



LOCAL COASTAL PROGRAM AMENDMENT, COASTAL HAZARDS

CITY COUNCIL
MAY 3, 2022



PRESENTATION OVERVIEW

- ❖ Background
- ❖ LCP Coastal Hazards Chapter
 - Setting: Hazards
 - Setting: Adaptation Strategies
 - Adaptation Policies
- ❖ Public Outreach
- ❖ Next Steps
- ❖ Conclusion



BACKGROUND

- Updating the Local Coastal Program (LCP)
 - Applies to the Coastal Zone
 - Regulates public and private development
 - Implements the State Coastal Act
- The LCP update process
 - Technical reports
 - Public participation
 - Updated policies
 - Planning Commission study session 2/23/22
 - Planning Commission recommendation 3/23/22
 - City Council adoption
 - California Coastal Commission certification

TODAY



BACKGROUND: CLIMATE READY MB



Sea Level Rise Vulnerability Assessment

- SLR & Beach Erosion Analysis
- Groundwater & SLR Hazard Analysis
- Multi-hazard Confluence Modeling on Stormwater Infrastructure

Sea Level Rise Adaptation Plan

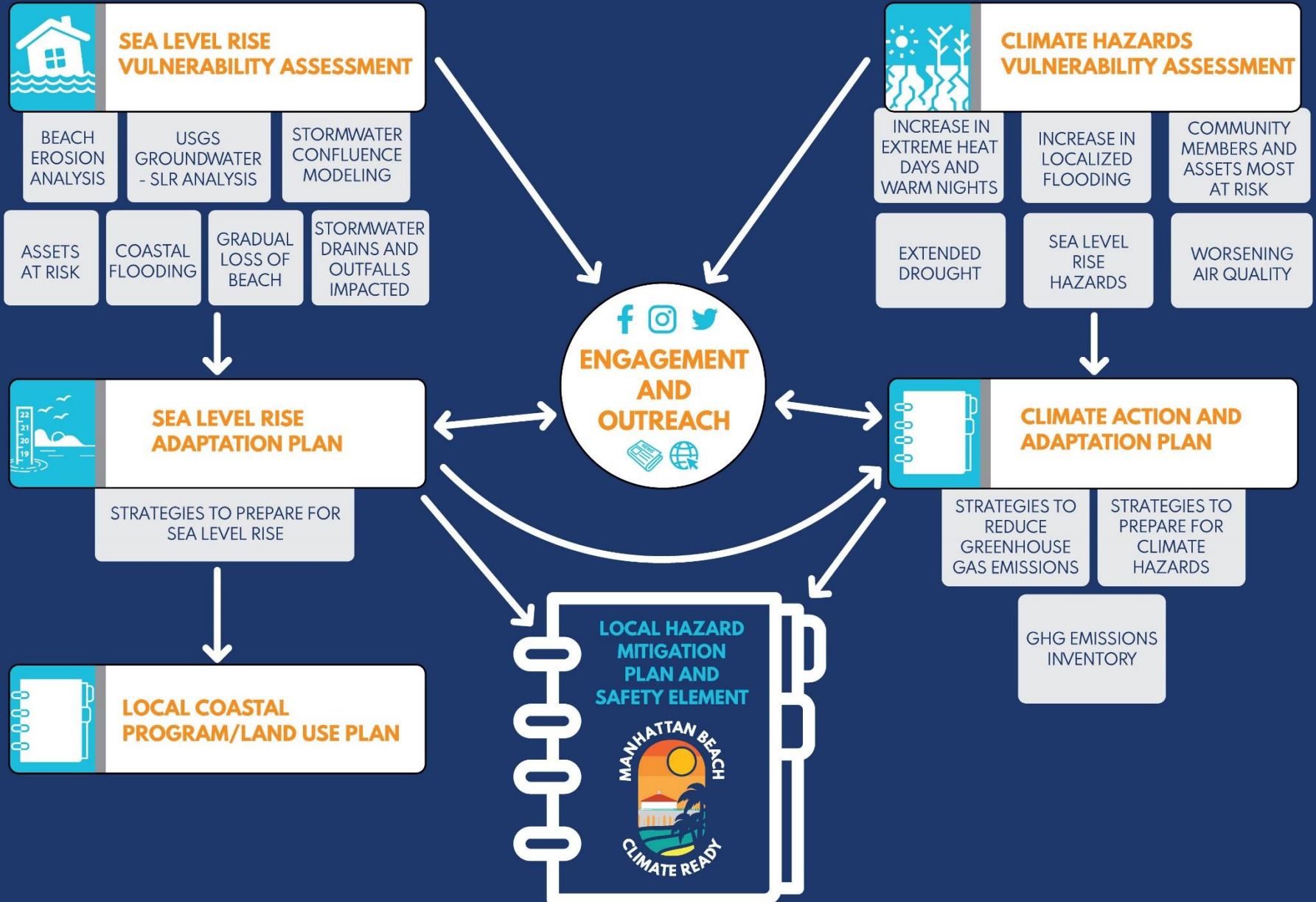
- Variety of adaptation strategies
- Economic assessment
- Recommendations for next steps

