

DOCUMENTS DEVELOPED TO SUPPORT IMPROVED SLR ADAPTATION AND LCP UPDATE PROCESSES

December 3, 2021

These documents are the products of the California Coastal Commission's Local Government Working Group. This group is comprised of local elected officials and Commission staff, and two Coastal Commissioners. In November of 2020, the Coastal Commission, League of California Cities (Cal Cities), and the California State Association of Counties challenged this Working Group to develop strategies for incorporating sea level rise into Local Coastal Program updates.

This Working Group offers four products in December of 2021:

- A. A framework for a phased approach to LCP updates for sea level rise
- B. A call for Regional Approaches to resiliency and adaptation
- C. An elevation and concurrence process to support efficient LCP updates
- D. A "quick links" reference document including resources for SLR planning and LCP updates

All of these work products are presented as living documents. These and many more tools and resources will be required to address the challenges of sea level rise.

The Local Government Working Group remains committed to the development and advancement of tools which provide local flexibility for adaptation planning while also serving consistent application of the Coastal Act statewide.

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FRAMEWORK FOR A PHASED APPROACH TO UPDATING LCPs FOR SEA LEVEL RISE

SECTION 1. BACKGROUND

LCP Updates for Sea Level Rise: Issues, Challenges and Opportunities

Updating Local Coastal Programs (LCPs) to reflect changing climatic conditions, including to address sea level rise, is a complex process. This Framework was developed as a part of a collaboration between the California Coastal Commission (CCC or Commission) and local government partners to help break through planning challenges that have surfaced in recent years and set a path forward to updating LCPs for sea level rise in a way that is efficient, effective, and phased.

Challenges include significant data and information needs, limited tools, lengthy analyses and planning processes, inadequate funding, unresolved disagreements between local and Commission staff, and legal uncertainties, among others, which have slowed, or stalled local government and CCC efforts to update LCPs for sea level rise. Some jurisdictions have expressed concern about initiating LCP updates due to these challenges. However, many local governments have taken the first steps to conduct vulnerability assessments and adaptation plans to support policy development. Still others have developed policies to support their local sea level rise planning efforts that have been incorporated into LCPs adopted and certified by the Commission.

To make California's coast resilient to the increased hazards resulting from sea level rise, all cities, counties, and the CCC need to work towards the overarching goal of creating or updating LCPs to address sea level rise. Fortunately, for the near future, the 2021 State budget includes funds to support LCP updates and/or development.

This Framework identifies agreed upon baseline policies for a successful first round LCP update to address sea level rise acknowledging that phased, future LCP amendments will follow.

Background on the Local Government Sea Level Rise Working Group & Need for a Phased Approach

The Local Government Working Group was created as an action item following the Commission's July 2019 Local Government Workshop. Specifically, the Working Group was tasked with developing strategies to improve collaboration and communications between local governments and the Commission on sea level rise adaptation planning and LCP updates. Comprised of representatives from the California State Association of Counties (CSAC), the League of California Cities (Cal Cities), and a Coastal Commission subcommittee, the Working Group developed a Joint Statement in 2020 that provided a foundation for the Commission and local governments' collective efforts on sea level rise adaptation planning going forward. The Joint Statement outlines guiding

principles, opportunities, challenges, and actions associated with proactive and effective sea level rise adaptation for California's coastal communities. It focuses specifically on LCP policy development, adaptation planning, and project decision-making. The Joint Statement was adopted by the Commission in November 2020 and laid the foundation for the December 17, 2020 Local Government Workshop that focused on the next steps regarding how to apply the shared principles.

The Working Group focused a significant amount of their effort on ways to improve the LCP process, particularly as it relates to updating LCPs to address sea level rise. Many existing LCPs have not been updated for 25 years or more. Due to the accelerating rate of climate change and sea level rise, this practice presents significant challenges, and updates should be made with greater frequency.

As a part of their Joint Statement, the group acknowledged the challenges and opportunities associated with the update process, and specifically those associated with planning horizons and the balance of statewide consistency with local flexibility, both of which are addressed in this Framework. In the Joint Statement, the Commission and local governments agreed to establish clear timeframes under which the LCP update will be operable by identifying the appropriate scope and time horizon for the update. Through this work, the entities also agreed that the present round of policy updates will not be the last, and committed to an approach that supports multiple, more regular updates rather than one major update. These commitments set the tone for this Framework on an improved LCP update process that supports more frequent and incremental or phased updates to LCPs, including identifying appropriate time horizons for policy application, baseline policy language, and future update requirements.

The Commission and local governments agree that while some degree of statewide consistency is important, all LCP updates should address unique local issues. As a result, not all LCP updates will look the same from jurisdiction to jurisdiction. However, through the Joint Statement the entities also agreed that all LCP updates should include baseline hazards policies and concepts, including requirements to use the best available science, policies on disclosure and assumption of risks related to sea level rise hazards, and policies to ensure that new development is appropriately sited. This Framework draws from recent certified LCP updates to compile successful examples of these baseline policies and concepts and to showcase that LCP updates can achieve an appropriate balance between statewide policy consistency and local LCP flexibility.

The Joint Statement principles, Working Group sessions over 2019-2021, and this Framework reflect the work of compromise. The Framework does not put forward a path where local governments develop comprehensive sea level rise updates to their LCPs. Instead, it sets forth a series of steps and options to move local communities through the update work, one phase at a time. This represents a progressive path forward that is incremental, more efficient, and conducive to greater public acceptance of SLR risks and consequences at the local level.

SECTION 2. PHASING LCP UPDATES AND POLICIES

Process & Substance

When considering phasing sea level rise-specific LCP updates, phasing applies both to the LCP update process and the substance of the policies themselves. The process involves consideration of changes to both Land Use Plan (LUP) policies and the Implementation Plan (IP) measures necessary to carry out the LUP policies in a way that is consistent with the Coastal Act. When considering the phased approach to the process, it is necessary to identify the time horizon associated with the current update, as well as the information that must be generated to develop an adaptation plan for the community which can be used in future LCP updates. Specifically, the planning horizon for the present update should be clearly identified and policies should directly guide the process and timeline for future updates.

As to phasing in the policies themselves, it is important to identify baseline policies for the first phase update that set the stage for sea level rise planning and future updates. This will be different for every community depending on the nature of shoreline development and potential risks to both development as well as beaches and other environmentally sensitive areas. The extent of information and data available for use in a first round LCP update will also vary depending on whether a vulnerability assessment has been completed. In some cases, particularly in densely developed urban areas, phasing of studies and development standards may be required to allow time to address hazards programmatically (e.g., new floodplain regulations for an area). Regardless of the extent of study that has been completed by the local jurisdiction to-date, the following four baseline policies related to sea level rise are suggested to be included in an LCP, as they lay the foundation for future updates.

SECTION 3. BASELINE POLICIES FOR FIRST ROUND UPDATES

Introduction

As a first step in sea level rise LCP planning, a local government should consider a first round LCP update that begins to incorporate foundational sea level rise hazard planning concepts and establishes a framework for their incorporation into the LCP. A successful first round update sets the stage for future successful updates by engendering strong working relationships and trust between the Commission, its staff, the local government decisionmakers and their staff, and the public. The following outlines the few basic policies that can lay a foundation for strong and proactive sea level rise planning and project development that reflect coastal hazards now and into the future at the local scale. Future updates would continue to rely on these baseline policies. Many of these policy concepts are also directly reflected in the Working Group's principles in its 2020 Joint Statement, as well as the State's Sea Level Rise Principles, adopted in 2021.

Baseline Policies

The following categories or types of baseline policies described are encouraged for any first round LCP update to address sea level rise. Refer to Appendix A for policy examples for each category from certified LCPs, or in some cases, locally adopted LCP language.

Best Available Science. Requiring the use of best available science is foundational to an effective sea level rise LCP update. The Coastal Act requires new development to minimize hazards and protect coastal resources. In addition, the Coastal Act calls for the use of sound science to guide decision making and to support public understanding and participation in coastal planning. A policy requiring the use of the best available science guides local decisionmakers on what science to look to when planning for sea level rise and analyzing hazards and permitting projects in the coastal zone. All communities should analyze a range of sea level rise projections based on the best available science at the time of vulnerability assessment and adaptation plan development. LCP updates should provide direction on how new projects in vulnerable areas should be sited and designed to factor in sea-level rise either programmatically or through project-specific technical studies.

The State of California has long supported the preparation and provision of scientific information on climate change and sea level rise to help guide appropriate and resilient planning, permitting, investment, and other decisions. For example, the State recently released [California's Fourth Climate Change Assessment](#) to advance actionable science that serves the needs of state and local-level decision-makers. Specific to sea level rise, the State also released the 2017 [Rising Seas in California: An Update on Sea-Level Rise Science](#) and the [State of California Sea-Level Rise Guidance: 2018 Update](#) (2018 OPC SLR Guidance). The 2018 OPC SLR Guidance contains a set of projections for 12 tide gauges throughout California, and the Coastal Commission recommends using these projections and related information as best available science on sea level rise in California. The Coastal Commission will re-examine best available science periodically and as needed with the release of new information.

A best available science policy could be worked into an LCP update as a standalone policy and/or be woven as a reference throughout several policies. In some examples provided in Appendix A, the latter approach is used, where a number of LCP policies incorporate a requirement that the best available science be used, for example, in coastal hazard reports to inform permitting or preparation of vulnerability assessments.

