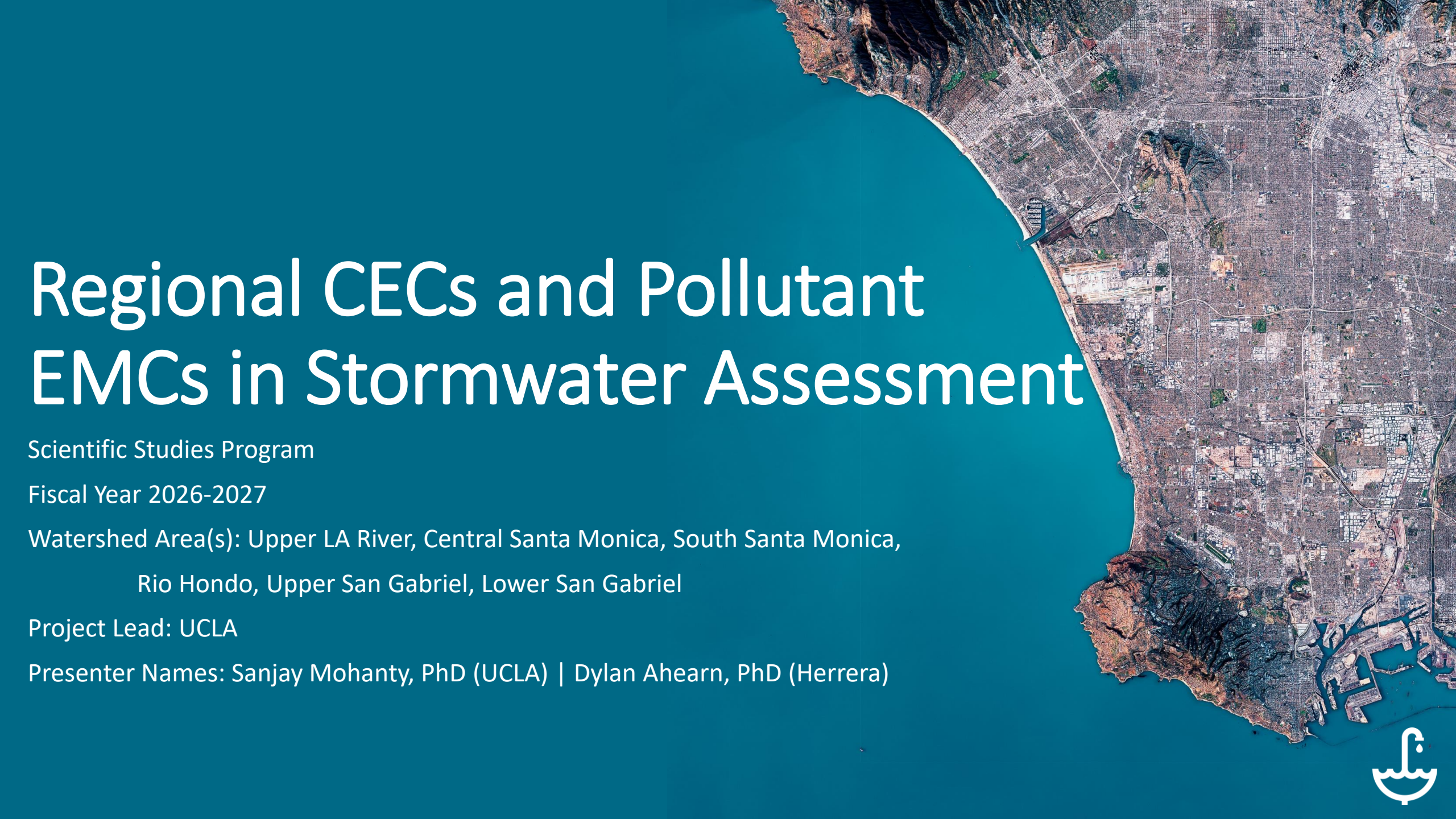


An aerial photograph of the Los Angeles coastline and city grid, showing the Pacific Ocean on the left and the city's urban layout extending inland. The image is partially obscured by a dark teal overlay on the left side where the text is located.

