Marine and Coastal

National Environmental Science Program

PROJECT 3.17

Identifying the un-mapped reefs of the northern Australian seascape

The challenge

There are hundreds of reefs and shoals in northern Australia's coastal waters that support a vast array of marine creatures. Many remain unmapped as they are remote and difficult to see in the turbid, sediment rich waters typical of the region.

These un-mapped reefs can't be considered for protection by planners when deciding how economic and other developments should proceed and be regulated.

This project addresses this problem by creating maps, and associated information, that show the location of the, as yet, unrecorded reefs, along with their habitat features.

The approach

The project will create new, more accurate maps of shallow reefs, using improved satellite imaging techniques. These provide a clearer view of the marine areas than has been achievable to-date. Components of the process include:

- a review of 30 years of satellite imagery for cloud-free images and clearer water occurrences;
- consideration of recent field data to refine geomorphic and benthic habitat maps; and
- improvement of the Allen Coral Atlas through new imagery and improved machine learning

The upgraded maps will provide higher levels of confidence to conservation and development planners, and thus ensure better outcomes for the protection of coral reefs.

Expected outcomes

- Innovative and improved mapping techniques, analysis, and products.
- Reef protection enhanced through more accurate data being available to planners.

Project leaders

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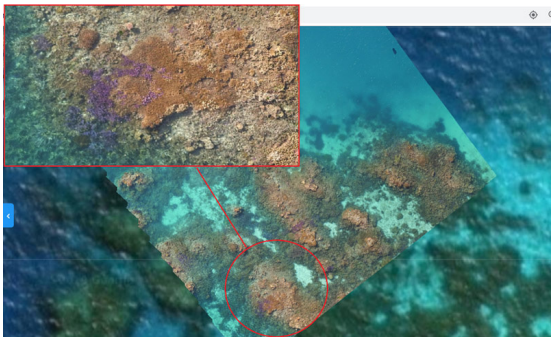
FRONT: Ancient coastal reefs off Port Headland. BACK: (Top) An orthomosaic of Davies Reef, Central Great Barrier Reef. (Bottom) The Gulf of Carpentaria has many small reefs.



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