

OCEAN OPTICS XXIV

Valamar Lacroma Dubrovnik Hotel | Dubrovnik, Croatia | October 7–12, 2018

<https://oceanopticsconference.org>

Tuesday, October 9

Poster Session 2

10:30–12:30

Poster 94

CORAL REEF AIRBORNE LABORATORY

The Coral Reef Airborne Laboratory (CORAL) investigation is a 4-year mission, funded under the NASA Earth Venture Suborbital-2 Program, to produce the first comprehensive assessment of reef condition for a large portion of the world's coral reefs. CORAL has deployed the state-of-the-art airborne imaging spectrometer PRISM (NASA JPL) across the Great Barrier Reef, Hawaii, the Mariana Islands, Palau, and Florida. There are 355 total flightlines collectively covering ~75,000 km²; observed reef area is yet to be determined, but is estimated at ~10,000 km², which is 2% of the world's reef area. The core geophysical parameter products from CORAL are benthic cover and benthic community primary productivity and calcification. These products have been validated via simultaneous in-water measurements of water-leaving reflectance, water optical properties, bottom reflectance, benthic community composition, and benthic community metabolism. CORAL image products are being analyzed geospatially against a set of biogeophysical variables that are often invoked to explain changes in coral reef systems. The result will be a set of quantitative, empirical models that can be used to estimate current reef condition and forecast how reefs may respond to various biological, physical and chemical changes in the world's ocean. The aim of this presentation is to describe the breadth of CORAL's data, observations, and findings to the scientific community.

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