

Drone Mapping for Coral Conservation

Bora Bora and Moorea

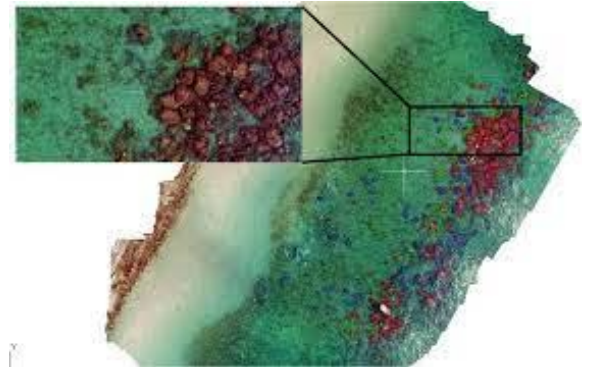
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Primary Objective

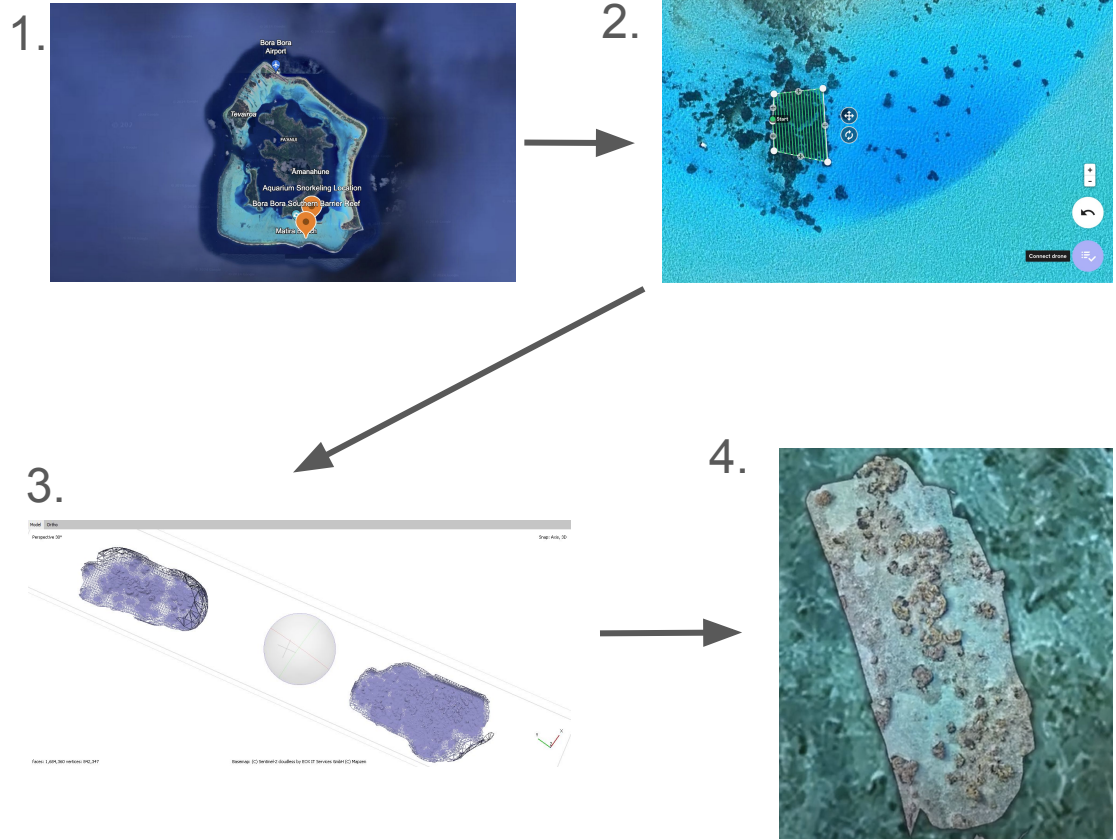
Obtain images of coral reefs with drones to facilitate efforts to monitor reef health and coral cover over time.

This is critical for understanding how corals respond to and recover from climatic and anthropogenic stress over time.



Methodology

1. Site ID
2. Image acquisition
3. Image processing
4. 3D Map



Equipment

Hardware

DJI Mavic 3 Pro (shoutout to Josh)

- 20MP, adjustable aperture

DJI Mavic Pro

- 12MP, fixed aperture

Software



Target Sites: Bora Bora Southern Barrier Reef and EcoTourism Site



Bora Bora Southern Barrier Reef





Bora Bora – Southern Barrier Reef

Researchers at Oxford and Criobe are primarily forced to try and use satellite imagery for coral reef research due to lack of drone images.

The Bora Bora southern barrier reef is especially interesting due to ecotourism sites and several unmapped coral bands.

