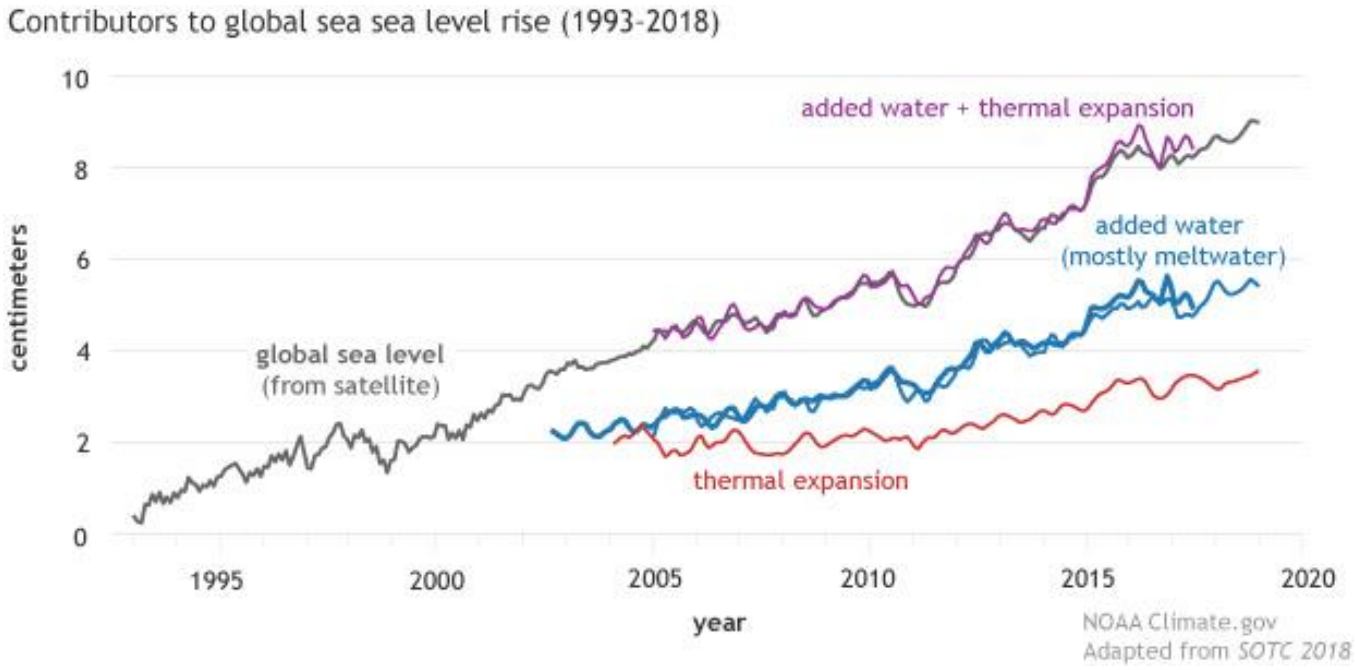


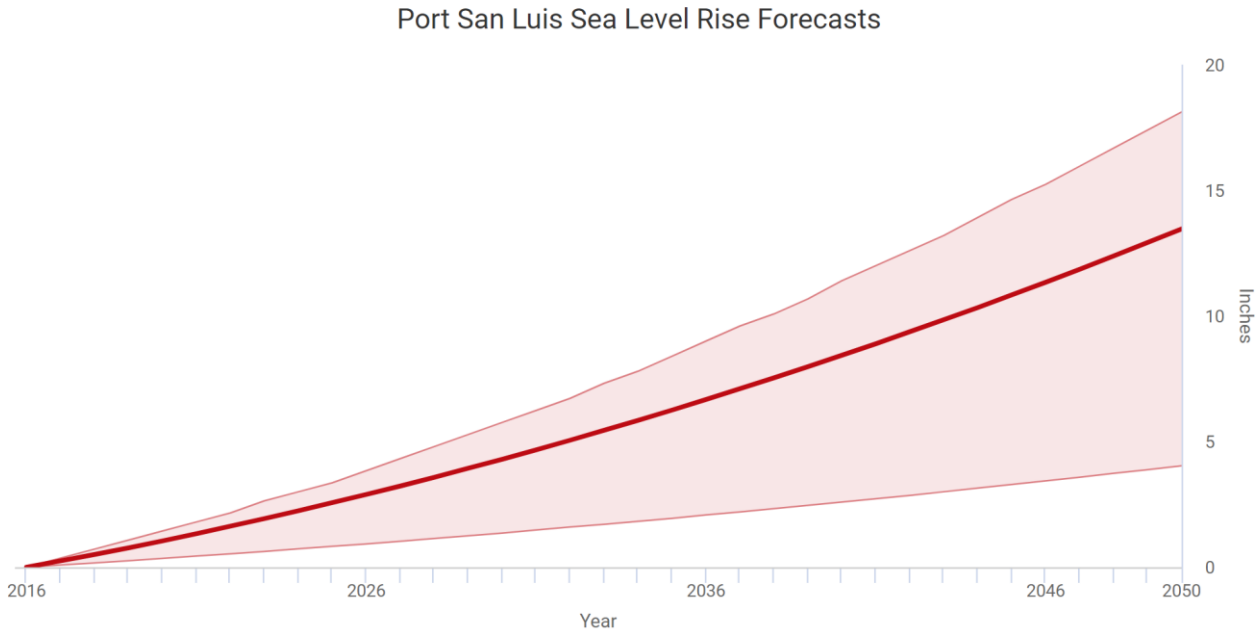
Table 6: Sea Level Rise Projections for California (NRC, 2012)

TIME PERIOD*	NORTH OF CAPE MENDOCINO	SOUTH OF CAPE MENDOCINO
By 2030	-2 – 9 in (-4 – +23 cm)	2 – 12 in (4 – 30 cm)
By 2050	-1 – 19 in (-3 – + 48 cm)	5 – 24 in (12 – 61 cm)
By 2100	4 – 56 in (10 – 143 cm)	17 – 66 in (42 – 167 cm)

*with Year 2000 as a baseline

Source: California Coastal Commission Sea Level Rise Policy Guidance, Aug. 12, 2015

Sea Level Rise Forecasts-Port San Luis



Source: https://sealevelrise.org/states/california/ (2021)

Impacts from sea level rise to the coastal zone include the following:

- Low lying coastal areas may experience more frequent flooding (temporary wetting) or inundation (permanent wetting), and the inland extents of 100-year floods may increase.

- Riverine and coastal waters come together at river mouths, coastal lagoons, and estuaries and higher water levels at the coast may cause water to back up and increase upstream flooding. In time, Morro Bay High School could well be threatened with flooding.

- Drainage systems that discharge close to sea level could have similar problems, and inland areas may become flooded if outfall pipes back up with salt water.

- Sea level could cause saltwater to enter into groundwater resources or aquifers.

2nd Street Boat Pier, Los Osos/South Morro Bay-King Tides of December 2019

Source: https://twitter.com/dexternatasha/status/809504000374472704

Conclusion

Climate Change-Global warming will undoubtedly have an impact on the naturally occurring hazards in the District. Anticipated effects include changes in the range and distribution of plants and animals (pests), and rainfall patterns/intensities (droughts and floods). Public Health impacts can also be expected. Extreme periods of heat and cold, storms, and smoke from fire will have impacts on climate-sensitive diseases and respiratory illnesses. More specific information on impacts can be found in the Extreme Weather and Flood Hazard Profiles of this plan.

D. Hazard Profiles: Naturally Occurring Hazards

➢Hazard: EARTHQUAKE

Severity: Medium	Probability: High	Priority: High

Hazard Definition

An earthquake is a sudden, rapid shaking of the ground caused by the breaking and shifting of rock beneath the earth's surface or along fault lines. For hundreds of millions of years, the forces of plate tectonics have shaped the earth as the huge plates that form the earth's surface move slowly over, under, and past each other. Sometimes the movement is gradual. At other times, the plates are locked together, unable to release the accumulating energy. When the amassed energy grows strong enough, the plates break free causing the ground to shake. Most earthquakes occur at the boundaries where the plates meet, commonly called faults. However, some earthquakes occur in the middle of plates.

Fault

A fault is a fracture in the earth's crust along which movement has occurred either suddenly during earthquakes or slowly during fault creep. Cumulative displacement may be tens or even hundreds of miles if movement occurs over geologic time. However, individual episodes are generally small, usually less than several feet, and are commonly separated by tens, hundreds, or thousands of years. Damage associated with fault-related ground rupture is normally confined to a fairly narrow band along the trend of the fault. Structures are often not able to withstand fault rupture and utilities crossing faults are at risk of damage. Fault displacement involves forces so great that it is generally not feasible (structurally or economically) to design and build structures to accommodate this rapid displacement. Fault displacement can also occur in the form of barely perceptible movement called "fault creep." Damage by fault creep is usually expressed by the rupture or bending of buildings, fences, railroads, streets, pipelines, curbs, and other linear features.

The California Geological Survey (CGS) is charged with recording and mapping faults throughout California. The Alquist-Priolo Earthquake Fault Zoning (AP) Act was passed into law following the destructive February 9, 1971 magnitude 6.6 San Fernando earthquake. The AP Act provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the AP Act is to ensure public safety by prohibiting the placement of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. Fault zoning is continually updated and reviewed by CGS and it is likely that other faults in addition to those currently listed by CGS will be added to the list in the future.

Historically active faults are generally thought to present the greatest risk for future movement and, therefore, have the greatest potential to result in earthquakes. Active and potentially active faults in San Luis Obispo County are shown on the map found at the end of this section. Included are the following:

The primary active faults within the County identified by the AP Act include the San Andreas, San Simeon-Hosgri, and Los Osos faults. Two recent studies performed by CGS have estimated the maximum credible ground acceleration that could be generated by active and potentially active faults. Deterministic peak horizontal ground accelerations from these studies range from a low of 0.4 g in the central portion of the County to a high of about 0.7 g along the San Andreas, Rinconada, Oceanic-West Huasna, and coastal fault zones.

The closest mapped active fault to the District is the Los Osos fault zone which is described as a series of discontinuous, sub parallel fault traces that extend from the offshore Hosgri fault zone to Lopez Reservoir, a distance of about 35 miles. The fault zone is subdivided into the following four segments: Estero Bay, Irish Hills, Lopez Reservoir, and Newsom Ridge. The Irish Hills segment of the Los Osos fault is about 10 to 12 miles long and extends from the Pacific Ocean near Los Osos eastward to San Luis Creek. This segment of the fault forms the boundary between the Los Osos Valley and the Irish Hills. Portions of the fault east of Los Osos near the City of San Luis Obispo have been zoned active and designated as an Alquist-Priolo earthquake fault hazard zone by the CGS. The entire length of the Los Osos fault is a potential source of high ground motion.

Source: Geology Analysis – County of San Luis Obispo, Los Osos Wastewater Treatment Plant. November 14, 2008

The San Simeon-Hosgri Fault is an offshore fault zone located near the Central Coast of California in San Luis Obispo County. The main fault stretches for about 87 miles (140 km), and is located nearest to the coastal communities of Cambria, San Simeon, Morro Bay, Baywood Park-Los Osos and Avila Beach. The fault system (including its branches) is approximately 260 miles (420 km) long, and is a right-lateral strand of the San Andreas Fault system.

The Shoreline Fault is a 25 km long vertical strike-slip fault discovered in 2008 that lies less than a mile from the Diablo Canyon Nuclear Power Plant in California which is owned and operated by Pacific Gas and Electric Company (PG&E). It is thought to be able to produce quakes of up to 6.8 magnitude.

In the southern portion of the County, a number of faults could impact the District and merit discussion including the Oceano, Wilmar/Pismo, and Shoreline faults. A mapped fault in the vicinity of neighboring Oceano and Arroyo Grande is the Oceano fault. The buried trace of this potentially active fault is anticipated to strike northwest along the southwestern side of the Cienaga Valley about 1,000 meters southwest of Oceano, and offshore near the mouth of Arroyo Grande Creek. Although the fault is classified as potentially active by CGS, review of the Oceano fault suggests that the fault is inactive. The Oceano fault presents a very low fault rupture hazard to the School District.

The other mapped faults within the South County area are the potentially active Wilmar Avenue fault and the inactive Pismo fault. The Wilmar Avenue fault is exposed in the sea cliff near Pismo Beach and the buried trace of the fault is inferred to strike northwest-southeast parallel and adjacent to U.S. Highway 101 beneath portions of Arroyo Grande.

Liquefaction

Liquefaction occurs when ground shaking causes the mechanical properties of some fine grained, saturated soils to liquefy and act as a fluid. It is the result of a sudden loss of soil strength due to a rapid increase in soil pore water pressures caused by ground shaking. In order for liquefaction to occur, three general geotechnical characteristics must exist: 1) ground water should be present within the potentially liquefiable zone, 2) the potentially liquefiable zone should be granular and meet a specific range in grain-size distribution, and 3) the potentially liquefiable zone should be of low relative density. If those factors are present and strong ground motion occurs, then those soils could liquefy depending upon the intensity and duration of the strong ground motion. Liquefaction that produces surface effects generally occurs in the upper 40 to 50 feet of the soil column, although the phenomenon can occur deeper than 100 feet. The duration of ground shaking is also an important factor in causing liquefaction to occur. The larger the earthquake magnitude, and the longer the duration of strong ground shaking, the greater the potential there is for liquefaction to occur.

The areas of San Luis Obispo County most susceptible to the effects of liquefaction are those areas underlain by young, poorly consolidated, saturated granular alluvial sediments. These soil conditions are most frequently found in areas that have been inundated with river and flood plain deposits. The vast majority of the District's facilities are not located in areas susceptible to liquefaction; the exception being Morro Bay High School.

Damage to a home in Oceano caused by liquefaction resulting from the 2003 San Simeon Earthquake

Maps which delineate the areas of San Luis Obispo County that are susceptible to liquefaction can be found at the end of this section.

History

Where earthquakes have struck before, they will strike again. The Central California Coast has a history of damaging earthquakes, primarily associated with the San Andreas Fault. However, there have been a number of magnitude 5.0 to 6.5 earthquakes on other faults which have affected large portions of the Central Coast. Recent events include the December 2003 - 6.5 magnitude San Simeon Earthquake and the September 2004 - 6.0 magnitude Parkfield Earthquake.

The following are historic earthquakes that impacted San Luis Obispo County:

1830 San Luis Obispo Earthquake
The 1830 earthquake is noted in the annual report from the Mission, and had an estimated magnitude of 5. The location of the event is poorly constrained and cannot be attributed to a specific fault source, but the earthquake reportedly occurred somewhere near San Luis Obispo.

1857 Fort Tejon Earthquake
The approximate 7.9 magnitude Fort Tejon earthquake of 1857 was one of the greatest earthquakes ever recorded in the United States. It left a surface rupture scar over 350 kilometers (210 miles) in length along the San Andreas Fault and a maximum surface offset of about 9 meters (30 feet). Yet, despite the immense scale of this quake, only two people were reported killed by the effects of the shock. The exact location of the epicenter is not known. The event is referred to as the Fort Tejon earthquake, because that was the location of the greatest damage. There is evidence to suggest that the epicenter may have been in the Cholame and Parkfield area, which is located in and near the northeastern portions of San Luis Obispo County as a number of foreshocks, 1 to 9 hours before the main event, were report in this area. The fact that only two lives were lost was primarily due to the nature of the quake's setting. California in 1857 was sparsely populated, especially in the regions of strongest shaking, and this fact, along with good fortune, kept the loss of life to a minimum. The effects of the quake were quite dramatic, even frightening. Were the Fort Tejon shock to happen today, the damage would easily run into billions of dollars, and the loss of life would likely be substantial, as the present-day communities of Wrightwood, Palmdale, Frazier Park, and Taft (among others) all lie upon or near the 1857 rupture area.
Source: http://www.data.scec.org/significant/forttejon1857.html

1906 San Francisco Earthquake
This earthquake has been studied in detail and the effects in San Luis Obispo County have been documented. Modified Mercalli intensity ratings ranged from III-IV in the inland and north coast portions of the County, and IV-V in the south coast areas. The higher intensities were felt in areas underlain by alluvial soil, while the lower intensities occurred in areas underlain by bedrock formations.

1916 Avila Beach Earthquake
This magnitude 5.1 event occurred offshore of Avila Beach in San Luis Bay. The earthquake reportedly resulted in tumbling smokestacks of the Union Oil Refinery at Port San Luis, and a landslide

that blocked the Pacific Coast railroad tracks. The maximum intensity appears to be approximately VI, but the available descriptions of the shaking are somewhat limited.

1925 Santa Barbara Earthquake
This magnitude 6.5-6.8 earthquake destroyed the downtown of the City of Santa Barbara in neighboring Santa Barbara County and 13 people lost their lives.

1952 Arvin-Tehachapi Earthquake
This 7.7 magnitude earthquake occurred on the White Wolf fault, located south and west of Bakersfield. Throughout most of the San Luis Obispo County, ground shaking intensities of VI were felt. Intensities of IV-V were experienced in the northwest portion of the County, and magnitude VIII intensities were felt in the Cuyama area, in the southeast portion of the County. The higher intensities were likely due to closer proximity to the earthquake epicenter.

1952 Bryson Earthquake
This magnitude 6.2 earthquake likely occurred on the Nacimiento fault, and resulted in intensity ratings of VI throughout most of the western portion of the County. Intensities of IV-V were experienced in the eastern portion of the County. Higher intensities were generally felt in the coastal valley areas that are underlain by alluvial soils.

2003 San Simeon Earthquake
The San Simeon Earthquake struck at 11:15 a.m. on December 22, 2003. The magnitude 6.5 earthquake is attributed to having occurred near the San Simeon/Oceanic/Hosgri Fault system. The epicenter was approximately six miles from the community of San Simeon. As a result of the quake Cambria experienced a residential structure fire, and several commercial and residential buildings were damaged. Some roadways were obstructed and debris blocked some streets. This earthquake resulted in 2 deaths in the City of Paso Robles and water/wastewater infrastructure in the community of Oceano suffered a three-million-dollar loss.

1934, 1966 and 2004 Parkfield Earthquakes
These earthquakes were all three in the range of magnitude 6.0 and occurred on the San Andreas Fault in or near the northeast corner of the County. Earthquake intensities generally conformed to anticipated characteristics for events of this size, with intense shaking (VII-VIII) being limited to a relatively small area near the epicenters of the quakes. Moderate shaking was experienced in most of the central and western parts of the County. A variation from the expected intensity characteristics was experienced in the La Panza area during the 1934 earthquake. La Panza is approximately 40 miles south of the fault rupture area, but experienced earthquake intensities of VII.

Other Earthquakes
Earthquakes which have occurred outside yet were felt within the County during the last century include events such as the 7.0 Lompoc earthquake in 1927, and the 7.7 Arvin Tehachapi earthquake of 1952. Other more recent earthquakes, such as the 1983 - 6.7 Coalinga earthquake, 1989 - 7.1 Loma Prieta earthquake, 1992 - 7.5 Landers earthquake and the 1994 - 6.6 Northridge earthquake were felt in San Luis Obispo County, however, there was no damage to structures.

Hazard Potential

The Hazard Potential for earthquakes is dependent upon a multitude of factors. A brief description of those factors is presented below. The extent of damage can be extensive and is contingent upon the following circumstances:

- **Earthquake Magnitude**
  Earthquake magnitude, as generally measured by either the Richter or Moment Magnitude scale, is a measurement of energy released by the movement of a fault. As the amount of energy released by an earthquake increases, the potential for ground shaking impacts also increases.

- **Distance from Epicenter**
  Earthquake energy generally dissipates (or attenuates) with distance from a fault. Over long distances, this loss of energy can be significant, resulting in a significant decrease in ground shaking with increased distance from the epicenter.

- **Duration of Strong Shaking**
  The duration of the strong ground shaking constitutes a major role in determining the amount of structural damage and the potential for ground failure that can result from an earthquake. Larger magnitude earthquakes have longer durations than smaller earthquakes.

- **Effects of Ground Shaking**
  The primary effect of ground shaking is the damage or destruction of buildings, infrastructure, and possible injury or loss of life. Building damage can range from minor cracking of plaster to total collapse. Disruption of infrastructure facilities can include damage to utilities, pipelines, roads, and bridges. Ruptured gas and water lines can result in fire and scour/inundation damage, respectively, to structures. Secondary effects can include geologic impacts such as co-seismic fault movement along nearby faults, seismically induced slope instability, liquefaction, lateral spreading, and other forms of ground failure and seismic response.

- **Local Geologic Conditions**
  The geologic and soil conditions at a particular site have the potential to substantially increase the effects of ground shaking. The thickness, density, and consistency of the soil, as well as shallow ground water levels, have the potential to amplify the effects of ground shaking depending on the characteristics of the earthquake. In general, the presence of unconsolidated soils above the bedrock surface can amplify the ground shaking caused by an earthquake.

- **Fundamental Periods**
  Every structure has its own fundamental period or natural vibration. If the vibration of ground shaking coincides with the natural vibration period of a structure, damage to the structure can be greatly increased. The extent of damage suffered during an earthquake can also depend on non-geologic factors. The type of building and its structural integrity will influence the severity of the damage suffered. Generally, small, well-constructed, one and two-story wood and steel frame buildings have performed well in earthquakes because of their light weight and

flexibility. Reinforced concrete structures also usually perform well. Buildings constructed from non-flexible materials, such as unreinforced brick and concrete, hollow concrete block, clay tile, or adobe, are more vulnerable to earthquake damage.

Impacts on People and Housing

In any earthquake, the primary consideration is saving lives. Time and effort must also be dedicated to providing for social issues such as reuniting families, providing shelter to displaced persons, and restoring basic needs and services. Major efforts will be required to remove debris and clear roadways, demolish unsafe structures, assist in reestablishing public services and utilities, and provide continuing care and temporary housing for affected citizens.

Effects on Commercial and Industrial Structures

After any earthquake, individuals are likely to lose wages due to the inability of businesses to function because of damaged goods and/or facilities. With business losses, the County of San Luis Obispo will lose revenue. Economic recovery from even a minor earthquake will be critical to the communities involved.

Effects on Infrastructure

The damage caused can lead to the paralysis of the local infrastructure: police, fire, medical and governmental services. Additionally, despite the fact that all of the District's facilities have reinforced masonry, damage to any of the schools could still occur.

Effects on Agriculture

Earthquakes can cause loss of human life, loss of animal life, and property damage to structures and land dedicated to agricultural uses. The most significant long-term impacts on agriculture from earthquakes are those that arise from the cascading effects of fire and flood.

Unreinforced Masonry Buildings

Unreinforced masonry building type structures consist of buildings made of unreinforced concrete and brick, hollow concrete blocks, clay tiles, and adobe masonry. Buildings constructed of these materials are heavy and brittle, and typically provide little earthquake resistance. In small earthquakes, unreinforced buildings can crack, and in strong earthquakes, they have a tendency to collapse. These types of structures pose the greatest structural risk to life and safety of all general building types. Non-structural items and building components can also influence the amount of damage that buildings suffer during an earthquake. Unreinforced parapets, chimneys, facades, signs, and building appendages can all be shaken loose, creating a serious risk to life and property.

Compliant with the State of California's Alquist-Priolo Special Studies Zone Act, the inventorying and public notification of these structures, based on the probability of a damaging quake occurring, is required. The District does not own or operate any unreinforced masonary buildings.

Relationship to Other Hazards – Cascading Effects

Earthquakes can cause many cascading effects such as both wildland and structure fires, flooding, hazardous materials spills, utility disruptions, landslides, and transportation emergencies. Ground shaking may cause tsunamis or seiche, the rhythmic sloshing of water in lakes or bays. Economic impacts to a community through the loss of property and sales tax revenues from damaged businesses can be significant.

Plans and Programs in Place

The San Luis Obispo County Office of Emergency Services (OES) and the various fire and law enforcement agencies that serve the District, in coordination with local, state, and federal emergency response organizations, continually work to better prepare all of San Luis Obispo County for the impacts of a significant earthquake event.

