

Catalyzing Coastal Resilience: A Plan Alignment Case Study

City of Santa Cruz

OVERVIEW

Region

Central Coast

City Population

61,950 (2021 US Census Bureau)

Plans Discussed

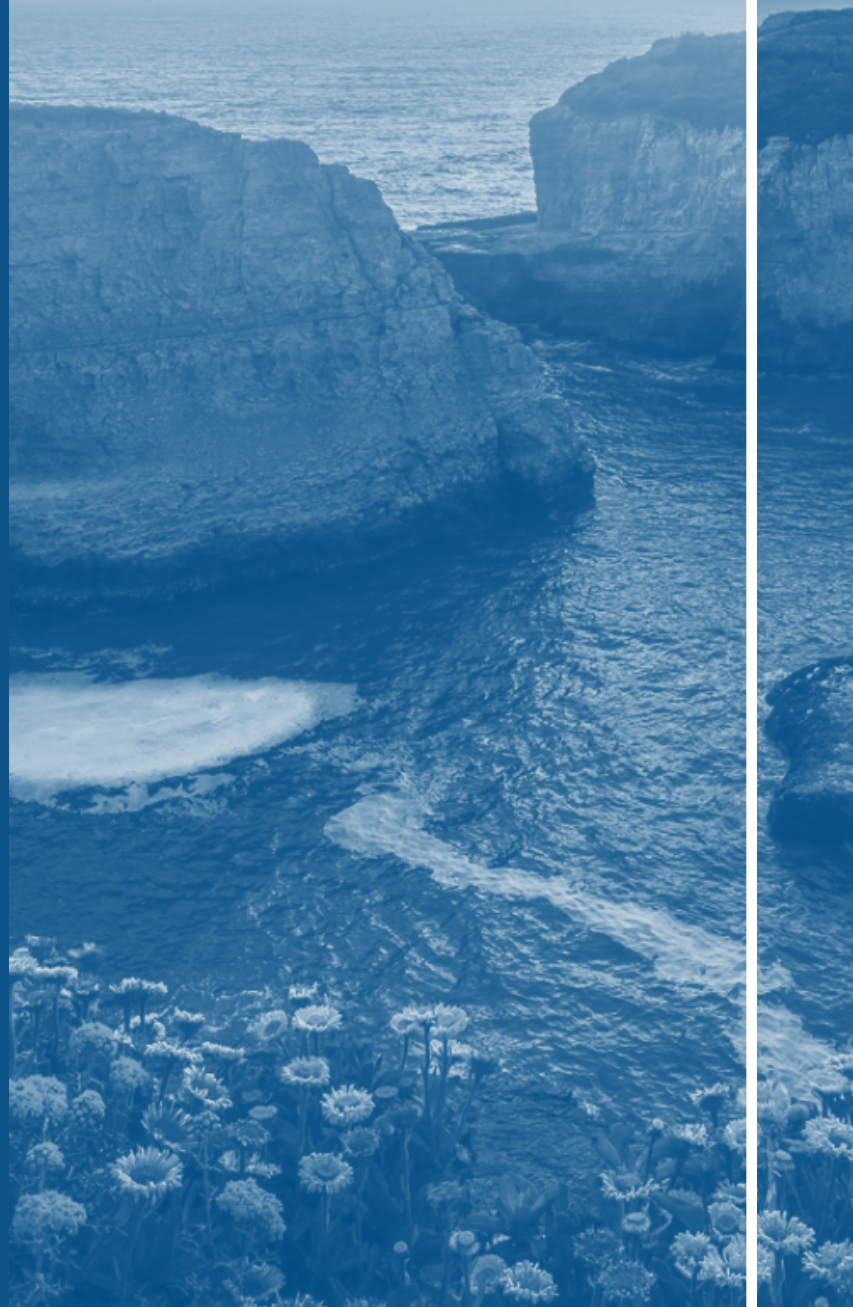
General Plan
Local Coastal Program
Local Hazard Mitigation Plan
Climate Adaptation Plan and Appendices
Sea Level Rise Vulnerability Assessment and Social Vulnerability to Climate Change Analysis
Climate Action Plan
West Cliff Drive Adaptation and Management Public Works Plan
Stormwater Management Plan
Wharf Master Plan
Parks Master Plan

Lead Agencies

City of Santa Cruz
City of Santa Cruz, Manager's Office, and Planning and Community Development Department

Coastal Hazards and Climate Impact Areas

Sea Level Rise
Erosion
Coastal Storms
Flooding
Tsunamis



SUMMARY

The impacts of climate change such as sea level rise, flooding, and other coastal hazards are felt across jurisdictional boundaries and in all aspects of society, impacting coastal communities and inland communities alike. The long-term, gradual, and uncertain nature of coastal hazards in the face of climate change make an aligned, iterative, and collaborative approach to coastal climate risks imperative to fostering community resilience. The following case study will illustrate a number of approaches that local jurisdictions can take for a more holistic and aligned response to climate change and coastal hazards.