Vulnerability Assessment and/or Adaptation Plan development and updates. To ensure policies are developed consistent with Coastal Act requirements in the local context, the Working Group recommends that all local governments undertake vulnerability assessments and begin the adaptation planning process for their jurisdictions. These steps will provide the information needed to allow local governments to develop policies that can address existing hazards and plan for new development or redevelopment of their shoreline areas in a way that protects not only structures but coastal resources and public access consistent with the Coastal Act as sea level rises. In other

words, vulnerability assessments lead to adaptation plans that set the stage for planning and permitting work. Policies and implementation measures that require shoreline hazard evaluations in connection with new development using best available science will generate the information needed to plan for the next generation of development along the shoreline. Additionally, analysis for some hazards could be done programmatically for an area so that future project specific analysis is either not necessary or can be tiered off the programmatic analysis.

If a local government has not yet developed a vulnerability assessment or an adaptation plan when doing their first round LCP update, Working Group suggests that their first set of policies include requirements to develop these documents, and to update them periodically based on the best available science, and especially when new science becomes available that would significantly change their land use planning and permitting decisions (e.g., when sea level rise projections are and/or risk tolerances are updated).

Risk Disclosure/Assumption of Risk. Disclosing risks to property owners helps ensure that they will plan with these hazards in mind. Similarly, requiring developers to assume the risks of developing in hazardous locations will help avoid the need to spend public funds on disaster recovery for private development and will ensure future owners are aware of limits on the use of shoreline armoring that could harm coastal resources. Thus, the Working Group suggests that all communities inform property owners and the public about foreseeable hazards and planned adaptation through such mechanisms as hazard overlay zones, deed restrictions, and real estate disclosures.

Phased Updates. By committing to a phased approach to LCP updates for sea level rise, local governments and the Coastal Commission are acknowledging that the LCP update at-hand is part of a phased update process. Local governments and the Commission will then be able to transition from outdated LCPs to LCPs that are reevaluated and updated progressively to respond to new information and dynamic sea level rise science and conditions. One way of fostering this is by selecting an appropriate timeframe associated with the update and including a policy that defines a date when the LCP will be reviewed and amended in future phases. In those instances where a vulnerability assessment has not yet commenced, the timeframe until the next LCP update should be shorter. Selecting an applicable timeframe also helps communities better understand and digest how the policies will play out on the ground in their neighborhoods so an adaptation plan can be developed with community input utilizing information gained from vulnerability assessments and hazard evaluation plans. This will help prepare for future updates and changes to come.

For example, a first phase LCP update could include interim policies while larger or more programmatic analysis or development standards are developed. Nonetheless, as required by the Coastal Act, policies and implementation measures incorporated into the LCP must ensure new development is appropriately sited and designed to be safe over its anticipated life, which may have to be limited or phased if there are constraints on lots. Crafting first round LCP amendments for small increments of time is a new approach so there are few examples available. However, there are examples of policy language that can be used to set the necessary steps toward completion of an adaptation plan that meets the requirements of the Coastal Act and also takes into consideration the specific context of a local government's shoreline and what needs to be done

in identified increments to protect both development and public recreational and shoreline use. See Appendix A for more information.

A key component of a first round LCP update for sea level rise is committing to future updates, and identifying the objective, measurable trigger for that update. Some jurisdictions have begun to incorporate trigger-based policies that, once met, would initiate a future update, for example. A local jurisdiction may also decide they want to do a review for a periodic update consistently into the future on a specific timeframe, for example an evaluation every five years. A local jurisdiction may also decide they wish to combine a trigger-based update with a time certain or when a certain amount of sea-level rise has been reached. For example, every five years, or once sea level rise hits a certain amount, whichever is sooner. In any case, consistent review and updates to a local government's LCP is important in the sea level rise context because everything associated with the hazard is dynamic: the best available science continues to evolve, sea levels continue to change, storm conditions continue to shift patterns and intensity, etc. In addition, local understanding and local priorities also shift with time. Given all of this, a static LCP that is not revisited or updated for decades may not be able to respond appropriately or in a way that remains consistent with the Coastal Act.

SECTION 4. EFFECTIVE COORDINATION & ELEVATION PROCESS

A necessary component of a successful LCP update process is effective coordination and communication between local governments, their staff, and the Commission and Commission staff. In many instances, communication is strong and responsive between jurisdiction and commission staff.

However, there are examples of communication among staffs and boards, councils, and/or the Commission being interrupted, delayed, or constrained by timing or conflict, resulting in stalled or withdrawn LCP work. These outcomes are costly for all in terms of staff time, planning funds, and good will.

Therefore, the Working Group suggests a simple elevation process which offers reminders and mechanisms for periodic check-ins throughout the process, and the ability to elevate difficult challenges or questions as they arise.

A useful concurrence and elevation process needs to be clear and specific enough to guide staffs on how and when to coordinate on difficult issues. Simultaneously, the process needs to be flexible enough to accommodate the different structure, timing, and relationships of various jurisdictions and their Commission staff counterparts.

Please see the associated proposed elevation process. Ideally, several jurisdictions which are entering LCP development or updates in the near future will pilot and improve this elevation process.

SECTION 5. CONCLUSION

This set of baseline procedures for incorporating sea level rise development are important, though modest, first steps toward longer-term adaptation planning. The Working Group strongly supports these steps, recognizing that:

- Sea level rise will require continuous and ongoing assessment of risks and the development of adaptative strategies in each city and county.
- Many challenges remain that make it difficult for cities and counties to develop and adopt long-term adaptation strategies, including the cost of adaptation projects, varied political will, and the need to establish mechanisms for regional approaches to mitigation and funding.
- The challenges presented by sea level rise are so great that it is critical to begin adaptation planning, knowing that lack of strategic land use decisions in the near term will likely result in fewer and considerably more expensive options for adaptation in the future.

This Working Group celebrates and endorses this jointly developed framework for a phased approach to LCP development, and implores all coastal stakeholders to contribute to the incremental progress of sea level rise adaptation.

APPENDIX A: Baseline Policy Examples

This Appendix includes policy language from recently certified Land Use Plans from the Cities of Morro Bay ([certified August 2021](#)), Half Moon Bay ([certified April 2021](#)), Pacific Grove ([certified March 2020](#)), Santa Barbara ([certified August 2019](#)), San Clemente ([certified August 2018](#)), the City and County of San Francisco ([certified May 2018](#)), and San Diego County ([May 2017](#)). In addition, the appendix includes language from the locally adopted (but not yet CCC-certified) LUP from Santa Cruz County ([locally adopted October 2020](#)). Note that the Santa Cruz County example has not been evaluated by the Coastal Commission for consistency with the Coastal Act.

They are provided as background and examples for planning staff in local jurisdictions to begin to develop language and approaches under each baseline concept described in the Framework in their own phased approach to sea level rise planning. Multiple examples are provided under each category to illustrate a variety of ways to craft LCP policies that address the baseline concepts. No one policy example should be considered as “the model” and, in fact, as our knowledge and approach to sea-level rise planning develops and new LCP Amendments are certified the policy examples will change over time. Additionally, it is recognized that these specific LCP examples are not applicable to every local jurisdiction.

Policy examples address the following topics:

- a. [Best Available Science](#)
- b. [Planning Horizons](#)
- c. [Vulnerability Assessment and Adaptation Plan Development/Updates](#)
- d. [Risk Disclosure/Assumption of Risk](#)

BEST AVAILABLE SCIENCE

City of Morro Bay Land Use Plan (certified August 2021)

PS-3.7: Coastal Hazards Report. Development proposed in potential coastal hazard areas, including those that are mapped as hazardous in Figures PS-7 and PS-8, ***shall be evaluated for potential coastal hazards at the site based on all readily available information and the best available science, including the Coastal Commission’s adopted Sea Level Rise Policy Guidance.*** If the initial evaluation determines that the proposed development may be subject to coastal hazards over its lifetime, a site-specific coastal hazards report prepared by a qualified geologist/engineer is required to ensure that such development can be built in a manner consistent with applicable Local Coastal Program coastal hazards policies.

City of Half Moon Bay Land Use Plan (certified April 2021)

7-10. Shoreline Hazard Mapping. Maintain and update shoreline hazard maps ***to incorporate significant updates in best available science and information*** when such significant updates are available, including areas subject to wave action, flooding, tsunamis, and erosion due to sea level rise.