Local Coastal Program Update

- New coastal hazards chapter in LCP
- New policies



CLIMATE READY MB PROCESS



LCP: COASTAL HAZARDS CHAPTER

I. Introduction

II. Setting

- Documents coastal hazards present (Vulnerability Assessment)
- Types of public infrastructure and shoreline protective devices currently in place within Coastal Zone
- Adaptation Strategies (Adaptation Plan)

III. Coastal Hazards and Adaptation Policies

- Address the safety of community members
- Mitigate potential impacts from coastal hazards
- Policies around:
 - Natural management of coastal hazards
 - Shoreline protection devices
 - Shoreline redevelopment and new development
 - Public access, recreation, and sensitive coastal resources
 - Decision-making, coordination, and participation



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LCP CHAPTER: SETTING

Sea Level Rise Vulnerability Assessment

- Highlights existing conditions and future vulnerability to projected:
 - sea level rise
 - coastal flooding
 - erosion
- Vulnerability Assessment objectives:
 - Utilize best available science
 - Use cutting-edge sea level rise models (CoSMoS)
 - Assess the City's physical, societal, economic, and ecosystem vulnerabilities

Sea Level Rise Risk, Hazards, and Vulnerability Assessment, City of Manhattan Beach

Prepared for
City of Manhattan Beach

May 2021



SETTING: HAZARDS

Current Vulnerabilities



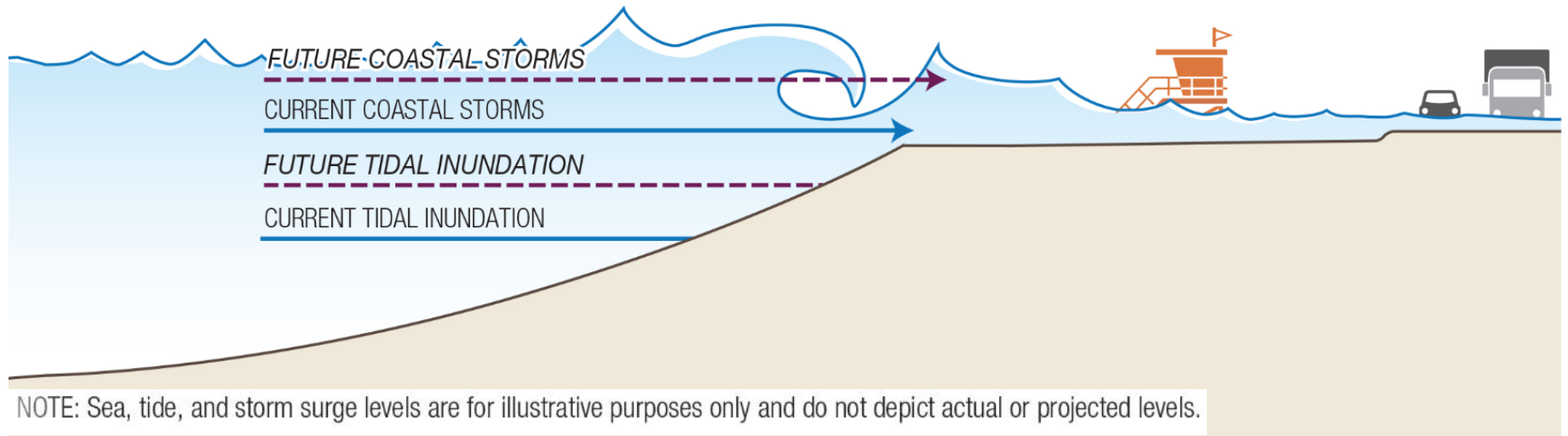
1980's El Niño event showing waves at the Manhattan Beach Pier



