

State Support & Regional Action for Climate Adaptation in the SF Bay

Funding, Technical Guidance, and Resources

City of San Rafael - Climate Action Plan
Community Forum

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Outline

- I. The State Coastal Conservancy
- II. State Guidance
- III. Regional Action
- IV. Projects and Local Examples
- V. Personal and Social Resilience



Mission

... acts with others to preserve, protect and restore the resources of the California Coast, ocean and San Francisco Bay area









The State's Climate Plan: Safeguarding California

- A **roadmap for state government action** to build climate change resiliency.
- State government's **current and planned efforts** to address climate impacts
- **Vision:** *“All Californians thrive in the face of a changing climate.”*



The State's Latest Climate Science Document: California's 4th Assessment

	CLIMATE IMPACT	DIRECTION	SCIENTIFIC CONFIDENCE FOR FUTURE CHANGE
	TEMPERATURE	WARMING ↗	Very High
	SEA LEVELS	RISING ↗	Very High
	SNOWPACK	DECLINING ↘	Very High
	HEAVY PRECIPITATION EVENTS	INCREASING ↗	Medium-High
	DROUGHT	INCREASING ↗	Medium-High
	AREA BURNED BY WILDFIRE	INCREASING ↗	Medium High



The State's Sea Level Rise Guidance Document

		Probabilistic Projections (in feet) (based on Kopp et al. 2014)				H++ scenario (Sweet et al. 2017) *Single scenario
		MEDIAN	LIKELY RANGE	1-IN-20 CHANCE	1-IN-200 CHANCE	
		50% probability sea-level rise meets or exceeds...	66% probability sea-level rise is between...	5% probability sea-level rise meets or exceeds...	0.5% probability sea-level rise meets or exceeds...	
			Low Risk Aversion		Medium - High Risk Aversion	Extreme Risk Aversion
High emissions	2030	0.4	0.3 - 0.5	0.6	0.8	1.0
	2040	0.6	0.5 - 0.8	1.0	1.3	1.8
	2050	0.9	0.6 - 1.1	1.4	1.9	2.7
Low emissions	2060	1.0	0.6 - 1.3	1.6	2.4	
High emissions	2060	1.1	0.8 - 1.5	1.8	2.6	3.9
Low emissions	2070	1.1	0.8 - 1.5	1.9	3.1	
High emissions	2070	1.4	1.0 - 1.9	2.4	3.5	5.2
Low emissions	2080	1.3	0.9 - 1.8	2.3	3.9	
High emissions	2080	1.7	1.2 - 2.4	3.0	4.5	6.6
Low emissions	2090	1.4	1.0 - 2.1	2.8	4.7	
High emissions	2090	2.1	1.4 - 2.9	3.6	5.6	8.3
Low emissions	2100	1.6	1.0 - 2.4	3.2	5.7	
High emissions	2100	2.5	1.6 - 3.4	4.4	6.9	10.2
Low emissions	2110*	1.7	1.2 - 2.5	3.4	6.3	
High emissions	2110*	2.6	1.9 - 3.5	4.5	7.3	11.9
Low emissions	2120	1.9	1.2 - 2.8	3.9	7.4	
High emissions	2120	3	2.2 - 4.1	5.2	8.6	14.2
Low emissions	2130	2.1	1.3 - 3.1	4.4	8.5	
High emissions	2130	3.3	2.4 - 4.6	6.0	10.0	16.6
Low emissions	2140	2.2	1.3 - 3.4	4.9	9.7	
High emissions	2140	3.7	2.6 - 5.2	6.8	11.4	19.1
Low emissions	2150	2.4	1.3 - 3.8	5.5	11.0	
High emissions	2150	4.1	2.8 - 5.8	5.7	13.0	21.9