The schools are reviewed and regulated by the Department of State Architects. Additionally, fire departments under the authority of the State Fire Marshal review access and fire hydrant placement. They also conduct annual inspections.

The first responder agencies serving the District regularly train on building collapse awareness, light rescue techniques, mass casualty triage and treatment, and have a limited amount of equipment and resources available to facilitate heavy rescue operations.

The District has Memorandums of Understanding (MOUs) in place with the American Red Cross for utilization of various school sites as Shelter-Welfare Centers in the event of a major earthquake or any other emergency event that could require an evacuation or sheltering of the public.

On an annual basis, as required by state law, a thorough earthquake readiness inspection is completed at all District facilities. A detailed Earthquake Response Plan for San Luis Obispo County is in place, developed by the Office of Emergency Services. The Plan is coordinated with the State of California Earthquake Plan.

Impacts of Climate Change

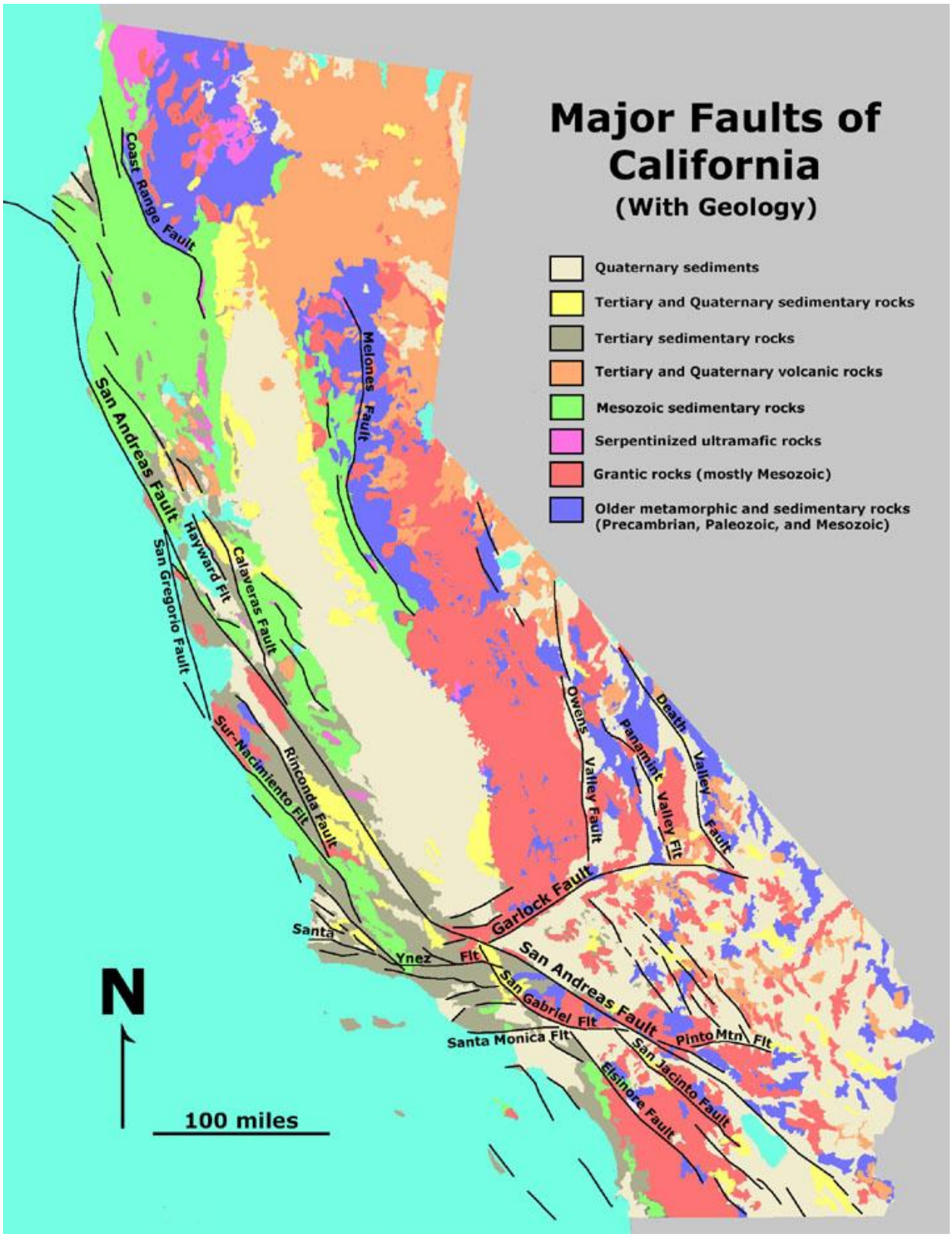
The Climate Change impacts on earthquake probability are unknown. Sea level change may be influential, causing increased pressure on coastal faults. More study is required.

Future Probability - Risk Assessment Conclusion

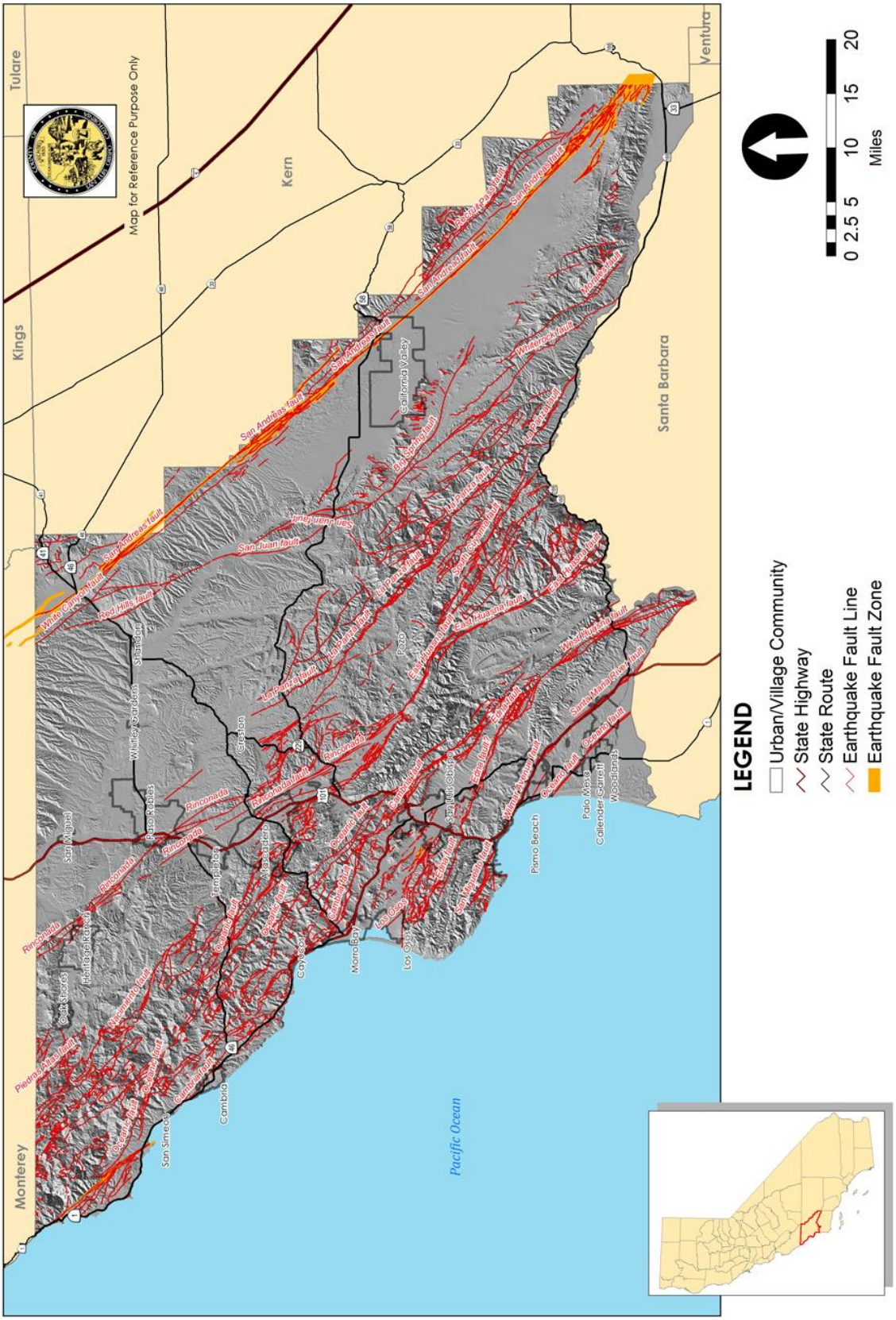
Over the past 100 years, 13 earthquakes of magnitude 5 or greater have occurred within the County and/or surrounding areas. Based on this historical data of damaging earthquakes and the fact that District is located within a seismically active region, the probability is rated **High**.

Both direct and indirect consequences of a major earthquake will severely stress the resources of the District, the public safety agencies serving the District, and the County as a whole and will require a

high level of self-help, coordination and cooperation. Outside assistance from other local, regional, state, federal and private agencies may be delayed by more than 72 hours, depending upon the regional severity of the earthquake. Given the significant resources directed to earthquake proofing the current facilities and based on the fact that students and staff do not live in the properties at risk the severity is rated as **Medium.**



California Major Faults Map



Earthquake Zones and Fault Lines

Liquefaction Risk Map

➢Hazard: FLOOD

Severity: Low	Probability: Medium	Priority: Medium

Hazard Definition

A flood is defined as an overflowing of water onto an area of land that is normally dry. Floods on the Central Coast are generally natural weather-related causes attributed to a series of sustained winter storms or an atmospheric river capable of producing extreme rainfall rates. If combined with a recent wildfire to the areas' watershed, it will further exacerbate the potential for flooding and debris flow. Floods can also result from human causes such as a dam impoundment bursting.

Rainfall and inclement weather are primarily seasonal phenomena in the study area which boasts a mild Mediterranean climate. Generally, the rainy season is from November through March. The yearly rainfall average for communities within the planning area ranges from 18 to 22 inches, however much higher amounts can be expected in the coastal mountains to the north and east of the District. For example, Lopez Lake, located to the south will often receive 30 to 40 inches of rainfall in a year.

Many factors can increase the severity of floods including: fires in watershed areas, the placement of structures or fill material in flood-prone areas, and tidal or storm influence in low-lying coastal areas. Sea level rise due to global warming is likely to have minimal flood impact on most of the District with the exception of Morro Bay High School and Bellevue-Santa Fe Charter School.

For floodplain management purposes, the Federal Emergency Management Agency (FEMA) often uses the term "100-year flood" to describe the size or magnitude. These terms are misleading. It is not a flood that occurs once every 100 years. Rather, it is the flood elevation that has a 1 percent chance of being equaled or exceeded each year. Thus, a 100-year flood could occur more than once in a relatively short period of time.

The 100-year flood, which is the standard used by most federal and state agencies, is used by the National Flood Insurance Program (NFIP) as the standard for floodplain management and to determine the need for flood insurance.

Areas within the 100 and 500-year flood plain of the study area are found in the San Luis Obispo County Flood Hazard Map found in at the end of this section.

Table 7: Monthly Rainfall Averages for Communities within the District

	City of San Luis Obispo	Los Osos	City of Morro Bay	United States
Rainfall-the annual rainfall in inches	20	18	19	38
Snowfall-the annual snowfall in inches	0	0	0	28
Precipitation -the average number of days with measurable precipitation over .01 inch	51	50	50	106

Source: Bestplaces.net: 2021 Compare Cities Climate (data from 2019)

It is of interest to note that from 1981 to 2010 the San Luis Obispo - Cal Poly campus reported an average rain fall 23.62 inches. From 1991 to 2020 the average decreased to 20.65, a reduction of 14%. Weather stations throughout the planning area also report similar declines in average rainfall. A local meteorologist, John Lindsey, has noted that "These decreasing amounts of rainfall maybe attributed to climate change and reports that climate models consistently predict more prolonged droughts interrupted by intensity rain fall events"

History

There is a long history of flooding within the County of San Luis Obispo in the SLO Creek Watershed. Damaging floods have occurred in 1858-62, 1884, 1897, 1911, 1948, 1952, 1962, 1969, 1973, 1995, and 1998. Over the years, the study area has experienced flooding events that have resulted in extensive property damage. San Luis Obispo Creek and Morro Creek have a long, well-documented history of flooding and wreaking considerable havoc within the communities of San Luis Obispo and Morro Bay. These communities have invested heavily in flood control projects in an effort to minimize the damage caused by flooding events. Within the District, however it should be noted that to date flooding has not impacted directly any of the District's facilities. The parking lot on the property at Morro Bay High School flooded in 1969 and 1995. Although access to the school was cut off, the buildings never flooded.

Historical floods in the District and surrounding areas include:

January and February, 1969

In January of 1969, a series of storms delivered rainfall that totaled over 18 inches in the coastal areas of the County. In February, another series of storms delivered another 5 to 10 inches. Streets, highways, and utilities throughout the County were heavily damaged. The Army Corps of Engineers

reported that "…severe damages were sustained by streets, highways, and utilities throughout the County". The sewage-treatment plants at Morro Bay (next to Morro Bay High School), Avila Beach, and Pismo Beach were inundated by both floods. The destruction and damage of sewer lines and sewage-treatment plants at many locations posed a threat to the lives and health of many residents. Debris and raw sewage piled up on the beaches and carried in the streams posed serious threats to health until emergency cleanup operations were completed."

January, 1973
Much like the floods of 1969, the 1973 storm produced a ten-hour period of unusually heavy rainfall. Many creeks and streams throughout the County overtopped their banks and inundated a number of areas.

February 22, 1993
Cambria received 2.5 inches of rain in a two-hour period. Flash flooding occurred causing $500,000 damage to four businesses and several residences.

January and March, 1995
A series of powerful and slow-moving storms brought heavy rain and strong winds to all of Central California. The Morro Creek watershed, burned off by the High 41 Wildfire, did not absorb the rainfall and Morro Creek inundated the area around Morro Bay High School with flood waters and debris. According to the Morro Bay Fire Chief, the school did not actually flood but was isolated as the parking lots and access points were all flooded. Serious flooding also occurred along many coastal and inland streams. In March, 18 inches of rain fell in Cambria and the West Village was completely inundated, with water as deep as six feet on Main Street.

December 2005 and early January 2006
A series of storms battered the County. Most of the damage occurred New Year's Eve and day. High winds and saturated soils resulted in significant tree falls throughout the County causing heavy damage to a number of homes and businesses. There was one fatality which was the result of a tree falling on a pick-up truck while traveling on U.S. Highway 101.

March, 2001
Central and Southern California were significantly impacted by a powerful storm that delivered up to 6 inches of rain in some of the coastal areas of San Luis Obispo County. The mountain area of the County received even more, with reports of up to 13 inches. The heavy rain produced numerous flooding incidents. In Oceano, the Arroyo Grande Creek overflowed, destroying numerous crops and damaging one home. The Pacific Dunes RV Park flooded. In Arroyo Grande, flooding along Corbett Creek caused damage to four homes and five classrooms at Arroyo Grande High School. In Pismo Beach, Pismo Creek flooding damaged homes in Pismo Coast Village.

December, 2004
A quick moving and powerful storm brought flash flooding and heavy rain to the Central Coast of California. Rainfall amounts ranged from 1 to 3 inches on the coastal plains to 3 to 6 inches in the more mountainous regions of the county. Flooding problems were reported throughout the County.

December, 2010
A series of slow-moving storms brought heavy rain and strong winds to the County. The most severe damages began on December 19, with primarily affected areas in the South County, particularly in the Oceano area. Damages reported to Cal EMA were just over $2,000,000 in private property losses and an estimated cost and loss total to local governments of just over $1,100,000 for a total storm damage cost estimate of approximately $3,135,000.

February, 2017
Windstorm resulted in the downing of 50 large eucalyptus, cypress and pine trees in the village of Halcyon in the south county.

March, 2018
A late winter storm caused Morro Creek to overbank, flooding the mobile park located at Highway 1 and 41, 50 residents were evacuated. Chorro Creek flooded South Bay Blvd at the State Park Road resulting in the closure of both roads.

Flood Hazard Potential

The vast majority of the District is well drained being situated on gently sloping terrain with soils that allow for good drainage. Drainage problems in most of these gently sloped areas are a result of improper grading and are minor in nature. Two of the District's facilities have flooding potential:

- **Bellevue-Santa Fe Charter School**
  Located just north of the confluence of See Canyon and San Luis Obispo Creeks, with an elevation of approximately 50 feet, a very small portion of the property is located on FEMA Flood Maps with a ranking of "High Risk". There is no recorded history of flooding on the property. It should be noted that the property is located just outside/above the Tsunami inundation zone.

- **Morro Bay High School**
  Located north of the terminus of Morro Creek and the Pacific Ocean, with an elevation of approximately 20 feet, this property could well be flooded especially during a high tide or storm surge coupled with a heavy rain fall in the Morro Creek watershed. This series of circumstances did occur in January and February of 1969 and in March of 1995. While the school itself did not flood, access was cut off as the driveways and parking lots flooded.

Impacts and Effects

- **Effects on people and housing**
  Direct impacts of flooding can include injuries and loss of life, damage to property and health hazards from ruptured sewage lines and damaged septic systems. Secondary impacts include the cost and commitment of resources for flood fighting services, clean-up operations, and the repair or replacement of damaged structures. In addition, transportation routes to school may be compromised preventing students from being picked up from school thus requiring school sites to house students beyond normal periods.

- **Effects on commercial and industrial structures**
  Flooding can cause damage to commercial and industrial structures, vegetation, crops and livestock. Beach erosion results in the loss of sand from coastal areas. This hazard can accelerate the rate of erosion of coastal bluffs, and can also contribute to increased wave-related damage to coastal structures.

- **Effects on infrastructure**
  Flooding can cause damage to roads, communication facilities and other infrastructure.

- **Effects on agriculture**
  Impacts from flooding can be devastating to agriculture. Flooding can damage crops and livestock. In addition to the obvious impacts on crops and animals, flooding can have deleterious effects on soil and the ability to reinvigorate the agricultural activities impacted once the flood waters recede. Damage to water resources such as underground irrigation systems, water storage reservoirs, springs and other natural water bodies could have a serious effect upon agriculture operations.

Dam Failure and Levee Failure

None of the District's facilities are located in Dam or Levee inundation zones.

Please see Flood Zone Map found at the end of this section.

Relationship to Other Hazards - Cascading Effects

While there are some benefits associated with flooding, such as the replenishment of beach sand, and the supplement of nutrients to agricultural lands, it is generally considered a hazard to development in flood plain areas. Floods can cause many cascading effects. Fire can break out as a result of dysfunctional electrical equipment. Hazardous materials can also get into floodways, causing health concerns and polluted water supplies. In many instances during a flood, the drinking water supply will be contaminated**.** Other problems and hazards associated with flooding and inclement weather include: utility disruptions, broken power lines lying on the ground, and communication system failures.

High winds often accompany winter storms and may cause significant damage in the planning area by blowing down trees that have been killed or damaged by drought, disease or insect infestation. The eucalyptus trees found on the SLO High School campus and the large Cypress trees adjacent to Del Mar Elementary a moderate threat to District facilities.

Plans and Programs

The San Luis Obispo County and City Public Works Departments, the County Office of Emergency Services (OES), and the various fire department agencies that serve the District, in coordination with local, state, and federal emergency response organizations, continually work to better prepare residents of the District for the impact of flooding events.

First responder agencies, both law enforcement and fire, regularly train on water rescue and dealing with the cascading effects that can result from flooding. The local chapter of the American Red Cross is prepared to assist citizens in shelter welfare issues.

The various Planning and Building Departments with authority over the District stipulate and enforces codes and ordinances that ensure that buildings and facilities are not situated within flood zones.

It should be noted that the communities affiliated with the District which reside in San Luis Obispo County are all included in the National Flood Insurance Program (NFIP), which allows property owners in flood prone areas very reasonable flood insurance rates. The County of San Luis Obispo is committed to remaining a NFIP participating agency and maintaining compliance with NFIP requirements. Within the District, there are no NFIP insured structures that have been repetitively damaged by floods. It should be noted that Special Districts are not eligible to participate in NFIP.

The District has in place both a very thorough Emergency Operation and Continuity of Operations Plan to assist the staff, faculty, and Board of Education in the management of a flood event.

National Weather Service

The National Weather Service uses a number of methods to get weather statements out to the general population. Examples include the Emergency Alert System, NOAA Weather Radio All Hazards (NWR), and smart phone Wireless Emergency Alerts (WEA). For certain significant extreme weather events, the County could potentially use the reverse 9-1-1 system. An Early Warning System siren, located throughout the Diablo Canyon Emergency Planning Zone Area, which includes all areas within the District, could be utilized to alert residents to a flooding event.

Due to the unique and consistent weather patterns in the area, the National Weather Service (NWS) has broken the County into three weather forecast zones: San Luis Obispo County Central Coast, San Luis Obispo County Interior Valleys, and San Luis Obispo County Mountains. The District is located in the SLO County Central Coast forecast zone. The NWS uses a multi-tier system of weather

statements to notify the public of threatening weather conditions specific to these areas. These statements are used in conjunction with specific weather phenomena to convey different levels of risk. In order of increasing risk, these statements are:

Weather Related Terminology

- **Outlook** - A Hazardous Weather Outlook is issued daily to indicate that a hazardous weather or hydrologic event may occur in the next several days. The outlook will include information about potential severe thunderstorms, heavy rain or flooding, winter weather, extremes of heat or cold, etc., that may develop over the next seven days with an emphasis on the first 24 hours of the forecast. It is intended to provide information to those who need considerable lead time to prepare for the event.

- **Advisory** - An advisory is issued when a hazardous weather or hydrologic event is occurring, imminent, or likely. Advisories are for "less serious" conditions than warnings that may cause significant inconvenience, and if caution is not exercised could lead to situations that may threaten life or property. The NWS may activate weather spotters in areas affected by advisories to help them better track and analyze the event.

- **Watch** - A watch is used when the risk of a hazardous weather or hydrologic event has increased significantly, but its occurrence, location, or timing is still uncertain. It is intended to provide enough lead time so those who need to set their plans in motion can do so. A watch means that hazardous weather is possible. People should have a plan of action in case a storm threatens and they should listen for updates and possible warnings especially when planning travel or outdoor activities. The National Weather Service may activate weather spotters in areas affected by watches to help them better track and analyze the event.

- **Warning** - A warning is issued when a hazardous weather or hydrologic event is occurring, imminent, or likely. A warning means weather conditions pose a threat to life or property. People in the path of the storm need to take protective action. NWS may activate weather spotters in areas affected by warnings to help them better track and analyze the event.

- **Statement** - A statement is either issued as a follow-up message to a warning, watch, or emergency, and may be updated, extended, or cancelled. It is also a follow-up message or notification of significant weather for which no type of advisory, watch, or warning exists.

Impacts of Climate Change

It should be noted that Climate Change and sea level rise will only serve to worsen the flooding potential. A changing environment means higher seas, new weather patterns, and stronger storms. As the atmosphere warms, there is more evaporation and more water available when it rains. A warmer

atmosphere also means warmer oceans, which can intensify flooding from hurricanes and offshore storms. In addition, a warmer atmosphere causes more extreme precipitation across all storm types increasing the risk of flooding. Sea level rise also increases coastal flood risks, as higher seas mean there's more water available when high tides and coastal storms cause flooding.

Future Probability/Risk Assessment Conclusion

While it is impossible to predict future long-range weather patterns and sea level changes, it is certain that the location of the study area adjacent to the Pacific Ocean and surrounded by the mountains to the north and east will continue to have significant exposure to major winter storms and flooding. Over the past 50 years, 10 major storm events have resulted in significant flooding in portions of San Luis Obispo County.

It should be noted that a considerable number of resources have been expended by local government agencies serving the District toward preventing flooding issues. Given the limited number of District facilities threatened by flooding, coupled with minimal threat to loss of life, flooding has been deemed a **Low** severity risk. Given that portions of the District are located in FEMA Flood Zones and considering that Morro Bay High School has a flooding history, and given the likelihood of sea level change, a **Medium** probability rating is warranted.

