

California Coastal Commission Sustainability Principles

February 2023 Draft



Acknowledgements

Produced and Published by the California Coastal Commission

This document was developed using federal financial assistance provided by the Coastal Zone Management Act, as amended, under award NA21NOS4190085, administered by the Office for Coastal Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce. The statements, findings, conclusions, and recommendations are those of the author and do not necessarily reflect the views of the National Oceanic and Atmospheric Administration or the U.S. Department of Commerce.

Photo on the cover: The Cormorant Overlook, San Francisco, Mary Sheft

Table of Contents

Introduction.....3

Guiding Principles.....6

Future Actions.....21

Conclusion.....25

References.....26



Photo: Great Blue Heron in Surfgrass, Sands Beach, Santa Barbara, Susan Cook

Introduction

Climate change, driven largely by anthropogenic activities and associated greenhouse gas (GHG) emissions, poses unprecedented challenges and will cause widespread impacts to our natural and built environments and their inhabitants. Rising GHG emissions will not only cause increasing average global temperatures on land and in water, but will also have farther-reaching secondary effects. In California, climate change will affect our coastal environments and communities in many ways, such as through rising sea levels, ocean acidification, changing precipitation and temperature patterns, increased wildfire risks, extended periods of drought and limited water supplies, loss of or changes in species diversity and distribution, and more. These many manifestations of climate change are already causing extensive impacts on California's coastal resources, residents, economy, and infrastructure, and these effects are expected to worsen in the coming decades, with disproportionate burdens placed on the state's environmental justice communities (CARB, 2017).¹

While planning for adaptation to these new conditions is essential, so are actions to proactively reduce the GHG emissions that drive the current climate trajectories. California is an international leader on this front: in 2006, the state passed the landmark AB 32 Global Warming Solutions Act, which required a reduction in GHG emissions to the 1990 level by 2020 and to 80 percent below the 1990 level by 2050 (Nunez, Chapter 488, Statutes of 2006). With the 2020 goal achieved, a new interim target set by SB 32 requires a 40 percent reduction below the 1990 level by 2030 (Pavley, Chapter 249, Statutes of 2016). Most recently and progressively, California set a goal to achieve carbon neutrality by 2045 and to maintain net negative emissions thereafter (Executive Order B-55-18, 2018). These statewide efforts represent some of the most ambitious targets in North America to-date, aligning California with other world leaders, including the European Union.



Photo: Sunset, Natural Bridges, Santa Cruz, David Kerbyson

1. The term "environmental justice communities" refers to low-income communities, communities of color, and other underrepresented populations with higher exposure and/or sensitivity to climate change impacts due to historical marginalization, discriminatory land use practices, and/or less capacity to mitigate adverse impacts.

2. In the context of this document, the term "climate change mitigation" (used interchangeably with "climate mitigation") means policies, programs, or other human interventions that reduce GHG emissions or enhance GHG sinks (IPCC, 2018).

As the state agency responsible for coastal resource and access protection through land use policy and development oversight, the California Coastal Commission is in a unique position to influence policies that mitigate the impacts of climate change and bolster statewide mandates for GHG emissions reductions in the coastal zone.² The Commission already guides and supports many climate change adaptation efforts across the state. For instance, the Commission has awarded over \$11.75 million (to date) to local governments through its Local Assistance Grant Program to fund Local Coastal Program (LCP) updates focused on sea level rise and climate resiliency; produced multiple guidance documents with policy direction for local governments on sea level rise planning and adaptation; and reviewed and approved Public Works Plans in several coastal counties that take a comprehensive approach to wildfire resiliency and forest management. These and other adaptation efforts are critical to address current and projected climate change impacts. However, absent significant and immediate reductions in GHG emissions, the impacts of climate change will only persist or worsen.



Photo: Spring at Bixby Creek, Big Sur, Ellen Finch

The Coastal Act contains a number of forward-looking policies that support GHG emission reductions. In particular, Section 30250 generally requires new development to be concentrated in existing developed areas; Section 30252 facilitates the provision of public transit services and non-automobile circulation in new development projects; and Section 30253 requires new development to minimize energy consumption and vehicle miles traveled (VMT) and to meet air pollution control requirements. Other policies protecting the marine environment, sensitive habitat areas, coastal waters, agricultural lands, and timberlands not only protect coastal ecosystems, but also help preserve the carbon sequestration benefits those ecosystems provide (e.g., Sections 30230, 30231, 30233, 30240, 30241, 30243). In addition, the Coastal Act was recently amended to explicitly require the Commission to “take into account the effects of sea level rise in coastal resources planning and management policies and activities in order to identify, assess, and, to the extent feasible, avoid and mitigate the adverse effects of sea level rise” (Section 30270). Together, these policies provide the Commission with the authority and the duty to consider and address the climate-related impacts of land use policy and development decisions. This includes the consideration and minimization of GHG emissions.

3. In the context of this document, “climate change resiliency” (used interchangeably with “climate resiliency”) means the capacity of social, economic and environmental systems to cope with climate change, responding or reorganizing in ways that maintain their essential function, identity and structure while also maintaining the capacity for adaptation, learning and transformation (IPCC, 2018).

Building more climate resilient communities means avoiding, preparing for and responding to natural hazards and climate change impacts as they occur, and developing in sustainable ways that achieve these goals.³ Reducing GHG emissions through sustainable land use planning and development practices are necessary tools for building more resilient communities and mitigating for impacts of development.

This document therefore provides a set of guiding principles and associated future actions for reducing GHG emissions and improving sustainable land use practices through updates to LCPs and other planning documents, as well as reviews of coastal development permit (CDP) applications.

These principles are intended for use by the Commission, local governments, and others subject to the Coastal Act to improve climate resiliency and minimize the effects of climate change throughout the coastal zone. The principles align with and help carry out the Commission's [2021 to 2025 Strategic Plan](#), particularly with respect to Objective 4.5 to facilitate GHG reductions in LCPs, CDPs, and other efforts. The principles also align with the state's goal of carbon neutrality by 2045 and related statewide climate strategies including but not limited to those presented in the California Air Resources Board's Climate Change Scoping Plan, the California Natural Resource Agency's Safeguarding California Plan, the California State Transportation Agency's *Climate Action Plan for Transportation Infrastructure*, and the Office of Planning and Research's *Planning and Investing for a Resilient California*.



Photo: Kelp, Point Lobos, by Bruce Sudweeks

Guiding Principles

The Commission adopts the following guiding principles with the goals of reducing GHG emissions, advancing sustainable land use practices, and improving climate change resiliency through LCP updates, CDP reviews, and other actions.⁴

1. *The Commission joins the State of California in recognizing that collective, momentous action is necessary to achieve the statewide goal of carbon neutrality by 2045.*

As scientific understanding of climate change continues to advance, there is undeniable evidence of its widespread environmental, social, and economic impacts. Further, there is a growing scientific consensus that global warming will soon likely meet or exceed the 1.5 °C increase that was identified by the 2015 Paris Agreement as a threshold for severe climatic changes, even if substantial decreases in global GHG emissions were to occur (IPCC, 2022).

