

An aerial photograph of the Los Angeles coastline and city grid, showing the ocean, the city's layout, and some industrial areas. The image is partially obscured by a dark blue 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 Areas: Upper LA River, Central Santa Monica Bay, South Santa Monica Bay,
Rio Hondo, Upper San Gabriel River, Lower San Gabriel River

Project Lead: UCLA

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



Study Overview

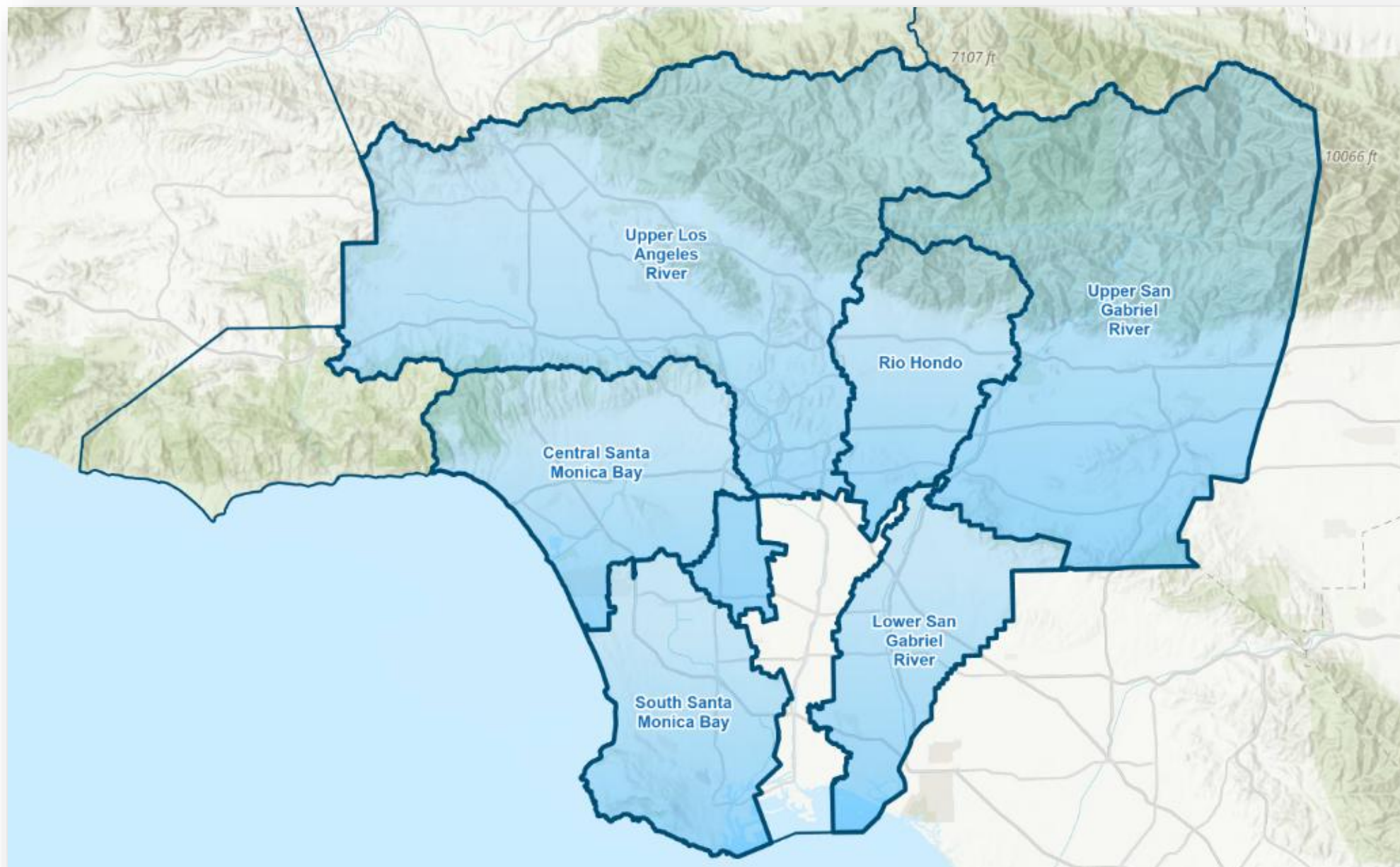
Regional stormwater study linking land use to emerging contaminants such as PFAS, microplastics, and 6PPDQ to help guide future BMPs and planning.