State of California Sea-Level Rise Guidance

2018 UPDATE

Recent Climate Legislation: AB65 and SB576

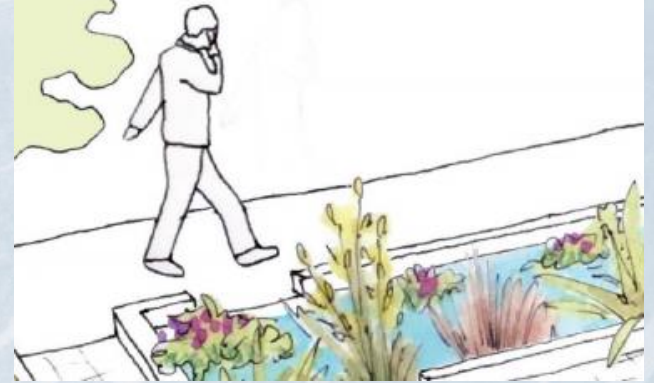
- Both create our **Climate Ready Program** in statute
 - For Prop 68 Climate \$, **prioritize projects**:
 - (1) that use **natural infrastructure**;
 - (2) provide **multiple public benefits**;
 - (3) that are **based in a variety of ecosystems** along the coastline
 - Defines “***natural infrastructure***”
 - Requires SCC to **provide information to OPR** for climate adaptation projects
 - Authorizes (but doesn't require) SCC to **provide technical assistance to coastal communities** in planning and implementing projects that incorporate natural infrastructure

Regional Climate Adaptation Planning

- **Bay Conservation and Development Commission (BCDC) Regional Shoreline Adaptation Strategy (RSAS):**
 - Kicking off now with Leadership Group meeting on Jan 28
- **Metropolitan Transportation Commission (MTC) Plan Bay Area 2050:**
 - Regional Working Group Meetings (RAWGS) to give input; Next is Feb 11 at 9:30a



Climate Adaptation Examples in the SF Bay Area



Living Shorelines Examples and Definition

- Shoreline protection via restoration design
- Suite of techniques/habitat types
- Minimize coastal erosion
- Maintain coastal processes
- Natural habitat for plants, wildlife, & people



Nature-Based Adaptation, “Green Infrastructure”, “Living Shorelines”