FEMA Flood Zone Map

➢Hazard: DROUGHT

Severity: Medium	Probability: High	Priority: Medium

Hazard Definition

A drought is an extended dry period where water availability falls below the statistical requirements for a region. Droughts are the product of natural water deficiency coupled with human water demand exceeding available supply. The precise definition of drought is made complex owing to political considerations, but there are generally three types of conditions that are referred to as drought:

Meteorological drought is brought about when there is a prolonged period with less than average precipitation.

Agricultural drought occurs when there is insufficient moisture for average crop or range production. This condition can arise, even in times of average precipitation, owing to soil conditions or agricultural techniques.

Hydrologic drought is brought about when the water reserves available in sources such as aquifers, lakes, and reservoirs fall below the statistical average. This condition can arise, even in times of average (or above average) precipitation, when increased usage of water diminishes the reserves.
When the word "drought" is used by the general public, the most often intended definition is meteorological drought. However, when the word is used by urban planners, it is more frequently in reference to hydrologic drought.

The U.S. Drought Monitor determines drought severity utilizing the Palmer Drought Severity Index, the Standardized Precipitation Index and additional climatological inputs. These include: the Keech-Byram Drought Index for fire, various soil moisture indicators and satellite-based assessments of vegetation health, hydrologic data such as surface water supply index and snowpack.

History

Droughts are a recurring feature of California's climate. In the last century, the most significant statewide droughts occurred in 1929-1934, 1976-1977, 1987-1992, and 2012-2016, and a less severe drought occurred in 2007-2009. The 2012-2016 drought was one of extreme proportions, with record-high temperatures and record-low levels of snowpack and precipitation.

Further information regarding these historical droughts is described below:

1929–1934
This drought occurred during the infamous Dust Bowl period of the 1920s and 1930s. As a result of this drought, the California Central Valley Project, which is a series of canals, aqueducts and pump stations, was constructed to deliver water from the northern half of the state to the San Joaquin Valley.

1976–77
1977 had been the driest year in California history to date. According to the *Los Angeles Times*, "Drought in the late 1970s spurred efforts at urban conservation and the state's Drought Emergency Water Bank was developed.

1986–1992
California endured one of its longest droughts ever, observed from late 1986 through late 1992. Drought worsened in 1988 as much of the United States also suffered from severe drought. In California, the six-year drought ended in late 1992 as a significant El Niño event in the Pacific Ocean remedied the situation.

2007–2009
This was the 12th worst drought period in California's history and the first drought for which a statewide proclamation of emergency was issued. The drought of 2007–2009 also saw greatly reduced water diversions from the state water project. The summer of 2007 saw some of the worst wildfires in Southern California history.

2011–2016
The period between late 2011 and 2016 was the driest in California history since record-keeping began. The drought led to Governor Jerry Brown instituting mandatory 25 percent water restrictions in June 2015. Many millions of California trees died from the drought – approximately 102 million, including 62 million in 2016 alone. It is estimated that throughout the state there was 2.7 billion dollars of lost farming revenue and the loss of some 18,000 jobs.

By the end of 2016, 30% of California had emerged from the drought, mainly in the northern half of the state, while 40% of the state, while Santa Barbara, Ventura, Los Angeles, Orange, and San Diego Counties remained at extreme or exceptional drought levels.

The historic drought that plagued California for five years formally ended in 2017 after extremely heavy rainfall. Every major city in California was able to drop the mandatory water restrictions and penalties that marked much of the previous five years.

The winter of 2016–17 turned out to be the wettest on record in Northern California, surpassing the previous record set in 1982–83. Floodwaters caused severe damage to Oroville Dam in early February, prompting the temporary evacuation of nearly 200,000 people north of Sacramento. In response to the heavy precipitation, which flooded multiple rivers and filled most of the state's major reservoirs, Governor Brown declared an official end to the drought on April 7, 2017.

Unfortunately, an extended dry period followed returning water restrictions to many California communities.

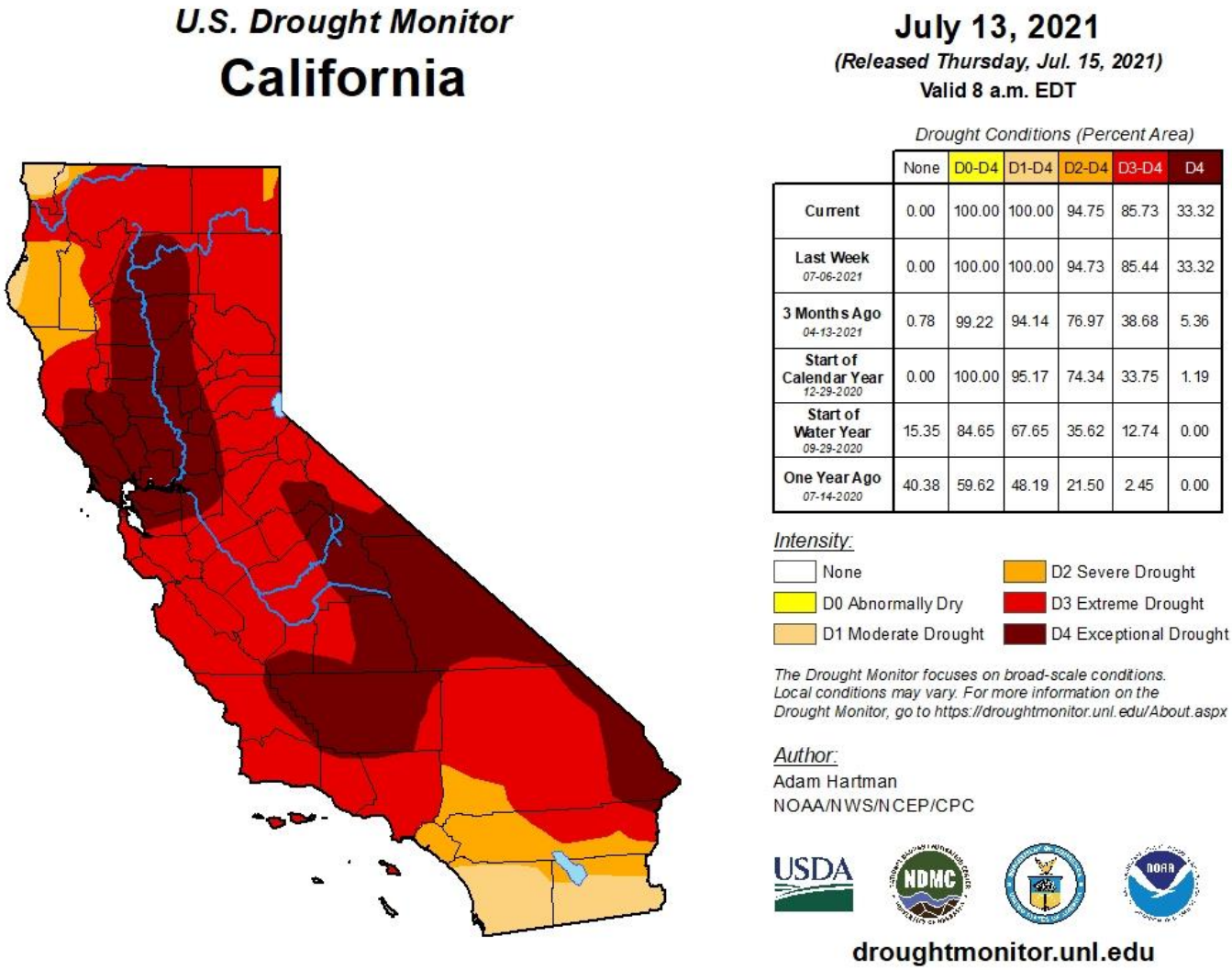
Current Situation

San Luis Obispo County received only moderate rainfall in the winter of 2019-2020 and experienced a very dry winter in 2020–2021 (approx. 10 inches of rain). It is of interest to note that from 1981 to 2010, the Cal Poly campus in San Luis Obispo reported an average rainfall of 23.62 inches. From 1991 to 2020, the average rainfall decreased to 20.65, a reduction of 14%. The U.S. Drought Monitor increased the severity of the drought throughout the Central Coast from Abnormally Dry (D0) in late February 2021 to Severe Drought (D2) in May to Extreme Drought (D3) by June 2021. Most of the state of California has transitioned to either an Extreme Drought (D3) or Exceptional Drought (D4), the most severe category. The rate increase experienced by the Central Coast and the entire state is unprecedented. *Please see Drought Classification Description below.*

The main reason for this dramatic change is the well below-average precipitation over the past two years. San Luis Obispo County experienced the driest back-to-back Februarys from 2020 to 2021 in 152 years of rainfall recorded at Cal Poly. The County and the state depend on rain and snow to replenish lakes and reservoirs and recharge aquifers and groundwater basins.

Another important factor contributing to the dramatic drought classification increase is the warming of overnight minimum temperatures, particularly in the Sierra Nevada mountains. From the 1970s through the 1990s, the average daily minimum temperature was around 43 degrees Fahrenheit +/- 1-2 degrees. From 2000 onward, a rapid increase has occurred reaching 49 degrees in 2021. The impact of these warmer temperatures is greater evaporation from the lakes, reservoirs, plants and soil, and earlier snowmelt.

Source: John Lindsey, PG&E meteorologist. SLO Tribune. Why did the Central Coast's drought classification change so quickly? July, 2021



Source: droughtmonitor.unl.edu 2021

Table 8: U.S. Drought Monitor Classification Scheme

Category	Historically observed impacts
D0	Soil is dry; irrigation delivery begins early
	Dryland crop germination is stunted
	Active fire season begins
	Winter resort visitation is low; snowpack is minimal
D1	Dryland pasture growth is stunted; producers give supplemental feed to cattle
	Landscaping and gardens need irrigation earlier; wildlife patterns begin to change
	Stock ponds and creeks are lower than usual
D2	Grazing land is inadequate
	Producers increase water efficiency methods and drought-resistant crops
	Fire season is longer, with high burn intensity, dry fuels, and large fire spatial extent; more fire crews are on staff
	Wine country tourism increases; lake- and river-based tourism declines; boat ramps close
	Trees are stressed; plants increase reproductive mechanisms; wildlife diseases increase
	Water temperature increases; programs to divert water to protect fish begin
	River flows decrease; reservoir levels are low and banks are exposed
D3	Livestock need expensive supplemental feed, cattle and horses are sold; little pasture remains, producers find it difficult to maintain organic meat requirements
	Fruit trees bud early; producers begin irrigating in the winter
	Federal water is not adequate to meet irrigation contracts; extracting supplemental groundwater is expensive
	Dairy operations close
	Fire season lasts year-round; fires occur in typically wet parts of state; burn bans are implemented

	Ski and rafting business is low, mountain communities suffer
	Orchard removal and well drilling company business increase; panning for gold increases
	Low river levels impede fish migration and cause lower survival rates
	Wildlife encroach on developed areas; little native food and water is available for bears, which hibernate less
	Water sanitation is a concern, reservoir levels drop significantly, surface water is nearly dry, flows are very low; water theft occurs
	Wells and aquifer levels decrease; homeowners drill new wells
	Water conservation rebate programs increase; water use restrictions are implemented; water transfers increase
	Water is inadequate for agriculture, wildlife, and urban needs; reservoirs are extremely low; hydropower is restricted
	Fields are left fallow; orchards are removed; vegetable yields are low; honey harvest is small
	Fire season is very costly; number of fires and area burned are extensive
	Many recreational activities are affected
D4	Fish rescue and relocation begins; pine beetle infestation occurs; forest mortality is high; wetlands dry up; survival of native plants and animals is low; fewer wildflowers bloom; wildlife death is widespread; algae blooms appear
	Policy change; agriculture unemployment is high, food aid is needed
	Poor air quality affects health; greenhouse gas emissions increase as hydropower production decreases; West Nile Virus outbreaks rise
	Water shortages are widespread; surface water is depleted; federal irrigation water deliveries are extremely low; junior water rights are curtailed; water prices are extremely high; wells are dry, more and deeper wells are drilled; water quality is poor;

Source: droughtmonitor.unl.edu 2021

Hazard Potential

Periods of drought can have significant environmental, agricultural, health, economic and social consequences. Drought can also reduce water quality, because lower water flows reduce dilution of pollutants and increase contamination of remaining water sources. In the planning area, which contains agricultural interests of consequence, the impacts of drought are significant.

As noted in the Hazard Definition above, no simple, precise definition of drought exists. In general, a drought is an extreme event characterized by a prolonged period of abnormally low levels of precipitation that has adverse impacts on vegetation, animals, and people. A drought is a temporary phenomenon and as such, it is distinct from aridity, which is a climatic feature of a particular region. Droughts occur periodically in every climatic zone, although some areas are more drought-prone than others.

Impacts and Effects

Listed below is a short summary of some of the effects and impacts that typically occur during a drought:

- **Water Supply and Quality**
  Drought negatively impacts both the quantity and quality of water supplies. While a reduction in water supply is generally a temporary phenomenon, it can be permanent in some instances. Land subsidence can be caused by pumping, resulting in a permanent loss of groundwater storage. Drought can also compromise water quality, such as by concentrating salts and other contaminants, reducing dissolved oxygen levels, and increasing water temperatures. Water quality problems can exacerbate water supply problems. Over pumping of stressed groundwater aquifers near coastal areas such as Los Osos can cause salt water intrusion leading to the abandonment of groundwater wells.

- **Fish and Wildlife**
  Political pressures increase diversions of water away from ecosystems. As water levels in streams, rivers, and lakes decline, fish and wildlife are at risk of dying, potentially causing regional extinctions. Dry vegetation combined with high temperatures and low humidity often increases the frequency and intensity of fires. The wildfire season may start earlier in the spring and extend later into the fall.

- **Energy**
  Drought can strain the energy system. The generation of hydroelectricity at California dams may drop dramatically from average levels because it varies directly with streamflow. As the source of electricity production shifts to the more expensive fossil fuel (e.g., natural gas), electricity prices will likely increase. Additionally, high temperatures associated with drought may increase energy demand for cooling and air-conditioning systems.

- **Agriculture**
  Some farmers and water districts with "junior" water rights have seen water allocations from state and federal irrigation projects severely cut. Some growers with "senior" water rights have seen only modest shortages, if any. Farmers facing a water shortage may seek temporary water transfers from other users, increase groundwater pumping, change the types of crops they grow, deficit irrigate, or leave some lands fallow.

- **Rural Communities**
  Rural communities are often dependent on a single water source, usually groundwater. As groundwater levels drop, community and individual wells may go dry. Declining water supplies and ongoing water quality problems force communities to switch to bottled water, dig deeper wells, and truck in water to refill holding tanks. These actions can impose local economic hardships on those living in rural areas, many of whom are among the state's most disadvantaged communities.

- **Revenue Losses**
  For most water utilities, fixed costs (e.g., debt service on past water system investments) are relatively high and variable costs (e.g., energy and chemical costs) are relatively low. Reducing water use cuts variable costs but has no impact on fixed costs (at least in the short term). As water use declines, revenue from the sale of water also declines and may not be sufficient to recover the fixed costs. In response, water utilities may enact drought surcharges or draw from reserves. While surcharges increase the water rate (i.e., the price per gallon), those using less water may actually see their bills go down. Furthermore, conservation lessens the impact of the drought on water bills by avoiding the purchase of more expensive water supplies.

- **Behavioral Health**
  Drought can impact behavioral health as a result of direct financial stress and general economic downturn. Additionally, some of the more common stress-relieving activities such as exercise and other outdoor activities may be impacted or less enjoyable as a result of drought. The combination of increased financial stress and impaired ability to relieve stress can result in the following behavioral health issues including depression, anxiety, suicide, and substance abuse. Source: USGS - California Water Science Center

Relationships to Other Hazards-Cascading Events

Over pumping of groundwater basins due to drought conditions can result in land subsidence and saltwater intrusion. As a result of drought, dry vegetation combined with high temperatures and low humidity often increases the frequency and intensity of fires. The wildfire season may now start earlier in the spring and extend later into the fall. In addition, decreased rainfall runoff may result in more concentrated polluted water.

Plans and Programs

The various water utilities that serve the District will typically roll out a wide range of voluntary and mandatory water conservation programs. These include education programs, incentives to purchase more water-efficient appliances and plant water-efficient gardens, and restrictions on discretionary water uses, such as watering lawns and playing fields. In addition, water reuse programs are currently in place in the City of San Luis Obispo and the Los Osos Community Service's District. Recycled water is used for irrigation to mitigate the impacts of drought on potable water supply. The City of Morro Bay is in the process of constructing a new water treatment plant designed to recharge recycled water into Chorro Creek.

The City of San Luis Obispo has several sources of water including groundwater wells and three local reservoirs. Los Osos has limited water sources to treat groundwater wells. In 2018, State Water provided 91% of the Morro Bay City's drinking water and the wells provided the remaining 9%, with all of the well water being treated by the Brackish Water Reverse Osmosis plant.

The District could work with water purveyors on utilizing recycled water for school grounds if the opportunity is available.

The District has in place both a very thorough Emergency Operation and Continuity of Operations Plan to assist the staff, faculty, and Board of Education in dealing with the ongoing impacts of a drought.

Impacts of Climate Change

Scientists agree that the earth's rising temperatures are fueling longer and hotter heat waves, more frequent droughts, heavier rainfall, and more powerful hurricanes. In 2015, for example, scientists said that the ongoing drought in California, the state's worst water shortage in 1,200 years, was intensified by 15 to 20 percent because of global warming. Further, the odds of similar droughts occurring in the future have roughly doubled over the past century.

Future Probability - Risk Assessment Conclusion

While San Luis Obispo County has a well-documented history of being impacted by drought, the School District has not suffered significantly. A number of factors mitigate the impacts of drought on the District. They include:

- The School District has invested significant resources in a variety of water saving devices, including drought resistant landscaping, replacing grass areas with hardscaping, and water saving showers, faucets and toilets.
- Maintenance staff has made a concentrated effort to replace and repair leaky water infrastructure.

Given these considerations, the severity for drought within the District is rated as **Medium.** There is no doubt that this short-term phenomenon will occur again therefore the probability is rated as **High.**

➢Hazard: EXTREME WEATHER

Extreme Weather Hazard	Severity	Probability	Priority
Windstorm	Low	High	Medium
Heavy Snowfall	Low	Low	Low
Thunderstorm	Low	Low	Low
Hailstorm	Low	Low	Low
Freeze	Low	Low	Low
Extreme Heat	High	Low	Medium
Coastal Erosion	Low	Low	Low

Hazard Definition

Extreme weather is defined as unusual, severe, or unseasonal weather. It can be considered weather at the extremes of the historical distribution or the range that has been experienced in the past. Adverse or extreme weather occurs 5% or less of the time. It may take the form of isolated events, such as storms, or may occur over longer periods of time, such as heat waves, cold snaps, or drought.

A storm is defined as any disturbed state of the earth's atmosphere affecting its surface. It may be marked by strong wind, hail, thunder and/or lightning, heavy precipitation in the form of snow or rain, heavy freezing rain, strong winds (windstorm), or wind transporting some substance through the atmosphere as in a dust storm, blizzard, sand storm, etc. Storms generally lead to negative impacts to lives and property such as storm surge, coastal erosion, heavy rain or snow (causing flooding, rockslides, mudslides, debris flows and road impassibility), lightning, wildfires, and vertical wind shear. A more thorough discussion of these types of events follows:

Windstorms

Resulting from air movement from areas of high pressure to those of low air pressure, windstorms can occur at any time of the year, impacting any portion of the District, and can vary in strength and duration.

Heavy Snow Fall

Heavy snow fall will, on very rare occasions, occur in the higher elevations of the Santa Lucia Mountain range directly to the north and east of the School District. In the lower elevations of the study area, heavy snow fall does not occur and aery light "dusting" of snow is a very rare occurrence.

Thunderstorm

A thunderstorm, also known as an electrical storm, lightning storm, or thundershower is weather characterized by the presence of lightning and its acoustic effect on the earth's atmosphere. Thunderstorms, which can impact the entire planning area, are usually accompanied by strong winds, heavy rain and sometimes snow, sleet, hail, or no precipitation at all.

Hailstorms

Hail is precipitation in the form of balls or irregular lumps, always produced by convective clouds, nearly always cumulonimbus. They can vary from pea size all the way up to that of a grapefruit in rare circumstances. Hailstones generally form in thunderstorms between currents of rising air called the updrafts and the current of air descending toward the ground, called the downdraft. Large hailstones indicate strong updrafts in the thunderstorm. The larger the hail, the stronger the updraft needed to hold it aloft in the storm. Hailstorms can but rarely occur anywhere in the planning area with minimal impact.

Freeze

A freeze refers to a particularly cold spell of weather where the temperature drops below 32 degrees. Freezing conditions, especially in the spring, can cause damage to crops and ornamentals and cause considerable discomfort to area residents. Located next to the Pacific Ocean, which tends to moderate fluctuations, temperatures in the District rarely drop below 20 degrees for more than two to three days.

Extreme Heat

Often referred to as a "heat wave" or "heat storm", it is typically defined as a series of days, three or more, where weather conditions combine resulting in daytime temperatures considerably higher than the norm. Neighboring Pacific Ocean tends to keep temperatures in the District quite mild seldom reaching above 110 degrees for more than three to four days. When combined with high humidity, living conditions can become quite uncomfortable. In extreme heat situations the body's circulatory system must work extra hard to maintain a normal temperature, which can lead to death for the elderly and or individuals with compromised circulatory systems. In fact, extreme heat is responsible for the highest number of annual deaths amongst all weather-related hazards.

Coastal Erosion

Coastal erosion is the loss or displacement of land or the long-term removal of sediment and rocks along the coastline due to the action of waves, currents, tides, waterborne ice, wind-driven water or other impacts of storms

History

The communities found within the District and the neighboring communities all have a history of adverse or extreme weather events as described below. The School District however, has never been significantly impacted by any of the extreme weather events listed below.

Table 9: Extreme Weather Event History

Location	Date of Event	Damage Reported	Incident Description
San Luis Obispo County	1997 to present: >20 events occurred	Unknown Values	Heavy Surf- 1998 event: An extended heavy surf Event produced by a series of Pacific storms, battered coastal areas of Central and Southern California. Along the coast of San Luis Obispo, waves as high as 25 feet were reported. Elsewhere, coastal areas reported 12 to 15 foot waves producing some degree of damage. In Port San Luis, widespread shoreline erosion was reported.
City of San Luis Obispo	5/5/1988	4 homes Damaged	Tornado- A small tornado developed over the City of San Luis Obispo. The tornado knocked out power to several hundred homes. Four homes were damaged, including one struck by a falling cypress tree.
San Luis Obispo County	12/21/1998 - 12/24/1998	$5.4 million crop damage	Freeze- An unseasonable cold air mass produced a 3 night period of sub-freezing temperatures across Central and Southern California. Agricultural interests suffered heavy crop losses.
San Luis Obispo County	12/17/2000 - 12/18/2000	Moderate	High Wind- High, gusty offshore winds buffeted the coastal section of SLO County. In the City of SLO, the winds blew out the windows in an unoccupied mobile home and destroyed portions of a car port. In Nipomo, winds of 35 mph with gusts up to 55 mph were reported. The strong winds produced widespread power outages.
San Luis Obispo County	3/04/2001 - 3/06/2001	Significant- Values Unknown	High Wind- A powerful and slow-moving storm brought heavy rain, strong winds and snow to Central and Southern California. Across SLO County, rainfall totals ranged from 2 to 6 inches over coastal/valley areas and 6

			to 13 inches in the mountains producing extensive flooding. In Oceano, the Arroyo Grande Creek overflowed destroying numerous crops and damaging one home. In Arroyo Grande, flooding along Corbett Creek damaged four homes and five Arroyo Grande High School classrooms.
Oceano	2/02/2004	None	Tornado-A waterspout, developed offshore of the Oceano Dunes and came onshore as a weak tornado.
Cambria	01/02/2006	Significant-Values Unknown	Wind/Rain-Cambria experienced a significant wind and rain event which caused damage to over 60 homes and businesses. Several people were injured. First responders were unable to access many areas of Cambria due to downed power lines, utilities, tress and other debris. Several large areas of Cambria were without power for 5-9 days.
Halcyon	02/17/17	Significant Tree Damage	High Wind- Windstorm resulted in the downing of 50 large eucalyptus, cypress and pine trees in the village of Halcyon.
Morro Bay	03/22/18	None	A late winter storm caused Morro Creek to overbank, flooding the mobile park located at Highway 1 and 41. 50 residents were evacuated. Chorro Creek flooded South Bay Blvd. at the State Park Road resulting in the closure of both roads.
U.S.-West Coast	2012 - 2016	Significant - 2.7 billion lost farm revenue 18,000 Jobs	Drought- The 2012-2016 drought was one of extreme proportions, with record-high temperatures and record-low levels of snowpack and precipitation. Approximately 102 million California trees died from the drought, including 62 million in 2016 alone.
U.S.-West Coast	Summer 2021	Hundreds of Deaths, Large Economic Impacts	Heat Wave- Over 67 weather stations in cities throughout the West reported record breaking temperatures in the month of July. Hundreds of deaths were reported with numerous large wildfires resulting.

