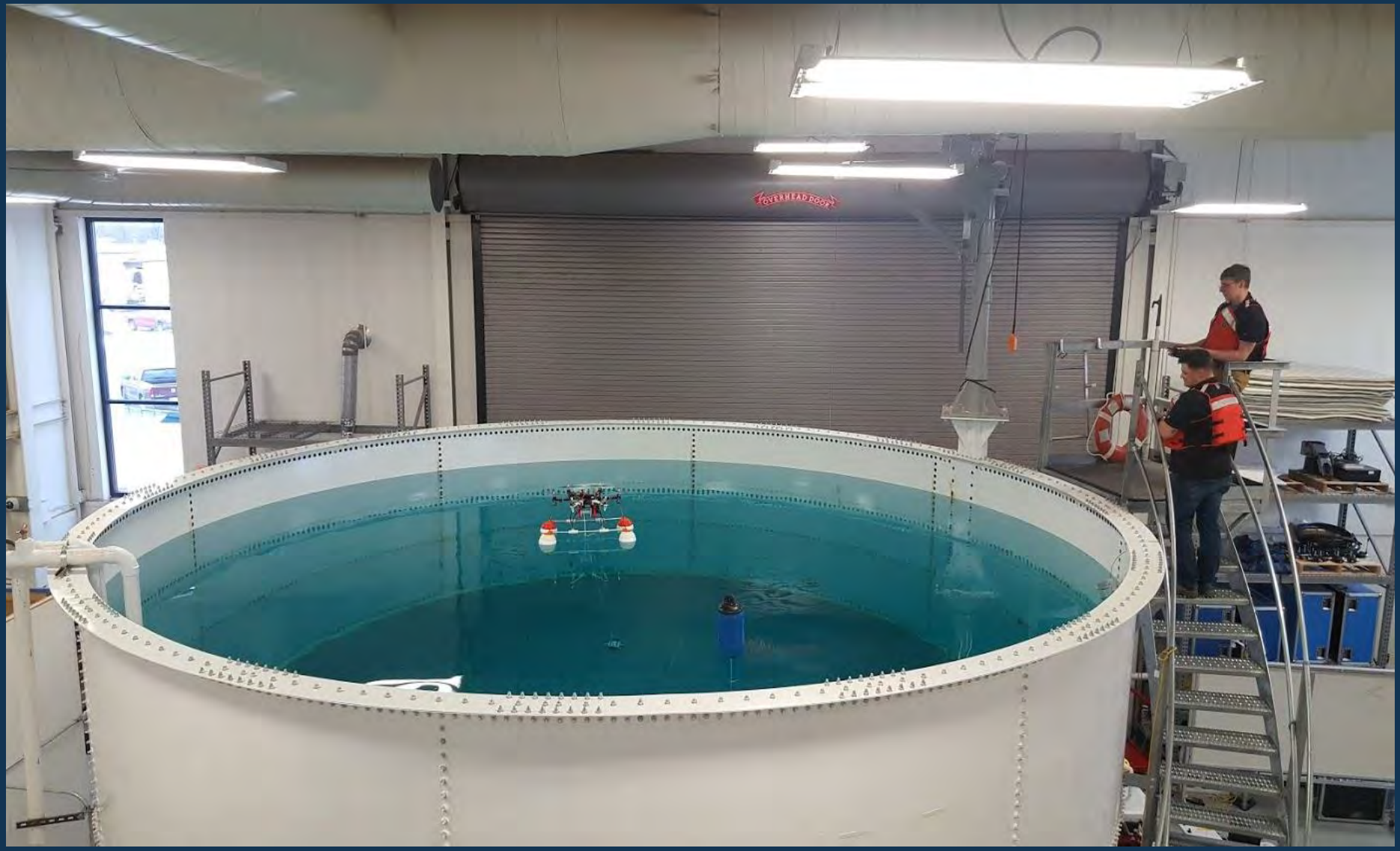
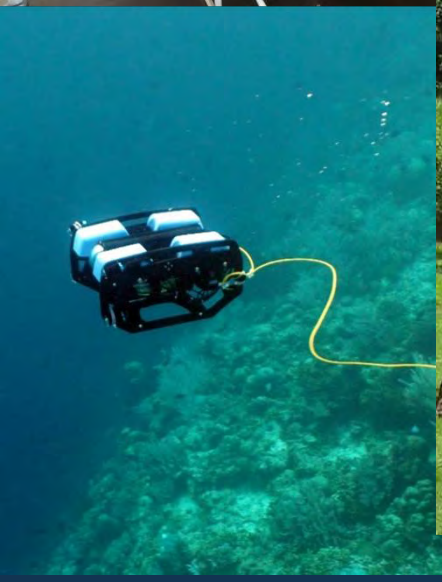
# Coral Reef Study – Bunaken National Park

