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TROPICS 40th Year Net Environmental Benefit Analysis (NEBA) Site Assessment

The TROPICAL Oil Pollution Investigations In Coastal Systems (TROPICS) is the seminal field study on the effects of dispersant use to combat oil spills in tropical marine ecosystems. Clean Caribbean & Americas (CCA) and Nova Southeastern University-National Coral Reef Institute (NCRI) last collaborated in 2016 to conduct the 32-year site visit and assessment of this long-term study. This resulted in a peer reviewed synopsis paper, numerous talks at conferences and workshops, and an overall raising of awareness of Net Environmental Benefit Analysis (NEBA) and Comparative Risk Assessment (CRA) among regulators, planners, and responders.

TROPICS provides long-term damage and recovery trajectories of chemically dispersed crude oil versus non-treated crude oil, an important trade-off for responders. With encouragement from a wide spectrum of stakeholders, CCA formed a Joint Industry Project (JIP) with NSU/NCRI, the Bureau of Environmental Enforcement (BSEE), CEDRE, OSRL, ExxonMobil, the Smithsonian Institution, and others. A team of original researchers from 1984, and emerging spill science leaders, conducted a site visit and assessment in December 2024, at the study sites in Bahia Almirante, Panama. Data was collected on coral, seagrass, and mangroves, representing the three prominent environmental compartments in tropical marine ecosystems. In the past three decades, the intertidal mangrove, and the subtidal seagrass and coral communities, have exhibited significantly different Impact and recovery regimes, illustrative of the effects of untreated floating oil (non-treated) compared to water column exposure from chemically dispersed oil. This information has great relevance to oil spill planners throughout the world's tropical coral-mangrove belt. This presentation will elaborate on the kind of data collected and analyzed from each environmental compartment, and the preliminary findings available by April 2025.