BACWA
BAY AREA
CLEAN WATER
AGENCIES

Roundtable Discussion

Adapting to Sea Level Rise, Extreme Precipitation, and Flooding

August 23, 2022

Roundtable Agenda

Adapting to Sea Level Rise,
Extreme Precipitation, and Flooding

BACWA
BAY AREA
CLEAN WATER
AGENCIES

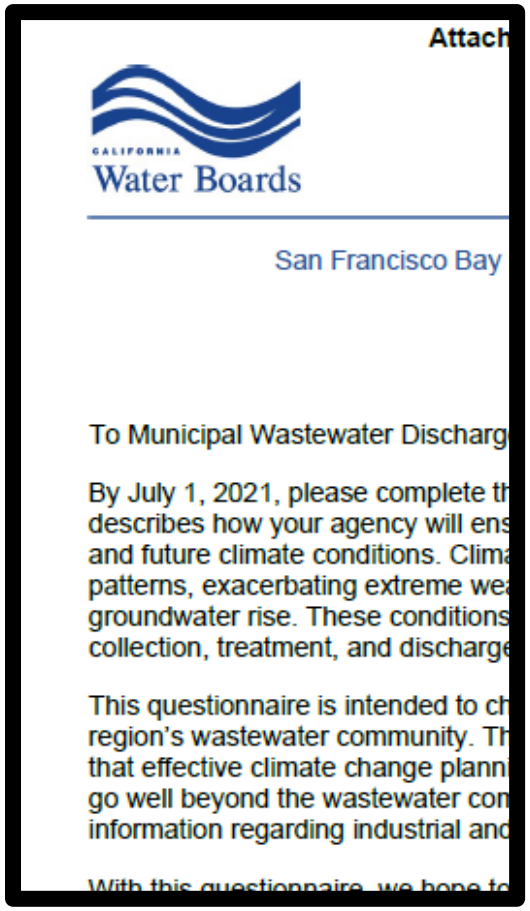
1. Background Presentation
2. Roundtable Discussion
   - Introductions
   - Cameras on
   - Participate anonymously through Mentimeter
   - Raise your hand to participate in Zoom
   - We may call on you even if your hand isn't raised!

QR Code Links to

Mentimeter

Background

2021 Agency Surveys


Attach

California Water Boards

San Francisco Bay

To Municipal Wastewater Discharg

By July 1, 2021, please complete th
describes how your agency will ens
and future climate conditions. Clima
patterns, exacerbating extreme wea
groundwater rise. These conditions
collection, treatment, and discharge

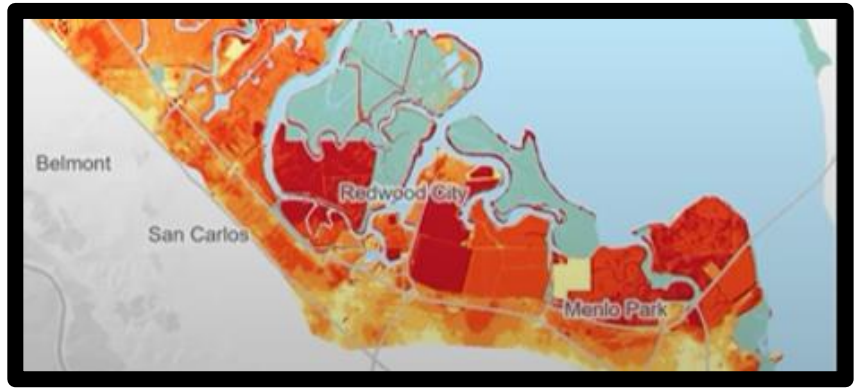
This questionnaire is intended to ch
region's wastewater community. Th
that effective climate change planni
go well beyond the wastewater con
information regarding industrial and

