

# Sea Level Rise Adaptation Funding and Investment Framework Introduction and Progress Update

Financing the Future  
Working Group  
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What is the  
Framework  
context?

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goals?

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Progress  
Update:  
*Inventory  
and  
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Revenue*

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Next Steps

# Sea Level Rise Adaptation Funding & Investment Framework

MTC/ ABAG and BCDC are working in partnership to develop a Sea Level Rise Adaptation Funding and Investment Framework. The Framework is integrating prior research and analysis to advance our understanding of what it will cost the region to adapt to sea level rise, and explore the most equitable means to raise new revenues to address the funding gap.

# Building on Regional Efforts

The Framework will build on major regional planning efforts.

**Bay Adapt Joint Platform**  
21 tasks to advance a regional sea level rise adaptation strategy.  
*Adopted Fall 2021*


**Plan Bay Area 2050**  
Developed 1.0 sea level rise needs and revenue assessment.  
*Adopted Fall 2021*

**Estuary Blueprint**  
Five-year roadmap with 25 actions for the SF Bay Estuary.  
*Adopted Summer 2022*

**Local Plans and Projects**  
Local efforts span vulnerability assessments to engineered projects.  
*Ongoing*

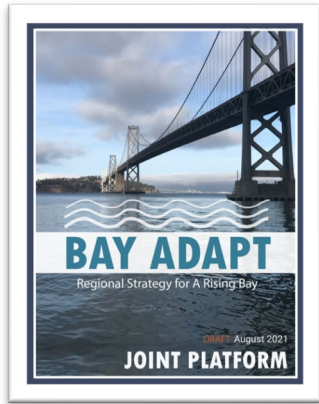
Funding information and project data from past work is flowing into the framework.

**Framework**  
Strengthen our understanding of regional sea level rise costs and explore how to raise revenue equitably to adapt.  
*Anticipated Winter 2022/ 23*

Working together to improve project data. 

**Shoreline Adaptation Project Map**  
Parallel initiative to spatially track adaptation projects and progress, utilizing the EcoAtlas platform.  
*Ongoing*

# Past Regional Efforts



Bay Adapt Joint Platform

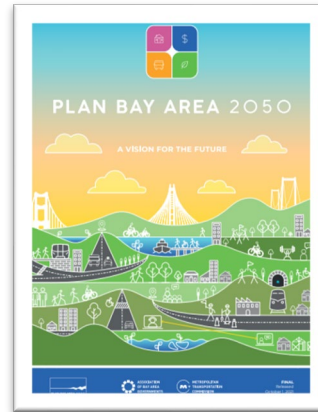
**Task 6.1**

Expand understanding of the financial costs and revenue associated with adaptation.

**Task 6.2**

Establish a framework for funding plans and projects

Many other actions...



Plan Bay Area 2050

**Strategy EN1, Action 7**

Develop a sea level rise funding plan to support the implementation of projects that reduce sea level rise risks to communities, infrastructure, and ecology, prioritizing green infrastructure wherever possible.

Many other actions...



Estuary Blueprint

**Action 3-6**

Complete a sea level rise adaptation funding and investment framework for the San Francisco Bay Area.

Many other actions...

# Informing Future Regional Efforts

The Framework will develop funding and financing analyses to inform future regional efforts.

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Funding information and project data from past work is flowing into the framework.

**Framework**  
Strengthen our understanding of regional sea level rise costs and explore how to raise revenue equitably to adapt.  
*Anticipated Winter 2022/ 23*

**SAPMAP**  
Parallel initiative to spatially track adaptation projects and progress, utilizing the EcoAtlas platform.  
*Ongoing*

Working together to improve project data. 

Revenue forecasts, the project inventory, and analysis findings will inform future work.