- 7-11. Dynamic Sea Level Rise Adaptation Strategy.** *Continue to review and use current and best available sea level rise science and projections* and periodically identify coastal resources, development, infrastructure, and communities that are vulnerable to sea level rise impacts. Use this information to continue to develop or adjust adaptation strategies.
- 7-12. Site-Specific Shoreline Hazards Evaluation.** All new development proposed in areas that may be subject to shoreline hazards, including all beaches and beachfronts, blufftops, and areas mapped in Figure 7-1, shall require the submittal of a site-specific evaluation report of shoreline hazard risks over the anticipated life of the proposed development. Analyses shall be conducted by a qualified professional with expertise in coastal processes and shall establish the appropriate setback from the beach or bluff edge based on the anticipated life of the structure, ***best available science including utilizing the highest projected sea level rise amounts appropriate for the type of proposed development with a 100-year storm event and for blufftop development, a demonstrated factor of safety greater than or equal to 1.5 for static conditions and greater than or equal to 1.1 for seismic conditions.*** The evaluation shall include an analysis of the following:
- a. Historic and projected rates of erosion over the anticipated life span of the proposed development, including potential erosion considering future sea level rise, and possible changes in shore configuration and sand transport. Sources to be investigated include recorded land surveys and tax assessment records, historic maps and photographs where available, and ***best available science on sea level rise and erosion projections such as that developed by USGS, the National Academy of Engineering, the National Academy of Science, the California Geological Survey, and the California Coastal Commission;***
 - b. Cliff geometry and site topography, extending the surveying work beyond the site as needed to depict geomorphic conditions that might affect the site and the proposed development;
 - c. Geologic conditions, including soil, sediment and rock types and characteristics in addition to structural features such as bedding, joints, and faults;
 - d. Evidence of past or potential landslide conditions, the implications of such conditions for the proposed development, and the potential effects of the development on landslide activity;
 - e. Wave and tidal action, including effects of marine erosion on bluffs;
 - f. Ground and surface water conditions and variations, including 100-year riverine flooding and its impact/interaction with bluff erosion and ocean forces at creek mouths and low-lying areas, changes to groundwater resulting from rising sea levels, and hydrologic changes caused by the development (e.g., introduction of irrigation water to the ground- water system; alterations in surface drainage);
 - g. Potential effects of seismic forces resulting from a maximum credible earthquake;
 - h. Effects of the proposed development including siting and design of structures, landscaping, drainage, grading, and impacts of construction activity on the stability of the site and adjacent area;
 - i. Any other factors that may affect slope stability; and
 - j. Potential erodibility of site and mitigating measures to be used to ensure minimized erosion problems during and after construction (i.e., landscaping and drainage design).

City of Pacific Grove Land Use Plan (certified March 2020)

HAZ-12. Development proposed in potential hazard areas, including but not limited to those that are mapped as hazardous in Figure 3, **shall be evaluated for potential coastal hazards at the site, based on all readily available information and the best available science.** If the initial evaluation determines that the proposed development may be subject to coastal hazards over its lifetime, a site-specific hazards report prepared by a qualified geologist/engineer is required, the purpose of which is to ensure that such development can be built in a manner consistent with applicable LCP coastal hazards policies.

City of Santa Barbara Land Use Plan (certified August 2019)

Policy 5.1-63 Shoreline Hazard Evaluations.

- A. New development and substantial redevelopment in the Potential Shoreline Hazards Screening Areas 1-5 or areas otherwise subject to beach erosion, coastal bluff erosion, coastal bluff slope failure, and/or wave impacts shall require a Shoreline Hazard Evaluation. Shoreline Hazards Evaluations shall also be required for repairs and alterations of existing structures that require foundation work or substantial grading.
- B. The evaluation may be waived by the Environmental Analyst for:
 - i. Minor development that meets the following criteria:
 - a. Does not require a structural foundation;
 - b. Does not require slope stabilization, retaining walls, or other geotechnical mitigation measures;
 - c. Does not require significant grading or modified landforms; and
 - d. Designed to be easily removed.
 - ii. Development proposed in areas where previous hazard evaluations show no risk of the potential hazard (previous hazards evaluations completed for the development site must be no more than two years old).
- C. A City Environmental Analyst shall determine if and when a Shoreline Hazard Evaluation is required, the scope of analysis, and the adequacy of any submitted evaluations prior to consideration of a Coastal Development Permit. Some evaluations may require peer review by a technical specialist in order to be deemed adequate. The City may impose a fee on applicants to recover the cost of review of evaluations.
- D. The required content and procedures for shoreline hazard evaluations in each shoreline hazards screening area are specified in the policies below. **All shoreline hazard evaluations shall use the current best available science on sea level rise projections to analyze hazard conditions on the site over the expected life of the proposed development.** The evaluation should, at a minimum, examine storm (100-year storm) and non-storm conditions and sea level rise impacts under a high emissions scenario based on state guidance.

As referenced in Policy 5.1-63(D) above, the City breaks down each Shoreline Hazard Area 1-5 into a separate policy that sets forth evaluation requirements for new development. Each policy for each screening area has a best available science requirement for evaluation of coastal hazards. All policies contain similar language to the following:

Policy 5.1-65 Potential Shoreline Hazards Screening Area 2 (Bluff-Backed Beaches) Evaluations for New Development and Substantial Redevelopment.

The Potential Shoreline Hazards Screening Area 2 (Bluff-Backed Beaches) is potentially subject to beach erosion, coastal bluff erosion, coastal bluff slope failure, coastal flooding, and wave impacts. Shoreline Hazard Evaluations for development in this screening area shall be prepared and signed by a qualified California licensed professional (e.g., Professional Geologist, Engineering Geologist, Geotechnical Engineer, Civil Engineer, Soils Engineer, and/or Coastal Engineer, as applicable). The evaluations shall be subject to review and approval by the City's Environmental Analyst. The Environmental Analyst may require peer review of evaluations by a technical specialist in order to deem them adequate. The City may impose a fee on applicants to recover the cost of review of evaluations. Evaluations shall analyze the effects of the hazard and the development over the expected life of the project, factoring in the effects of sea level rise, and with and without the effects of any existing or new shoreline protective devices except for existing major public shoreline protection and flood protection devices (breakwater and other protection devices for the Harbor, Laguna Channel Tide Gate and Pump Station Facility, etc.). The following shall be evaluated:

- A. The profile of the beach;
- B. Mean high tide line, include a mean high tide line survey;
- C. The area of the project site subject to beach erosion, coastal bluff erosion, coastal bluff slope failure, coastal flooding, and wave impact hazards;
- D. The FEMA Base Flood Elevation and mapped areas;
- E. Future projections in sea level rise, associated beach erosion, coastal flooding, coastal bluff erosion, coastal bluff slope failure, and wave impacts, and any additional sea level rise related impacts that could be expected to occur over the life of the project in both storm (100- year storm) and non-storm scenarios. ***The analysis shall utilize best available science and include, at a minimum, evaluation of projected sea level rise at a high emission scenario based on state guidance;***
- F. Design requirements to assure stability and structural integrity;
- G. The need for a shoreline protection device over the life of the project;
- H. The long-term impacts of the proposed development on sand supply;
- I. The impacts of the proposed development during construction and operation on beach erosion, coastal bluff erosion, coastal bluff slope failure, coastal flooding, wave impacts, and any other hazards on or near the site;
- J. The impacts of the proposed development on public access to and along the shoreline;
- K. Any necessary mitigation measures, alternatives, or monitoring protocols to be completed over the life of the development and that are needed to avoid or minimize any potential beach erosion, coastal bluff erosion, coastal bluff slope failure, coastal flooding, and wave impact hazards and any potential impact to public access to and along the shoreline;
- L. A statement verifying whether the development will minimize risks to life and property; assure stability and structural integrity; and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area during its expected life, factoring in the effects of sea level rise; and

- M. A site map that shows all easements, deed restrictions, or “Offers to Dedicate” and/or other dedications for public access or open space and provides documentation for said easements or dedications. The approved development shall be located outside of and consistent with the provisions of such easements or offers.

City of San Clemente Land Use Plan (certified August 2018)

- HAZ-8 Geotechnical Review.** A geotechnical review is required for all shoreline/coastal bluff or canyon parcels where new development or major remodel is proposed. If, as a result of geotechnical review, a greater setback is recommended than is required in the policies herein, the greater of the setbacks shall apply. For shoreline/coastal bluff or canyon parcels, geotechnical review shall identify the bluff or canyon edge, provide a slope stability analysis, and a bluff/slope retreat rate analysis. Consideration of the expected long-term average coastal bluff retreat rates over the expected life of the structure (minimum of 75 years unless otherwise specified in the LCP), shall include retreat rates due to expected sea level rise and a scenario that assumes that any existing shoreline or bluff protective device is not in place. The anticipated retreat over the expected life of the structure shall be added to the setback necessary to assure that the development will maintain a minimum factor of safety against land sliding of 1.5 (static) and 1.1 (pseudo static) for the life of the structure. ***The analysis for shoreline/coastal bluff parcels shall use the best available science on sea level rise and consider a range of scenarios including the high scenario of sea level rise expected to occur over the life of the structure and its effect on long term bluff retreat rates.*** The City may issue building permits for structures that maintain a different minimum factor of safety against landslides under certain circumstances and conditions, pursuant to the Geotechnical Review specifications in the IP and where alternative stability requirements are approved by the City Engineer.
- HAZ-9 Site-Specific Coastal Hazard and Erosion Study.** A site-specific coastal hazard and erosion study is required for all new shoreline and coastal bluff development that could be threatened by coastal hazards such as inundation, flooding, wave run-up and overtopping, erosion, etc. including an analysis of the changes to these hazards due to sea level rise within the anticipated life assuming no reliance upon existing or future shoreline protective devices. ***This study shall be prepared by a qualified professional, and shall use the best available science, and a scenario-based analysis to assess the potential coastal impacts (inundation, flooding, wave run-up and overtopping, erosion, etc.), taking into consideration the effects of sea level rise over the lifetime of the development (minimum of 75 years unless otherwise specified) considering, at a minimum, a high sea level rise scenario.*** If the new development cannot fully minimize hazards risks by avoiding all geologic and coastal hazards for the anticipated life of the development without reliance upon existing or future shoreline protection, the study should discuss possible adaptation responses to the hazards to reduce risk as feasible and mitigate impacts to coastal resources. The study should also include an evaluation to determine whether any grading (permitted or unpermitted) has occurred and whether the grading, if any, has had an effect on potential inundation hazard.
- HAZ-15 Regional Coordination.** Encourage on-going coordination with neighboring jurisdictions and local, state, and federal agencies, and the fostering of an iterative process ***to assess the best available science on sea level rise.***

HAZ-16 Sea Level Rise and Development. Consistent with the policies herein, site development to avoid the need for future shoreline or bluff protective devices and to avoid and minimize risks from geologic, coastal, and fire hazards as exacerbated by sea level rise over the life of the proposed development. ***Design development to account for projected sea level rise using the best available science.*** Assess projects for their vulnerability to impacts from coastal hazards and sea level rise and, if vulnerable, require an adaptation strategy for new development and major remodels that does not rely on shoreline or bluff protective devices. Analyze options for removal or relocation of structures that become threatened by coastal hazards.

