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## **An assessment of the transport of southern California stormwater ocean discharges**

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### **ABSTRACT**

The dominant source of coastal pollution adversely affecting the regional coastal water quality is the seasonally variable urban runoff discharged via southern California's rivers. Here, we use a surface transport model of coastal circulation driven by current maps from high frequency radar to compute two-year hindcasts to assess the temporal and spatial statistics of 20 southern California stormwater discharges. These models provide a quantitative, statistical measure of the spatial extent of the discharge plumes in the coastal receiving waters, defined here as a discharge's "exposure". We use these exposure maps from this synthesis effort to (1) assess the probability of stormwater connectivity to nearby Marine Protected Areas, and (2) develop a methodology to estimate the mass transport of stormwater discharges. The results of the spatial and temporal analysis are found to be relevant to the hindcast assessment of coastal discharges and for use in forecasting transport of southern California discharges..

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