

# **Sea Level Rise Adaptation Strategies**

Adrienne Fedrick Newbold, PE, PMP Senior Civil Engineer December 3, 2019



# THE PORT OF LOS ANGELES



7,500 acres

• 4,300 land and 3,200 water

43 miles of Waterfront

Water depth of -53 ft

**Market Share** 

• 43% West Coast, 18% Nationally

**Jobs** 

1.6 Million jobs Nationwide,

- 500,000 regionally
- 150,000 locally

270 berths

Includes 30 berths with Alternative Maritime Power ™ (AMP™)

9.5 Million TEUs in 2018

### 27 Terminals

- Auto (1)
- Breakbulk (4)
- Container (8)
- Dry Bulk (3)
- Liquid Bulk (7)
- Multi-Use (2)
- Passenger (2)

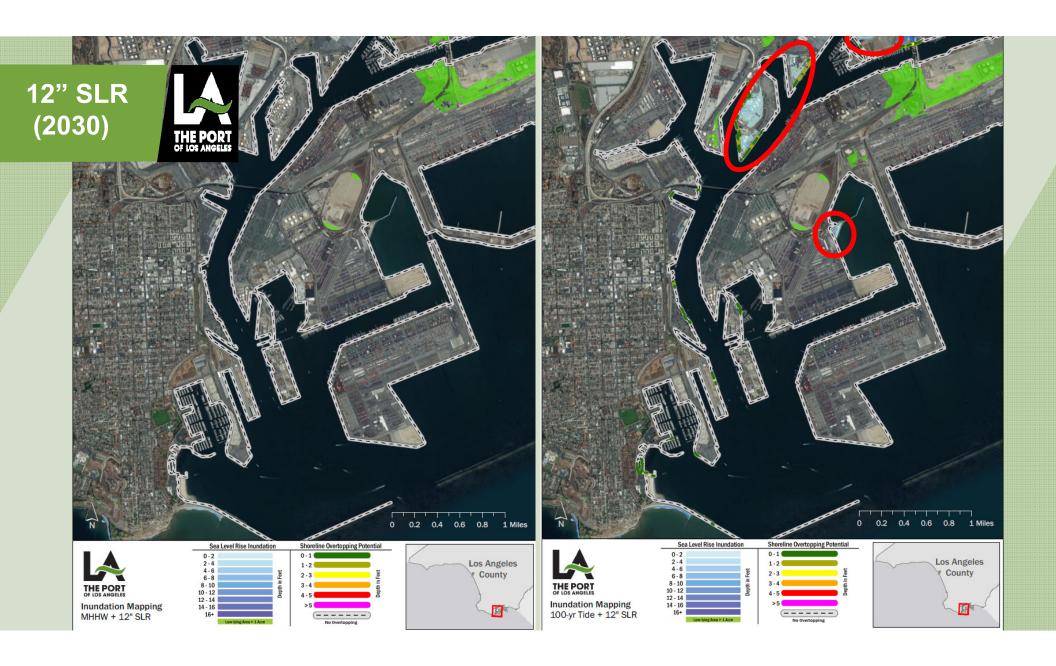
**Public Amenities And Attractions** 

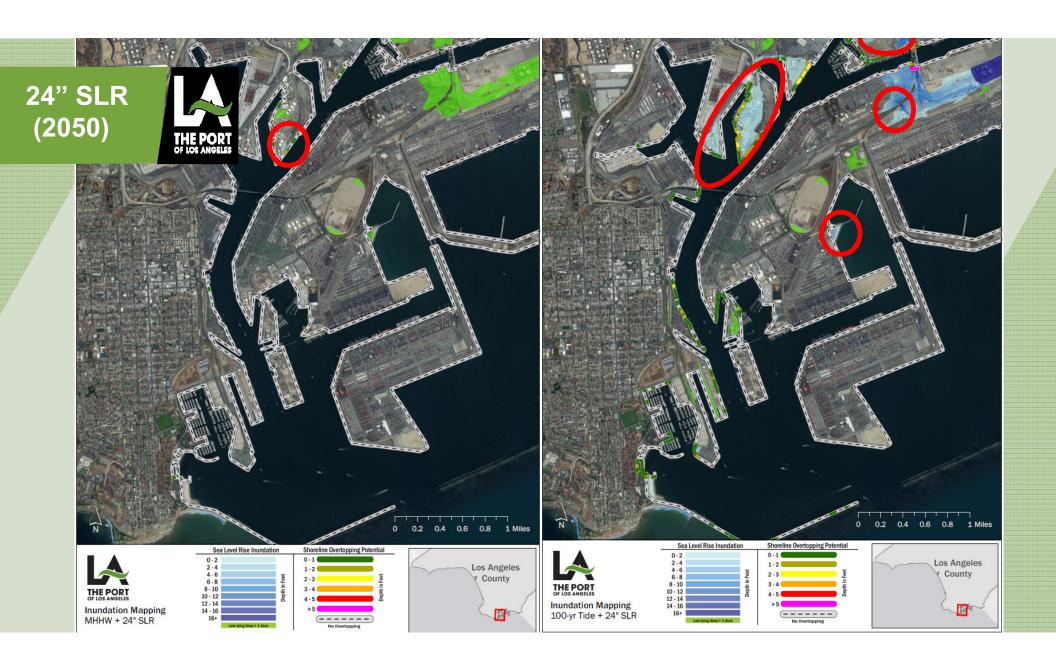
# SEA LEVEL RISE STUDY OVERVIEW

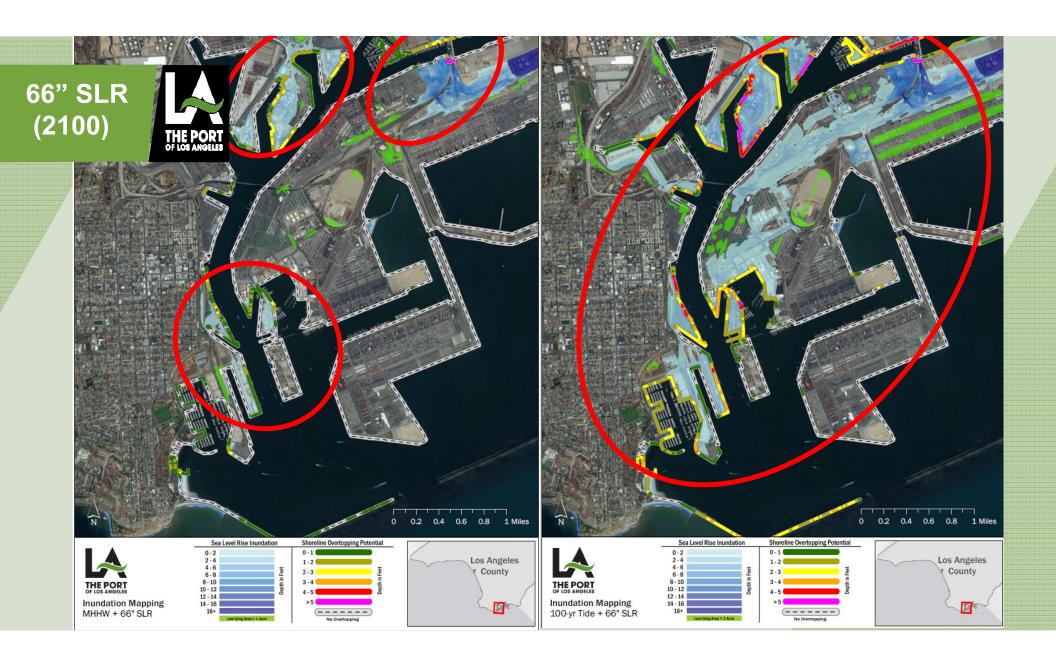




\*One year ahead of schedule!







# **DEVELOPMENT OF STRATEGIES**









#### **Governance:**

Include Sea Level Rise considerations in policy planning

#### **Initiatives:**

Feasibility Studies and Collaboration

## **Physical Infrastructure:**

Temporary/Permanent
Protection around impacted
areas

# **GOVERNANCE**

THE PORT OF LOS ANGELES

- 1. Add language regarding SLR to the following guiding policy, planning, and design guidelines:
  - 1. Port Master Plan
  - 2. Strategic Plan (2018-2022)
  - 3. Engineering Design Guidelines
  - 4. LA Waterfront Design Guidelines
  - 5. Risk Management Considerations
- 2. Develop a one page vulnerability zone map