Hazard Potential

These events can have significant impacts on the health and safety of the population and cause major property and infrastructure damage. Listed below are the primary dangers associated with these occurrences:

- Threat to life and danger to public health
- Damage/loss of personal property or crops and livestock
- Utility failures
- Interruption of the transportation network
- Interruption of communication systems

More specific impacts and the extent of the various events are outlined below:

Windstorms and Thunderstorms

Wind related events can be quite destructive, especially in areas where eucalyptus and cypress trees have been planted as wind breaks. The extent of damage from thunderstorms and windstorms is minimal. It is limited to the areas located at Del Mar Elementary and San Luis High Schools. Falling trees and branches can result in considerable property destruction, communication/power line damage, and block transportation corridors. This situation has recently been exacerbated by disease infested trees (Pitch canker and bark beetles) and drought weakened or killed trees. Occasionally, summer thunderstorms (lightning) will cause wildfire in the coastal mountain regions of the County. Despite the occasional windstorms occurring in the planning area, there are no documented occurrences of thunderstorms.

Coastal Erosion/Winter Storms

These storms may have hurricane-force winds and cause damage similar to that of a hurricane. However, they are not classified as such because they don't originate in the tropics. Coastal storms usually do most of their damage on the coast, in the form of beach erosion and flooding due to heavy rainfall. The winds originate from low-pressure systems offshore and circulate counterclockwise around the low-pressure system. They are known as an atmospheric river- a plume of moisture that has been likened to a river in the sky that can bring heavy precipitation to the Central Coast. When the low-pressure system stops moving, its winds combine with those of the high-pressure system to blow in one direction over a long period of time, which may create massive waves. The duration of such a storm coupled with the height of the tide can be the most significant measure of its destructiveness.

As these storms move to the east, across the ocean front communities, they typically lose intensity as the coastal range behind San Luis Obispo and Morro Bay causes the moist air to elevate, condense, and fall out. The extent of damage is limited to San Luis and Morro Creeks, which flow through the School District, originate in this range and in the past have caused significant flooding events to occur in a number of areas within the District. Examples include significant flood damage to the downtown core of San Luis Obispo, along Higuera and Marsh Streets, and in the Laguna Lake area. Morro Creek has flooded

the developed areas surrounding the intersection of Hwy. 1 and Hwy. 41 in Morro Bay. High tides can further increase flooding potential along Morro Creek increasing the risk of flooding to Morro Bay High School and a very limited possibility at Bellevue Santa-Fe Charter School. Students and staff may be most impacted by the inability to arrive or depart school sites due to localized flooded streets and bridges.

The coastal areas of the County, specifically Morro Bay, Pismo Beach and the Oceano Dunes, are primarily characterized by wide sandy beaches backed by low bluffs or tall sand dunes. These sections of coastline are subject to moderate to heavy wave action mostly from northerly swells, however the wide sandy beaches absorb and dissipate the wave energy with no history of significant coastal damage to the naturally occurring features. The neighboring Pismo Beach, Avila, Port San Luis and Cayucos Piers, not naturally occurring features, have been damaged and destroyed in past storms.

Hailstorms

Significant amounts of damage to property, notably to automobiles, solar panels, skylights, and glass-roofed structures, can occur from hailstorms. The damage to landscape, vegetation and crops can also be severe. Fortunately, hail very rarely kills anyone. However, in cold climate areas hailstones can become quite large (1+ inches in diameter) and people can be injured when they are unable to find adequate shelter. Given the very moderate climate, hailstorms are very rare occurrences in the planning area. When they do occur the hailstones are small, about the size of a pea, and do not damage the very limited crops found in the District. There is no recorded hailstorm damage in the planning area.

Freeze and Heavy Snowfall

The proximity of the Pacific Ocean to the District moderates both the low and high temperature with a range of 20 to 110 degrees Fahrenheit. Therefore, the extent of snowfall, of any consequence, within the confines of the District does not occur. On rare occasions, freezing temperatures may occur. Damage to crops is very rare but when it does occur, it can be quite costly.

Extreme Heat

In the United States, heat waves are the most lethal type of weather phenomenon. Between 2004 and 2018 the annual average death rate from excessive heat in the United States numbered 702. This compares with 880 deaths from floods and 150 from hurricanes. Situated on the coast, the District rarely experiences extremely high temperatures of long duration. However, the public health risks from extended exposure to higher than normal temperatures include hyperthermia, rashes, edema, dehydration, and heat cramps, to name a few. Many District classrooms are not air conditioned and as temperatures rise due to climate change, there will be more days of extreme heat.

Relationships to Other Hazards-Cascading Events

Extreme Weather events can cause many cascading effects. Fire can break out as a result of damaged electrical equipment. Other problems and hazards associated with flooding and inclement weather include: utility disruptions, broken power lines lying on the ground, and communication system failures.

High winds often accompany winter storms and may cause significant damage to structures in the District by blowing down trees that have been killed or damaged by drought and disease or infestation. Trees, primally eucalyptus and cypress, found in scattered locations throughout the District present a limited threat.

Plans and Programs

The District has in place both a very thorough Emergency Operation and Continuity of Operations Plan to assist the staff, faculty, and Board of Education in the management of extreme weather events.

The San Luis Obispo County Office of Emergency Services (OES) and the public safety agencies serving the School District, work in coordination with local, state, and federal emergency response organizations, to better prepare the County and District for the impact of these types of emergency events.

First responder agencies, both law enforcement and fire, routinely train on handling the cascading effects that can result from events of this nature. The local chapter of the American Red Cross is prepared to assist citizens in shelter welfare issues.
The Division of State Architects and the State Fire Marshal have authority over the SLCUSD to stipulate and enforce codes and ordinances that ensure that buildings are constructed to prevent damage from extreme wind and weather events.

The National Weather Service uses a number of methods to get weather statements out to the general population. Examples include the Emergency Alert System, NOAA Weather Radio All Hazards (NWR), and newer smart phone Wireless Emergency Alerts (WEA). For certain significant adverse weather events, the County could potentially use the reverse 9-1-1 system. Early Warning System sirens are located throughout the Diablo Canyon Emergency Planning Zone Area.

Due to the unique and consistent weather patterns in the area, the National Weather Service (NWS) has broken the County into three weather forecast zones: San Luis Obispo County Central Coast, San Luis Obispo County Interior Valleys, and San Luis Obispo County Mountains. The NWS uses a multi-tier system of weather statements to notify the public of threatening weather conditions specific to these areas. These statements are used in conjunction with specific weather phenomena to convey different levels of risk. In order of increasing risk, these statements are:

Weather Related Terminology

- **Outlook** - A Hazardous Weather Outlook is issued daily to indicate that a hazardous weather or hydrologic event may occur in the next several days. The outlook will include information about potential severe thunderstorms, heavy rain or flooding, winter weather, extremes of heat or cold, etc., that may develop over the next seven days with an emphasis on the first 24 hours of the forecast. It is intended to provide information to those who need considerable lead time to prepare for the event.

- **Advisory** - An advisory is issued when a hazardous weather or hydrologic event is occurring, imminent, or likely. Advisories are for "less serious" conditions than warnings that may cause significant inconvenience, and if caution is not exercised could lead to situations that may threaten life or property. NWS may activate weather spotters in areas affected by advisories to help them better track and analyze the event.

- **Watch** - A watch is used when the risk of a hazardous weather or hydrologic event has increased significantly, but its occurrence, location, or timing is still uncertain. It is intended to provide enough lead time so those who need to set their plans in motion can do so. A watch means that hazardous weather is possible. People should have a plan of action in case a storm threatens and they should listen for later information and possible warnings especially when planning travel or outdoor activities. NWS may activate weather spotters in areas affected by watches to help them better track and analyze the event.

- **Warning** - A warning is issued when a hazardous weather or hydrologic event is occurring, imminent, or likely. A warning means weather conditions pose a threat to life or property. People in the path of the storm need to take protective action. NWS may activate weather spotters in areas affected by warnings to help them better track and analyze the event.

- **Statement** - A statement is either issued as a follow-up message to a warning, watch, or emergency, that may update, extend, or cancel the message it is following up or a notification of significant weather for which no type of advisory, watch, or warning exists.

Impacts of Climate Change

As the atmosphere warms new weather patterns will emerge which will undoubtably include stronger winds, larger storms, heavier flooding and larger, more severe wildfires than are the norm for a particular area. As the sea levels rise, coastal erosion will become more severe.

Future Probability/Risk Assessment Conclusion

The planning area has a history of extreme weather, mostly winter storm related. These events can have significant impacts on the health and safety of the population and can cause major property and infrastructure damage. Extreme weather incidents can occur anywhere in San Luis Obispo County and are not specific to the School District. These types of events include: winter storms, high winds, thunderstorms, and hailstorms. Incidents of this nature are typically short in duration. Given the wide range of exposure to a variety of extreme weather events, the significant past history indicates a high probability of these types of events reoccurring in the future. It should be noted that over time Climate Change will likely increase both the frequency and intensity of these events.

Given the past history of both occurrence and damage, and based on the wide range of potential events, this section is rated as **Low** in severity and **High** in probability.

➢Hazard: WILDFIRE

Severity: Low	Probability: Medium	Priority: Medium

Hazard Definition

A wildfire is an uncontrolled fire spreading through vegetative fuels, posing danger and destruction to property. Outbreaks of wildfire occur routinely throughout San Luis Obispo County's dry season and are predominantly, four out of every five times, generated by humans. As a natural hazard, a wildfire is often the direct result of a lightning strike. These lightning induced fires often occur in remote undeveloped areas and spread to urban areas where structures and other human development are more concentrated. The mountains adjoining the School District have occasionally experienced lightning induced fires. Lightning caused fires within the SLCUSD are not common.

Wildland Urban Interface (WUI) fires occur where vegetation and the built environment are intermingled. Two WUI conditions exist: 1) where there is a distinct interface boundary between the wildland and developed areas and 2) inter-mix areas where buildings and infrastructure are intermingled in the wildland itself. San Luis High School, Los Osos Middle School and Del Mar Elementary are located on a distinct Interface Boundary; located on the very edge of the community limits. Bellevue - Santa Fe Charter School is an example of intermix location; the school is surrounded on all sides by heavily fueled wildland areas susceptible to wildfire. None of the District's remaining schools or critical infrastructure are susceptible to a wildfire threat.

The predominate dangers from wildfires are:

- The destruction of vegetation, property, and wildlife
- Injury or loss of life to people living in the affected area or using the area for recreational facilities.
- Post fire erosion/mudslides during wintertime rainfall.
- Air quality impact to public health.

History

Historically, wildland fires in San Luis Obispo County, have burned thousands of acres and caused considerable property loss with an occasional life loss. The majority of these large fires have occurred away from the coastal areas in the warmer and dryer portions of the County (East of the Santa Lucia Mountain Range). Large fires on the coastal side of the County occur less frequently. A Fire History Map of San Luis Obispo County is found at the end of this section. It reveals a large fire history in

the study area and surrounding open space over the past 75 years. Serious, damaging fires have occurred on the coastal slope of the Santa Lucia Mountain Range, a portion of which is located directly behind San Luis Obispo High School. In addition, wildfires have burned in Montana de Oro State Park, within the Irish Hills, the coastal hills surrounding Avila Beach and Pismo/Shell Beach areas. These coastal fires occur in the area every four to five years. A number of large fires originating in the hotter and dryer Santa Margarita and Atascadero areas have advanced toward the planning area.

Table 10: Fire History-Similar Fuels and Weather Conditions

Event	Date	Impacted Area		Details/Location
Morse Fire	May 1987	190 acres	36 homes, multiple vehicles	Pebble Beach - Burned in an area of very similar fuels, weather and topography.
Las Pilitas Fire	July 1985	75,000 acres	10 homes destroyed	Burned from Las Pilitas Road east of Santa Margarita into the City limits of San Luis Obispo in the hills above San Luis High School and surrounding neighborhoods.
Highway 41 Fire	August 1994	49,000 acres $10M	42 homes, 61 other structures, 91 vehicles	Morro Bay - Fire started in the coastal mountains behind the City of Morro Bay. The fire burned into the City of Atascadero and threatened the City of San Luis Obispo.
Logan Fire	August 1997	50,000 acres $6M	Unknown	The Logan Fire burned in the coastal mountains to the east of the study area in fuels and topography similar to those found in portions of the study area.
Diablo Fire	January 2007	1800 acres	2 structures	A structure fire, just north of Diablo Canyon Nuclear Power Plant. The fire ignited adjacent fuels. Wind drove fire to the top of the ridge and into adjoining canyons.
Creek Fire	November 2012	430 acres	No structure Loss	In the Irish Hills, just north of the Diablo Canyon Nuclear Power Plant, a planned vegetation management fire escaped control lines.

Pfeiffer Fire	December 2013	850 acres	22 homes, multiple vehicles	Big Sur- Fire started along Hwy 1 near Big Sur campground and burned all the way to the ocean.
Chimney Fire	August 2016	46,344 acres	49 homes, 21 other structures, multiple vehicles	The Chimney Fire started in the vicinity of Lake Nacimiento and burned north and west towards the coast. It was held along the ridge of the Santa Lucia Mountain Range.
Avila Fire	June 2020	445 acres	No structure loss	Shell Beach- A wind driven fire broke out near Highway 101 at Avila Beach Drive. It spread quickly to the south on the hills above the freeway which resulted in closing of all northbound lanes and the evacuation of approximately 100 homes.

Risk Assessment

When determining a jurisdiction's risk from wildfire, the local weather, fuels, and topography must be reviewed:

Topography refers to canyons, hillsides, river bottoms, ridges and other "lay of the land" features. These all have a dramatic effect on fire spread. Aspect or orientation of the fuel beds also plays an important role. In general, south facing slopes are subjected to greater solar radiation, making them drier and thereby intensifying wildland fire behavior. The topography within the District is quite varied; from flat open range land, to a number of steep hills and inaccessible canyons (i.e. the hills behind San Luis High and Del Mar Elementary and the canyons and hills surrounding Bellevue-Santa Fe Charter School).

Weather in this region weather plays a key factor in the wildland fire potential. Rain fall occurs primarily between the months of November and April, and yearly averages range between 12 to 20 inches per year in the District to 39 inches in the mountains to the north and east of District. Summers are typically cool with fog and or high relative humidity, especially along the coast. Humidity is an important fire-related weather factor. As humidity levels increase, vegetation moisture levels also increase, thereby decreasing the likelihood that plant material will ignite and burn. Wind in the area, a key factor in spread, is quite predictable and is usually moisture laden due to the close proximity of the ocean. The wind typically flows to the northwest in the spring and

summer. The fall season will see dryer and warmer days. Strong winds from the northwest through East quadrants present the greatest threat to fire spread in the planning area. This combined with the lack of rainfall will see the fire hazard threat increase.

Fuels are classified into three risk categories as described below: Very High, High and Moderate. *Please see description below.*

Table 11: Fuel Hazards

Fuel	Fire Hazard Ranking	Locations
Grass	Moderate to High	Open grass covered areas are found throughout the planning area. They are the prominent fuel type on gentle slopes and much of the flat land throughout the District. A typical example of this type of fuel can be found adjoining Del Mar School in North Morro Bay.
Brush	Very High	Scattered fuel beds of both heavy and light brush are found throughout the planning area. Examples are found along both sides of Highways 1 and 101 and the hills behind San Luis High and Bellevue -Santa Fe Charter School.
Timber	Very High	Timber stands of consequence are not found in the District. However scattered small stands of Eucalyptus and Cedar trees occur in close proximity to both Del Mar Elementary and San Luis Obispo High School. Extensive dead and down materials are found on the forest floor in these areas.

The arrangement of the fuel on the land is also an important consideration. By breaking up or thinning fuel beds, one can slow the rapid spread rates of wildfires. In addition, the removal of certain fuels in the horizontal plane can prevent fires from "laddering" into the tops of trees where it may burn hotter and be more difficult to contain.

California has identified all wildland areas in the State into a Fire Hazard Severity Zones which are based on vegetation, topography, climate, crown fire potential (fire burning through the tops of trees), and ember production and movement. Please see Fire Hazard Severity Zone map on page 90.

With the establishment of the community fire departments in the early 1900s, fire suppression activities have allowed for a tremendous buildup of both live and dead fuels through San Luis Obispo

County that would normally be reduced through naturally occurring fire. Heavy buildup of fire fuels is not found in close proximity to the majority of the District's properties. However, as noted above, large amounts of dead and down materials can be found near the agriculture buildings at SLO High School and to a smaller degree at Del Mar Elementary in Morro Bay.

Plans and Programs

Ordinances and Regulations

California Fire Code

The various fire agencies serving the District have adopted and added local amendments to the California Fire Code. This code provides minimum standards for many aspects of fire prevention and suppression activities. These standards include: provisions for access, water supply, fire protection systems, and the use of fire-resistant building materials.

Wildland Urban Interface Code

This code may be adopted by local jurisdictions, with amendments to provide minimum as well as additional standards for Wildland Urban Interface prevention, protection and suppression. These standards include specific requirements for fire resistant building materials, exterior armoring, access, fire protection systems, defensible space clearance and ornamental vegetation standards.

California Health and Safety Code and the California Building Code

The Health and Safety Code contains regulations pertaining to the abatement of fire related hazards. It also requires that local jurisdictions enforce the California Building Code, which provides standards for fire resistive building and roofing materials, and other fire-related construction methods.

Public Resources Code (PRC) and Title 14 of the California Code of Regulations

PRC regulations define criteria for State Responsibility Area (SRA) wherein state wildland fire laws and regulations apply. All of Cambria, and surrounding area, is within PRC defined SRA. PRC contains statewide fire prevention and suppression standards in SRA wildland fire areas. Title 14 includes Fire Safe Regulations that apply to development in SRA.

San Luis Obispo County General Plan Safety Element and Land Use Ordinance

Land use planning and building development in the study area is regulated by the various Planning and Building Department with Fire Code administered by the local cities and fire departments. Sections within these documents establish minimum standards for development in the District

Preparedness Programs

The San Luis Obispo Community Fire Safe Council

The Fire Safe Council is comprised of stakeholders in community fire prevention and especially wildland fire pre-planning, community education and preparedness. Public education and outreach.

1. Identify fire-safe practices, landscaping and defensible space around your home or business.
2. Identify fire-safe construction and reducing fire embers ability to enter the inside of a building or ignite the building exterior.
3. Hold community requested neighborhood meetings to promote wildland fire safety and preparedness.
4. Coordinate and deliver Fire Safe Chipping events to reduce accumulated dead wildland fuels and to enhance defensible space around buildings.
5. Increase awareness and public education regarding evacuation safety, routes and family and business plans.

Mitigation Projects

The SLO County Fire Safe Council and CAL FIRE have, over the years, been very successful in receiving grants from a number of sources for a variety of fuel mitigation projects within the District's boundaries. The reduction and removal of the accumulate dead and down fuels near the Agricultural facilities above SLO High School would be a very appropriate Fire Safe Council project.

The District has in place both a very thorough Emergency Operation and Continuity of Operations Plan to assist the staff, faculty, and Board of Education in dealing with the management of a wildfire event.

Relationship to Other Hazards – Cascading Effects

The ensuing effects of wildland fires can be devastating beyond the obvious loss of vegetation and depletion of forest resources. Soil, waterways and land can sustain lasting damage from large intense fires. Extreme heat can cause soil to lose its ability to absorb moisture and subsequently support life. These soils quickly erode, and as a result, enhance siltation of rivers and streams, thus increasing flood potential, damaging marine life, and diminishing water quality. Further, the risk of

landslide hazard increases once land has been depleted of vegetation. Calamitous debris flows can ensue.

Economic impacts can be severe. Wild fires can wreak havoc on homes, recreational assets and the tourist industry. Water, telephone and power utility companies have lost billions of dollars through both the direct and indirect effects of wildfires.

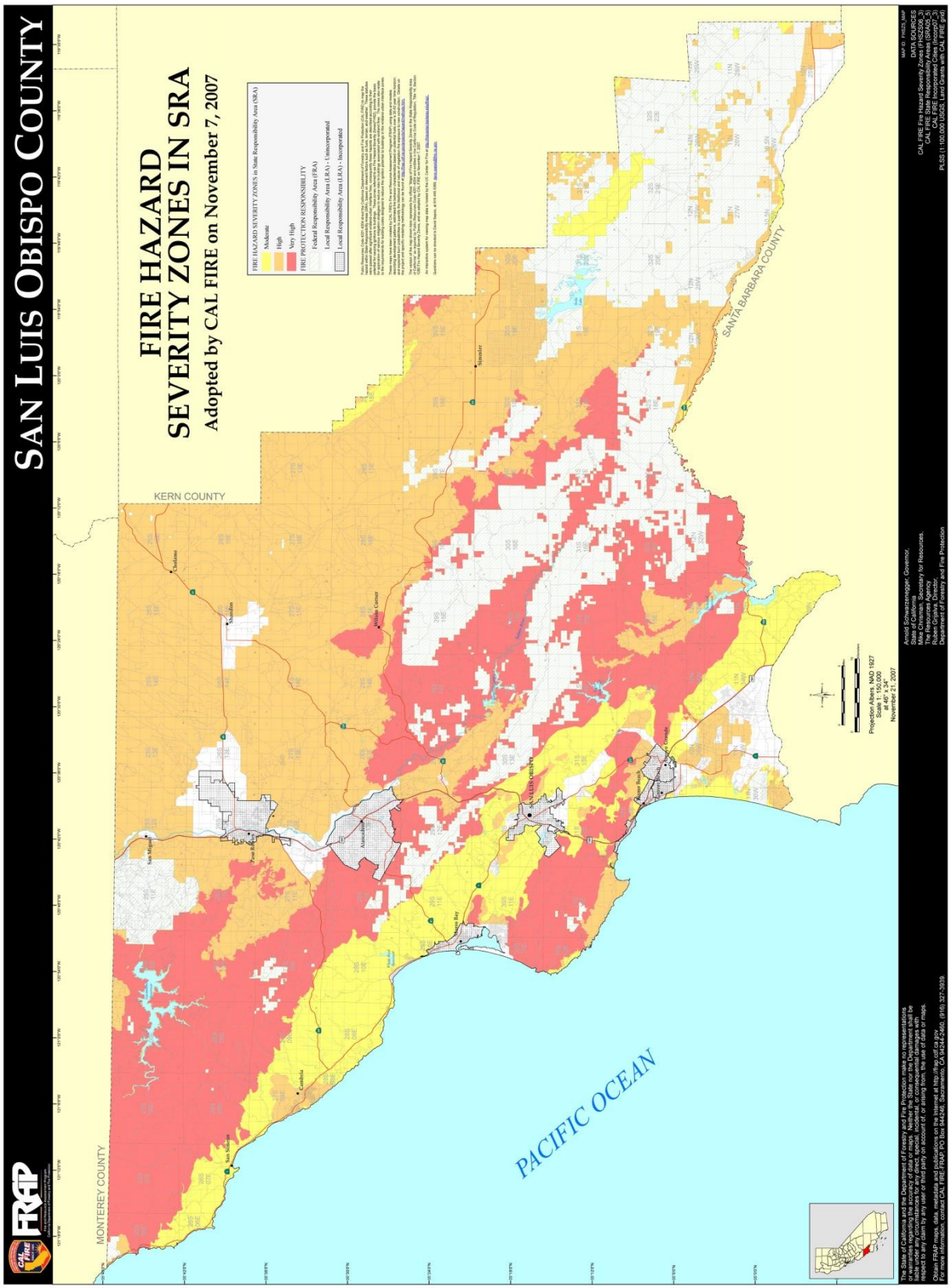
Impacts of Climate Change

Climate change poses many challenges to the wildland areas of San Luis Obispo County. Studies reveal that the average fire season has increased by approximately 80 days. Warmer temperatures and variations in average rainfall will undoubtedly result in larger and more intense wildfires. Insects and disease impacts modify the forest fuels as evidenced by the current tree mortality in the area. The introduction of invasive species can alter existing fuel types. A current example is the recent introduction of Scotch Broom found in many areas along highways through the area. Drought-hardy and fast-spreading, it functions as a "ladder fuel" in a fire and overruns habitat for native Coffeeberry and Rabbitbrush which are more fire resistant.

