

CALIFORNIA COASTAL COMMISSION

THE FUTURE IS HERE: SUSTAINABILITY AND ADAPTATION



City of Pacifica

Photo Credit: Kelsey Ducklow

Prevention First
2018

9/25/2018

Ashley Reineman
Statewide Planning



CALIFORNIA
COASTAL
COMMISSION

BACKGROUND

CALIFORNIA COASTAL COMMISSION

Public
Resources
Code
Division 20
California
Coastal Act
(1976)



COASTAL DEVELOPMENT
PERMITS (CDPs) &
FEDERAL CONSISTENCY

LOCAL COASTAL
PROGRAMS
(LCPs)

Long Range Development
Plans (LRDPs)
Public Works Plans (PWP)
Port Master Plans (PMPs)

PARTNERSHIPS
&
WORK GROUPS



Part of the NOAA-Approved California Coastal
Management Program under the
Coastal Zone Management Act



BACKGROUND COASTAL ACT POLICIES

Special Communities



Habitat



Wetlands



Wildlife



Public Access



Agriculture



Scenic Views



Priority Land Uses



BACKGROUND

COASTAL ACT POLICIES

- **Section 30253: New Development shall...**
 - Minimize risks to life & property
 - Assure stability & structural integrity
 - Neither create nor contribute to erosion
 - Assure no protective devices needed for life of structure



BACKGROUND

COASTAL ACT POLICIES

- **Section 30235: Shoreline Protection allowed for...**
 - Coastal dependent uses
 - Public beaches
 - Existing (pre-Coastal Act) structures
 - **IN DANGER FROM EROSION**
- **With MITIGATION to offset:**
 - Loss of beach and sand
 - Other unavoidable impacts (e.g., to public access, recreational opportunities)



California Coastal Records Project



COASTAL HAZARDS

- **Inundation** – increased extent of permanently wet areas
- **Erosion** – increased erosion of bluffs, dunes, and beaches
- **Flooding** – increased extent of storm and tidal flooding (temporarily wet)
- **Saltwater intrusion** – invasion of saltwater into freshwater aquifers

COASTAL HAZARDS



**Flooding at
Ledbetter
Beach, Santa
Barbara**



COASTAL HAZARDS

Public coastal accessway in Bolinas, CA



COASTAL HAZARDS



Bluff erosion in Isla Vista



COASTAL HAZARDS

Pasture flooding near
Liscom Pasture, Arcata

COASTAL HAZARDS

California King Tides Initiative



Wastewater outflow at Ocean Beach, San Francisco

California Coastal Records Project



Mandalay Generating Station in Oxnard, CA

California King Tides Initiative



Sunset Beach, CA

COASTAL HAZARDS

Highway 101 at Rincon Beach in Santa Barbara



California King Tides Initiative

Highway 1 at Surfer's Beach, Half Moon Bay



California King Tides Initiative

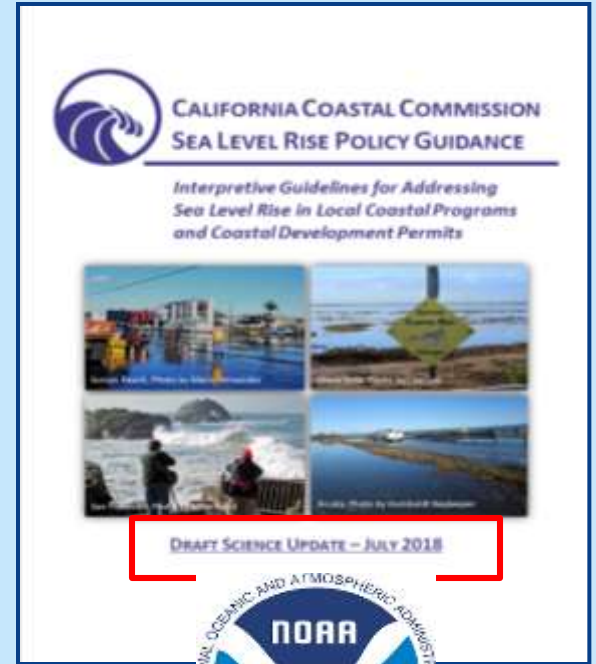
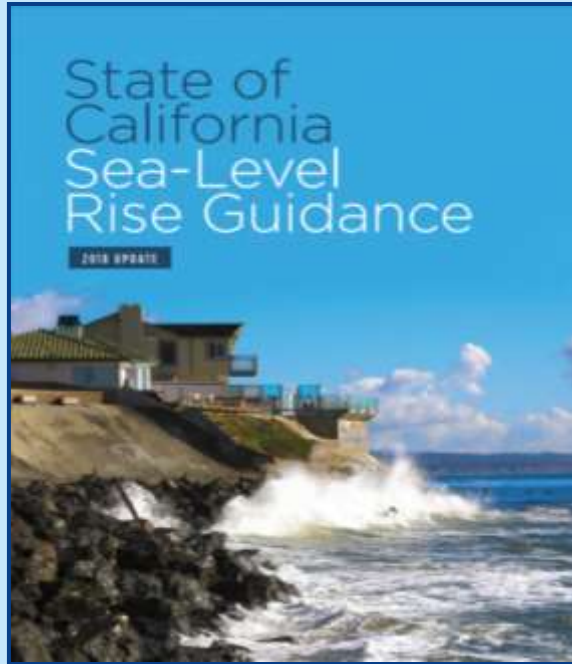
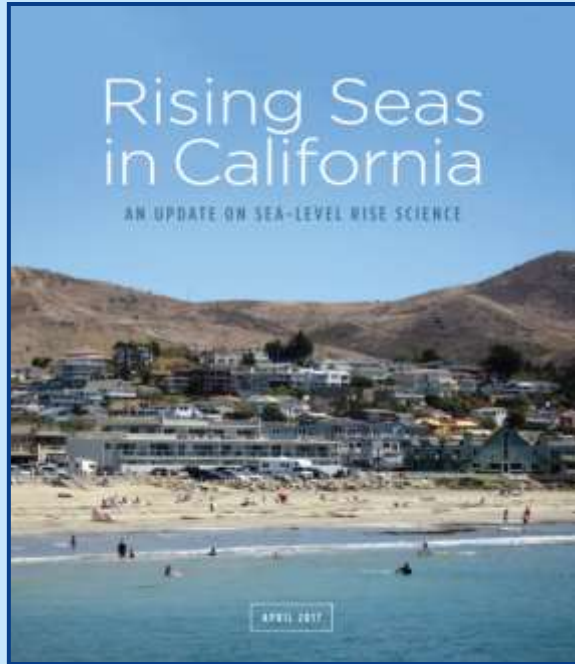
COASTAL HAZARDS