2020 king tide event

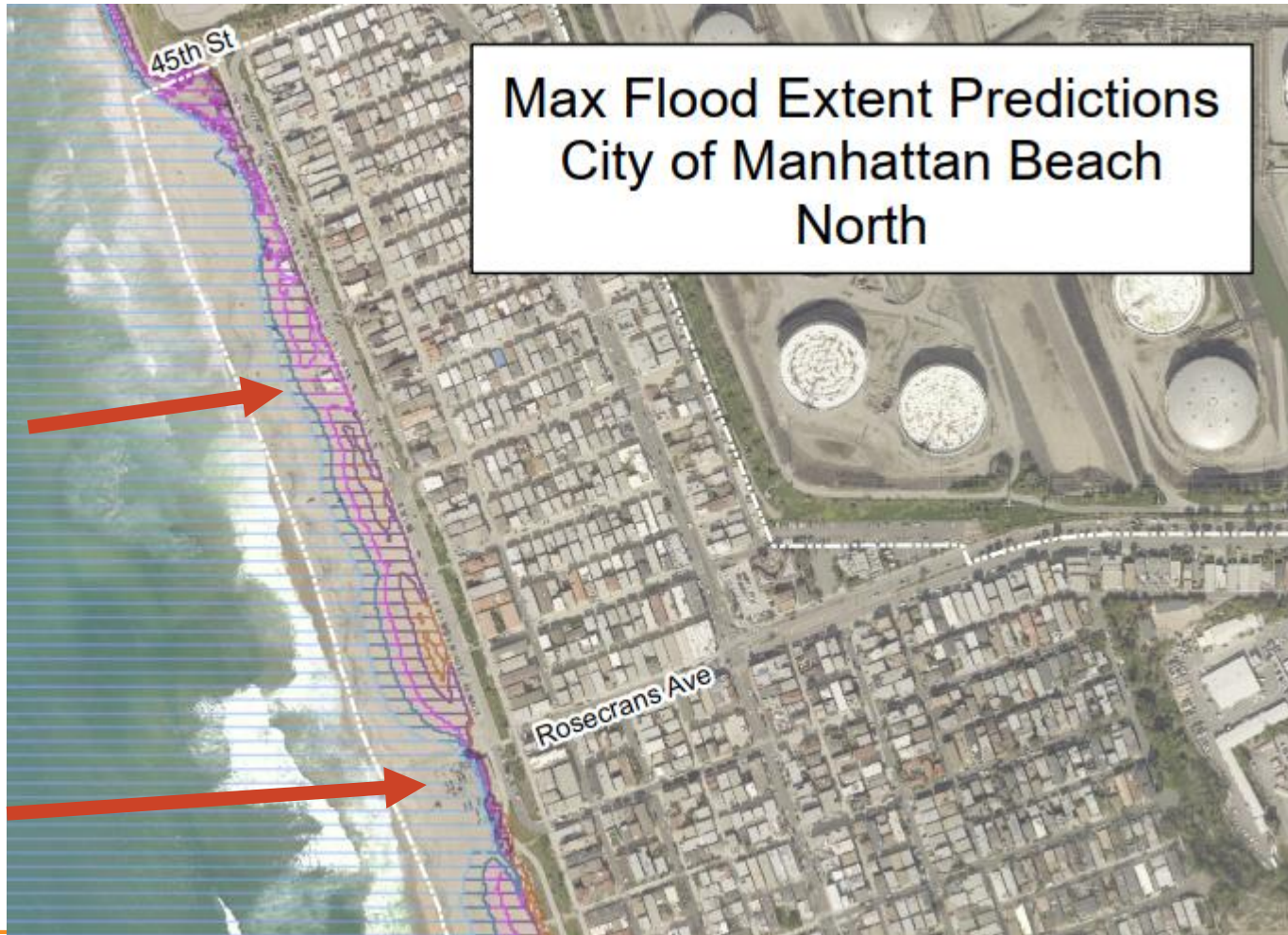


SETTING: HAZARDS



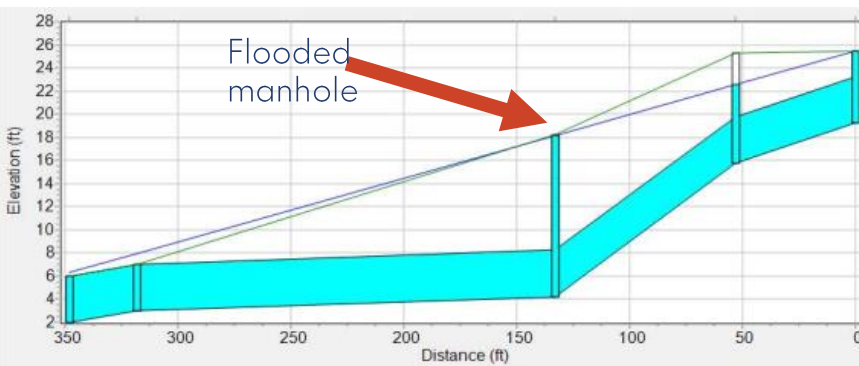