The Office of Planning and Research selected the City of Santa Cruz for this case study as a model example of how coastal jurisdictions can facilitate local and regional alignment for a unified, collaborative response to the challenges of sea level coastal hazards. The City was specifically chosen because of history piloting innovative and successful coastal resilience initiatives, including a comprehensive suite of aligned local planning documents, commitment to equitable community engagement, regional planning and collaboration, and successful implementation.

By prioritizing interagency, community, and regional alignment, the City facilitates more holistic and equitable planning processes and outcomes, increased staff capacity and expertise, and shared resources. The City has strong community support and resources for climate action, due to a history of deep and meaningful community engagement and a particular focus on reaching frontline communities and centering equity. In recognition of the importance of regional approaches for climate resilience, the City is also a member of several regional climate collaboratives, which has proved essential for accessing funding resources and implementing adaptation strategies. Finally, the City's groundbreaking work embedding an adaptation pathways approach into local plans and piloting a social vulnerability assessment can serve as a model for jurisdictions across the state looking to move beyond traditional planning approaches.



What Is Plan Alignment?

Plan alignment is based on collaboration. The process of plan alignment leverages connections, information, and resources to build shared language, data foundations, and processes across multiple planning efforts at any scale. The resulting plan alignment products are:

1. *a suite of plans (with different scopes and purposes) that share the same data, similar underlying assumptions, aligned visions, and complementary goals, strategies, and actions.*
2. *a shared understanding, process, and structure for multiple entities in a community or region to continue to collaborate and align efforts over the long term.*

Plan alignment helps communities integrate planning teams, data, and processes to achieve more holistic and effective solutions, and better outcomes for everyone.

What is Adaptation Pathways?

Adaptation pathways is a planning approach that addresses the uncertainty and challenges of sea level rise and climate change decision-making (such as uncertainty in the regulatory, political, economic, environmental, and sociocultural conditions of the future). This approach, also called phased adaptation, enables consideration of multiple possible futures and more robust analysis of the benefits and downsides of adaptation solutions across those futures.



THE CITY OF SANTA CRUZ AND COASTAL RISK

The City of Santa Cruz, nestled along California's central coast, has historically encountered a range of coastal hazards, such as shoreline erosion, storms and associated storm surge flooding, sea level rise, and tsunamis. The natural landscape has undergone changes, and the increasing effects of climate change on local ecosystems and communities, has led to increased frequency and severity of coastal hazards. While the City has conducted studies to understand future impacts and already begun implementing adaptation initiatives over the last decade, it still faces uncertainty regarding the timing of climate impacts, and challenges planning at the pace and scale necessary to build resilience. All the while, the City has worked hard to balance the many priorities and pressures of the community, including economic development, conservation efforts, public health, and community safety.

In 2011 the city declared a state of emergency as a result of severe storm damage and a massive tsunami, resulting in approximately \$20 million in damage to the Santa Cruz Small Craft Harbor. Similarly, in 2017, the City experienced severe flooding and mudslides that damaged road and water systems, totaling \$10 million for repairs. And most recently, the Santa Cruz community was heavily impacted by the winter atmospheric river events of 2022 and 2023, with portions of the city and neighboring jurisdictions destroyed by flooding and erosion.

PLANNING AN ALIGNED RESPONSE

In response to the growing threat of coastal hazards, the City has explicitly incorporated sea level rise and other climate change concerns in short-term and long-term planning strategies. To ensure a coordinated response, the City iteratively aligns climate resilience information in local plans over time as each plan is updated with new information. Climate change and sea level rise planning strategies are now incorporated in the City's Local Hazard Mitigation Plan (2018), Climate Adaptation Plan (2018), General Plan, and its Local Coastal Program Public Works Plan – the West Cliff Drive Adaptation and Management Plan (2021). The City also began updating its Local Coastal Program in 2021 to incorporate sea level rise, and began another update to the LHMP and Adaptation Plan in 2023.

When the City updated its [Local Hazard Mitigation Plan](#) (LHMP) and [Climate Adaptation Plan](#) (Adaptation Plan) in 2018, an interdepartmental City team worked together to update each plan and align their processes and timelines. Having the same team working on both plans allowed the City to streamline processes and identify interconnections. This effort resulted in a crosswalk matrix in the Adaptation Plan that tracks and organizes the linkages between the two plans (see crosswalk graphic). While both plans remain stand-alone documents that are reviewed and updated individually, the City attached the Adaptation Plan as an appendix to the LHMP. The interdepartmental team used community engagement information from earlier editions of the Adaptation Plan, and findings from the City's first Sea Level Rise Vulnerability Assessment, to inform actions and policies included in the updated plans. The Adaptation Plan also identifies specific plans and mechanisms for implementation, including the Emergency Operations Plan, Capital Investment Program, City Municipal Code, design and conservation guidelines, Storm Water Management Program, Parks Master Plan, and more.

2018 LHMP Quick Facts

- **Incorporated updated information and data** sources for local risks and hazards, maps and graphics, land use and development, and demographics .
- **Reviewed and updated goals, objectives, and actions.** Example actions include: enforcing regulations on the development and alteration of flood plains; participation in early warning systems for evacuation of areas at risk of flooding, tsunami, or dam failure; and protecting and preserving coastline and infrastructure through restoration efforts.

