

ARCCA Learning Session

SB-379 Implementation

Wednesday, March 29th | 10:00– 11:00 AM

Julia Kim | Local Government Commission

Learning Session Agenda

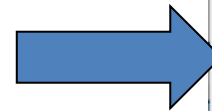
- Brief overview of the ARCCA
- Requirements and timeline for SB-379 implementation
- Replicable strategies and good practices from Alameda County cities
- Panel discussion of resources

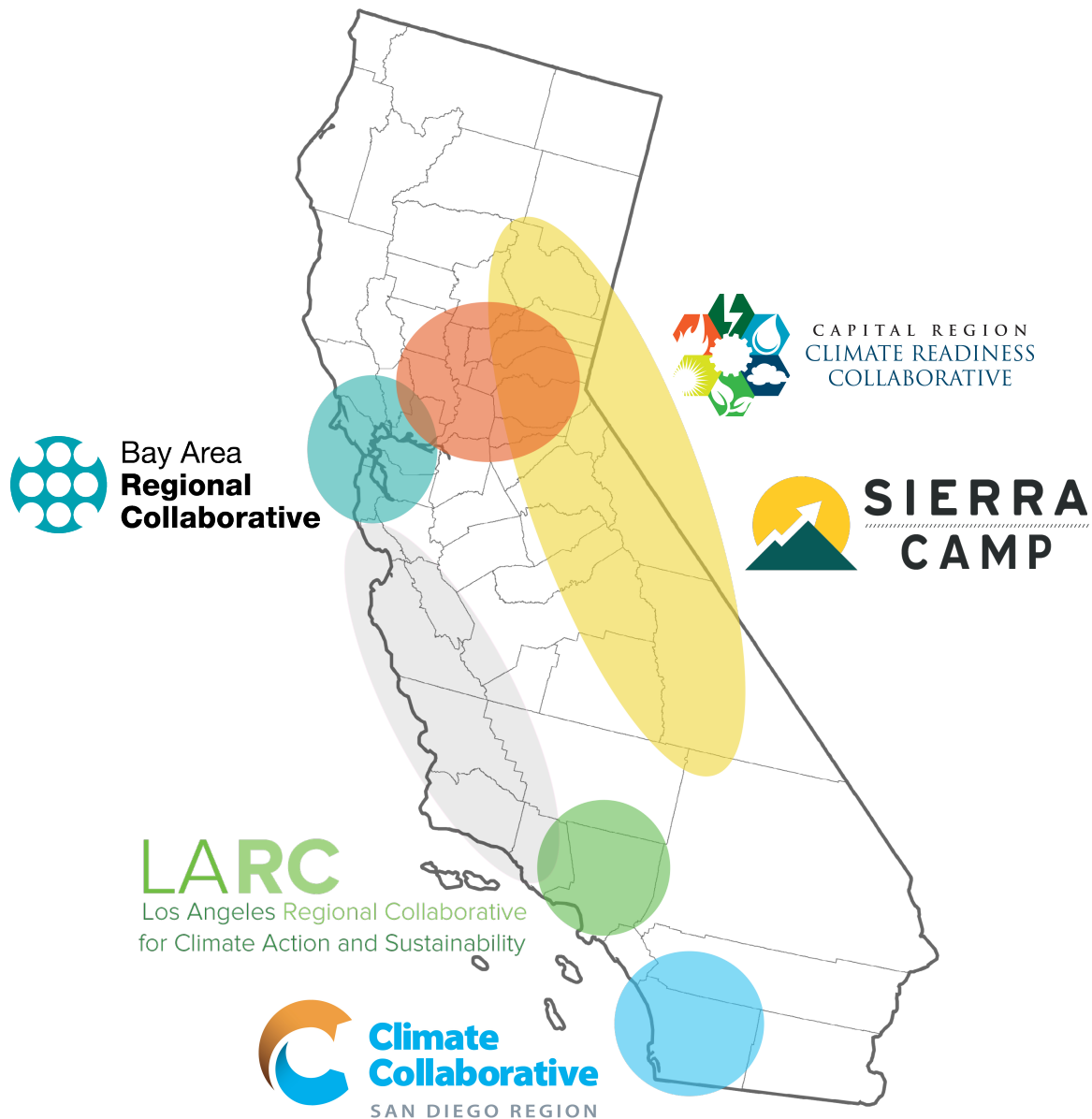
Webinar Logistics

Questions:

At any point during the webinar, you can type your question into the question text box and click send.

All questions directed towards a speaker will be read aloud and answered at the end of the presentations, as long as time permits.

The screenshot shows the GoToWebinar Control Panel. The 'Audio' section is expanded, showing 'Audio Mode' with 'Use Telephone' and 'Use Mic & Speakers' (selected). Below this is a 'MUTED' status with a microphone icon and a speaker icon. The 'Questions' section is also expanded, showing a large text box for typing a question. Below the text box is a 'Send' button. At the bottom, it says 'Webinar Now' with 'Webinar ID# 349-759-329' and the 'GoToWebinar' logo.



Coordinator



Local Government Commission
Leaders for Livable Communities

Ex-Officio



Affiliate



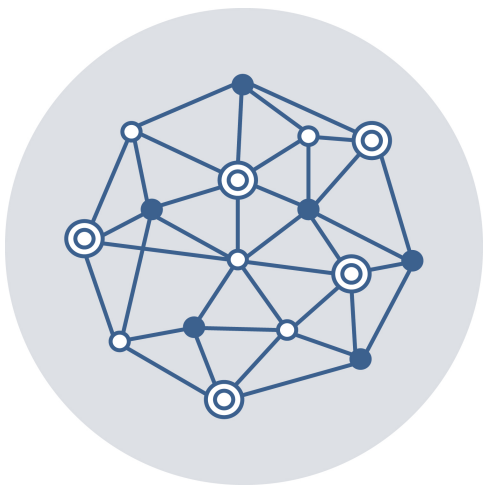
Four Twenty Seven
Climate Solutions



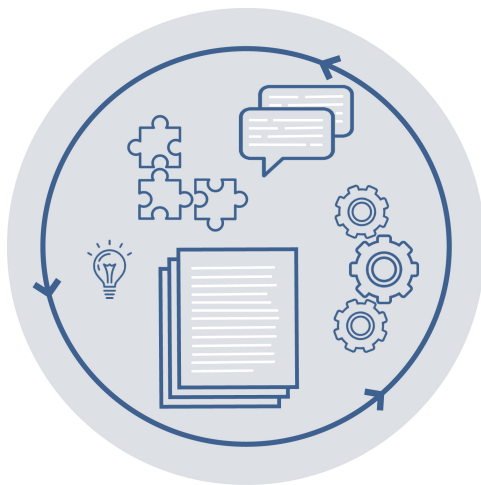
Point Blue
Conservation
Science



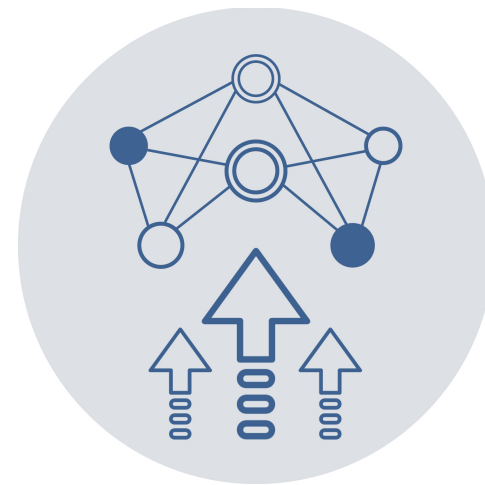
The California State University
OFFICE OF THE CHANCELLOR



Peer-to-Peer Network



Knowledge Exchange



Emerging Collaboratives



Beyond Planning



Urban-Rural Connection

Presenters



Michael McCormick

Senior Planner

Governor's Office of Planning and Research



Yoon Kim

Director of Advisory Services

Four Twenty Seven, Inc.