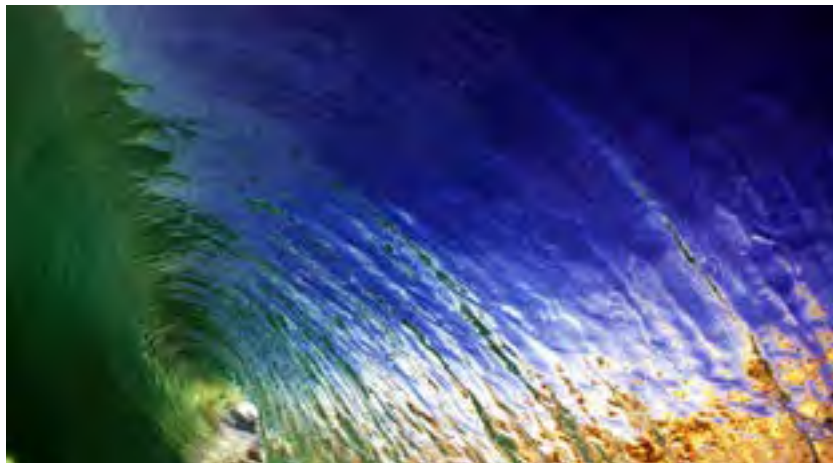


Photo: Laguna Beach, Dylan McDaniel

In California, the California Air Resources Board (CARB) guides the state's path forward to meeting the mandates of AB 32, SB 32, and Executive Order B-55-18 through five-year updates to the Climate Change Scoping Plan, which translates the latest climate science and projection modeling into a range of economically and technologically feasible actions to achieve GHG reduction targets. These actions focus on a wide variety of sectors that significantly contribute to statewide GHG emissions and have a concrete ability to reduce those emissions, including transportation, energy, industrial, and natural and working lands.⁵ As such, collaboration is vital to implement these actions across all relevant sectors.

4. The Commission adopts these Guiding Principles as interpretive guidance pursuant to Section 30620(a)(3) of the Coastal Act.

5. CARB defines "natural and working lands" to include forests, grasslands, shrublands and chaparral, croplands, wetlands, coastal areas, developed lands, and sparsely vegetated lands.

The Coastal Act enables the Commission to take an important role in furthering CARB’s approach for reducing GHG emissions and enhancing climate change resiliency in the coastal zone. Key GHG reduction strategies presented in CARB’s latest Scoping Plan include expansion of renewable energy and zero-emission vehicle infrastructure, reducing reliance on fossil fuels and gas-powered vehicles, preserving and enhancing carbon sinks, and decarbonizing buildings and industrial facilities. These strategies tie directly into Coastal Act requirements for reduction of VMT and energy consumption, consistency with requirements imposed by CARB to minimize air pollution, concentration of new urban and industrial development, and protection of natural habitats and agricultural lands. The Commission therefore has an affirmative duty to ensure that land use planning and new development projects meet these Coastal Act mandates in a manner that furthers state-wide efforts to reduce GHG emissions. The Commission is committed to using its authority to its fullest effect to reduce GHG emissions and improve sustainable land use practices through LCP updates, CDP reviews, and other planning documents.

As the following principles will describe further, sustainable land use planning and development practices can cut GHG emissions, build more climate-resilient communities, and meet pillar objectives of the Coastal Act, such as minimizing coastal hazards, protecting coastal resources, and maximizing public access. A key aspect of the Commission’s work on climate change resiliency will be its continued coordination and outreach with local government partners, sister agencies, tribal communities, and the public to highlight the importance of climate change mitigation and to implement innovative solutions through local, regional, and statewide planning. Many local governments have already begun to face the challenges of adapting to and mitigating for climate change impacts, bolstered by recent legislation that requires these efforts through Climate Action/Adaptation Plans, General Plans, Hazard Mitigation Plans, and Sustainable Communities Strategies. In the coastal zone, it is critical for local governments to update their LCPs to align with the climate mitigation and resiliency strategies identified through parallel planning work to ensure these strategies are implemented at the project level through CDP review. In addition to continued coordination, the Commission offers a [Coastal Plan Alignment memorandum](#) (2021) and the [Coastal Plan Alignment Compass](#) as resources for local governments to support coastal resilience goals through aligned planning.



Photo: Scripps Beach, Susan Perez

2.

The Commission can improve the implementation of sustainable land use practices and the outcome of climate resiliency projects by engaging in meaningful tribal consultation.

The Commission recognizes the significant adverse impact that colonization and associated land use changes have had on both indigenous people and our climate. Climate change has already affected, and will only compound the effects, that land theft and displacement has already had on tribal communities for generations, including food and water scarcity, deteriorating habitat conditions, threats to cultural resources, and more (Goode et al., 2018). As the original stewards of the California coastal zone, California Native American Tribes (tribes) possess unique and valuable knowledge and practices for conserving and managing coastal resources in a sustainable manner. The Commission believes that such sustainable resource management is also consistent with the spirit and intent of the Coastal Act. The Commission therefore can and should turn to tribal communities for input and coordination on sustainable land use practices, climate change mitigation and adaptation strategies, and other climate resiliency and restoration projects. To that end, the Commission is committed to upholding its [Tribal Consultation Policy](#) with the goals of improved tribal engagement and partnership, informed and successful project outcomes, and enhanced climate resiliency. With our common interests in land stewardship and the invaluable traditional ecological knowledge held by tribes, increased collaboration between the Commission and tribes can help advance the state's climate action goals through improved sustainable land use planning and development outcomes.

The Commission also encourages local governments to update their LCPs in coordination with tribal communities. LCPs should include policies ensuring that land use changes and development projects address climate change impacts and do not have adverse impacts on tribal cultural resources, including by negatively affecting the traditional cultural use of a sacred place or landscape. By holding themselves accountable with policies and procedures for early and meaningful tribal engagement, decision-makers can be better equipped to acknowledge and respect tribal cultural resources in their actions while working to advance climate resiliency.

3.

The Commission can advance environmental justice by considering sustainability and GHG emission reductions in its decision-making.

As acknowledged by the Commission in its [Environmental Justice Policy](#), environmental justice communities (including communities of color, low-income communities, and other historically underrepresented or marginalized communities) are disproportionately impacted by the adverse effects of climate change and other environmental conditions (e.g., polluted land, air, and water). These disproportionate impacts result from a variety of reasons, such as discriminatory land use practices that restricted individuals of color from living in desirable areas, lack of resources to build resiliency, increased exposure to public health and environmental hazards, or vulnerability to displacement. Environmental justice communities often experience multiple types of environmental pollution and hazards, resulting in cumulative impacts that may worsen as climate change exacerbates existing hazards or creates new ones. The Commission recognizes the need to reduce GHG emissions and improve sustainable land use practices in order to address the impacts of the climate crisis on environmental justice communities in ways that avoid creating new burdens and perpetuating existing, disproportionate burdens.