North Sulawesi, Indonesia

ENGINEERING
TECHNOLOGY


OVERHEAD DOOR

NORTHWESTERN
No Swimming or Diving



# Bunaken Coral Reef Study – Our story

# Presentation

- Background
- Project overview
- Our story

## WSI 400: Marine Technology Capstone

**Program requirement: BS Marine Technology degree**

**Project scope:**
**Integrated survey (marine, aerial, water quality) of the coral reef system around the Bunaken Island located in North Sulawesi, Indonesia.**

**Course Objectives:**

- **Project management skills**
- **Application of technical assets**
- **Data integration and application**
- **Research collaboration**
- **Training Politeknik students**

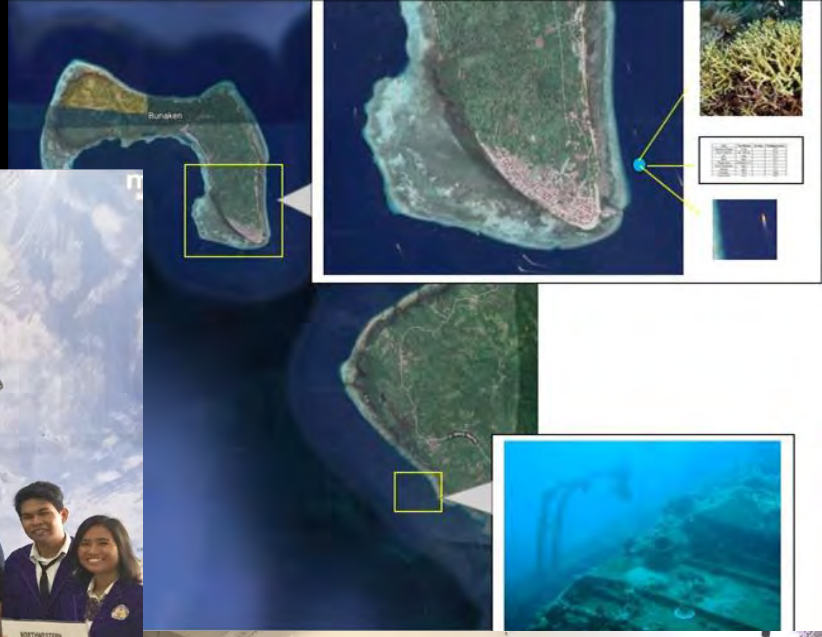
## Project Overview

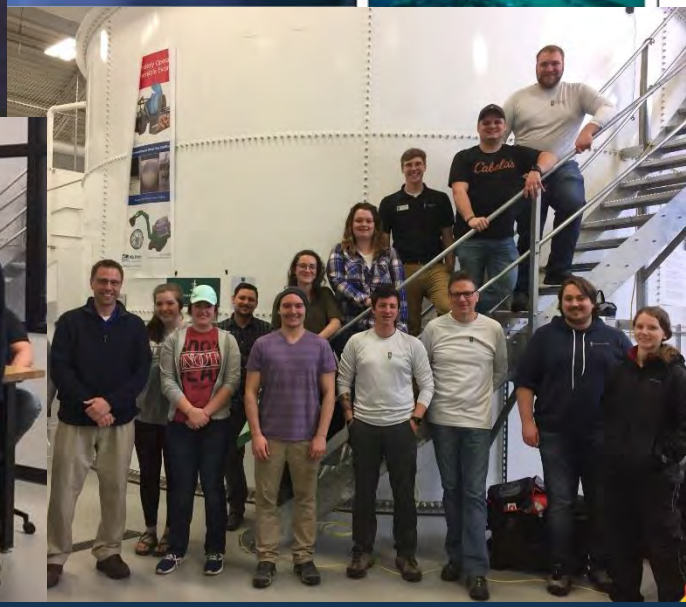
Aerial Imagery

ROV (underwater imagery)

