

Adapting to Rising Tides East Contra Costa County

BCDC Commission Meeting
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DSC and BCDC Coordination



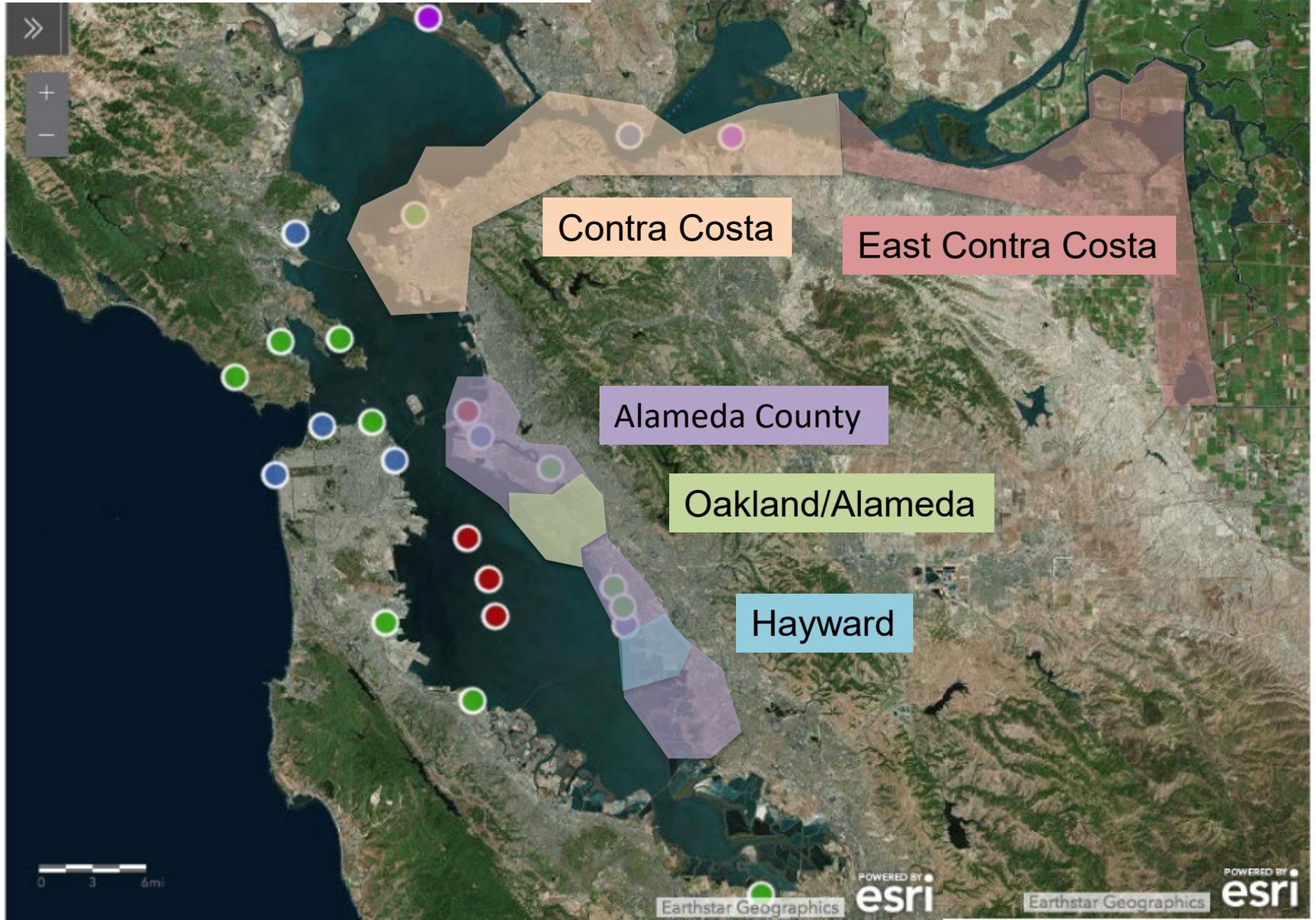
- MOU
- Improve coordination in Suisun Marsh
- Establish cohesive sea level rise policies and planning across entire Bay-Delta Estuary
 - East Contra Costa County Adapting to Rising Tides
 - DSC's Climate Change Vulnerability Assessment and Adaptation Strategy
- Both agencies participate in regional working groups
- Sharing lessons learned from ART with DSC