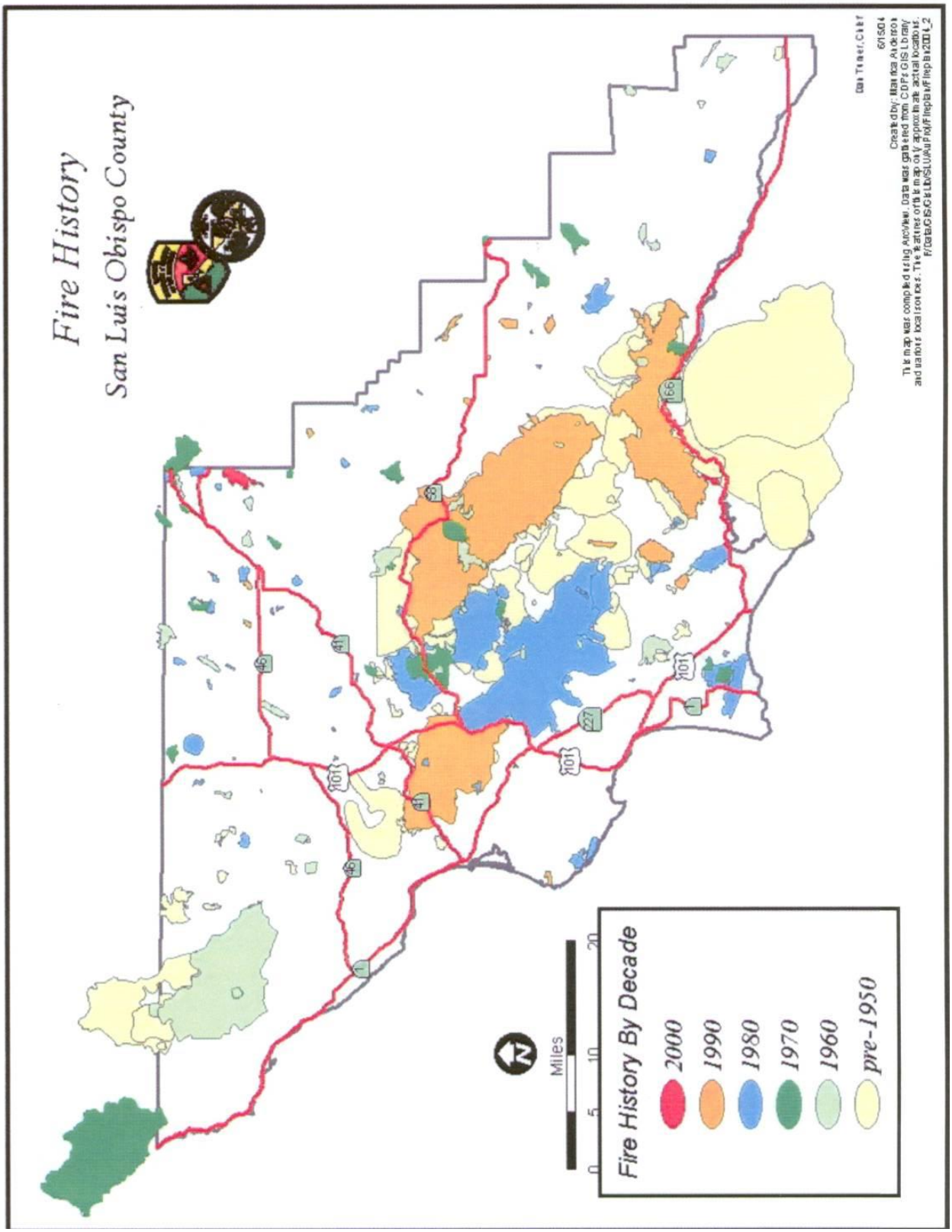
Future Probability/Risk Assessment Conclusion

The fuels and the topography throughout the majority of San Luis Obispo County may allow an unchecked wildfire to become a severe threat to many areas of the County. As noted in the Fire History (Table 10), nine significant fires have occurred over the past 35 years. However, the strong coastal weather influence found within the planning area diminishes this hazard much of the time. Additionally, within the District proper, this threat has been significantly mitigated by a number of factors including the ongoing adherence to state and local ordinances have resulted in modern fire restive construction/roofing and fire suppression systems. School play yards, access roads, and open space provide excellent defensible space for the majority of District facilities.

Given the current physical condition and location of the majority of District facilities and the risk to the public and firefighters, the severity of a wildfire threat is rated as **Low**. Given the past fire history, weather, topography and fuel, the probability of a significant fire occurring in the area is rated as **Medium.**



SLO County Fire Hazard Severity Zones



SLO County Fire History Map

➢Hazard: TSUNAMI

Severity: Medium	Probability: Low	Priority: Low

Hazard Definition

A tsunami is a wave, or a series of waves, caused by a displacement of the ocean floor, usually by movement along a fault. In deep ocean water, tsunamis may travel as fast as 600 miles per hour. As they approach the shore, waves may increase in size and can cause extensive damage to coastal structures.

Withdrawal of the sea may be a precursor to the arrival of the first wave. After the first wave appears, waves may continue to arrive at internals for several hours. Intervals between successive waves may be similar. If the second wave appears 20 minutes after the first, it is likely that a third wave (if there is one) would arrive 20 minutes after the second. The first wave may not be the biggest. Yet the largest wave usually occurs within the first ten waves. The primary effects of these waves can be widespread destruction and damage to coastal structures and flooding of low-lying areas. The height the sea level rises above mean high tide line is referred to as the "run-up".

History

While there is no recorded history of significant tsunami intrusion into, or damage to the Districts facilities, tsunamis have caused moderate damage to the City of Morro Bay's harbor. A tsunami in 1964, following an earthquake in Alaska, killed 12 people in Crescent City and damaged piers and boats in Morro Bay as the bay emptied and filled every 15 minutes for over an hour.

On March 11, 2011, a 9.0 magnitude earthquake struck northern Japan. Nearly 12 hours later, approximately $500,000 in damage was recorded to piers and docks in Morro Bay as a result of a tsunami from this earthquake. At the Center of Coastal Marine Science in Morro Bay (near the back of the bay), an oceanographer recorded a 6-foot surge, while fishermen and Coast Guard personnel estimated an 8 to 9 foot surge at the Coast Guard pier near the entrance to the harbor.

Table12: Tsunami History San Luis Obispo County

Location of Damage	Incident Date	Intensity	Information
Morro Bay	1868	Unknown	Unknown
Cayucos	4/16/1877	Height: 3.6 meters	Unknown
Morro Bay	1878	Unknown	Unknown - Reportedly overtopped the sand spit in low areas
Pismo Beach	1927	Height: 1.8 meters	Unknown
Avila Beach	4/1/1946	Height:1.3 meters Source magnitude: 7.3 Ms	Tsunami source location: Alaska Source event: E. Aleutian Islands Travel time: 5 hours 36 minutes
Morro Bay	4/1/1946	Height: 1.5 meters Source magnitude: 7.3 Ms	Tsunami source location: Alaska Source event: E. Aleutian Islands Travel time: 5 hours 36 minutes
Avila Beach	11/4/1952	Height: 1.4 meters Source magnitude: 8.2 Ms, 9 Mw	Tsunami source location: Russia Source event: Kamchatka Travel time: 8 hours 36 minutes
Pismo Beach	5/22/1960	Height: 1.4 meters Source Magnitude: 9.5 Mw	Tsunami source location: Chile Source event: Central Chile
Avila Beach and Morro Bay	3/28/1964	Height: 1.6 meters Source magnitude: 9.2 Mw	Tsunami source location: Alaska Source event: Gulf of Alaska. Travel time: 5 hours 10 minutes
Morro Bay	3/11/2011	Height: 2.4 Meters Source magnitude: 9.0 Mw	Tsunami source location: Japan Source event: Tōhoku earthquake Travel time: 10 hours 32 minutes

Hazard Potential

As noted in the above table, the historic record shows that significant tsunamis typically have been generated from distant earthquake sources. It has been estimated that the 100- and 500-year tsunami run-ups in the study area are based on far-field source generation locations (such as the Aleutian or Chile-Peru Trenches). Estimated tsunami run-up along the San Luis Obispo County coastline is approximately 9.5 feet to 24.2 feet for the 100 year and 500-year events, respectively. Those run-ups were calculated using astronomical high tides, and compare well with recorded tsunamis that have occurred in other locations along the California Coast. However, the worst-case scenario would be if a tsunami occurred during a meteorological high tide (storm surge), which would add an estimated 14.5 feet (4.5 meters) to the run-up values calculated. In this worst-case scenario, the estimated tsunami run-up for the 100 year and 500 year would be approximately elevation 24 and 39 feet above mean sea level, respectively. The Tsunami Response Plan for San Luis Obispo County uses as its planning basis all those coastal communities, recreation and developed areas with an elevation of 50 feet above mean sea level.

The Davidson Seamount is located approximately 70 miles NW of Cambria, and is 4,101 feet beneath the Pacific Ocean's surface. This mount rises 7,480 feet up from the ocean floor and is 23 miles long and 7 miles wide. A sub-surface landslide on this or any other nearby undersea feature would not allow adequate time to notify/warn San Luis Obispo County coastal residents to evacuate. While very unlikely to occur, an undersea landslide here could be devastating to coastal areas of San Luis Obispo County.

In general, much of the coast of the County is protected by wide beaches, coastal dune, or sea cliffs that provide protection for coastal developments. Areas most vulnerable to the tsunami hazard are developments or infra-structure near the mouths of streams that drain into the Pacific Ocean.

Morro Bay High School, located at 235 Atascadero Road, is situated just north of Morro Creek at its terminus with the Pacific Ocean. At an elevation of 6 meters or 20 feet, the school is well within the inundation zone. The sand dunes adjacent to the north-west portion of the High School offer some degree of protection from a direct tsunami impact. However, Morro Creek breaches the sand dunes with a very wide and very shallow gradient. This would allow tsunami waves to travel upstream flooding the low-lying areas behind the sand dunes where Morro High Bay School and the City's wastewater treatment facility and corporation yard are located. As noted above, the worst-case scenario would transpire if a tsunami occurred during a meteorological high tide combined with a storm surge which could add 14.5 feet to the wave height.

It should be noted that Baywood, Monarch Grove, and Del Mar Elementary Schools, as well as Bellevue - Santa Fe Charter School are all situated just outside/above the San Luis Obispo Tsunami Planning basis of 50 feet.

Impacts

The primary impacts of a tsunami event can be widespread destruction and damage to coastal structures and flooding of low-lying area. Other effects include:

- **Effects on people and housing**
  With the exception of Morro Bay High School, there is a limited probability that a tsunami event would cause significant property damage or loss of life to any portion of the District as most all facilities are located above the estimated run up elevation. A sophisticated warning system is in place which should minimize life loss at Morro Bay High School.

- **Effects on commercial and industrial structures**
  Morro Bay Harbor and neighboring Port San Luis could be impacted in terms of property damage to piers, docks, floats, and to moored boats. The Diablo Canyon Power Plant is not considered to be at risk as it is located on a marine terrace 85 feet above the sea level. The cooling intakes and release structures for the plant, which are located at sea level, are protected by natural barriers and a concrete jetty.

- **Effects on infrastructure**
  A tsunami event can cause damage to roads, communication facilities, and other infrastructure.

- **Effects on agriculture**
  Effects on agriculture, especially in the southern portion of San Luis Obispo County could be devastating if flooding of fields were to occur as a result of a tsunami traveling up and overbanking Arroyo Grande Creek.

Relationships to Other Hazards – Cascading Effects

Tsunami events can cause many cascading effects. Fire can break out as a result of damaged electrical equipment. Other problems and hazards associated with tsunami flooding include: utility disruptions, contamination of the water supply system, broken power lines lying on the ground, and communication system failures.

Plans and Programs in Place

A detailed Tsunami Response Plan for San Luis Obispo County is in place. The Plan addresses the coastal communities, recreation facilities and developed areas with an elevation of 50 feet or less above mean sea level.

The West Coast/Alaska Tsunami Warning Center in Palmer, Alaska is responsible for issuing tsunami information for California, Oregon, Washington, and British Columbia. Tsunami generating incidents around the Pacific can be detected, pinpointed and magnitude computed in from 2 to 12 minutes depending upon the distance from the warning center. Depending on the incident

magnitude a "Watch," "Advisory" or "Warning" will be transmitted to the Governor's Office of Emergency Services and then distributed through the County's Emergency Alerting System.

It should be noted that the California Coastal Commission denied the City of Morro Bay's request to refurbish the existing wastewater treatment facility. The facility, located adjacent to Morro Bay High, was required to move out of the Tsunami inundation zone to higher ground.

The District has in place both a very thorough Emergency Operation and Continuity of Operations Plan to assist the staff, faculty, and Board of Education in the management of a tsunami event.

Impacts of Climate Change

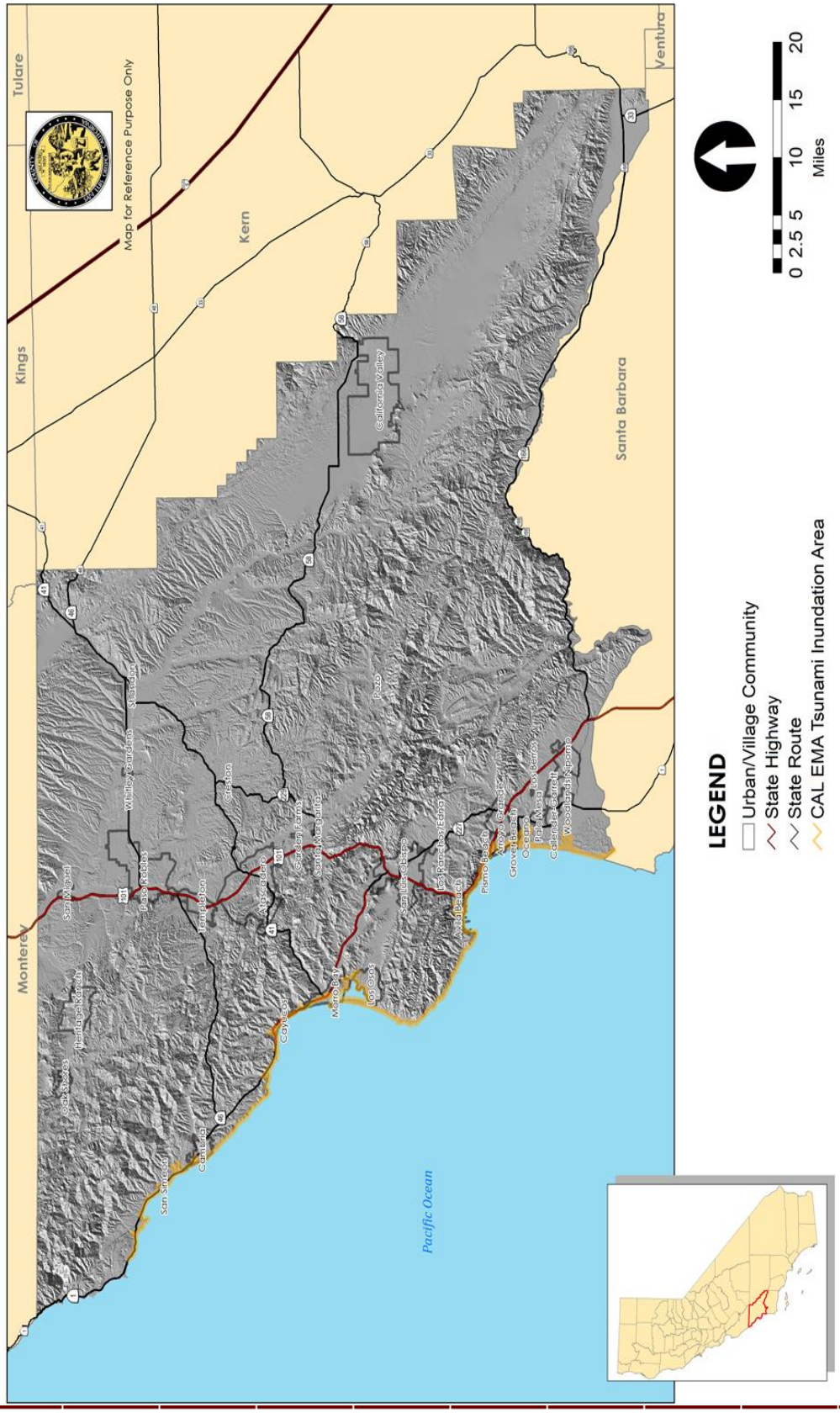
Caused by earthquakes or the movement of the ocean floor, Climate Change has no direct impact on tsunami events. However, with sea level rise, tsunami inundation areas will be increased.

Future Probability - Risk Assessment Conclusion

As delineated in the Risk Assessment above, a tsunami can occur anywhere along the Central Coast of California. Over the past 150 years, there have been only ten recorded events within San Luis Obispo County. Within the District, Morro Bay High School is the only facility threatened by a tsunami event. The damage to the High School would be from flooding, not the direct impact of a tsunami surge.

Historically, the study area has had minimal threat from tsunami activity. Thus, the probability of this future hazard event occurring is deemed **Low.** The combination of an accurate tsunami warning system, which will provide time for evacuations, and the limited exposed area reduces the severity to some degree. However, given the fact that Morro Bay High School is located within the tsunami inundation zone, a **Medium** severity rating is justified.

A San Luis Obispo County Tsunami Hazard inundation *map is found at the end of this section.*



San Luis Obispo County Tsunami Hazard Inundation Map

E. Hazard Profiles: Human-Caused and Technological Hazards

➢Hazard: CYBER SECURITY

Severity: High	Probability: Medium	Priority: High

Hazard Definition

Cyber security is the practice of defending computers, servers, mobile devices, electronic systems, networks, and data from malicious attacks. It's also known as information technology security or electronic information security. The term applies to a variety of contexts from business to mobile computing and can be divided into a few common categories.

Network security is the practice of securing a computer network from intruders, whether targeted attackers or opportunistic malware.

Application security focuses on keeping software and devices free of threats. A compromised application could provide access to the data its designed to protect. Successful security begins in the design stage, well before a program or device is deployed.

Information security protects the integrity and privacy of data, both in storage and in transit.

Operational security includes the processes and decisions for handling and protecting data assets. This includes the permissions users have when accessing a network and the procedures that determine how and where data may be stored or shared.

Disaster recovery and business continuity define how an organization responds to a cyber-security incident or any other event that causes the loss of operations or data. Disaster recovery policies dictate how the organization restores its operations and information to return to the same operating capacity as before the event. Business continuity is the plan the organization falls back on while trying to operate without certain resources.

End-user education addresses the most unpredictable cyber-security factor which is people. Anyone can accidentally introduce a virus to an otherwise secure system by failing to follow good security practices. Teaching users to delete suspicious email attachments, not plug in unidentified USB drives, and various other important lessons is vital for the security of any organization.

History

The global cyberthreat continues to evolve at a rapid pace, with a rising number of data breaches each year. A report by RiskBased Security revealed that a shocking 7.9 billion records were exposed by

data breaches in the first nine months of 2019 alone. This figure is more than double (112%) the number of records exposed in the same period in 2018.

With cyberthreats on the rise, the International Data Corporation predicts that worldwide spending on cyber-security solutions will reach a massive $133.7 billion by 2022. Governments across the globe have responded to the rising cyberthreat with guidance to help organizations implement effective cyber-security practices.

Hazard Potential

Medical services, retailers and public entities experienced the most breaches, with malicious criminals responsible for most incidents. Some of these sectors are more appealing to cybercriminals because they collect financial and medical data, but all businesses that use networks can be targeted for customer data, corporate espionage, or customer attacks.

Impacts/Threats

The potential threats and their impacts that could be encountered by the District include the following:

1. **Cybercrime** includes single actors or groups targeting systems for financial gain or to cause disruption.

2. **Cyber-attack** often involves politically motivated information gathering.

3. **Cyberterrorism** is intended to undermine electronic systems to cause panic or fear.

Listed below are some common methods used to threaten cyber-security:

Malware means malicious software. One of the most common cyber threats, malware is software that a cybercriminal or hacker has created to disrupt or damage a legitimate user's computer. Often spread via an unsolicited email attachment or legitimate-looking download, malware may be used by cybercriminals to make money or in politically motivated cyber-attacks.

There are a number of different types of malware, including:

- **Virus:** A self-replicating program that attaches itself to clean file and spreads throughout a computer system, infecting files with malicious code.
- **Trojans:** A type of malware that is disguised as legitimate software. Cybercriminals trick users into uploading Trojans onto their computer where they cause damage or collect data.
- **Spyware:** A program that secretly records what a user does, so that cybercriminals can make use of this information. For example, spyware could capture credit card details.
- **Ransomware:** Malware which locks down a user's files and data, with the threat of erasing it unless a ransom is paid.

- **Adware:** Advertising software which can be used to spread malware.
- **Botnets:** Networks of malware infected computers which cybercriminals use to perform tasks online without the user's permission.

SQL injection: An SQL (structured language query) injection is a type of cyber-attack used to take control of and steal data from a database. Cybercriminals exploit vulnerabilities in data-driven applications to insert malicious code into a databased via a malicious SQL statement. This gives them access to the sensitive information contained in the database.

Phishing
Phishing is when cybercriminals target victims with emails that appear to be from a legitimate company asking for sensitive information. Phishing attacks are often used to dupe people into handing over credit card data and other personal information.

Man-in-the-middle attack
A man-in-the-middle attack is a type of cyber threat where a cybercriminal intercepts communication between two individuals in order to steal data. For example, on an unsecure WiFi network, an attacker could intercept data being passed from the victim's device and the network.

Denial-of-service attack
A denial-of-service attack is where cybercriminals prevent a computer system from fulfilling legitimate requests by overwhelming the networks and servers with traffic. This renders the system unusable, preventing an organization from carrying out vital functions.
Source: www.kaspersky.com/resource-center

Cyberattacks are usually aimed at accessing, changing, or destroying sensitive information; extorting money from users; or interrupting normal business processes. Implementing effective cybersecurity measures is particularly challenging today because there are more devices than people, and attackers are becoming more innovative.

Plans and Programs in Place

The District has multiple layers of IT security in place including standard protections, network security, data back-up, encryption, user education, student protection policies, and special insurance. In addition, the District's Information Services & Technology Department provides ongoing training to faculty and staff on cyber security safe practices.

To ensure the safety and security of the practices currently employed, they will not be outlined here in this plan. The District has in place both very thorough emergency and continuity of operations plans to assist the staff, faculty and BOE in the management of a cyber security incident.