# Regional CECs and Pollutant EMCs in Stormwater Assessment

Scientific Studies Program

Fiscal Year 2026-2027

Watershed Area(s): Upper LA River, Central Santa Monica, South Santa Monica,  
Rio Hondo, Upper San Gabriel, Lower San Gabriel

Project Lead: UCLA

Presenter Names: Sanjay Mohanty, PhD (UCLA) | Dylan Ahearn, PhD (Herrera)



# Study Overview

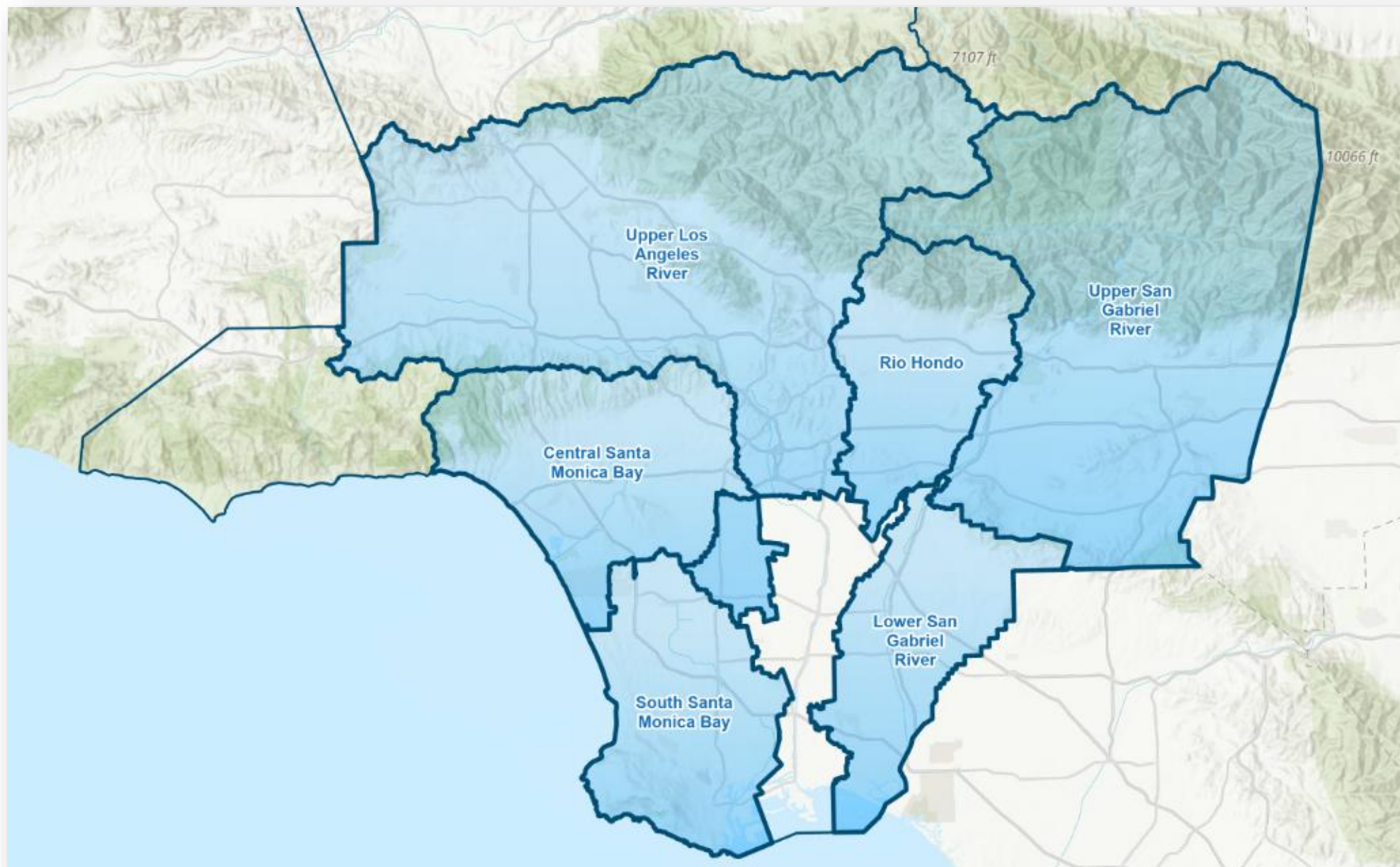
Regional stormwater study linking land use to emerging contaminants such as PFAS, microplastics, and 6PPDQ to help guide future BMPs and planning.