Objectives

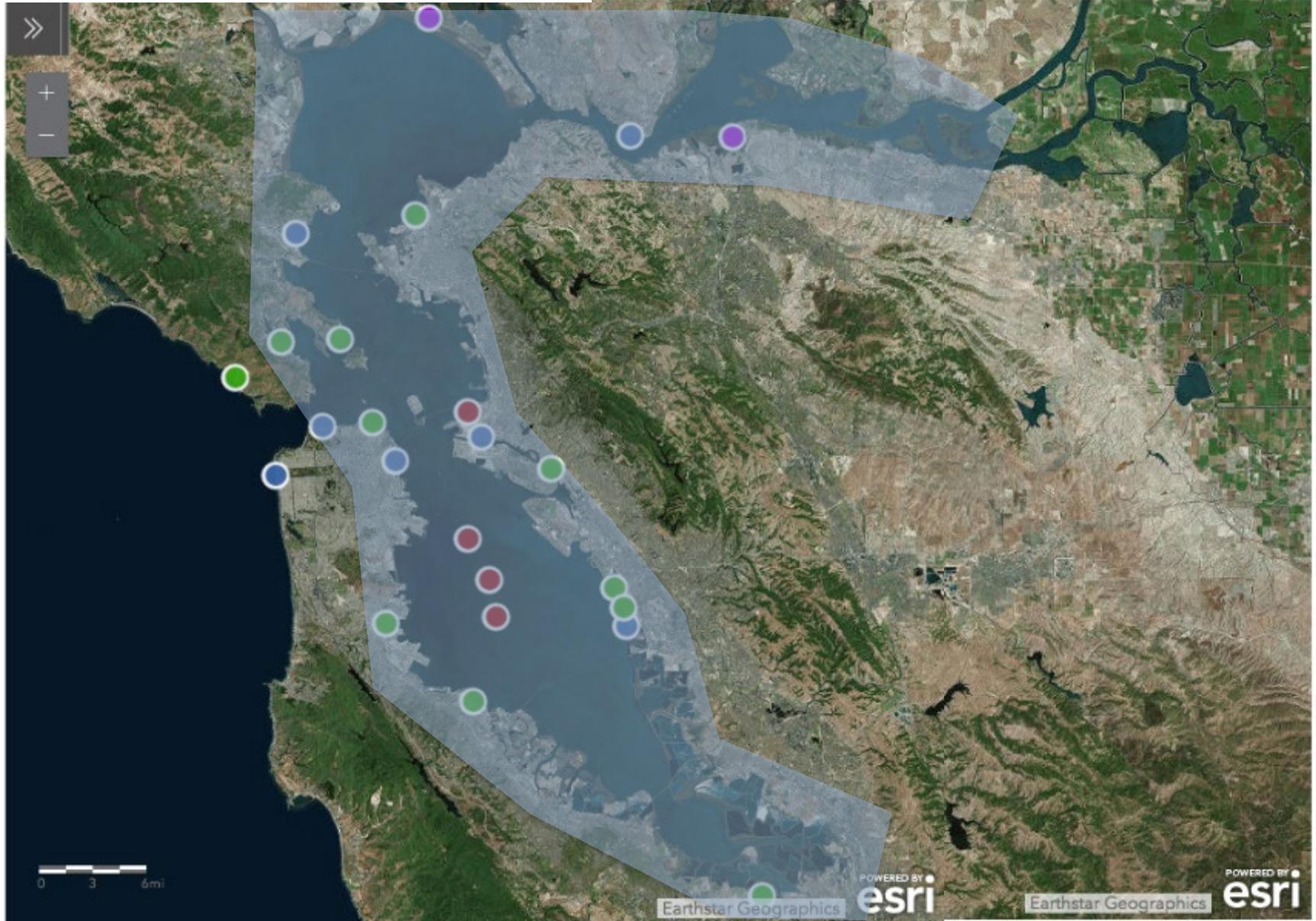
Leave with:

- ✓ Understanding of East Contra Costa
- ✓ What is at risk
- ✓ Potential adaptation solutions
- ✓ Potential implementation options

ART's Work, Region Wide



ART Bay Area



ART East Contra Costa (ECC) County



- Complete a sea level rise and flooding vulnerability assessment to inform adaptation strategies
- Coordinate with partners: Delta Stewardship Council, Contra Costa County, and others
- Collaborative stakeholder-driven planning process
- Inform parallel processes, including ART West Contra Costa County, ART Bay Area and the Delta Climate Change Vulnerability Assessment and Adaptation Strategy



Project Objectives



- Modeling and mapping of current and future flooding
- Assessments of multiple assets at the sector, system, individual asset and component scale
- Consequences of the failure or disruption of the assets and systems assessed
- Adaptation responses that include specific actions and lead agencies
- Strong collaboration among working group members throughout the area



Working Group



- Actively participates
- Attends project meetings
- Provides local data and knowledge
- Gives feedback and ground-truths work
- Communicates project to their own stakeholders

Members:

- **County Agencies**
- **Cities**
- **Representative of elected officials**
- **Regional Agencies**
- **State and Federal Agencies**
- **Private Entities and NGOs**



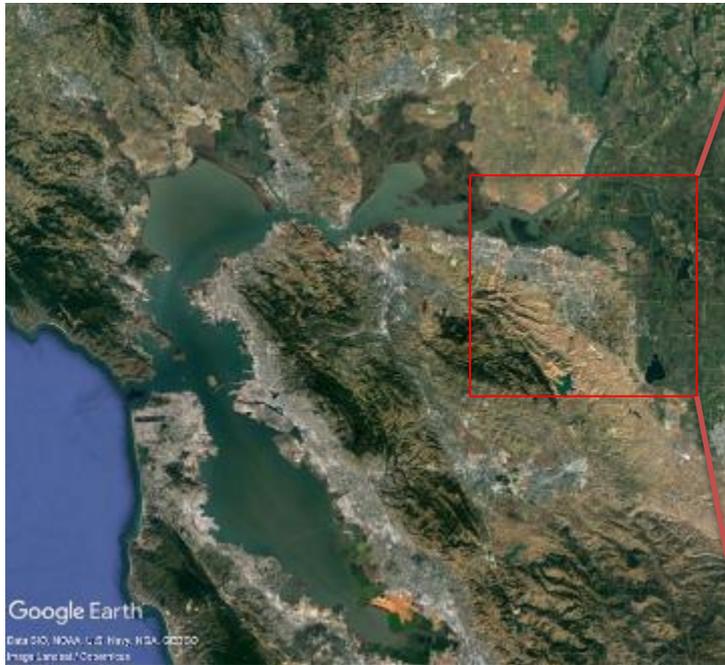
ART Planning Process



Adapting to Rising Tides Planning Process



Project Area



Sectors Analyzed



- Agriculture
- Business and Industry
- Community Engagement
- Critical Facilities and Services
- Delta Islands
- Energy
- Natural Lands & Outdoor Recreation
- People
- Stormwater and Flood Control
- Transportation
- Water
- Wastewater

OPC Coastal Sea Level Rise Scenarios



Year	Range (Low risk – extreme risk scenario)	50% Probability SLR Meets or Exceeds:
2030	6" – 12"	5"
2040	6" – 22"	7"
2050	7" – 32"	11"
2060	7" – 47"	12" – 13"
2070	9" – 62"	13" – 17"
2080	11" – 79"	16" – 20"
2090	12" – 99"	17" – 25"
2100	12" – 122"	19" – 30"

