

VENICE LOCAL COASTAL PROGRAM UPDATE:  
COASTAL HAZARDS

An aerial photograph of Venice Beach, California, taken during sunset. The sun is low on the horizon, casting a warm, golden glow over the ocean and the beach. The sky is a mix of light blue and orange. The beach is wide and sandy, with several palm trees scattered across it. In the foreground, there is a paved promenade with many people walking and some bicycles. A teal semi-transparent banner is overlaid across the middle of the image, containing the word "WELCOME" in large, white, bold, sans-serif capital letters.

**WELCOME**

# Introducing the Team

**DUDEK**



**K E A R N S**



**W E S T**


Hosted by the Department of City Planning and grant funded in part by the California Coastal Commission




# Workshop Purpose



Establish a common framework for community dialogue on sea level rise planning



Facilitate input and discussion on the community assets for the team to consider in the upcoming vulnerability assessment




Help community members obtain important information



# Today's Workshop Format

## 1. Presentation

- Coastal Act and Local Coastal Program Background
  - Goals of the Venice Local Coastal Program Update & Sea Level Rise Planning Project
  - Intro to Sea Level Rise, Coastal Hazards in Venice, and the upcoming Vulnerability Assessment
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## 2. Stations for Questions & Input

- Coastal Hazard Planning; Sea Level Rise Scenarios and Vulnerability Assessment; Sea Level Rise Hazards in Beach and Canals Areas; Venice LCP
  - Input form (online option at [www.VeniceLCP.org](http://www.VeniceLCP.org))
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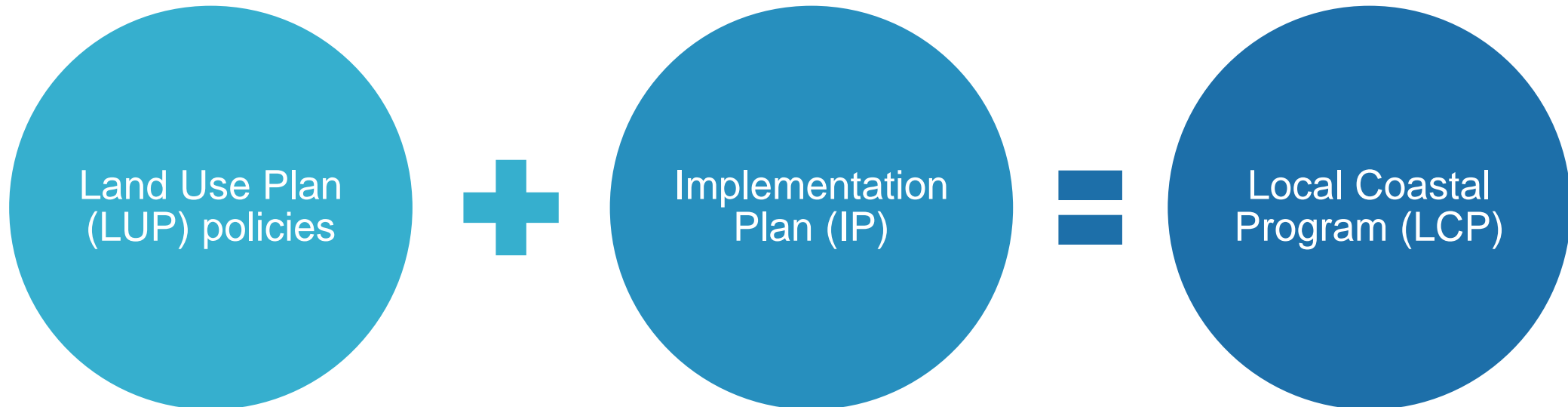
## 3. Discussion Groups

# California Coastal Act and LCP Background

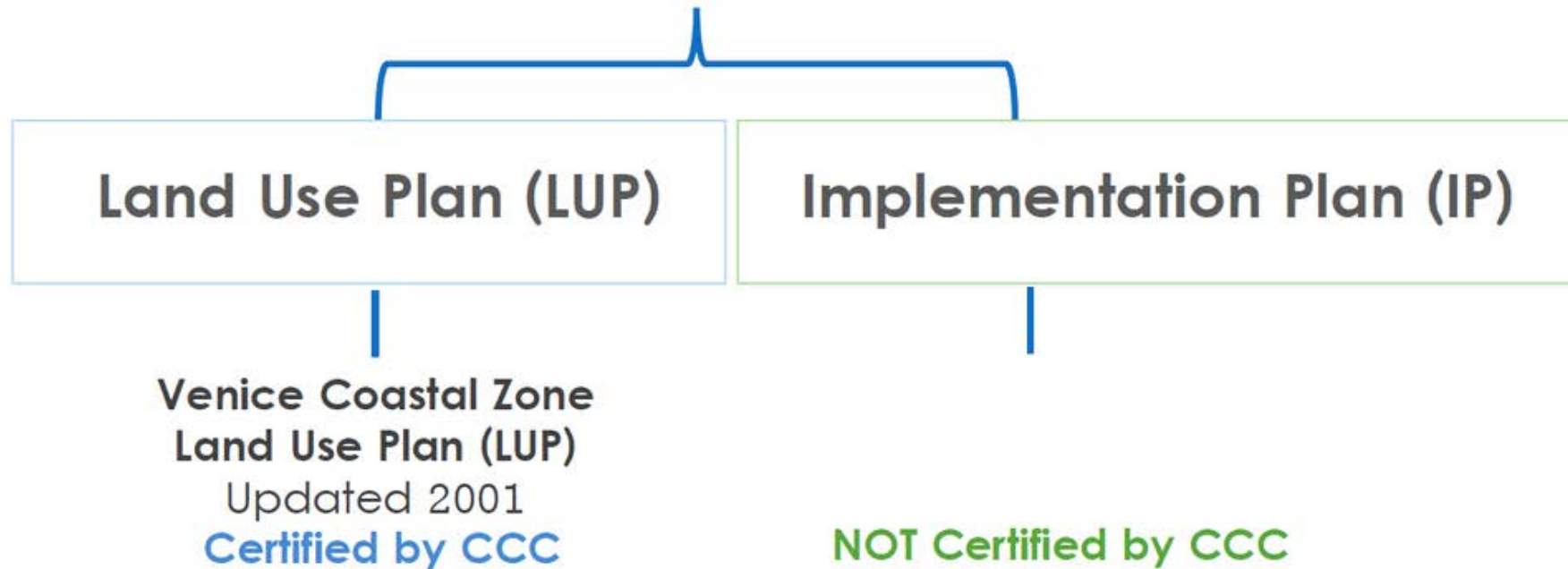
- California Coastal Act of 1976 requires local governments to have a Local Coastal Program (LCP)
- LCPs regulate and guide development in the coastal zone