The Commission supports the use of cross-cutting strategies to achieve this goal and can reinforce such strategies through CDP reviews and LCP updates. For instance, smart growth is a sustainable land use practice that emphasizes siting affordable housing opportunities near job-rich and transit-rich areas, consistent with the mandate of Coastal Act Section 30250 to concentrate new development in existing urbanized areas with adequate public services. Expanding equitable coastal public access and coastal recreation opportunities can help reduce the burdens of climate change on environmental justice communities by providing a low- or no-cost refuge from extreme heat that may be felt farther inland or in urbanized areas. Expanding non-vehicular access through California Coastal Trail connections, improved bicycle lanes, pedestrian enhancements, and complete streets⁶ provisions are notable ways to increase equitable access to the coast while limiting GHG emissions by providing more transportation options for all user groups regardless of their age, income, race, and ability. By implementing these sustainable land use and transportation practices through LCP updates and CDP reviews, the Commission can play an important role in reducing disproportionate climate change impacts on environmental justice communities, enhancing affordable housing stock in the coastal zone, minimizing vehicle trips and associated GHG emissions, and improving public access to the coast for all people.



Photo: Humpback Whale Breaching, Moss Landing, Shane Keena

The Commission will also continue to review climate change mitigation projects for their potential impacts to environmental justice communities. Some strategies aimed at reducing GHG emissions, though beneficial for climate resiliency, can have an adverse effect on underrepresented populations if not properly considered. For example, new roadway pricing to discourage vehicle trips can create a cost burden for lower income households; urban greening programs to enhance local carbon capture and cool urban heat islands can lead to gentrification and displacement; and requirements for converting to or installing electric appliances and electric vehicle (EV) chargers can often be unaffordable for many residents. Site-specific analysis and tools such as the California Office of Environmental Health Hazard Assessment's CalEnviroScreen and the Environmental Protection Agency's EJScreen can be used during LCP updates and CDP reviews to help flag the potential for these impacts and inform decision-making.

6. Defined by Caltrans as "a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit riders, and motorists appropriate to the function and context of the facility."

LCP updates can also be a tool for local governments to create or study the need for programs that improve climate resiliency in environmental justice communities. Such updates can align with local Climate Action Plans, Housing Elements, and Environmental Justice Elements of general plans and may include rebate programs for energy and water saving infrastructure, incentives for affordable housing construction, and identification of funding sources such as state and federal grants to support these efforts. The Commission will continue to work with local governments on land use policies that complement these programs or otherwise advance sustainability and climate resiliency in environmental justice communities.

4.

The Commission will utilize best available climate change science to inform decisions that lead to reduced GHG emissions and improved climate resiliency throughout the coastal zone.

The Commission continues to recognize the importance of using best available science to guide its decision-making, consistent with its mission. Like sea level rise projections, all climate change science is constantly evolving, and the strategies for addressing the myriad impacts of climate change are evolving as well. The Intergovernmental Panel on Climate Change (IPCC) is a key leader in this arena with their expert review of current research and ongoing production of assessment reports that are used to inform climate policy around the world.⁷ In California, many universities are on the research forefront and state-specific climate change assessment reports are produced via collaboration between the Governor's Office of Planning and Research (OPR), the California Natural Resources Agency (CNRA), and the California Energy Commission (CEC).⁸ While there is much to learn from studies at the global or national level, the Commission's decision-making is specific to the California coastal zone, and selection of best available science should be applicable to this area. For instance, studies on the effectiveness of coastal wetland carbon sequestration in the east coast may not be directly translatable to California coastal wetlands due to differences in climate, soil composition, plant species, and other factors, but the Commission is supportive of efforts to better understand how various climate research and mitigation strategies may apply along the California coast. The Commission is committed to utilizing the best available resources to inform its approach to reducing GHG emissions and improving sustainable land use planning in California's coastal zone, and it encourages local governments to follow suit.

7. The IPCC is currently in its sixth assessment cycle, in which the Sixth Assessment Report (AR6) and associated synthesis and special reports are being produced. More information can be found here: <https://www.ipcc.ch/assessment-report/ar6/>

8. California is currently in its fifth assessment cycle, in which the Fifth Climate Change Assessment and associated technical and synthesis reports are being produced by OPR in partnership with CNRA, CEC, and California Strategic Growth Council. More information can be found

As the world continues to look for innovative solutions for climate resiliency and GHG reductions, emerging technologies are playing an increasingly important role in research and a variety of other sectors. The Commission recognizes the value of emerging technologies in its contributions to reducing GHG emissions, particularly in the ability to monitor progress, identify needs for improvement, and accelerate the path forward towards carbon neutrality. The Commission supports the exploration and potential use of new technologies that may assist in its decision-making when available and feasible, such as tools that estimate a development project’s GHG emissions or a restoration project’s capacity for sequestering carbon. Such technologies may also be useful for local governments, such as to assist in identifying the primary sources of GHG emissions in their jurisdictions and developing corresponding climate resiliency strategies.

5.

The Commission recognizes that protecting, restoring, and managing coastal habitats and agricultural lands can result in GHG reductions, improved climate resiliency, and enhanced sustainable land use planning.

Many types of coastal habitats and resources that are protected under the Coastal Act (including but not limited to wetlands, streams, marine waters, grasslands, forests, rangelands, and agricultural lands) provide various ecosystem services that can contribute to climate resiliency. In particular, these habitat areas and land covers (termed as “natural and working lands” or NWLs) are vital carbon sinks that capture and store atmospheric carbon dioxide. Land use changes, deforestation, drought, wildfires, and other natural or anthropogenic forms of land degradation can all lead to massive losses of this stored carbon (CNRA, 2022). Climate smart management and protection of NWLs is therefore a critical piece of the state’s strategy to achieve carbon neutrality by 2045 (including through the Pathways to 30x30 initiative⁹), as it will be necessary to both enhance carbon capture and decrease GHG emissions to meet this ambitious goal (CARB, 2022).

The Commission interacts with NWLs in various ways, and as scientific understanding of climate change and carbon sequestration evolves, so will the Commission’s actions and policy direction with respect to these topics. The Commission has an established history of protecting and enhancing habitat areas through mitigation requirements, supporting mitigation banking for various development and transportation projects, emphasizing nature-based solutions to sea level rise adaptation, and supporting habitat restoration projects in general. Other Commission actions have set aside many acres of land through conservation easements or other restrictions on development. More recently, the Commission has recognized the carbon sequestration value of eelgrass and wetland restoration projects, forest health management plans, and other nature-based climate resiliency solutions. Moving forward, the Commission will continue to integrate its resource protection decision-making with the need to preserve, expand, and enhance carbon sinks as a crucial climate change mitigation strategy. As much is still unknown about the carbon values and capacities of various habitats and land covers, the Commission is supportive of research that advances understanding of this topic—particularly in the context of the California coastal zone.