Water Quality Data

# Planning & Preparation

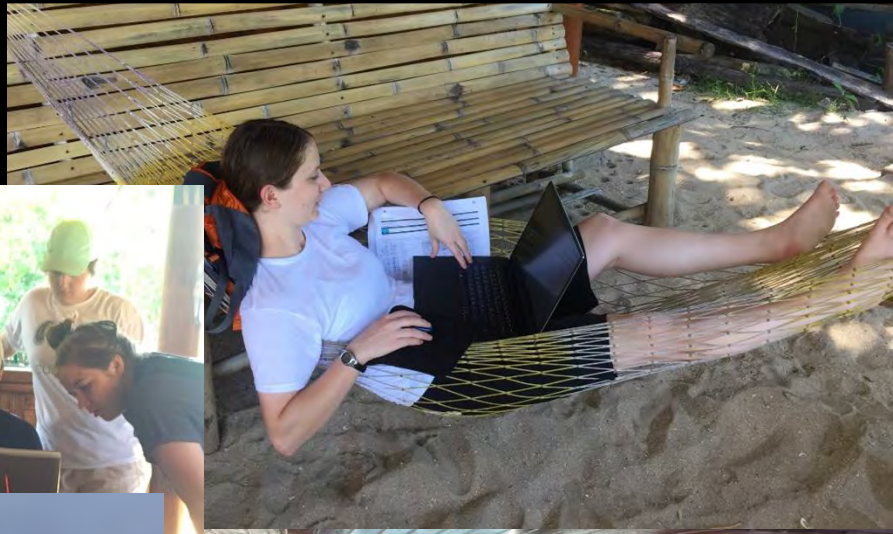


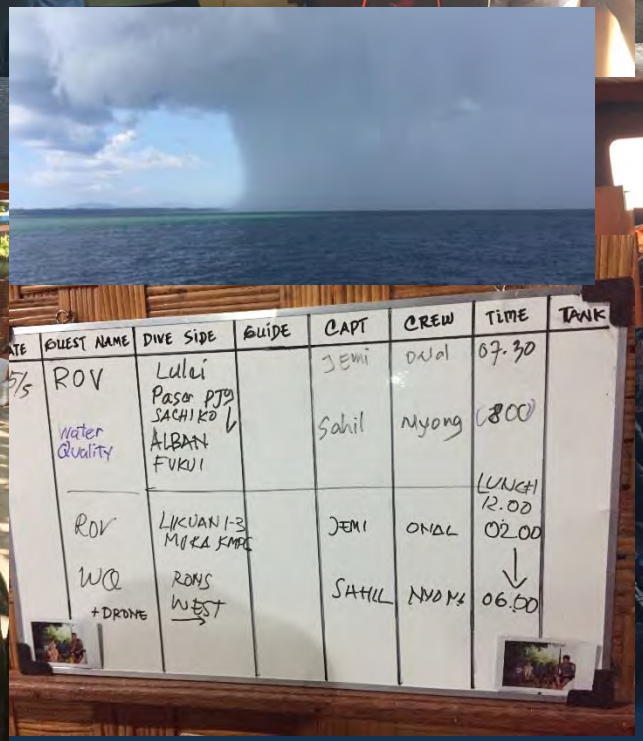


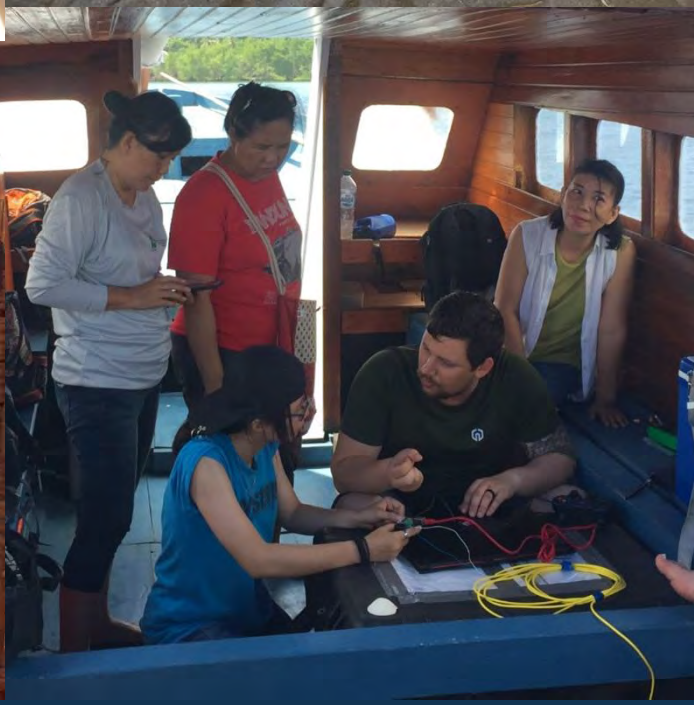
## Bunaken Coral Reef Study – Our story

# Our environment

# Our environment







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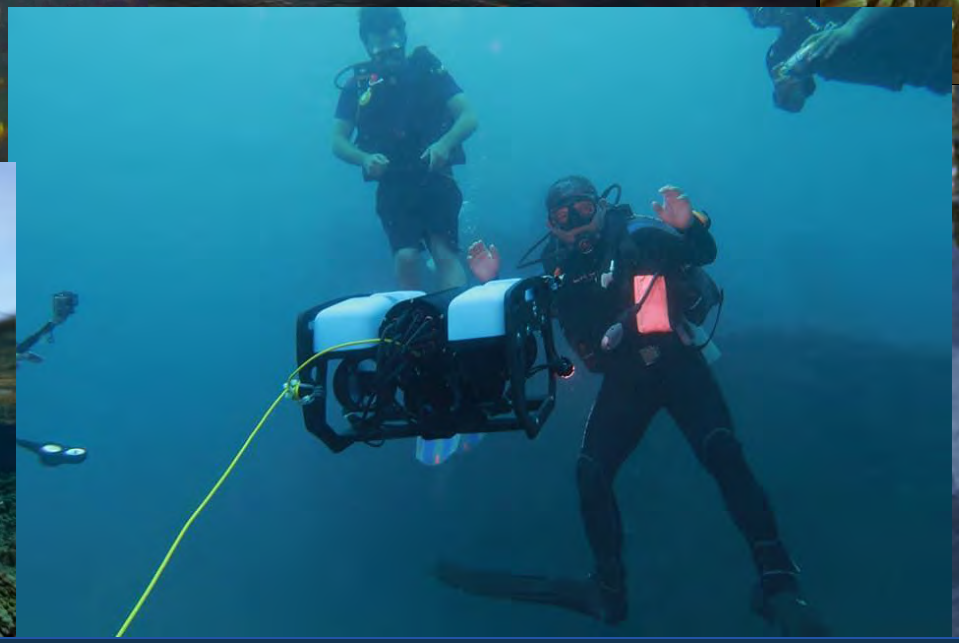