HAZ-17 Sea Level Rise Information. ***The best available scientific information regarding sea level rise projections and effects shall be considered in the preparation of findings and recommendations for all geologic, geotechnical, hydrologic, coastal hazards, and engineering investigations.*** Current best available scientific information shall be reflective of the most current Coastal Commission guidance, and peer reviewed studies that are widely accepted within the scientific community and locally relevant. Support scientific studies that increase and refine the body of knowledge regarding potential sea level rise in San Clemente, and possible response to it.

HAZ-29 Avoidance of Geologic and Other Hazards. Require applicants for development in bluff, shoreline or canyon areas potentially subject to hazards such as seismic hazards, tsunami run-up, landslides, liquefaction, episodic and long-term shoreline retreat (including beach or bluff erosion), wave action storms, tidal scour, flooding, steep slopes averaging greater than 35%, unstable slopes regardless of steepness, and flood hazard areas, including those areas potentially inundated by accelerated sea level rise, to demonstrate, ***based on site-specific conditions and using the best available science,*** that for the expected life of the development (minimum of 75 years unless otherwise specified):

- a. The area of construction is stable for development based on geologic/geotechnical and coastal hazards review,
- b. The development will not create a geologic, coastal, or fire hazard or diminish the stability of the area, and
- c. The development complies with the policies in this chapter.

San Diego County Land Use Plan (certified May 2017)

9.34 The County shall maintain and periodically update maps of potential flood extents as influenced by sea level rise over a 100-year period. ***Updates to the maps shall reflect the current best available science on sea level rise impacts and projections,*** and shall reflect the effects of any restoration projects that may impact tidal flow within the San Elijo Lagoon Ecological Reserve.

PLANNING HORIZONS

NOT CERTIFIED: Santa Cruz County Land Use Plan (NOTE: The Santa Cruz County Land Use Plan was *locally* adopted in October 2020, but has not yet been evaluated by the Coastal Commission for consistency with the Coastal Act.)

6.4.1 Shoreline Policy Framework and Time Horizon

Recognize the diverse nature of the coastline and coastal development in the County and implement a policy hierarchy with general policies that apply to all projects, policies that apply to shoreline type, policies that apply to project type, and policies that address ongoing adaptation to sea level rise along the County's coastline and in specific shoreline areas.

Recognizing that shoreline and blufftop areas are inherently dynamic and hazardous places to build, particularly with respect to climate change and sea level rise in the coming decades, while at the same time understanding that property owners and project applicants seek a level of assurance regarding County land use policies that apply to proposed projects, ***the shoreline and coastal bluff policies of this Safety Element shall be considered to be in effect until the year 2040***, by which time the expectation is that shoreline management plans and an updated set of policies within a Safety Element Amendment will have been adopted. More information will be available in the year 2040 that may cause the County to change its land use goals and development criteria or allow for further refinement. Projects proposed after adoption of any updated policies and regulations would be subject to the updated policies and regulations. Carry out 5-year reviews and amend policies as warranted, at the time each Local Hazard Mitigation Plan is adopted (2025, 2030, 2035) to ensure internal consistency (the LHMP is required to be updated every five years).

VULNERABILITY ASSESSMENT AND ADAPTATION PLAN DEVELOPMENT/UPDATES

City of Morro Bay Land Use Plan (certified August 2021)

PS-3.4 Shoreline Management Plan. The City shall prepare a Shoreline Management Plan for approval by the Coastal Commission as an amendment to the Local Coastal Program. The plan shall function as a tool to help implement coastal protections, maximize public access, and protect coastal resources along the City's shoreline, including building upon the City's Adaptation Strategy Report. The plan shall be prepared in coordination with relevant local, regional, and/or state agencies for the purpose of protecting coastal resources, as well as ensuring the resilience of coastal public infrastructure. The plan shall conduct the following:

- **Adaptation Triggers.** Developing adaptation timing triggers for actions to address sea level rise impacts for different areas and assets in Morro Bay. These will be based on sea level rise adaptation studies, sea level rise modeling, best available science, and the vision for each character area.
- **Monitor Beach Widths.** Monitor beach widths to track change and keep current on amount of sea level rise including monitoring beaches for sea level rise impacts such as erosion and changes in beach widths in order to identify trigger points for various adaptation strategies. Establish a program to monitor beach widths on a regular basis and document storm events through photographs and field notes. This would assist in the validation of the numerical modeling and track the frequency of the storm events.
- **Site Reuse.** Considering appropriate uses for sites previously occupied by relocated assets, including parks, open space/natural areas, and other predominantly passive land uses.

- **Transfer of Development Rights (TDR).** Considering a TDR program to restrict development in areas that are vulnerable to sea level rise and allow the transfer of development rights to parcels with less vulnerability to hazards.
- **Sea Level Rise Hazard Overlay Zone.** Establishing a Sea Level Rise Hazard Overlay Zone (in the potential sea level rise hazard areas established in Figure PS-8) to address safety from flood and sea level rise related hazards, and recommend remedial actions. Establishing a program to amend the Municipal Code to require sellers of real estate to inform owners of real estate in the Sea Level Rise Hazard Overlay Zone of permit conditions related to coastal hazards or property vulnerabilities, including information about known current and potential future vulnerabilities to sea level rise, and disclosing permit conditions related to coastal hazards to prospective buyers prior to closing escrow.
- **Development Standards.** In areas located in the Sea Level Rise Hazard Overlay Zone, revising residential building standards to prohibit habitable space at elevations subject to wave/flood risk. Specifically addressing potential impacts of basements on long-range adaptation options such as landward relocation or removal.
- **Impacts to Nearby Properties.** Requiring new development in the Sea Level Rise Hazard Overlay Zone to evaluate potential impacts to adjacent or nearby properties from all proposed structural flood protection measures to ensure that these measures will not create adverse direct and/or cumulative on-site or off-site impacts.

The Shoreline Management Plan may be amended every five to ten years, as appropriate, by the City Council, and adopted by the Coastal Commission through the Local Coastal Program amendment process. Include funding to address impacts of sea level rise in the City budgeting process.

City Half Moon Bay Land Use Plan (certified April 2021)

- 7-43. Shoreline Management Plans.** Develop shoreline management plans for shoreline areas subject to wave hazards, sea level rise and erosion, prioritizing armored areas such as Surfers Beach and Mirada Road, in coordination with Caltrans, San Mateo County and the Harbor District. Any plans should include:
- a. Short and long-term goals for the Half Moon Bay coast, the management actions and policies necessary for reaching those goals, any necessary monitoring to ensure effectiveness and success, and any necessary strategies to manage and adapt to changes in wave, flooding, and erosion hazards due to sea level rise;
 - b. An examination of local and regional annual erosion rates and natural and manmade sediment supplies in order to reflect current shoreline changes;
 - c. Identified priority areas where shoreline protection structures should be phased out or removed if they are no longer needed or if in a state of great disrepair, including areas where structures threaten the survival of wetlands and other habitats, beaches, trails, and other recreational areas;
 - d. An examination of opportunities to maximize public beach area and enhance or provide new lateral and vertical public beach accessways;

- e. An examination of locations where beach nourishment may be appropriate, with recommended criteria and protocols for design, construction, and management to minimize potential biological impacts;
- f. Procedures for preparing an alternatives feasibility analysis for all hazard response projects and hard engineered shoreline protective device projects. The analysis should require, but not be limited to, the use of technical evaluations of the site (geotechnical reports, engineering geology reports, wave uprush reports etc.), an examination of all other options (removal, relocation, sand replenishment, no action etc.), and a conclusion that a shoreline protective device would be the best option (most protective of the public trust, best long-term solution etc.) for the subject site;
- g. Engineering plans and analyses defining the specific types of armoring that would be acceptable or preferable for specific areas if otherwise allowed by the Coastal Act and this LCP, and where appropriate, identification of the types of armoring that should not be considered for certain areas or beaches, in order to minimize risks and impacts from armoring to public access and scenic resources along the shoreline and beach recreation areas;
- h. Conditions and monitoring requirements that should include mechanisms to ensure shoreline protection effectiveness and public safety with provisions for the removal or ineffective or hazardous protective structures as well as programs to address beach replenishment and sand supply; and
- i. Procedures to address emergency armoring, such as: coordination with property owners and for field inspections before and after storm seasons; guidance for types of temporary protective structures preferred; mitigation requirements; and a provision for removal of temporary structures if no follow up permit is filed.

