

Appendix A: Adaptation Catalog

Asset	New/ Existing	Threat	Threat Mitigation Strategy	Unitized Cost (2021)	Units	Adaptation Plan Approach
Buildings		Extreme Heat	Systems upgrades	5-15%	of baseline electrical/mechanical costs	Upgrade HVAC systems to be more efficient under future ambient temperatures and resilient to extreme heat
Buildings	New	Extreme Heat	Passive Design	Varies		Passive design strategies can make buildings more resilient to changes in temperatures over time and reduce heating and cooling required
Buildings	Existing	Storm Surge/SLR/Flooding	Dry Floodproofing	\$5,000-10,000	Per opening - Large	Floodproof openings
Buildings	Existing	Storm Surge/SLR/Flooding	Dry Floodproofing	\$500-1,000	Per opening - Small	Floodproof openings
Buildings	New	Storm Surge/SLR/Flooding	Dry Floodproofing	\$1,000-5,000	Per opening - Large	Floodproof openings
Buildings	New	Storm Surge/SLR/Flooding	Dry Floodproofing	\$100-500	Per opening - Small	Floodproof openings
Buildings	Existing	Storm Surge/SLR/Flooding	Raising	\$40-100	Per square foot of building footprint	Raise structure above inundation level
Buildings	New	Storm Surge/SLR/Flooding	Raising	1-3%	of project per foot of height	Raise structure above inundation level
Buildings	Existing	Storm Surge/SLR/Flooding	Relocation	Varies		Moving critical assets to less vulnerable areas; moving existing potentially hazardous structures from flood areas
Buildings	New	Storm Surge/SLR/Flooding	Systems upgrades	\$150-1,000	Per kW	Backup power to maintain electric service during flood-induced outages
Buildings	Existing	Storm Surge/SLR/Flooding	Wet Floodproofing	\$20-50	Per square foot of building footprint	Construction materials and finishes that are resilient to water damage
Buildings	Existing	Storm Surge/SLR/Flooding	Wet Floodproofing	\$500-1,000	Per foot of height per equipment	Raise sensitive mechanical/electrical equipment above inundation level
Buildings	New	Storm Surge/SLR/Flooding	Wet Floodproofing	\$5-10	Per square foot of building footprint	Construction materials and finishes that are resilient to water damage
Buildings	New	Storm Surge/SLR/Flooding	Wet Floodproofing	\$10-50	Per foot of height per equipment	Raise sensitive mechanical/electrical equipment above inundation level
Buildings		Storm Surge/SLR/Flooding	Wet Floodproofing	\$100-500	Per equipment	Anchoring fuel tanks and other large equipment to floors to counteract buoyant forces during flooding
General		All	Policy	NA		Incorporate resilience assessment in scoring and evaluation of new projects (metrics)
General		All	Policy	NA		Establishing coordinated regional response plans, developing mutual aid agreements, consolidating resources to expand monitoring and assessment efforts

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General		All	Policy	NA		Establishing policies and procedures to facilitate repairs after an event, adopting insurance mechanisms and other financial instruments for event coverage
General Coastal Protection	New	Sea Level Rise	Protection	\$100-500	Per LF	Protection from erosive forces (Revetment, living shoreline, breakwater)
General Coastal Protection	New	Sea Level Rise	Systems upgrades	Varies		Tide gates to prevent backwater flooding at outfalls
General Coastal Protection		Storm Surge/SLR	Protection	\$10,000,000	Lump sum	Beach nourishment
General Coastal/Flood Protection	New	Storm Surge	Protection	\$3,000-10,000	Per LF	Seawalls and floodwalls
General Coastal/Flood Protection	New	Storm Surge/SLR/Flooding	Protection	\$1,600-3,100	Per LF	Earthen levy
General Coastal/Flood Protection	New	Storm Surge/SLR/Flooding	Systems upgrades	\$30,000-100,000	Per 1,000 gpm	Enable stormwater discharge from behind levies and floodwalls
General Flood Protection		Extreme Precipitation	Protection	\$5,000-10,000	Per acre	Preserve/Restore Natural systems that mitigate flood impacts
General Flood Protection	Existing	Extreme Precipitation	Systems upgrades	Varies		Install larger culverts to reduce backwater conditions
General Flood Protection		Extreme Precipitation	Systems upgrades	\$150,000-500,000	Per acre	Green infrastructure implementation in urban areas to slow or reduce flow into storm drains
Residents		Extreme Heat	Public Outreach/Facilities	\$1,000	Per Location	Install and promote splash pads in targeted areas
Residents		Extreme Heat	Public outreach/facilities	\$250,000	Lump sum	Create outreach program about cooling centers to public to promote where to go and decide when to do it
Residents		Extreme Heat	Public Outreach/Facilities	NA		Designate public cooling shelters for extreme heat events (library, community centers) within County facilities, with partners (i.e., non-profits)
Residents - Assisted Living		Extreme Heat	Policy	NA		Review Code Requirements for AC/Backup Generator/Elevator for Assisted Living Facilities
Residents - Low income/At-Risk		Extreme Heat	Policy	Varies		Provide financial assistance (i.e., voucher programs) for low-income residents to help with power bills, energy upgrades to homes and apartments, and support services (i.e., air

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						conditioning units) during extended periods of high temperature
Roads	Existing	Extreme Precipitation	Systems upgrades	\$200-400	Per LF - Improved Drainage	Increase storm drainage level of service
Roads	New	Extreme Precipitation	Systems upgrades	\$10-50	Per LF - Improved Drainage	Increase storm drainage level of service
Roads	Existing	Storm Surge/SLR/Flooding	Protection	\$100-400	Per LF of roadway	Erosion control
Roads	New	Storm Surge/SLR/Flooding	Protection	\$25-100	Per LF of roadway	Erosion control
Roads	Existing	Storm Surge/SLR/Flooding	Raising	\$500-1,000	Per LF per foot of height	Increase level of service
Roads	New	Storm Surge/SLR/Flooding	Raising	\$200-500	Per LF per foot of height	Increase level of service
Tree Canopy		Extreme Heat	Policy	\$100,000	Study/Plan	Establish shaded pedestrian connections in socially vulnerable areas and shaded riparian areas in sensitive habitats (e.g., headwaters streams)
Tree Canopy		Extreme Heat	Protection	\$20-100	per tree	Increase/replace the urban tree canopy and target areas with urban heat island impacts
Urban Heat Island		Extreme Heat	Protection	Varies		Incorporate low-albedo, heat reflecting materials (parking lots, parks, rooftops) to reduce urban heat island effect
Well		Storm Surge/SLR/Flooding	Wet Floodproof	\$100-500	Per well	Floodproof Well Cap