Future Probability - Risk Assessment Conclusion

The probability for cybercrime directed at the District is **Medium** and the potential Severity is **High.**

➢Hazard: UTILITY FAILURE

Severity: Medium	Probability: High	Priority: Medium

Hazard Definition

Utility failure is defined as the unplanned disruption or failure of a gas, water, or electrical service. When the demand for electricity exceeds the supply "brown outs" or rotating power outages may occur. The planned disruption of electrical service due to the risk of wildfire is known as a Public Safety Power Shutoff (PSPS). In 2021, PG&E began implementing a new Enhanced Powerline Safety Settings (EPSS) to prevent any PG&E equipment from potentially starting a wildfire, especially in high-risk fire areas. While EPSS has proven effective at helping protect customers from catastrophic wildfires in our most high fire-risk areas, it has also resulted in more frequent and longer-duration outages for some customers, including those in San Luis Obispo County.

History

There is no recent history of either a natural gas or water service failure of consequence within the District. Short term failures of these systems are very rare and service interruption is usually restored within a matter of hours.

Electrical service within the District is provide by PG&E and regulated by the California Public Utilities Commission. California's power grid system is occasionally strained to meet demand. This is especially true during a statewide heatwave when the demand for energy needed to run air conditioners, fans and computers is high. When this occurs, rotating outages are dispersed across PG&E's service area to prevent larger blackouts on the grid. The outages are sequenced, usually 2 hours at a time, to minimize the amount of disruption to consumers. It should be noted that rotating outages often occur after 3 PM when schools are out and the demand for electricity is the highest.

A PSPS or EPSS occurs in response to severe wildfire weather including wind, low humidity and high temperatures. In order to reduce the risk of fire ignition in certain predesignated areas, PG&E may de-energize electrical grids in advance of or during heightened fire weather conditions.

PG&E will attempt to notify customers of a PSPS or EPSS event 48 hours in advance of power being turned off, 24 hours in advance and just before the power is turned off. Notifications may also be made during the outage. Attempts to reach customers will be done by calls, texts or emails. Depending on conditions, these outages could last from several hours to multiple days.

Hazard Potential

These events can occur at any time and maybe limited to an isolated facility or have an area wide impact. Gas and water system failures are very rare and when they do occur service is normally restored within hours. The most common utility failure experienced by the District is power outages.

Unplanned electrical system failures are usually brief and generally do not disrupt activities for more than a few moments or hours at any given time. Planned outages and PSPS/EPSS are more common especially during heatwaves and wind events.

Impacts

In the event of a major utility failure of long-term duration or potential danger to students, faculty or staff, all or part of the Districts' facilities could be closed.

- Electricity powers lights in stairways and corridors allowing for safe exiting. It provides the energy for ventilation and heating and air conditioning equipment. It is essential for food preparation and service.
- Gas service is required for heating (both water and air) and is also essential for food preparation.
- Water service is a basic health and sanitation requirement.

Plans and Programs in Place

The following systems are in place should the normal utility fail:

- A large, hard wired/permanently fixed natural gas auxiliary generator is in service at the District Office at 1500 Lizzie Street. Its primary function is to power the computer system and provide power for the District's Emergency Operations Center. All other campuses have small portable generators stored on site that can be utilized as needed. In addition, as required by law, campus buildings are equipped with emergency lighting systems designed to provide enough illumination in corridors and stairs for safe exiting.

- The San Luis Obispo High School campus has two water wells that are owned and operated by the District. They produce potable water and are linked to the SLO City water system. The City of Morro Bay has a domestic water well located on the Morro Bay High School campus that can be utilized should the normal service fail.

- There are no standby sources for natural gas at any of the District's campuses.

- Solar panel covered parking structures have been installed at eight of the District's schools. These systems have been designed to solely offset energy costs, and are not equipped with battery storage systems therefore they will not provide energy during a power failure.

The District has in place both a very thorough Emergency Operation and Continuity of Operations Plan to assist the staff, faculty, and Board of Education in the management of long duration utility failure.

Future Probability – Risk Assessment Conclusion

Gas and water system failures are very rare and when they do occur service is normally restored within hours. Power failures are not uncommon, especially during heat haves, and depending on the duration the impact to the District can be of consequence. The probability of future power outages is rated as **High**. The severity is rated as **Medium.**

➢Hazard: NUCLEAR POWER PLANT

Severity: High	Probability: Low	Priority: Low

Hazard Definition

The Diablo Canyon Nuclear Power Plant, operated by the Pacific Gas and Electric Company (PG&E), is located on the San Luis Obispo County coast approximately four miles northwest of the City of Morro Bay and twelve miles west of the City of San Luis Obispo.

The plant consists of two nuclear power generating units. Both units are operational. Each unit contains a pressurized water type reactor having an electric power generating capacity in excess of 1,000 megawatts. The plant uses slightly enriched uranium dioxide (U02) as a fuel. This fuel poses no major concern in its un-irradiated form since it is of very low radioactivity. However, after being in the core during operation of the reactor (fission process), the fuel becomes extremely radioactive from the fission by-products. These highly radioactive by-products, if released to the environment, are the main concern in a nuclear power plant accident.

Emergency Planning Zones

The State OES has established a planning area for the Diablo Canyon Power Plant that is larger than that required by the NRC and FEMA. The County of San Luis Obispo has adopted the official state emergency planning zones. The land-based portions of the DCPP EPZ are divided into 12 Protective Action Zones (PAZ) defined by local geographic boundaries. The PAZs covers an area approximately 15 miles to the north and east and 18 miles to the south and east of the Diablo Canyon Power Plant. The PAZ lies entirely within San Luis Obispo County and is the area where protective actions are most likely to be necessary. It includes all of the Cities and the unincorporated areas of the District.

There are three additional zones, known as Public Education Zones (PEZ), surrounding the twelve PAZ. The PEZ extends across the San Luis Obispo County and borders into north Santa Barbara County. Residents living in the PEZ receive public education materials. Protective actions for the public in the PEZ are not likely to be necessary.

Diablo Canyon has an emergency response plan that is tested regularly and evaluated by federal officials. It is unlikely that an emergency would affect the entire EPZ. That is why the EPZ is divided into twelve smaller PAZ to help organize emergency planning and response actions.

Two factors determine whether protective actions would be needed for any of the PAZ during an emergency at Diablo Canyon. The first is if there is a potential or actual release of radioactive material. The second is the speed and direction of the wind and other weather conditions. The public would be notified through Emergency Notification System messages sent over local radio and television stations, Reverse 911 and social media.

History

Construction of Diablo Canyon Nuclear Power Plant began on unit 1 on April 23, 1968 with unit 2 following on December 9, 1970. Commission of the units occurred on May 7, 1985 and March 13, 1986 respectively. PG&E will discontinue its power operations at Diablo Canyon upon the expiration of the Unit 1 and Unit 2 operating licenses, in November 2024 and August 2025, respectively. Decommissioning will begin promptly after the units' shutdown; and the process is estimated to take approximately ten years. Both units have had very good safety records and have proven to be efficient and reliable sources of electricity.

Hazard Potential

As of May 1, 2021, there were 55 commercially operating nuclear power plants with 93 nuclear power reactors in 28 U.S. states. These produce 20 percent of the country's electricity without burning fossil fuels or polluting the environment with combustion products. Yet, whenever a nuclear power plant is operated, the potential for a radiological accident exists. The principal risks associated with nuclear power arise from the health effects of radiation which consists of subatomic particles traveling at or near the velocity of light---186,000 miles per second. They can penetrate deep inside the human body where they can damage biological cells and thereby initiate a cancer. They can also cause genetic diseases in progeny. In the rare instance that an individual is exposed to a very high radiation dose, body functions will be damaged leading to death within 60 days.

Impacts

Risks from reactor accidents are estimated by the rapidly developing science of "probabilistic risk analysis" (PRA) performed at each nuclear power plant. Typical results include: A fuel melt-down might be expected once in 20,000 years of reactor operation. In 2 out of 3 melt-downs there would be no deaths, in 1 out of 5 there would be over 1000 deaths, and in 1 out of 100,000 there would be 50,000 deaths. The average for all meltdowns would be 400 deaths.

Plans and Programs in Place

The very presence of this well protected nuclear power plant located within the District has engendered a large number of requisite Nuclear Regulatory Commission preparedness exercises and drills. SLCUSD staff members attend and participate in these drills and exercises on a regular basis and are well versed in their roles and responsibilities.

The District has in place both a very thorough Emergency Operation and Continuity of Operations Plan to assist the staff, faculty, and Board of Education in the management of nuclear power plant incident. As a precaution, the District may decide to either shelter in place or close their schools and move students to a Public School Relocation Center if there is radiological threat.

Future Probability - Risk Assessment Conclusion

When any nuclear power plant is operated, the potential for a radiological accident exists, though the probability of a serious accident is **Low.** Should an accident occur, resulting in a release of radiation the health effects are very serious, therefore the severity is rated as **High.**

In 2016, PG&E announced that it plans to close the two Diablo Canyon reactors in 2024 and 2025, stating that because California's energy regulations give renewables priority over nuclear, the plant would likely only run half-time, making it uneconomical.

➢Hazard: HAZARDOUS MATERIALS

Severity: High	Probability: Low	Priority: Medium

Hazard Definition

Hazardous materials are substances, natural or human-caused, that may be harmful to life or to the environment. They can be found in every community including in nearly every home and in most hospitals and factories. Hazardous materials incidents may occur at fixed facilities whereas required by law, the occupants should have filed site specific emergency response contingency and evacuation plans. Incidents may also occur along land, water or air transportation routes as a result of aircraft or other transportation accidents. Improper use of agricultural chemicals and illegal dumping can also pose a hazardous materials risk.

History

On October 3, 2001 at 7:00 AM, an ammonium leak from a fish processing facility required a .5-mile evacuation area. Included in the evacuation zone was the now closed Morro Elementary School. There is no other recorded history of a hazardous material spill impacting any other District facility.

Hazard Potential

Hazardous material incidents differ from other emergency response situations because of the wide diversity of causative factors and the pervasiveness of the potential threat. Circumstances such as the prevailing wind and geographic features in the vicinity of emergency incidents are relevant factors that may greatly increase the danger.

The threat of a major hazardous material incident in the planning area would be likely derived from one of the following sources:

- Industrial/Agriculture
- Transportation
- Natural Gas Pipelines
- Clandestine dumping

Industrial/Agriculture

Industrial uses in the planning area are engaged in light manufacturing or assembly. Hazardous materials primarily stored in these industries are solvents, etching agents, and fuel. Pesticides, fertilizers, and chemicals are stored at numerous sites around the planning area.

Small quantities of hazardous materials are both used and stored at both Morro Bay and San Luis Obispo High Schools and the District's Buildings, Grounds & Transportation Facility (BGT). The required permits and Hazardous Material Site Safety Plans are in place.

Transportation - Highway

Highway101 passes through the District and is a primary truck route from Los Angeles to coastal central California. Highways 41 and 226 also pass nearby Morro Bay High School and Los Ranchos Elementary. Materials shipped include explosives, compressed and liquefied gases, petroleum products, agricultural chemicals, industrial chemicals, and hazardous wastes.

Transportation - Railroads

The coastal route of the Union Pacific Railroad passes through the County and City of San Luis Obispo. The rail line is located directly adjacent to San Luis High School and Los Ranchos Elementary campuses. Several northbound and southbound freight trains pass through the area daily. Materials shipped include explosives, compressed and liquefied gases, petroleum products, agricultural chemicals, industrial chemicals, radioactive materials, hazardous wastes and military ordinance and rocket fuels destined for Vandenberg AFB.

Transportation - Airports

The San Luis Obispo County Airport resides within the District and is located 2 miles from Los Ranchos Elementary School. The airport area contains electronic component manufacturers, aircraft repair shops, and specialized research facilities. A wide variety of materials such as solvents, etching agents, stored fuel, reagents, toxins, and radioactive material may be encountered.

Pipelines - Natural Gas

Southern California Gas Company has both large and small-diameter natural gas transmission lines (60-200 pounds per square inch or more) extending throughout the District.

Dumping

Illegal dumping of hazardous waste can occur on both public and private property. Historically, this has not been a significant problem in the planning area. As the costs and restrictions increase for legitimate hazardous waste disposal sites, it can be anticipated that illegal dumping of hazardous materials will increase proportionately.

Impacts

If released, hazardous materials may cause harm to people, the environment, critical infrastructure, and property. Their potential for harm exists regardless of whether hazardous materials are released by accident, malicious actor, fire, or weather-related event. Hazardous material incidents affect a range of stakeholders in the whole community. Workers in facilities who regularly use or handle hazardous materials, transportation carriers, nearby residents and students, first responders, and emergency room personnel are all at risk of health impacts from hazardous materials.

Plans and Programs in Place

The District has the appropriate permits and Hazardous Materials Site Safety Plans in place. In addition, staff members who use these materials participate in the required training programs. The County has a joint powers Hazardous Materials Response Team. This team is made up of individuals from a variety of participating fire departments throughout the County. In order to assemble the team, it takes up to two to four hours before a functional team may be at the scene. It is estimated that significant out of County assistance will not be available for a period of at least two to five hours.

The District has in place both a very thorough Emergency Operation and Continuity of Operations Plan to assist the staff, faculty, and Board of Education in the management of hazardous materials incident.

Future Probability - Risk Assessment Conclusion

The potential for a hazardous materials emergency exists primarily through transportation accidents of surface and rail vehicles. Although the probability for a disastrous hazardous materials incident is low, the probability for extreme risk to life and property is high should such an emergency occur. In conclusion, hazardous material emergencies have occurred and will continue to occur within the District. The potential for a hazardous material emergency exists primarily through transportation accidents of surface vehicles primarily near San Luis and Morro Bay High and Los Ranchos Elementary schools. Although the probability for a disastrous hazardous material emergency is **Low**, the probability for extreme risk to life and property, if such an emergency does occur, is **High**.

➢Hazard: ACTIVE SHOOTER

Severity: High	Probability: Low	Priority: High

Hazard Definition

An Active Shooter is an individual actively engaged in killing or attempting to kill people in a confined and populated area. In most cases, active shooters use firearms(s) and there is no pattern or method to their selection of victims. Active shooter situations are unpredictable and evolve quickly. Typically, the immediate deployment of law enforcement is required to stop the shooting and mitigate harm to victims.

History

School shootings have become increasingly common, in particular in America. Recent school shootings (and other mass shootings) have contributed to a rise in public concern over gun violence and socialization of children and young adults. School shooting statistics show a growing trend of this problem. However, this is not a new phenomenon. The Pontiac's Rebellion school massacre in 1764, is the first recorded case of a school shooting in the U.S. Three men entered a schoolhouse in, Pennsylvania, shot and killed schoolmaster and ten children. During the nineteenth century at least 36 school shootings took place in this country. The most devastating of these incidents took the lives of 5 people in Charles Town in West Virginia in 1898. Still, the problem of school shootings in the U.S. grew during the twentieth and twenty-first centuries.

Since 1970, the U.S. has experienced over 1,369 school shootings. California has had the highest number of school shootings since 1970, with 158. Over the 10-year period of 2009 to 2018 it is estimated that 83 fatalities occurred in school shootings. Incidents include the Parkland, Florida, shootings that killed 17 and injured another 17, the Sandy Hook Elementary School shooting in Newtown, Connecticut, which ended with 28 deaths, and the Columbine High School massacre resulted in the death of 15 people and injured 21.

Hazard Potential

Without a drastic change in federal gun control measures, the hazard history is indicative of the hazard potential. Unfortunately, some states have seen far more school shootings than others. The table below was tracked by the Naval Postgraduate School's Center for Homeland Defense and Security. The K-12 School Shooting Database shows that California has had the highest number of school shootings since 1970, with 164. The only other state with over 100 school shootings since 1970 is Texas, with a total of 135. Florida has had a total of 90 school shootings, Michigan has had 70, and Illinois has had 65.

Source: School Shootings by State 2021 (worldpopulationreview.com)

Table 13: School Shootings by State

State	Number of School Shootings	2021 Pop.
California	164	39,613,493
Texas	135	29,730,311
Florida	90	21,944,577
Michigan	70	9,992,427
Illinois	65	12,569,321
Ohio	55	11,714,618
Pennsylvania	54	12,804,123
New York	49	19,299,981
Maryland	47	6,065,436
Tennessee	46	6,944,260
Georgia	46	10,830,007
Louisiana	44	4,627,002
North Carolina	43	10,701,022
Alabama	42	4,934,193
Missouri	39	6,169,038
Washington	32	7,796,941
South Carolina	27	5,277,830
Virginia	25	8,603,985
Indiana	24	6,805,663
Colorado	20	5,893,634
Connecticut	18	3,552,821
Arkansas	18	3,033,946
Mississippi	17	2,966,407
Wisconsin	15	5,852,490
Oregon	14	4,289,439
Massachusetts	14	6,912,239
Kentucky	14	4,480,713
Utah	13	3,310,774
Nevada	13	3,185,786
New Jersey	12	8,874,520
Minnesota	12	5,706,398
Iowa	12	3,167,974
Arizona	12	7,520,103
Oklahoma	11	3,990,443
New Mexico	10	2,105,005
Kansas	10	2,917,224
Montana	8	1,085,004
Delaware	8	990,334
Nebraska	7	1,951,996
New Hampshire	6	1,372,203
Alaska	5	724,357
South Dakota	4	896,581
Rhode Island	4	1,061,509
West Virginia	3	1,767,859
Hawaii	3	1,406,430
Wyoming	2	581,075
Vermont	2	623,251
Maine	2	1,354,522
Idaho	2	1,860,123
North Dakota	1	770,026

Impacts

School shootings are truly a tragedy, bringing death, injuries and fear to learning institutions believed to be a safe-haven. Unfortunately, the U.S. experiences them more frequently than many other countries. These school shootings have brought about debates among Americans regarding gun control, mental health issues, bullying, and security.

Plans and Programs in Place

The San Luis Obispo County Sheriff's Department has taken the lead in developing an Active Shooter Plan for all the schools in the County. The majority of the schools within the County have been pre-planned and mapped utilizing a consistent format and terminology. This allows all responding law enforcement personnel to use the same maps, protocols and communication standards when responding to this type of event. In addition, a high-quality training program has been developed for the law enforcement members of the County. This was accomplished through the purchase of the VirTra 300 which is a state-of-the-art use of force simulator and an I-Combat Laser training system. Both of these systems enhance the training regarding active shooter incidents, and they are available to all law enforcement agencies within the County.

The District has in place both a very thorough Emergency Operation and Continuity of Operations Plan to assist the staff, faculty, and Board of Education in the management of an active shooter event. Additionally, a reunification plan is currently being developed. School District staff should receive proper training on active shooter incidents, reunification and care for the injured.

Source: San Luis Obispo County Sheriff's Office News Release. Date: 11/14/2018

Future Probability - Risk Assessment Conclusion

While the probability of an active shooter event occurring within the District is **Low**, the severity is **High.**

F. District Specific Hazard Ranking

Table 14: Hazard Ranking- Naturally Occurring Hazards

	Earthquake	Wildland Fire	Flood	Drought	Tsunami	Windstorm	Heavy Snowfall	Hailstorm	Extreme Heat	Coastal Erosion	Thunderstorm
Probability	H	M	M	H	L	H	L	L	L	L	L
Severity	M	L	L	M	M	L	L	L	H	L	L
Priority	H	M	M	M	L	M	L	L	M	L	L

L = Low, M= Medium, H = High

Table 15: Hazard Ranking- Human-Caused and Technological Hazards

	Cyber Security	Nuclear Power Plant	Active Shooter	Utility Failure	Hazardous Materials
Probability	M	L	L	H	L
Severity	H	H	H	M	H
Priority	H	L	H	M	M

L = Low, M= Medium, H = High

VI. VULNERABILITY ASSESSMENT

A. Overview

The vulnerability assessment is a summary of the hazard's impact to the District's vulnerable structures. Community assets and development trends will be identified and assessed with respect to the developed hazard profiles to ascertain the potential amount of damage that could ensue from each identified hazard. This section will include: 1) A summary of the potential impacts of the identified hazards to the study areas, 2) A description of the critical buildings and infrastructure within the study areas including future building and land use decisions, 3) A general description of the extent of each hazard's impacts to these vulnerable structures, and 4) An estimate of the potential dollar losses to vulnerable structures.

Outlined below is a summary of the potential impacts for the identified hazards. Each of the specific hazard profiles contains a more comprehensive review of the potential impacts, vulnerability, and cascading events that may occur. It is important to note that the impact of an event may vary dramatically based on the time of the day and year, weather conditions, the duration of the event, and the availability of first responders and mutual aid resources to mitigate the event.

Earthquake A moderate earthquake occurring in or near the planning area could result in numerous deaths and casualties and heavy property damage. A disruption of normal government and community services and activities should be anticipated. The direct impact to the District should be moderated by the overall very good condition of the facilities. Life loss would also be minimized given that students occupy facilities only during a short portion of the day and not at night. Collateral emergencies such as fires, flooding, hazardous material spills, utility disruptions, and transportation emergencies will most likely occur and may impact the ability of students to attend classes.

Wildland Fire The ensuing effects of wildland fires to the overall community can be devastating beyond the obvious loss of vegetation and depletion of forest resources. Numerous deaths and causalities can occur. Economic impacts can be severe, impacting school tax revenues. As noted in the Hazard Profile, the District has very limited direct exposure to wildfire.

Extreme Weather These events can have significant impacts on the health and safety of the overall population and cause major property and infrastructure damage to the District itself. The duration of these events, with the exception of drought, is most typically short-term. Associated dangers or losses with these occurrences include: the destruction of personal property, utility failures, interruption of the transportation network and interruption of communication systems.

Floods can cause extensive property damage and result in the occasional loss of life in a community. While there are many cascading effects associated with flooding including fires, hazardous materials spills, health concerns and polluted water supplies, the majority of the District's facilities are not located in flood prone areas. The transportation, utilities, and communication systems that serve the District may be disrupted for short periods of time.

Tsunami The primary effects of a tsunami can be widespread destruction and damage to coastal structures, roads, communications facilities and other infrastructure. The vast majority of the District is located well away from the coast. As delineated in the risk assessment section of this plan, a tsunami threat does exist at Morro Bay High School and potentially at Bellevue-Santa Fe Charter School.

B. DMA 2000 Requirements

DMA Requirement §201.6(c)(2)(ii):	The risk assessment shall include a description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community.
DMA Requirement §201.6(c)(2)(ii)(A):	The plan should describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas.
DMA Requirement §201.6(c)(2)(ii)(B): (c)(2)(i)(A)	The plan should describe vulnerability in terms of an estimate of the potential dollar losses to vulnerable structures identified in paragraph of this section and a description of the methodology used for estimating.
DMA Requirement §201.6(c)(2)(ii)(C): (c)(2)(i)(A)	The plan should describe vulnerability in terms of providing a general description of land uses and development trends within the community so that future mitigation options can be considered in future land decisions.
DMA Requirement §201.6(c)(2)(iii):	For multi-jurisdictional plans, the risk assessment must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

C. Critical Facilities and Infrastructure

Critical facilities and infrastructure are those systems within each community whose incapacity or destruction would have a debilitating effect on the District's ability to recover subsequent to a major disaster. The following critical facility and infrastructure are categorized as follows:

1. **Emergency Services** for the health and welfare of the whole population (e.g., hospitals, police, fire stations, ambulance stations, emergency operations centers, evacuation shelters, schools).

2. **Lifeline Utility Systems** such as potable water, wastewater, oil, natural gas, electric power and communications systems.

3. **Transportation Systems** including railways, highways, waterways, airways and community streets to enable effective movement of services, goods and people.

4. **High Potential Loss Facilities** such as power plants, dams and levees.