- This study generates **actionable, science-based data on CECs** in stormwater runoff within Los Angeles County, which:
  - Advances science-based decision making within the SCWP
  - Improves watershed planning, and selection and placement of BMPs and strategies





# Study Location





# UCLA

**Sanjay Mohanty, PhD**  
Project Principal

- *Experts on the fate and transport of CECs, including microplastics and PFAS, in stormwater.*
- *Leading several scientific studies funded by federal and state agencies on designing climate-resilient BMPs to improve stormwater quality.*
- *Leading soil monitoring effort for metals and CECs post 2025 Los Angeles Wildfires.*



# Study Team – Collaborators



- *National leader in WQ monitoring, BMP performance assessment, and CEC pollutant source characterization.*
- *Data science and geospatial analyses focused on environmental, public health, and social equity.*

**Dylan Ahearn, PhD**  
**Principal Technical Advisor**



- *Global leader in infrastructure and environmental solutions with local expertise.*
- *Science-based monitoring program design and BMP implementation to address MS4-specific issues*

**Jian Peng, PhD**  
**Implementation Lead**



# Study Details – Problem Statement

1. A new generation of Contaminants of Emerging Concern (CECs) including PFAS, microplastics, and 6PPDQ are now ubiquitous in stormwater.
2. Recent (and future) wildfires are expected to increase the concentration of PFAS and microplastics in stormwater.
3. Establishing a linkage between land use and stormwater CECs is crucial for guiding the selection and placement of structural and non-structural BMPs – and the development of broader watershed strategies.





# Study Details – Objectives & Outcomes

## Objective:

Generate a robust, regionally representative data set on the occurrence, concentrations, and land use correlations of CECs in Los Angeles County stormwater.

## Outcomes:

### Guidance for BMP Implementation

1. Targeted BMP Siting Based on Land Use and Traffic Patterns
2. Pollutant-Specific BMP Selection

### Development of Tools and Applications

1. Interactive Data Dashboard
2. Digital Archive for Future CEC Analysis

### BMPs Post-wildfires

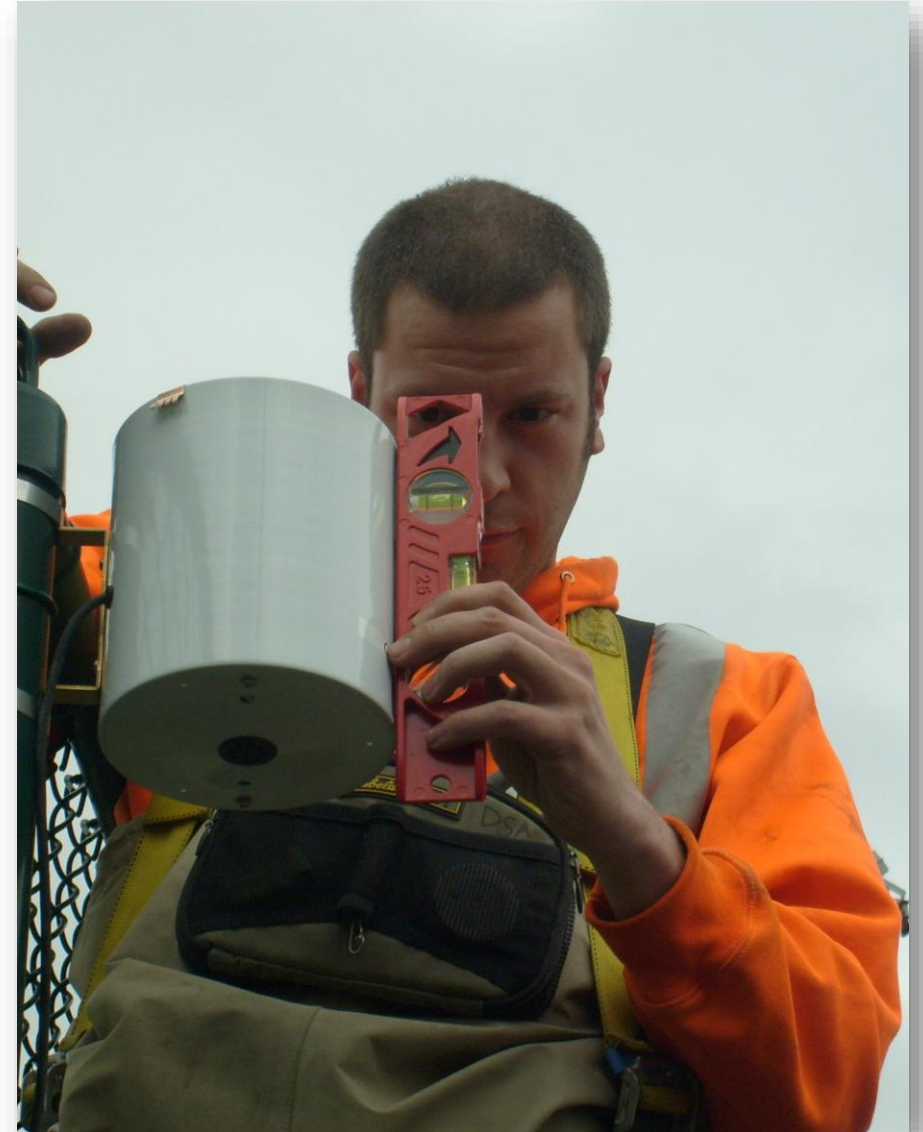
1. Did wildfires increase CECs, and to what extent?