Source: Ocean Protection Council, 2018

SLR Scenarios Used



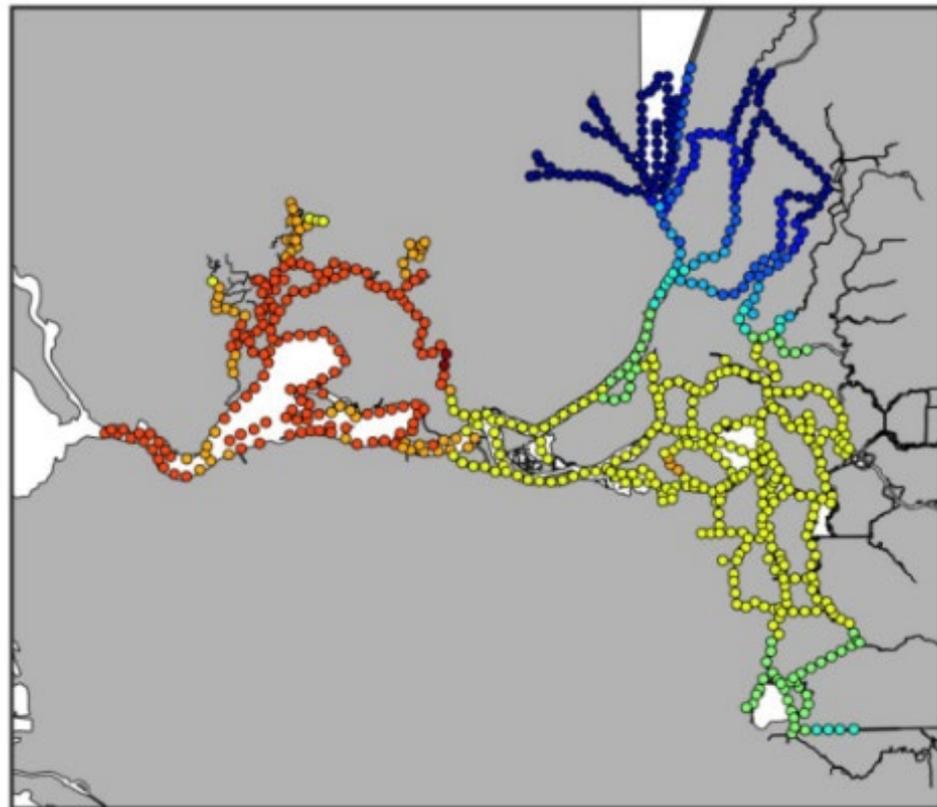
SLR Scenario	SLR + 100-year storm scenario
0"	0" + 100-year storm
12"	12" + 100-year storm
24"	24" + 100-year storm
36"	36" + 100-year storm
103"	103" + 100-year storm

Difference in Maximum Water Level for 12" of SLR



The Delta doesn't have the same rate of SLR as the Bay—this is why we needed another flood model for ECC

Not 1:1 rise from the Bay to the Delta





Adapting to Rising Tides East Contra Costa Shoreline Flood Explorer

The Adapting to Rising Tides program has developed this website to help Delta communities prepare for the impacts of current and future flooding due to sea level rise and storm events. You can learn about causes of flooding, explore maps of flood risk along our shoreline, and download data for further analysis. These maps increase understanding of what could be at risk without future planning and adaptation, helping Delta communities, governments, and businesses to drive action.

- [LEARN](#)
- [EXPLORE](#)
- [DOWNLOAD](#)
- [ABOUT](#)



The ART East Contra Costa Shoreline Flood Explorer is part of the San Francisco Bay Conservation and Development Commission's Adapting to Rising Tides Program.
[Disclaimer](#) | [Accessibility](#)

Location Search

Enter address or location

FLOODING SCENARIOS ?

Turn On 100-Year Storm Event

24" Sea Level Rise Only

Flooding on map represents MHHW plus sea level rise amount selected. Turn on 100-year storm event using above button to see combined flooding scenario. Areas beyond the border of Contra Costa county have not been mapped but may still experience flood risk. The 100-year storm event reflected in these maps is not equivalent to the FEMA 100-year flood hazard zone.

LEGEND

Toggle layers on/off and control transparency below. Use Slider at left to control Total Water Level displayed.

Depth of Flooding ?