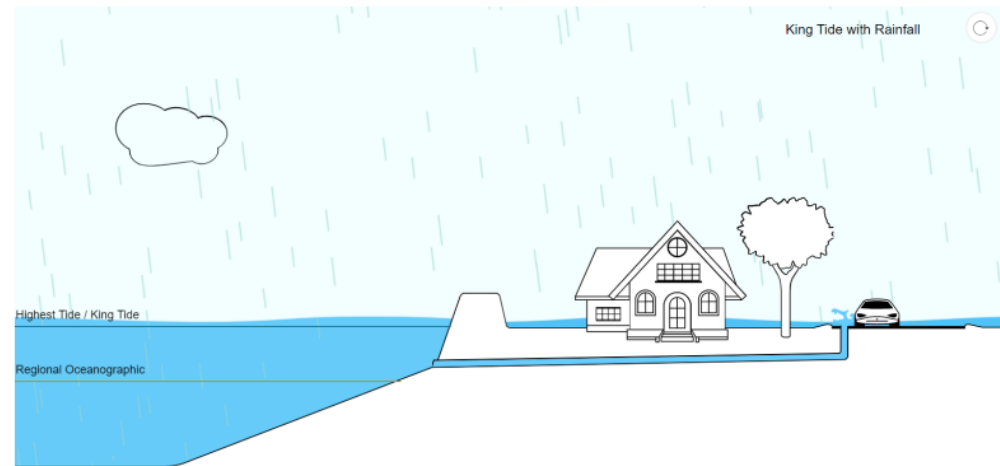
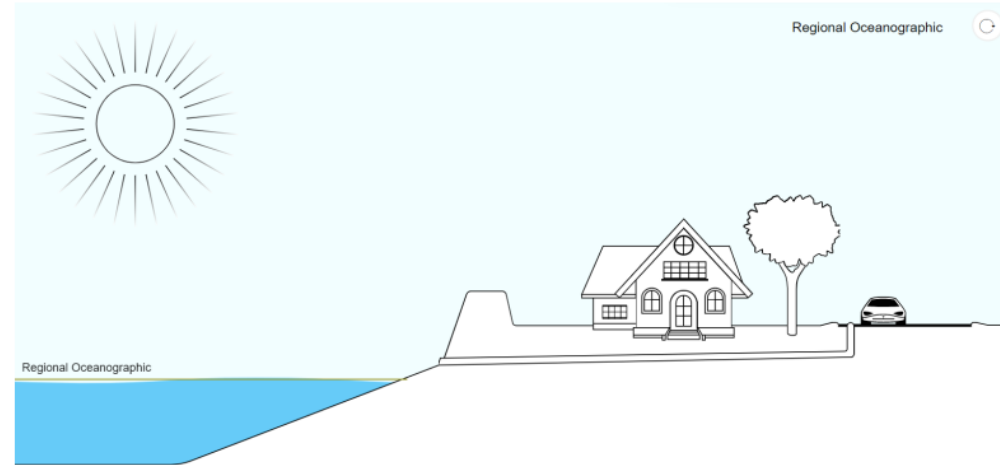
SETTING: HAZARDS