9. The Pathways to 30x30 initiative is part of [Executive Order N-82-20](#), which commits California to conserving 30% of its lands and coastal waters by 2030 under the leadership of the CNRA with the intent of enhancing climate resiliency, biodiversity, food security, outdoor access and recreation, and economic sustainability.

The Coastal Act also mandates protection of agricultural lands from conversion to urban land uses. This protection of agricultural lands and their productivity is supportive of statewide climate smart agriculture initiatives to improve carbon sequestration and build climate resiliency. The agriculture industry is both highly vulnerable to the global temperature increases and extended droughts related to climate change and a significant contributor to California's total GHG emissions (CARB, 2022). As such, sustainable management of agricultural lands with water conservation and low- or no-carbon operational practices is more important than ever. Strategies aimed to increase carbon storage and water efficiency can include compost application, nutrient management, conservation tillage, cover cropping, tree and shrub establishment, conversion of annual crops to perennial crops, and transition to organic farming. These climate smart approaches are increasingly vital to achieving carbon neutrality, maintaining economic stability, providing food security, and improving public health (CNRA, 2022). The Commission has promoted sustainable agricultural practices in past actions and guidance documents (e.g., [Carbon Storage Using Organic Soil Amendments on California's Coastal Rangelands](#) [2017]), and will continue to encourage agricultural practices that improve climate resiliency through land use planning and development projects.

Protecting, enhancing, and managing NWLs through the Coastal Act has other climate resiliency benefits that go beyond carbon sequestration. For instance, conserving open space and agricultural areas translates to concentrating new development in already urbanized areas, which is a fundamental smart growth strategy that reduces VMT and associated GHG emissions. Smart growth is also a sea level rise adaptation strategy recognized in the Commission's sea level rise policy guidance ([2018 Science Update](#)) as it calls for clustering new development away from hazardous areas. By employing urban growth boundaries, habitat buffers and hazard setbacks, and other smart growth land use practices through LCP policies, local governments can enhance their resiliency to climate change while maintaining NWLs for their many ecological, economical, and social values. The Commission encourages and supports land use policies and management practices with such cross-cutting benefits.



Photo: Sunset, Hendry's Beach, Alex Braud

6. *The Commission supports interagency and intra-agency efforts to “cut green tape” for the purpose of facilitating climate resiliency projects and achieving statewide GHG emission reduction goals.*

The Commission is dedicated to working with its local, state, and federal agency partners to implement strategies that reduce or offset GHG emissions. For regulatory agencies such as the Commission, this often entails processing approvals for projects with the goal or co-benefit of mitigating or building resiliency to climate change. Recognizing the need to facilitate habitat conservation and restoration projects in particular for their carbon sequestration values, the CNRA established the Cutting Green Tape initiative in 2020 to identify strategies for streamlining regulatory processes with stakeholder agencies and practitioners. In particular, the Cutting Green Tape initiative aims to increase the pace and scale of environmental restoration and land management efforts by calling on a variety of decision-making bodies to improve permitting and regulatory processes; clarify and improve the use of California Environmental Quality Act exemptions; simplify grant and loan programs; and enhance communication, coordination, and collaboration across public agencies and non-governmental groups. As an entity of the CNRA, the Commission supports and implements this initiative, particularly as restoration and conservation projects often result in enhanced climate resiliency and protection of coastal resources.



Photo: Hearst Pier, Marsha Kirschbaum

The Commission has already made strides in implementing the recommendations of the Cutting Green Tape initiative and is committed to continuing to do so. For example, the Commission’s [Aquaculture and Marine Restoration CDP Application Guidance](#) (2020) helps applicants navigate the CDP process, leading to a more time efficient and cost-effective review; regular updates to the Commission’s LCP grant program have expanded and clarified grant eligibility to specifically include projects related to nature-based adaptation strategies, leading to LCP updates and subsequent CDP reviews that enable local climate change and sea level rise resiliency; the [Plan for Improved Agency Partnering](#) (2016) and [Interagency Partnership Agreement](#) (2022) between the Commission and Caltrans identify common goals and key challenges for interagency coordination, leading to improved processing of transportation projects (including those with restoration or resiliency components); and the approvals of Public Works Plans (PWPs) provide for a suite of forest health, wildfire resilience and other restoration projects in multiple coastal counties, leading to expedited project implementation. In addition, Commission staff participate in numerous advisory and stakeholder groups related to significant restoration and adaptation efforts across the state, such as the Southern California Wetlands Recovery Project, which helps with early coordination on Coastal Act consistency review and expedited permit processing.

Moving forward, the Commission will continue to consider strategies for facilitating LCP updates, CDP applications, and other planning documents that result in reduced GHG emissions and improved sustainable land use practices, including within and beyond the scope of the Cutting Green Tape initiative. Restoration, renewable energy, and other sustainability projects have many benefits, but they often have tradeoffs and impacts as well. Unless such projects are specifically exempted from permit review, they need to be examined for Coastal Act or LCP consistency and authorized by the Coastal Commission or local governments with certified LCPs. The Commission supports exploration of permit streamlining opportunities, such as formal regulation changes that would accelerate review of nature-based climate adaptation projects. The Commission can further facilitate efficient project development and review through improved interagency coordination, programmatic approaches (e.g., PWPs), internal training opportunities, and interpretive guidance documents. These tools can help Commission staff, CDP applicants, local government partners, and others subject to the Coastal Act better understand how restoration and other sustainability projects at different scales can avoid or minimize impacts to coastal resources, and how to identify the information necessary to process permits for such projects expeditiously.

7. *The Commission encourages innovative sea level rise adaptation strategies, particularly those that have multiple benefits in protecting coastal resources and improving climate change resiliency.*

Sea level rise adaptation is a common, pervasive challenge for the Commission and local governments. As GHG emissions continue to warm the ocean and atmosphere, this warming causes glacial melt and thermal expansion of ocean waters that lead to rising sea levels and associated hazards including increased coastal erosion, tidal flooding and inundation, rising groundwater tables, changes in shoreline sediment supply and movement, and seawater intrusion. Although future sea level rise projections have a range of potential outcomes based on several uncertain factors, the greatest influence is the extent to which humanity continues to produce GHG emissions. Without effective global efforts to reduce GHG emissions and minimize climate change, California will increasingly experience the consequences of sea level rise, including direct loss of or impacts to public beach access, coastal recreation areas, coastal development and infrastructure, and myriad coastal habitats and resources.

