Climate Resistance and Resiliency:
An Adaptive Framework for Stormwater Risk Management

Scientific Studies Program

Fiscal Year 2026-2027

Watershed Areas: Upper San Gabriel River (USGR), Upper Los Angeles River (ULAR), Rio Hondo (RH)

Project Lead: San Gabriel Valley Council of Governments (SGVCOG)

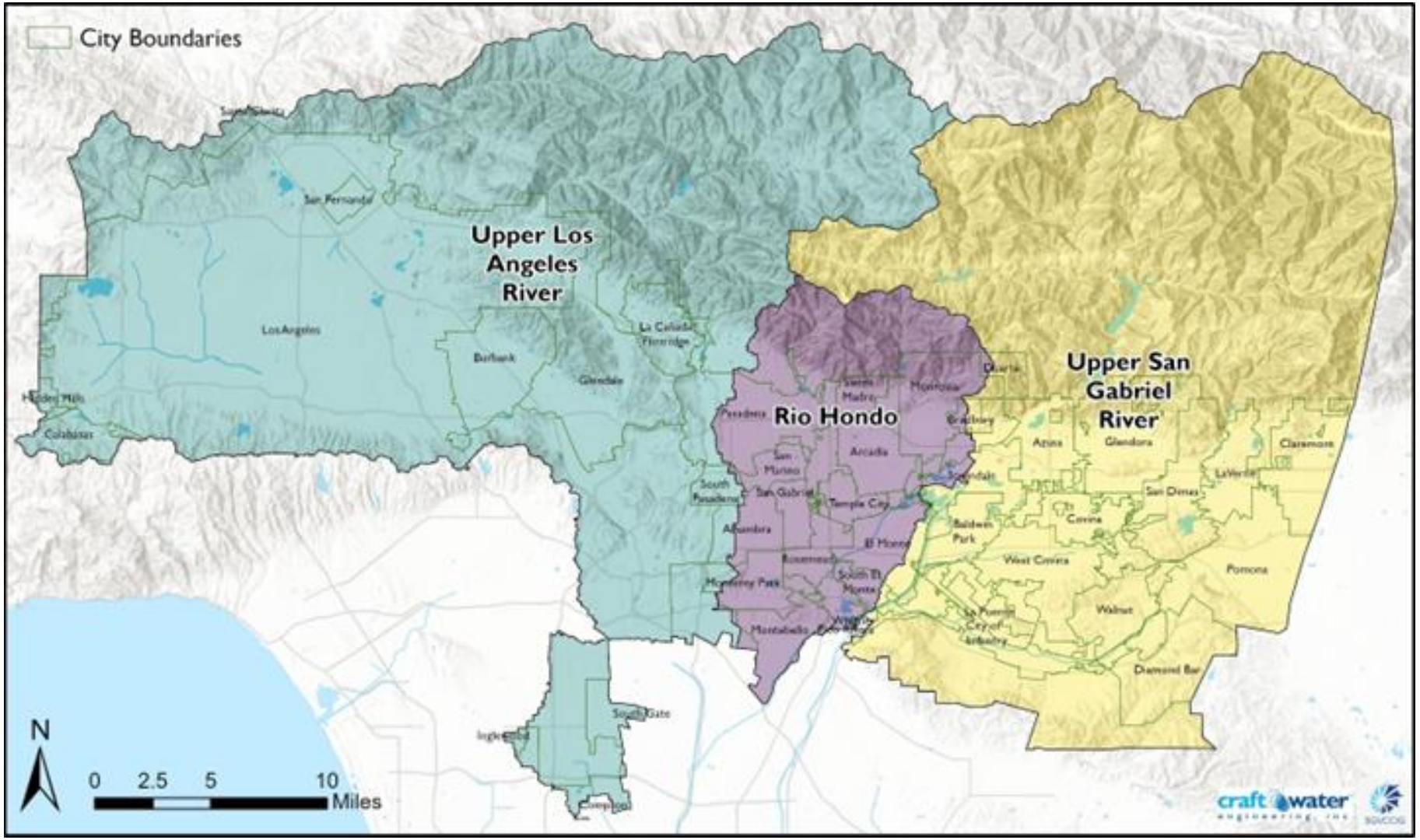
Presenters: Mackenzie Bolger, SGVCOG and Brianna Datti, Craftwater