# Study Details – Methodology

- **Task 1** – Planning and Site Selection
- **Task 2** – Literature Review and Method Development
- **Task 3** – Equipment Installation and Site Preparation
- **Task 4** – Sample Collection
- **Task 5** – Data Management and Quality Assurance
- **Task 6** – Data Analysis and Interpretation
- **Task 7** – Reporting and Communication
- **Task 8** – Project Management

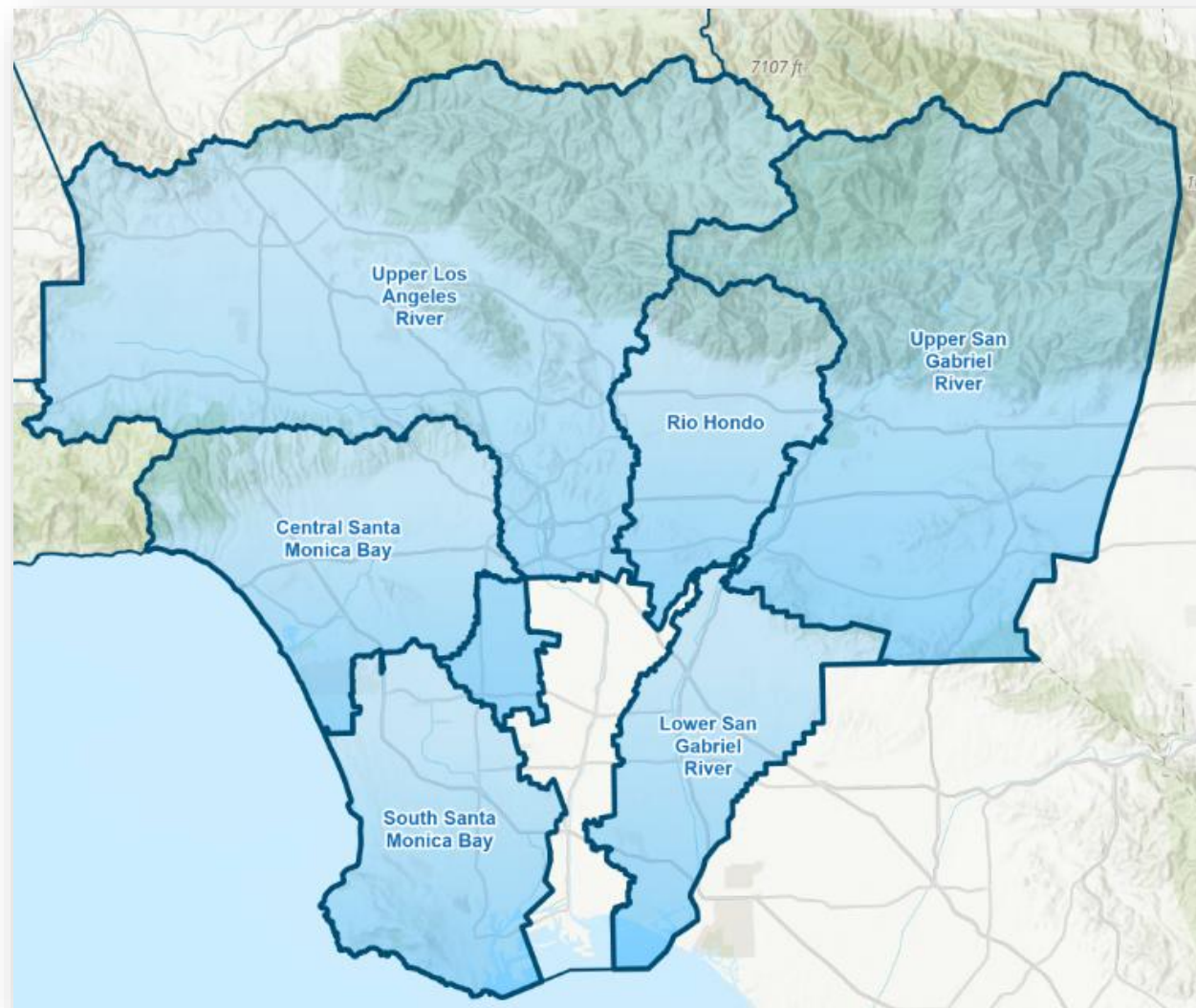




# Study Details – Collaboration

## Regional Effort

- CSMB, LSGR, Rio Hondo, SSMB, ULAR, USGR
- Diverse densities, land uses, climates, watersheds, and populations
- Efficiency in sharing knowledge, priorities, and costs among watersheds