2018 Climate Adaptation Plan Quick Facts

- **Intended to increase the community’s adaptive capacity** by identifying vulnerabilities and equitable adaptations.
- **Included new vulnerability data, maps, and more detailed objectives** based on sea level rise projections and other climate change data at years 2030, 2060, and 2100; social vulnerability scores and maps.

2030 General Plan Quick Facts

- **Serves as the City’s long-range planning document,** details land use development and preservation policies, and summarizes the current state of the City and the broad trends that will shape the locality over time.
- **Includes policies and procedures to minimize development impact** in sensitive coastal areas, protect and enhance public access to coastal recreation areas, and increase community awareness of coastal hazard risks and resources.

APPENDIX J

CROSSWALK OF LOCAL HAZARD MITIGATION PLAN AND CLIMATE ADAPTATION PLAN UPDATE

Hazards	LHMP		CAP	
	Impact	Mitigation Strategy	Impact	Adaptation Strategy
Earthquakes and Liquefaction	Ch. 4	Ch. 13	Not Addressed	NA
Wildfires	Ch. 5	Ch. 13	Ch. 3	Ch. 4
Floods and Associated Coastal Storms	Ch. 6	Ch. 13	Ch. 3	Ch. 4
Drought	Ch. 7	Ch. 13	Ch. 3	Ch. 4
Tsunami	Ch. 8	Ch. 13	Not Addressed	
Coastal Erosion	Ch. 9	Ch. 13	Ch. 3, Appendix D	Ch. 4, Appendix G
Dam Failure	Ch. 10	Ch. 13	Not Addressed	Ch. 4,
Landslide	Ch. 11	Ch. 13	Not Addressed	Ch. 4, Appendix A, G
Sea Level Rise	Ch. 6, 9	Not Addressed	Ch. 3	Ch. 4
Severe Storm/Weather Events	Ch. 6,11	Not Addressed	Ch. 3	Ch. 4
Ocean Acidification	Not Addressed		Ch. 3	Ch. 4
Salt Water Intrusion	Not Addressed		Ch. 3	Ch. 4
Increasing Temperature	Not Addressed		Ch. 3	Ch. 4
Food and Fuel Availability	Not Addressed		Ch. 3	Ch. 4
Impacts to Ecosystems	Not Addressed		Ch. 3	Ch. 4

In 2015, California Senate Bill 379 (Jackson) passed, mandating that cities and counties review and update their General Plan Safety Element starting in 2017 to address climate risk and adaptation. In accordance, in 2017 the City coordinated the LHMP update with the [2030 General Plan](#), and in 2019 incorporated the LHMP by reference into the General Plan Safety Element to meet SB 379 requirements. By doing so, the City unlocked the benefits permitted by California Assembly Bill 2140 (2006), which makes the City eligible for state funding support in the event of a disaster; the State can cover the City's local match requirements of FEMA Public Assistance funds to support recovery.

The City further aligned the [2021 Draft LCP Land Use Plan Update](#) (Draft LUP) with the 2030 General Plan by incorporating land use designations and Land Use Maps from the 2030 General Plan. The Draft LUP also reflects the policies and design guidelines of other City documents covering Coastal Zone areas, such as the [West Cliff Drive Adaptation and Management Plan](#). The Draft LUP also records the status of plans within the City's Coastal Zone and their relation to the General Plan.

Other tactics the City has used to align plans include ensuring maps used are consistent between plans, conducting coordination meetings between City departments, and aligning planning horizons with other regional plans.