Panelists



Nuin-Tara Key

Resilience Program Manager
Governor's Office of Planning and Research



Kif Scheuer

Climate Change Program Director
Local Government Commission



Incorporating Adaptation in Local General Plans – Implementing SB379

California Governor's Office of Planning and Research

March 29, 2017 ARCCA Learning Session



ARCCA Learning Session – SB379



Governor's Office of Planning and Research
March 29, 2017



Office of Planning and Research

- State Land Use Policy
- CEQA Guidelines
- General Plan Guidelines
- Environmental Goals and Policy Report
- Technical Advisories





Six Goals “Pillars”

EO B-30-15

Vision

Reducing Greenhouse Gas Emissions to 40% Below 1990 levels by 2030

Goals

Governor's Key Climate Change Strategies



Increase Renewable Electricity Production to 50%



Reduce Petroleum Use by 50% in Vehicles



Double Energy Efficiency Savings at Existing Buildings



Reduce GHG Emissions from Natural and Working Lands



Reduce Short-Lived Climate Pollutants



Safeguard California



Popular Links

- ◊ [About AB 32](#)
- ◊ [AB 32 Scoping Plan](#)
- ◊ [Adaptation](#)
- ◊ [Cal-Adapt](#)
- ◊ [Climate Change Programs](#)
- ◊ [California Adaptation Forum](#)
- ◊ [Climate Action Team Research](#)
- ◊ [California Climate Assessments](#)
- ◊ [Cap and Trade](#)
- ◊ [Greenhouse Gas Emissions Inventory](#)



Focus on International

- ◊ [Intergovernmental Collaboration](#)
- ◊ [Under2MOU](#)
- ◊ [Climate Change Conference of the Parties – COP 21](#)
- ◊ [Intergovernmental Panel on Climate Change](#)
- ◊ [International ZEV Alliance](#)
- ◊ [California Climate Action](#)



Climate Change Efforts

- EO S-03-05 – Targets for 2020 and 2050
- EO S-13-08 – Climate Adaptation
- EO B-30-15 – Integrated approach to climate
 - Technical Advisory Group
 - Climate Change in all planning and investment
- Signed in 2015 and 2016:
 - AB1482 – Safeguarding California and related
 - SB246 – OPR, ICARP and Clearinghouse
 - SB350 – New greenhouse gas emissions targets
 - SB379 – Local governments and climate risk
 - SB1000 – Environmental Justice Element
 - SB32 – Scoping Plan Cont'd through 2030
 - And more!
- Vibrant Communities and Landscapes 2050
- CEQA Updates: SB743, AB52 and overall revisions



General Plan Guidelines

A General Plan is a local governments long term blueprint for the community's vision of future growth

- Starts with Community Vision, created through public engagement
 - Look back to identify past challenges and accomplishments
 - Examine current data and emerging data trends
 - Consider future issues, challenges, and goals
- Set goals, objectives, and policies in each element or topic area related to future growth



Why Update Guidelines?

The last update to the General Plan Guidelines was in 2003, and there have been numerous new laws, requirements, resources, and research that affect general planning

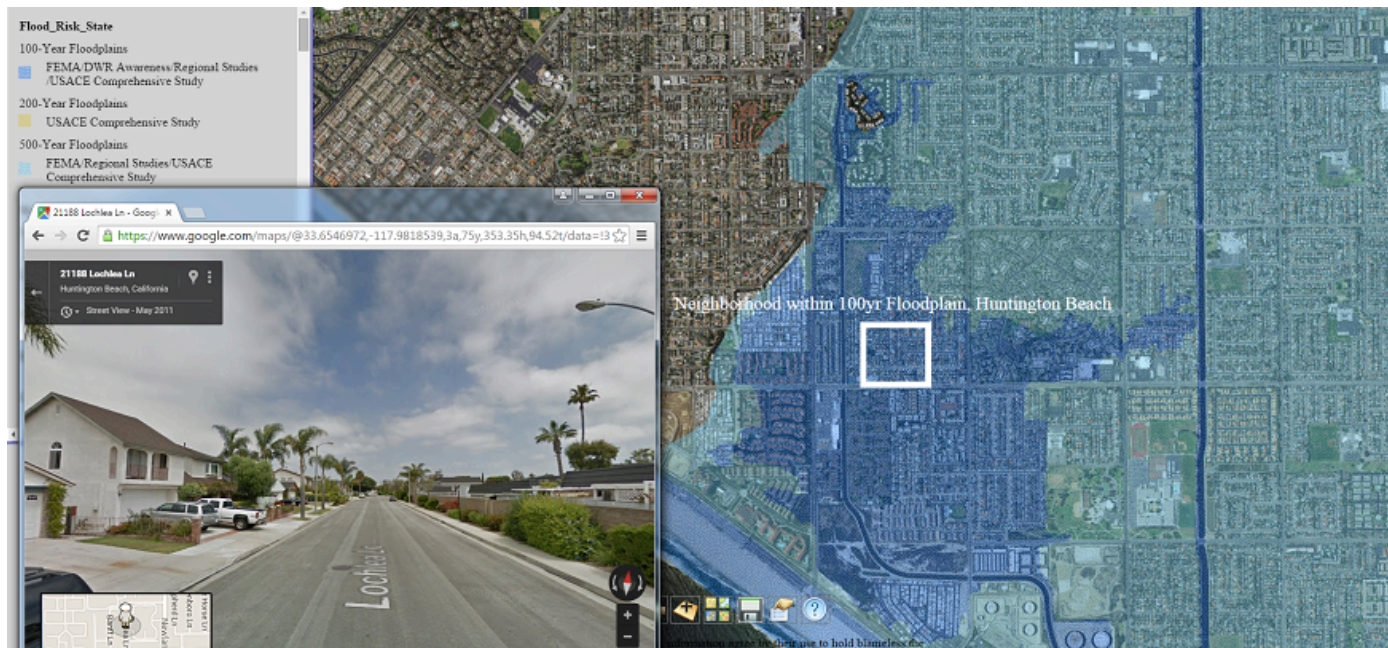
- **SB 1000- Environmental Justice**
- **SB 379- Climate Change**
- SB 375- Sustainable communities strategies
- SB 5- Flood management
- SB 743-VMT
- SB 244- Island or fringe communities
- AB 52- Tribal consultation
- AB 2140- Local hazard mitigation plans
- Many more!!