Source: Visitcalifornia.com



## Local Coastal Program (LCP)

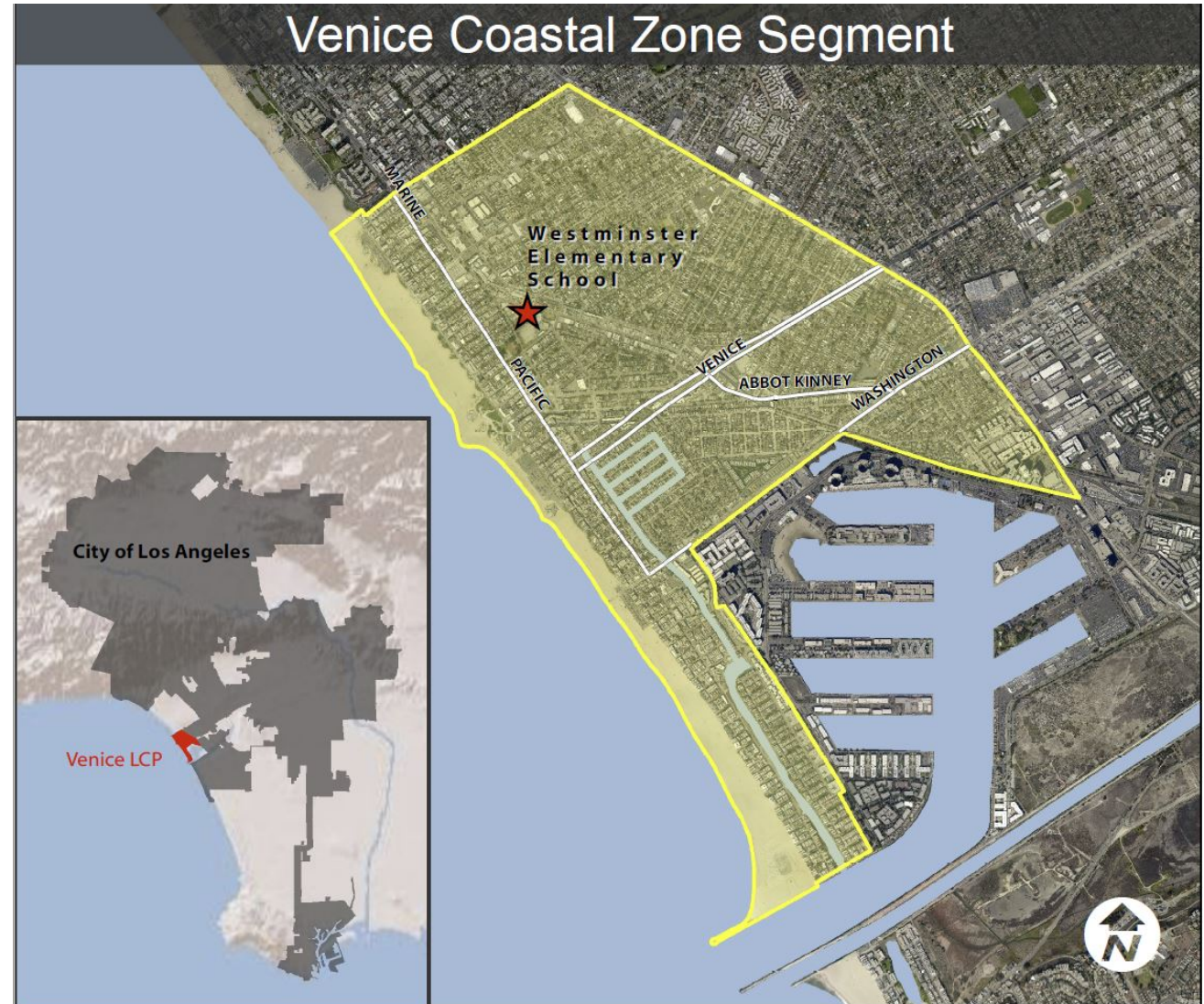


- Department of City Planning is currently updating the Venice LUP

# Venice LCP Update - Sea Level Rise Planning

## Overall Project Goals:

- 1) Develop Venice Sea Level Rise Vulnerability Assessment
- 2) Identify and prioritize adaptation measures to reduce the risks from sea level rise coastal hazards
- 3) Draft updated and new Coastal Hazard LCP policies and implementation plan measures for California Coastal Commission certification





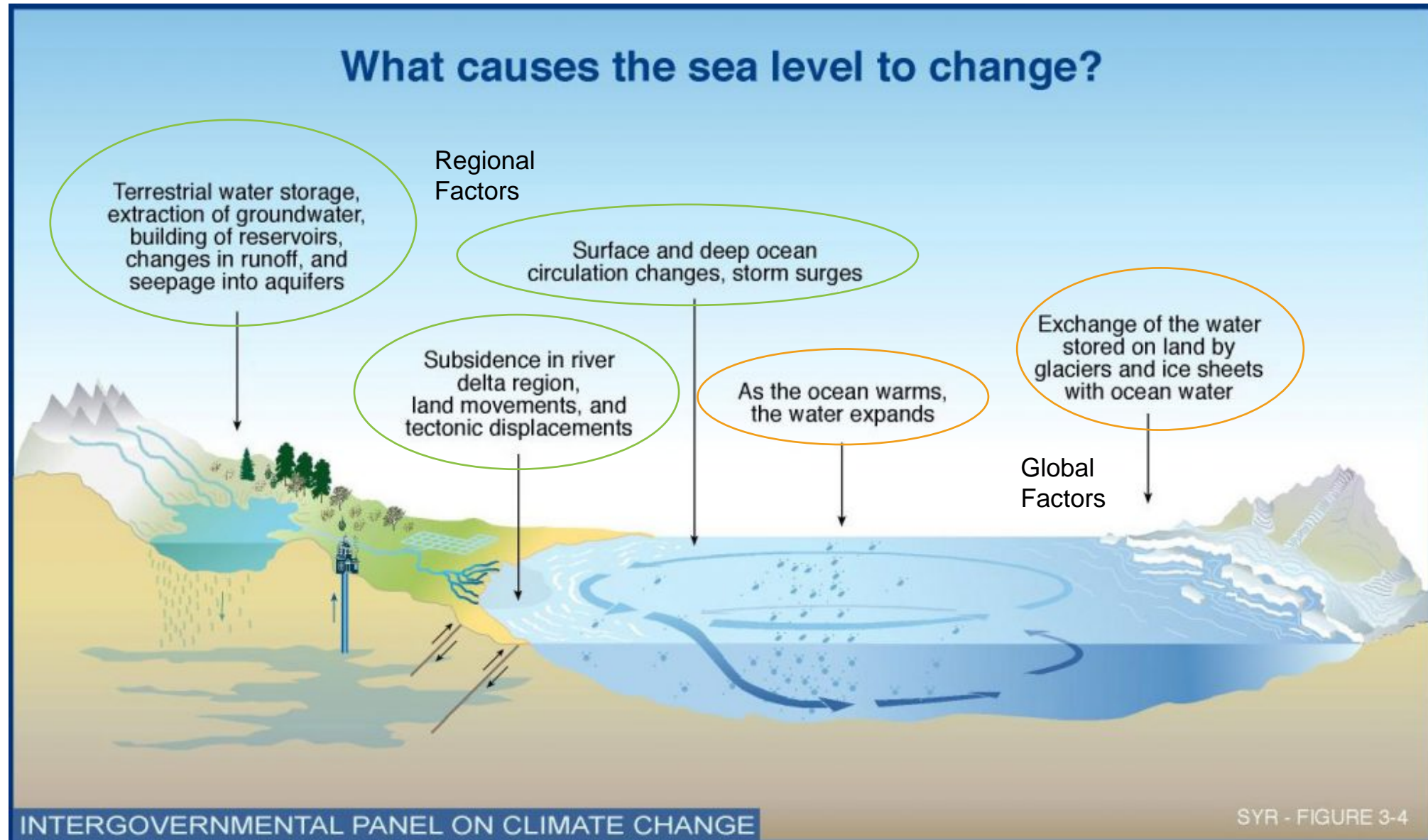
# SEA LEVEL RISE PLANNING PROCESS

1. Develop range of **sea level rise projections** relevant in LCP planning area
2. Identify anticipated **sea level rise impacts**
3. Assess **risks** to coastal resources and development
4. Identify **adaptation measures** to translate into LCP policy options
5. Draft **updated** and **new** Land Use Plan policies and Implementation Plan measures for Los Angeles City Council and California Coastal Commission certification
6. **Implement LCP** and monitor and revise as needed