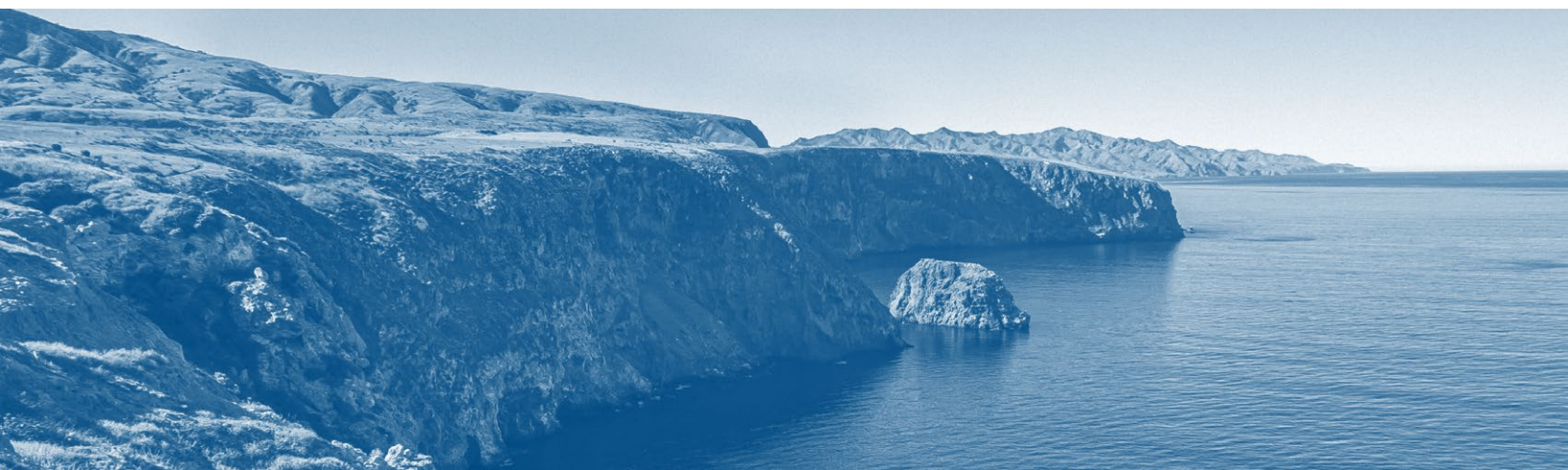
Local Coastal Program Quick Facts

The 2021 Public Review Draft of the Local Coastal Program (LCP) Land Use Plan Update, undergoing revisions as of 2023, incorporates sea level rise policies in a new Beaches and Bluffs Adaptation Chapter with adaptation goals for the Coastal Zone.

- Includes implementation information such as adopted ordinances, and an overview of the local coastal permit process.
- Proposed policies focus on minimizing coastal armoring and reducing potential for beach area loss, prioritizing living shoreline solutions, aligning with neighboring jurisdictions, and long-term routine monitoring of coastal access infrastructure.

The West Cliff Drive Adaptation and Management Plan, a Local Coastal Program Public Works Plan, includes comprehensive, scientifically based and community-informed coastal management projects to be implemented in the near-term 10 to 15-year timeframe. Projects focus on coastal recreation and restoration, increasing and maintaining public access to coastal resources, building protection structures, and public facility maintenance. The Plan also:

- Advances routine monitoring and maintenance programs to reduce the need for costly emergency responses.
- Documents feasible future adaptation strategies and tracks community preferences for the City's adaptation roadmap in the medium to long term.



REIMAGINING VULNERABILITY ASSESSMENTS

The ever-changing nature of coastal hazards, and the uncertainty surrounding the timing of climate impacts, has resulted in the City developing innovative approaches to evaluate climate risk and vulnerability. In 2011, the City used FEMA grant funding to prepare the City's first **Climate Adaptation Vulnerability Study**, which informed the City's first Climate Adaptation Plan. The City's subsequent 2017 **Sea Level Rise Vulnerability Analysis** built on this study and provided sea level rise projections for the 2030, 2060, and 2100 planning horizons under three different regional emission scenarios (High, Medium, and Low). This assessment identified specific hazards, at-risk critical infrastructure, and adaptation strategies to decrease these risks, which informed the 2018 Adaptation Plan.

As part of the 2018 Climate Adaptation Plan Update, the City introduced a Social Vulnerability to Climate Change Hazards Assessment. The City used census block data to assign social vulnerability scores across the community and evaluate adaptive strategies for each area based on social vulnerability drivers. The scores were based on five indicators:

1. Income below median income (based on the federal Housing and Urban Development Agency (HUD) home income limits),
2. Elderly age (more than 65 years old),
3. Language Limitations (Speaks English "Not Well" and "Not at All"),
4. Disability, and
5. Crimes (FBI Part I – Violent and Property Crimes).

The scores were overlaid with climate projection and hazard data to produce detailed vulnerability maps. The geospatial data provided a cross section of natural hazard risk and social vulnerability (i.e., social vulnerability scores alongside sea level rise vulnerability scores), allowing the city to more accurately predict future impacts and prioritize interventions in the most socially vulnerable areas. The City also made more detailed maps for the two neighborhoods containing block groups with the highest social vulnerability scores to facilitate more targeted solutions.

ADAPTATION PATHWAYS: A FLEXIBLE APPROACH TO SEA LEVEL RISE PLANNING AND LOCAL ALIGNMENT

To address its climate vulnerabilities, the City of Santa Cruz is pioneering the use of **phased planning** in its Resilient Coast Santa Cruz Initiative. Begun in 2019, this collaborative initiative addresses coastal flooding and erosion in four zones and beaches along West Cliff Drive by developing site-specific **adaptation pathways** for each site. The first stage of the initiative featured a bilingual virtual reality sea level rise app to help community members visualize coastal change and possible solutions. This resulted in policies and plans that are informing LCP-related planning and implementation—some of which are already being implemented under the [West Cliff Drive Adaptation and Management Plan](#) (West Cliff Drive Plan). The initiative has more recently focused on seeking funding, conducting targeted engagement, working with partners to develop a Coastal Change Monitoring Program, and implementing the City's proposed adaptation pathways.

The West Cliff Drive Plan, as an LCP Public Works Plan, and [Draft LUP](#) are designed to work together to guide the City's adaptation pathways. The close coordination between the two planning processes ensures that the near-term projects and maintenance actions identified in the Public Works Plan do not conflict with medium-to-long term pathways.