Vision for the GPG Update

a suite of tools

1. Policy Document: General Plan Guidelines
2. General Plan Data Tool
3. Updated Website





General Plan Elements

Required Elements

- Land use
- Circulation
- Housing
- Conservation
- Open Space
- Noise
- **Safety**
- **Environmental Justice***
- **Air Quality***

New Chapters

- Public Engagement
- Healthy communities
- **Climate Change**
- Economic Development
- Social Equity/Resilience



Environmental Justice

- SB1000 requires Environmental Justice be addressed in General Plans
 - Stand alone element
 - Integrated throughout
 - Requires community engagement
 - In EJ communities, Air quality analysis must be completed
 - Strong linkage with climate change adaptation



Safety Element

- Safety element requires hazards be addressed in general plans:
 - Flood
 - Fire
 - Earthquakes
 - Climate change (new!)
 - And others
- AB2140 encourages incorporation of Local Hazard Mitigation Plans in to Safety Element



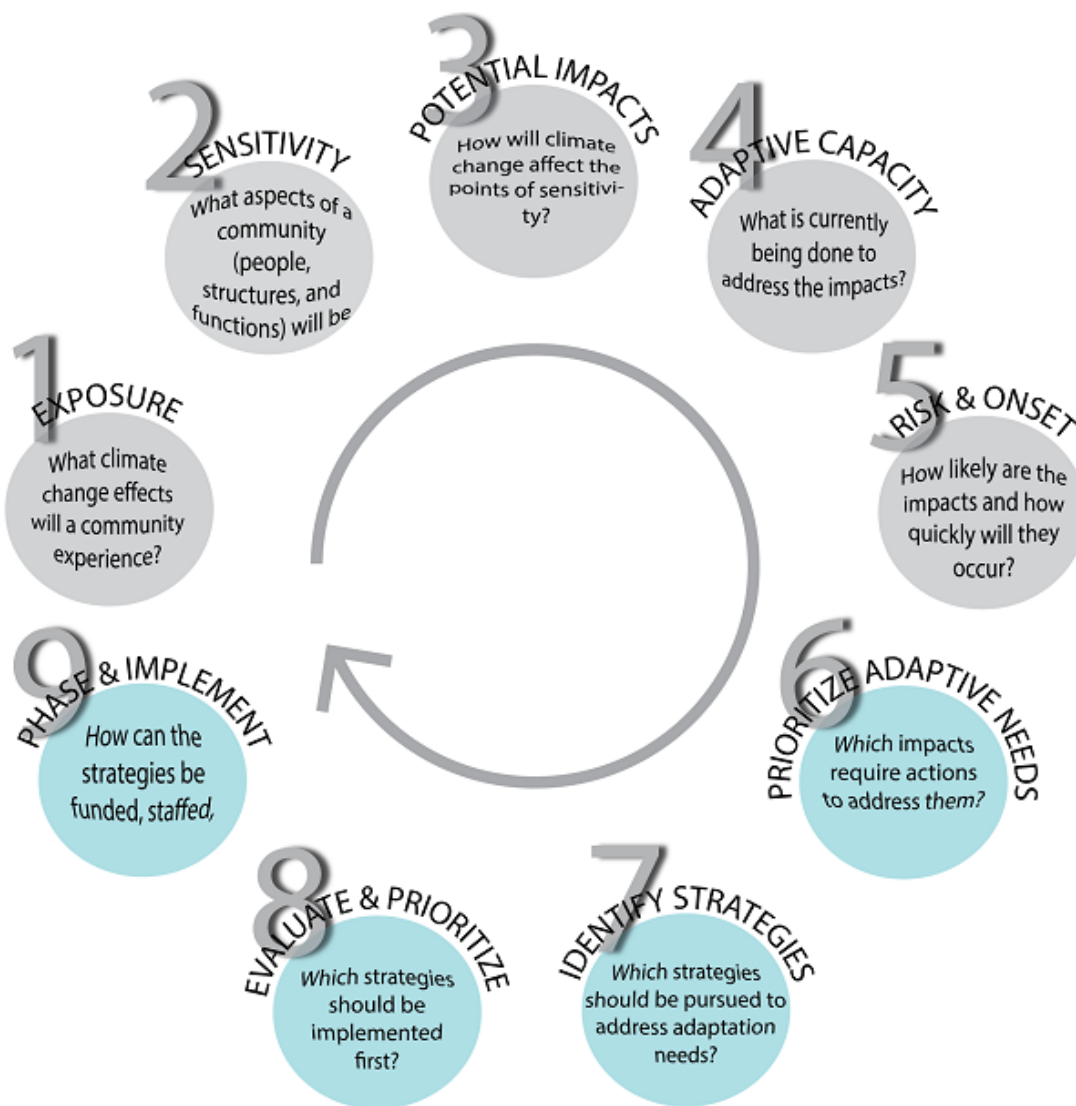
Safety Element - Adaptation

- Climate change adaptation is now required in Safety Elements
 - Does not preclude incorporation in to other areas
 - Encourages cross-linkages and co-benefits
- Some distinct actions:
 - Review existing plans (gap analysis)
 - Assess community vulnerability
 - Create a set of goals, policies and objectives
 - Create a set of “feasible” implementation measures
 - Implement measures