**Regional Shoreline Adaptation Plan**  
A multi-year process that starts with guideline development.  
*Guidelines Anticipated Winter 2023/ 24*

**Plan Bay Area 2050 Update**  
Anticipated to incorporate local sea level rise adaptation projects.  
*Anticipated 2025*

**Local Plans and Projects**  
As is helpful, we hope Framework final deliverables will support local efforts.  
*Ongoing*

**Other Initiatives**  
Products will be made available for others to build off.

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# Sea Level Rise Adaptation Funding and Investment Framework

## Goal 1

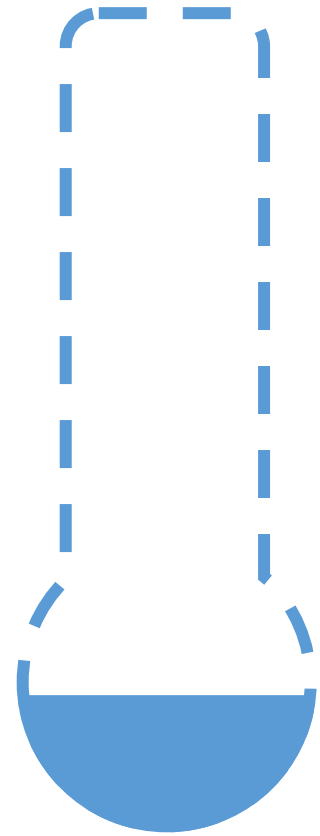
Update and improve regional accounting of anticipated sea level rise adaptation projects.

### Background

Plan Bay Area 2050 estimated \$19 billion in estimated need to protect most communities from projected inundation by 2050, but only \$3 billion in anticipated revenues from existing local, state, and federal funding sources. The prior analysis only considered need up to two feet of sea level rise.

### Funding and Investment Framework Outcomes

Work with local governments and partners to update prior regional analysis with local projects and strategies from recent planning efforts. Inventory new state and federal funding programs. Information will be used for Framework directly, local government planning, and regional advocacy.



*How much does the region need to fund a daptation?*

*How much revenue from existing sources can be anticipated?*



# Sea Level Rise Adaptation Funding and Investment Framework

## Goal 2

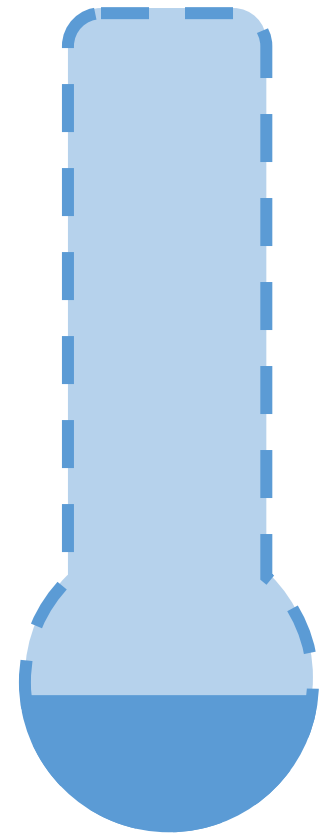
Study how revenues for sea level rise adaptation needs can be raised most equitably.

### Background

Many recent regional efforts have catalogued possible funding and financing tools for adaptation, including the Resilient by Design Finance Guide, the Resource Legacy Fund’s Proposed Funding Pathways for Adaptation to Climate Change in California, and BCDC’s Adapting to Rising Tides. However, there is no applied Bay Area analysis of the funding sources.

### Funding and Investment Framework Outcomes

Analyze a range of potential revenue measures at different scales, as well as for different levels of sea level rise, to close the sea level rise funding gap. Staff will work with stakeholders to visualize equity outcomes for different revenue approaches, sharing with Equity Priority Communities, local staff, regional agency committees and boards, and others.