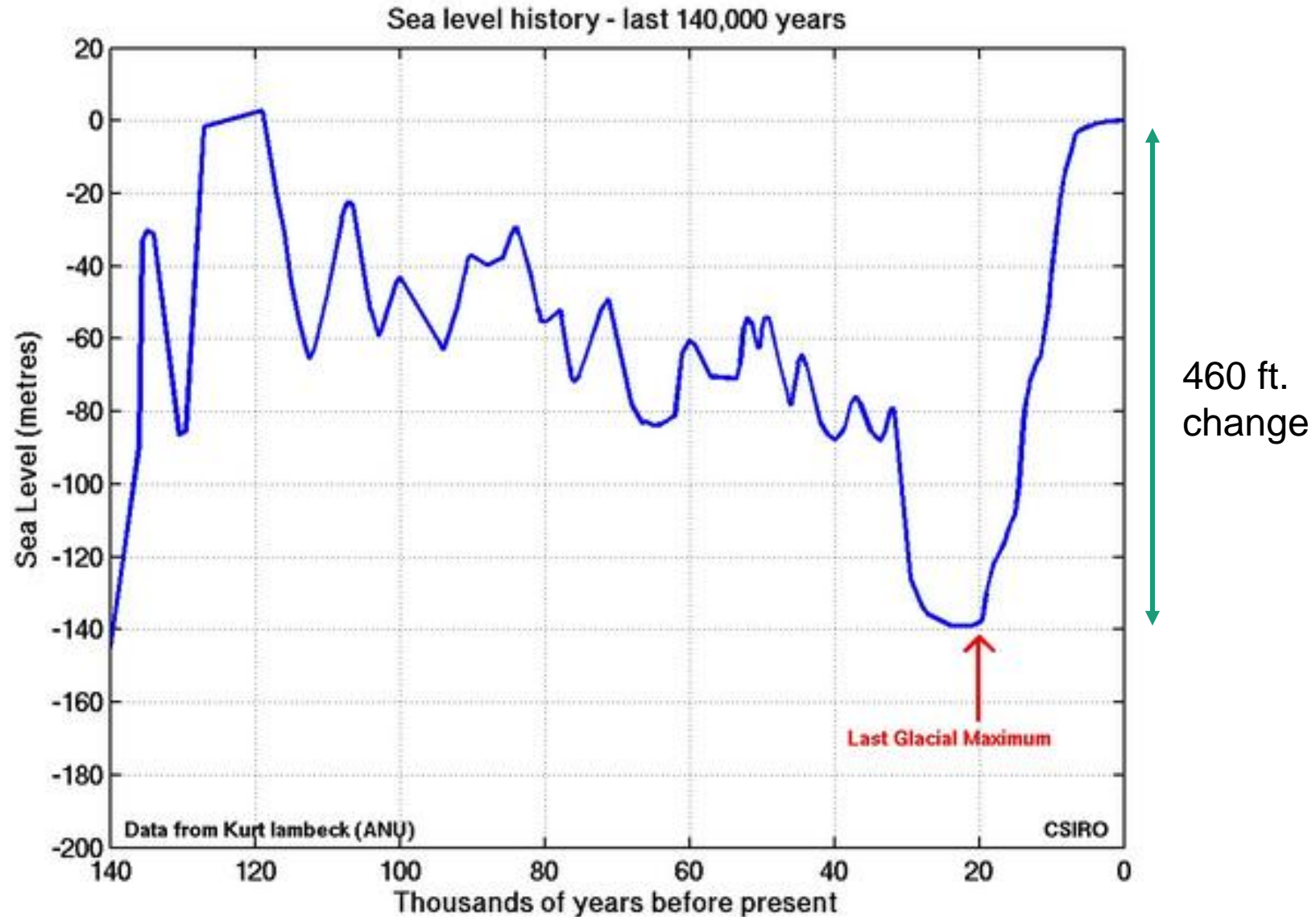




# Climate Change and Sea Level Rise



# Sea Level Change Over Geologic Time Scales

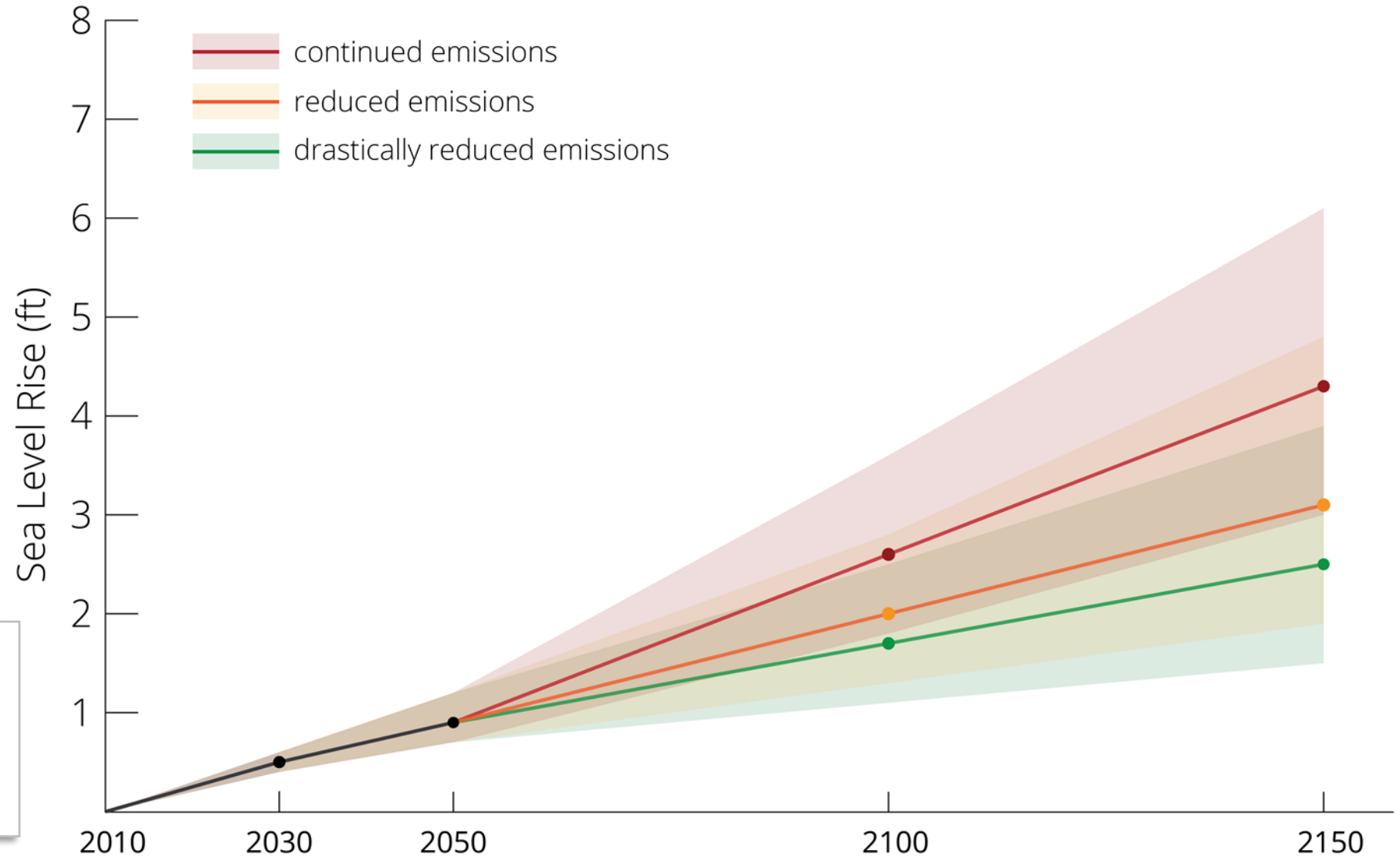


# Sea Level Rise Projections & Variability



Projections were made for three stations, La Jolla's was chosen for this study due to geographic similarity

- There are uncertainties and variability
- Rate of sea level rise depends on emissions



California Ocean Protection Council Projections (2017), shows range of likely SLR rates by emission scenario



# Historic Nourishment & Sand Retention

- 35 million cubic yards of sand placed on beaches since 1930s
- Hyperion, Marina Del Rey and Airport development
- Breakwaters, groins and jetties have helped retain wide beaches