Process – In Brief

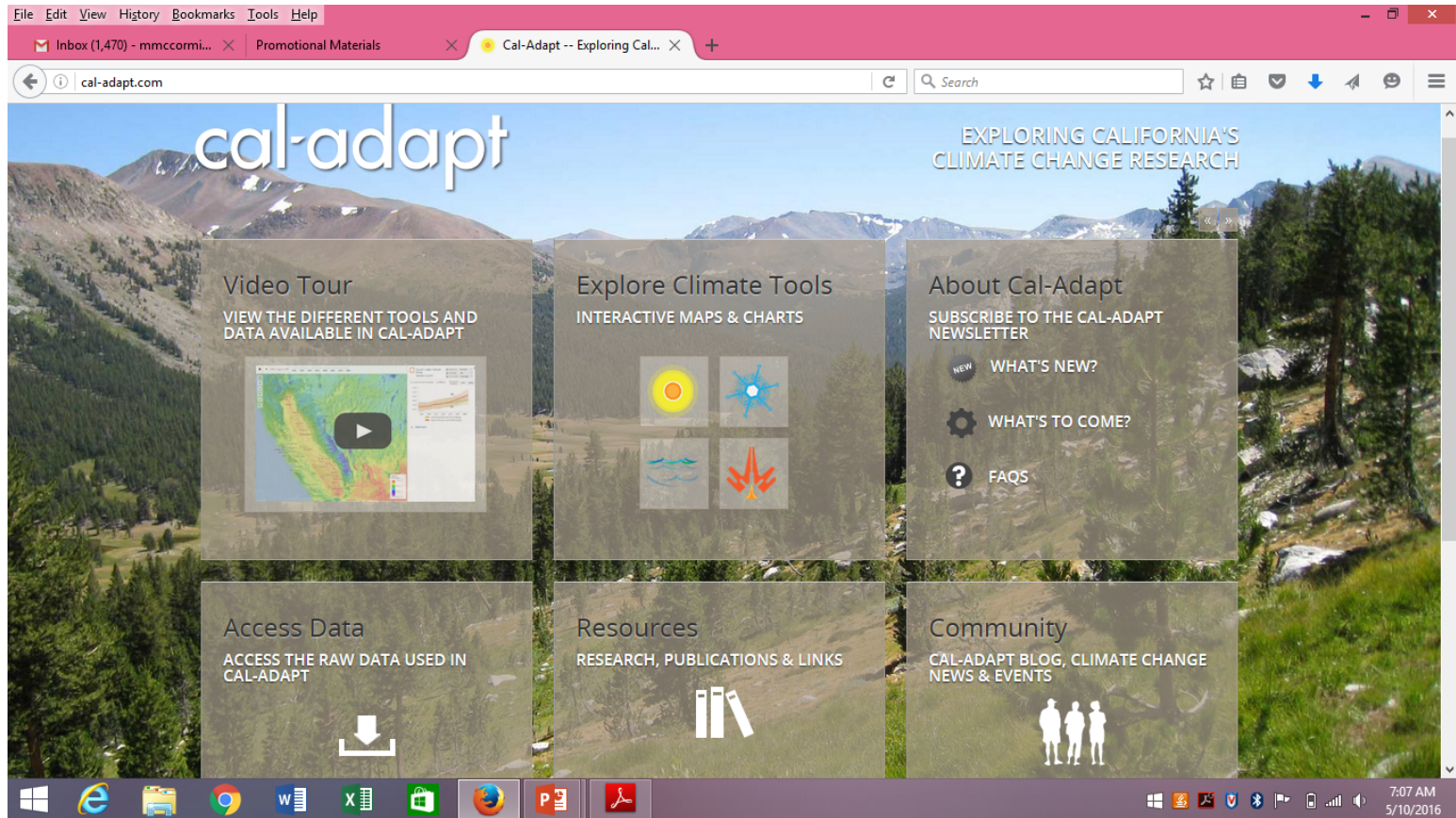
Adaptation Planning Guide





Process – In Brief

www.cal-adapt.org





Next Steps for GPG

- **Release in April 2017**
- Public release and outreach/pilots
- Workshops and webinars in 2017/2018
- Continued improvement of tool and website
- Living document – update as needed
- Case study support/technical assistance



ICARP Overview – SB246

Integrated Climate Adaptation and Resiliency Program

– Purpose

- Coordinate state, local, and regional activities on climate adaptation and resiliency
- Pivot to local implementation, including support of SB379 implementation

– Cross-cutting objectives

- Advancing equity and environmental justice
- Integrated approach to climate change – mitigation and adaptation



ICARP Overview – SB246

Integrated Climate Adaptation and Resiliency Program

- Program elements
 - Technical Advisory Council
 - Quarterly, public meetings
 - California Adaptation Clearinghouse
 - Science and research
 - Guidance and decision-support tools
 - Case studies
 - Funding resources



Integrating Climate Hazards into Local Planning

Yoon Kim, Director of Advisory Services
Four Twenty Seven



Agenda

- About Four Twenty Seven
- Project Overview and Context
- Climate Hazard Assessment
- Adaptation Measures
- Results



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About Four Twenty Seven

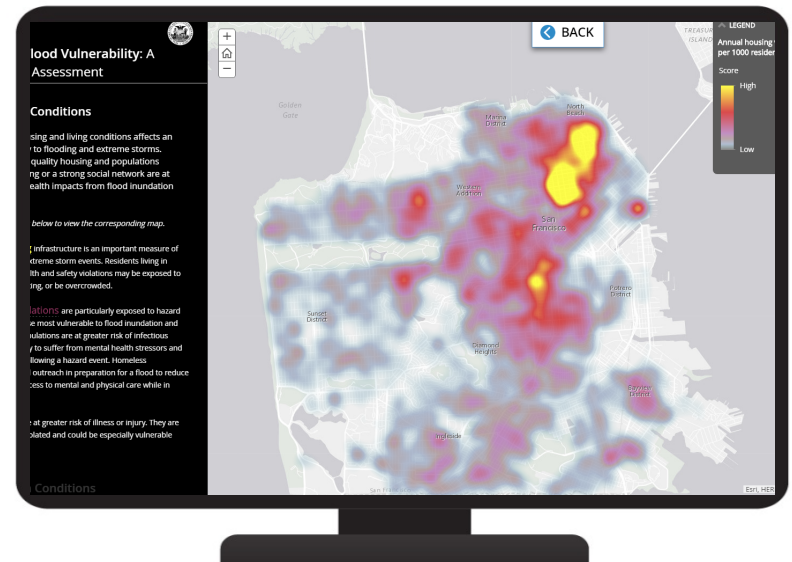
+ About Four Twenty Seven

- Award-winning climate resilience research & advisory company
- Four Twenty Seven brings climate intelligence into policy and economic decisions
- Based in Berkeley, CA and founded in 2012

www.427mt.com



2016 Best ESG Tool Award



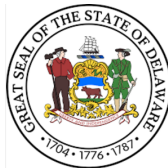


Our Clients

29

Four Twenty Seven works with thought leaders
across sectors to build resilience

Public Sector



International Organizations



WORLD BANK GROUP



USAID
FROM THE AMERICAN PEOPLE

Private Sector

Fortune 100
Technology Co.



Fortune 100
Aerospace Co.

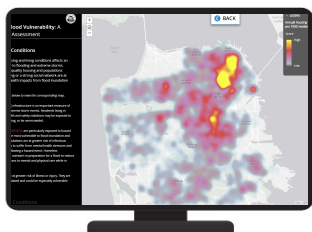


Fortune 200
Insurance Co.

+ Our Products & Services

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Local Adaptation



Quantify impacts on public health, safety, and natural resources.

Develop localized adaptation strategy, empower community engagement

Map growing market for adaptation and resilience investment opportunities

Business Climate Analytics



Monetize impacts on operations, supply chain, and distribution.

