

Optimizing Reef Flat Mapping with Drones

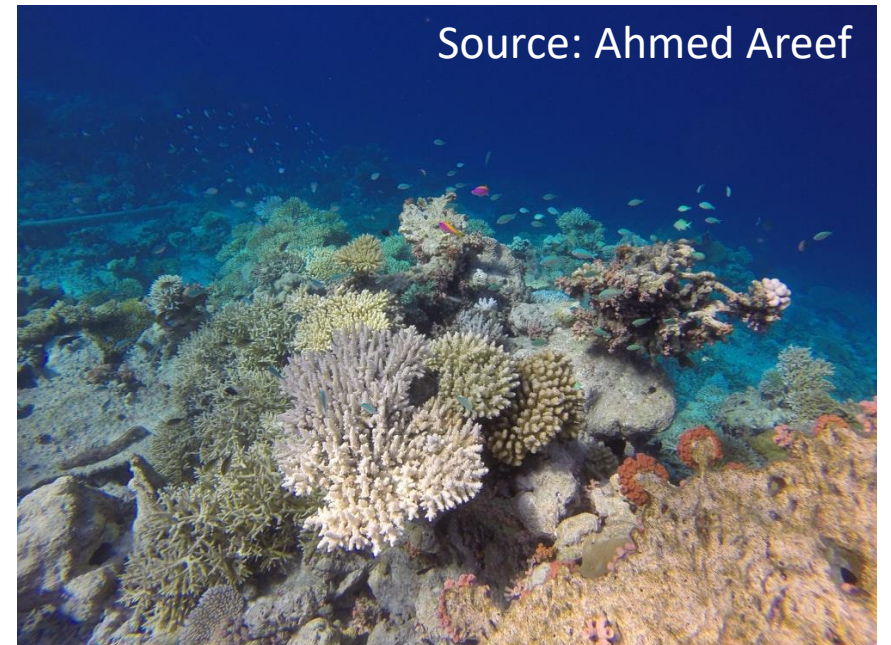