To address this challenge, the Commission encourages forward-thinking adaptation strategies that can enhance resiliency to all climate change impacts, including sea level rise.¹⁰ A fundamental sea level rise adaptation strategy that stems from the Coastal Act is to site and design new development so that it is safe from coastal hazards for the anticipated life span of the development. This not only minimizes risks to life and property from such hazards, but can also avoid the need for significant repairs, relocation, and shoreline protection in the future. These future construction needs would all entail additional GHG emissions, such as from the production of the building materials and the truck trips required throughout construction. Siting and designing new development to be safe from coastal hazards is therefore both sustainable and adaptive to climate change and sea level rise. This is especially important for critical infrastructure that can be difficult to adapt or relocate in the future.

10. As evidenced by and further described in the Commission's adopted [Sea Level Rise Policy Guidance](#) (2018) and [Critical Infrastructure at Risk: Sea Level Rise Planning Guidance for California's Coastal Zone](#) (2021).

The Commission builds on this fundamental siting and design approach by encouraging the implementation of sea level rise adaptation projects and land use policies with co-benefits, such as nature-based or other solutions that protect coastal assets from rising sea levels while enhancing habitat or recreational values. Nature-based adaptation strategies (e.g., living shorelines) and other methods (e.g., adaptation pathways) can also support carbon sequestration through the creation of new or restored habitat areas, further contributing to their climate resiliency benefits. The Commission is in a unique position to encourage implementation of these innovative, multi-benefit strategies through LCP updates, CDP reviews, and the Commission's Local Assistance Grant Program, and will continue to work with its local government partners on advancing these efforts.

8.

The Commission can help facilitate the transition from carbon-based energy sources to renewable energy sources by supporting renewable energy projects and expediting decommissioning of onshore and offshore oil and gas facilities.

The disastrous Santa Barbara Platform A oil spill of 1969 is attributed as a key inspiration for the creation of Proposition 20, which led to the adoption of the California Coastal Act. Although the Coastal Act allows for new oil and gas infrastructure in limited circumstances, these policies emphasize development standards that minimize the potential for oil spills and seek maximum environmental and public health protections. Unfortunately, inadvertent oil spills continue to occur and cause disastrous impacts to marine environments, wildlife, coastal water quality, public access, and other coastal resources. Now, in this era of climate change, the adverse impacts of the fossil fuel industry are known to be much more widespread. Fossil fuels are recognized as a root cause of climate change as the combustion process releases large amounts of carbon dioxide, a primary greenhouse gas, into the atmosphere (CARB, 2022). Furthermore, the extracting (e.g., drilling, mining, fracking) and transporting of fossil fuels, which often occurs within or adjacent to our environmental justice communities, causes significant air and water pollution. The resulting environmental and public health impacts are becoming increasingly detrimental to all state residents and disproportionately burdensome to environmental justice communities.



Photo: Bixby Bridge, Diana Lilly

The Commission joins the State of California in its recognition of the need to cut fossil fuel use and transition to 100% renewable, carbon-free energy sources in order to effectively reduce GHG emissions and slow the pace of climate change.¹¹ To support this transition, the Commission encourages LCP policies and projects that facilitate the decommissioning of existing fossil fuel production and expand access to renewable energy sources (including generation, transmission, and storage infrastructure). However, this transition must be done in a way that protects California’s invaluable coastal and marine resources and its vibrant coastal communities. While renewable energy projects are vital to achieving statewide GHG reduction goals, they are not without potential for coastal resource impacts—for example, in the past the Commission has considered the visual resource impacts of solar arrays, the potential for wind turbines to cause bird strikes and adverse impacts to commercial and recreational fishing, and the marine and biological resource impacts of hydropower. Thus, it is equally as vital for the Commission, local governments, CDP applicants, and other stakeholders to plan and design such projects to avoid, minimize, and mitigate these impacts. This may entail weighing the expected benefits of both large- and small-scale renewable energy projects against their potential adverse impacts and working to help ensure those impacts are avoided and minimized through thoughtful siting, design, and operation.



Photo: Huntington Beach Pier, C.T. Bui

LCP updates will play an important role in this energy transition as the state continues to expand its budget and programming for renewable energy access and to advance legislation on fossil fuel restrictions and decommissioning of oil and gas facilities that have ceased production. The Commission encourages local governments to update their LCPs with supportive strategies such as identifying appropriate land use designations and development standards for renewable energy infrastructure, adopting electrification ordinances, incentivizing fossil fuel decommissioning projects, and where feasible, placing limitations or bans on new oil and gas production and enhanced recovery techniques. Where outright bans are not consistent with the Coastal Act, the Commission and local governments can minimize environmental health and justice impacts from new drilling sites by requiring a buffer from sensitive receptors (schools, neighborhoods, health care facilities, etc.) and sensitive habitat areas.¹²

11. As recognized by the State of California in its adoption of SB 100, SB 350, and AB 2188, as well as in Executive Order N-79-20 and CARB’s 2017 and 2022 Climate Change Scoping Plan.

12. The California Geologic Energy Management Division released a [draft rule](#) that would impose a minimum 3,200-foot buffer between new wells and sensitive receptors in 2021. Other California counties and cities have locally adopted a similar buffer requirement (such as Ventura County) or a ban on new wells (such as the City and County of Los Angeles).

9.

Commission decision-making is informed by the need to reduce vehicular travel, cut transportation-related GHG emissions, and enhance non-vehicular transit alternatives in order to help meet statewide GHG emission reduction targets.

Urban sprawl, a lack of efficient and interconnected transit options, and a historic focus on expanding vehicular infrastructure over other modes of travel have led to an increasingly heavy reliance on driving across the state. As a result, transportation (gas-powered vehicles in particular) is now responsible for nearly half of California's GHG emissions. While shifting to zero-emission vehicles (ZEVs)¹³ will help reduce transportation-related GHG emissions, interim statewide climate targets cannot be met without a significant reduction in the overall amount of VMT (CARB, 2018).



Photo: Back to Light, Bixby Creek Bridge, Monterey County, Fabio Piacenza

State legislation has sought to reduce GHG emissions tied to the transportation sector in a variety of ways such as by requiring integrated regional housing and transportation planning through Sustainable Communities Strategies (SB 375), VMT thresholds for environmental impact analyses (SB 743), expedited multi-modal projects and ZEV infrastructure through permit streamlining (SB 288, AB 1236), and the phasing out of gas-powered vehicle sales by 2035 (Executive Order N-79-20).

13. Caltrans defines ZEVs as “vehicles that do not produce exhaust emissions of any criteria pollutant under any and all possible operational modes and conditions.” Executive Order N-79-20 (2020) calls for all in-state sales of passenger cars and trucks to be ZEV by 2035, and all in-state sales of medium- and heavy-duty vehicles to be ZEV by 2045 where feasible.