Sea Level Rise Impacts



SETTING: HAZARDS

Stormwater Flooding



SETTING: HAZARDS

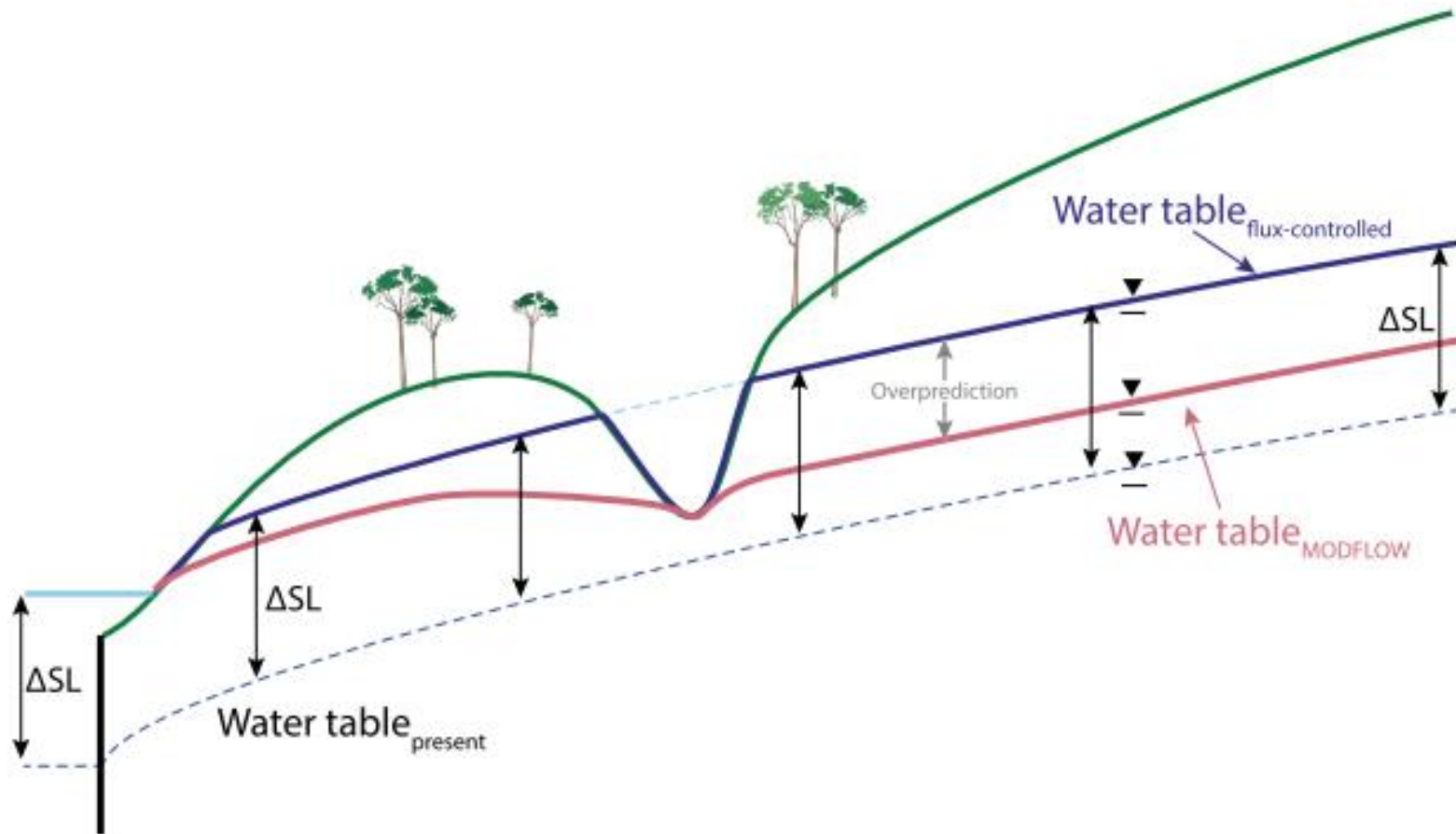
Beach Erosion

Year	Total beach width (ft)	% Loss
2020	370	0%
2030	360	2%
2040	350	5%
2050	330	11%
2060	310	16%
2070	290	22%
2080	260	29%
2090	230	37%
2100	200	47%