Transparency:

- 12+ feet
- 10 - 12 feet
- 8 - 10 feet
- 6 - 8 feet
- 4 - 6 feet
- 2 - 4 feet
- 0 - 2 feet

Flooding due to sea level rise, coastal, and riverine processes, or other sources, such as local precipitation, stormwater sources and levee failure, is possible in areas outside of those predicted in these maps. [Learn More.](#)

Shoreline Overtopping ?

Transparency:

- Overtopping
- No Overtopping

Low-lying Areas ?

Transparency:

- Low-lying Area

Contra Costa County

Shoreline Overtopping identifies low spots on shoreline that can lead to inland flooding

MHHW + 24" SLR
Flooding due to sea-level rise alone. To toggle a 100-year storm event, use button on top-right of the application.

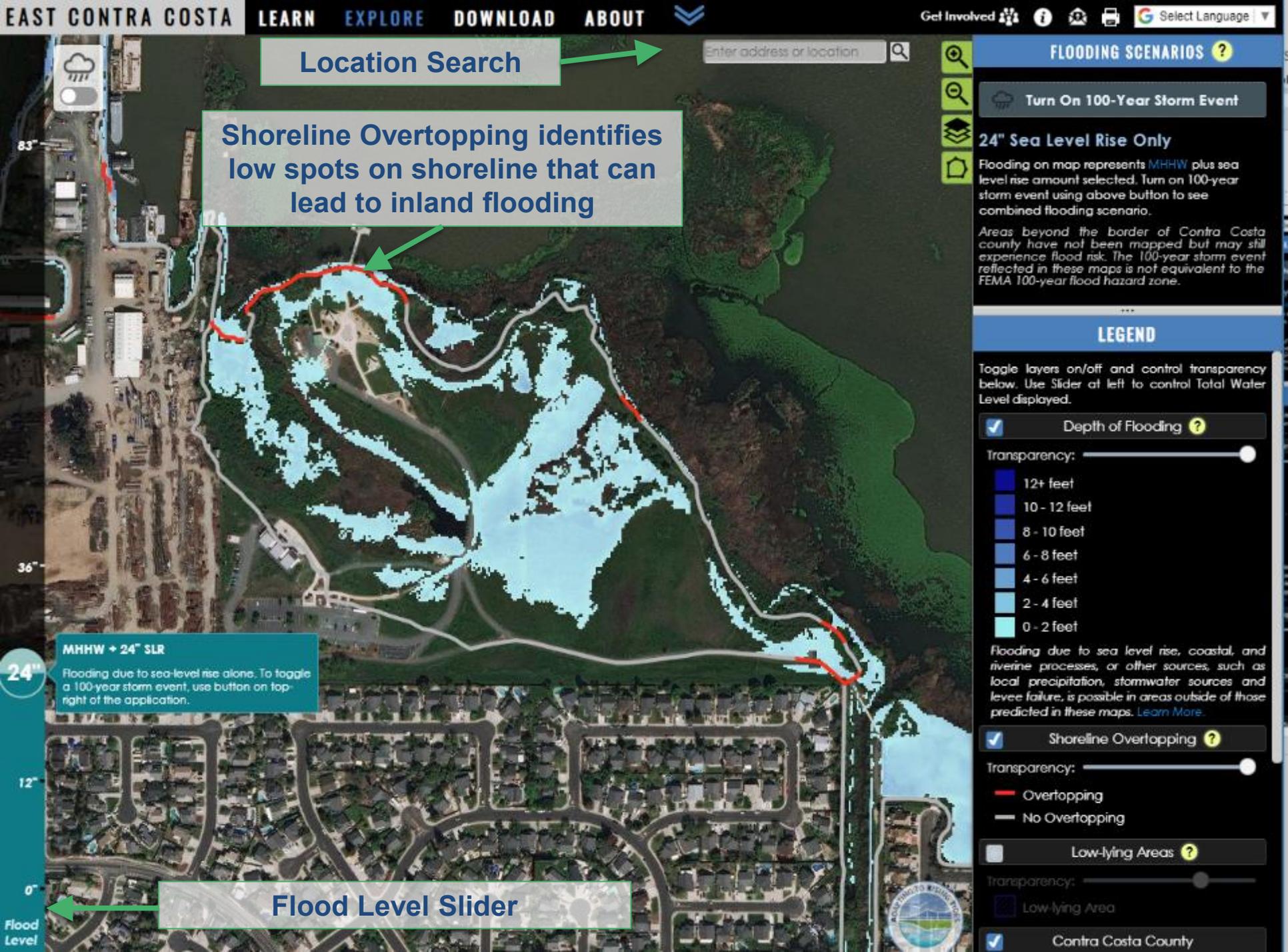
24"