Cost benefit analysis of risk management response in context of uncertainty

Identify opportunities: new markets or strategic reallocation

Financial Climate Analytics



Develop climate risk ratings and score cards for equity and bonds

Develop portfolio screening and scenario building tools

Economic analysis of climate related events that deflect pricing



Integrating Climate Hazards into Local Planning in Alameda County



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Background and Context



Project Overview

- Client/funder



- Participating Cities

- Albany, Emeryville, Fremont, Hayward, Livermore, Piedmont, San Leandro

- Partners

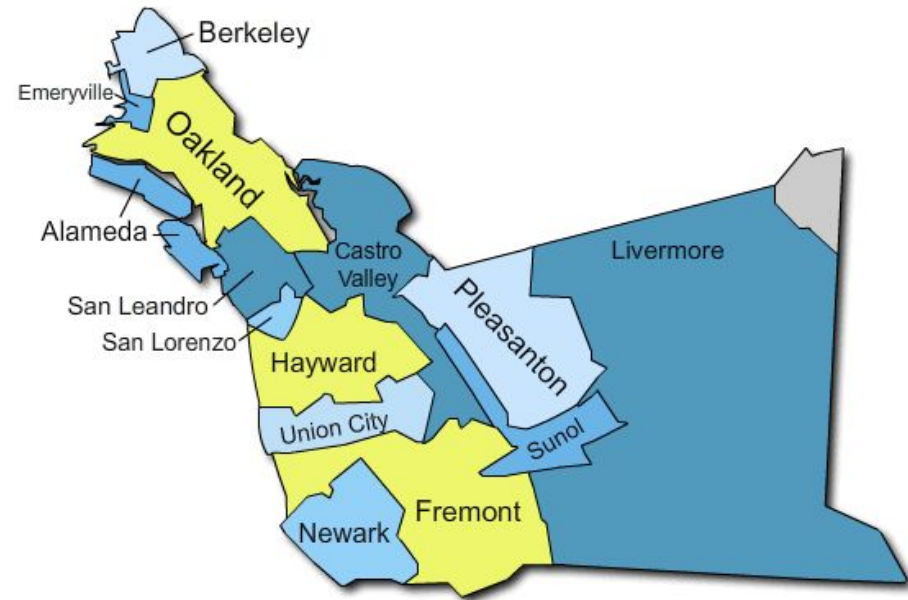
- Vizonomy, Cadmus

- Deliverables

- Climate change chapter for each city that includes a climate hazard assessment and proposed set of adaptation measures
 - Template climate change chapter



Alameda County





Project Objectives

- Assist participating cities meet the requirements of:
 - Relevant state legislation (SB 379)
 - Federal Emergency Management Agency guidance
 - Voluntary Commitments (Global Covenant of Mayors)
- Facilitate linking of climate change components of relevant planning processes (e.g., General, local hazard mitigation, climate action, adaptation, resilience)
- Leverage existing approaches such as California's *Adaptation Planning Guide*
- Promote a consistent approach to integrating climate hazards into relevant local planning processes



City Context

- Seven participating cities set out to use the climate change chapter differently depending on the status of their planning processes

Plan	Climate Action Plan	Local Hazard Mitigation Plan	Other Plans
Cities	Emeryville Fremont	Albany Livermore Piedmont San Leandro	Hayward (Shoreline Realignment Plan)



City Context

■ City leads

- Albany – Sustainability and Transportation Coordinator
- Emeryville – CivicSpark Fellow, Environmental Programs Supervisor
- Fremont – Sustainability Coordinator, Management Analyst
- Hayward – Management Analyst
- Livermore – Special Projects Coordinator, Associate Planner
- Piedmont – Assistant Planner, Fire Chief
- San Leandro – Emergency Preparedness Coordinator, Sustainability Manager



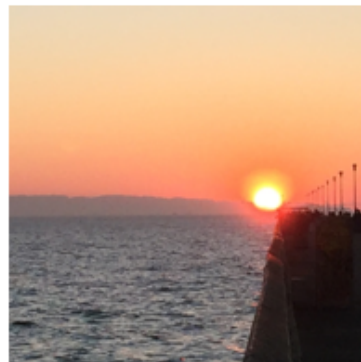
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Climate Hazard Assessment



Process

- Understand city goals and planning process status
- Obtain data
 - Climate
 - City assets – City data, Open Data, OpenStreet Map
- Assess exposure of city assets to six climate hazards



Fremont Climate Change Chapter



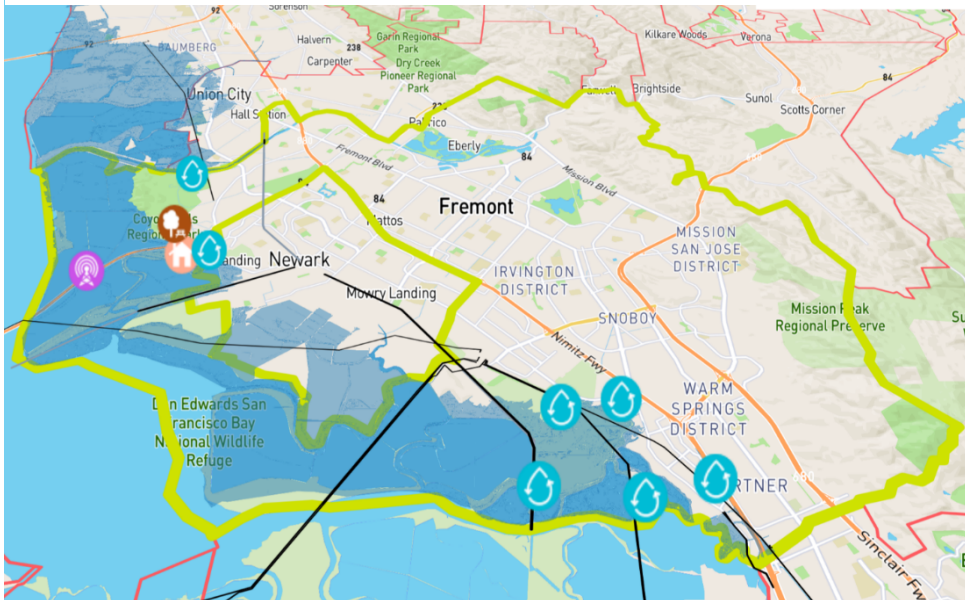
Four Twenty Seven
Climate Solutions

February 6, 2017

Floods and Sea Level Rise

- 100- and 500-year floods - FEMA Flood Insurance Rate Maps
- Sea level rise - Adapting to Rising Tides projections for Alameda County

Fremont Assets Exposed to 36" of Sea Level Rise



Fremont Assets Exposed to Sea Level Rise

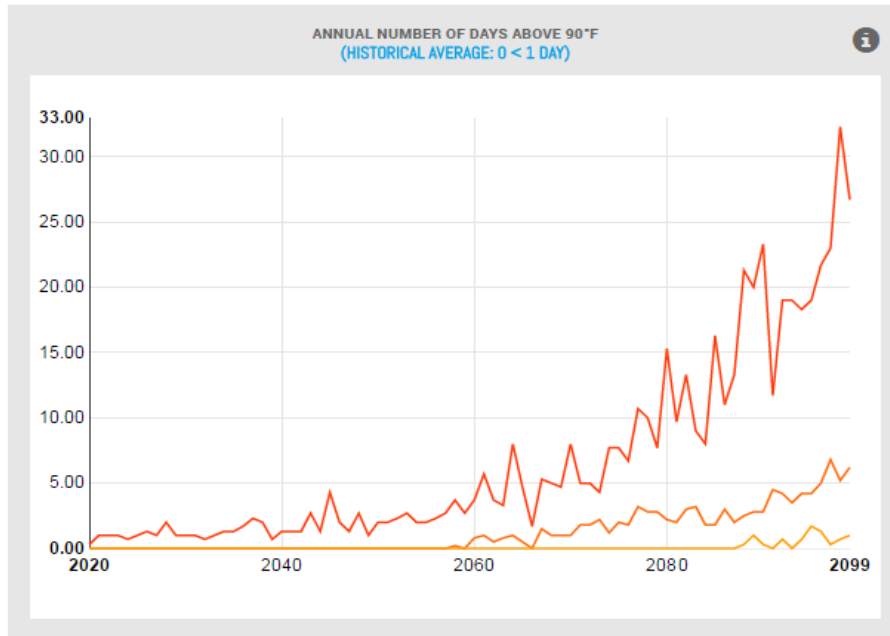
Asset Type	Impact	12 in. SLR	24 in. SLR	36 in. SLR	48 in. SLR	72 in. SLR
Fire Station/EMS	H					
Police	H					
Shelter	H	1	1	1	1	1
Railway Station	H					
Railway (OpenStreet Map)	H	2	2	4	6	8
Railway (Open Data)	H	4	4	5	7	8
BART Assets (OpenStreet Map)	H					
BART Assets (Open Data)	H					
Storm Drains, Structures	H	3	4	48	189	833
Power Lines	M	5	5	8	22	39
AM Antennas	M		1	1	1	1
Cellular Towers	M					
Schools	M					
Colleges and Universities	M					
Intermodal Terminal Facilities	M					
Storm Drains, Lines	M	3	4	48	189	833
Hazmat Facilities	M			1	46	82
Power Plants	M					
Pipelines	M	1	1	1	2	2
Pharmacies	L					
Buildings	L	1	2	32	113	142
Fuel Stations	L					
Banks	L					
Restaurants	L					
Places of Worship	L					
Buildings (Commercial)	L					1
City Limit	L					
East Bay Regional Parks	L			2	2	2
Public Parks	L				1	3