City of Pacific Grove Land Use Plan (certified March 2020)

HAZ-1. The City will continue to gather information on the effects of sea level rise and other coastal hazards on Pacific Grove's shoreline, including identifying vulnerable areas, structures, facilities, and resources, specifically areas with priority uses such as public access and recreation resources, Environmentally Sensitive Habitat Areas, and existing and planned sites for public infrastructure. Updates to the LCP, including through any vulnerability assessment, shall use the best available science, including the best available scientific estimates of expected sea level rise and potential resultant impacts. The information gathered should address multiple time frame horizons (e.g. 2025, 2050, and 2100) and sea level rise scenarios, as appropriate and feasible.

HAZ-2. Based on the information gathered over time per Policy HAZ-1, the City will conduct an evaluation at least every 10 years (and in response to significant storm events resulting in erosion) as to whether additional policies and other actions for inclusion in the LCP are necessary in order to better address the impacts of sea level rise and other coastal hazards, particularly those related to erosion. As applicable, such periodic evaluations may result in LCP changes to hazard policies designed to:

- a) require relocation of existing or planned development, including development already protected by shoreline protective devices, to safer locations or higher

elevations and restoring shoreline areas to natural conditions if feasible, including working with entities that plan or operate infrastructure;

- b) modify allowable land uses in hazardous areas, and modify siting and design standards for development, to avoid and minimize risks and better protect coastal resources;
- c) better protect wetlands and Environmentally Sensitive Habitat Areas;
- d) update standards for determining erosion rates;
- e) ensure long term protection of the function and connectivity of existing public recreational access facilities and resources; and
- f) require modifications to existing shoreline protective devices to ensure that such devices are meeting then-current standards and are functioning in a way that has the least impact on coastal resources as possible, including evaluation of possible removal and shoreline restoration.

HAZ-6. The City will prepare a Shoreline Management Plan (SMP), consistent with the parameters set forth in HAZ-2, to evaluate potential actions to guide the management of public parklands along the shoreline while considering the effects of sea level rise, best protecting coastal resources, as well as circulation and utility infrastructure. The SMP, when approved by the Coastal Commission, will function as a tool to help maximize public access and protect coastal resources along the City's shoreline.

City of Santa Barbara Land Use Plan (certified August 2019)

Policy 5.1-14 Sea Level Rise Adaptation Plan.

- A. The City, in coordination with CCC staff, shall develop a comprehensive Sea Level Rise (SLR) Adaptation Plan that identifies the City's vulnerability to SLR and analyzes the feasibility, economic impacts, costs, and environmental consequences of a range of adaptation strategies. The SLR Adaption Plan shall, to the extent feasible, be coordinated with other regional jurisdictions and entities working on SLR issues and be guided by the California Natural Resources Agencies Safeguarding California Plans for Reducing Climate Risk and the California Coastal Commission's Sea Level Rise Policy Guidance.
- B. The SLR Adaptation Plan shall include:
 - i. ***A vulnerability assessment that uses best available science to examine potential SLR resource and hazard impacts, and assets at risk for the near-term, mid-term, and long-term to at least 2100.*** The assessment shall identify the areas, structures, facilities, and coastal resources that are most vulnerable. The assessment shall also analyze impacts to areas providing public access and recreation resources (including beaches, the California Coastal Trail, and Highway 101), significant ESHAs (such as wetlands), open space areas (in particular those that could provide areas in the future for migration of habitats and resources), and sites of existing or planned critical infrastructure. ***The assessment shall establish baseline conditions and analyze multiple sea level rise scenarios based on best available science, including a high emission sea level rise scenario based on state guidance;***
 - ii. An economic and fiscal impacts review that analyzes the value of property, public infrastructure, ecosystem, and recreational assets vulnerable to SLR;

- iii. A cost/benefit analysis of a range of adaptation strategies that address anticipated impacts of SLR identified in the vulnerability assessment. The plan shall include analysis of the feasibility of managed retreat or other ways to move existing and future development in order to minimize hazards, protect coastal resources from sea level rise, allow migration of wetlands and other habitats, and/or restore areas for open space, public access, biological, and recreational benefits to replace those lost due to the impacts of sea level rise; and
- iv. A timeline for phased implementation of the plan that includes action triggers.

City of San Clemente Land Use Plan (certified August 2018)

HAZ-12 Citywide Sea Level Rise Vulnerability Study. The City shall research and prepare a Citywide Sea Level Rise Vulnerability Study. The results of this study shall be used to inform future LCP updates. The City may coordinate this vulnerability study with the climate change vulnerability assessment required by Government Code Section 65302(g)(4). At a minimum the Sea Level Rise vulnerability study shall:

1. ***Use the best available science to identify hazard zones and analyze potential impacts to coastal resources and development under a range of sea level rise scenarios, including a high sea level rise scenario.*** For each scenario, inundation, erosion, storm flooding, saltwater intrusion, and other coastal hazards influenced by sea level rise will be examined, as well as the associated impacts to coastal resources including but not limited to vertical and lateral public access ways, recreational resources (including the California Coastal Trail), sensitive habitats, beach width and water quality, as well as residential development, infrastructure, public facilities, and cultural resources. In the examination of coastal resource impacts, the study shall consider the interaction between the physical impacts of sea level rise and existing development such as the railroad and associated revetment. The study shall also examine a scenario in which the railroad and revetment are removed. ***The best available science used to inform this study shall be reflective of the most current Coastal Commission guidance, and peer reviewed studies that are widely accepted within the scientific community and locally relevant.*** The City shall coordinate with OCTA to the extent feasible.
2. Based on the Citywide Vulnerability Study described above, develop appropriate SLR adaption measures and policies to avoid and/or mitigate these impacts for incorporation into the LCP via future LCP updates. As applicable, recommendations may include such actions as:
 - a. Relocation of existing or planned development to safer locations, working with entities that plan or operate infrastructure;
 - b. Changes to LCP land uses, and siting and design standards for new development, to avoid and minimize identified risks;
 - c. Changes to standards for development in hazardous locations;
 - d. Changes to standards in bluff/shoreline erosion rates; and
 - e. Modifications to the LCP to ensure long-term protection of the function and connectivity of existing public access and recreation resources

The Citywide Vulnerability Study shall be updated periodically as new science and modeling results and/or state guidance become available. This update shall occur approximately every 10 years, or more frequently as necessary, through an LCP amendment.

City and County of San Francisco Land Use Plan (certified May 2018)

12.2 Develop and Implement Sea Level Rise Adaptation Plans for the Western Shoreline. Sea level rise and erosion threaten San Francisco's coastal resources and their impacts will worsen over time. San Francisco shall use the best available science to support the development of adaptation measures to protect our coastal resources in response to sea level rise and coastal hazards.

Implementation Measures:

- (a) Conduct detailed sea level rise vulnerability assessments and develop adaptation plans to minimize risks to life, property, essential public services, public access and recreation, and scenic and natural resources from shoreline erosion, coastal flooding and sea level rise for the Western Shoreline Area.
- (b) The vulnerability assessments shall be based on sea level rise projections for likely and worst-case mid-century and end-of-century sea level rise in combination with a 100-year storm event, and shall include one or more scenarios that do not rely on existing shoreline protection devices.
- (c) Adaptation measures shall be designed to minimize impacts on shoreline sand supply, scenic and natural resources, public recreation, and coastal access.
- (d) The adaptation plans shall consider a range of alternatives, including protection, elevation, flood proofing, relocation or partial relocation, and reconfiguration.
- (e) Adaptation measures that preserve, enhance, or restore the sandy beach, dunes, and natural and scenic resources such as beach nourishment, dune restoration, and managed retreat shall be preferred over new or expanded shoreline protection devices.
- (f) The adaptation plans shall consider the recommendations contained in the SPUR Ocean Beach Master Plan.
- (g) Create and maintain sea level rise hazard maps to designate areas within the coastal zone that would be exposed to an increased risk of flooding due to sea level rise. The maps shall include likely and worst case mid-century and end-of-century sea level rise projections in combination with a 100-year storm event. The maps shall include a scenario that does not include existing shoreline protection devices. The maps shall be updated when new information warranting significant adjustments to sea level rise projections becomes available.

RISK DISCLOSURE/ASSUMPTION OF RISK

City of Morro Bay Land Use Plan (certified August 2021)

PS-3.6 Coastal Hazards Risk Acknowledged. During Development Review, determine if any structures meant for human habitation are to be constructed within the 100-year floodplain or in the Sea Level Rise Hazard Overlay Zone depicted in Figure PS-8. If necessary, evaluate each structure's safety from flood and sea level rise related hazards, and recommend remedial actions. As a condition of approval for all development that at some point during its lifetime may be subject to coastal hazards, the Applicant shall record a deed restriction against the properties involved in the application acknowledging that the development and development site may be subject to coastal hazards, acknowledging that shoreline protective devices are prohibited to protect such development, waiving any right that may exist to construct such devices, and agreeing to remove threatened development and restore affected areas if necessary in the future subject to the requirement to prepare a removal and restoration plan, all of which shall also be added as conditions of any approval. Specifically, development shall be removed and the affected area restored to a natural condition if: (a) the City declares the development unsafe for occupancy and/or use; (b) the development requires shoreline protective devices; (c) the development encroaches onto public trust land (including as the public trust migrates); (d) access and utilities are no longer available to serve the development; or (e) required by subsequent adaptation planning through Shoreline Management Plans (see Policy PS-3.4). Approval of coastal permits shall not constitute a waiver of any public rights that may exist on the affected property. A coastal permit permittee shall not use any permit approval as evidence of a waiver of any public rights that may exist on the affected property now or in the future. The City will work with property and business owners whose assets are exposed to flooding from sea level rise to adapt to the anticipated hazards in the 50-year time horizon. If an asset cannot be sufficiently protected from coastal flooding, establish a timeline for relocation. Ensure that the timeline includes the following activities:

- Securing land for the relocated asset, either an infill site or a suitable undeveloped location.
- Permitting and environmental review activities.
- Deconstruction and reconstruction.