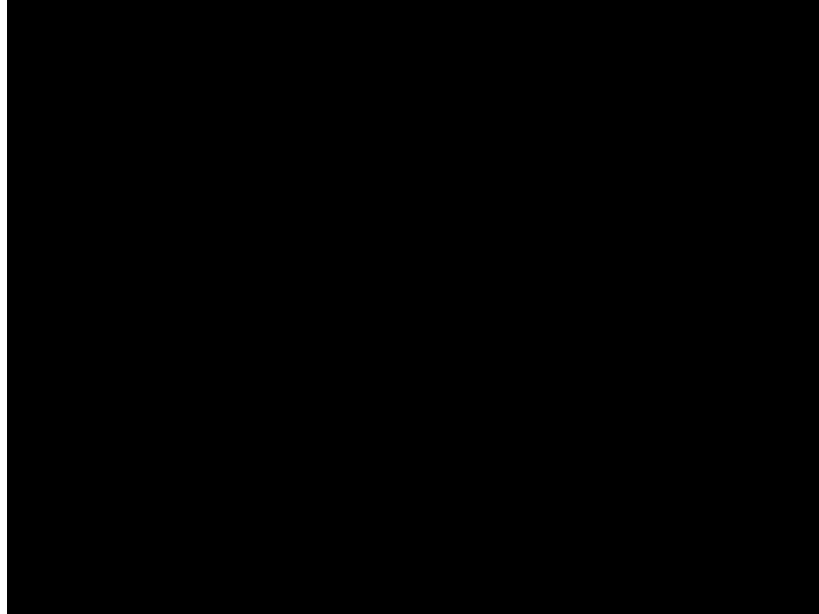


Image Acquisition

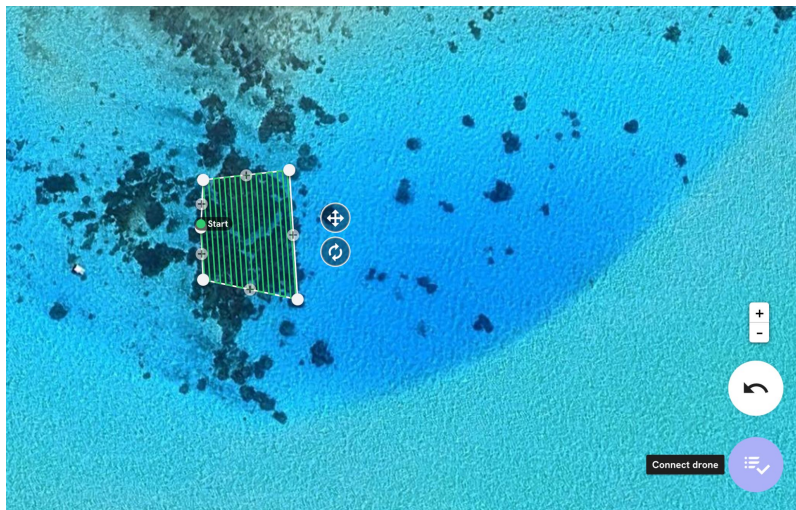
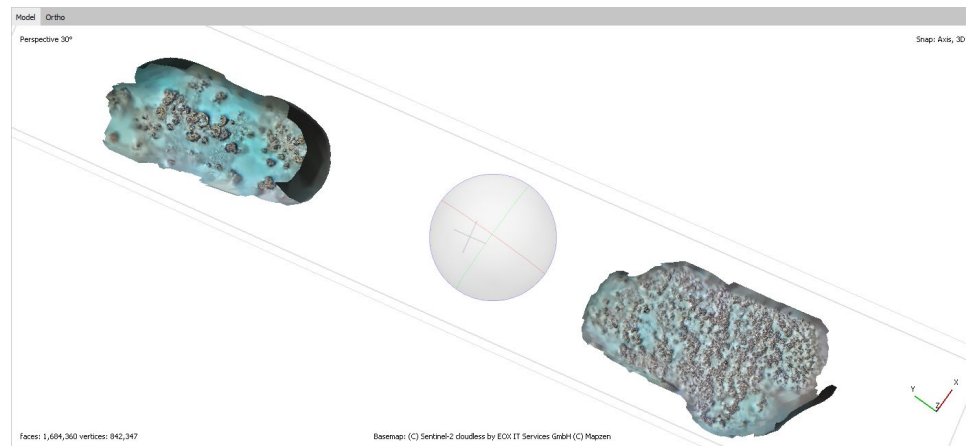
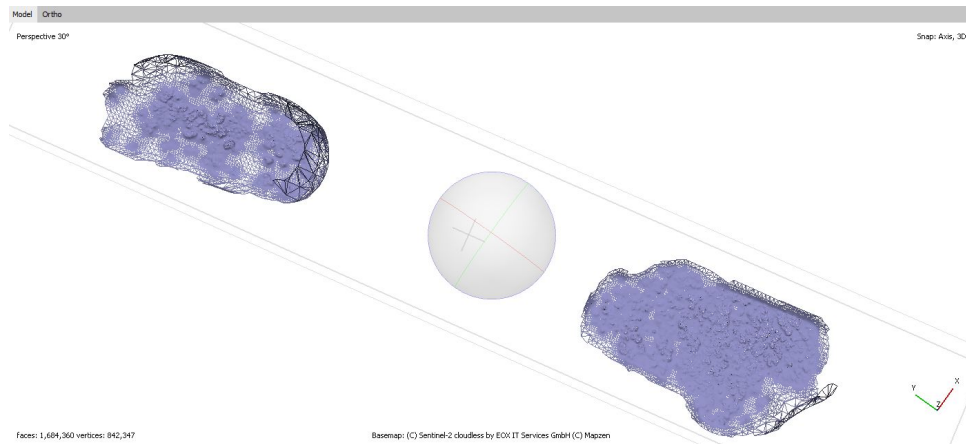
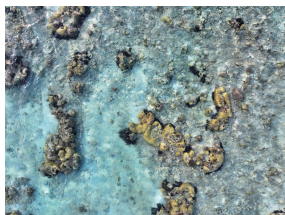