In the coastal zone, such strategies are inherently connected to Coastal Act mandates for maximizing coastal access for all people, minimizing VMT and energy consumption, and locating new development in areas with adequate public services. The location, density, accessibility, and affordability of housing, jobs, and other land uses in part determine the distances people need to travel to reach various destinations. These factors also influence which mode of transportation can be provided and used (e.g., car, bus, train, walking, or bicycling). By emphasizing sustainable land use practices such as compact land use patterns, inclusionary housing options, complete streets designs, ZEV infrastructure, and integration of active and multi-modal transportation improvements with new development at the planning and project level, the Commission and local jurisdictions can achieve both Coastal Act requirements and statewide GHG emission reduction goals. These strategies can also decrease vehicle dependency, improve community health and climate resiliency, reduce air pollution, and increase public access options to and along the coast.

The Commission has and will continue to further these efforts through staff review of LCPs, CDPs, and Sustainable Communities Strategies, which provide the opportunity to harmonize long-term regional transportation and housing planning with Coastal Act requirements for resource protection and hazard avoidance.

Although generally supported by the Coastal Act, sustainable transportation and land use policies and projects must also address any coastal resource impacts. The Commission is often faced with the challenge of striking an appropriate balance between maximizing coastal access, protecting coastal resources, and minimizing VMT and energy consumption. For example, reallocation of road space to accommodate a new bicycle lane may come at the expense of losing vehicle parking spaces, which has historically been viewed as a potential adverse impact to maximizing public coastal access. Standard vehicle parking and associated coastal access benefits may also be impacted by expansion of ZEV infrastructure, which would disproportionately impact those who cannot afford ZEVs. Another example of this challenge is the extension of road shoulders to accommodate safe bicycle access, which may impact agriculture, sensitive habitat, or community character in more rural areas. While these situations will always need to be reviewed on a case-by-case basis, the Commission is committed to analyzing options for offsetting climate change impacts through the CDP review process that do not come at the expense of coastal resources, public coastal access, and underrepresented communities.

The Commission also recognizes the critical importance of coordinating with the California Department of Transportation (Caltrans) and other agencies or local governments responsible for transportation infrastructure to improve climate resiliency and reduce VMT throughout the coastal zone. Caltrans and the Commission have a long history of working together effectively to provide safe roadway networks and access to California's coastline; protect natural resources; expand coastal public access and active transportation, including by promoting and building out the California Coastal Trail; and more recently, address sea level rise and climate change impacts in project and system planning. Caltrans will play a major role in reducing the transportation sector's GHG emissions, including through implementation of the [Climate Action Plan for Transportation Infrastructure](#) (2021) and the [California Transportation Plan 2050](#), which contain innovative and equitable GHG reduction strategies and funding priorities that align with Coastal Act mandates of reducing VMT and energy consumption (e.g., promoting active and alternative modes of transportation, using equity indices to prioritize transportation projects). In addition, Caltrans' Sustainability Program strives to champion walking, biking, and transit; advance ZEVs; and rethink how we build so Californians can drive less. In light of climate change and in the spirit of its Plan for Improved Agency Partnering (2016), the Commission will continue to work with Caltrans to identify opportunities and reduce barriers in sustainable transportation planning and VMT reduction efforts.

10.

The Commission supports policies and practices that lead to decarbonizing existing development and constructing new carbon-neutral development.

The carbon footprint of a coastal development project includes both pre-construction, construction, and operational phases. Sustainable construction and building practices can significantly contribute to minimizing that footprint through providing renewable energy such as solar energy and battery storage; equitably expanding ZEV infrastructure; replacing non-renewable energy appliances and harmful refrigerants with no- or low-emission alternatives; and minimizing materials waste, energy and water usage, VMT, and associated GHG emissions during all stages of project development. Also known as building decarbonization, this is another critical climate mitigation strategy since the residential and commercial sectors are a significant source of statewide GHG emissions and present ample, technologically feasible opportunities for improvement (CARB, 2022). In addition to reducing GHG emissions, building decarbonization can also improve air quality, water quality and community health through use of non-toxic appliances and materials, natural lighting, and proper building ventilation (CARB, 2017).

California is again a leader on this front with the California Green Building Standards Code (CALGreen, Part 11 of CCR Title 24), which represented the nation's first mandatory green building standards with regularly updated requirements for energy, water, and materials efficiency and conservation in new development and remodels. As CALGreen also offers many voluntary standards and the need for more progressive action is becoming increasingly evident, local jurisdictions have begun to adopt their own standards that go beyond the requirements of CALGreen to further their climate adaptation and resiliency planning.

The Commission supports such climate leadership efforts for local jurisdictions in the coastal zone and is committed to coordinating with local jurisdictions on ways to bolster and incentivize sustainable construction and building practices through LCP updates in a manner that is mindful of cost burdens on lower income households. For instance, local policies or ordinances could draw from sustainability rating systems such as LEED to provide environmental performance indicators or checklists for CDP applicants to follow during project design, separate from and in addition to the standards required by CALGreen. Jurisdictions could also consider offering relaxed zoning requirements in exchange for provision of sustainable building features, particularly where there is a larger community benefit such as a reduced urban heat island effect.¹⁴

Going forward, the Commission will also encourage (or in some cases, may require) CDP applicants to evaluate the full life cycle of a proposed development or transportation project in order to identify opportunities for reducing energy consumption, VMT, and GHG emissions during all project phases. This is both consistent with the Coastal Act and in furtherance of achieving statewide carbon neutrality, which relies in part on advancing zero-emission construction practices (CARB, 2022). While these opportunities will vary greatly depending on the type and location of the development, common practices can include incorporating renewable energy and storage, selecting locally sourced and less GHG-intensive construction materials and methods (e.g., alternatives for traditional energy-intensive concrete and asphalt in Caltrans roadway projects), implementation of transportation demand management programs, use of all-electric appliances, bans on single-use plastic in hospitality operations, and participation in the state's Cap-and-Trade Program for certain larger scale projects.



Photo: Still Standing, San Francisco, Anh Doan

14. The Commission certified an example of this concept in an amendment to the City of Capitola's LCP in 2021. More information can be found here: <https://documents.coastal.ca.gov/reports/2021/4/Th11c/Th11c-4-2021-report.pdf>

Future Actions

Adhering to the above-stated principles will require the Commission to carry out a series of future actions. In some cases, the principles are already being implemented and should continue to be implemented under this additional guidance; in other cases, new implementing actions are needed. These future actions also align with and help carry out the Commission's [2021 to 2025 Strategic Plan](#), and will be implemented with guidance from the Commission's [Environmental Justice Policy](#). The Commission recognizes that meaningful accomplishment of these future actions is dependent on staff resources and funding.

1. *Continue working with local governments and other stakeholders to update LCP to address climate resiliency, including strategies for GHG reductions and sustainable land use practices*

Local policies and ordinances are key to ensuring that state and regional climate mitigation strategies are implemented at the project level. In the coastal zone, many LCPs were certified well before there was scientific and public awareness of climate change, and many have not been updated since. Thus, it is particularly important that local climate resiliency efforts align with the Coastal Act and are incorporated into new or updated LCPs. The Commission will continue to work with local jurisdictions, tribal communities, and other stakeholders to protect the coast from the innumerable impacts of climate change, including through updates and certifications of LCPs, Local Assistance Grant Program opportunities, and review of CDPs in the Commission's retained or appeals jurisdictions.