With this questionnaire, we hope to

Regulatory Expectations

Resource Updates

Guidance



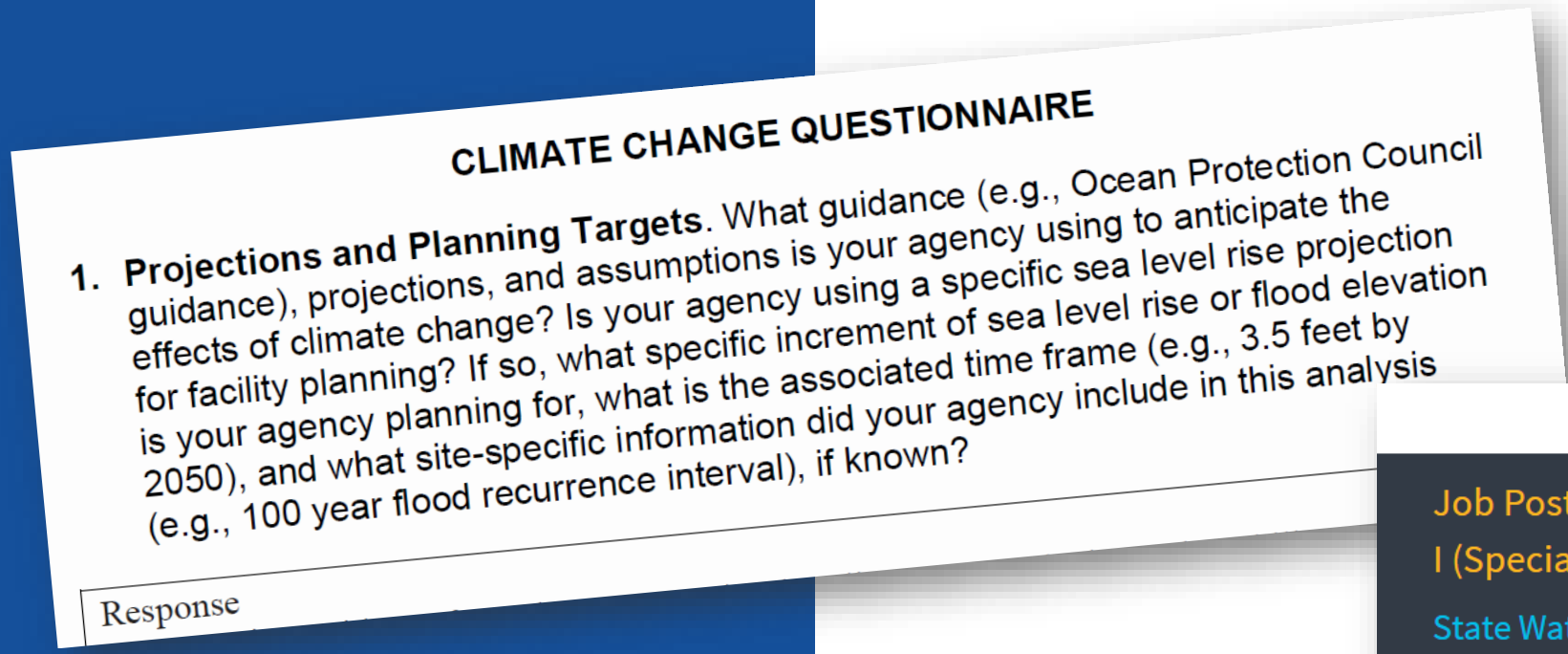
Funding

Sources: Central San, SFEI

Climate Change Questionnaires

Regional Water Board – 2021

State Water Board – 2022?



CLIMATE CHANGE QUESTIONNAIRE

1. **Projections and Planning Targets**. What guidance (e.g., Ocean Protection Council guidance), projections, and assumptions is your agency using to anticipate the effects of climate change? Is your agency using a specific sea level rise projection for facility planning? If so, what specific increment of sea level rise or flood elevation is your agency planning for, what is the associated time frame (e.g., 3.5 feet by 2050), and what site-specific information did your agency include in this analysis (e.g., 100 year flood recurrence interval), if known?

Response

CalCareers

Job Posting: ENVIRONMENTAL PROGRAM MANAGER I (Specialist)

State Water Resources Control Board

JC-321632 - ENVIRONMENTAL PROGRAM MANAGER I (Specialist)
ENVIRONMENTAL PROGRAM MANAGER I (SUPERVISORY)

Current NPDES Permitting Approach

Current SF Bay Approach: Fact Sheet in NPDES Permits

Sea Level Rise. Approximately 1,000 linear feet of the Facility's collection system are susceptible to flooding at 25 centimeters of sea level rise. This portion of the collection system is protected by three sealed manholes …

Sea Level Rise. In 2019, the Discharger adopted the District Strategic Plan, which includes activities to address sea level rise, including the identification of anticipated impacts, potential mitigation strategies, and partnerships that will contribute to a coordinated and regional response to this issue. …

Sea Level Rise Adaptation Planning. To adapt to rising sea levels, the Discharger developed a sea level rise adaptation plan titled *Wastewater Climate Change Plan* (Plan) in June 2019. This Plan aligns with the *State of California Sea-Level Rise Guidance* (Ocean Protection Council, 2018 Update) …

