

WATER QUALITY ANOMALIES AFTER SEVERE WEATHER EVENTS IN SOUTHWESTERN PUERTO RICO

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Field and satellite-derived bio-optical and biogeochemical properties were used to assess water quality anomalies from baseline values in southwestern Puerto Rico before and after hurricanes Irma (6-7 Sept.) and María (20-21 Sept.) in 2017. These major hurricanes were the most catastrophic events to impact Puerto Rico in the last 90 years. The amount of accumulated rain around the island was over 38 inches. Water quality trends and anomalies obtained from ocean color satellite data can be used to estimate the status and health of coral reefs and seagrasses through its impact on light penetration. Satellite imagery from Sentinel 3A OLCI (Ocean and Land Colour Instrument) was used to estimate the absorption of detrital and gelbstoff coefficient (ADG443_NN), Total Suspended Matter (TSM), chlorophyll-*a* and the diffused attenuation coefficient (K_{d490}) values. These data were compared with *in-situ* data of the same parameters. The increase in satellite-derived K_{d490} from 0.078 to 0.134 m^{-1} (0.269 in the field) and ADG443_NN from 0.052 to 0.138 m^{-1} (0.113 in the field) were recorded after the hurricanes. However, large increases in chl-*a* and TSS were not detected, as expected. K_{d490} shows the highest correlation with aCDOM and ADG443_NN. Satellite imagery shows a significant increase in all parameters for many coastal and oceanic areas around the island before and after the hurricane events.