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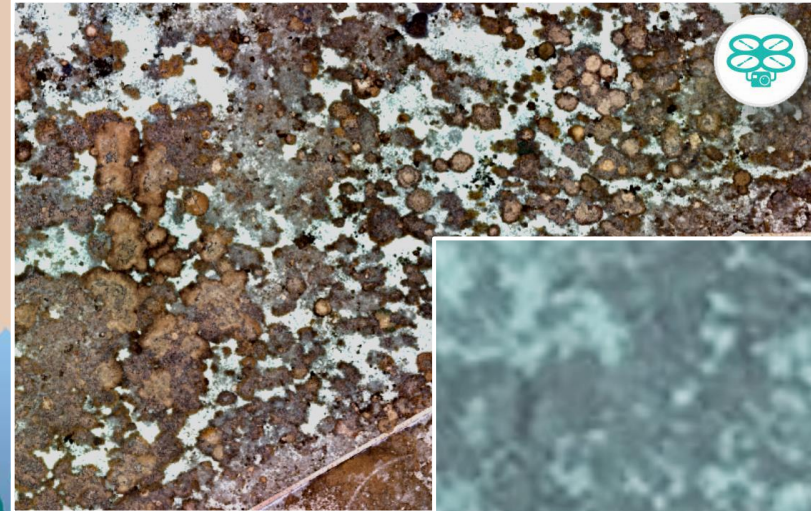
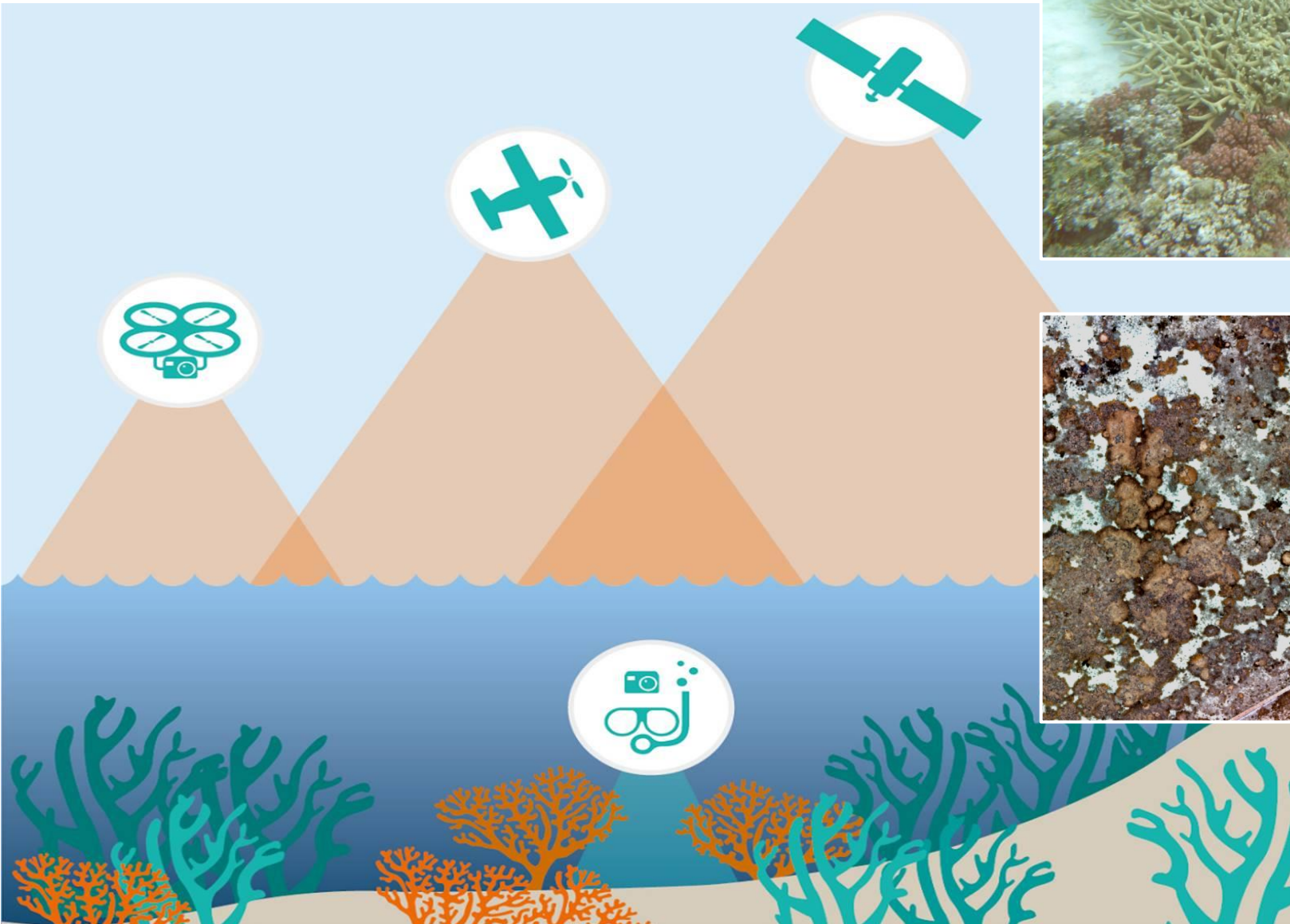