2. *Support research that furthers the Commission's understanding of climate change impacts and mitigation strategies specific to the California coastal zone.*

Climate change science is actively developing, and the Commission's decision-making directly benefits from scientific advances that further our understanding of climate change impacts and mitigation strategies, particularly as it relates to the context of the California coastal zone. As a beneficiary of this science, the Commission will support active research where feasible. This can come in the form of participation in science advisory groups, review of science and policy guidance documents put forth by partner agencies, and exploring the possible expansion of the Commission's Local Assistance Grant Program to fund local government research efforts and pilot projects that will result in enhanced coastal climate resiliency. Although the grant program has most commonly been used to support local sea level rise adaptation planning, the program is also open to climate change adaptation efforts in general and could support climate mitigation, GHG reduction, and sustainable land use planning efforts. In addition to supporting this research, the Commission will also continue to incorporate best available science on climate change and GHG emissions into its decision-making and will ensure that local governments are striving to do the same.



Photo: Incoming Brown Pelican, Elkhorn Slough, John Charles Bruckman

3.

Continue to coordinate with state, regional, and local partners to meet statewide GHG reduction goals.

California's ambitious but necessary targets for GHG emission reductions cannot be met without integrated and aligned efforts across relevant sectors. The Commission is dedicated to playing its part in this effort through continued or renewed coordination with its state, regional, and local partners. A key aspect of this will be the Commission's continued participation in CNRA's Cutting Green Tape Initiative, which will help to identify additional opportunities and methods for facilitating conservation and restoration projects. The Commission will also continue to coordinate with Caltrans and other transportation planning entities to integrate multi-modal opportunities, complete streets designs, zero-emission transportation, and less emission-intensive construction alternatives in transportation projects to reduce VMT, energy consumption, and GHG emissions. In addition, the Commission will work with energy and utility agencies to identify constraints and opportunities to expanding renewable energy access throughout the coastal zone.

4.

Review and consider updates to the Commission's regulations for opportunities to facilitate or incentivize sustainability projects.

The California Code of Regulations provides the Commission with effective rules and procedures to implement the Coastal Act, including thresholds for when development projects require a coastal development permit. The Commission will explore opportunities for regulatory amendments related to reducing GHG emissions and enhancing sustainability in coastal communities, including regulations to facilitate or incentivize development projects focused on climate change minimization, mitigation, and nature-based adaptation (e.g., living shorelines, small-scale renewable energy infrastructure, ZEV charging stations). This action will complement the Commission's existing efforts on advancing sea level rise resiliency, further the intent of the Cutting Green Tape initiative, and support Coastal Act policies related to reducing GHG emissions.

5.

Develop policy guidance on specific sustainability topics for Commission and local government use during LCP updates and CDP reviews.

The Commission has an established history of considering the impacts of climate change on the coastal zone. These principles identify several new concepts and strategies that will build on and strengthen the Commission's historic practices. Using these principles as a foundation, the Commission will develop further guidance on these new or nuanced topics that revolve around GHG reductions (e.g., Coastal Act considerations and permit streamlining for ZEV infrastructure) with corresponding outreach and education efforts to ensure this guidance is accessible and useful to a wide audience. Additional policy guidance may also supplement potential regulation amendments, such as by establishing best practices for various types of sustainable development proposals that facilitate the permitting process where formal permit streamlining is not available or foreseeable. Together, these principles and subsequent guidance documents will help the Commission, local governments, and CDP applicants determine how to reduce GHG emissions and improve sustainable land use practices through LCP updates and CDP reviews. As noted above, the number and type of guidance documents that can be developed is dependent on funding and staff resources.

6.

Continue to support existing and new legislation that advances climate change mitigation.

In addition to implementing these principles through the Commission's current legislative authority, there may be opportunities for the Commission to support legislation that advances this authority through changes to the Coastal Act or that, more broadly, advances climate change resiliency through other legislative changes outside of the Coastal Act. The Commission regularly receives reports on such pending legislation and will often take a formal position in support or opposition depending on the intended outcomes and potential implications of the bill. The Commission has supported and will continue to support legislative changes to the Coastal Act or other laws that strengthen the Commission's ability to improve climate resiliency throughout the coastal zone or that advance the state towards its goal of carbon neutrality by 2045.

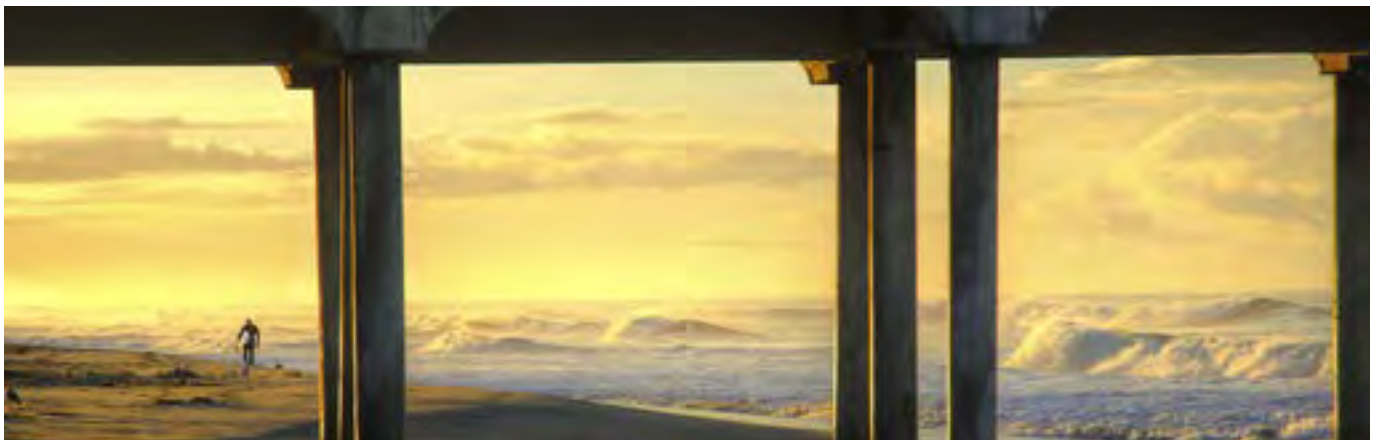


Photo: Lone Surfer, Huntington Beach Pier, Hank Kreuzer

7.

Continue implementing ways to reduce the carbon footprint of the Commission's business operations.