# Our environment



Bunaken Coral Reef Study – Our story

# Our environment

# Our Partner

## Bunaken Coral Reef Study – Our story

# Water Quality Survey

**Data Collected**

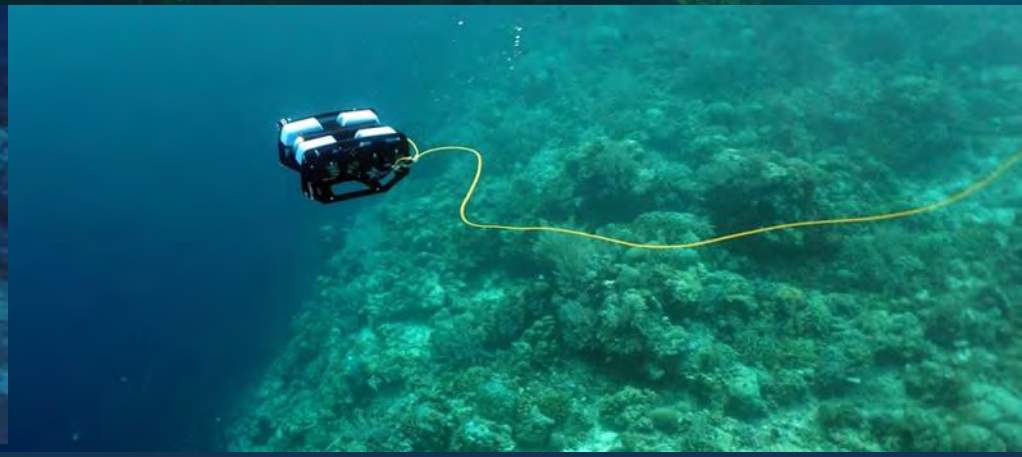
-Ph
-Conductivity
-Dissolved O2
-Temperature
-Depth