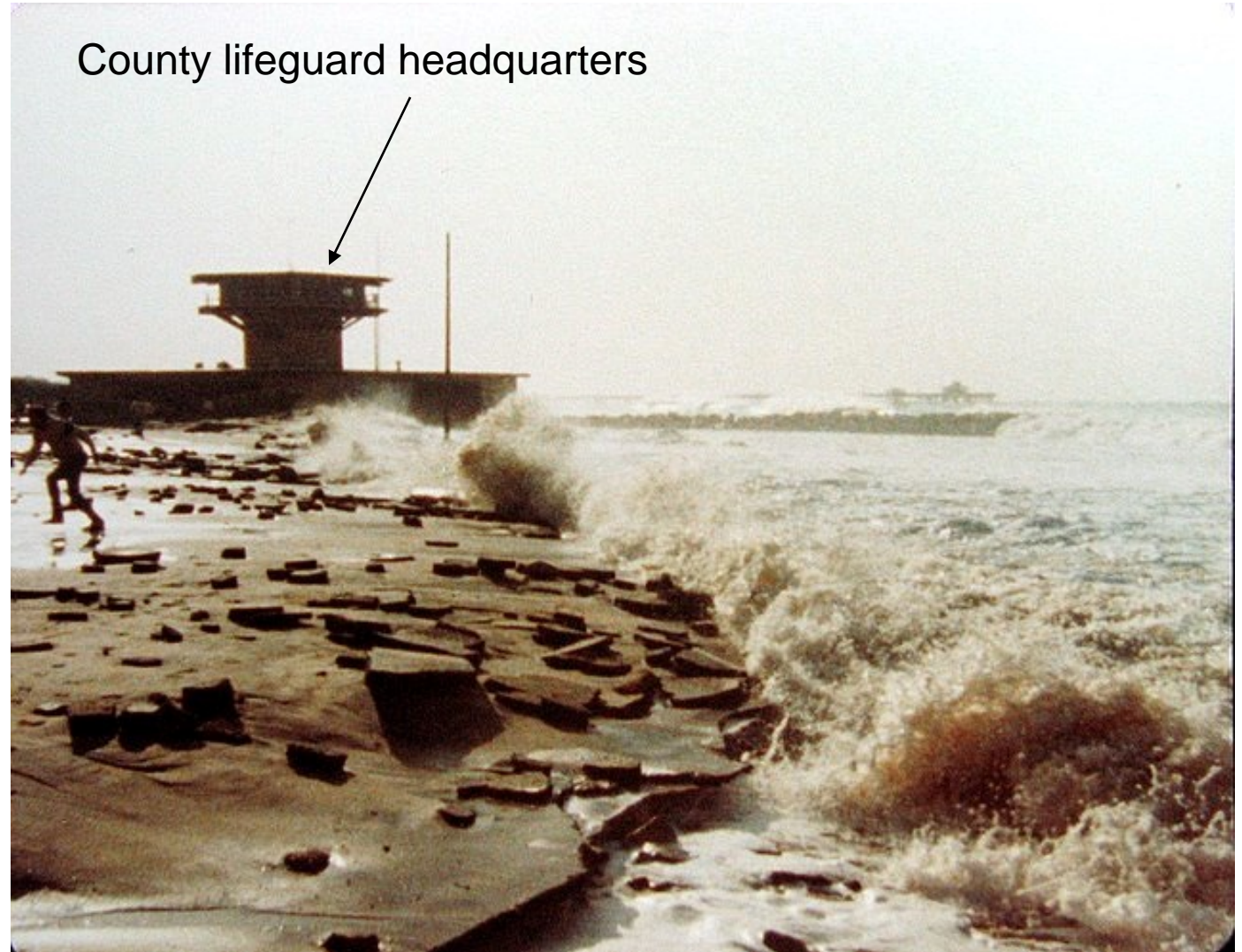
Source: Perry, 2012

# Historic Hazards ~1940s





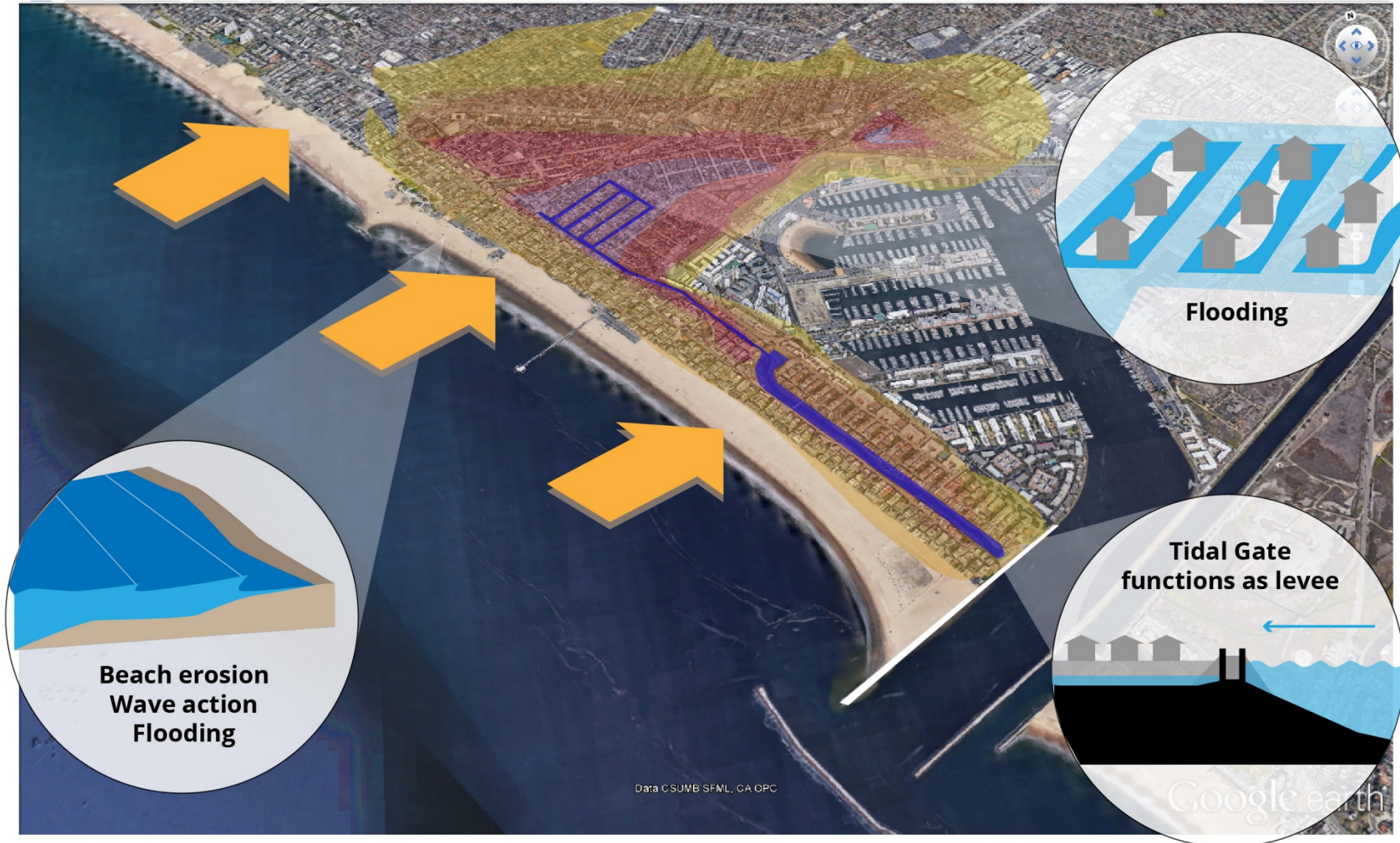
# Historic Hazards ~1980s





# Coastal Hazards Overview

Venice Sea Level Rise Hazards Summary Diagram



# Hazards

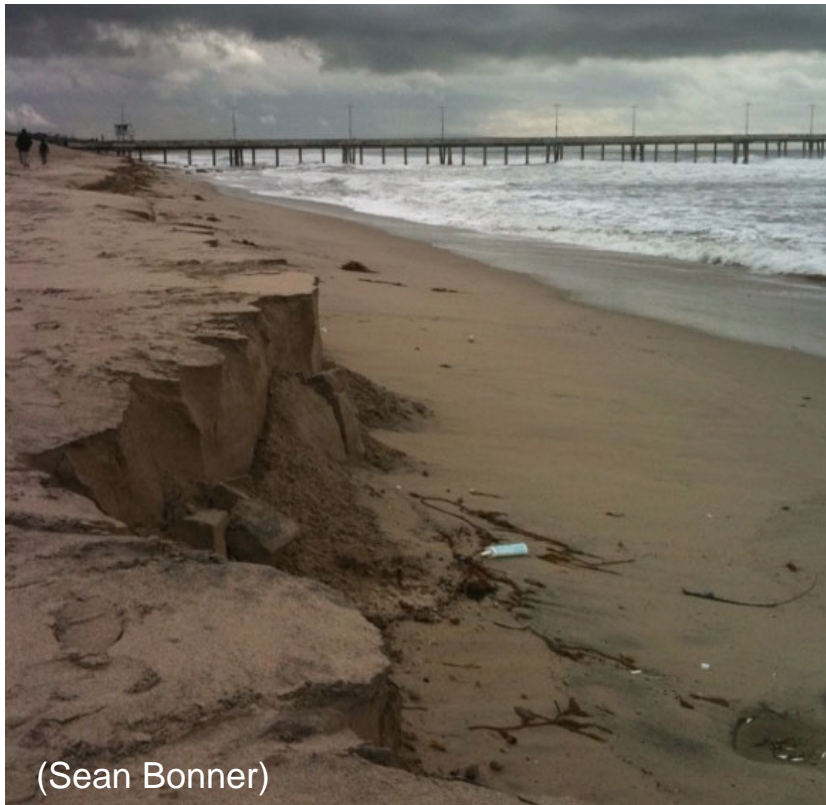
## Cause:

- Reduced sediment supply
- Large wave events
- Sea level rise

## Effect:

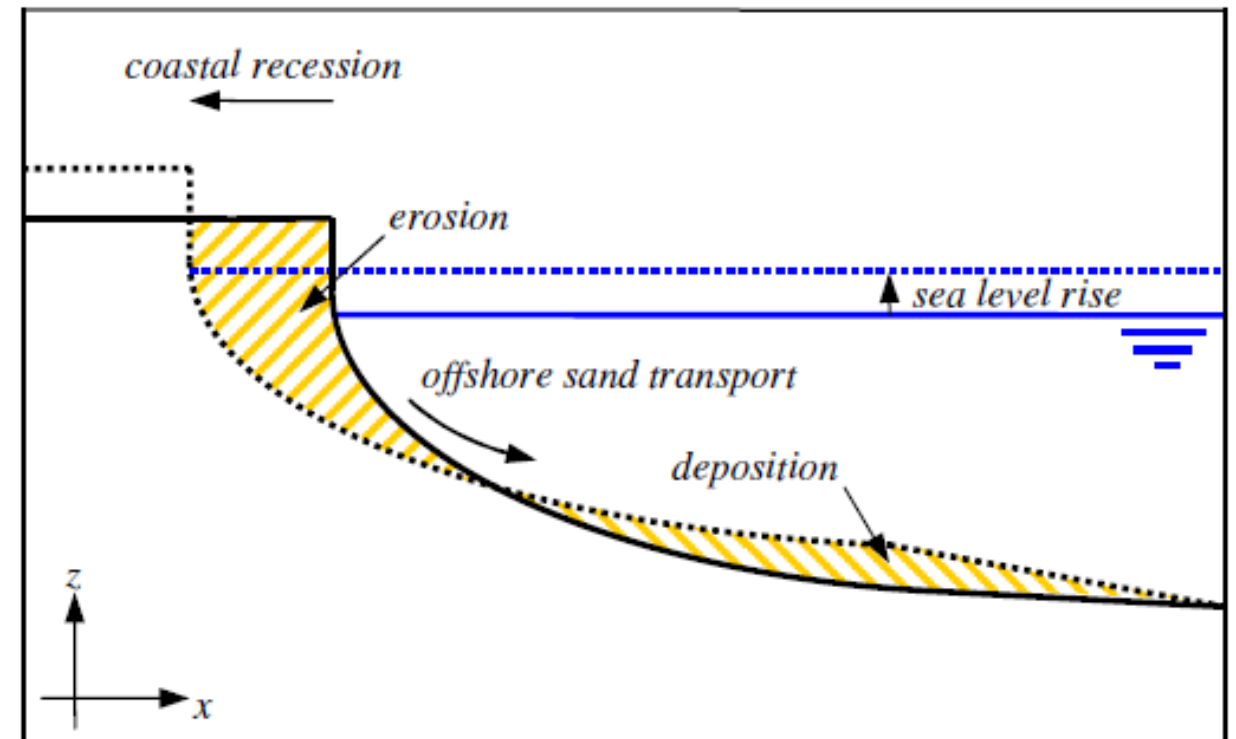
- Chronic erosion
- Seasonal erosion
- Sea level rise erosion

## Beach Erosion



(Sean Bonner)

Storm related beach erosion



Beach erosion due to sea level rise



# Hazards

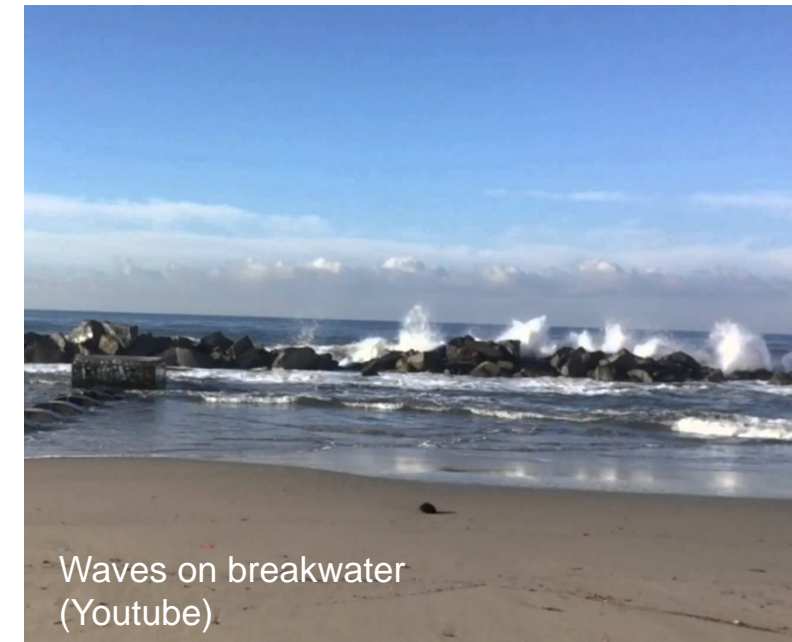
## Cause:

- Large wave events
- High water levels + waves
- Erosion + waves

## Effect:

- Runup depends on shore type
- Overtopping & flooding
- Direct wave damage

## Wave Action





# Hazards

## Cause:

- High ocean water levels
- High groundwater levels
- Extreme rainfall
- Wave overtopping

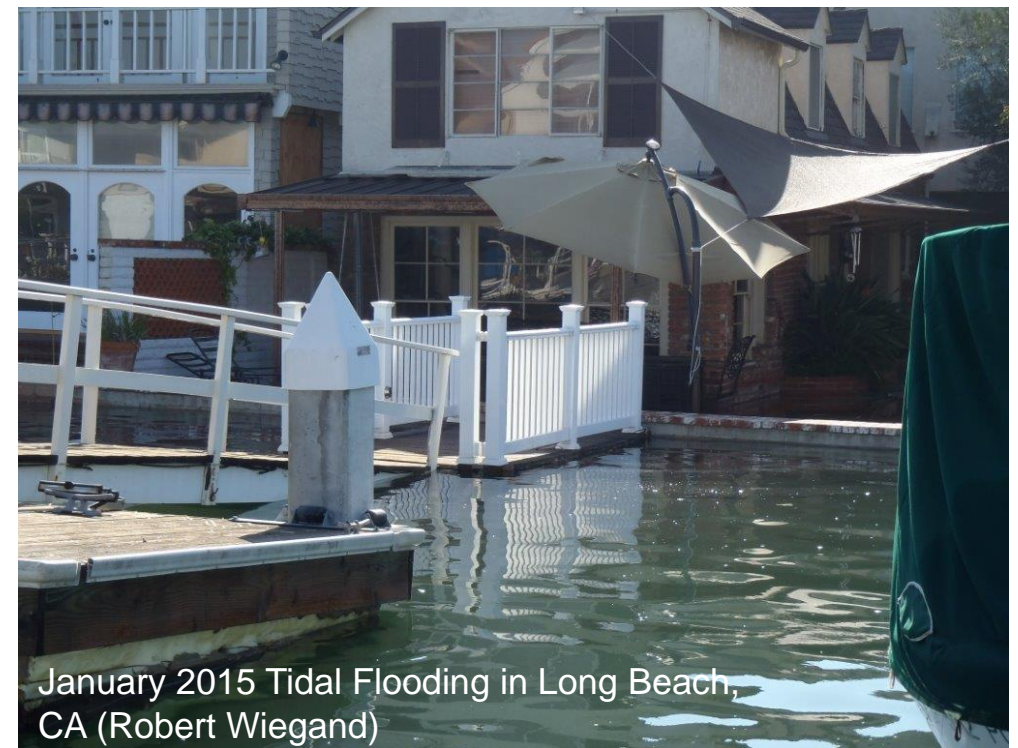
## Effect:

- Flooding of low-lying development
- Reduced drainage capacity

## Flooding



1983 Flooding in Venice Beach (Fred Barthel)

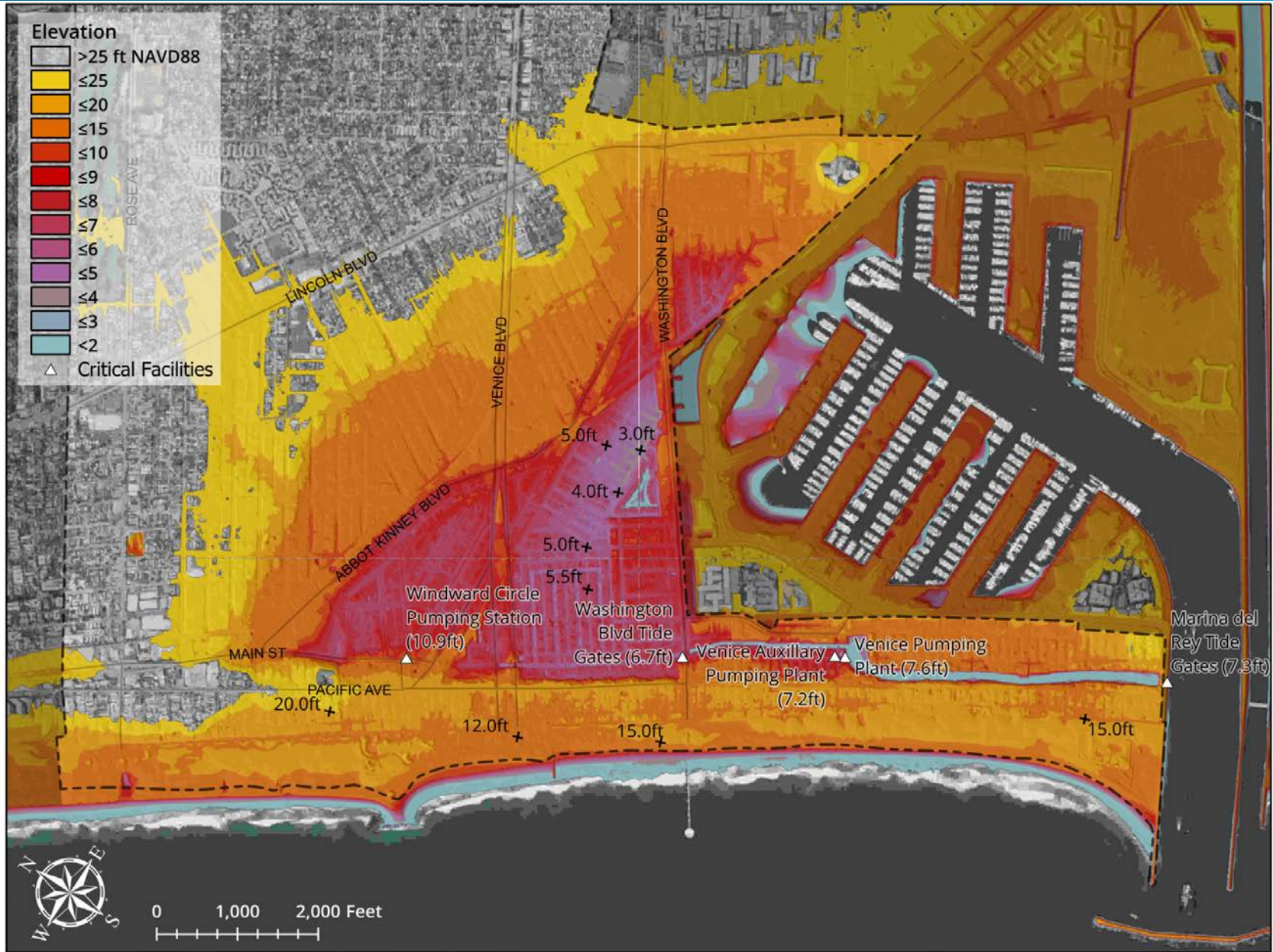


January 2015 Tidal Flooding in Long Beach, CA (Robert Wiegand)



# Elevation Map

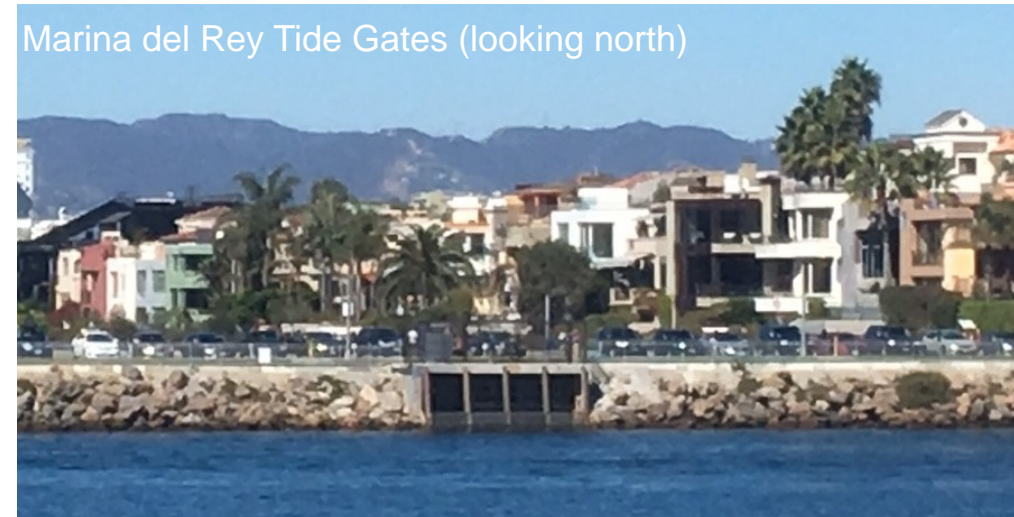
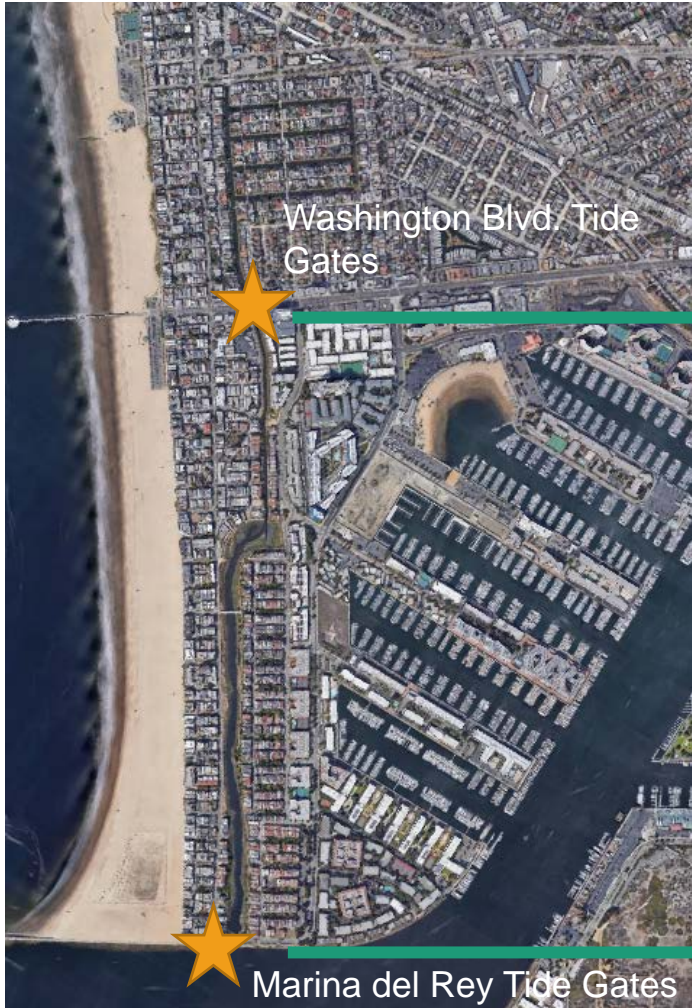
Higher  
↑  
↓  
Lower