Study Overview

Framework for proactive, adaptive strategies under extreme conditions of climate change and growing frequency and severity of natural disasters

- Climate change and natural disasters pose threat to quality of stormwater, urban runoff, and availability of local water supplies
- Identifying strategies to prevent and mitigate these negative impacts

Study Location



Watersheds:

- Upper Los Angeles River
- Rio Hondo
- Upper San Gabriel River

- Emphasis on 31 agencies within SGVCOG

Study Team

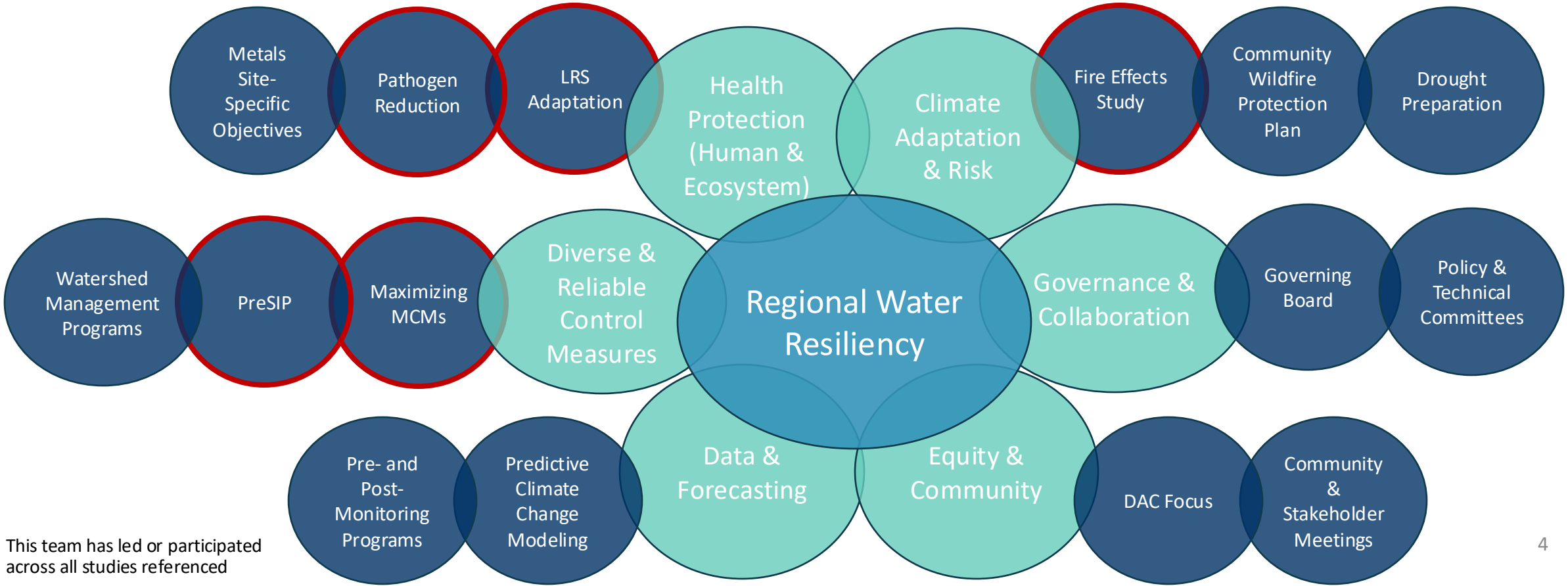
Lead

SAN GABRIEL VALLEY COUNCIL OF GOVERNMENTS
One Valley. One Voice.

Anticipated Developer

CRAFTWATER
SCIENCE • STRATEGY • ENGINEERING

Committed to…



This team has led or participated across all studies referenced

Study Details – Problem Statement

Stormwater Management is increasingly challenged by impacts of climate change and growing frequency and severity of natural disasters.

More proactive, adaptive strategies are required to achieve the goals of stormwater programs to safeguard communities and protect the environment under these extreme conditions.