Current NPDES Permitting Approach

Los Angeles Regional Water Board Approach: Special Provision in all NPDES Permits

a. **Climate Change Effects Vulnerability Assessment and Mitigation Plan**. The Discharger shall consider the impacts of climate change as they affect the operation of the treatment facility due to flooding, wildfire, or other climate-related changes. The Discharger shall develop a Climate Change Effects Vulnerability Assessment and Mitigation Plan (Climate Change Plan) to assess and manage climate change-related effects that may impact the wastewater treatment facility's operation, water supplies, its collection system, and water quality, including any projected changes to the influent water temperature and pollutant concentrations, and beneficial uses. For facilities that discharge to the ocean including desalination plants, the Climate Change Plan shall also include the impacts from sea level rise. The Climate Change Plan is due 12 months after the effective date of this Order.

San Francisco Bay Region Landfill WDR Approach

Tentative Order Requirements for 16 Bayfront Landfills

Submit a Long-Term Flood Protection Plan: The Discharger shall submit a climate change vulnerability assessment and adaptation plan acceptable to the Executive Officer. The plan shall identify strategies for the long-term protection of the landfill from flooding and inundation due to SLR, groundwater rise, and extreme climate/weather events. The plan shall:

A) Be prepared by qualified experts and consider and reference the most current official State of California climate change guidance documents, including but not limited to those listed in Findings 7 through 10.

B) Be based on providing protection from the estimated 100-year storm event, on top of the 2050 "medium-high" (0.5% probability of exceedance) or "extreme" risk aversion SLR scenarios as described in the most recent official state of California sea level rise guidance (e.g. the 2018 OPC Sea-Level Rise Guidance). …

C) Describe how vulnerable features and infrastructure will be protected …

D) Propose a phased adaptation strategy …to provide for protection from the 2100 "medium-high" or "extreme" risk aversion SLR scenarios as described in the most recent official state of California sea level rise guidance, …

E) Provide technical justification for the selection of both the 2050 and 2100 sea level rise risk aversion scenarios.

F) Identify baseline conditions for the landfill and show at a minimum the following on a map(s): …areas potentially vulnerable to groundwater rise.

G) Be updated and submitted every five years …

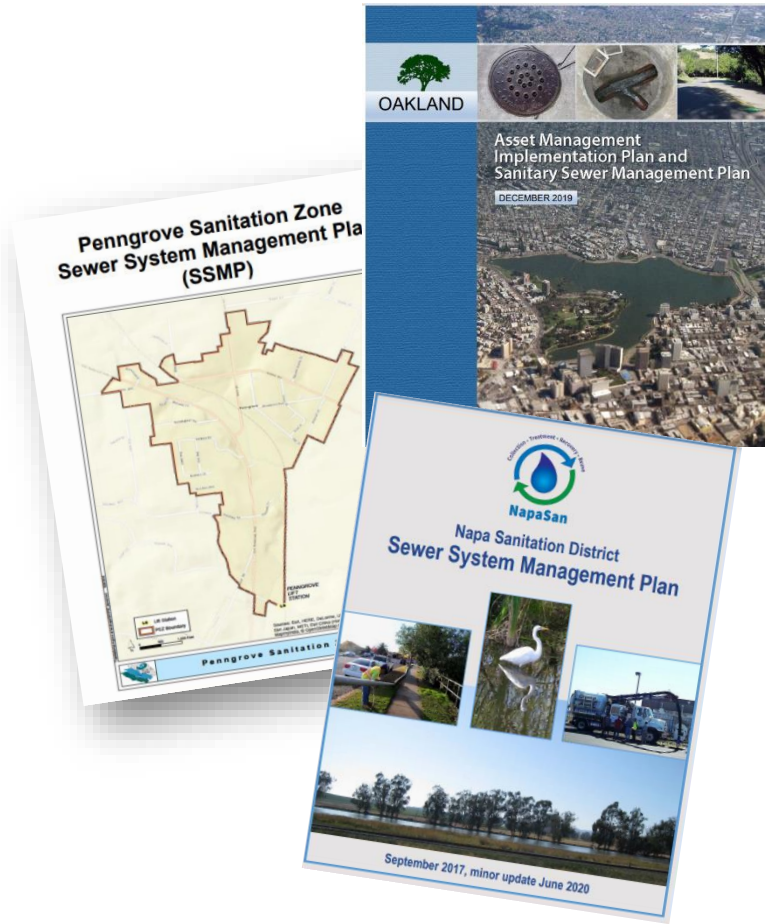
H) When preparing and implementing adaptive management plans, the Discharger shall take into consideration how rising shallow groundwater and any associated flooding may affect long-term cap stability, increase in leachate amounts, leachate and landfill gas migration, and post-closure monitoring and maintenance goals at the site. …Additionally, shallow groundwater response to SLR across four Bay Area counties is currently under development by SFEI (per Finding 7 above).