City of Half Moon Bay Land Use Plan (certified April 2021)

7-4. Disclosure of Hazard Presence. Require, as a condition of approval for a coastal development permit on property containing any shoreline, geologic, flood, or fire hazards, the recordation of a deed restriction to ensure the current and any future owners of the property understand the presence and assume the risks of such hazards and any property defects or vulnerabilities related to such hazards, including information about known current and potential future vulnerabilities to hazards as may be exacerbated by climate change and sea level rise.

7-18. Assumption of Risk. As a condition of approval for all coastal development permits that may be subject to shoreline hazards, require a deed restriction to ensure that property owners understand and assume the risks, and mitigate the coastal resource impacts, of new development and redevelopment in a hazardous area. Recorded assumptions of risk shall

include a waiver of claim of damage or liability against the City of Half Moon Bay, waiver of rights to future shoreline armoring, acknowledgement that the development may need to be removed and the site restored in response to future hazard conditions, and any other acknowledgements and mitigation measures necessary to internalize risk decisions. In the event that development is threatened by shoreline erosion or other hazards and needs to be removed or relocated, the owner shall bear full responsibility for all costs and must work with the City to implement the mitigation in a timely manner.

City of Pacific Grove Land Use Plan (certified March 2020)

HAZ-9. Development shall be sited and designed to avoid impacts from coastal hazards, including but not limited to, erosion, episodic and long-term shoreline retreat, flooding, inundation, storm waves, high seas, tidal scour, and tsunamis, including in relation to sea level rise, over the life of the development. As a condition of approval for all coastal development that at some point during its lifetime may be subject to coastal hazards, the Applicant shall record a deed restriction against the properties involved in the application acknowledging that the development site may be subject to coastal hazards.

City of Santa Barbara Land Use Plan (certified August 2019)

Policy 5.1-42 Conditions for Development in Shoreline Hazard Areas on the Interim Shoreline Hazards Screening Areas Map. Coastal Development Permits for new development and substantial redevelopment located in Potential Shoreline Hazard Screening Areas on Figure 5.1-1 Interim Shoreline Hazards Screening Areas, or otherwise subject to reasonably foreseeable beach erosion, coastal bluff erosion, coastal bluff slope failure, coastal flooding, and/or wave impacts over the expected life of the development, factoring in the effects of sea level rise, shall include conditions that:

- A. Require removal of the development by owners if any government agency has ordered that the structure(s) is not to be occupied or is otherwise unsafe due to imminent threat of damage or destruction from any shoreline hazard;
- B. Require removal of all recoverable debris associated with the development in the event that portions of the development fall on the bluff face, to the beach, or are swept to another location before they are removed. All such debris shall be disposed of in a lawful manner. Such removal shall require authorization through an emergency and/or regular Coastal Development Permit;
- C. For uses and/or structures not allowed to have shoreline protection devices pursuant to Policy 5.1-44 Shoreline Protection Device Permitting, the following condition shall apply: Prohibit the construction of new or substantially redeveloped shoreline protection devices in the future to protect the new development or substantial redevelopment from any shoreline hazard;
- D. For uses not allowed to have slope stabilization devices pursuant to Policy 5.1-31 Development Standards for Potential Shoreline Hazards Screening Area 3 (Coastal Bluff Faces) and Policy 5.1-32 Development Standards for Potential Shoreline Hazards Screening Area 4 (Coastal Bluff Tops), the following condition shall apply: Prohibit the construction of new or substantially redeveloped slope stabilization devices in the future to protect the new development or substantial redevelopment from any shoreline hazard;

- E. Limit the Coastal Development Permit to only the time period that the land underlying the development is under the ownership of the applicant or successor in interest. If the public trust boundary moves landward, resulting in the development encroaching onto public trust lands, the Coastal Development Permit will expire and the development on such public trust lands must be removed at the property owner's expense, unless the property owner obtains appropriate legal authorization from the trustee of the public trust lands (e.g., City of Santa Barbara or State Lands Commission) and obtains a new Coastal Development Permit from the CCC to authorize any development of public tidelands. Authorization for such development on public trust lands is restricted by the Coastal Act and Public Trust Doctrine and may not be allowed if the proposed use significantly interferes with public access or other public trust uses. (This condition may not apply to applications for development in Potential Shoreline Hazards Screening Area 6 (Inland Coastal Flooding Area));
- F. Require the applicant to acknowledge that:
- i. The project site and public services to the site (utilities, roads, etc.) may be subject to beach erosion, bluff erosion, coastal bluff slope failure, coastal flooding, wave impacts, or other hazards associated with development on a coastal beach, coastal bluff face or top, or in a coastal flood and/or wave impact area, now and in the future, factoring in the effects of sea level rise;
 - ii. Public services to the site may not be maintained in perpetuity due to the impacts of sea level rise;
 - iii. The applicant assumes the risks of injury and damage from such hazards in connection with the permitted development; and
 - iv. The applicant waives any claim of damage or liability against the approving entity (the City, or, if the permit is appealed, the CCC) for injury or damage from such hazards.
- G. Require the applicant to record a deed restriction, in a manner acceptable to the City Attorney (or the Executive Director of the CCC if the permit is appealed), reflecting at a minimum the applicable Coastal Development Permit conditions listed above.

City of San Clemente Land Use Plan (certified August 2018)

HAZ-10 Applicant's Assumption of Risk. A Coastal Development Permit (CDP) for development in a hazardous area shall be conditioned when consistent with Policy GEN-8 to require the property owner to record a document (i.e., deed restriction) that waives and indemnifies the approving entity from liability for any personal or property damage caused by geologic, coastal or other hazards on such properties in relation to any development approved by the CDP and acknowledging that future shoreline protective devices to protect structures authorized by such a CDP are prohibited as outlined in HAZ-18.

JOINT STATEMENT ON REGIONAL APPROACHES TO SLR ADAPTATION PLANNING

EXECUTIVE SUMMARY

The California Coastal Commission, the California State Association of Counties, and the League of California Cities support the development of additional tools, funding, and governance structures for regional approaches to sea level rise adaptation planning for California's coastal areas. Adaptation Planning for sea level rise is built around an understanding that sea level rise, combined with storms and extreme events, will exacerbate the coastal hazards that are already changing the California coastline through increased flooding, inundation, erosion, changing sediment dynamics, and saltwater intrusion. These increasing hazards will cause significant impacts to coastal resources and communities. The type and scale of impacts will vary widely across the State, and without careful planning on a regional scale, sea level rise will impact the ability of people to live near the ocean, and to access and recreate along the coast, including disproportionately affecting those underserved and vulnerable communities.

VISION

California communities, agencies, and property owners collaborate to employ regional approaches to sea level rise adaptation as a model for addressing resilience.

INTRODUCTION

While sea level rise is a global phenomenon, the rate of rise and the nature of impacts varies greatly along coastlines, including in California. While there are site-specific and localized impacts, the rates of rise, inundation, and erosion patterns occur on regional scales which transcend jurisdictional boundaries. The scale, complexity, potential financial costs, and political sensitivity means that sea level rise adaptation is usually difficult for any single city or county to undertake alone.

Regional approaches can be one tool for providing local flexibility with regional and statewide consistency in sea level rise adaptation and coastal access. Other natural disturbances and disasters such as fire, flood, and groundwater management all offer models and lessons on the need for regional approaches to adaptation planning. Regional approaches offer many advantages over localized approaches, though will require specialized tools and resources for effective adaptation.

ADVANTAGES TO REGIONAL APPROACHES TO SEA LEVEL RISE ADAPTATION PLANNING

There are several advantages of taking regional planning approaches to issues, including regional approaches to sea level rise adaptation. For instance, regional planning encourages discussions between communities and across jurisdictions. The formation of coordinated visions and planning processes allows stakeholders to see beyond local needs and challenges to address the interconnectedness of the coastal landscapes and its communities.

Regional planning also allows communities to be more strategic with protecting areas or resources threatened across time, including in the near, mid, and long terms. Regional approaches can be a helpful tool for communities and environments disproportionately affected by sea level rise; capitalizing on opportunities to protect infrastructure, landscapes, habitat, and resources that have a unique value. As part of this, regional approaches can help prioritize action, which is critical for effective expenditure of public funds as sea level rise adaptation for public facilities can be costly, such as building, protecting, or relocating major state and regional infrastructure.

Regional approaches allow state, county, and local leadership to go beyond site and jurisdictional constraints to identify adaptation and mitigation solutions. Flexibility in location and type of protection and mitigation expands options for developing durable solutions and establishing partnerships. In certain instances, regional approaches can continue to provide smart solutions to loss of important coastal resources, such as loss of coastal access, by providing these in a regional context in suitable areas to ensure continued longevity.