Why study reefs?

- Valuable ecosystems
- Threatened
- Monitoring essential

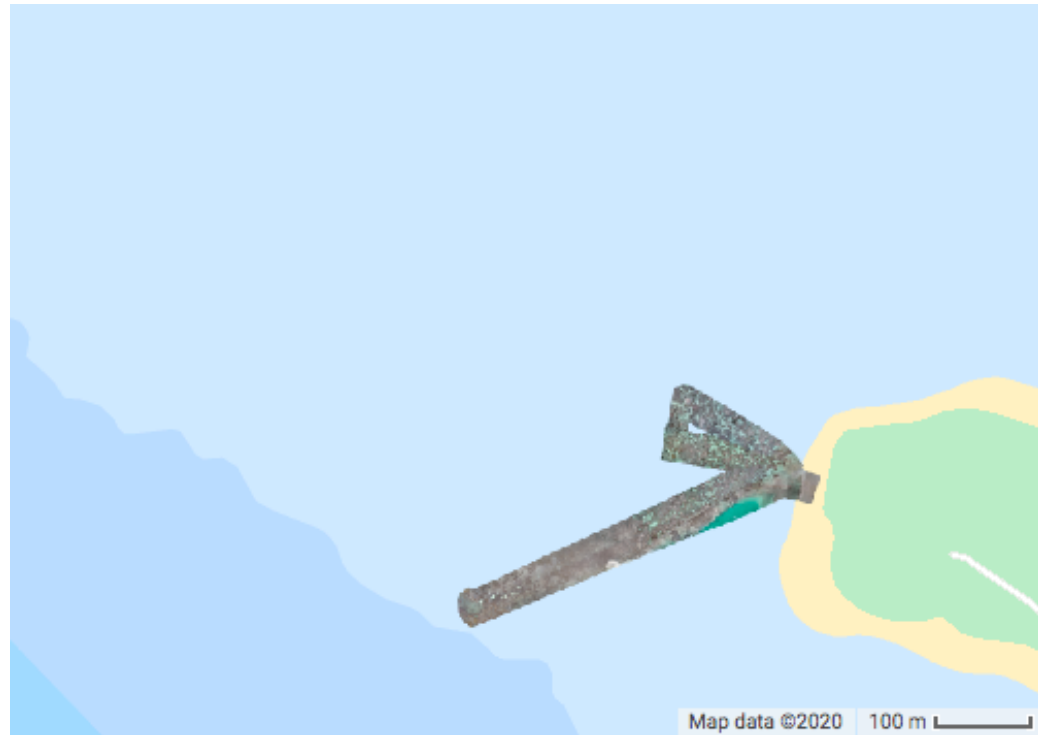


Reef survey methods



Drone sampling

Traditional - Mosaic



Proposed - Transect



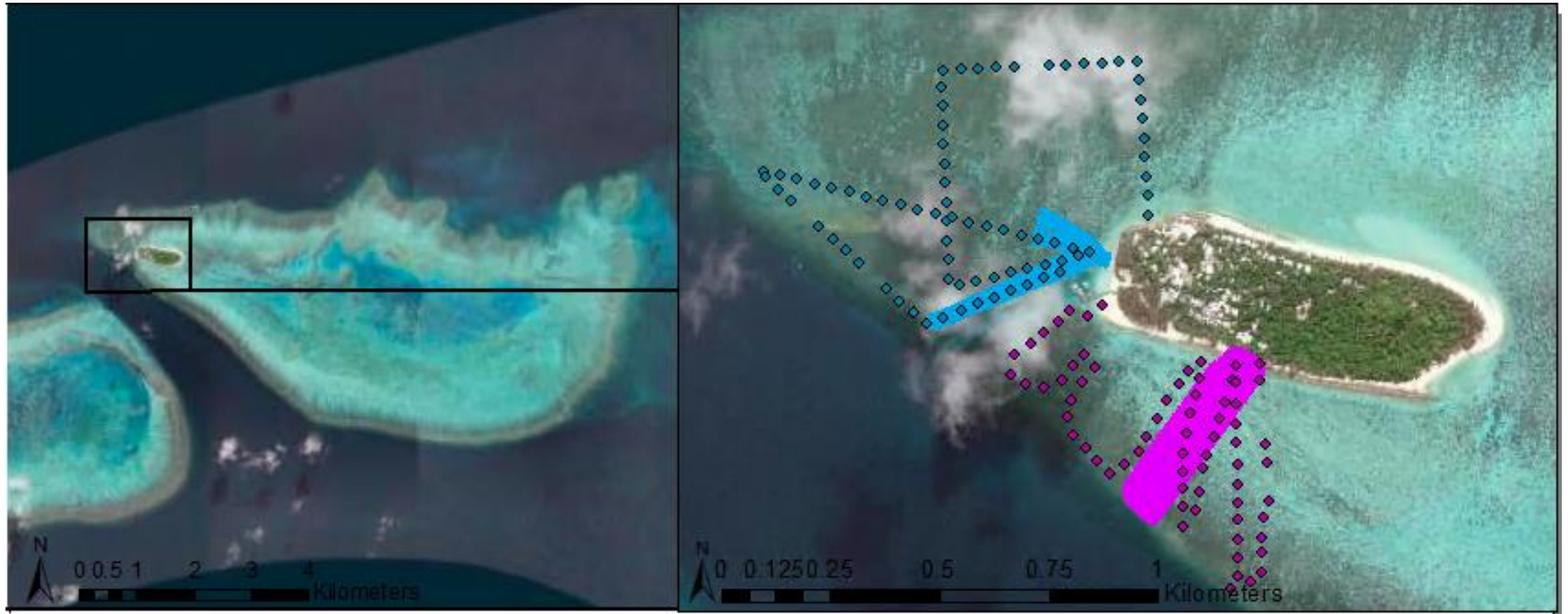
Aims and Objectives

The aim of this study is to optimize reef flat sampling methods with Drones:

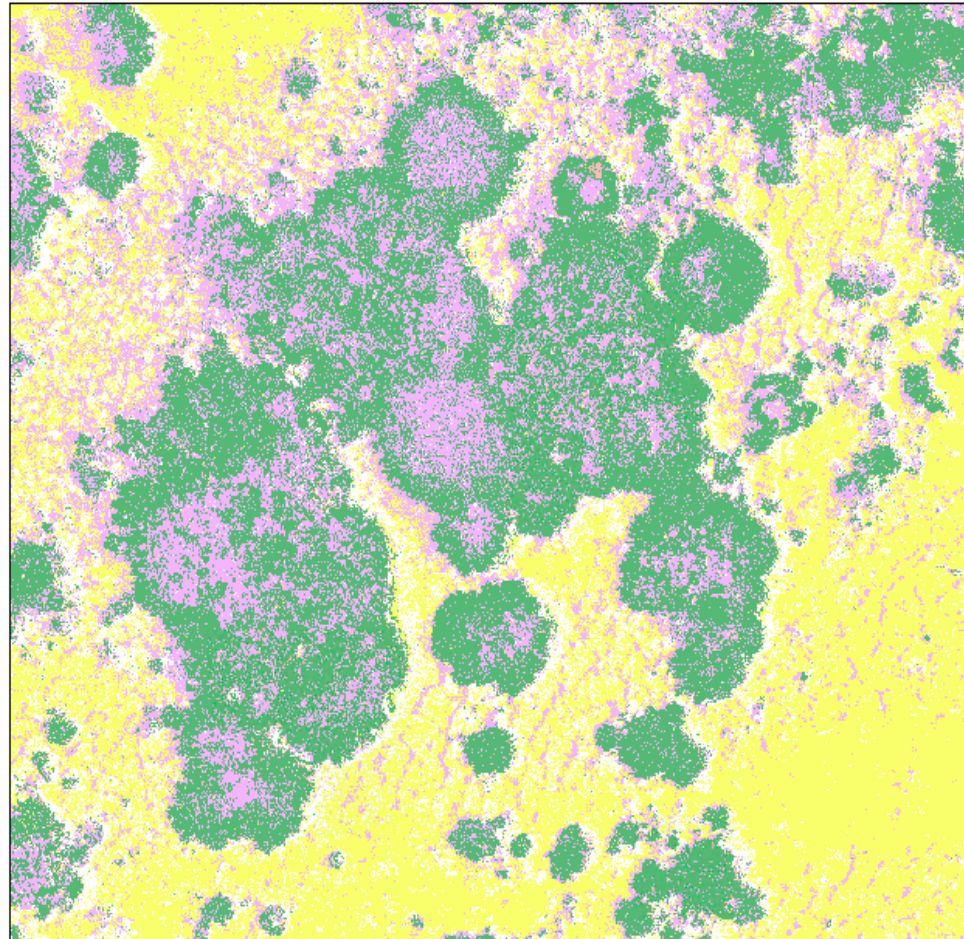
- Compare two drone sampling methods:
 - **Mosaic**
 - **Drone transects**
- Produce classified maps to **quantify live coral cover**