# Study Details – Collaboration (cont.)

## Foundational and Complementary Efforts

1. Passive-active modular stormwater biofilter designs to enhance PFAS removal in variable flow conditions ([UCLA - DoD](#))
2. Accumulation, transport, and treatment of microplastics impacted with PFAS in stormwater best management practices ([UCLA - DoD](#))
3. Design factors affecting microplastic retention, removal, and generation in structural best management practices ([UCLA - COPC](#))
4. Soil amendment guidance for infiltration and stormwater treatment ([UCLA](#), [Caltrans](#))





# Study Details – Collaboration (cont.)

## Foundational and Complementary Efforts

5. Spatial and Temporal Trends in Chemical Contamination and Toxicity Relative to Land Use in California Watersheds ([SPoT Monitoring Program](#))
6. Multimedia investigations of microplastic concentrations in the Los Angeles and San Gabriel Rivers ([SCCWRP](#))
7. Southern CA Stormwater Monitoring Coalition ([SMC](#)) updating conventional event mean concentrations (EMCs), and specifically highlighted the need for CEC data.
8. Characterization of Stormwater Transport of Contaminants of Emerging Concern ([UW Tacoma et al. 2025](#))





# Study Details – Collaboration





# Cost & Schedule

| Task                                                 | Cost      | Start Date   | Completion Date |
|------------------------------------------------------|-----------|--------------|-----------------|
| Task 1 – Planning and Site Selection                 | \$237,294 | April 2027   | April 2028      |
| Task 2 – Literature Review and Method Development    | \$161,765 | April 2027   | April 2028      |
| Task 3 – Equipment Installation and Site Preparation | \$695,861 | April 2028   | October 2028    |
| Task 4 – Sample Collection                           | \$698,509 | October 2028 | October 2031    |
| Task 5 – Data Management and Quality Assurance       | \$138,390 | October 2028 | October 2031    |
| Task 6 – Data Analysis and Interpretation            | \$118,791 | April 2029   | October 2031    |
| Task 7 – Reporting and Communication                 | \$247,322 | October 2028 | February 2032   |
| Task 8 – Project Management                          | \$169,959 | April 2027   | February 2032   |



# Funding Request

| WASC         | Year 1           | Year 2           | Year 3           | Year 4           | Year 5           | Total              |
|--------------|------------------|------------------|------------------|------------------|------------------|--------------------|
| CSMB         | \$61,926         | \$134,288        | \$34,780         | \$43,274         | \$78,641         | <b>\$352,908</b>   |
| LSGR         | \$59,761         | \$129,593        | \$33,564         | \$41,760         | \$75,891         | <b>\$340,569</b>   |
| RH           | \$41,573         | \$90,151         | \$23,349         | \$29,051         | \$52,794         | <b>\$236,917</b>   |
| SSMB         | \$63,225         | \$137,105        | \$35,510         | \$44,181         | \$80,290         | <b>\$360,312</b>   |
| ULAR         | \$139,009        | \$301,444        | \$78,072         | \$97,138         | \$176,529        | <b>\$792,193</b>   |
| USGR         | \$67,556         | \$146,496        | \$37,942         | \$47,207         | \$85,790         | <b>\$384,991</b>   |
| <b>TOTAL</b> | <b>\$433,051</b> | <b>\$939,077</b> | <b>\$243,216</b> | <b>\$302,612</b> | <b>\$549,934</b> | <b>\$2,467,890</b> |



# Summary of Benefits

1. Water Quality – Providing a scientific foundation to inform and guide targeted investments based on CEC hotspots
2. Water Supply Resilience – Enabling agencies to better assess treatment needs and risks with infiltration
3. Community Investment and Planning – Informing water management decisions to equitably safeguard all communities
4. Enhancing Public Education and Outreach –
  - Products/data dashboard will build public awareness and support for SCWP initiatives
  - Integrating results into UCLA class curriculum and training



# Questions?

**Sanjay Mohanty, PhD**



**Dylan Ahearn, PhD**

