

A satellite-style aerial photograph of the San Francisco Bay Area. The image shows the dark blue waters of the bay on the left, transitioning into green and brownish-yellow inland areas. The terrain is rugged with visible ridges and valleys. Urban areas are shown as dense grids of light-colored buildings. The overall scene is a mix of natural and developed landscapes.

Regional Shoreline Adaptation Plan

An implementing project of **BAY ADAPT**

HOW WILL DATA AND TOOLS SUPPORT THE RSAP?

Public Event #1, October 26th 2023

How do **Data and Tools** inform the RSAP?

Regional
Vision

Topic
Areas

Sub-
regional
Plan
Guidelines

Subregion
al Plans

Success
Measures

- What are we considering as coastal hazards in the RSAP?
- What topic area assets are at risk from those hazards?
- What are the RSAP guidelines and WHERE do they apply?
- What data or tools are necessary for the creation of Subregional Adaptation Plans?
- What data should be used to measure & track progress?

REGIONAL SHORELINE ADAPTATION PLAN COMPONENTS



What is the **Online Mapping Platform?**

- Provide access to and visualization of data necessary to develop Subregional Adaptation Plans
- Support submission and evaluation of Subregional Adaptation Plans
- Communicate regional progress towards adaptation goals



Who are the **audiences** for the Online Mapping Platform?

- Planning Practitioners
- Community Based Organizations
- Regional Agency Staff
- General Public



What can the Online Mapping Platform **build from**?

<https://explorer.adaptingtorisingtides.org/home>



Adapting to Rising Tides Bay Shoreline Flood Explorer

The Adapting to Rising Tides program has developed tools for communities to prepare for the impacts of current and future sea level rise and storm surge by learning about causes of risk along our shoreline, and downloading the data to increase understanding of what could be at risk, and helping Bay communities, governments, and businesses plan for the future.



LEARN **EXPLORE** **DOWNLOAD**

Community Vulnerability + CBO Directory Map

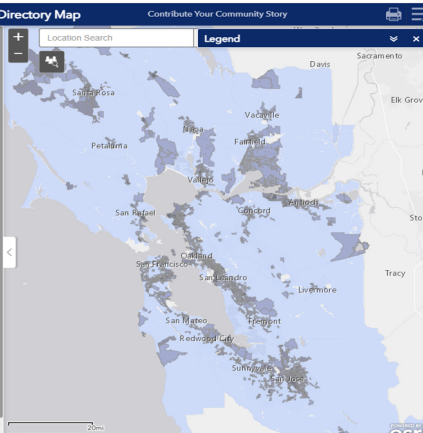
Contribute Your Community Story

Lets Get Started!

Before using this tool, please review the [Community Engagement Best Practices Guide](#).

- Use "Location Search" to find your community or project area.
- Click the map to see social and contamination vulnerability characteristics of a census block group.
- Click  (located under the search bar), select the "Draw Mode", and place a point on the map to find community organizations working in this area.
- Click "Report" and expand the list by clicking the "+" to view CBOs or community characteristics in the search area.
- You can use the "Print" button to create a pdf or  to download as a CSV.
- To find organizations in another area, go back and click "Start Over". Repeat the steps above.

Additional resources include the [BCCDC Environmental Justice and Social Equity Bay Area Policies, Community Vulnerability Mapping Methods, and Data Download](#)



<https://resilienceatlas.sfei.org/>

RESILIENCE ATLAS

go to the map

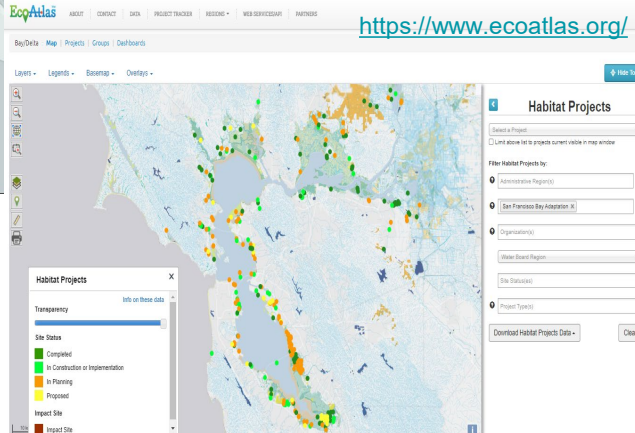


<https://www.ecoatlas.org/>

Habitat Projects

Filter Habitat Projects by:

- Administrative Region:
- Organization:
- Water Board Region:
- Site Status:
- Project Type:



Discussion and Questions 2

- What type of technical assistance would be most useful to you in developing effective shoreline adaptation plans?
- What are the key functionalities of a mapping platform that will be of greatest use to you?
- What types of data would you like to see in the online mapping platform?
- <https://forms.gle/9axcx9XvsMoWVmPt9>



PROJECT TIMELINE



How will **flood hazards** be used?

Flooding hazards and their impacts are the main driver of *why we need a regional shoreline adaptation plan* - it sets the **basis and context for the problem**.

What Do we Mean by “Flood Hazards”:

- **Hazard Type** (e.g., SLR, Extreme Tides, Storms, Shallow Groundwater, etc.)
- **Flood model/Data Layer** (e.g., ART, OCOF, etc.)
- **Future Projections (Time Horizons and Water Levels)** (e.g., OPC)
- **Analysis of Hazard Impacts on Assets** (e.g., ART Bay Area, etc.)

Decisions we make on flood hazard assumptions can help us:

- Summarize Existing Data.** Organize existing data and/or analysis in ways that can be summarized and shared
- Conduct New Analysis.** Fill in knowledge gaps about topic area vulnerability or create data consistency, where needed
- Determine if/where Guidelines Apply.** Support where guidelines may apply based on spatial extent of hazard(s)
- Evaluate Compliance with Guidelines.** Require certain hazard layers be used in subregional plans (if necessary) and/or how subregional plans reduce flood risk
- Tracking Metrics of Success.** Support how we track and share progress towards a regional vision of success

Flood hazards the RSAP will address

	SLR + Extreme Tides	Ground- water Rise	Sub- sidence	Shoreline/ Marsh Erosion	Com- pound Flooding (Fluvial/ Tidal)	Wave Runup	Tsunami	Liquefac- tion/ Lateral Spread	Precipit- ation/FI uvial Flooding	Levee Failure	FEMA base flood elevatio- n	Air Quality
<i>Regional Vulnerability Assessment, RSAP Spatial Guidelines, Online Mapping Platform, Tracking Metrics</i>	x	x										
<i>Subregional Vulnerability Assessment, Subregional Adaptation Plans, Subregional Plan Evaluation</i>	x	x	x	o	o	o						
<i>Other Plans (e.g. Hazard Mitigation Plans)</i>							x	x	o	o	x	
<i>Future Research</i>	x	x	x	o	o	o						
<i>Other Hazards of Concern</i>												x

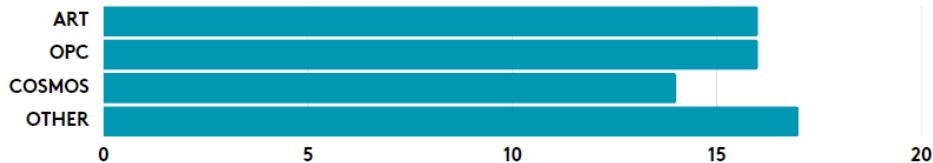
x = regional data available; o = local data/no data

Sources of flood hazard data

- **Adapting to Rising Tides**
 - SLR/Extreme Tide flood maps
 - <https://explorer.adaptingtorisingtides.org/home>

- **USGS COSMOS**
 - Shallow Groundwater Rise depth to water maps
 - <https://ourcoastourfuture.org/hazard-map/>

