

DOCUMENTING IAN'S EFFECTS ON SARASOTA BAY – IMPACTS AND TIMELINE FOR RECOVERY

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On September 28, 2022, Hurricane Ian made landfall in Southwest Florida. While Sarasota Bay was not directly impacted by storm surge, the bay's watershed experienced winds up to 81 mph, which brought down trees and defoliated the landscape across much of the lower portion of the watershed. Over a three-day period, the bay's watershed experienced between 5 and 15 inches of rainfall. In response to the pulse of freshwater inflow, pollutant loads were delivered far in excess of typical amounts. Within a week, the lower portions of Sarasota Bay experienced bacteria levels well above guidance criteria, a condition that persisted for at least two weeks. Runoff from the bay's highly urbanized watershed brought a substantial nitrogen load into the bay, which resulted in phytoplankton levels much greater than guidance criteria. High levels of phytoplankton existed for at least two weeks.

Little Sarasota Bay exhibited salinity stratification and bottom water hypoxia, phenomena not seen in the adjacent systems of Roberts Bay and Blackburn Bay. Recovery of water quality that occurred between two and four weeks after landfall was likely related to tidal exchange between the bay waters and the Gulf of Mexico, which preceded a widespread red tide event in the nearshore waters of the eastern Gulf of Mexico.

PRESENTER BIO: Dr. Tomasko is the Director of the Sarasota Bay Estuary Program, with more than 30 years' experience developing water quality restoration plans across Florida, California, the Caribbean Sea, and in the Middle East. David has more than 50 papers published in scientific journals and/or book chapters.