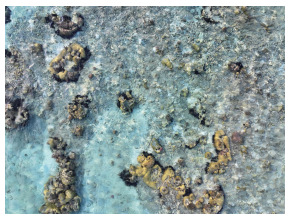
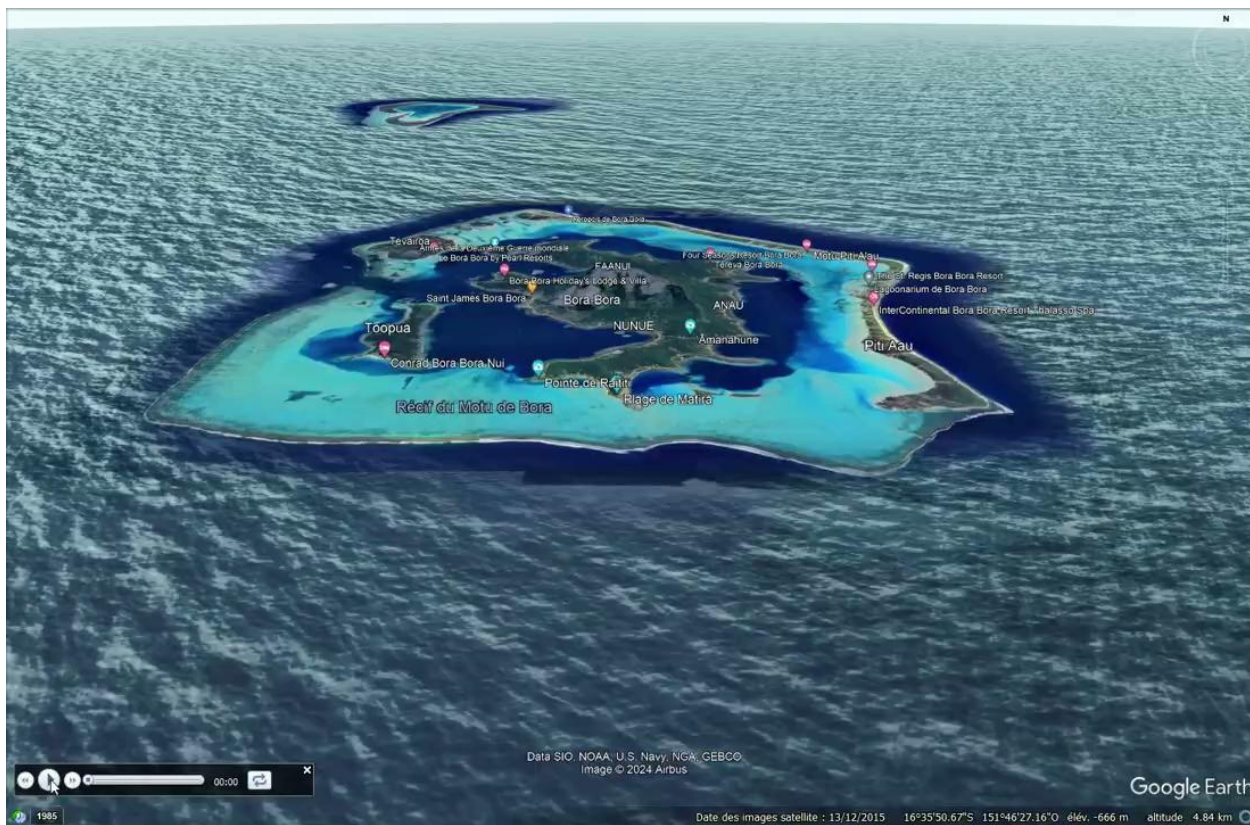


Image Processing



Result: 3D Map



What Does The Data Look Like?







BONUS – Spot the Wildlife! :)





Questions?