- 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





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

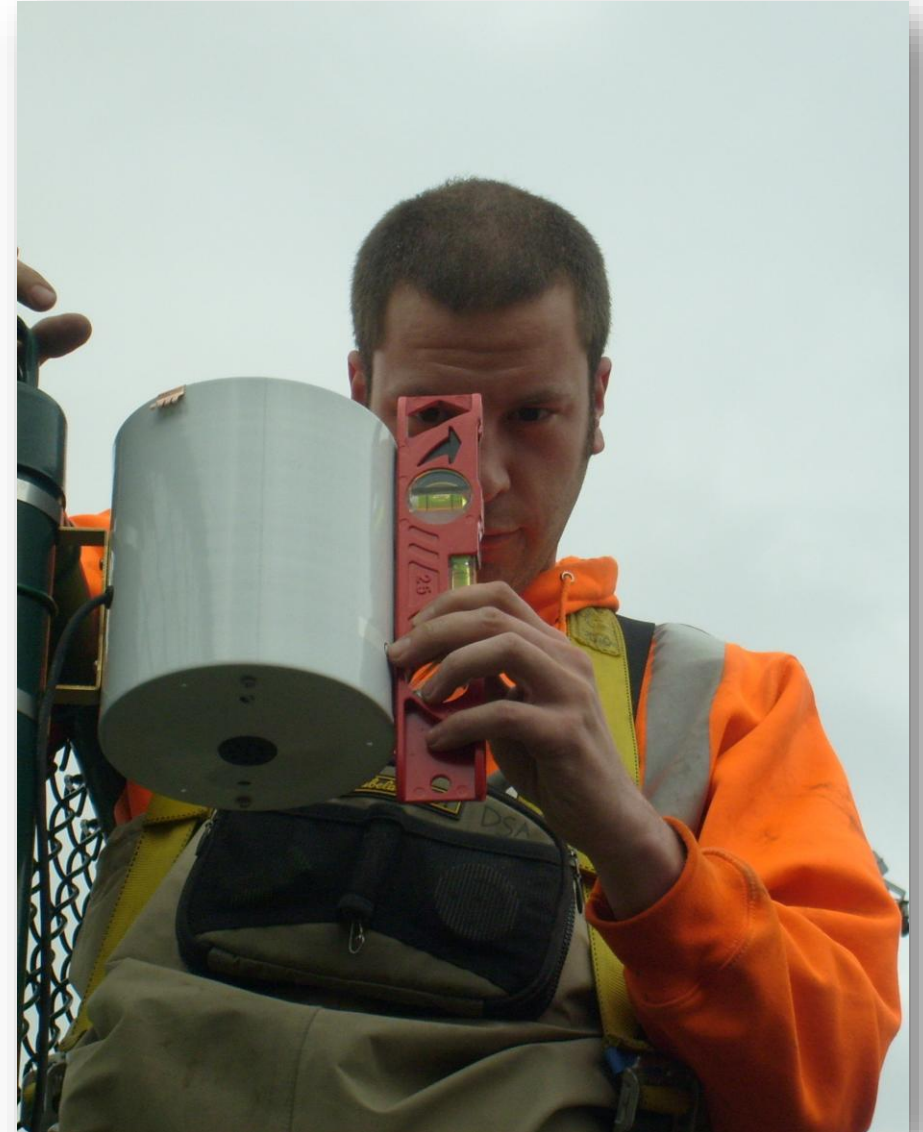
1. Did wildfires increase CECs, and to what extent?