D. District Assets at Risk to Applicable Hazards

Table 16: San Luis Coastal Unified School District Assets at Risk

Critical Facilities and Infrastructure	Address/Location	Value: Building/ Content	Wildfire	Flood	Earthquake	Tsunami	Extreme Weather	Drought	Human-Caused-Technological
Baywood Elementary	1330 9th Street Los Osos, CA 93402	12,173,400			X		X	X	X
Bellevue-Santa Fe Charter	1401 San Luis Bay Drive San Luis Obispo, CA 93405	2,622,000	X	X	X	X	X	X	X
Bishop's Peak Elementary	451 Jaycee Drive San Luis Obispo, CA 93401	10,569,400			X		X	X	X
C.L. Smith Elementary	1375 Balboa Street San Luis Obispo, CA 93401	12,245,200			X		X	X	X
Del Mar Elementary	501 Sequoia Street Morro Bay, CA 93442	11,327,200	X		X		X	X	X

Hawthorne Elementary	2125 Story Street San Luis Obispo, CA 93401	10,106,600			X		X	X	X
Laguna Middle School	11050 Los Osos Valley Rd. San Luis Obispo, CA 93405	25,105,700			X		X	X	X
Los Osos Middle School	1555 El Morro Avenue Los Osos, CA 93402	20,064,000	X		X		X	X	X
Los Ranchos Elementary	5785 Los Ranchos Road San Luis Obispo, CA 93401	12,269,000			X		X	X	X
Monarch Grove Elementary	348 Los Osos Valley Road Los Osos, CA 93402	12,223,200			X		X	X	X
Morro Bay High School	235 Atascadero Road Morro Bay, CA 93442	51,291,800		X	X	X	X	X	X
Pacheco Elementary	261 Cuesta Drive San Luis Obispo, CA 93405	11,621,100			X		X	X	X
Pacific Beach High School	11950 Los Osos Valley Rd. San Luis Obispo, CA 93401	1,808,900			X		X	X	X
San Luis Obispo High School	1499 San Luis Drive San Luis Obispo, CA 93401	56,599,800	X		X		X	X	X
Sinsheimer Elementary	2755 Augusta Avenue San Luis Obispo, CA 93401	10,500,500			X		X	X	X
Sunnyside Leased Facility	880 Manzinita Los Osos CA, 93402	7,338,200			X		X	X	X
Teach Elementary	145 Grand Avenue San Luis Obispo, CA 93405	10,410,200			X		X	X	X
Vincente School	1989 Vincente San Luis Obispo, CA 93401	864,700			X		X	X	X
Building, Grounds & Transportation	937 Southwood Drive San Luis Obispo, CA 93401	4,780,300			X		X	X	X
Jesperson Elementary	251 Grand Avenue San Luis Obispo, CA 93401	529,000			X		X	X	X
District Network	Area Wide	2,700,000			X		X		X
District Office & Adult School	1500 Lizzie Street San Luis Obispo, CA 93401	18,175,800			X		X	X	X
Morro Elementary	1130 Napa Morro Bay, CA 93442	8,374,200			X		X	X	X
Total Values		**312,399,00**							

E. Methodology Used

To determine the number of critical structures and infrastructure at risk, a combination of field surveys, aerial photos, GIS maps, and Google Earth software was used. The methodology used in preparing the Vulnerability Estimate consisted of determining the value of critical buildings and facilities for insurance/replacement purposes as reported by the District Facilities Manager. In addition, critical infrastructure values were established by using actual replacement costs which were determined by recent comparable replacement projects.

F. Loss Estimations

Dollar losses to buildings and infrastructure vary depending upon the natural hazard occurring and the severity of the hazard. In general, earthquakes can extensively damage a wide area therefore critical structure and infrastructure losses should be estimated at a 100% value. Destruction from flooding takes place in specific areas and the damage is historically less severe than that of an earthquake. Thus, the estimated loss as a result of flooding should be calculated at the 40% of the structural value. Damage resulting from wildfires should be calculated at 25% of the structural value. The vast majority of the District is not at risk for a wildfire and the limited structures that are threatened have limited dollar value. Traditionally, drought losses are limited to agricultural production which is not applicable to the School District. That said, the ongoing drought throughout the State of California may have a limited impact on the District's landscaping and gardens but increases the risk of wildfires. Damage resulting from tsunamis would not be from the impact of the wave but instead from the resultant flooding. Thus, losses to single threatened facility (Morro Bay High School) should be calculated at 40% of the structural value. Extreme weather could impact any portion of the jurisdiction. Historical data indicates that these events are extremely localized and a 10% loss of the value of the structure damaged should be anticipated.

VII. CAPABILITY ASSESSMENT

A. Overview

An important component of the mitigation strategy is an understanding of the resources available to the District, and the various support agencies that will be involved in carrying out the District's identified mitigation measures in order to minimize the effects of each of the identified hazards. The primary support agencies include the County Office of Education, the County of San Luis Obispo (SLO) and the Cities of San Luis Obispo and Morro Bay.

The Capability Assessment begins with a review of legal and regulatory capabilities, including ordinances, codes, and plans used to facilitate hazard mitigation activities. This assessment also describes the administrative and technical capabilities available and the District's ability to manage the funding required to implement mitigation strategies. This is followed by a discussion of the community's general willingness to implement mitigation measures. Additionally, this assessment includes a review of the physical assets available to respond to the emergency needs of the District.

B. Legal and Regulatory

California Special Districts are state agencies created for the local performance of a specific governmental or proprietary function, unlike cities and counties that perform a wide variety of functions for their citizenry. Special districts provide services and facilities within a defined boundary and are governed by a board. Although the California public school system is under the policy direction of the Legislature, more local responsibility is legally granted to school districts and county education officials than to other government entities and officials.

Statutes relating to school districts, county boards of education, and county superintendents of schools operate differently from any other California statutes. Because the plenary power to make state policy and law rests with the Legislature, the general rule of law is that an agency of government is permitted to do only that which is authorized by statute; it cannot undertake any program or activity simply because it is not prohibited. In 1972, however, the voters amended the California Constitution. As a result, the general rule has been altered only for school districts. Thus, laws relating to local schools occupy a unique constitutional position.

Under this "permissive education code," as long as a statute does not prohibit a program or activity and it is consistent with the purposes for which school districts are established, it can be undertaken. In other words, it is constitutionally unnecessary to enact any statutes that merely allow or permit school districts, at their discretion, to do something.

San Luis Obispo County and the Cities of SLO and Morro Bay have the applicable building codes, zoning ordinances, subdivision regulations, and other regulatory development guidelines which enable them to require and implement hazard mitigation activities and prevent repetitive losses within the District. The County and the cities of SLO and Morro Bay are participants in the National Flood

Insurance Program (NFIP). The NFIP delineates flood areas (100- and 500-year maps) and outlines how and where structures may be built in those areas.

California state law requires each city and county to adopt a general plan "for the physical development of the county or city, and any land outside its boundaries which bears relation to its planning" (Section 65300 of the California Government Code). General plans in California are required to have seven mandatory elements. The SLO County, SLO City, and Morro Bay General Plans includes those seven plus several other optional elements for a total of eleven including: Land Use Coastal, Land Use Inland, Circulation, Housing, Conservation and Open Space, Noise, Safety, Parks and Recreation, Economic Development, Agricultural, and Off-Shore Energy.

Legal Authority

Local governments in California have a wide range of tools available to them for implementing mitigation programs, policies and actions. A hazard mitigation program can utilize any or all of the government powers granted by the state of California, which include:

- **General Police Power**
  The general police power of the County or City is typically enacted and enforced with ordinances which define, prohibit, regulate or abate acts, omissions, or conditions detrimental to the health, safety, and welfare of the people, and to define and abate nuisances, including public health nuisances.

  Since hazard mitigation can be included under the police power as protection of public health, safety and welfare, towns, cities and counties may include requirements for hazard mitigation in local ordinances. Local governments may also use their ordinance making power to abate "nuisances," which could include any activity or condition making people or property more vulnerable to a hazard.

- **Building Codes and Inspection**
  Construction within the District must meet the standards of the California Building Code. The state Fire Marshal and the responsible City or County Planning and Building Departments review proposed subdivisions and building plans, and conducts site inspections to ensure applicable codes are followed. Additionally, the state Fire Marshal's Office reviews projects for enforcement of the California Fire Code.

- **Land Use Regulations**
  Land use regulatory powers include planning, enacting and enforcing zoning ordinances, floodplain ordinances, and land division controls. The County and the City of SLO and Morro Bay control the amount, timing, density, quality and location of school improvements, remodeling, and new construction in order to reduce the Districts vulnerability to naturally occurring hazards. Thus, unsafe development in hazard prone areas can be prevented through local planning, zoning and development review by the various Planning and Building Departments.

- **Acquisition/Eminent Domain**
  California legislation empowers cities, towns, counties and school districts to acquire property for public purpose by gift, grant, devise, bequest, exchange, purchase, lease or eminent domain. The County can and has used acquisition as a tool for pursuing local mitigation goals. This reduces or eliminates the possibility of unsafe development occurring.

- **Taxation**
  California law gives local government the power to levy taxes and special assessments. The power of taxation extends beyond merely the collection of revenue, and can have a profound impact on the pattern of development in the community. California does not allow cities or counties to increase tax rates beyond the base rate, except with voter approval. A community can pursue voter approval of a bond or similar mechanism to increase the property tax to be used for a specific purpose. Often used for schools, the increase could be used for an earthquake retrofit program or other hazard reduction program. While voter approval of such measures is difficult to obtain, it is not impossible.

- **Spending/Budget**
  Local governments have the power to make expenditures in the public interest. Hazard mitigation principles can be made a routine part of all spending decisions made by the local government, including the adoption of budgets and a Capital Improvement Plan (CIP). A CIP is a schedule for the provision of municipal or county services over a specified period of time. Capital programming, by itself, can be used as a growth management technique, with a view to hazard mitigation.

C. Administrative and Technical

The SLCUSD and the supporting agencies described below have knowledgeable and experienced administrative and technical staff in place to expedite the mitigation actions identified. They possess technical expertise in the areas of planning, engineering, floodplain and wildfire fuel mitigation, Geographic Information Systems (GIS), and both emergency and general management authority. Additionally, professional contractors with technical and administrative resources are available to assist the staff in implementing the hazard mitigation goals.

D. Financial

In order to achieve the goals and objectives of the District's Mitigation Strategy, one or more of the following funding sources will be utilized by the District and the supporting agencies: federal and state entitlements and grants, general fund, sales and property taxes, infrastructure user fees, impact fees, and new development impact fees. The District, and all the support agencies involved, have the necessary budgetary tools and practices in place to facilitate handling appropriate funds. However, local funding sources are currently very limited.

E. Political Will of Community

The SLCUSD is comprised of residents, business owners and other key stakeholders with a vested interest in making their community and particularly their schools a safe environment to educate their children. Local residents are knowledgeable about the natural hazards that have impacted the District and the County in the past and are familiar with the concept of mitigation. For this reason, the community fully supports hazard mitigation strategies and is open to implementing changes that will make this district and its occupants safer. Residents demonstrated this support in November of 2014 by voting in favor of Measure D, a $177 million bond act upgrade that addresses longstanding facility, technology and infrastructure needs throughout the District.

F. Support Services

SLCUSD is well equipped to carry out the designated mitigation actions. In addition to experienced and well-trained administrative and teaching staff, the following District, government and volunteer support services are available to the District.

Student Health Services

Three credentialed school nurses and four licensed vocational nurses provide district-wide health services. The major focus of school nursing services is the prevention and detection of illness and disability. This is accomplished through:

- Creating school healthcare plans to support students with health conditions
- Conducting state-mandated screenings: hearing, vision, and color deficiency
- Providing first aid, and communicable disease control
- Offering health counseling to pupils, parents, and school staff
- Referring pupils and parents to appropriate community resources for suspected medical diagnosis and treatment
- Collaborating with community programs to screen and link students and families to health resources (Lion's Club, Central Coast Dental Society, County of San Luis Obispo Public Health Department)

Law Enforcement

Three law enforcement agencies serve the School District: The SLO County Sherriff's Department, The SLO City Police Department, and the Morro Bay Police Department. All three are adequately staffed, equipped, and trained to meet the law enforcement needs of the District. San Luis Obispo and Morro Bay High Schools have specific school officers assigned to them by their respective cities. Response times to all District facilities are acceptable. In the event of a major emergency (i.e.

earthquake or wildfire etc.) mutual aid agreements are in place with surrounding agencies to augment the initial response.

Fire and Emergency Medical Services

Three fire agencies serve the School District including the SLO County Fire Department, the SLO City Fire Department, and the Morro Bay Fire Department. All three are adequately staffed, equipped, and trained to meet the emergency fire and rescue needs of the District. Response times to all District facilities are acceptable. In the event of a major emergency (i.e. earthquake or wildfire etc.) mutual aid agreements are in place with surrounding agencies to augment the initial response. Emergency Medical Service, at the Advanced Life Support level (ALS- Paramedic) is delivered by 3 fire agencies and San Luis Ambulance.

ARES/RACES

The Amateur Radio Emergency Service (ARES) is part of the Amateur Radio Relay League's (ARRL) extensive volunteer field organization dedicated to public service. ARES is comprised of amateur radio operators who volunteer to provide a resource of trained operators for reliable primary or secondary communications links for governmental agencies and non-profit organizations.

The Radio Amateur Civil Emergency Service (RACES) consists of only those amateur radio operators who have previously registered with state and local governments to provide emergency radio communications for them in times of emergency. This service must be activated by the government.

In addition to wartime and disaster communications, operations under the RACES rules can provide or supplement communications during emergencies where normal communication systems have sustained damage. It may be used in a wide variety of situations, including natural disasters, technological disasters, nuclear accidents, nuclear attack, terrorist incidents, and bomb threats.

Made up of members from Morro Bay, Los Osos, Cayucos, Cambria and San Luis Obispo, the Estero Radio Club has been active for more than 40 years. Members come from all walks of life, from engineers to office workers, men and women of all ages. They are very active not only in ham radio as a hobby, but also as members of ARES/RACES disaster response teams.

Club members also provide communication assistance during events such as marathons and bicycle races. The club also sponsors ham radio-related activities of interest to the general public as well as other hams. Through mentoring and training, the club assists person interested in ham radio to become licensed and to progress in the experience that is ham radio.

Red Cross

The American Red Cross (ARC) Central California region is headquartered in Camarillo but has local chapters in San Luis Obispo, Santa Barbara, Fresno, Kern and Tulare Counties. The ARC provides both disaster preparedness and response. They train individuals in lifesaving skills and empowers local businesses and community organizations to develop the necessary skills, resources, and networks needed to prepare for a disaster. Additionally, when disaster strikes, the Red Cross provides food,

shelter, clothing, emotional support and hope to those affected. The ARC has Memorandums of Understanding with the District regarding the use of San Luis High, Morro Bay High and Laguna Middle Schools as shelter/welfare centers in the event of a major emergency.

Salvation Army-San Luis Obispo Corps.
The services provided by the Salvation Army are broad and far-reaching, including accommodation services, addiction recovery, aged care, emergency relief, youth support, chaplaincy and financial counselling, among others.

G. Physical Assets-Transportation

The District has a large fleet of service vehicles that could be utilized in carrying out the SLCUSD's identified mitigation measures. This fleet includes approximately 40 buses/ passenger vans, and 60 pickups/utility vans.

H. Ability to Expand/Implement Mitigation Strategies

The District has the ability to expand and improve the above-mentioned policies and programs as described in the Mitigation Goals outlined below. It should be noted that the District has a long-standing history of proactively utilizing policies, programs and practices to mitigate local hazards.

VIII. MITIGATION STRATEGY

A. DMA 2000 Requirements

DMA Requirement §201.6(c)(3)(i):	The hazard mitigation strategy shall include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.
DMA Requirement §201.6(c)(3)(ii):	The mitigation strategy shall include a section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

B. District Goals, Objectives and Mitigation Actions

Table 17: SLCUSD Goals, Objectives and Mitigation Actions

Goal 1	**Promote understanding and support for hazard mitigation by the SLCUSD staff, faculty and Board of Education (BOE).**
Objective 1	Educate the staff, faculty and BOE to increase awareness and opportunities for mitigation hazards including earthquake, wind, winter storms, hail, freeze, heat, drought, tsunami, flood, and human-caused events.
Mitigation Action 1.1A	Through school newsletters, speaking engagements and other public contacts, continue to educate the parents, staff, faculty and BOE on the District's issues, responsibilities, and current efforts and successes in the area of disaster preparedness.
Mitigation Action 1.1B	Utilize the SLCUSD website to inform the public of hazard mitigation efforts, disaster preparedness messages, and emergency situation information occurring within the District.
Goal 2	**Ensure that future remodels and new construction is protected from natural disasters including earthquakes, wind, winter storms, hail, freeze, heat, drought, tsunamis, flooding and human-caused hazards.**

Objective 2	Work with applicable City and County Planning staff to limit new development in hazardous areas. Build to standards that will prevent or reduce damage from natural or human-caused occurring events and will accommodate individuals with access and functional needs.
Mitigation Action 2.1A	Encourage BOE and key staff members to attend local seminars and lectures on naturally occurring and human-caused hazards so that they may better understand and assist staff as they process future development or remodels.
Mitigation Action 2.1B	In order to better protect life and property, continue to accumulate from the County accurate and comprehensive series of maps and data sets that pertain to the District's earthquake, tsunami, extreme weather and flood threats.
Goal 3	**Build and support local capacity and commitment to minimize the District's vulnerability to all listed naturally occurring, technological and human-caused hazards.**
Objective 3.1	Improve existing capabilities of District staff to manage naturally occurring emergency situations, power failures, Nuclear Power Plant incidents, and other technological events.
Objective 3.2	Enhance the safety of the District's students, staff, faculty and BOE members including those individuals with access and functional needs.
Objective 3.3	Improve the District's standby power, communication and network systems, so that in the event of a major emergency they will continue to operate effectively (redundancy and standby power).
Mitigation Action 3.1A	Train all District department managers and key staff members on their roles and responsibilities in emergency management and at the District DOC as outlined in independent study courses FEMA/National Incident Management System - ICS 100, 700, and 800.
Mitigation Action 3.1B	Create a multi-year exercise plan that includes training all District department managers and key staff members on their roles and responsibilities in the function and operation of the District DOC and its relationship to the County EOC.
Mitigation Action 3.1C	On an annual basis send a District management employee to the California Specialized Training Institute (CSTI) Public Information Officer course.

Mitigation Action 3.1D	Working with SLO County OES, increase participation by District staff members in disaster and Nuclear Power Plant drills put on by the County.
Mitigation Action 3.1E	Improve District facilities that are used as Red Cross shelter/welfare sites- i.e.- purchase generators, install Wi-Fi in gymnasiums where needed.
Mitigation Action 3.2A	In order to ensure that employees are available to assist during a major emergency, have all District departments familiarize themselves and update on an annual basis the Family Support Plan.
Mitigation Action 3.3A	Develop a District wide Radio Communication's Plan that includes site specific plans for all District facilities.
Mitigation Action 3.3B	Utilize the Estero Radio Club's (ARES/RACES) expertise to obtain and install a base station radio, mobile radios, and a standby power source at the District's DOC, to facilitate emergency communications.
Mitigation Action 3.3C	Provide training to key personnel at all District schools and BGT on the standby power systems, communication plan and how to utilize radios and satellite phones. Also, conduct monthly standby generator, phone and radio tests.
Goal 4	**Minimize the level of damage and losses to the District's existing and future critical facilities and infrastructure due to flooding.**
Objective 4.1	Enhance the ability of the District's assets, particularly critical facilities, located in the 100-year floodplain to handle existing and projected flood levels.
Mitigation Action 4.1A	Support the Morro Bay city, county, state and federal agencies' efforts in funding improvements through grant and agency programs to improve the stream flow of Morro Creek in the vicinity of Morro Bay High School.
Goal 5	**Minimize the level of damage and losses to the District's existing and future critical facilities and infrastructure due to earthquakes.**
Objective 5.1	Continue education efforts in order to better prepare the students, staff, faculty, and BOE for the effects of a significant earthquake event.

Objective 5.2	Enhance the ability of the District's assets, particularly critical facilities, to survive the impacts of a significant earthquake.
Objective 5.3	Enhance the ability of District Administration to manage the impacts of a significant earthquake.
Mitigation Action 5.1A	Working with SLO County OES, increase the student, faculty, and staff awareness and participation in earthquake preparedness activities such as the annual Great California Shake-Out drill.
Mitigation Action 5.2A	Complete updating the Facilities Master Plan paying close attention to water line replacement and earthquake vulnerable structures. Develop a replacement schedule for buildings and other infrastructure (i.e.-bleachers) found to be vulnerable to an earthquake.
Mitigation Action 5.3A	Send two District management employee to the California Specialized Training Institute (CSTI) Introduction to Earthquake Management Course.
Goal 6	**Limit risk to, and impacts from hazardous materials spills, sewage spills, sewer pipeline breaks, illegal disposals, transportation accidents, or system failures.**
Objective 6.1	Improve District's response in the control and clean-up of hazardous materials and accidental spills.
Mitigation Action 6.1A	Educate science and BGT staff and faculty on the best practices associated with disposing of hazardous materials and on proper storage and disposal techniques.
Mitigation Action 6.1B	Make sure all hazardous materials are stored in appropriate containers and in required safe areas.
Mitigation Action 6.1C	Complete updating the Facilities Master Plan paying close attention to sewer line replacement.
Goal 7	**Minimize the level of damage and losses to the District's existing and future critical facilities and infrastructure due to a tsunami event.**

Objective 7.1	Enhance the ability of the District's assets, particularly critical facilities, to survive the impacts of a significant tsunami event.
Mitigation Action 7.1A	Work with County OES, Morro Bay City, and the California Coastal Commission to post tsunami evacuation route signage for Morro Bay High School directing students to the high ground across Hwy.1 to the northeast.
Goal 8	**Minimize the level of damage and losses to the District's existing and future critical facilities and infrastructure due to a wildland fire and structure fire event.**
Objective 8.1	Assist the local fire service agencies in continuing their public education efforts to better prepare the students, faculty, and staff of the District from the effects of a fire event (wildfire and structure).
Objective 8.2	Enhance the ability of the District's assets, particularly critical facilities, to survive the impacts of a fire event (wildfire and structure).
Mitigation Action 8.1A	Continue working with the local fire service agencies in the distribution of wildfire public education pamphlets and fire safety public education programs.
Mitigation Action 8.2A	Work with the San Luis Obispo Community Fire Safe Council to secure funding to mitigate the wildfire fuel hazard surrounding the school farm at SLO High School.
Mitigation Action 8.2B	Work with the San Luis Obispo Community Fire Safe Council to secure funding to mitigate the wildfire fuel hazard found at Los Osos Middle School at the southern end of the campus.
Mitigation Action 8.2C	Upgrade existing fire alarm systems at Baywood Elementary, Del Mar Elementary, Los Ranchos Elementary, Pacheco Elementary, Monarch Grove Elementary, Sinsheimer Elementary, Sunnyside Elementary, Hawthorne Elementary, Morro Elementary, Vicente Elementary, Laguna Middle School, Pacific Beach High School and the District Office.
Mitigation Action 8.2D	Install Knox box in a visible location at the front of Monarch Grove Elementary.

Mitigation Action 8.2E	Make sure all sprinkler systems are updated to DSA standards.
Goal 9	**Limit risk and impacts from campus intruders who gain unauthorized entry onto school campuses.**
Objective 9.1	**Minimize opportunity for child abduction.**
Objective 9.2	**Minimize opportunity for entry by school shooter or other dangerous persons.**
Mitigation Action 9.1A	Where practical, install 6 ft. fences at all District elementary schools.
Mitigation Action 9.1B	Where practical, install locks in open access areas/exterior gates at all District elementary schools.
Mitigation Action 9.1C	Establish and annually review visitor control procedures at all District Schools.
Mitigation Action 9.2A	Install window blinds in all District classrooms lacking them.
Mitigation Action 9.2B	Ensure single point of entry with safety mitigation strategies employed at all District sites.
Mitigation Action 9.2C	Make inside reception area doors self-closing and electronic release at Baywood Elementary.
Mitigation Action 9.2D	Improve campus lighting at all District Schools.
Mitigation Action 9.2E	Where practical, install bullet proof film at all District site entry areas.