Ports of LA and Long Beach



Breaching of breakwater at Long Beach Harbor

BACKGROUND & SCIENCE UPDATES



2018 CCC SLR POLICY GUIDANCE

DRAFT SCIENCE UPDATE

- Updated references to “best available science”
- Adapted projection tables
- New details for choosing appropriate SLR projections for LCP planning and CDP application analyses

See: www.coastal.ca.gov/climate/slrguidance

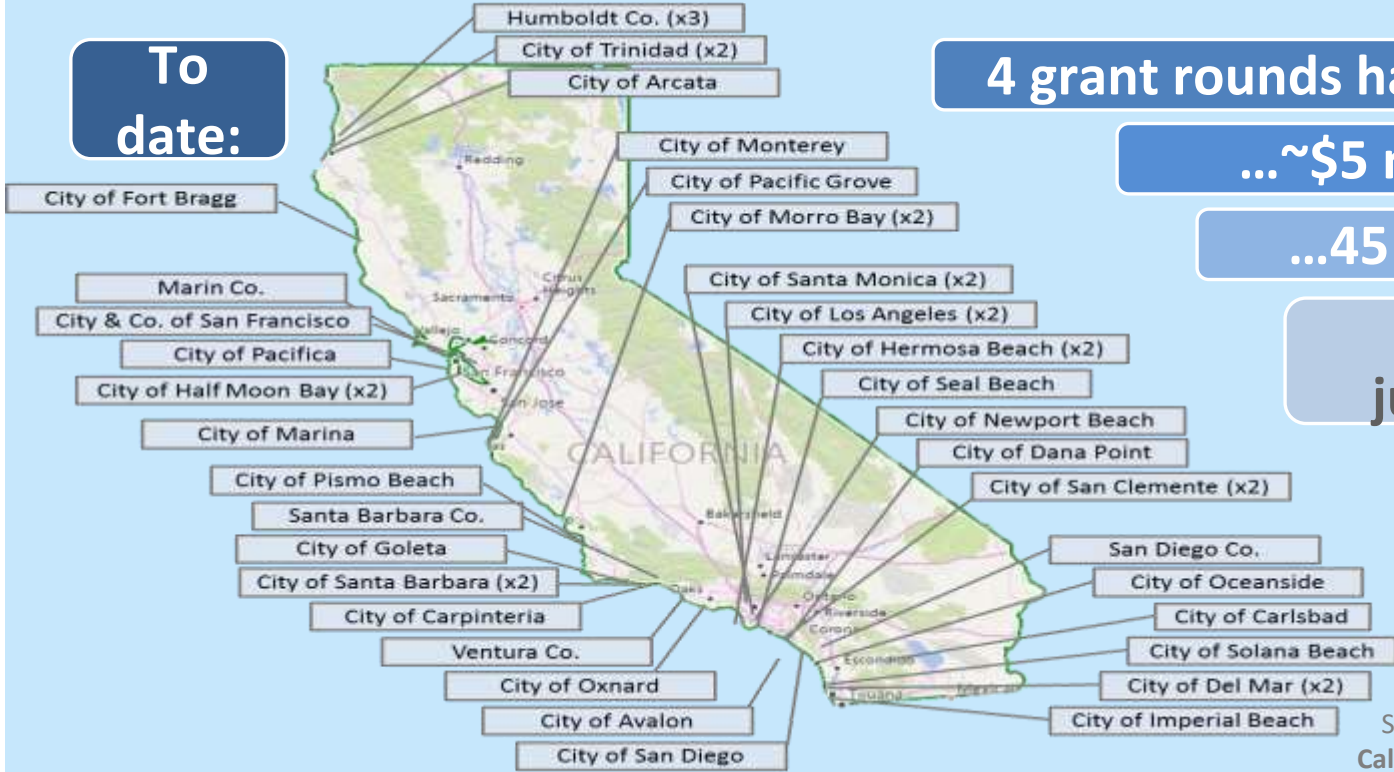
Table 1. Sea Level Rise Projections for the San Francisco Tide Gauge¹ (OPC 2018)