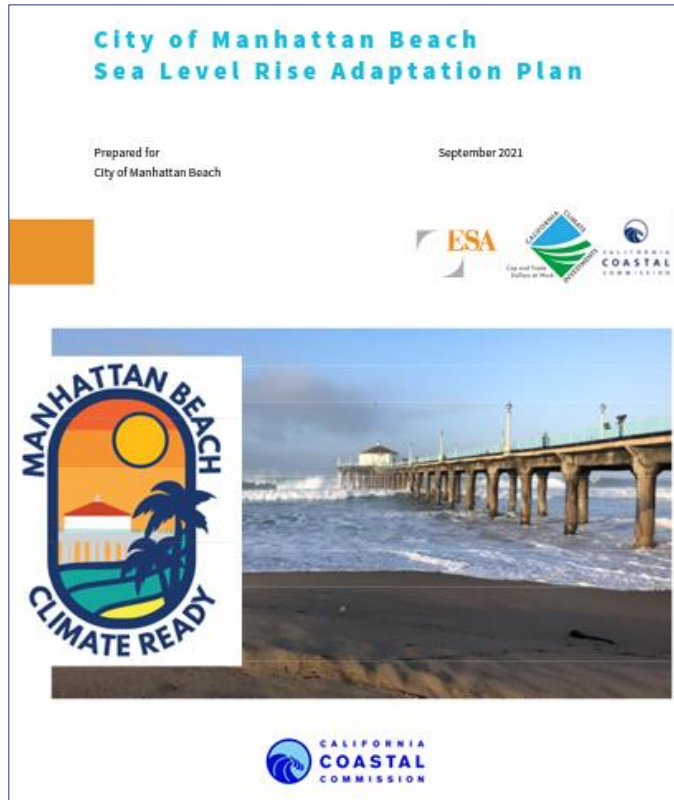
SETTING: HAZARDS

Groundwater Flooding



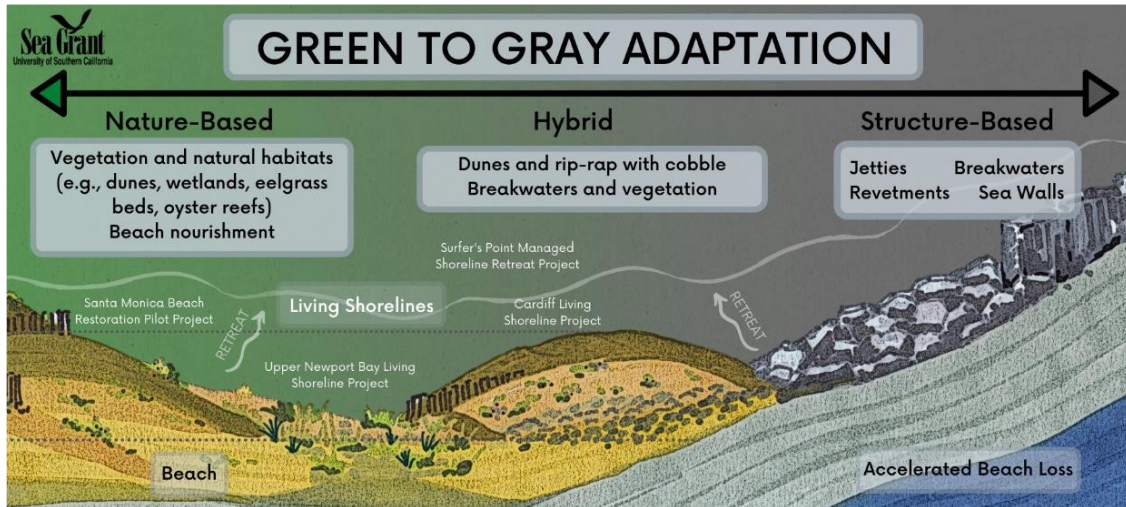
SETTING: ADAPTATION STRATEGIES

Sea Level Rise Adaptation Plan



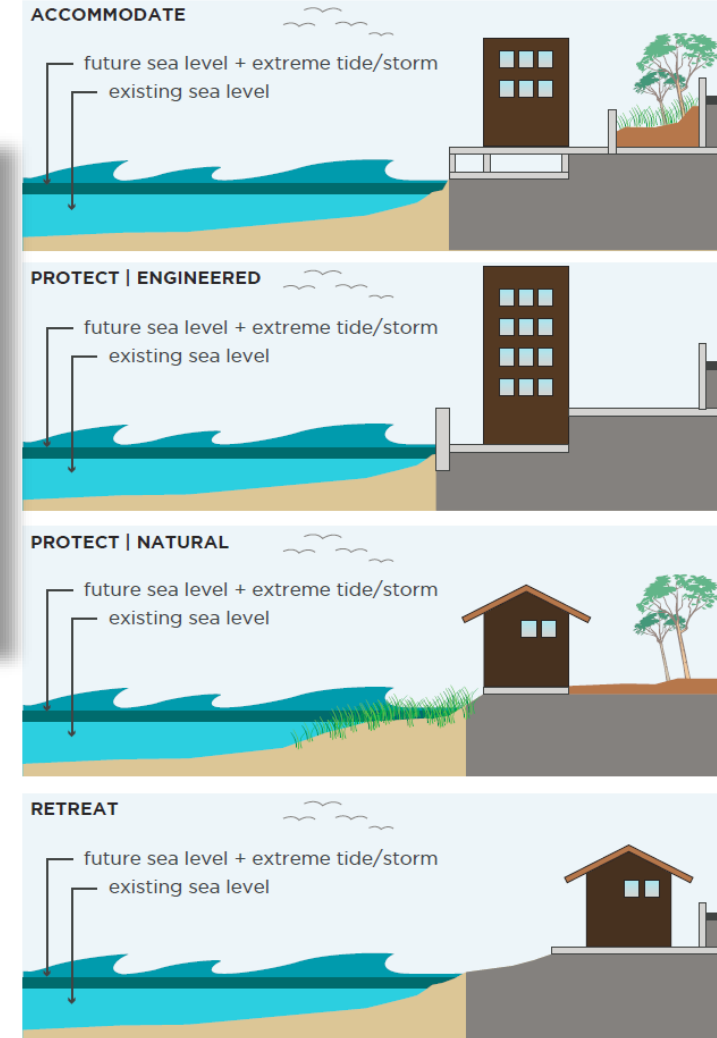
- Provides a variety of adaptation strategies to help address coastal hazards
- Framework for the City to plan for sea level rise in phases through:
 - monitoring of impacts
 - tracking of new information
 - regular evaluations of options
 - implementation of adaptation strategies once thresholds for action are reached

SETTING: ADAPTATION STRATEGIES



REPLICATED FROM: GRIFMAN, GRUBBS, AND JOHNSTON 2020
CREDIT: M. GRUBBS, USC SEA GRANT ADAPTED FROM NOAA 2015

INTERVENTION OPTIONS



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COASTAL HAZARDS & ADAPTATION POLICIES

NATURAL MANAGEMENT OF COASTAL HAZARDS

Policy IV.A.2: Development and implementation of beach dune and living shoreline restoration program.

