

Chula Vista Climate Change Impacts & Adaptation Options

COASTAL INFRASTRUCTURE & RESOURCES

Draft Updated: 4/15/2010

CLIMATE CHANGES	IMPACT TO SAN DIEGO REGION	HOW IS CHULA VISTA VULNERABLE TO IMPACTS? (pressure on economy, physical infrastructure, society, environment, & other systems)	ADAPTATION OPTIONS (potential responses to manage vulnerabilities)	Source of Adaptation Option		
Sea level rise	Sea level rise along the coast and bayfront causing frequent flooding or inundation	A Existing public infrastructure and critical facilities along coast (municipal buildings, power plants, roads, railways, wastewater, historic landmarks, etc) at risk of flooding or inundation	1	Perform a detailed vulnerability assessment (identify property/infrastructure risks, risks of damage, costs of inaction) of existing coastal public and private infrastructure to sea level rise to prioritize vulnerabilities when updating policies, plans, and making public investments like protecting the coast with "hard" (bulkheads, seawalls, etc) or "soft" (revegetation, marsh creation, etc) measures	San Francisco, Somerset County, California, King County	
			2	Actively collaborate with regional agencies including Port of San Diego, SANDAG, and Caltrans, and neighboring jurisdictions to ensure future development, redevelopment, or maintenance of existing public infrastructure incorporates risks from sea level rise	--	
			3	Incorporate climate change impacts information into design, construction, operations, and maintenance of near-coast city infrastructure projects by educating City staff and sharing information on the projected impacts of climate change	King County , New York City, Miami Dade County	
			4	Perform a vulnerability assessment of historic landmarks and properties of high cultural significance along bayfront to determine whether city is able to protect, move, or reinforce them	King County	
			5	Work with California Energy Commission to assess impact of sea level rise, temperature increase, precipitation changes, and extreme events when siting, maintaining, or renovating new energy infrastructure	California Adaptation Strategy (p131)	
		B Existing private property along coast (residential, commercial, industrial property) at risk of flooding or inundation	6	Partner with relevant organizations to update FEMA Flood Hazard maps to include future hazard areas, not just past hazard areas, to address increased risk levels	San Francisco, Buzzards Bay	
			7	Inform coastal/watershed front property owners of increased risks for flooding, and connect them where possible to existing resources, information, or programs that will help lower their exposure to sea level rise		
			8	Consider new rebuilding guidelines when structures are damaged by sea level rise, coastal storms, or shoreline erosion, to lower costs to properties at risk	Maine, California Adaptation Strategy (p77)	
			C New coastal development or redevelopment of bayfront areas at risk of flooding or inundation if sea level rise not taken into account	9	Develop an interdepartmental adaptation team to review existing plans, policies, and investments (ie. Bayfront Master Plan, General Plan) to ensure information about projected climate change impacts is incorporated as they are revised	King County, New Orleans, Chicago

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			10 Leverage tools, guidance, or funding resources when available by State agencies (i.e. California Coastal Commission, Ocean Protection Council) to update Local Coastal Plan and General Plan to ensure climate change impacts are incorporated	California Adaptation Strategy (p77)
			11 Develop locally-specific sea level rise maps which illustrate different levels of risk which can be used by the City, residents, resource managers, and businesses to have a common understanding of anticipated change, and periodically reassess based on latest science	San Francisco, Miami-Dade County
			12 Cluster new development in areas considered to have a low vulnerability to sea-level rise	California Adaptation Strategy (p73, 77)
			13 Incorporate construction setbacks or restriction of land uses to reduce risks posed to new construction and redevelopment in areas that will likely be significantly impacted by sea level rise within the life of the structure	Maine, Buzzards Bay, Miami-Dade County
			14 Consider building code updates to encourage new coastal structure design to be resilient to potential flood or shore erosion (i.e. raised, behind existing coastal armoring structure),	Maine, Rhode Island, California Adaptation Strategy (p73)
		D Low income residents bear proportionately high burden from sea level rise when having to reinforce structures, relocate, or purchase more insurance for coastal properties		
			15 Partner with community organizations to perform an analysis of social equity issues related to sea level rise to assess resiliency of low-income communities to sea level rise or flooding risk, to guide relevant future policy/program development	San Francisco (p145)
	Increased erosion of beaches, cliffs and dunes	E Loss of beaches, trails, scenic vistas, other coastal recreation areas, and public access to waterfront over time		
			16 Develop a mitigation bank for long-term habitat restoration from coastal armoring undertaken to protect areas from sea level rise related flooding or inundation	San Francisco (p141)
			17 Establish rolling easements, a special type of easement placed along the shoreline to prevent property owners from holding back the sea but allow any other type of use and activity on the land. As the sea advances, the easement automatically moves or "rolls" landward	San Francisco (p143), Texas Open Beaches Act, Maine, South Carolina
			18 Develop a "Purchase of Development Rights" program, where landowners can voluntarily sell development rights of their land vulnerable to sea level rise to a public agency or non-profit land trust	San Francisco (p143), Miami-Dade County, Suffolk County
			19 Develop policies to protect public access to the shoreline as sea level rises (e.g. require that public access is constructed to accommodate projected sea level rise, that new public access be provided if existing access areas are permanently inundated, or require payments in lieu of providing new access)	San Francisco (p143)

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			20 When developing environmental "mitigation" for development projects, ensure that the integrity of any coastal mitigation projects are resilient to sea level rise and flooding risks into the future in order to not lose their mitigation value over time	--

Sources for Listed Local Impacts and Corresponding Vulnerabilities	
A	California Adaptation Strategy, p69 (2009).
	Focus 2050 Study Technical Assessment, page 38 (2008).
B	California Adaptation Strategy, p69 (2009).
	Focus 2050 Study Technical Assessment, page 38 (2008).
C	California Adaptation Strategy, p70 (2009).
D	Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on its Shoreline, Page 69 (2009). San Francisco Bay Conservation and Development Commission
E	Focus 2050 Study Technical Assessment, page 15-18 (2008).
	California Adaptation Strategy, p70 (2009).