Climate Change Resiliency Requirements in Draft SSS-WDR

8. SYSTEM EVALUATION AND CAPACITY ASSURANCE AND CAPITAL IMPROVEMENTS

The Plan must provide procedures and activities for the Enrollee to assess system condition and capacity, and **prioritize rehabilitation actions** to address:

- **Local / regional climate change impacts**;
- Environmental impacts;
- Change in waste flow rates and system users;
- Customer use of household and commercial products; and
- Other current and forecasted system-specific impacts that threaten the sewer system.



Source: Draft SSS-WDR from State Water Board

Regional Water Board Climate Change Survey

Projections and Planning Level Targets:

What is your agency planning for?

Vulnerability Assessment:

- Sea Level Rise
- Groundwater Rise
- Changing Climate & Weather
- Power

Adaptation Strategies:

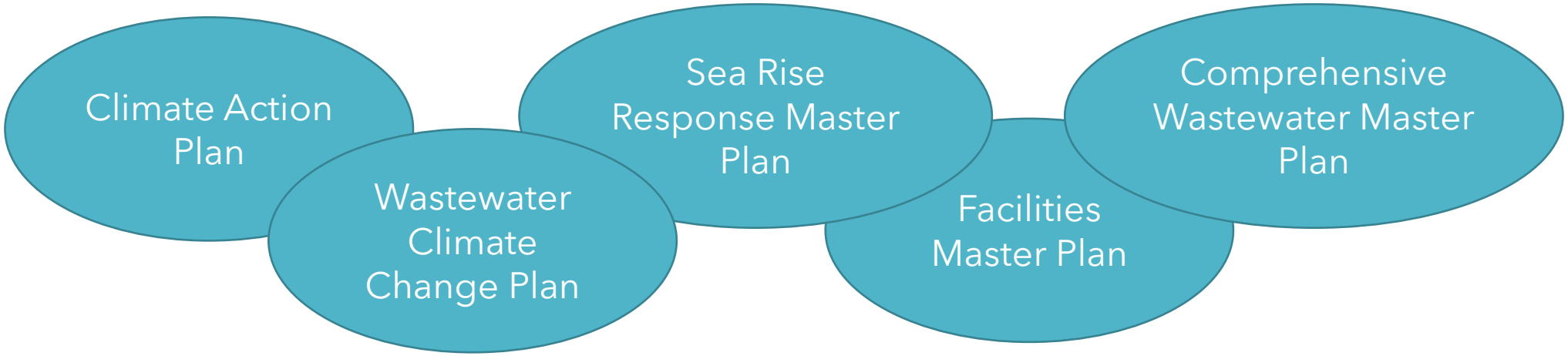
- Collaboration
- Infrastructure Improvements
- Monitoring
- Emergency Response Planning
- Finance

February 2022 Executive Officer's Report

- Regional Sea Level Rise Projections Vary
- Dischargers are Planning for Sea Level Rise and Storm Surges
- Dischargers with High Flood Risk are Taking Action
- The Questionnaire is Driving Action
- "Based on our review of the responses to the questionnaire, we are optimistic that good progress is being made."