SLR DATA SOURCES USED IN DOCUMENTS REVIEWED:

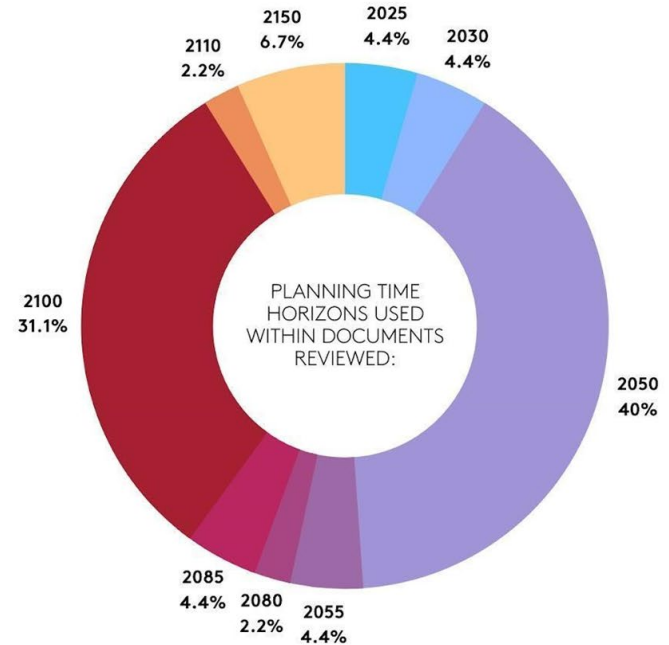


Planning Horizons relevant to RSAP

Short term: Now to 2050

Medium term: 2050 - 2100

Long term: 2100 - 2150



EcoAtlas Landscape Profile Tool

EcoAtlas ABOUT CONTACT DATA PROJECT TRACKER REGIONS WEB SERVICES/API PARTNERS

Bay/Delta Map Projects Groups Dashboards

Layers Legends Basemap Overlays

Landscape Profile

County: Alameda [Print Report](#)

Total Profile Area: 525,339 acres or 821 miles²

Abundance and Diversity of Existing Aquatic Resources based on California Aquatic Resource Inventory (CARI)

Marine and Estuarine Resources: 69,992 acres / 109 mi²

- Subtidal Water (40,943 acres)
- Pond (13,583 acres)
- Tidal Flat and Marsh Panne (9,008 acres)
- Tidal Marsh (5,175 acres)
- Eelgrass (620 acres)
- Beach (63.3 acres)
- Forested Tidal Wetland (0.310 acres)

Palustrine Resources: 13,402 acres / 20.9 mi²

- Lake, Reservoir and associated vegetation (4,305 acres)
- Vernal Pool (3,261 acres)
- Playa (2,657 acres)
- Pond and associated vegetation (2,555 acres)
- Fluvial Channel (412 acres)
- Riverine Vegetated (150 acres)
- Slope and Seep Wetlands (61.8 acres)

*based on CPAD/CCED

Wetland Type	Area (acres)	% area	% protected*
Subtidal Water	40,943	7.8%	4.4%
Pond	13,583	2.6%	77.0%
Tidal Flat and Marsh Panne	9,008	1.8%	42.8%
Tidal Marsh	5,175	0.00%	84.8%

Landscape Profiles

Select Profile Mode

Watershed Profile



Landscape Profile

Information on the aquatic resources, terrestrial habitats, habitat restoration projects, species of special status, land cover, and human population for the profiled area.



Condition Profile

Ecological condition based on the California Rapid Assessment Method (CRAM) and California Stream Condition Index (CSCI) for the profiled area.



Connectivity Profile

Patch size distribution and nearest neighbor distance for different wetland types based on the California Aquatic Resource Inventory (CARI) for the profiled area.



Coastal Habitat Profile

Baseline of coastal habitats used to track progress towards multiple targets identified in the Ocean Protection Council's Strategic Plan to protect California's coast and ocean.