*How can revenue be raised equitably to fund the gap?*

# Sea Level Rise Adaptation Funding and Investment Framework

## Goal 3

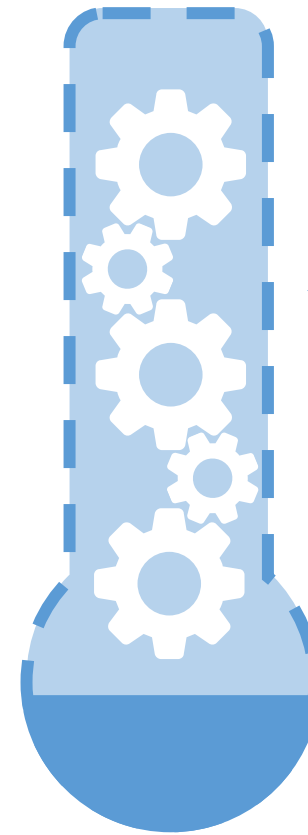
Explore how existing and future funding mechanisms can advance adaptation planning and implementation.

### Background

The Bay Adapt Joint Platform identified a need to determine a funding framework to support adaptation plans and projects, including potentially using evaluation or prioritization.

### Funding and Investment Framework Outcomes

Starting with the review of local and regional funding mechanisms for sea level rise projects, identify the gaps and opportunities of each mechanism to develop regional recommendations, which may be used to inform future advocacy on new revenues.



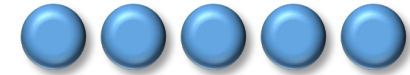
*What are possible  
mechanics to  
disburse funds for  
adaptation?*

# Project Progress To-Date

Staff initially focused on the data-intensive tasks, and we are now shifting to prepare for further analysis and outreach. Progress on staff work below is grouped by goal.

## Goal 1

Map locally identified adaptation projects.

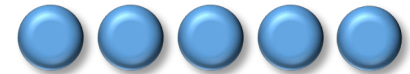


Review maps with local government staff.



## Goal 2

Set sea level rise and parcel data assumptions.

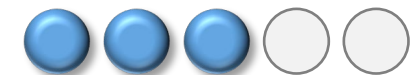


Perform funding analysis for possible revenue sources.



## Goal 3

Review existing state and federal funding mechanisms.



Host workshop on mechanisms for future funding.



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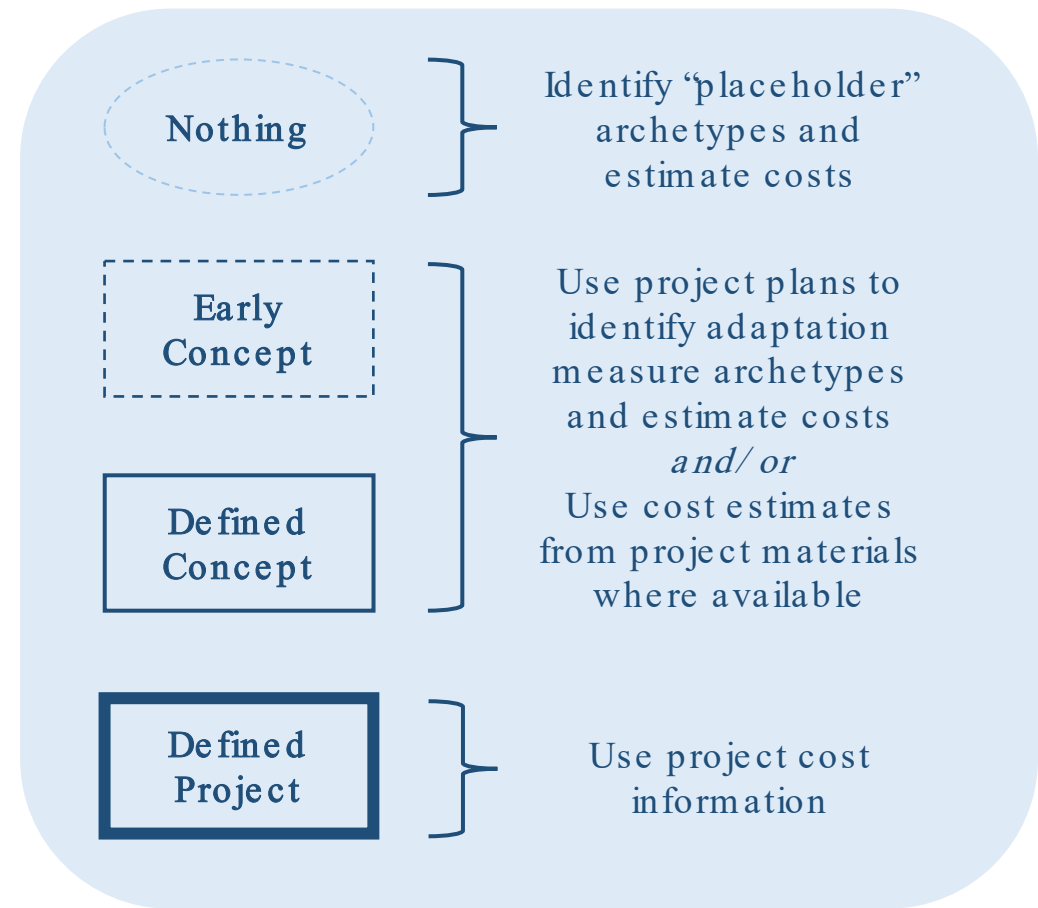
Next Steps