# Two Tide Gate Systems

## Overview:





# Ballona Lagoon & Canal District Tide Gates

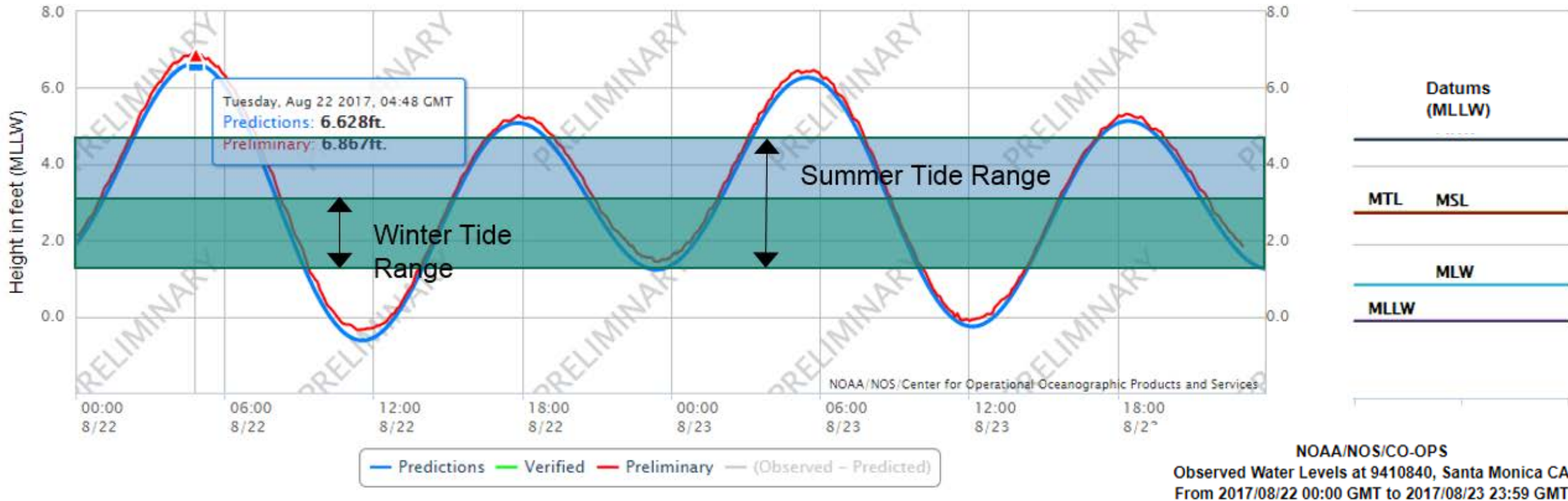
## Key Questions:

1. How do the tide gates function today?
2. How might sea level rise impact these functions?

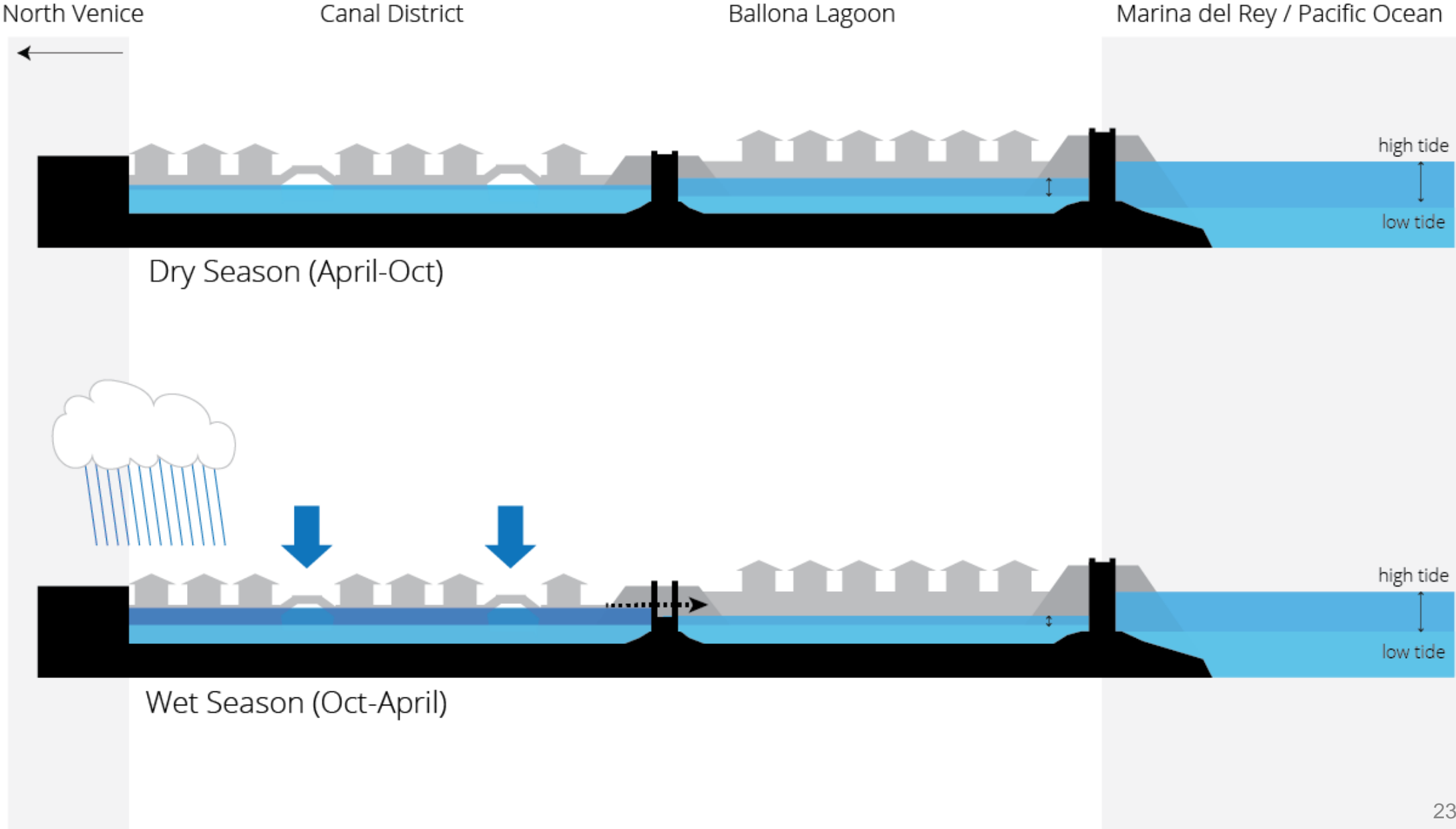


# Two Tide Gate Systems (cont.)

- Gates control tidal range of Ballona Lagoon and Venice Canal District
- Drained at low tide then allowed to refill up to mean sea level or mean high water
- Venice Canals are flushed ~ twice a week at low tides