Heron Reef

Capricorn bunker, GBR



Classification result

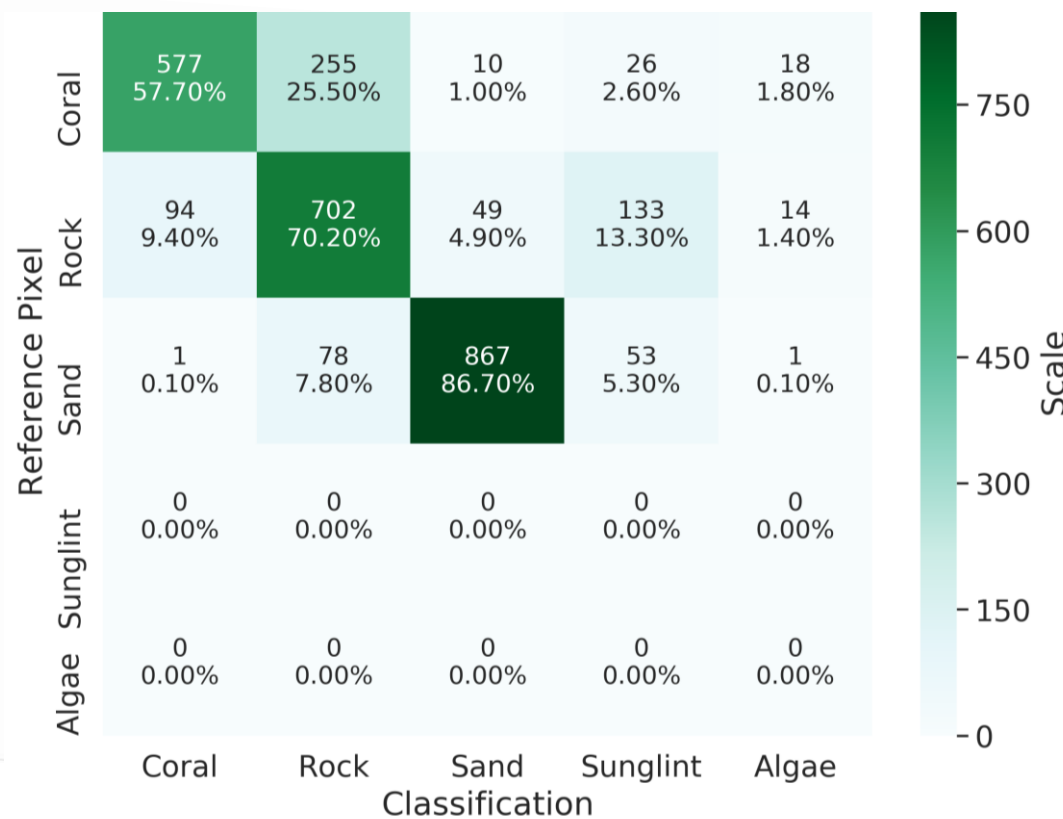


Class

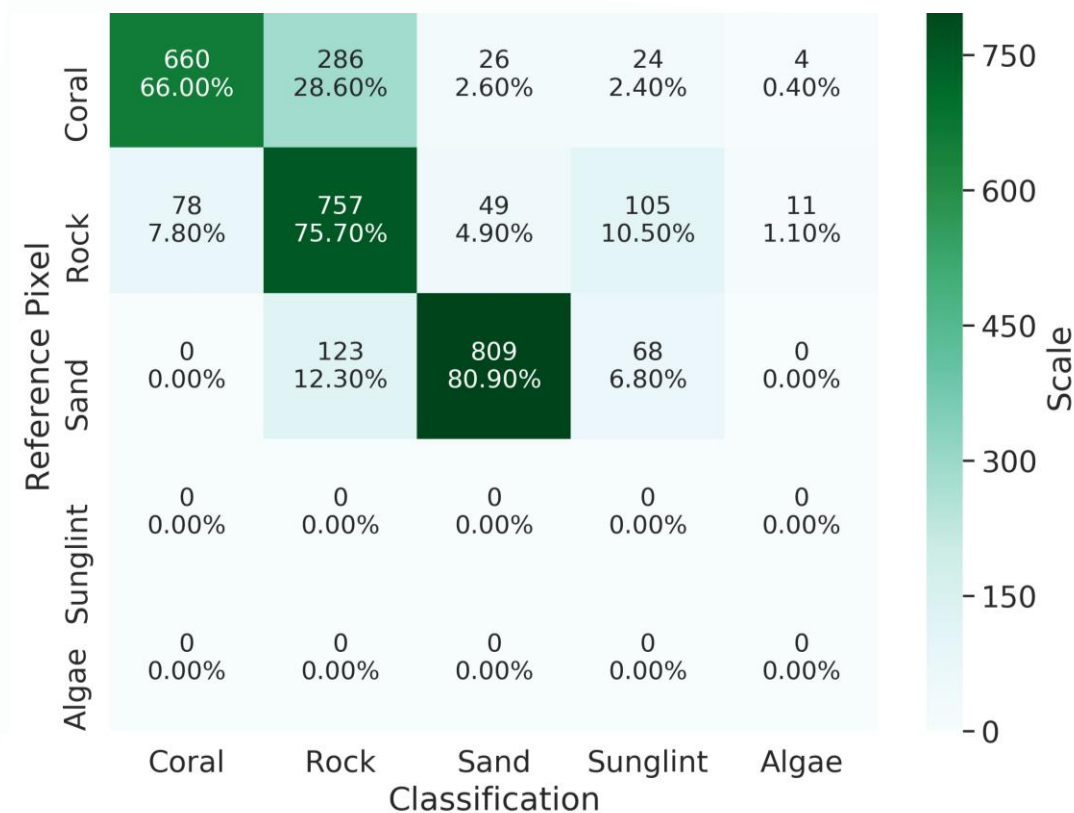
-  Live Coral
-  Rock
-  Sand
-  Sunlint
-  Algae