# Shoreline Adaptation Plans and Projects

## Status

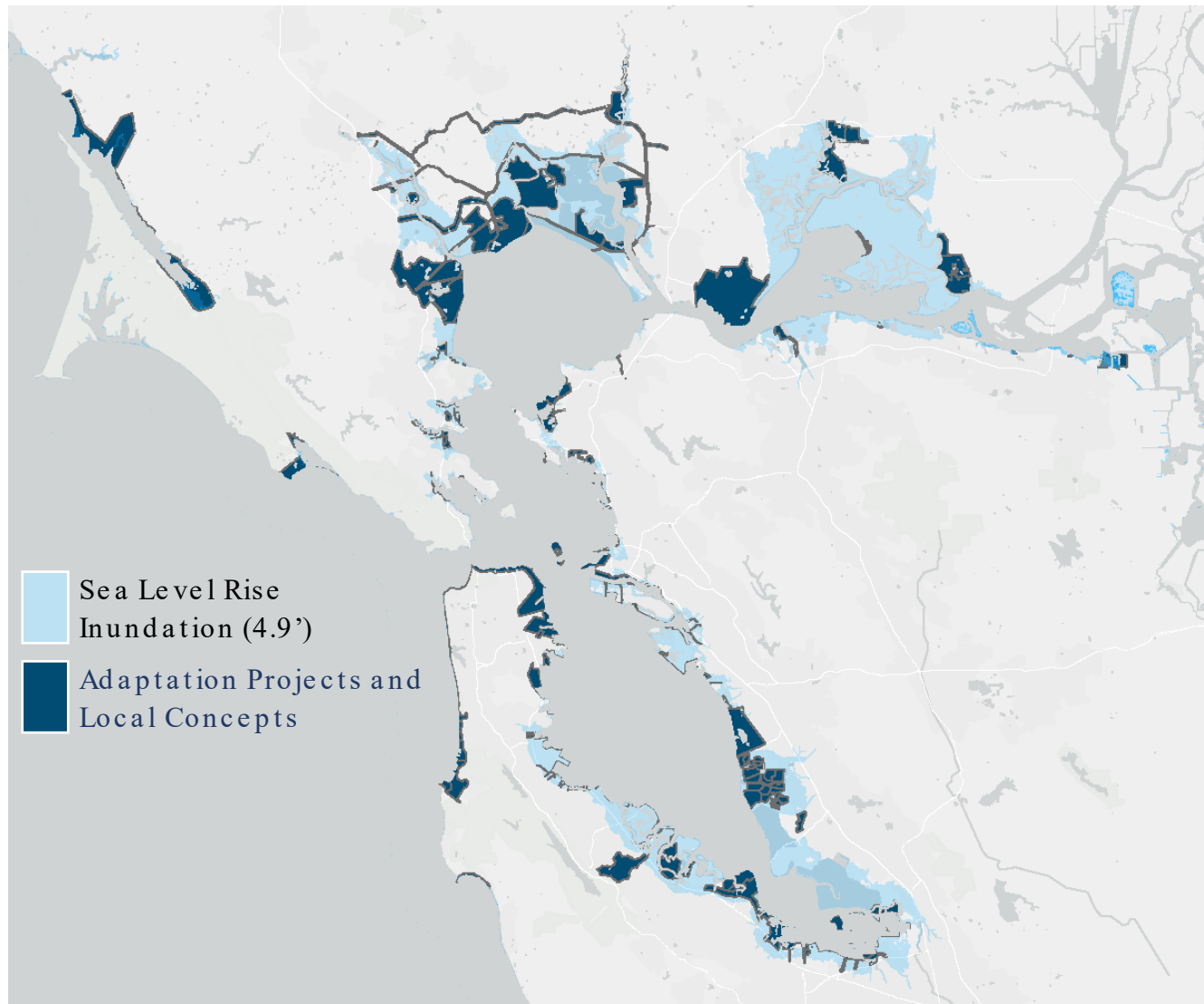
- ● ● ● ● 1. **Identify** all projects and project concepts for the Bay, Outer Coast, and Delta
- ● ● ● ● 2. **Map** all projects.
- ● ● ● ● 3. **Collect** attribute information about projects, including planning/ implementation phase, type, and cost, where available.
- ● ○ ○ ○ 4. *Verify with local government staff.*
- ● ○ ○ ○ 5. *Estimate costs to projects, concepts, and placeholders.*