One Water Watershed Profile

Progress of Valley Water's five objectives for long range integrated water resource planning on a watershed scale in Santa Clara County and its five major watershed areas.

[Continue to Define Region](#)

EcoAtlas Shoreline Adaptation Project Map (SAPMap)



San Francisco Bay Adaptation

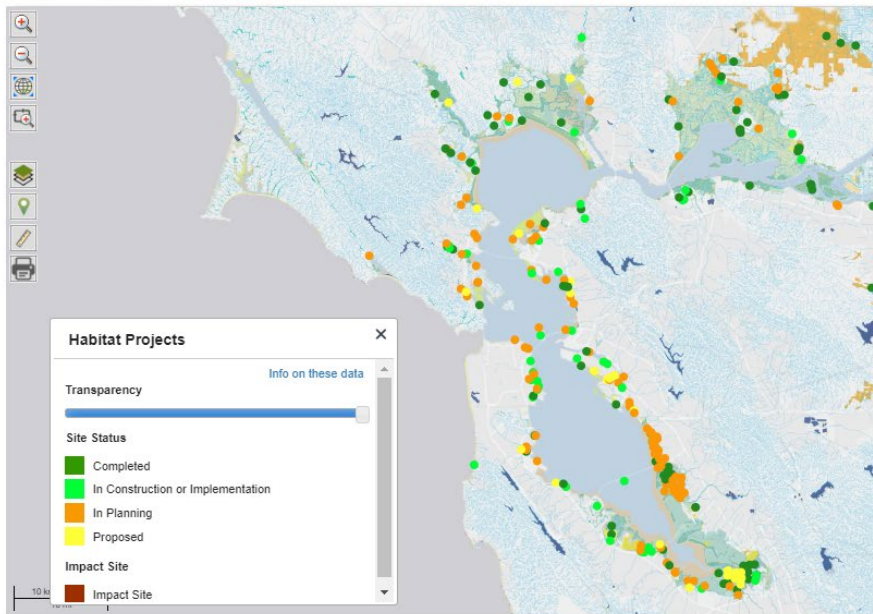
Description	Projects containing sea level rise adaptation features that contribute to the resilience of the San Francisco Bay region. Adaptation refers to specific interventions or ways to manage the shoreline, flooding, and sea level rise. These may include grey infrastructure, grey-green hybrid projects, and green/restoration projects that include sea level rise adaptation design elements.	
Organization	Metropolitan Transportation Commission, San Francisco Bay Conservation and Development Commission	Number of Projects 221
Mapped Projects	https://ecoatlas.org/regions/group/303	



ABOUT CONTACT DATA PROJECT TRACKER REGIONS WEB SERVICES/API PARTNERS

Bay/Delta **Map** | Projects | Groups | Dashboards

Layers Legend Basemap Overlays



Habitat Projects

Habitat Project Name	Status	County	Total Acres
Liberty Island Tidal Habitat Restoration Map	In-progress	Solano, Yolo	9,500
Novato Baylands Map	Planning	Marin	8,908
Skaggs Island and Haire Ranch Restoration Map	Completed	Sonoma	4,968
Briones Valley (Cowell Ranch) Map	Completed	Contra Costa	3,650
South San Francisco Bay Shoreline Project Map	In-progress	Santa Clara	3,017
Bel Marin Keys V Wetlands Restoration Map	Proposed	Marin	2,426
Dutch Slough Tidal Marsh Restoration Project Map	Completed	Contra Costa	2,365
Lower Elkhorn Basin Levee Setback Project Map	Completed	Contra Costa	2,207
Liberty Farms Wetland Restoration Map	Completed	Solano	2,197
Cosumnes Floodplain Acquisition and Restoration	Completed	Sacramento	2,195
South Bay Salt Ponds: Alviso - Ponds A9, A10, A11, A12, A13, A14, A15 Map	Proposed	Santa Clara	2,093
Grizzly Island Wildlife Area Wetland Enhancement	Completed	Solano	1,740