

# Corals, kayaks and citizen science

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## Background

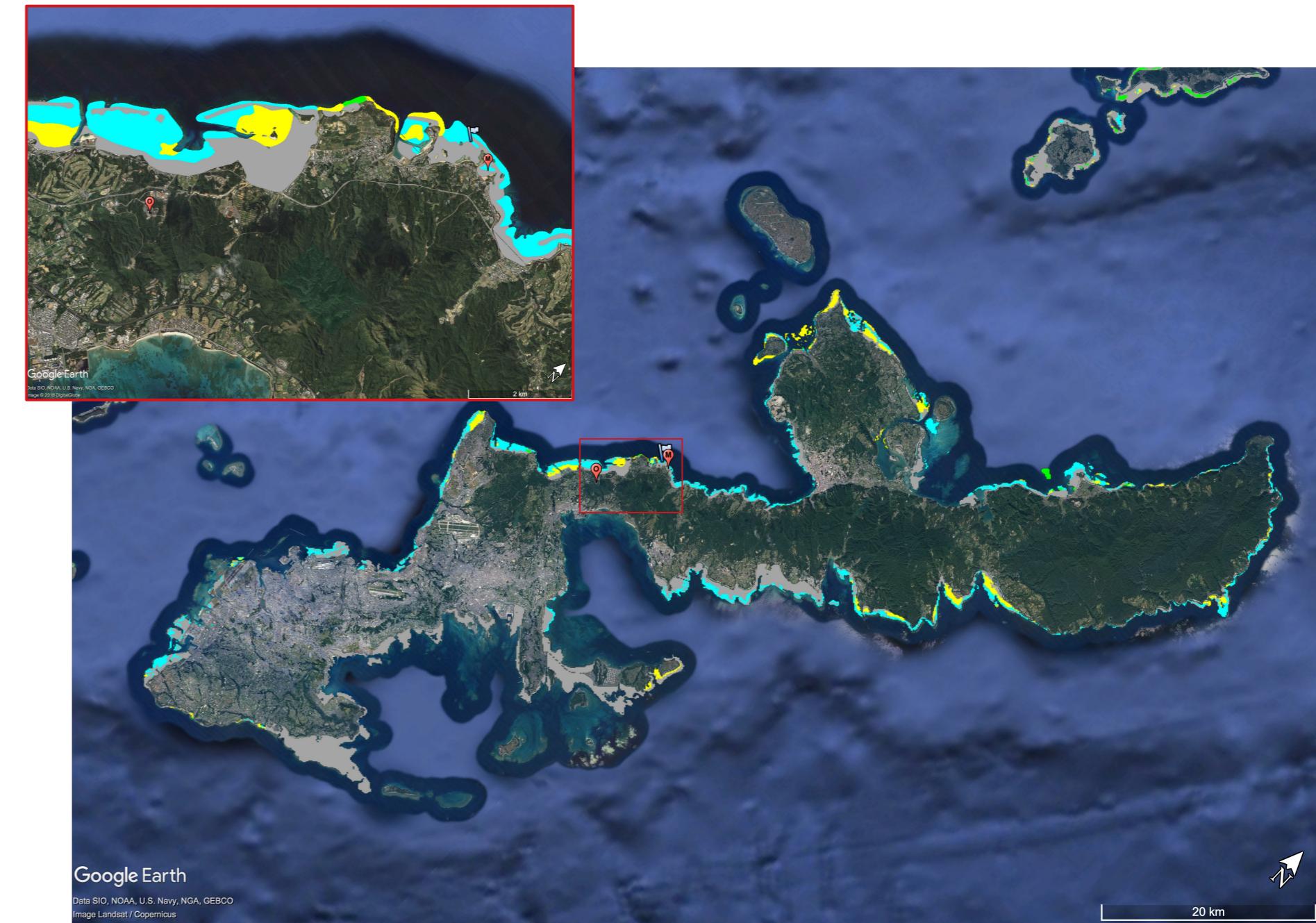
### Coral reefs in Okinawa

- Coral reefs are facing rapid decline likely due to anthropogenic stressors.
- Okinawan reefs bleached twice in the last 10 years.
- Local disturbances such as poor farming or construction practices seriously mitigate coral's ability to recover.
- Insufficient baseline data to monitor coral condition.

### Citizen science

- Citizen science presents a method to:
  - Actively engage locals in coral conservation.
  - Collect more baseline ecological data for future conservation efforts.
  - Inspire the next generation of conservationists.