Adaptation Pathways Thresholds and Triggers

In an adaptation pathways process, local jurisdictions can identify multiple future adaptation actions that the jurisdiction will enact when certain thresholds or triggers are passed. **Thresholds or Triggers** are used (sometimes interchangeably) to identify one or more measurable values or events representing future changes in conditions. These often reflect critical nodes or decision points where future pathways have flexibility to change. Benefits of Adaptation Pathways include:

- **Greater Community Awareness:** The phased and incremental nature of adaptation pathways can allow community members to better understand why certain planning decisions are made and when they are made considering the uncertain nature of climate change's rate of change.
- **Adaptable:** The flexible nature of adaptation pathways allows local jurisdictions to more easily update their adaptation strategies and policies as new information and constraints arise.
- **Emergency Preparedness:** The identification and monitoring of trigger and threshold events required by an adaptation pathway process will allow jurisdictions to create routine monitoring infrastructure that can then further benefit communities in the face of emergency and natural hazard events.
- **Short-Term and Long-Term Goals:** The phased nature of adaptation pathways allows communities to prepare for the long-term gradual impacts for climate change while simultaneously allowing communities to take advantage of opportunities to implement emergency preparedness actions in the short-term.

The Draft LUP also incorporates key findings and initial adaptation pathways proposed for beach segments in the City's jurisdiction. More details on proposed adaptation pathways for the Santa Cruz beach and coastline segments are detailed in the [City of Santa Cruz Beaches: Urban Climate Adaptation Policy Implication and Response Strategy Evaluation and Technical Report](#) (Technical Report) and discussed below.

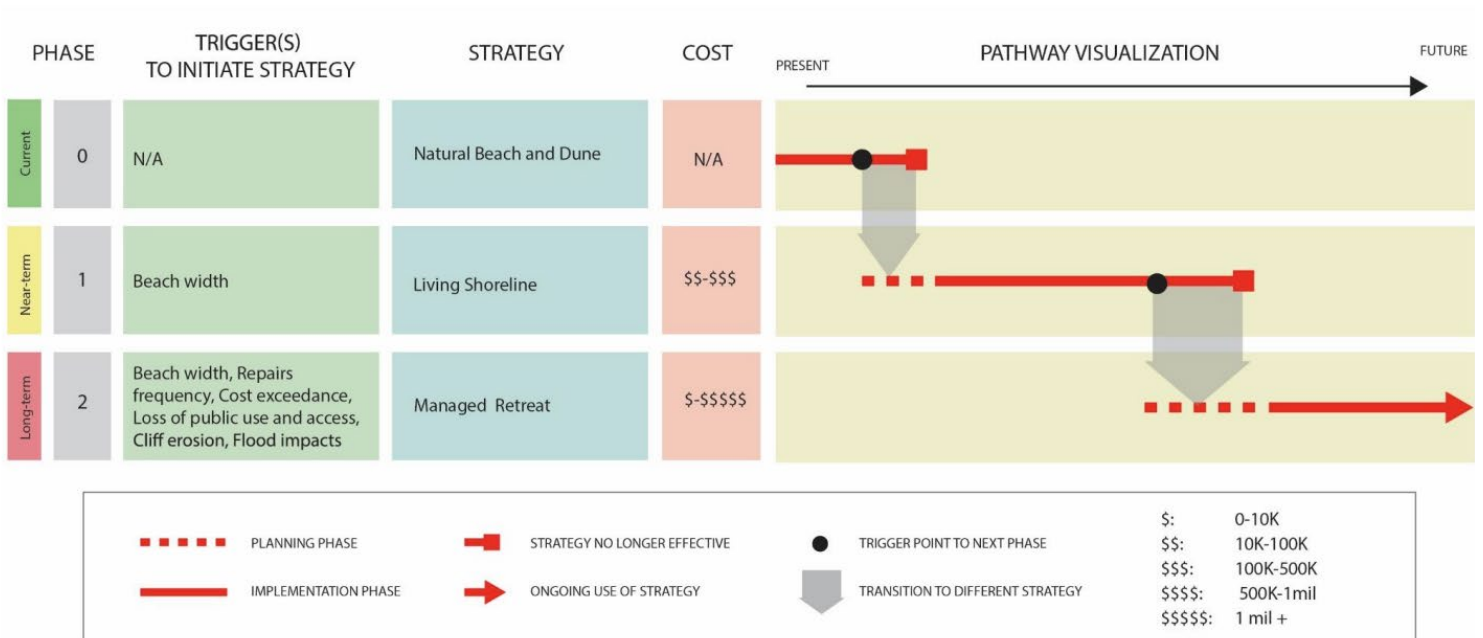


Figure 63. Natural Bridges State Beach adaptation pathway

The City developed the Technical Report concurrently with the West Cliff Drive Plan. The Technical Report presents adaptation pathways for Natural Bridges State Beach, West Cliff Pocket Beaches, Main and Cowell Beaches, and Seabright State Beach. For each beach strategy, the plan discusses:

- potential implementation programs;
- physical, environmental, or policy triggers and thresholds for action;
- relative costs and funding strategies; benefits and consequences of the strategy;
- impact considerations for underrepresented groups; and
- mitigation measures to reduce negative impacts.