Stephanie Kiriakopoulos

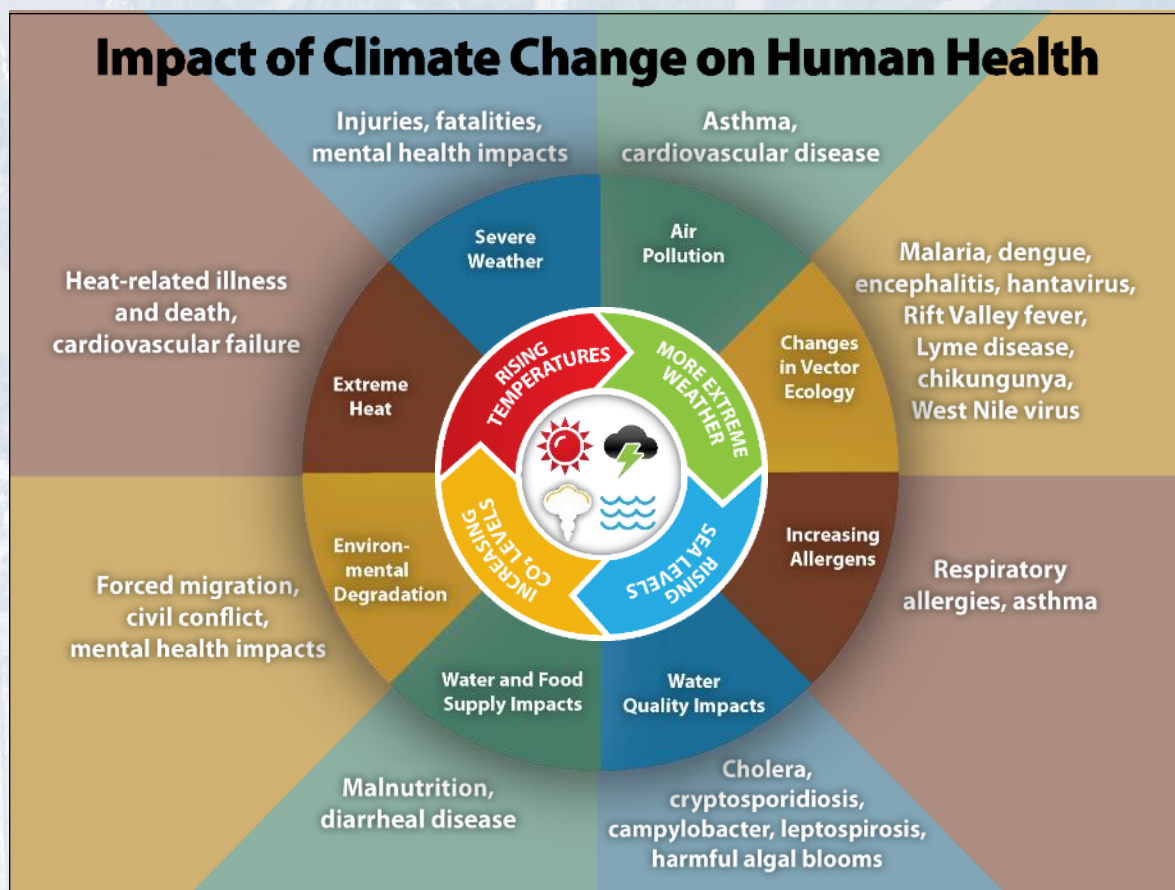
Sfbaylivingshorelines.org

Personal/Community Resilience & Adaptation

Impacts on Humans

- 20-50% of people impacted by extreme weather events can experience severe: Anxiety, Depression, PTSD, Higher suicide rates, etc.
- Climate impacts include **impacts on humans** (not just buildings, or habitats)
- **Not just physical** (*getting wet, smelling smoke*), **but psychological**, spiritual, social impacts (*getting stressed, systemic racism and oppressions aggravated, social support disrupted, health inequities magnified*)
- More impacts, **less recovery time**
- **Seeing, experiencing, and worrying** about climate change (migration, loss of place, etc.)

Impact of Climate Change on Human Health



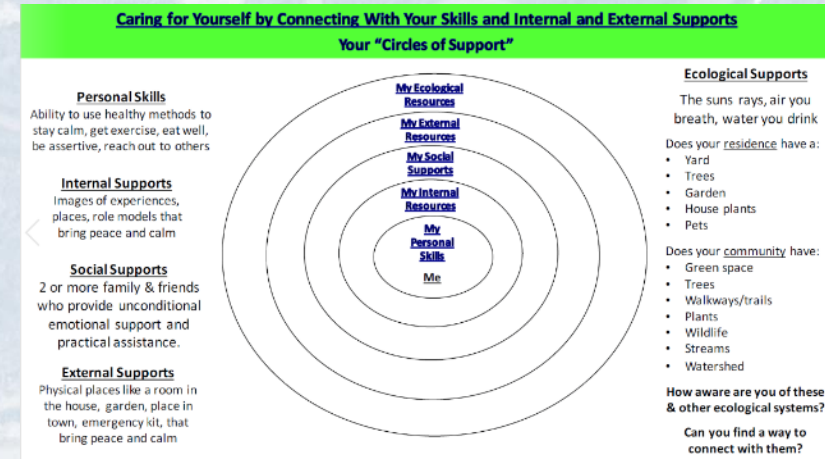
Personal/Community Resilience & Adaptation

Adaptations for Humans

- Become trauma-informed
- Overcome “fight or flight” (regulate your amygdala)
- Build on strengths
- Think and act in healthy ways (even in unhealthy conditions)
- Use adversities as transformational catalysts to find new meaning, direction, hope

Personal & Community Resilience Resources

- International Transformational Resilience Coalition:
<http://www.theresourceinnovationgroup.org/intl-tr-coalition/>
- **The Good Grief Network Resources:**
<https://www.goodgriefnetwork.org/resources/>
- Susi Moser and Adaptive Mind:
<http://www.susannemoser.com/research.adaptation.php>
- (Personal Resilience Exercise to take home)



Thank you!

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Transforming Marin City's Urban Wetland \$150,000 Audubon CA, ShoreUp Marin City



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Pil

MarinLink, Marin City People's Plan



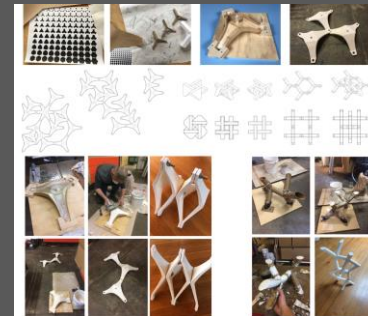
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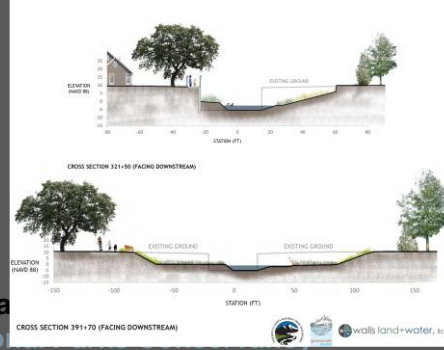
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Lower Corte Madera Creek Channel Concrete Removal \$200,000

Friends of Corte Madera Creek Watershed



Marin County Parks and Recreation