Current Efforts



*Additional context for Step 3*

# Creating the Local Shoreline Project Inventory



## Context

The local shoreline project inventory was developed in unison with the BCDC Shoreline Adaptation Project Mapping Program (SAPMAP) to identify locally-developed adaptation projects in various planning stages. The inventory:

- Identifies and organizes local adaptation plans and projects,
- Calculates a regional cost estimate for shoreline adaptation, when combined with cost estimate assumptions,
- Detects areas with no known projects that would benefit capacity building and adaptation planning grants.

400 +

project sites

150 +

project sites  
protective to 4.9'

~50,000

acres of marsh  
restoration with  
adaptation benefits

# Reviewing the Local Shoreline Project Inventory



## Local Outreach (*Early September– Late October*)

We introduced the Framework in a set of regional meetings and are now meeting with small groups of local staff. To review locally developed adaptation projects.

The **outreach goals** are:

- Share an overview of the Framework goals and anticipated outcomes.
- Confirm and/ or improve the accuracy of local shoreline project definitions.
- Discuss complementary regional sea level rise efforts.

Confirming the accuracy of the inventory will be helpful not just for the Framework, but also for future efforts: the local shoreline project inventory will be made available as a resource for future local and regional efforts.

A second round of local outreach will occur in late fall to review draft Framework products and next steps.