In addition, alternative adaptation pathways are described for each beach segment to provide community members with multiple options for future adaptation strategies and outcomes. These strategies are then organized into a decision tree framework for each beach segment to provide a visual representation of each potential adaptation pathway (see the Natural Bridges adaptation pathway graphic). Since completing the Technical Report, the City has focused on completing the Draft LUP update and funding and implementing the West Cliff Drive Plan. With the help of ongoing public engagement and many federal and local partners, the City has designed the Coastal Change Monitoring Network, completed stairwell repairs, and secured funding for next step studies.

Adaptation Pathways in Action

During the 2022-2023 bomb cyclone events, which caused major erosion and damage along the City's shoreline, as well as most of the California Coast, the City had its first opportunity to test its adaptation pathways framework. In Santa Cruz, the severity of these extreme weather events resulted in 5,000 tons of rock being shifted off the coast, roadway blockages, flooding, and damage to the roadway, bimodal path, and culvert bridge at Bethany Curve. Having adaptation pathways with predetermined triggers and thresholds proved critical following this state of emergency. The bomb cyclone events resulted in the City exceeding all of its near-term and longer-term predetermined, time-based thresholds. This demonstrated the need for immediate action, investment in ongoing monitoring of local conditions, and

developing triggers and thresholds based on measurable conditions as opposed to time-bound thresholds.

The aftermath of the storm events and the City's messaging around adaptation pathways inspired organized community responses, and spotlighted the City's leadership role in addressing coastal hazards and tracking impacts over time. Community members quickly formed the "Save West Cliff" community group, which garnered widescale media attention and ultimately spurred additional City action. This resulted in an "all-of-city" response, focusing on community outreach, emergency response, and acquiring immediate funding, while simultaneously advancing progress on longer term planning and policies.

To gauge community perspectives and share new information following these events, the City hosted monthly community conversations, garage meetings with different blocks of neighbors, conducted interviews and talks, and used interactive communication tools (see the next section for more details). The City also conducted public workshops and targeted focus groups with beach-adjacent frontline communities, specifically Beach Flats and Lower Ocean Street, as well as the unhoused population. **The community's input called on the City to prioritize monitoring coastal conditions alongside actions to build coastal resilience and cultivate community preparedness.**

Examples of proposed adaptation pathways in Coastal Zone areas*

Natural Bridges

- Pathway 1: Living shoreline then managed retreat.

Main and Cowell Beaches

- Pathway 1: Accommodate then retreat.
- Pathway 2: Protect, then accommodate or retreat.

Seabright State Beach

- Pathway 1: Moratorium on new Armoring.
- Pathway 2: Protect private or public property.
- Pathway 3: Incremental retreat of public property.

*Multiple partners, including Natural Bridges State Park and Twin Lakes State Beach, helped develop these pathways in partnership with the City and will determine how pathways are implemented.

During the aftermath of the storm events the City also focused on emergency response and acquiring funding for necessary rebuilding efforts. The City established a physical safety structure to temporarily stabilize critical infrastructure and instituted limited one-way driving lanes, both of which led to community-wide conversations about whether to move parts of the community to lower risk areas. The City also applied for emergency coastal development permits from the Coastal Commission to address the storm damage before the 2023-2024 El Niño winter season. The permits would allow the City to build infill walls that integrate green habitat features, while the City pursues further research into longer-term nature based solutions. The City also has been identifying ecological and social triggers and thresholds to support future planning phases and actions, and launching an asset management system to track coastal infrastructure assets (e.g., stairs, sea wall, riprap) and monitor conditions through a GIS-based dashboard.

CHALLENGES AND UNCERTAINTY IN THE PLANNING PROCESS

While the City has piloted many successful approaches to coastal resilience, the City also has faced several challenges related to differing community priorities and capacity constraints. Some of these barriers, and the City's solutions to address them, are elaborated below.

Community Awareness and Engagement

The City's highly engaged community serves as a key strength of the City, but also a challenge. The priorities of different community subgroups have not always aligned with the direction of the City; such tensions required the City to immediately address them before the planning process could continue. Additionally, the complexity and long-range nature of climate change and land use decisions can be challenging for people to understand, adding an additional barrier to developing adaptation solutions that meet local needs.



To balance the many differing community priorities and climate change awareness levels, the City has prioritized equitable engagement and educational tactics. Over the last decade, these tactics have allowed the City to build relationships between staff and community members, educate the community on coastal resilience issues, build public understanding of planning processes, and solicit community input on their visions and goals for the City.

Some of this work began over a decade ago, during the City's 2013 General Plan Update. The City convened two "Cruz to the Future" Festival events, informational public meetings, a general plan advisory committee, and community design workshops, as well as a community-wide survey. To promote these, the City mailed postcards to over 1,000 people, placed advertisements in the local newspaper in both English and Spanish, and hung flyers at public locations across the city.

The City used a similar engagement plan to inform the 2018 Climate Adaptation Plan Update, with extensive outreach in frontline communities, including outreach at over fifty public events. These tactics included:

1. Presenting the vulnerability assessment information and draft strategies at Advisory Board meetings and City Council meetings (some of which were broadcasted live on community television);
2. Hosting public information events;
3. Disseminating a community survey;
4. Releasing the draft plan for public review;
5. Distributing multilingual fact sheets;
6. Launching a plan update webpage; and
7. Developing an educational card game, "Cards Against Catastrophe," that City staff played with students and at pub nights to educate community members about coastal management decision making.