Source: Fremont Local Asset Data, OpenStreet Maps, Open Data and Alameda County Flood Control and Water Conservation District and BCDC. (2015). *Adapting to Rising Tides: Alameda County Shoreline Vulnerability Assessment Final Report*. Represented on Vizonomy.

+ Temperature and Rainfall

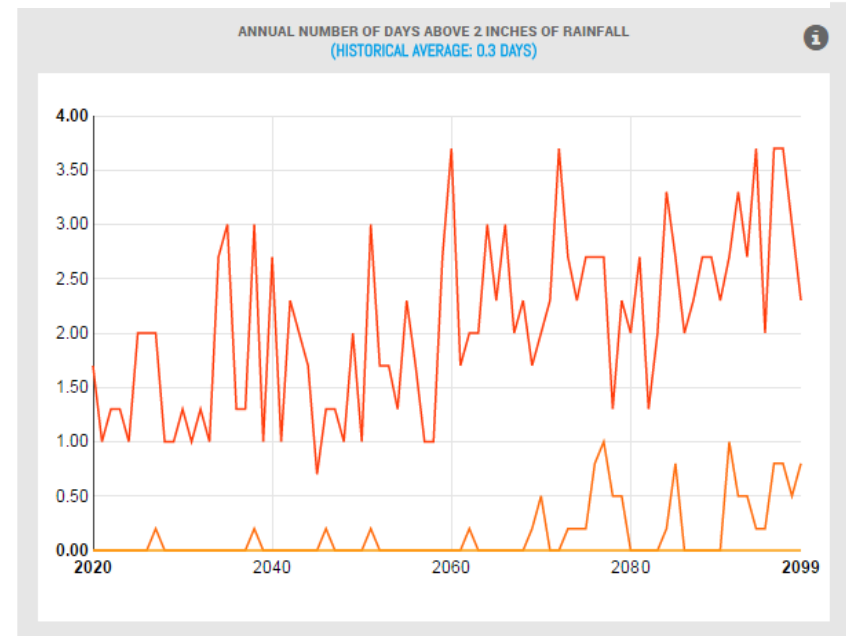
- Increased temperatures - Four Twenty Seven modeling
- Changing precipitation patterns - Four Twenty Seven modeling

Projected Temperature Extremes in Emeryville



RCP 8.5 projected annual number of days above 90 °F throughout the 21st century. Lines represent low-end (yellow), mid-range (orange) and high-end (red) model results. Source: Reclamation as represented on Vizonomy.

Projected Change in Intense Rainfall Events in Emeryville



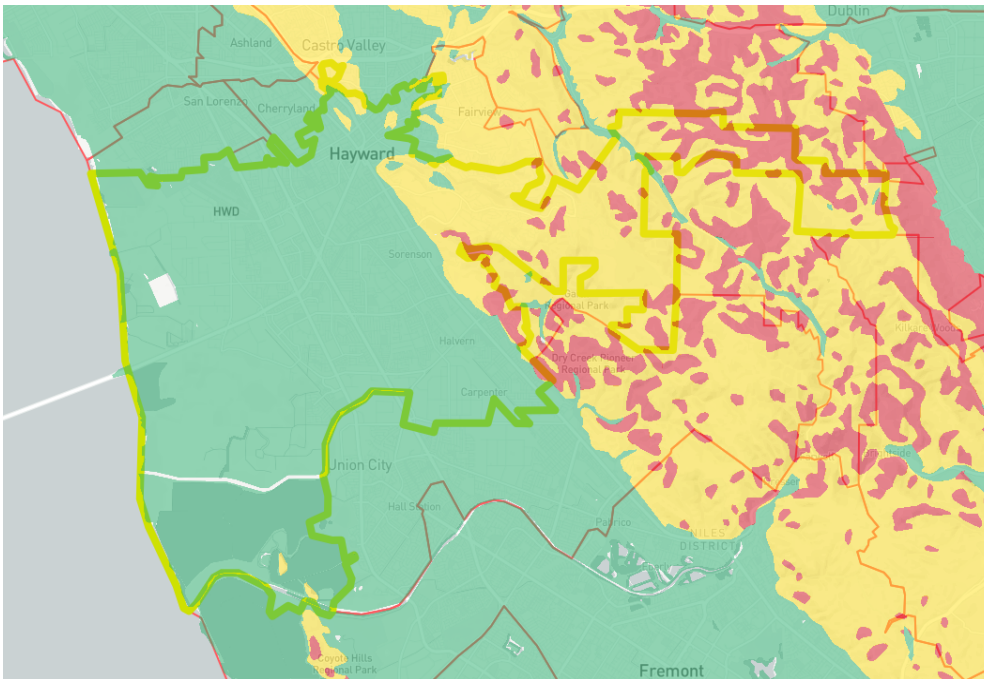
RCP 8.5 projected percent changes in intense precipitation throughout the 21st century. Lines represent low-end (light orange), mid-range (dark orange) and high-end (red) model results. Source: Reclamation as represented on Vizonomy.