Projected Sea Level Rise (in feet): San Francisco			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.5	0.8	1.0
2040	0.8	1.3	1.8
2050	1.1	1.9	2.7
2060	1.5	2.6	3.9
2070	1.9	3.5	5.2
2080	2.4	4.5	6.6
2090	2.9	5.6	8.3
2100	3.4	6.9	10.2
2110*	3.5	7.3	11.9
2120	4.1	8.6	14.2
2130	4.6	10.0	16.6
2140	5.2	11.4	19.1
2150	5.8	13.0	21.9

IMPLEMENTATION

GRANTS FOR LOCAL COASTAL PROGRAM UPDATES

To date:



4 grant rounds have awarded...

...~\$5 million for...

...45 projects to...

...34 local jurisdictions...

...with Round 5 on the way.



IMPLEMENTATION

LOCAL COASTAL PROGRAM PROCESS AND CCC CONTEXT



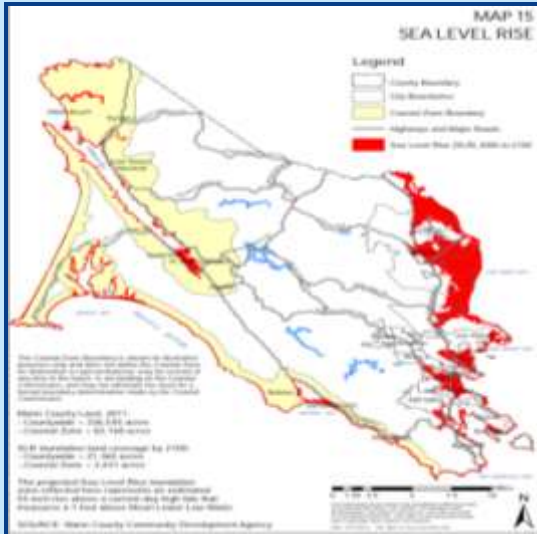
- **Address built assets AND coastal resources**
 - Residential, commercial, critical infrastructure
 - Beaches, wetlands, habitat; public access and recreation
- **Long planning horizon, phased adaptation**
 - Lifetime of new development – 50-100 years
 - Phased approaches to address existing development
- **Use best available science**
 - 2018 OPC SLR Guidance
 - Precautionary approach



EXAMPLE LCP SLR POLICIES

Hazard zoning overlays

Triggers for additional requirements in the future



IMPLEMENTATION

COASTAL DEVELOPMENT PERMITS

Low Risk Aversion Scenario

Use for projects that would have limited consequences or a higher ability to adapt

Medium-High Risk Aversion Scenario

Use for projects with greater consequences and/or a lower ability to adapt.



IMPLEMENTATION COASTAL DEVELOPMENT PERMITS

Low Risk Aversion Scenario

Use for projects that would have limited consequences and a higher ability to adapt.

Medium-High Risk Scenario

Use for projects with greater consequences and/or a lower ability to adapt.

Remember:

- Difference between *planning* and *designing* for a specific amount of sea level rise
- Adaptation Pathways help make up the difference



IMPLEMENTATION

COASTAL DEVELOPMENT PERMITS

Extreme Risk Aversion Scenario (H++)

Use for projects with little to no adaptive capacity that would be irreversibly destroyed or significantly costly to repair, and/or would have considerable public health, public safety, or environmental impacts should that level of sea level rise occur



Denial of Morro Bay WWTP to encourage
identification of a safer location



RESEARCH AND COORDINATION



State Lands Commission
and the Public Trust

CCC and Caltrans
Integrated Planning Team



LHMP, General Plan,
and LCP alignment



RESEARCH AND COORDINATION



AB 691
State Lands Comm'n



Port Master Plan
Updates



RESEARCH AND COORDINATION



CALIFORNIA COASTAL COMMISSION RESIDENTIAL ADAPTATION POLICY GUIDANCE

*Interpretive Guidelines for Addressing Sea
Level Rise in Local Coastal Programs*



MARCH 2018

REVISED

Coming soon...
Critical Infrastructure Guidance



THANK YOU!



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