Another strategy the City more recently used is the Resilient Coast Santa Cruz's [Coastal Planning Storymaps](#) and a corresponding survey. Developed in late summer 2020, the interactive maps allow community members to explore the various coastal hazards facing shoreline areas and their proposed adaptation pathways. At the end of the Storymap,

community members were invited to complete a survey in English or Spanish. The survey was advertised through social media, flyers, websites, and newsletters. The City has received over 1,000 ArcGIS views of the Storymap and nearly 400 survey responses.

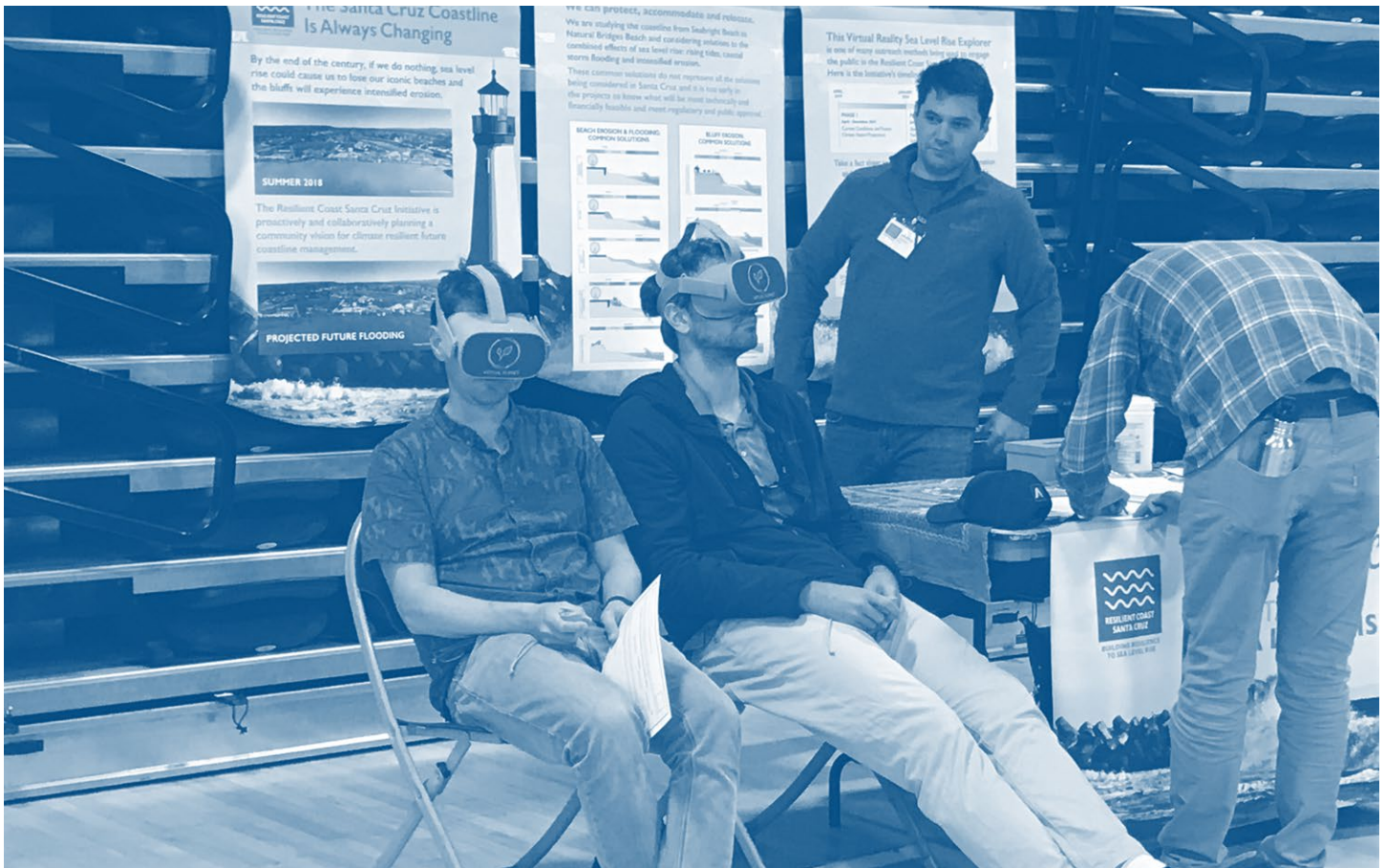
The City also worked with Virtual Planet Technologies to produce the free [Santa Cruz Sea Level Rise Explorer App in both Spanish and English](#). The app (available for iOS, Android, Oculus Go, Oculus Quest, and online at the [Virtual Planet Technology](#) website) creates an immersive experience for community members to interact with 3D models of sea level rise under different future scenarios, as well as various adaptive strategies. To publicize this resource, the City hosted outreach events and provided community members with oculus headsets (see image below).

By prioritizing community education and creating interactive and accessible means for people to engage, the City has been able to support a growing community base of educated and passionate citizens, and build broader consensus and motivation for change.