Working in a regional manner can aid in identifying opportunities for collaborating with other local, state, and federal partners to meet common needs for collecting, managing, and sharing scientific information used to inform policy and adaptation strategies. This can stimulate further creative partnerships across jurisdictions and agencies to support and achieve the vision of addressing resiliency while providing a more consistent basis to assess the impacts of sea level rise.

Consistent approaches across jurisdictional boundaries would provide improved understanding of the economic threats sea level rise will have on coastal communities. Regional-scale studies that assess the economic impacts on culturally or historically important sites, or on coastal infrastructure, such as wastewater treatment plants, water supply, utilities, roads, and other transportation infrastructure are vitally important. By sharing and leveraging resources, funding that would not otherwise be available can be realized. For example, some smaller projects are not able to compete for Federal funding, but a regionally significant study or project with broad social and environmental benefits could be more competitive for larger funding sources.

Lastly and importantly, many communities rely on regional systems for assistance and to increase their own resiliency toward issues that cross political boundaries. For example, protection of water quality, beach nourishment, coastal erosion, and others are important areas for action that may require regional solutions rather than individual entities addressing them alone.

CHALLENGES TO REGIONAL APPROACHES TO ADAPTATION

While there are many advantages to the regional approach, there are challenges to this approach as well. Conducting and implementing projects across jurisdictions introduces several logistic challenges between agencies including differing priorities and needs of communities and landscapes within a region. For example, the task of determining how much sea level rise to expect in each community, and when to expect it, is a critical scientific challenge given the unique

landscapes and community makeup along California's coastline. Further, the planning and management approaches of different local agencies can make it more difficult to have discussions in a single community, let alone across and between multiple diverse communities simultaneously.

In addition to logistic challenges, not all regions or communities are suitable for, or willing to take a regional approach to adaptation planning. The varying nature of sea level rise and impacts along the coast further exacerbate this issue, leaving some communities disproportionately more affected by impacts than others. This potentially significant financial burden, particularly for infrastructure and similar adaptation projects, can strain delicate regional relationships and affect other work efforts.

TOOLS TO SUPPORT REGIONAL APPROACHES TO ADAPTATION

The Sea Level Rise Working Group generally endorses regional approaches to planning and adaptation. In order to implement regional strategies, there are a range of tools, mechanisms and funding that will be required. Some of these already exist and are in use but will need to be expanded and customized for sea level rise planning (such as joint powers authorities (JPAs), partnerships, or memorandums of agreement (MOAs)). Some of these tools are in pilot or early phases (such as Caltrans Advance Mitigation program and the Beach Erosion Authority for Clean Oceans and Nourishment (BEACON)) while others need new sources and models.

It is important to commit to continue developing pilot approaches to using these tools in order to support regional and phased approaches to sea level rise planning, specifically within the context of Local Coastal Plan development and approval. This may include specific issue areas such as access, beach loss, and sand replenishment.

To continue to support creativity in addressing regional problems with regional solutions, it is imperative for communities, agencies, and the legislature to engage in and provide funding for local projects. Enhanced statewide coordination and discussions are also needed to speed and improve the use of tools for planning and adaptation, including regional vulnerability assessments with best available science, regional visions for plans and coastal management, JPAs, MOUs, and special funding and authority districts, advance mitigation banking programs, and funding sources for regional planning and projects.

COORDINATION AND ELEVATION PROCESS FOR LCP UPDATES

This document describes strategies and sequence for early coordination and conflict resolution as local jurisdictions update Local Coastal Programs (LCP).

This recommended process was developed by the Local Government Sea Level Rise Working Group (Working Group). It is intended to support efficient and effective communications between jurisdictions and the California Coastal Commission (Commission) for all LCP updates.

The Working Group recommends these suggestions for improved coordination be considered and applied in concert with other Working Group products, including:

- Framework for a Phased Approach to Integrating Sea Level Rise into LCPs
- Statement on the need for Regional Approaches to Sea Level Rise adaptation
- References, links, and information sources for Sea Level Rise adaptation in California

GOALS AND STRATEGIES FOR COORDINATION

Goals of Coordination and Elevation

1. Enable efficient and effective development of comprehensive LCPs and LCP updates that address current land use planning considerations while protecting coastal resources and maximizing public access as required by the Coastal Act.
2. Ensure that staff, Boards, and Councils are aware and informed of the most important issues within an LCP or LCP update.
3. Avoid delays due to miscommunication and/or incomplete information transfer.
4. Avoid delays due to protracted policy disagreements between local government staff and Commission staff.
5. Avoid conflict due to differing organizational cultures, systems, standards, or priorities.
6. Promote communication and education in advance of Commission decision making and/or before conflict stalls an LCP planning effort.

Strategies to Avoid Conflict and Delay

- Staffs of jurisdictions and the Commission build agreement on the scope of the LCP update. Changes to the scope require the use of the elevation process described below.
- Seek to identify which issues are complex, or for which there are differing priorities or goals. For these, engage leadership and legal staffs from jurisdictions and the Commission early and throughout the update process.
- Give appropriate and prompt attention to disputes as they arise to avoid unnecessary escalation of problems.
- Jurisdictions and the Commission staffs can build LCP update project timelines and schedule together.

Strategies to Address Conflict

- Acknowledge conflict in neutral and non-accusatory terms.
- Identify areas of common ground and shared goals.
- Share collected data/information related to conflict between parties.
- Attempt to answer any factual questions about the issue from either party.
- Review the applicable regulatory and statutory requirements and standards of review that apply to the situation.
- Listen carefully to each party's concerns and the basis for their position.
- Evaluate and be open to alternatives and creative solutions.
- Discuss solutions that have been successful in past similar situations. Determine if an innovative solution for the present situation can meet the concerns of both parties.

COORDINATION PROCESS

Initial Coordination: Kickoff Session

Staff from jurisdictions and the Commission will organize at least one coordination session at the initiation of an LCP update process. Items for coordination include:

1. Discussion of scope of LCP update with clear understanding of what will and will not be included as topics in the LCP update
2. Identification of legacy issues deserving coordination
3. Identification of proximate challenges to LCP update which deserve coordination
4. Review information and submission requirements for different phases of LCP development
5. Establish points-of-contact for communication
6. Establish joint understanding of schedule, check in points, and staff commitments from all parties to reach that schedule
7. As needed, provide a brief primer of SLR terminology, concepts, and Coastal Act requirements on SLR for local jurisdiction staff new to LCP updates or sea level rise

Suggested Milestones for Coordination

Staff from jurisdictions and the Commission are encouraged to coordinate at each of the below milestones, in addition to regular meetings (i.e., monthly, quarterly, or as needed).

1. Prior to finalizing the scope of the LCP update
2. After sharing the Administrative Draft, and prior to publishing the Public Review Draft LCP update
3. Prior to Commission staff providing public comments on the Public Review Draft LCP (in advance of local adoption)
4. Prior to submittal to Coastal Commission for approval
5. Prior to Commission action, including the following steps if needed:
 - After Coastal Commission staff completes its review and formulates a recommendation

- After draft suggested modifications are developed by CCC staff (ideally at least 2-3 weeks before draft staff report due to allow time for discussion)
- Prior to release of the staff report for Coastal Commission hearing (ideally at least 3 days prior)

Each of these milestones is a chance for planning and management staffs to discuss:

1. Questions about information submission format, content, and timing.
2. Issues which require additional information requests.
3. Issues and disagreements related to policy and ordinance language.
4. Issues which would benefit from additional problem-solving or coordination.
5. Key messages on the status of LCP development which can be shared among staff and decision makers within jurisdictions and the Commission, as well as with public and key stakeholders.

Additionally, elevation/coordination can be initiated at the request of the local jurisdiction or Commission staff at any point if an intractable policy conflict arises or an LCP update process stalls due to unanticipated challenges. See below for more on a proposed elevation process for challenging issues.

Informational Session with the Coastal Commission

At the discretion of Planning/District Directors and/or Local Elected Officials and the Executive Director of the Commission, an informational session at a Coastal Commission hearing can be scheduled. This informational session should occur when local government management and Commission management agree there are issues or policy matters that should be brought to the Commission for Commission feedback. The informational hearing should be prior to any final action on the proposed LCP by local government decision-making bodies.

Due to the time and resource constraints of Commission hearings, not all requests for informational sessions can be accommodated.

The purpose of an informational session is to provide context and critical information to Commissioners prior to the completion and submission of a draft LCP. The informational session is an opportunity to describe the evolution of planning and problem solving, and the current disposition, of LCP elements which are challenging or for which there are divergent priorities or preferences and receive feedback from the Commission.

Please see figure on last page.

ELEVATION PROCESS FOR CHALLENGING ISSUES

In addition to coordination at the suggested milestones above, jurisdiction and/or Commission staff can elevate issues for resolution.

This progressive process seeks resolution at the lowest possible level and aims to prevent conflicts from languishing. If necessary, this process allows for elevation through subsequent steps to achieve resolution on issues related to LCP development.