As an agency dedicated to climate resiliency and decarbonization, the Commission is also committed to minimizing its own carbon footprint. In alignment with [Executive Order B-12-18](#) to transition state buildings to zero net energy facilities, the Commission has been and will continue to be conscious of ways to reduce its energy, water, and materials consumption during day-to-day office operations, monthly hearings, and other Commission-hosted events. Current efforts include leasing office space in LEED-certified buildings where feasible, encouraging staff use of public transit, complying with the Department of General Service's Zero Emission Vehicle Action Plan, and following CalRecycle's State Agency Buy Recycled Campaign requirements for purchasing paper products and other goods with a minimum post-consumer recycled content. The Commission's recent telework policy and hybrid meeting format has also allowed Commissioners, staff, and the public to reduce commutes and associated GHG emissions while facilitating a high level of public participation and communication. The Commission will continue to seek opportunities to further reduce its carbon footprint, such as by assessing its current baseline, identifying areas for improvement, and implementing meaningful and feasible actions or policies in response.



Photo: Capitola Pier, Mark Grzan

Conclusion

Countless impacts from climate change are emerging across the coastal zone. The Commission has an affirmative duty and authority under the Coastal Act to take actions that reduce GHG emissions and improve sustainable land use practices with the intent of lessening climate change impacts on coastal resources, public access, and environmental justice communities. Without these preemptive and progressive actions, the coastal resources and public coastal access that are required to be protected under the Coastal Act may be diminished or destroyed. Implementation of the Coastal Act can result in effective GHG emission reductions with many co-benefits, including improved community health, enhanced air and water quality, strengthened coastal economies, and protected public access and recreation opportunities. As the Commission continues to tackle the many challenges that climate change poses through LCP updates and CDP reviews, this document is intended to strengthen agency decision-making on these complex issues and to complement the Commission's related resiliency efforts on sea level rise, wildfire, and more. The Commission therefore adopts these guiding principles and future actions to further its commitment to proactively protect coastal resources and coastal access, consistent with the Coastal Act.

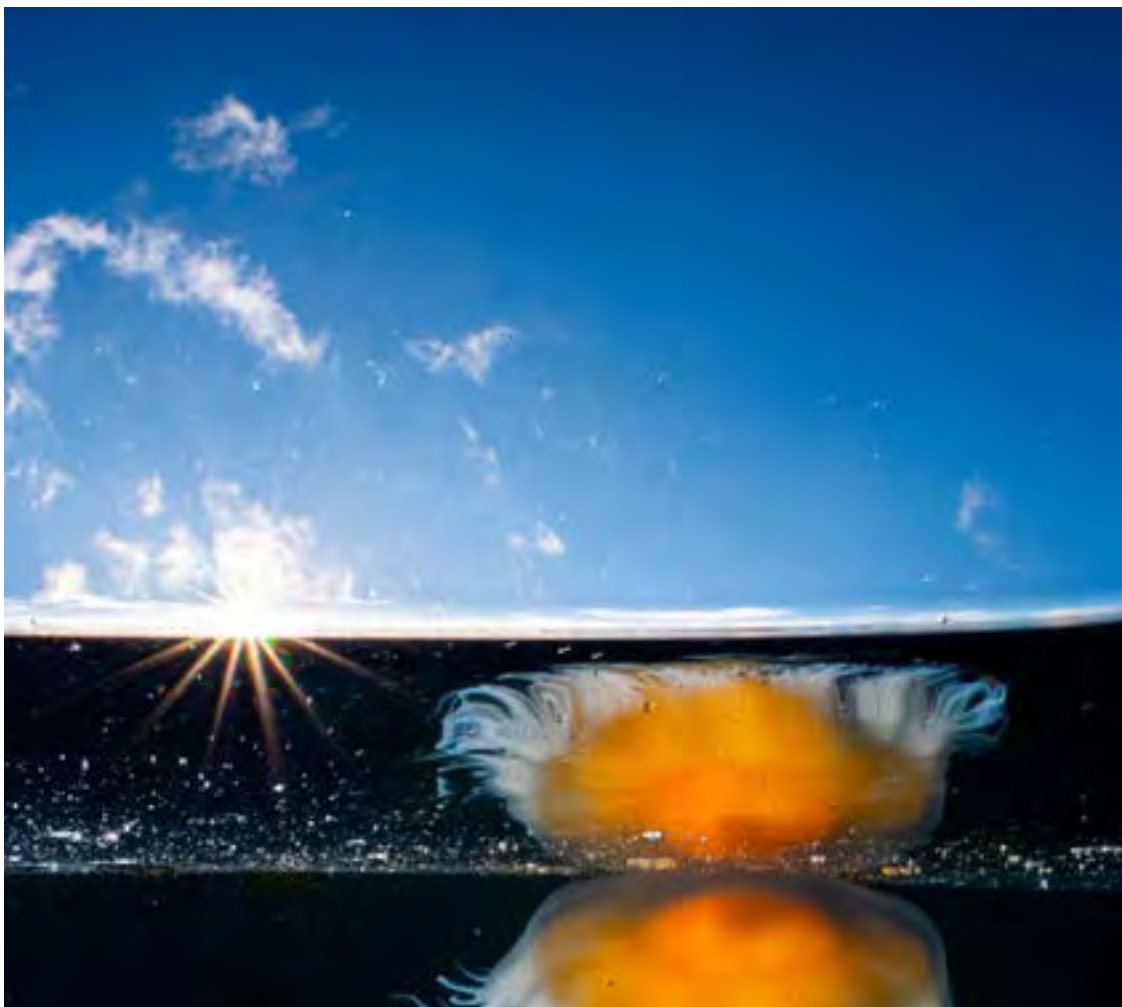


Photo: Monastery Beach, Carmel, Bruce Sudweeks

References

CARB, 2017. California's 2017 Climate Change Scoping Plan. www.arb.ca.gov

CARB, 2018. 2018 Progress Report: California's Sustainable Communities and Climate Protection Act. www.arb.ca.gov

CARB, 2022. 2022 Scoping Plan for Achieving Carbon Neutrality. www.arb.ca.gov

CNRA, 2022. Natural and Working Lands Climate Smart Strategy. www.resources.ca.gov

Goode, Ron, Shasta Gaughan, Marissa Fierro, Don Hankins, Keir Johnson-Reyes, Beth Rose Middleton, Teri Red Owl, and Randy Yonemura. 2018. "Summary Report from Tribal and Indigenous Communities within California." SUM-CCCA4-2018-010. California's Fourth Climate Change Assessment. Sacramento, CA: California Governor's Office of Planning and Research, California Natural Resources Agency, and the California Energy Commission. https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-010_TribalCommunitySummary_ADA.pdf

IPCC, 2018. Annex I: Glossary [Matthews, J.B.R. (ed.)]. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 541-562, doi:10.1017/9781009157940.008.

IPCC, 2022. Summary for Policymakers [H.-O. Pörtner, D.C. Roberts, E.S. Poloczanska, K. Mintenbeck, M. Tignor, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem (eds.)]. In: Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press. In Press. www.ipcc.ch