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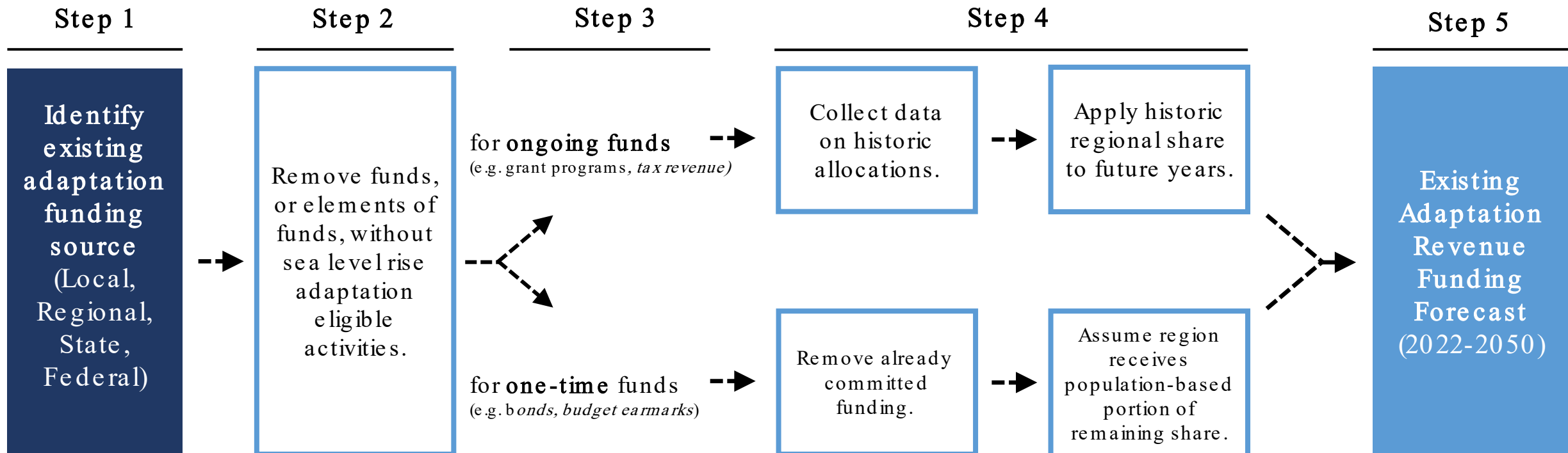
Next Steps



# Draft Existing Adaptation Revenue Forecast

## Adding New Adaptation Investments to the Revenue Forecast

Building on Plan Bay Area 2050, the Framework is updating our estimate of **how much revenue from existing sources the region can anticipate through 2050**. Staff used 5 steps to identify, process, and forecast existing revenue sources. In addition to updating ongoing grant programs, over 30 new adaptation grant programs were assessed.



# Draft Existing Adaptation Revenue Forecast

Existing Revenue Source	Available Revenue Estimate (\$ millions)	Bay Area Sea Level Rise Revenue Estimate (\$ millions)
'21 & '22 State Budgets <sup>A</sup>	\$2,900	\$300
Infrastructure Investment and Jobs Act (IIJA) <sup>A</sup>	\$5,500	\$100
Inflation Reduction Act (IRA) <sup>A</sup>	\$6,250	\$20
Other Local, Regional, State, and Federal Funding Sources		\$5,000
<b>Draft Total</b>		<b>\$5,420</b>

<sup>A</sup> One-time funds.

## Filtering Adaptation Revenue for the Bay Area

Despite the recent influx of new state and federal funding, only a small share of new funds is anticipated for Bay Area sea level rise adaptation. **More funding will be needed to complement near-term funding, and to support sea level rise adaptation in the years ahead.**

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# Sea Level Rise Adaptation Funding and Investment Framework

## Upcoming Steps:

- **Late October 2022:** Complete first round of local outreach and integrate local feedback into the local shoreline project inventory
- **Late October 2022:** Refine draft forecast of existing adaptation revenues
- **November - December 2022:** Study and analyze equity tradeoffs of different possible adaptation funding measures at the local and regional scales

Winter 2023: Final presentations on the Framework to **BCDC's Financing the Future** working group, the **BARC Governing Board**, and the **Joint MTC Planning and ABAG Administrative Committee**.

# Discussion

## How can the framework be improved?:

- **Missing Pieces:** What information is the Framework missing? What is not highlighted enough?
- **Communication:** How do we communicate this analysis better?

## How can the framework be used?:

- **Using the Framework:** What do we do with this information? How do we use it on a local level or public context?
- **Next Steps:** How can the framework inform other efforts? What are the next steps?



# Questions?

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