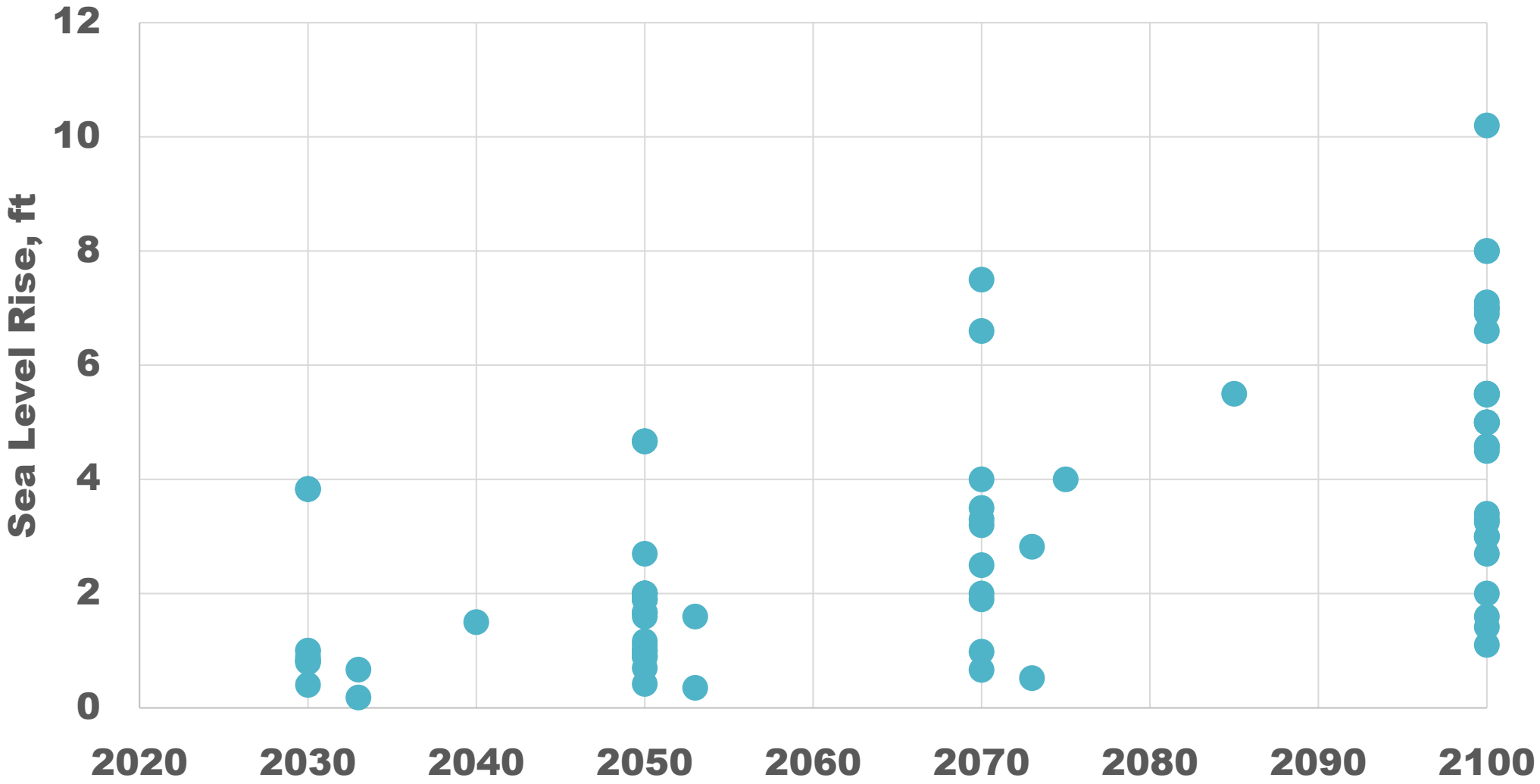
Climate Change Survey Responses

- Facility-driven vs. Climate-driven Adaptation Planning



- About 1/3 of agencies have incorporated Sea Level Rise into routine capital planning
- Sea Level Rise projections heavily influenced by relationships with regional partners