+ Landslides and Wildfires

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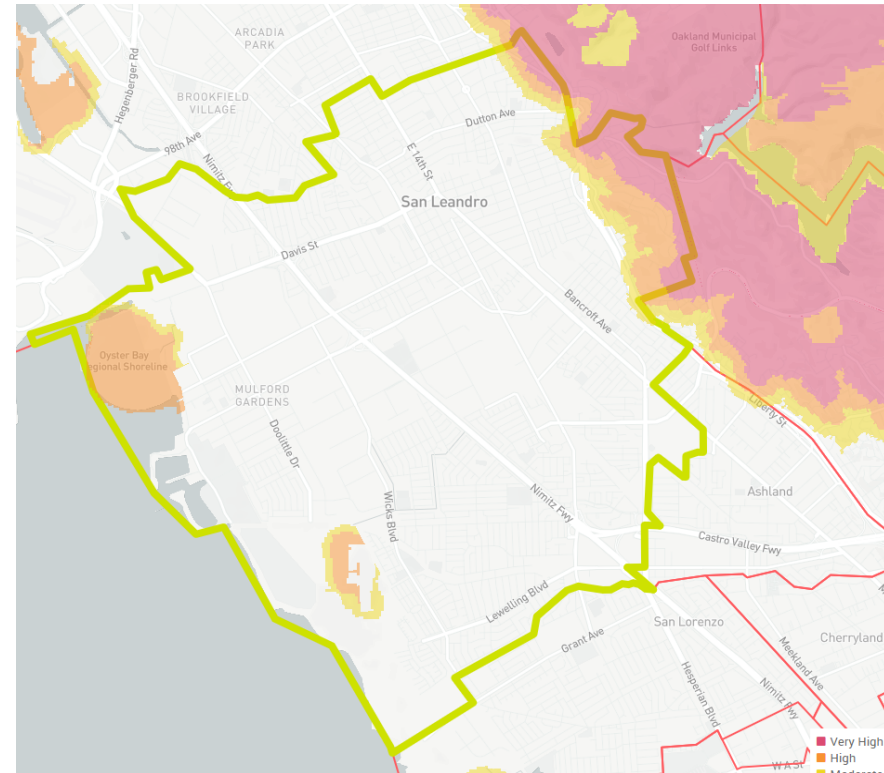
- Landslides - US Geological Survey
- Wildfires - California Department of Forestry and Fire Protection

Landslide Risk in and near Hayward



Source: Open Data, OpenStreet Map and USGS as represented on Vizonomy.

Fire Hazard Severity Zones in and near San Leandro



Source: Open Data, OpenStreet Map and CalFIRE as represented on Vizonomy.

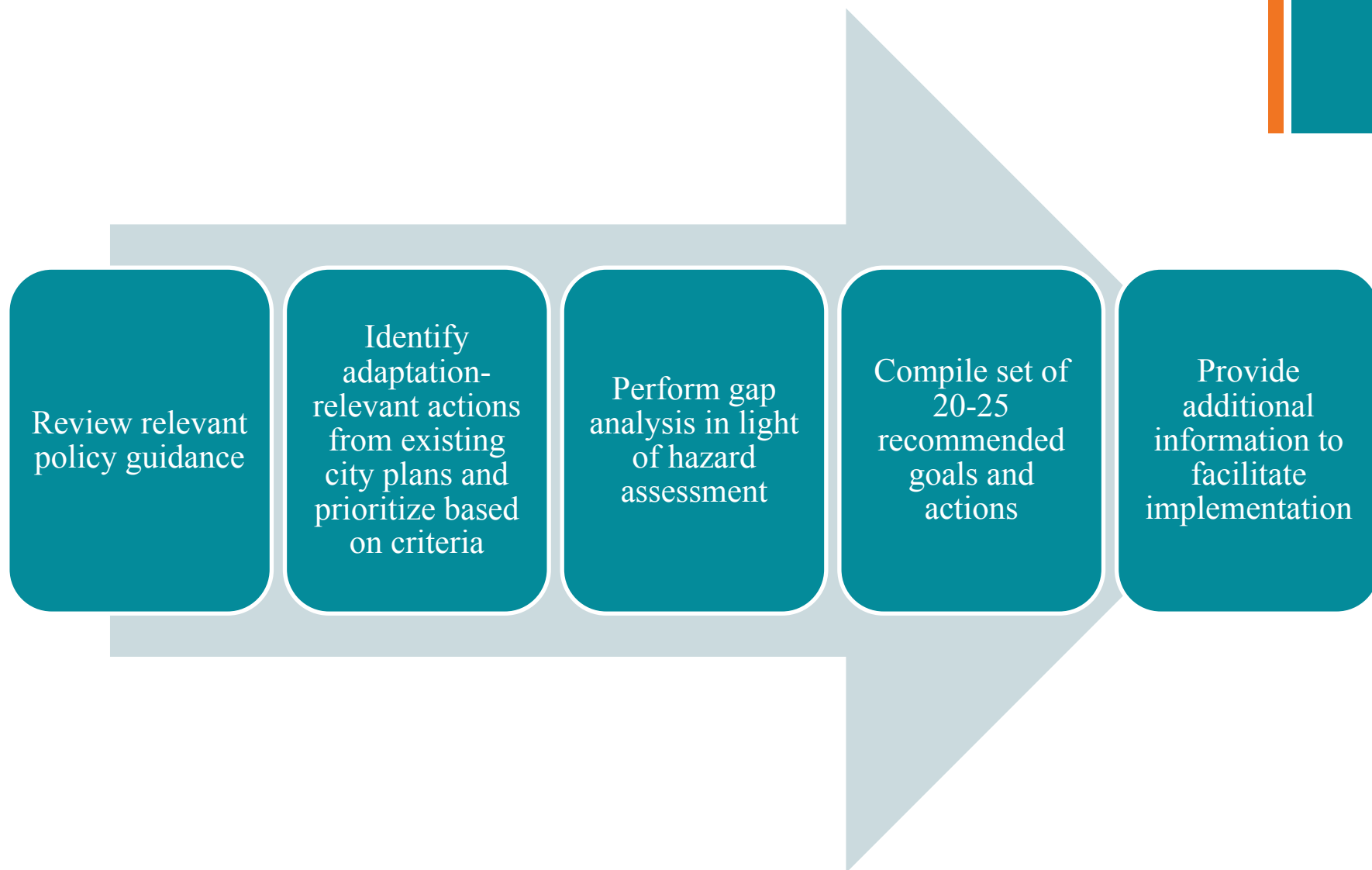


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Adaptation Measures



Process





Example Adaptation Measure

- Decrease urban heat islands through increased vegetation and tree planting and maintenance

Goal: Decrease urban heat islands through increased vegetation and tree planting and maintenance.		
Description: Trees and greenspace can significantly reduce urban heat island effects by providing shade and absorbing heat from the surrounding area. Increasing vegetation and tree canopy in urban areas with a large concentration of buildings can reduce extreme heat impacts and decrease the risk of flood by increasing pervious surface.		
Hazard(s): Higher temperatures, extreme heat, drought		
Co-benefits: Reduced risk for flood with increased pervious surface and greater stormwater capture, improved air quality, cooling of urban infrastructure, increased public green space, increased carbon sequestration, mitigation of drought and heat stress on individual street trees with increased rootable soil volume.		
Equity considerations: Consideration of the equitable distribution of trees across communities will be essential, targeting the areas that are the most vulnerable, underserved and/or will experience the most significant urban heat island impacts.		
Activity	Implementing partner(s)	Key considerations
Assess the existing tree canopy cover and tree health throughout the city.	East Bay Regional Park District, Urban ReLeaf, California Urban Forests Council or other community organizations and non-profit organizations	<p>Comments: This is an important first step to understand vulnerabilities in the existing tree canopy, and inform future tree canopy planning and strategy. An assessment should consider tree location, health and concentration.</p> <p><u>Timeframe:</u> Short-term</p> <p><u>Ease of implementation:</u> Medium</p> <p><u>Potential funding:</u> East Bay Regional Park District, California ReLeaf network, internal city funds</p>
Identify priority areas to expand urban tree and vegetation planting.	Urban forestry community organizations and non-profit organizations	<p>Comments: Consider most vulnerable, underserved populations and areas with the least tree cover and/or most urban heat island effect impacts.</p> <p><u>Timeframe:</u> Short-term</p>



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Results



How Are Cities Using the Chapter?