12"

0"

Flood Level

Flood Level Slider

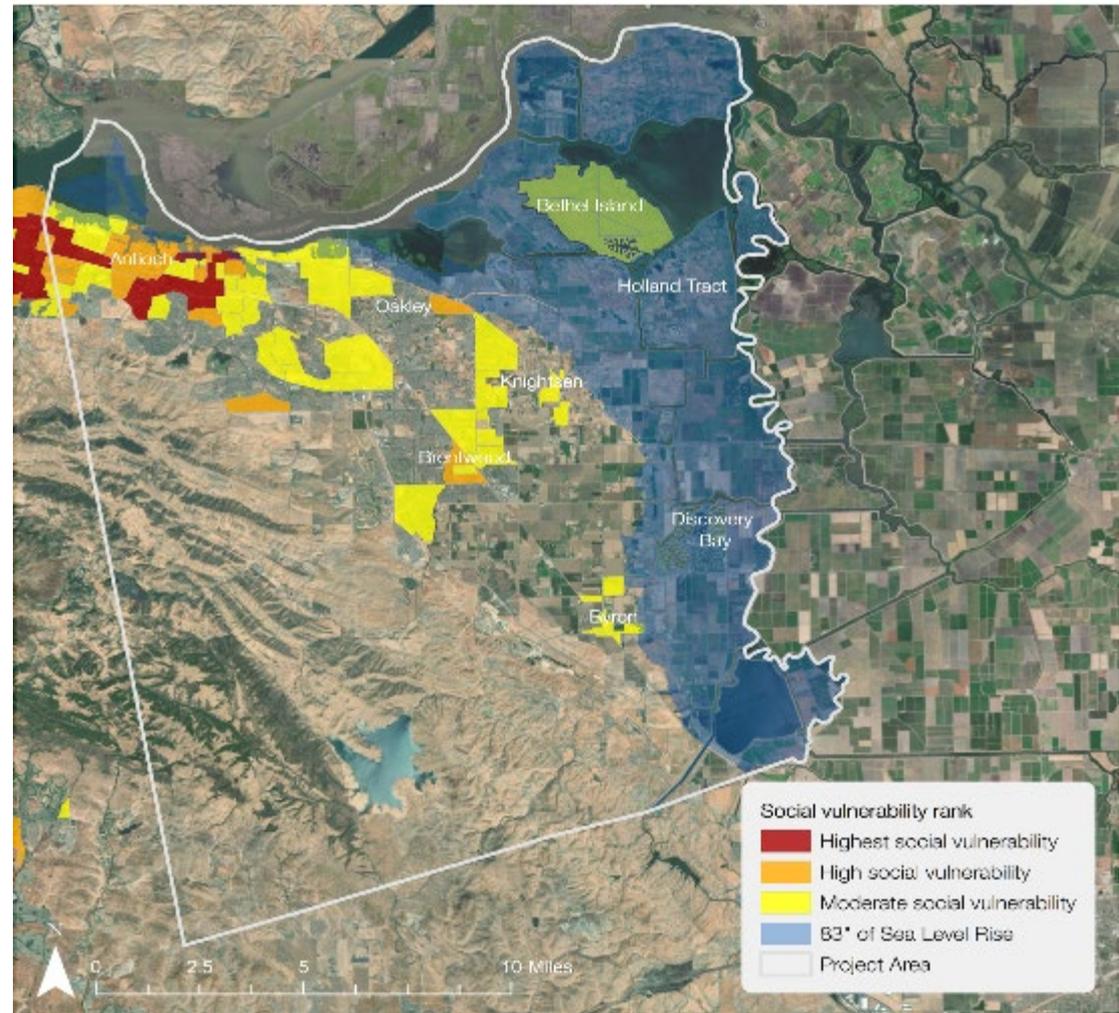


KEY PLANNING ISSUES

1. Shoreline Industries



2. Vulnerable Communities



3. Access to Services



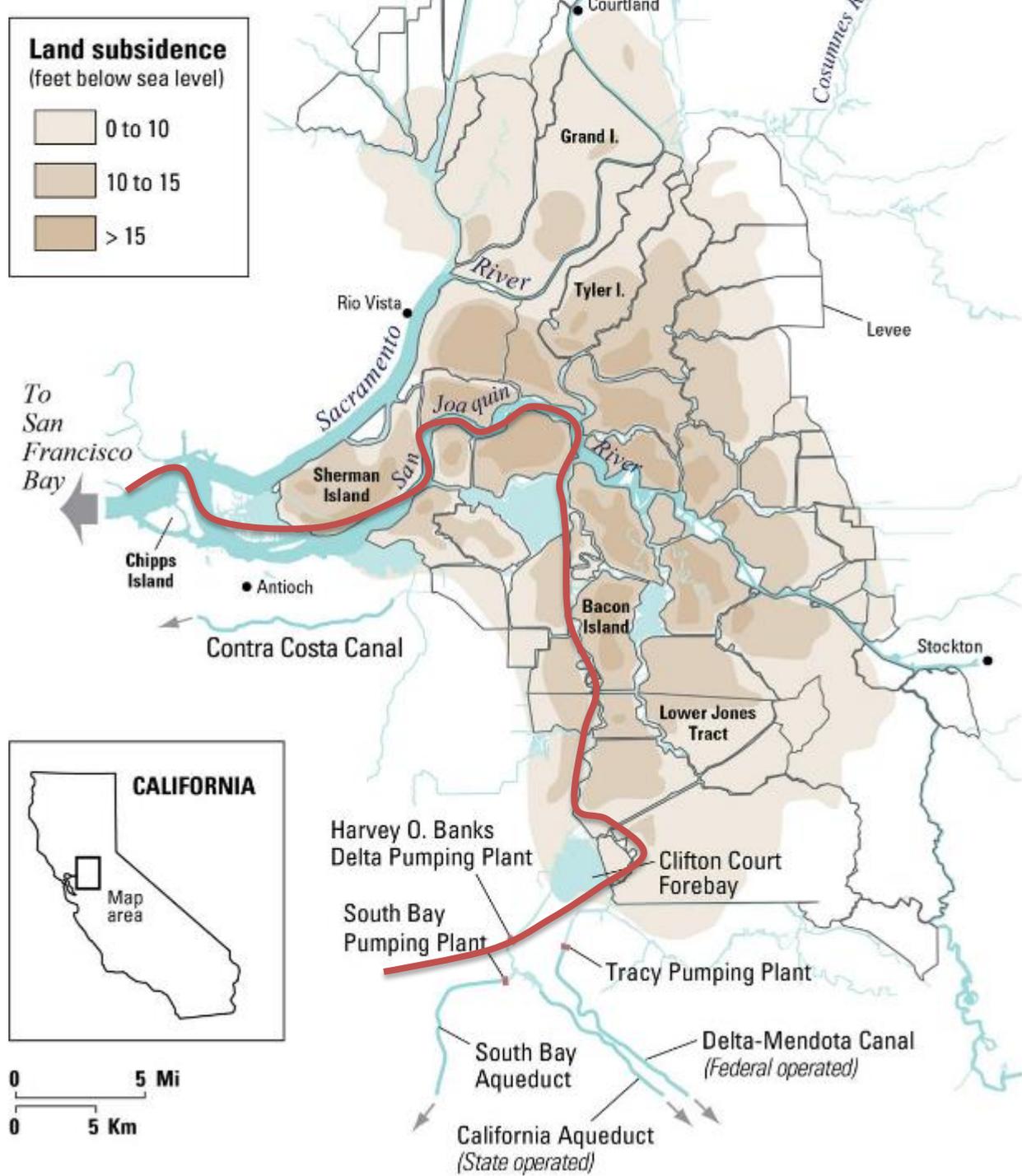
4. Ad-Hoc Flood Protection



5. Parks and Open Space



6. Levees, Reclamation & Subsidence



7. Worsening Water Quality

Saltwater Intrusion

Sea Level Rise and Overdrawing Can Contaminate Well Water

Typical Well

Sea Level Rise

Overdrawing



ADAPTATION RESPONSES



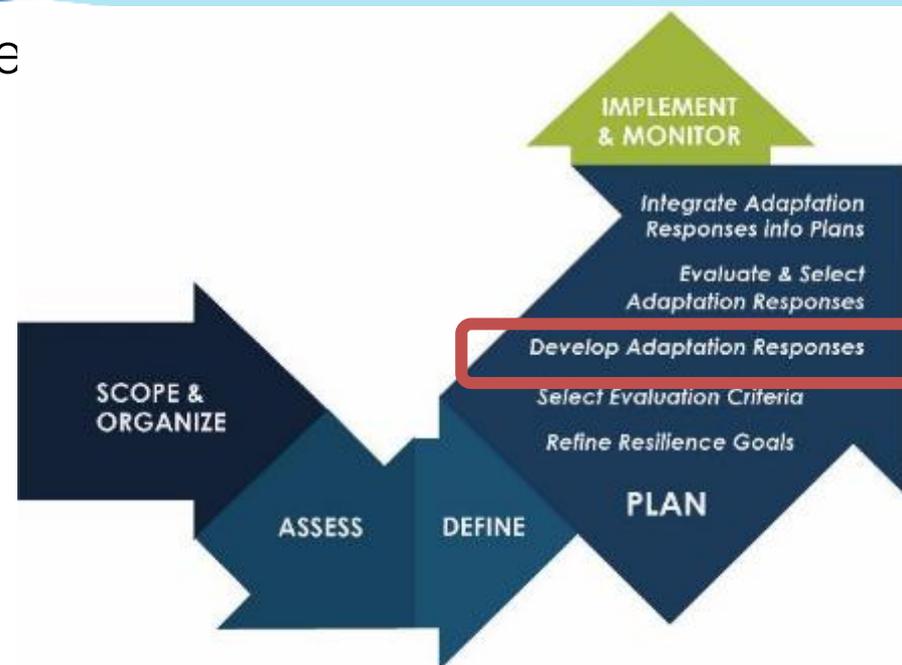
Developing Adaptation Responses

Project adaptation responses are de

- Asset vulnerability statements
- Key Planning Issues

Adaptation responses includes:

- The vulnerability addressed
- An action or series of actions to address the identified vulnerabilities
- Implementation options that serve as a guide for those that want to initiate action, including leads and partners



Adaptation & Implementation



- Near-term constraints:
 - Need staff capacity or funding to move this work forward
 - Need an authority to fund and manage adaptation solutions

Adaptation & Implementation



- Near-term adaptation responses:
 - Initiate tidal wetland restorations
 - Identify and resolve flooding of critical roads
 - Identify and repair ad-hoc shoreline protection “hotspots”

Adaptation & Implementation



- Mid-term adaptation responses:
 - Model how SLR effects levee stability and update design standards
 - Land trust to buy subsidized Delta islands

Adaptation & Implementation



- Long-term adaptation responses:
 - Monitor salinity conditions
 - Develop microgrids to create more flood-resilient energy grids

Next Steps



- East Contra Costa ART Project **final report** will be out on the Adapting To Rising Tides website in early 2020
- The County has voiced their need for support in adaptation planning and in education and outreach
- Align with DSC's VA
- What are BCDC and DSC's roles in furthering this work?

Questions?



THANK YOU

ecceexplorer.adaptingtorisingtides.org

Please contact us for info, questions or trainings

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