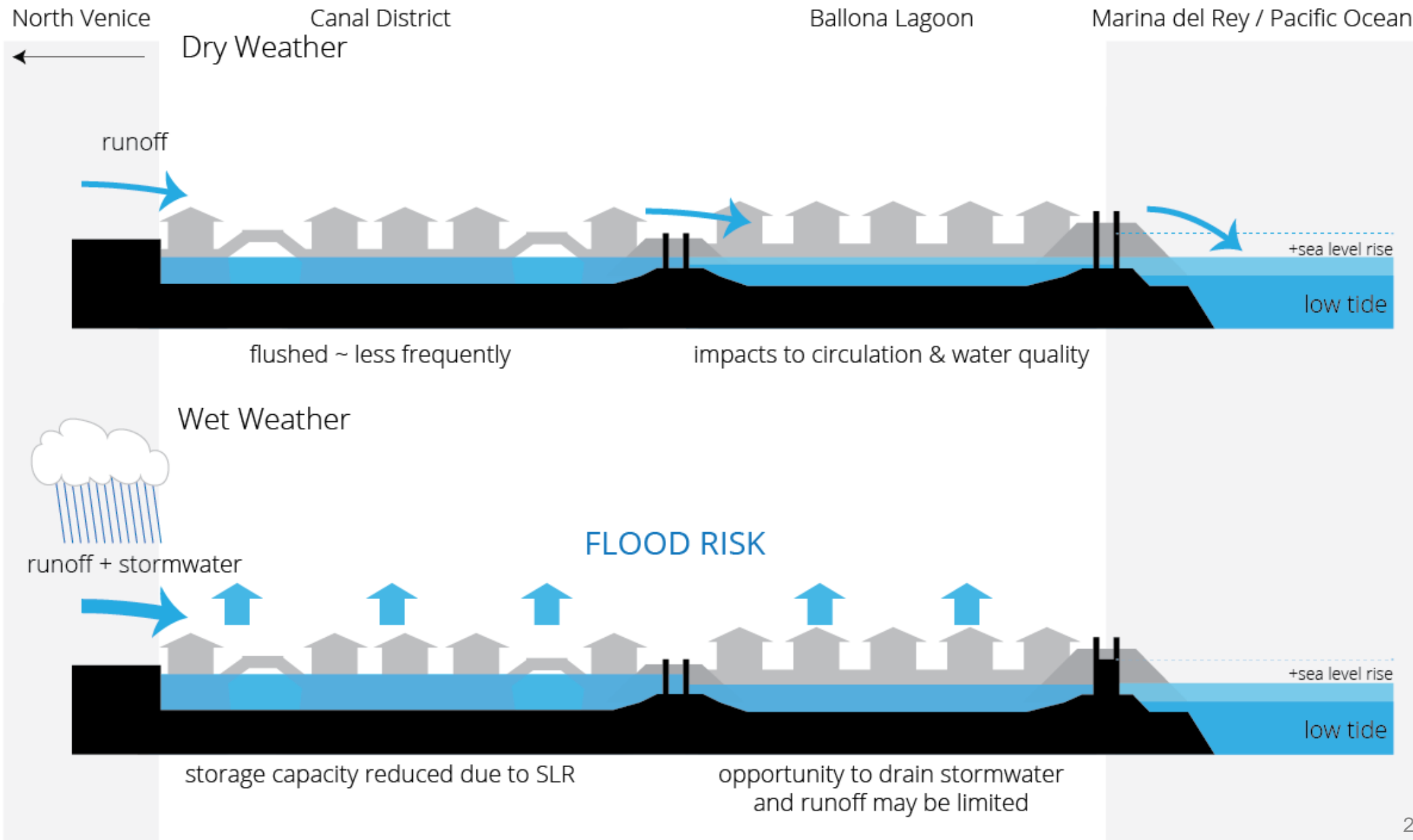


# Venice Beach Canal System





# Sea Level Rise Impacts



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# Venice Vulnerability Assessment Steps

1. Develop a range of sea level rise scenarios from moderate to extreme high projections in the Venice Coastal Zone
2. Identify anticipated sea level rise impacts on coastal, community, and shoreline assets in the Venice Coastal Zone, such as:
  - Coastal Development and Coastal Dependent Development
  - Public Access and Recreation
  - Coastal Habitat
  - Socio-Economic Diversity
  - Water Quality
3. Assess risks to coastal resources and development in Venice



# Valuable Beach Assets in Venice



Source: Venice Beach Suites



Source: californiabeaches.com

- Public Access
- Recreation
- Visitor Serving Amenities
- Habitat
- Coastal Economy



Source: Visitcalifornia.com



Source: venicebeach.com



Source: Bohemian Traveler

# Open House Stations

Station 1: What is Coastal Hazard planning?

Station 2: Sea Level Rise Scenarios and Vulnerability  
Assessment

Station 3: Sea Level Rise Hazards in Venice Beach Areas &  
Canal Areas

Station 4: Venice Local Coastal Program

*Feel free to visit tables in any order you please.*

# Discussion Groups

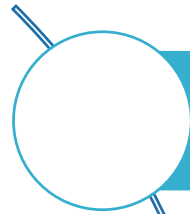
## **Format:**

1. Introductions
2. Brainstorm on considerations to address in the Vulnerability Assessment (ideas, questions, concerns, topics, etc.)
3. Prioritization with dots

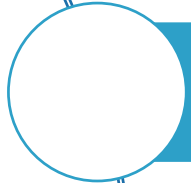
*Everyone has equal opportunities to participate!*



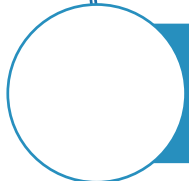
# Tips for Productive Discussions



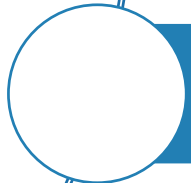
Let one person speak at a time



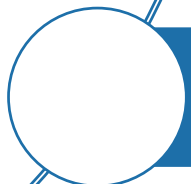
Help to make sure everyone gets equal time to give input



Keep your input concise so others have time to participate



Actively listen to others and seek to understand their perspectives



Offer ideas to address questions and concerns raised by others

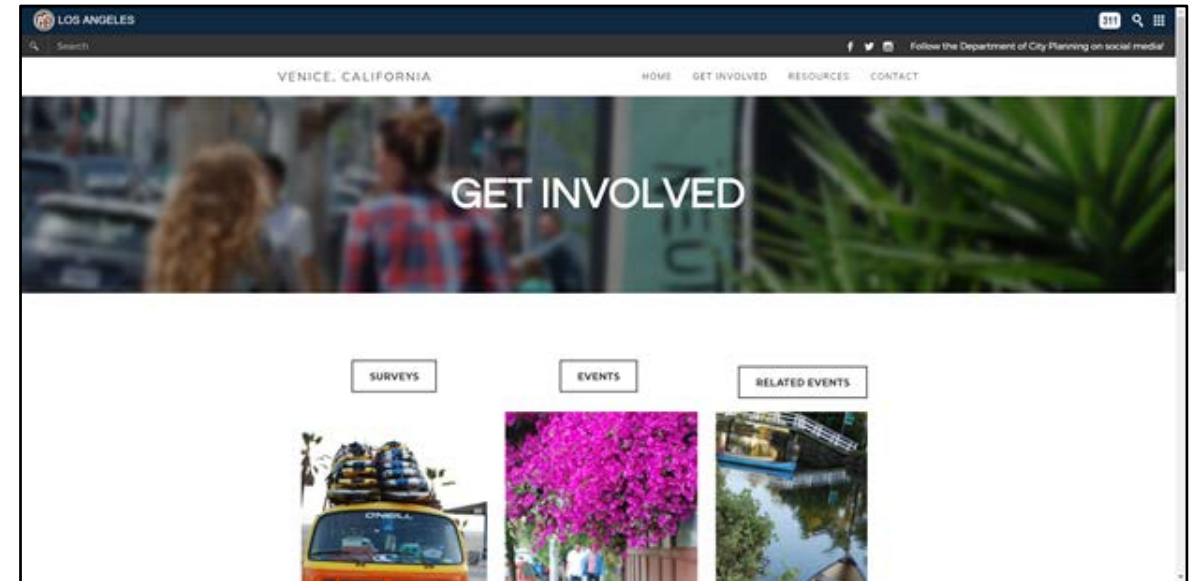
# Next Steps for Public Input and Involvement in Sea Level Rise Planning

## ➤ **Public Workshop #3: March 2018**

- Sea level rise scenarios
- Draft vulnerability assessment
- Adaptation strategy concepts
- Community input

## ➤ **Public Workshop #4: May 2018**

- Draft adaptation strategies
- Community input



Source: venicelcp.org

[www.venicelcp.org](http://www.venicelcp.org)

# Preliminary Updated FEMA Insurance Maps

- Preliminary maps are anticipated for certification in 2018
- FEMA analysis does not include affects of sea level rise



**FEMA**



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**THANK YOU**

[www.VeniceLCP.org](http://www.VeniceLCP.org)