Sea Level Rise Projection information provided by 31 BACWA Members



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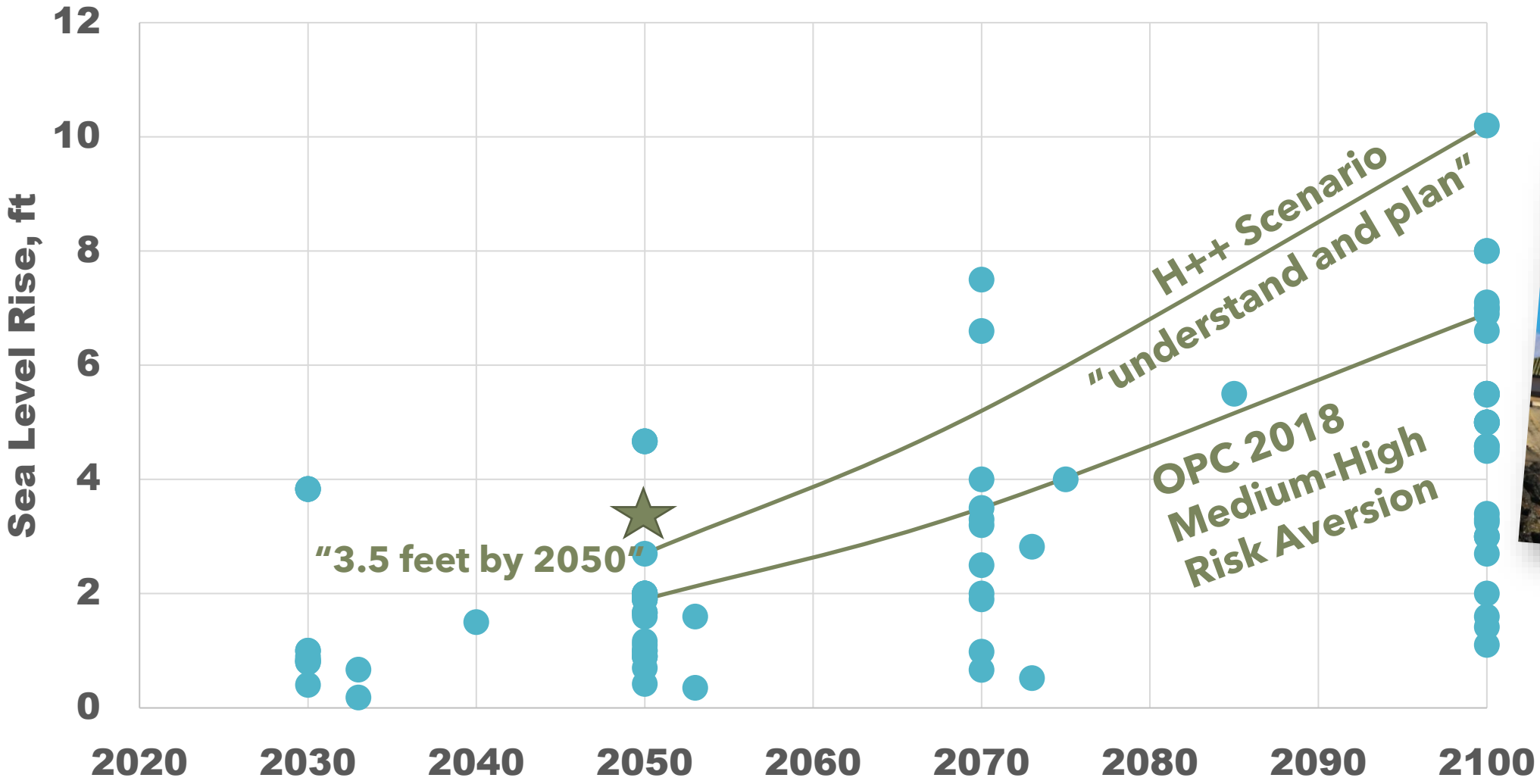
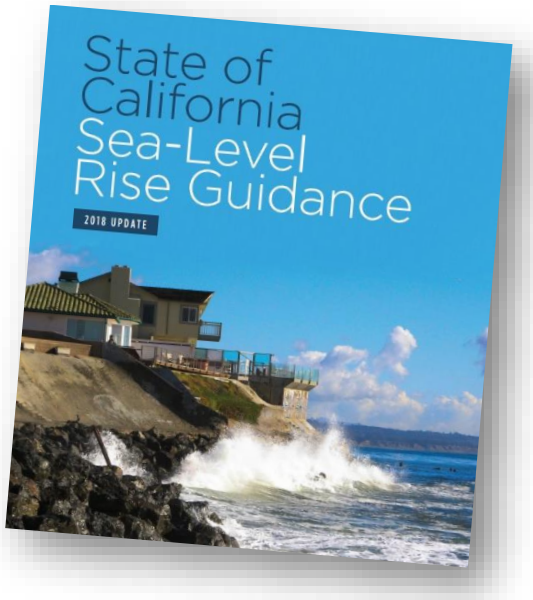
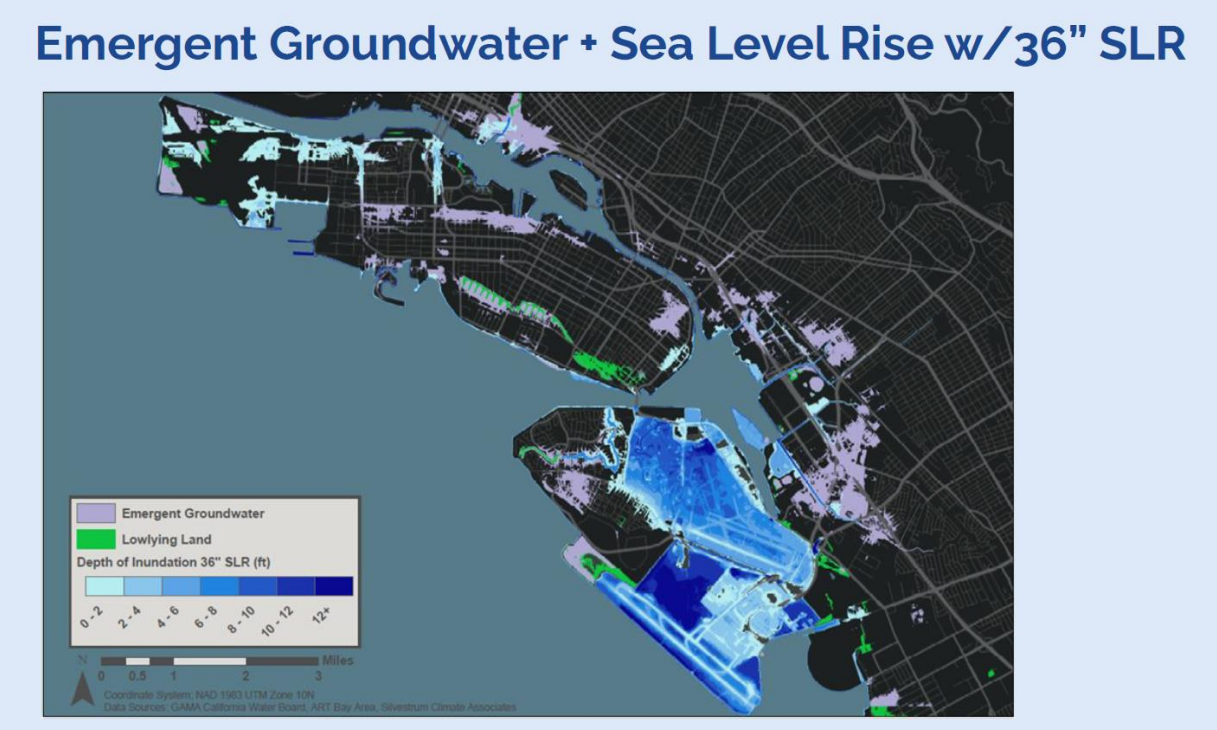