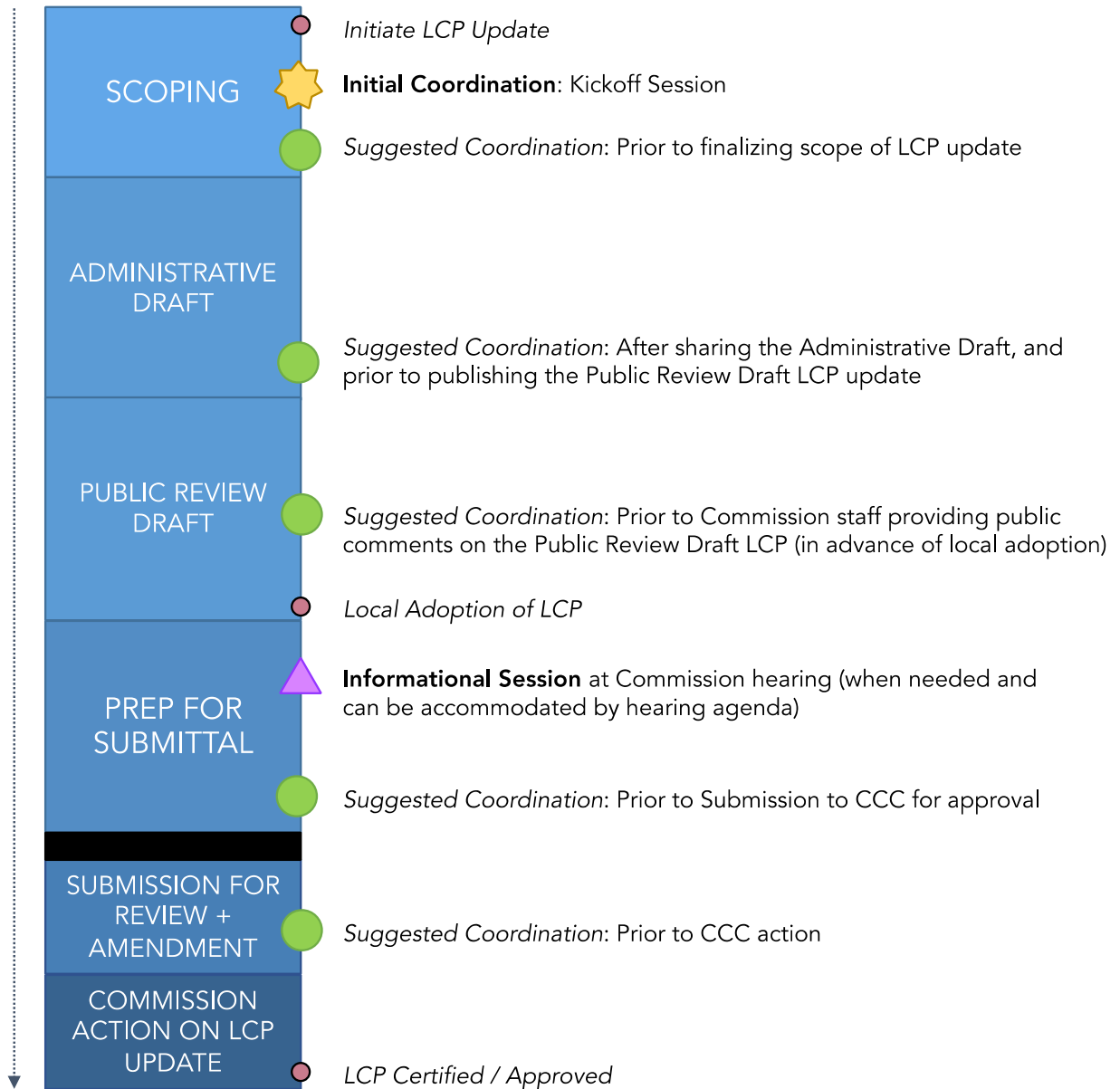
Step 1: Work at a staff-to-staff level to identify potential solutions and options for resolving issues using the commitments outlined for conflict resolution (see above).

Step 2: Elevate to the designated Planning Manager and Commission District Manager. Additional staff may be included as is appropriate and useful.

Step 3: Elevate to the Planning Director, the Commission District Director, and Executive Director.

Step 4: Elevate to Council or Board designee, if applicable: City/County Manager and Coastal Commission Executive Director.

Figure 1. Suggested milestones for coordination between jurisdictions and the Commission for all LCP updates.



*Coordination/ elevation can be initiated at any point should an LCP update process encounter unexpected challenges.

QUICK LINKS: RESOURCES FOR SEA LEVEL RISE PLANNING AND LCP UPDATES

COASTAL COMMISSION RESOURCES

- A. [Coastal Commission Sea Level Rise Webpage](#): The main landing page for the Commission's sea level rise resources, many of which are hyperlinked below. Includes a recent ["Sea Level Rise in California: Planning for the Future" StoryMap](#) communication tool developed in partnership with the Bren School at UCSB as well as links to guidance documents and other resources on sea level rise science and adaptation.
- B. [Coastal Commission Sea Level Rise Policy Guidance](#): Provides an overview of the best available science on sea level rise for California and a recommended methodology for addressing sea level rise in Commission planning and regulatory actions. Contains a new Science Update adopted by the Commission in 2018 to incorporate the State's latest best available science from its 2018 State of California Sea-Level Rise Guidance (link below).
- C. [Coastal Commission Residential Adaptation Guidance \[March 2018 Public Review Draft\]](#): The second in the Commission's series of sea level rise guidance, this draft document provides an in-depth discussion of sea level rise adaptation strategies specifically related to residential development, and examples of policies that cities and counties should consider when drafting Local Coastal Program (LCP) policies and reviewing individual permit decisions within their communities. *This document is still in draft form and has not yet been adopted by the Commission.*
- D. [Coastal Commission Critical Infrastructure Adaptation Guidance \[August 2021 Public Review Draft\]](#): The third in the Commission's series of sea level rise guidance, this document promotes resilient coastal infrastructure and protection of coastal resources by providing local governments, asset managers, and other stakeholders with policy and planning information to help inform sea level rise adaptation decisions for two main types of critical infrastructure: transportation and water. *This document is in-development and will be released for public review in late Spring 2021.*
- E. [Memo on Sea Level Rise Vulnerability Assessments and Lessons Learned](#): Shares some of the practical lessons that Commission staff have learned through their work with local governments on vulnerability assessments. Lessons may help expedite or improve future work by ensuring that the vulnerability assessments are scoped and performed to effectively support sea level rise adaptation planning, alternatives analysis, and LCP policy development.
- F. [LCP Grants Page](#): The main landing page for the Commission's LCP Grants Program, including information on the application process and previous grant awards. See specifically "Status of Grantees" and "View Status" button to pull up all publicly available grant

deliverables from all six grant rounds, including vulnerability assessments, adaptation plans, and land use plans and implementation plans. Hyperlinks include any publicly available review drafts up to final, certified language.

- G. **[Sea Level Rise Vulnerability Synthesis Report](#)**: Published in late 2016, this report includes a statewide synthesis of vulnerability analyses to inform sea level rise planning and preparedness; “County Snapshots” describing sea level rise vulnerability at a county scale, local planning efforts underway, and discussion of Coastal Act resource management priorities; and, four Local Coastal Program Case Studies highlighting examples of how the Commission, local governments, and other stakeholders are working collaboratively to address sea level rise in LCPs.
 - o **[County Snapshots](#)** – A component of the above report, these County-level snapshots provide more location-specific detail and examples of sea level rise planning efforts. *Commission staff are currently working to update the snapshots.*

BEST AVAILABLE SCIENCE

REPORTS

- H. **[State of California Sea-Level Rise Guidance](#)**: Updated in 2018, California’s current best available scientific information and guidance on addressing sea level rise, the guidance reflects advances in sea level rise science (from the State’s [Rising Seas in California: An Update on Sea-Level Rise Science](#) report) and addresses the needs of state agencies and local governments as they incorporate sea level rise into their planning, permitting, and investment decisions. Provides: 1) a synthesis of the best available science on sea level rise projections and rates for California; 2) a stepwise approach for state agencies and local governments to evaluate those projections and related hazard information in decision-making, including how to select appropriate sea level rise scenarios to analyze; and 3) preferred coastal adaptation approaches.

MAP VIEWERS AND SCREENING TOOLS

- I. **[Our Coast Our Future or CoSMoS](#)**: An online mapping tool specific to the California coast to help resource managers and land use planners understand, visualize, and anticipate vulnerabilities to sea level rise and storms up to 16 feet of sea level rise, and including 20- and 100-year storm events. The data derives from advanced hydrodynamic modeling, and reflects the impacts of coastal processes such as erosion and wave uprush.
- J. **[NOAA SLR Viewer](#)**: Another online mapping tool, but this includes nationwide data on community-level impacts from coastal flooding or sea level rise up to 10 feet above average high tides. Unlike CoSMoS, this model uses a more simple bathtub approach to model sea level rise and does not incorporate processes such as erosion and wave uprush.
- K. **[CalEnviroScreen 4.0 \(draft\)](#)**: CalEnviroScreen is a screening tool used to help identify communities disproportionately burdened by multiple sources of pollution and with population characteristics that make them more sensitive to pollution. To learn more about CalEnviroScreen, go to the [OEHHA website](#).
- L. **[EPA’s EJSCREEN](#)**: Similar to CalEnviroScreen, EJSCREEN is an environmental justice mapping and screening tool that provides a nationally consistent dataset and approach for combining

environmental and demographic indicators. EJSCREEN includes NOAA's sea level rise map layers up to 6 feet of sea level rise.

STATE OF CALIFORNIA ADAPTATION RESOURCES

- M. **California Adaptation Clearinghouse**: A centralized source of information to guide decision makers at the state, regional, and local levels when planning for and implementing climate adaptation projects to promote resiliency to climate change. This site includes links to adaptation policy guidance and tools as well as case studies and project examples.