- 3. Add standard language regarding SLR to future RFPs/RFQs
- 4. Update Lease Requirements to reference the SLR Plan
- 5. Consider SLR in Capital funded projects
- 6. Monitor SLR science and continually update the plan







ENGINEERING DIVISION
PROJECT DELIVERY GUIDELINES
MANUAL
June 3, 2019











Chief Harbor Engineer

Prepared by:
Engineering Division

# **INITIATIVE**



- 1. Develop a management system to track extreme weather events and associated damage and disruption to justify funding for future related projects
- 2. Feasibility study to determine most appropriate temporary flood protection based on storage, cost, erection, and maintenance
- 3. Regional Collaboration (POLB, City of LA)
- 4. Participate in CAPA Sea Level Rise Committee
- 5. Discuss breakwater vulnerabilities with ACOE
- 6. Funding opportunities
- 7. Tenant Collaboration
- 8. POLA Working group (All Divisions)
- 9. Evaluate all pump stations









# INFRASTRUCTURE ACCOMMODATION



## **Temporary Protection**



Tiger Dam: Vinyl tubes filled with water or cement slurry



Sand Bags



Aqua Fence: Deployable flood protection structure

## **Permanent Protection**



Reinforced Concrete Wall



Sheet Pile Wall

# **KEY TAKAWAYS**



POLA is committed to staying resilient to climate change

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- Sea Level Rise is a component of our general plan
- Continue to Monitor Sea Level Rise