Policy IV.A.3: Installation of drought tolerant native coastal vegetation for dune stability and landscape management

Policy IV.A.7: Implementation of eelgrass restoration and enhancement programs



COASTAL HAZARDS & ADAPTATION POLICIES

NATURAL MANAGEMENT OF COASTAL HAZARDS



Dune Restoration and
Landscaping – Manhattan Beach



Eelgrass Meadow
Elkhorn Slough, CA



COASTAL HAZARDS & ADAPTATION POLICIES

SHORELINE PROTECTIVE DEVICES

Policy IV.B.3: Design standards and features for shoreline protection devices (if proposed)

Policy IV.B.4: Modifications to existing shoreline devices to minimize impacts and debris removal management



COASTAL HAZARDS & ADAPTATION POLICIES

SHORELINE PROTECTIVE DEVICES



Existing Seawall
MB Pier



Existing Seawall
El Porto Beach

COASTAL HAZARDS & ADAPTATION POLICIES

SHORELINE REDEVELOPMENT & NEW DEVELOPMENT

Policy IV.C.5: Maintenance to vulnerable stormwater infrastructure

Policy IV.C.6: Allowed development on public beach areas



COASTAL HAZARDS & ADAPTATION POLICIES

SHORELINE REDEVELOPMENT & NEW DEVELOPMENT



El Porto Food Stand on the beach (above); Stormwater Outfalls (below)



COASTAL HAZARDS & ADAPTATION POLICIES

PUBLIC ACCESS, RECREATION, & SENSITIVE COASTAL RESOURCES

Policy IV.D.2: Retrofit or relocation of recreation and visitor servicing facilities subject to SLR

Policy IV.D.4: Development and siting standards for public recreational access facilities



COASTAL HAZARDS & ADAPTATION POLICIES

PUBLIC ACCESS, RECREATION, & SENSITIVE COASTAL RESOURCES



Marvin Braude Bike Trail
& The Strand



Manhattan Beach Pier



COASTAL HAZARDS & ADAPTATION POLICIES

DECISION-MAKING, COORDINATION, & PARTICIPATION

Policy IV.E.1: Using best available science in SLR projections for planning, design, and reviews

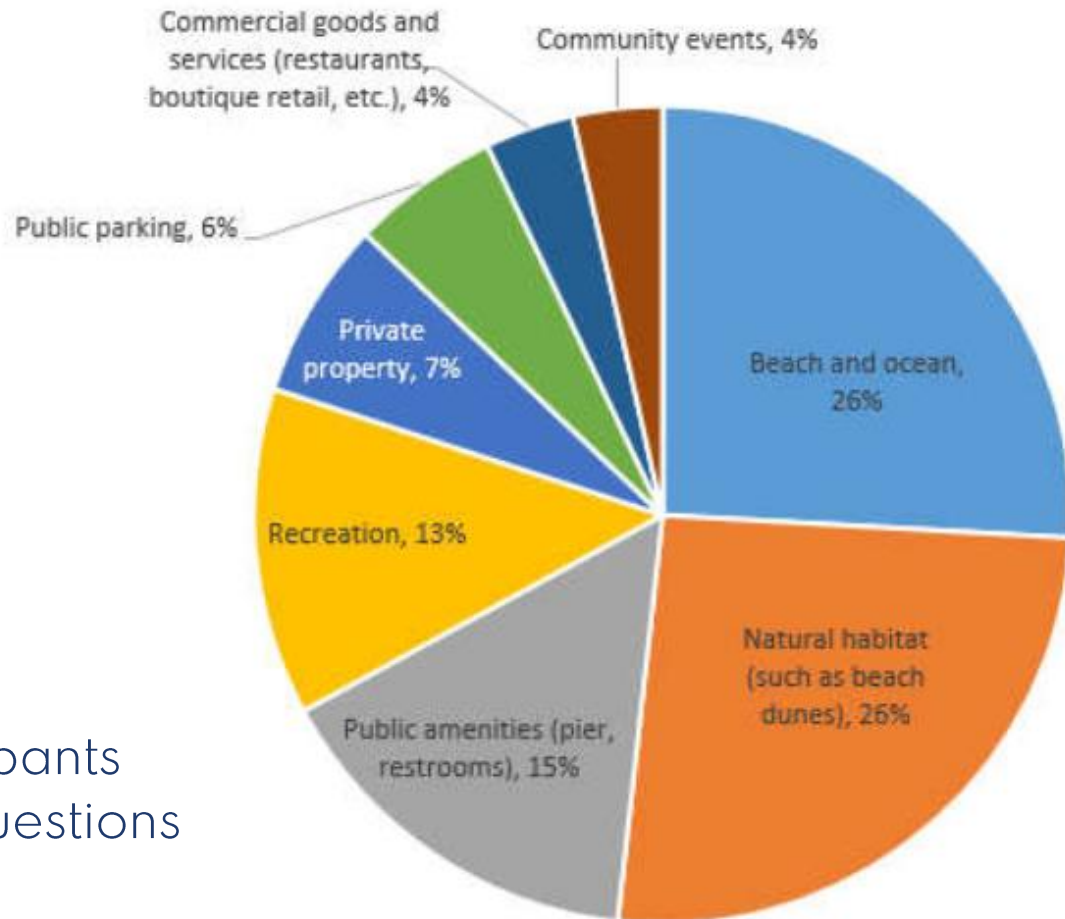
Policy IV.E.2: Local, state, and federal coordination in decision making