An Example from Emeryville

- Local Hazard Mitigation Plan Update - drafting of the Climate Change Hazard Analysis section, identification of hazard mitigation ideas (Human Resources)
- Climate Action Plan - informing the Adaptation and Resilience sections, meeting Global Covenant of Mayors obligations (Public Works)
- Sea Level Rise Plan (Planning)
 - Bicycle-pedestrian path between I-80 and Emeryville Crescent Marsh
 - McLaughlin Eastshore State Park uplands design and bio-swale draining Powell Street to the Bay to the south
 - Living levee to protect Crescent marsh and possibly provide a place for the path



How Are Cities Using the Chapter?

An Example from Emeryville

- To State Lands Commission (AB 691)
 - Assess impacts
 - Map areas that may be affected in 2030, 2050, and 2100 including the 100-year storm
 - Estimate cost of impacts including repair, lost use, and preventing or mitigating damage
 - Describe how we will protect and preserve natural and man-made resources
- To California Office of Planning and Research (SB 379)
 - Vulnerability assessment
 - Adaptation and resilience goals, policies and objectives
 - Feasible implementation measures



Resources

- Case Study

- <http://427mt.com/case-study-integrating-climate-risks-local-planning-alameda-county/>

- First of three blog posts on climate hazard assessment and local adaptation planning

- <http://427mt.com/blog/>



Climate change is already affecting our **communities**.
Together, we can build resilience.



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Climate Solutions

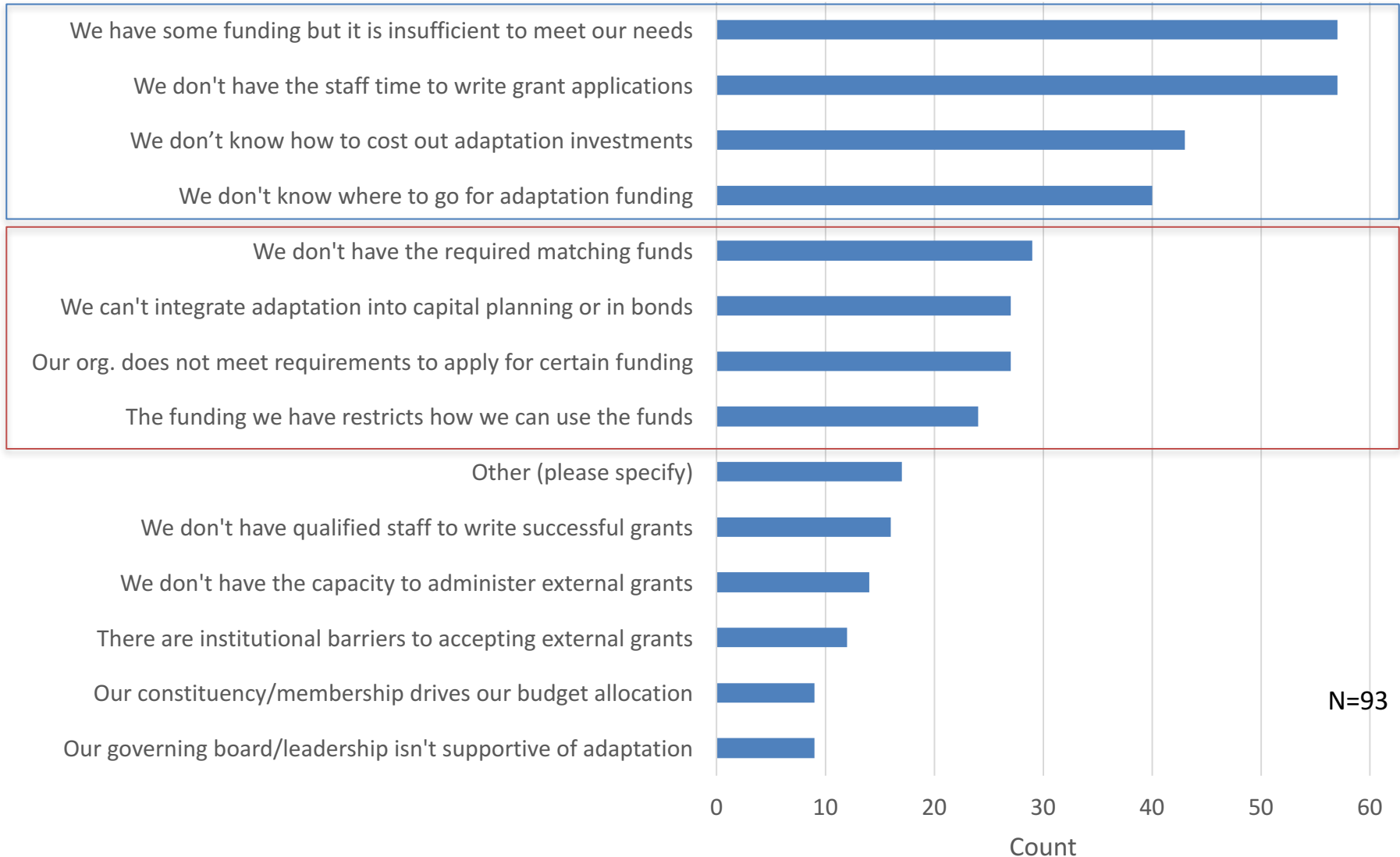
Yoon Kim, Director of Advisory Services
ykim@427mt.com - 415.930.9797

www.427mt.com

Additional Resources

- [Fourth Assessment Projects – Overcoming Financial and Institutional Barriers to Adaptation](#)
- [ARCCA 2017 Legislative Tracking](#)
- [Integrated Climate Adaptation and Resiliency Program](#)
- [Safeguarding California](#)
- [Cal-Adapt](#)
- [Adaptation Planning Guide](#)
- [Georgetown Climate Center Adaptation Clearinghouse](#)
- [NOAA U.S. Climate Resilience Toolkit](#)
- [National Adaptation Forum \(May 9-11, Saint Paul, MN\)](#)

Funding Challenges



Thank You!

- To learn more about ARCCA:
 - Visit arccacalifornia.org
 - Contact Julia Kim at jkim@lgc.org or (916) 448-1198 x304
- To learn more about OPR:
 - Visit opr.ca.gov
 - Contact Michael McCormick at michael.mccormick@opr.ca.gov
 - Contact Nuin-Tara Key at nuin-tara.key@opr.ca.gov
- To learn more about Four Twenty Seven:
 - Visit 427mt.com
 - Contact Yoon Kim at ykim@427mt.com
- Stay tuned for our next Learning Session!