



Automated Rapid Reef Assessment System (ARRAS)

ARRAS helps coastal resource managers reduce their tedious, labor intensive and subjective monitoring of coral reefs by providing a fast, diverless means of creating permanent visual records of the marine environment.

The Problem

The Philippines has 27000 sqm of coral reefs that need to be assessed annually for proper management. Current methods for monitoring reefs are labor-intensive requiring snorklers or divers who can get fatigued and are limited by dive time. Outputs are assessment numbers prone to observer bias. Divers taking underwater video can only cover less than 0.15 hectares per day and delivery of assessment can take over a month. In case of damage to corals due to ship grounding or storm surges current techniques are too slow for assessment.

A fast, diverless means
of creating permanent
visual records of the
marine environment

The Solution

ARRAS developed Teardrop - a diverless, banca-towable platform for capturing underwater video, and Kiko&Stitch—a software for automatic video stitching to create panoramic geotagged visual records of coral reefs. The system can generate a stitched underwater imagery map at a rate of 33km of coastline per day.

Competitive Advantage

LONGEST COVERAGE-PER DAY: ARRAS can capture video of coral reefs at 33 kilometers or 29 hectares per day.

MEASUREABLE: Videos are stitched into panoramic images with scale bars allowing measurement of coral colonies.

FAST DELIVERY: Stitched images are geotagged and mapped within 24 hours of video capture.



Target Market

LGUs, Environmental NGOs, Resource Mapping Agencies, Coastal Property Developers, Marine and Fisheries Schools

Revenue Streams

Mapping Services, Hardware Sales, Software Licenses, Analytical Services, Training

Existing Customers

DENR Biodiversity Management Bureau and DENR Regional Offices

Universities: MSU TawiTawi, Batangas State University, Western Philippine University, UP Visayas, University of San Carlos, Silliman University

Local Government Units: PPDO Occidental Mindoro, Palawan, Lubang, Looc, Batangas, Mati, Masinloc, Matnog

NGO: World Wildlife Fund of Tubbataha, Malampaya Foundation

Seeking

Business Management Team, PhP 6M Startup Capital



CONTACT

Maricor N. Soriano, PhD
R203 National Institute of Physics
University of the Philippines,
Diliman, Quezon City
Email : msoriano@nip.upd.edu.ph
Tel : 981-8500 loc. 3707