Study Details – Problem Statement

Fires

Floods

Mudslides

Droughts

Earthquakes

- Increased Pollutant Loading
- Lose of Water Supply
- Degraded Level of Service for Infrastructure
- Increased Burden on Operations

Study Details – Objectives & Outcomes

CHARACTERIZE RISK

IDENTIFY PREVENTION & MITIGATION STRATEGIES

PROACTIVE PREVENTION AND RAPID RESPONSE MITIGATION FRAMEWORK

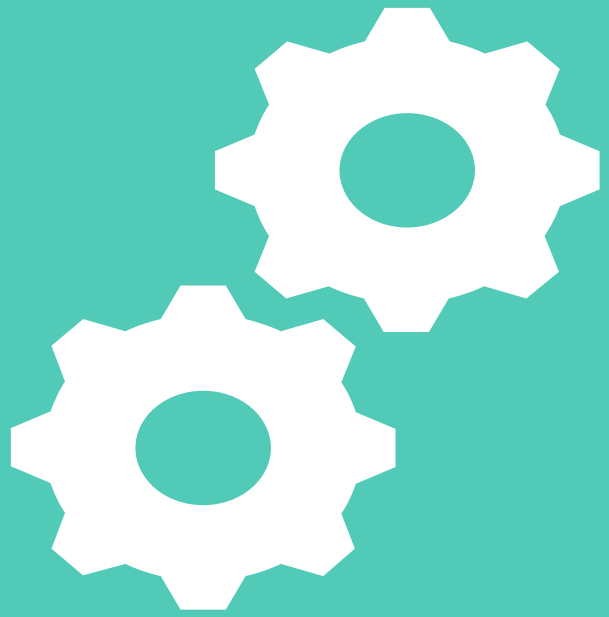
ASSESS RISK-BENEFIT

Study Details – Objectives & Outcomes

Characterize Risk

- Worst-case scenarios
- Spatial & temporal factors
- Climate Projections (CMIP & Local)
- Characterize magnitude & timing of risks for 5 natural disasters
  - Increased pollution
  - Decreased water supply
  - Degraded LOS in infrastructure
  - Increased burden on O&M

Study Details – Objectives & Outcomes



Identify Strategies

- Compile existing and identify new
- Calculate magnitude of costs

Study Details – Objectives & Outcomes

Proactive Prevention & Rapid Response Mitigation Framework

- Integrate in local hazard mitigation plans

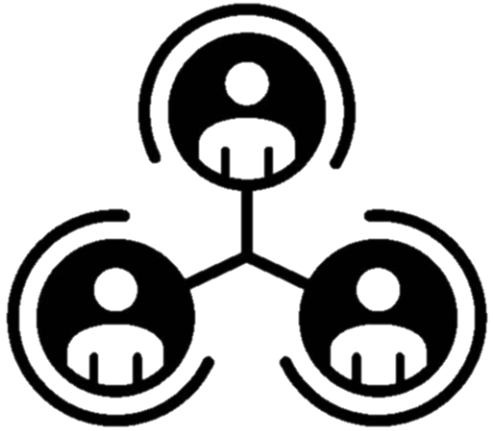
Study Details – Objectives & Outcomes

Assess Risk-Benefit

- Calculate costs of stormwater-relevant impacts
  - Probability of event occurring
  - Potential impact
- Risk-benefit calculator, pairs probability-scaled impact costs with strategy implementation costs

Study Details – Collaboration & Expansion

Technical Stakeholder Committee



- Academics, Research Institutes, Municipal Agencies
- Inform tools and leverage existing resources
- Provide input & feedback

Community Engagement

- Community Meetings
- Integrate local concerns
- Develop community-specific flyers and fact sheets on preparation and responses

Cost & Schedule

Phase	Description	Cost	Completion Date
Pre-Study and Work Planning	Technical Stakeholder Committee & Community Engagement	$91,300	12/31/2029
Study Implementation	Characterize Risk	$709,500	12/31/2028
Study Implementation	Identify Prevention & Mitigation Strategies	$280,500	6/30/2029
Post-Study	Assess Risk-Benefit	$121,000	12/31/2029
TOTAL		**$1,202,300**	

Funding Request

WASC	Year 1	Year 2	Year 3	TOTAL
RH	$120,633	$207,900	$72,233	**$400,766**
ULAR	$120,634	$207,900	$72,234	**$400,768**
USGR	$120,633	$207,900	$72,233	**$400,766**
TOTAL	**$361,900**	**$623,700**	**$216,700**	**$1,202,300**

Summary of Benefits

Water Quality: Prevention and mitigation strategies to protect and progress towards water quality goals even under extreme natural disasters

Water Supply: Preparedness for droughts

Public Health: Framework for managers and communities to mitigate and adapt to effects of climate change and increasing prevalence of extreme natural disasters

Questions?

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