Mitigation Action 9.2F	Improve exiting from classrooms 5 through 11 at Hawthorne Elementary.
Mitigation Action 9.2G	Improve visibility of evacuation maps at all District sites.
Mitigation Action 9.2H	Adopt Districtwide Reunification Plan
Mitigation Action 9.2I	Develop Reunification Plan Job Action Sheets and purchase position identification vests.
Mitigation Action 9.2J	Conduct annual Active Shooter, Emergency Medical Care, and Reunification training at all District Schools.
Goal 10	**Minimize the risks and impacts from cyber-crime that could be encountered by the School District.**
Objective 10.1	**Minimize the impact of a potential cyber security breach.**
Objective 10.2	**Educate staff, faculty and students on cyber security best practices.**
Mitigation Action 10.1A	Continue the practices and policies currently established by the District to ensure a safe and reliable computer and network system.
Mitigation Action 10.2A	Encourage District and site staff members to attend local seminars and lectures on the latest cyber security best practices.

C. How Mitigation Goals Address Buildings and Infrastructure

Table 18: Existing Buildings and Infrastructure

MITIGATION GOALS	EXISTING BUILDINGS AND INFRASTRUCTURE				
	Electrical and Power Infra-structure	**Water and Wastewater Management**	**Commun-ication Facilities**	**Essential Service Facilities**	**Public Structures**
Goal 1-General Mitigation: Promote understanding of hazard mitigation.	**X**	**X**	**X**	**X**	**X**
Goal 2-General Mitigation: Protect future development.	**X**	**X**	**X**	**X**	**X**
Goal 3-General Mitigation: Build local capacity and commitment.	**X**	**X**	**X**	**X**	**X**
Goal 4-Flood: Minimize damage due to flooding.	**X**	**X**	**X**	**X**	**X**
Goal 5-Earthquake: Minimize the level of damage and losses to due to earthquakes.	**X**	**X**	**X**	**X**	**X**
Goal 6 –Hazardous Materials: Limit risk from hazardous materials spills.		**X**		**X**	**X**
Goal 7-Tsunami: Minimize damage and loss of life from a tsunami event.	**X**			**X**	**X**
Goal 8-Wildfire: Minimize the level of damage and losses due to wildfires/structure fires.	**X**			**X**	**X**

Goal 9-Intruder: Minimize the risk and impacts from intruders.				**X**	**X**
Goal 10-Cyber Security: Minimize the risks and impacts from cyber security threats.			**X**	**X**	**X**

Please note: As described in the future development trends section above, the District will continue the process of modernizing and upgrading their facilities. However, there are currently no plans for the development of any new critical infrastructure.

IX. MITIGATION ACTION IMPLEMENTATION

A. DMA 2000 Requirements

DMA Requirement §201.6(c)(4)(i):	The plan maintenance process shall include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.
DMA Requirement §201.6(c)(4)(ii):	The plan shall include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.
DMA Requirement §201.6(c)(3)(iii):	The mitigation strategy section shall include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.
DMA Requirement §201.6(d)(3):	A local jurisdiction must review and revise its plan to reflect changes in development**,** progress in local mitigation efforts, and changes in priorities, and resubmit if for approval within 5 years in order to continue to be eligible for mitigation project grant funding.

B. Prioritization of Mitigation Actions

Each mitigation action was prioritized based on:

- The probability of the threat occurring.
- The effectiveness of the mitigation action. To determine this, the contractors examined each mitigation action's effectiveness in protecting lives, preventing injury, preserving property, and minimizing damage to the District's critical facilities and infrastructure.
- The practicality of carrying out the mitigation action within the jurisdiction. To determine this, the following factors were considered: technical and administrative capabilities, financial resources, environmental impact, the impact on the District's Superintendent's Office, social acceptance, and political support.

Additionally, in assessing and evaluating each strategy, the following factors were considered:

- The benefit justified the cost
- The availability of financial resources
- The availability of staff resources
- Impact on participating jurisdiction functions
- Strategies reflect the goals and objectives

This assessment gave rise to the development of an overall relative risk value that resulted in ratings of **LOW, MEDIUM** or **HIGH** or each of the mitigation actions. The resultant prioritization was presented to the District and key stakeholders. Lengthy discussions were held to ensure that the results were indeed applicable to the priorities and capabilities of the District.

Table 19: Mitigation Action Prioritization Worksheet

Mitigation Action	**Hazard Risk** Minimal=1 Moderate=2 High=3	**Mitigation Action Effectiveness** Minimal=1 Moderate=2 High=3	**Mitigation Action Practicality** Minimal=1 Moderate=2 High=3	**Cost Benefit Analysis** Minimal=1 Moderate=2 High=3	**Total**	**Overall Ranking**
1.1A	1	3	2	2	8	Medium
1.1B	1	3	2	2	8	Medium
2.1A	1	3	2	2	8	Medium
2.1B	1	3	2	2	8	Medium
3.1A	2	3	3	3	11	**High**
3.1B	2	3	3	3	11	**High**
3.1C	2	2	2	3	9	Medium
3.1D	2	3	3	3	11	**High**
3.1E	1	1	2	2	6	Low
3.2A	1	2	3	3	9	Medium
3.3A	1	2	3	2	8	Medium
3.3B	2	3	3	2	10	**High**

3.3C	1	1	2	2	6	Low
4.1A	3	1	1	2	7	Medium
5.1A	3	2	3	2	10	**High**
5.2A	2	3	3	2	10	**High**
5.3A	2	2	3	2	9	Medium
6.1A	3	3	3	3	12	**High**
6.1B	3	3	3	3	12	**High**
6.1C	2	3	3	2	10	**High**
7.1A	3	2	2	2	9	Medium
8.1A	3	2	2	2	9	Medium
8.2A	3	3	3	2	11	**High**
8.2B	3	3	3	2	11	**High**
8.2C	2	3	2	2	9	Medium
8.2D	2	3	2	2	9	Medium
8.2E	3	3	2	2	10	**High**
9.1A	2	3	2	2	9	Medium
9.1B	2	2	3	2	9	Medium
9.1C	2	2	3	2	9	Medium
9.2A	2	2	2	2	8	Medium
9.2B	2	2	3	2	9	Medium
9.2C	1	2	2	2	7	Medium
9.2D	1	1	2	2	6	Low
9.2E	3	3	1	2	9	Medium
9.2F	2	2	2	2	8	Medium
9.2G	2	2	2	2	8	Medium
9.2H	3	3	3	2	11	**High**

9.2I	3	3	3	2	11	**High**
9.2J	3	3	3	2	11	**High**
10.1A	3	3	3	2	11	**High**
10.2A	3	3	3	2	11	**High**

Priority Ranking Values:

4 - 6 = Low

7 - 9 = Medium

10 - 12 = High

C. Action Plan

Table 20: SLCUSD Action Plan for 2021 Mitigation Actions

MITIGATION ACTION		IMPLEMENTATION STRATEGY			
ID	**DESCRIPTION**	**RESPONSIBLE DEPARTMENT**	**FUNDING**	**COMPLE-TION DATE**	**PRIORITY**
1.1A	Educate public and Stakeholders about opportunities for mitigating hazards	Superintendent's Office	General Fund	Ongoing	Medium
1.1B	Educate staff on current disaster preparedness developments	Superintendent's Office	General Fund	Ongoing	Medium
2.1A	Educate BOE and key staff on trends and developments	Superintendent's Office	General Fund	Ongoing	Medium
2.1B	Accumulate maps and data on District potential threats	Buildings, Grounds and Transportation	None Required	Ongoing	Medium
3.1A	ICS and DOC training for staff	Superintendent's Office	General Fund	Annual	**High**
3.1B	Create multi-year disaster training plan/schedule	Superintendent's Office	General Fund	9/1/22	**High**
3.1C	PIO training at CSTI	Superintendent's Office	Grant Funded	Annual	Medium
3.1D	Participate in SLO County disaster drills and exercises	Superintendent's Office	None Required	Ongoing	**High**
3.1E	Shelter-Welfare improvements	Buildings, Grounds and Transportation	Building Fund	7/1/2023	Low
3.2A	Update Family Support Plan	Human Resources	None Required	1/15/2022	Medium
3.3A	Radio/Sat. Phone Communications Plan (site specific)	Superintendent's Office	General Fund	7/1/2023	Medium

3.3B	ARES/RACES DOC Radio	Superintendent's Office	Grant/ Donation	9/1/2022	**High**
3.3C	Radio/Sat Phone training	Superintendent's Office	General Fund	Annual	Medium
4.1A	Morro Creek Improvements	Superintendent's Office	None Required	Ongoing	Medium
5.1A	Earthquake drills	Safety	None Required	Annual	Medium
5.2A	Update Master Plan (water lines)	Superintendent's Office	Building Fund	7/1/2022	**High**
5.3A	Earthquake Management Course (CSTI)	Superintendent's Office	Grant Funded	Annual	Medium
6.1A	Educate Haz Mat best practices	Safety	None Required	Ongoing	**High**
6.1B	Haz Mat storage	Safety	None Required	Ongoing	**High**
6.1C	Update Master Plan (sewer lines)	Superintendent's Office	Building Fund	7/1/2022	**High**
7.1A	Tsunami signage	Superintendent's Office	General Fund	7/1/2024	Medium
8.1A	Fire safety training	Safety	None Required	Annual	Medium
8.2A	Mitigate wildfire hazard at SLO High	Buildings, Grounds and Transportation	Grant - SLO Co. Fire Safe Council	7/15/22	**High**
8.2B	Mitigate wildfire hazard at Los Osos School	Buildings, Grounds and Transportation	Grant – SLO Co. Fire Safe Council	7/15/2022	**High**
8.2C	Fire alarm upgrades	Buildings, Grounds and Transportation	Building Fund	1/15/2024	Medium
8.2D	Install Knox Box at Monarch Grove	Buildings, Grounds and Transportation	General Fund	7/15/2022	Medium
8.2E	Upgrade Fire Sprinklers	Superintendent's Office	Building Fund	1/15/2026	**High**

9.1A	Security fencing	Buildings, Grounds and Transportation	Building Fund	1/15/2024	Medium
9.1B	Install locks on gates	Buildings, Grounds and Transportation	Building Fund	1/15/2024	Medium
9.1C	Visitor control procedures	Superintendent's Office	General Fund	9/15/2022	Medium
9.2A	Install window blinds	Buildings, Grounds and Transportation	Building Fund	1/15/2023	Medium
9.2B	Single point of entry improvements	Buildings, Grounds and Transportation	Building Fund	1/15/2023	Medium
9.2C	Self-closing and electronic release door at Baywood Elementary	Buildings, Grounds and Transportation	Building Fund	1/15/2023	Medium
9.2D	Improve campus lighting	Buildings, Grounds and Transportation	Building Fund	7/15/2024	Low
9.2E	Install bullet-proof film	Buildings, Grounds and Transportation	Building Fund	7/15/2023	Medium
9.2F	Improve exiting at Hawthorne Elementary	Buildings, Grounds and Transportation	Building Fund	7/15/2023	Medium
9.2G	Improve evac. maps Hawthorne and Monarch Grove	Buildings, Grounds and Transportation	General Fund	7/15/22	Medium
9.2H	Adopt Reunification Plan	BOE	None Required	7/15/2022	**High**
9.2I	Reunification Plan JAS and vests	Superintendent's Office	General Fund	4/15/2022	**High**
9.2J	Conduct Active Shooter and Reunification Plan training	Superintendent's Office	General Fund	Annual	**High**
10.1A	Cyber Security best practices	I S &Technology	General Fund	Ongoing	**High**

10.2A	Cyber Security training	I S & Technology	General Fund	Ongoing	**High**

D. Implementation Through Existing Plans and Programs

The San Luis Coastal Unified School District adheres to the Morro Bay, San Luis Obispo City and County Planning Department building codes and regulations and California Code of Regulations, Titles 19 and 24, Building Standards Code to ensure efficient, safe, healthy and accessible facilities for human occupancy.

This Hazard Mitigation Plan will be made available to all those responsible for both the City of Morro Bay and the San Luis Obispo City and County's General Plan development mechanisms to ensure that consistency is maintained.

Additionally, the District has its own policies and procedures, purchasing guidelines, and capital improvement procedures currently in place. The Mitigation Actions outlined in this Plan will be incorporated into those documents under the direction of the SLCUSD Facilities Manager.

Mitigation Actions have been assigned to a number of District Departments, agencies and specific individuals. Carrying out these mitigation actions will fall under the general administrative oversight of the facilities manager who will report progress to the District Board of Education. Should the desired technical expertise not be available to these individuals or departments, the County Office of Emergency Services is committed to, when possible, coordinating the resources of the County to assist with implementation of the mitigation actions within the District.

E. Continued Public Involvement

The San Luis Coastal Unified School District understands the importance of involving the public in the ongoing Hazard Mitigation Plan review and updating process. Resultantly, the following actions have been taken:

- The District website has let the public know that the Hazard Mitigation Plan is available for general public viewing and comment. The website posting will be updated as plan changes are implemented.

- A hard copy is available for public viewing as requested at the SLCUSD District office at 1500 Lizzie Street in the City of San Luis Obispo.

F. Plan Monitoring, Evaluating and Updating

This hazard mitigation plan must reflect current conditions in order to continue to be an effective representation of the San Luis Coastal Unified School District's overall strategy for reducing its risks from natural and human-caused hazards. Monitoring and evaluating the plan will occur annually to make certain that the goals and objectives for the District are current and mitigation activities are being fully implemented.

To ensure that regular review and update of this Hazard Mitigation Plan occurs on an annual basis, the following actions will be taken:

- The SLCUSD Superintendent will annually report to the SLCUSD Board of Education an update on the goals and objectives of the plan.

- Following input from the Board of Education, the SLCUSD Superintendent will communicate his findings to the Hazard Mitigation Planning Group. In this manner, the Board of Education, the Superintendent, and community stakeholders can ensure that the plan components are up-to-date and meet current realities.

The Planning Group will provide the foundation for ongoing mitigation within the District through engagement and accountability in the plan's progress. They will annually monitor the effectiveness of the Plan at achieving its designated purpose and review each goal and objective to evaluate its:

- Relevance to current and evolving situations within the District
- Consistency with changes in local, state and federal policy

Under the direction of the District Superintendent, the Planning group will make certain that the mitigation goals are being implemented in accordance with the Plan and also review the risk assessment component of the plan to ascertain if the information needs to be updated or modified. They will report on the:

- Current status of their mitigation actions
- How coordination efforts are proceeding
- Implementation processes that worked well
- Any difficulties encountered
- Any strategies in need of revision

If the plan review leads the Hazard Mitigation Planning Group to determine that modifications are necessary, then the SLCUSD Superintendent will initiate a plan amendment.

Further, every five years, the SLCUSD Superintendent will initiate a full update of the District's Hazard Mitigation Plan.

X. ATTACHMENTS

Attachment A: Acronyms/Definitions

Acronym	Definition
CGS	California Geological Survey
Cal EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CAL FIRE	California Department of Forestry and Fire Protection
CDF	California Department of Forestry and Fire Protection
CDHS	California Department of Health Services
CFR	Code of Federal Regulations
CGS	California Geological Survey
CISN	California Integrated Seismic Network
CSSC	California Seismic Safety Commission
DFG	State Department of Fish and Game
DHS	Department of Homeland Security
DWR	Department of Water Resources
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FMA	Flood Mitigation Assistance
FMP	Floodplain Management Plan
FRAP	Fire and Resource Assessment Program
GIS	Geographic Information System
HMGP	Hazard Mitigation Grant Program
LHMP	Local Hazard Mitigation Plan
NFIP	National Flood Insurance Program
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Services
OES	Governor's Office of Emergency Services
SEMS	Standardized Emergency Management System
SFHA	Special Flood Hazard Area
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
WWTP	Wastewater Treatment Plant

Attachment B: Preliminary Notice to Neighboring Communities

Category Five Professional Consultants, Inc.

June 22, 2021

Dear Neighboring Community:

The San Luis Coastal Unified School District will be constructing a Local Hazard Mitigation Plan in order to uncover effective ways to reduce the jurisdiction's vulnerability to naturally occurring and man-made hazards. A Hazard Mitigation Planning Group has been formed comprised of community stake-holders. We will be holding a virtual kick-off meeting on Tuesday, June 29th at 10am. We invite you to attend this meeting and participate in the planning process.

For meeting login information or to learn more about this project, please contact the School District's project team consultants, Bob Neumann and Sheri Eibschutz at bob@cafive.com and sheri@cafive.com.

Thank You,

Robert F Neumann and Sheri Eibschutz
Category Five Professional Consultants, Inc.

Category Five Professional Consultants, Inc.
Post Office Box 13736
San Luis Obispo, CA 93406
E-mail: bob@cafive.com, sheri@cafive.com
Phone: 805.441.5469
www.cafive.com

Category Five Professional Consultants, Inc.

June 22, 2021

Dear City Manager/Emergency Services Manager:

The San Luis Coastal Unified School District will be constructing a Local Hazard Mitigation Plan in order to uncover effective ways to reduce the jurisdiction's vulnerability to naturally occurring and man-made hazards. A Hazard Mitigation Planning Group has been formed comprised of community stake-holders. We will be holding a virtual kick-off meeting on Tuesday, June 29th at 10am. We invite you to attend this meeting and participate in the planning process.

For meeting login information or to learn more about this project, please contact the School District's project team consultants, Bob Neumann and Sheri Eibschutz at bob@cafive.com and sheri@cafive.com.

Thank You,

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Category Five Professional Consultants, Inc.

July 14, 2021

Dear Planning Director:

The San Luis Coastal Unified School District is in the process of constructing a Local Hazard Mitigation Plan to find effective ways to reduce the District's vulnerability to naturally occurring and man-made hazards. A Hazard Mitigation Planning Group has been formed comprised of community stakeholders. If you would like to learn more about this project or participate in the planning process, please contact the School District's project team consultants, Bob Neumann and Sheri Eibschutz at bob@cafive.com and sheri@cafive.com.

Thank You,

Robert F Neumann and Sheri Eibschutz
Category Five Professional Consultants, Inc

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Phone: 805.441.5469
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Attachment C: Public Forum Notices to Local and Neighboring Communities

Category Five Professional Consultants, Inc.

October 1, 2021

Dear Neighboring Community:

The Public Review Draft of the Local Hazard Mitigation Plan recently constructed for the San Luis Coastal Unified School District will be presented to the general public and neighboring jurisdictions virtually on October 13 at 7pm. Category Five Professional Consultants, Inc. will describe how the plan was put together, what it entails, in addition to providing a detailed description of the mitigation goals and actions that are being proposed for the School District. All participants will have an opportunity to ask questions and comment on the plan.
To attend the October 13 public forum, please use the following Zoom link:
https://zoom.us/j/95974245770?pwd=eW90N0FSNE5aOXBJcWtMQ0RDZk9VZz09

A copy of the Public Review Draft Local Hazard Mitigation Plan is currently posted on the School District's website for your review and can be located at:
https://www.slcusd.org/department-page.php?id=296.

We invite you to attend this community outreach event and provide us with your valuable feedback.

Thank You,

Robert F Neumann and Sheri Eibschutz
Category Five Professional Consultants, Inc.

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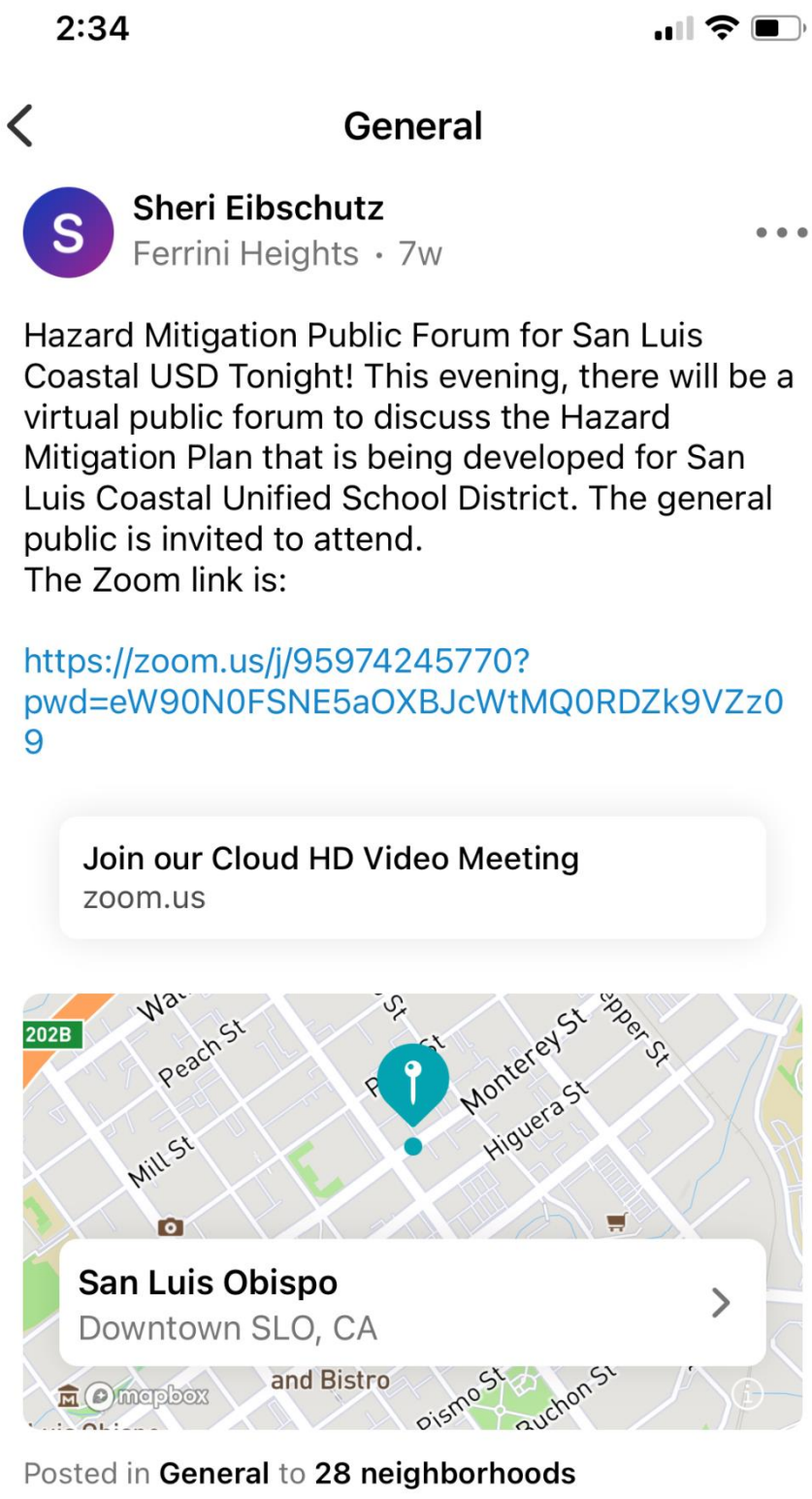
Posted on Nextdoor website to 28 local neighborhoods



Attachment D: Press Releases to General Public

SAN LUIS COASTAL
UNIFIED SCHOOL DISTRICT

1500 Lizzie Street
San Luis Obispo, CA 93401-3062
(805) 549-1200

The San Luis Coastal Unified School District is in the process of constructing a Hazard Mitigation Plan. The principal goal of this plan is to reduce the District's risk to naturally occurring and also human-caused disasters. Additionally, successful completion of this federally required plan will enable the District to receive federal mitigation funding following naturally occurring disasters and also permit them to apply for mitigation grants before disasters strike. This Plan identifies and profiles the natural hazards potentially impacting the District. Risk and vulnerability assessments have been developed to formulate mitigation goals and actions for the purpose of reducing or avoiding the effects of the identified hazards.

A successful Hazard Mitigation Planning necessitates involvement by local residents, businesses, the non-profit sector, and local government agencies in the planning and implementation process. This broad participation facilitates the development of the mitigation goals, objectives and actions and reflects the needs of stakeholders and the entire community.

On Wednesday, October 13, 2021 at 7:00 PM, a virtual public forum will be held via Zoom to enable the general public to become familiar with and comment on the key components of the Hazard Mitigation Plan.

A draft copy of the Plan can be found on the District's website at https://www.slcusd.org/department-page.php?id=296.

The Zoom link is to attend the October 13 public forum is:

https://zoom.us/j/95974245770?pwd=eW90N0FSNE5aOXBJcWtMQ0RDZk9VZz09

For questions and or comments please contact Bob Neumann, Project Planner at bob@cafive.com.