Regional Collaboration

Another challenge of resilience planning is that the impacts of climate change are not bounded by jurisdictional boundaries, so fostering collaborative, multi-jurisdictional planning is critical to building climate resilience. Such efforts are a way to pool financial resources amongst participants, increase staff expertise and capacity, and share science and data.

Key to regional approaches are regional partnerships. The City regularly partners with the National Marine Sanctuary, Center for Ocean Solutions, California Coastal Conservancy, United States Geologic Survey, Green Cities California, University of California Santa Cruz, San Jose State University, International Council for Local Environmental Initiatives, international Sea'ties initiative of the Ocean Climate Platform, and many other public, private, nonprofit and academic collaborators. The City is also a member of several regional climate collaboratives, such as the [Central Coast Climate Collaborative \(4C\)](#), established in 2017, which is a network of local climate leaders that bridges siloes to advance and enact equitable climate solutions across six Central Coast counties.



Similarly, the Monterey Bay Regional Climate Project Working group (RCPWG) established in 2022, consisting of San Benito, Santa Cruz and Monterey Counties and the Cities of Watsonville and Santa Cruz, builds regional capacity to implement climate solutions by bringing together local sustainability staff and leaders. This relatively newer collaborative hires grant writers and administrators to fund regionally integrated sea level rise planning and projects.

Building Capacity and Funding

Accessing funding for local and regional adaptation is a common barrier faced by many jurisdictions when navigating adaptation solutions, as well as building personnel resources. The City builds regional capacity and shares resources by collaborating with other agencies working towards similar goals, such as Santa Cruz County, the State Department of Parks and Recreation, and various climate regional collaboratives, particularly RCPWG. This also helps spread the costs of projects and expands the reach of beneficial project impacts across jurisdictional borders.

In addition to leveraging regional partnerships, the City uses State and Federal funds to fill in the gaps. The City funded the Draft LUP updated and

Resilient Coast Santa Cruz Initiative with planning grants from the Coastal Commission. The City used a Caltrans grant to fund the West Cliff Drive Plan, and financed the virtual reality app using funds from the Coastal Commission and the American Geophysical Union. The City also designed the Coastal Change Monitoring Network in partnership with UC Santa Cruz and 12 different agencies through funding from the National Science Foundation.

To facilitate implementation, the City identifies funding strategies for each adaptation strategy during planning phases. Many of the city's proposed adaptations, such as developing protective structures and sand management, require large initial capital investments, and incur ongoing management costs that cannot be absorbed by existing local revenue streams. With this in mind, the City has developed a roadmap of specific grants to pursue, with climate and coastal resilience grant opportunities gaining increasing priority in the wake of the 2023 flood events.

To address the challenge of low staff capacity and time constraints, the City contracts on-call grant writers. In addition, the City has standardized city-wide guidelines for identifying best-fit grants and developing applications. The City also funds

resilience measures at the broadest scale, and bundles projects to limit the bureaucratic and administrative challenges associated with managing multiple funds.

In 2023, the City applied for a Coastal Conservancy grant to fund the feasibility study and concept designs for nature-based solutions, such as a Living Shoreline, and to deploy its Coastal Change Monitoring Network.

The City has more recently begun requesting federal directed spending from their elected Congressional representatives, working with state legislators on passing funding bills, considering establishing a climate resilience district, and evaluating potential nominal parking fees acceptable by the Coastal Commission.

HOW CAN OTHER JURISDICTIONS LEARN FROM THE CITY OF SANTA CRUZ?

As climate change continues to accelerate sea level rise, extreme precipitation events, and exacerbate the risks posed by other coastal hazards, the need for collaborative and aligned coastal planning efforts is imperative. Key lessons from the City of Santa Cruz can help other communities integrate coastal resiliency in their planning process and foster a coordinated local and regional response:

1. **Incorporating adaptation pathways** can help communities avoid undesirable planning outcomes. By creating a flexible, phased strategy system, communities can analyze and adopt the adaptation strategies that best fit their needs over time. Adaptation pathways allow for policies and strategies to adapt to new information, data, and political climates, can facilitate transparent decision-making, and foster community cooperation.

2. **Centering community engagement and public education initiatives** in the planning process supports more equitable outcomes and increases community support for adaptation action.
3. **An intersectional and holistic approach to planning** can result in more effective, place-based adaptation strategies and policies that respond to community needs.
4. **Supporting regional partnerships and climate collaboratives** fosters more effective and coordinated coastal planning at both local and regional scales. Regional and interagency partnerships facilitate resource pooling, shared expertise, and can help communities access funding.
5. **Aligning local and regional plans** can reduce potential policy conflicts and duplication, foster more streamlined and equitable community engagement and outreach processes, and support more coordinated responses.
6. **Planning is an iterative process**; jurisdictions must build upon previous planning efforts and lessons learned to create more effective and equitable planning outcomes.
7. **Leveraging academic partnerships** is an important way to increase capacity, advance planning and analysis, and create new avenues to acquire funding.

Further Information

For general information about the City of Santa Cruz's climate resilience and plan alignment efforts, visit the City's [adaptation planning webpage](#). For information on current projects, visit the [Resilient Coast Santa Cruz Initiative webpage](#).