## Coral reef coverage in Okinawa



## Objectives

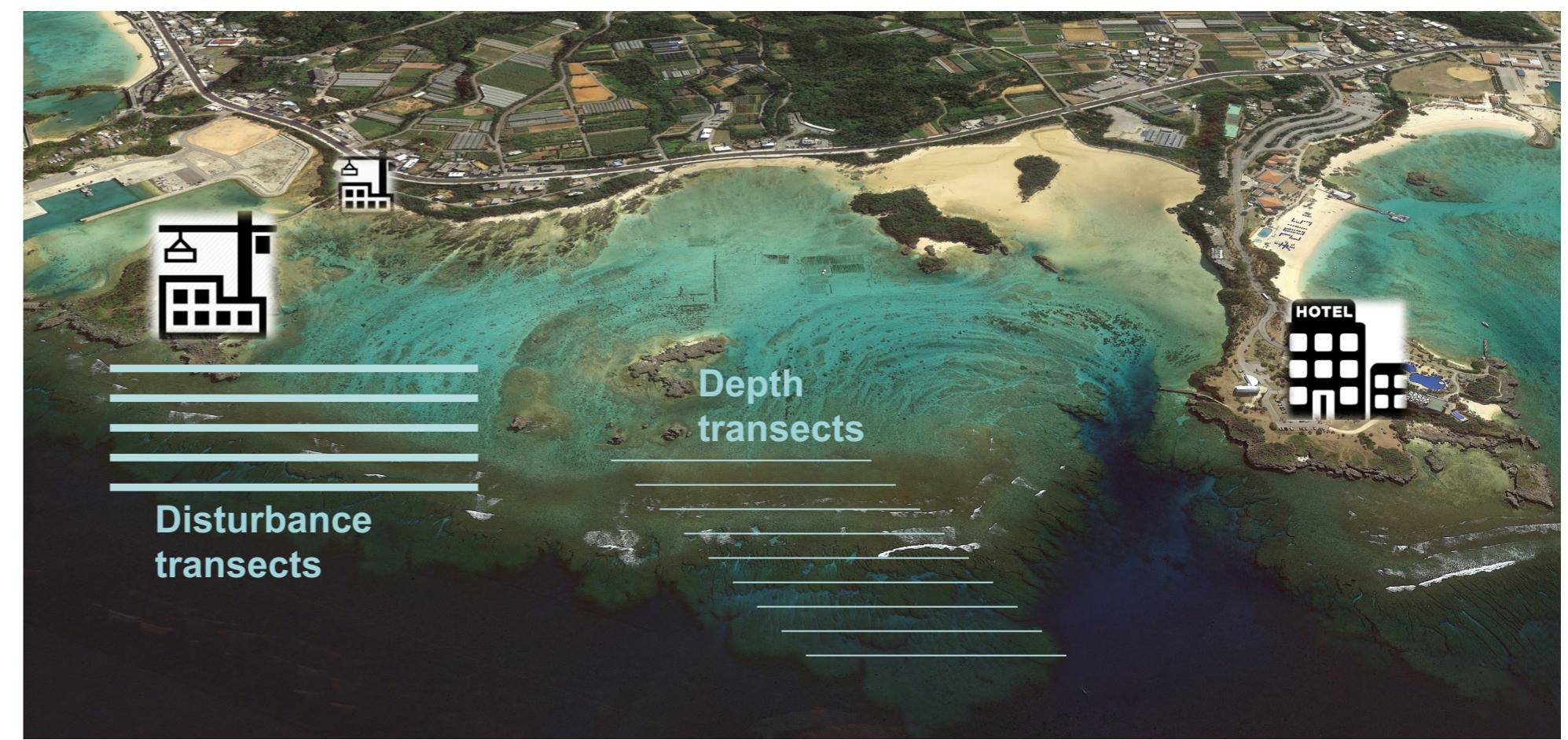
### 1. Kayak-based reef imaging system

- Design a kayak-camera system suitable to image shallow reef areas.
- Image fringing reefs at Seragaki Bay, Okinawa.



### 2. Formulate baseline knowledge about local reefs

Diversity, abundance, conservation and bleaching



### 3a. Cultivate interest in marine science

- Foster relationships with local schools, organize age-targeted workshops and activities.
- Give interactive ecology and biology presentations encouraging student participation.
- Raise awareness of local reef condition and conservation at public science events.



### 3. Community Outreach

#### 3b. Taxonomic identification together with local children

- Work with local Okinawan schools to identify corals in our images.
- Enable children provide image annotations using interactive software.
- Create bilingual coral identification flashcards for public use.

#### 3c. Independent coral ecology school projects

Propose science projects ideas to junior high school students and provide guidance throughout.

##### Example projects:

- Introduction to population biology
- How do humans impact an ecosystem?
- What causes coral bleaching?
- Make a taxonomy and benthic zone guidebook