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

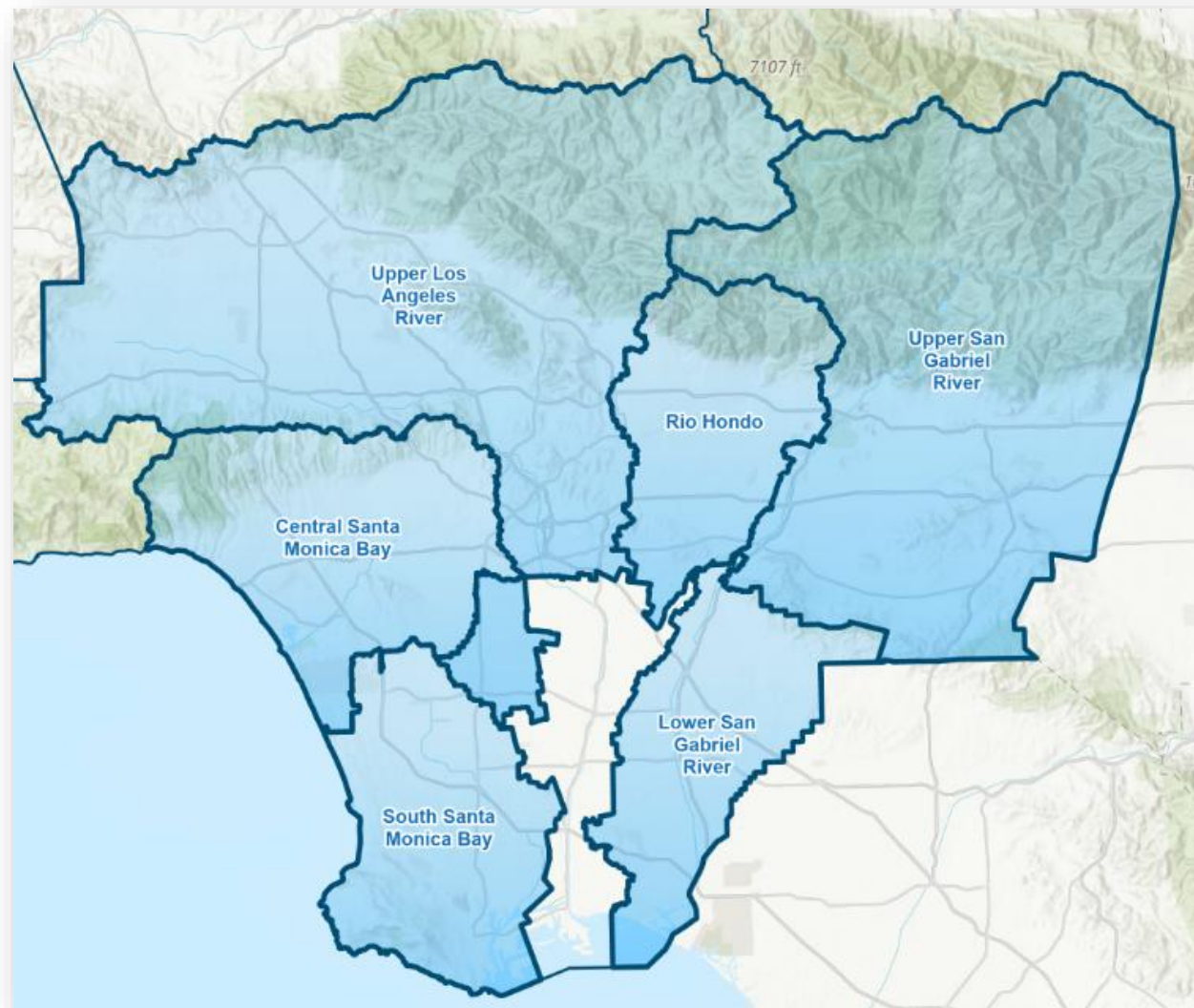




Study Details – Collaboration

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	\$352,908
LSGR	\$59,761	\$129,593	\$33,564	\$41,760	\$75,891	\$340,569
RH	\$41,573	\$90,151	\$23,349	\$29,051	\$52,794	\$236,917
SSMB	\$63,225	\$137,105	\$35,510	\$44,181	\$80,290	\$360,312
ULAR	\$139,009	\$301,444	\$78,072	\$97,138	\$176,529	\$792,193
USGR	\$67,556	\$146,496	\$37,942	\$47,207	\$85,790	\$384,991
TOTAL	\$433,051	\$939,077	\$243,216	\$302,612	\$549,934	\$2,467,890



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