Transect vs Mosaic

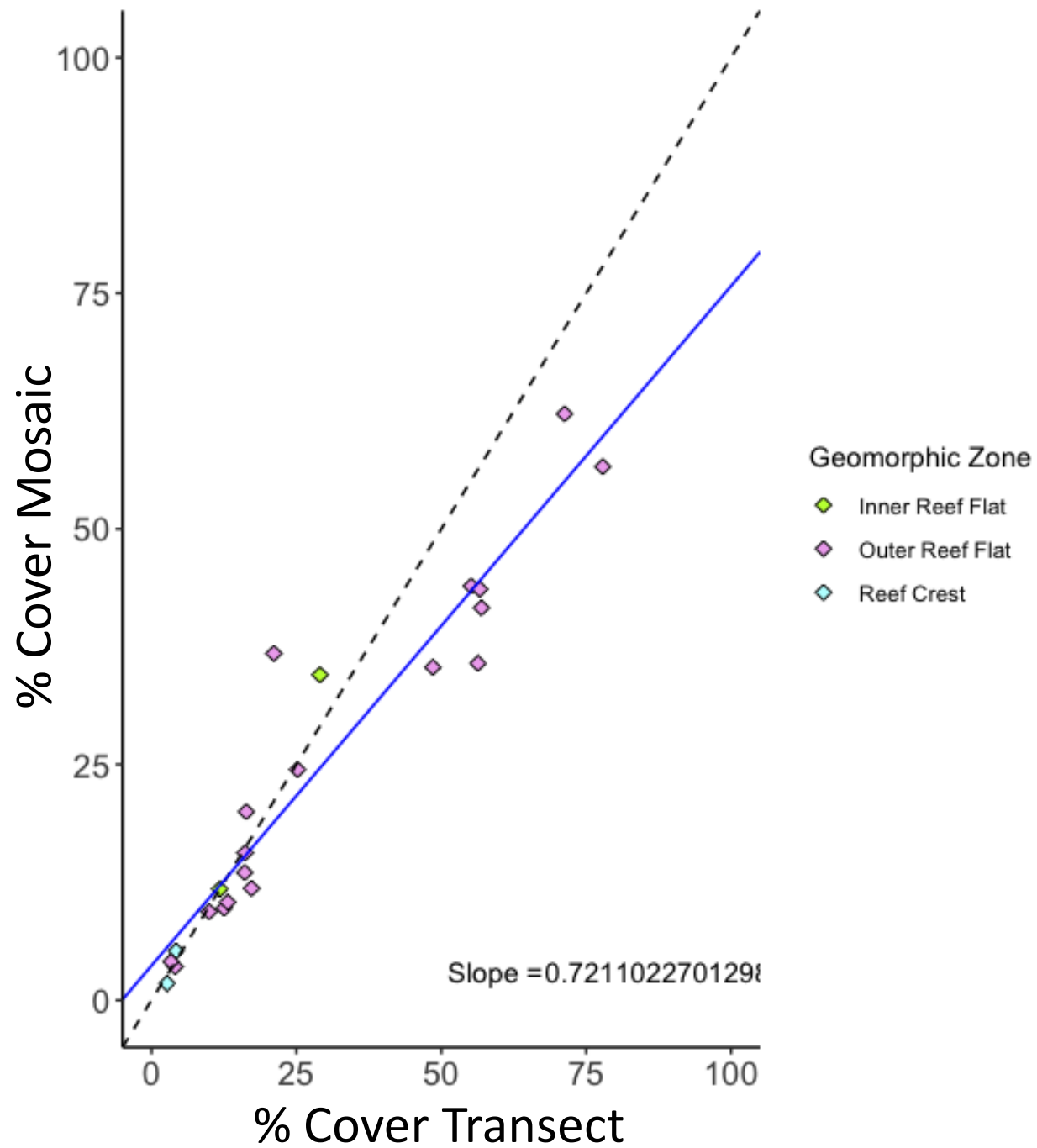
Transect



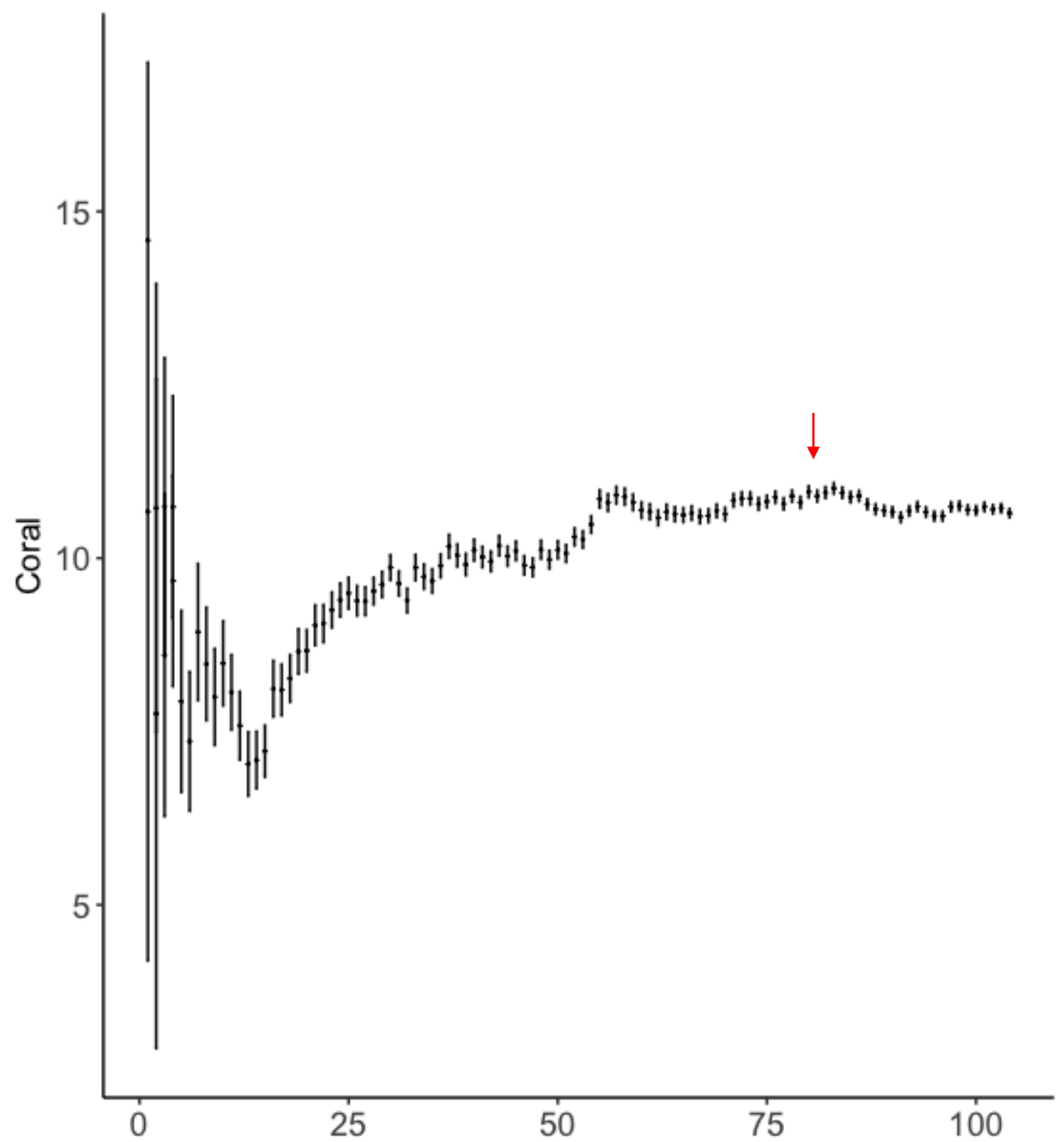
Mosaic



Transect vs Mosaic



Sampling effort



Summary

- **Classification**

- Works on transect and mosaic

- **Comparison of methods**

- Transects lower spatial autocorrelation
 - Transect captures more environmental variation?

- New way of using a drone to study reefs?