Policy IV.E.4: As needed updates to the City's SLR Adaptation Plan and LCP



PUBLIC OUTREACH

The following are coastal assets the City could choose to protect and enhance. What are the most important assets to you?

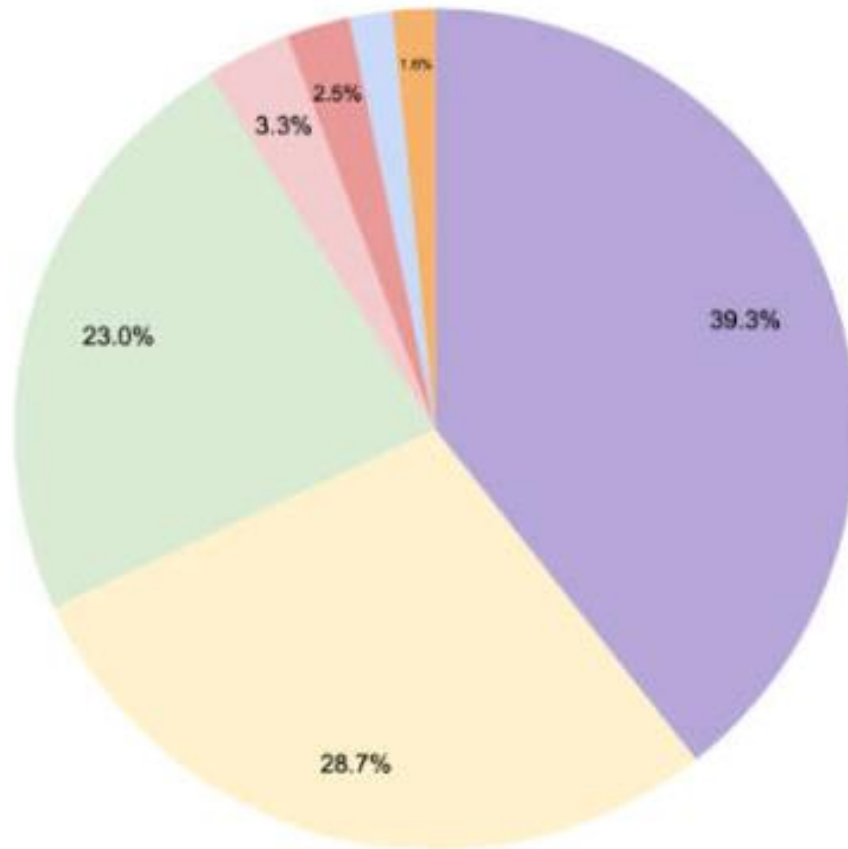


- 9 public meetings
 - 6 workshops
 - 3 focus groups
- 200+ public participants
- 380 comments & questions



PUBLIC OUTREACH

What is your preferred adaptation strategy for beaches, beach facilities, and beach events?



- Dune restoration
- Offshore reefs & kelp beds
- Beach nourishment
- Breakwaters & groins
- Flood proofing & elevating buildings
- Sea walls around buildings
- Accept a narrower beach

Very focused (91%)
on green solutions,
with dune restoration
in particular (39%)

PUBLIC OUTREACH

- LCP Study Session with the Planning Commission on February 23, 2022, publicly noticed.
- Public Hearing with the Planning Commission on March 23, 2022, publicly noticed.
- Public notices for this hearing published in The Beach Reporter on April 21, 2022, posted at City Hall, and posted on the City's website.
- Newspaper ads, social media, City's website, verbal announcements at City Council, emails with stakeholders.
- One public comment received re: supporting beach sand nourishment as a an adaptation solution.



NEXT STEPS

- City Council public hearing for adoption **TODAY**
- Submit to California Coastal Commission (CCC)
 - If approved, the LCP will be certified
 - If CCC requests revisions, LCP will return to City Council



CONCLUSION

- Staff recommends that the City Council:
 - conduct the public hearing,
 - receive public comments,
 - adopt the proposed Resolution to adopt amendments to the City's Local Coastal Program related to sea level rise adaptation and coastal hazards, and
 - adopt the proposed Resolution to authorize staff to submit the LCP amendment to the CCC.



ACKNOWLEDGMENTS

Thanks to our project partners!