Resource Updates

Groundwater Rise Projections

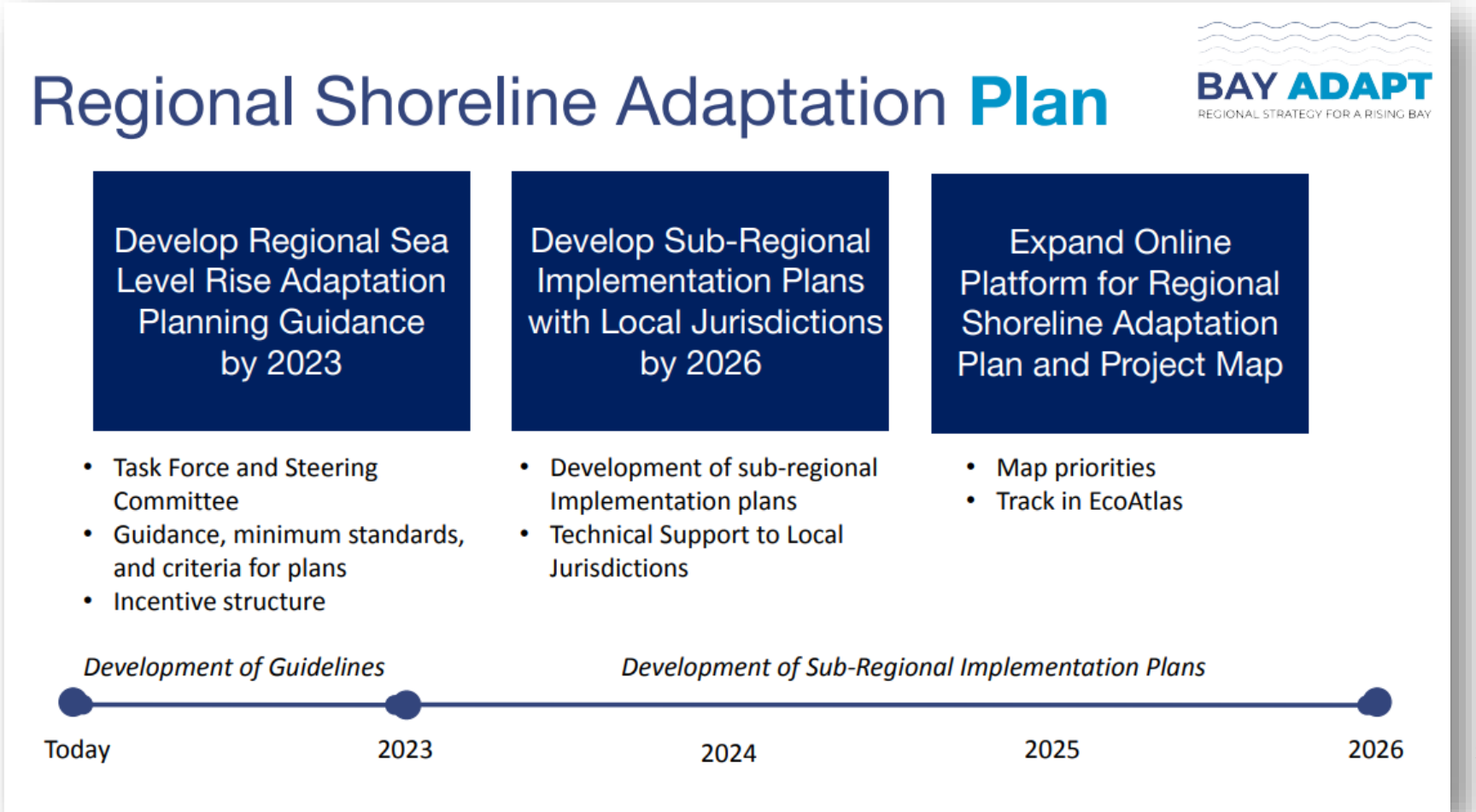


Source: SFEI, Silvestrum

- SFEI Project – *Shallow Groundwater Response to Sea Level Rise*
- Mapping "highest annual" shallow groundwater elevation
- Workshop in August 2022 – Recording Available
- **Report and data layers will be available this fall**

Resource Updates

BCDC was recently awarded $2M by the Ocean Protection Council

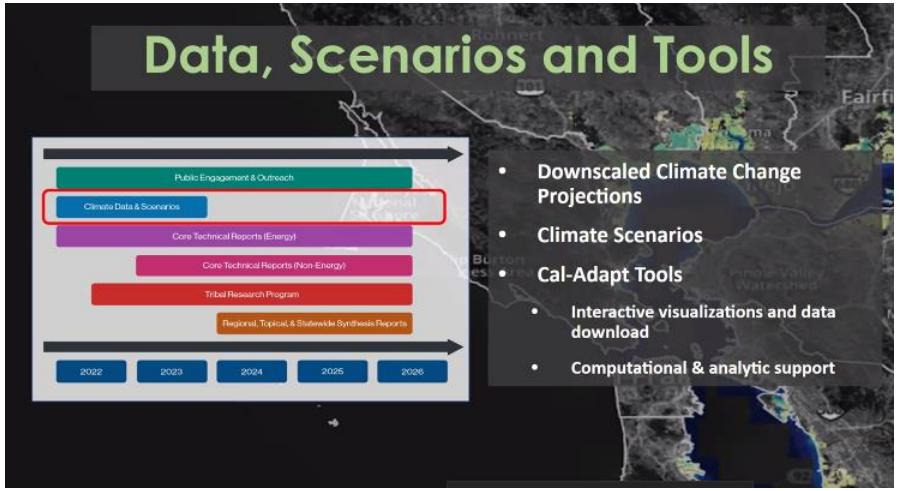


Source: BCDC

Resource Updates

Sea Level Rise Projections

OPC Sea Level Rise Projections
to be updated in 2023,
and every 5 years thereafter



Source: Governor's Office of Planning and Research (OPR)

Source: OPC

California's 5th Climate Change Assessment to assess risk and inform policy actions is just getting started

Resource Updates

Funding

- Pre-planning through design
- May not require a match

Adaptation Planning Grant Program

Adaptation Planning Grants

$25M over 3 rounds

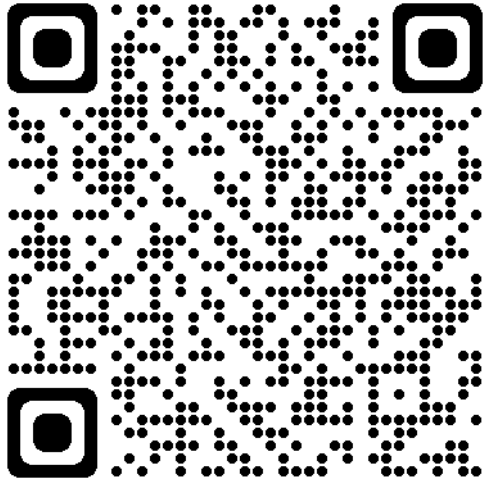
Goals:

- Fill local, regional, and Tribal planning funding needs
- Provide communities resources to identify climate resilience priorities
- Support development of pipeline of climate-resilient infrastructure projects across the state

Timeline:

- Summer 2022: guidelines development
- Fall 2022: RFP launch
- Winter 2022: awards announced

Discussion Questions



Mentimeter

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