**150 Drops around the entire Island**

# ROV Ops

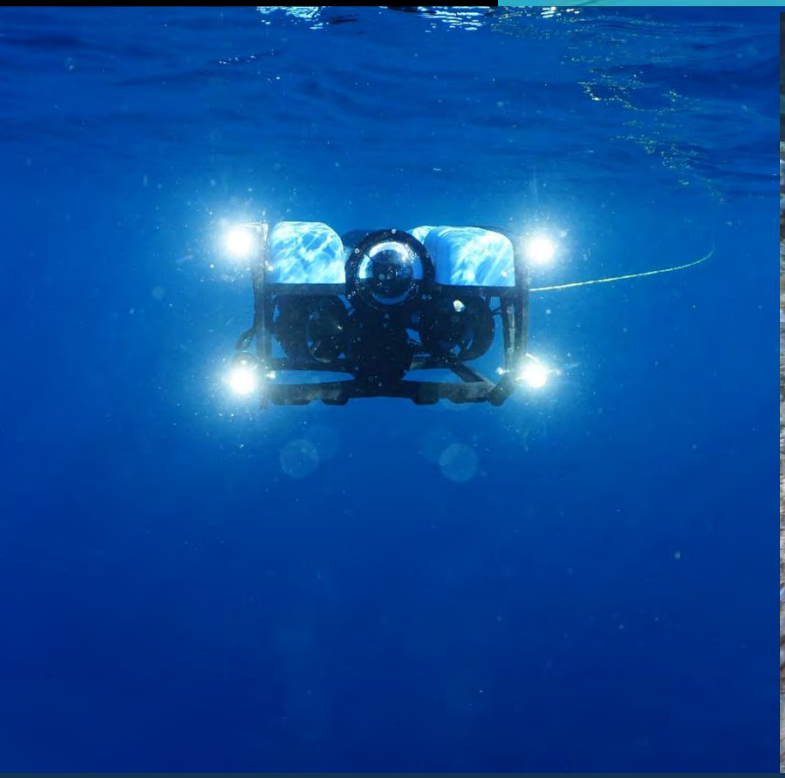
# ROV Ops

# ROV Imagery



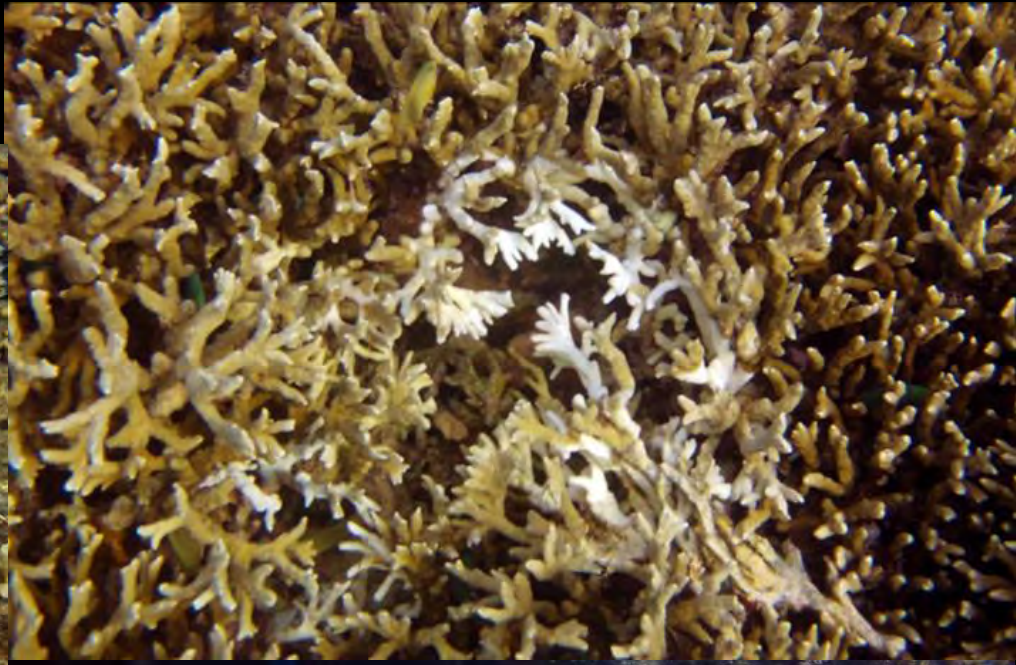
## Bunaken Coral Reef Study – Our Results

# ROV Imagery



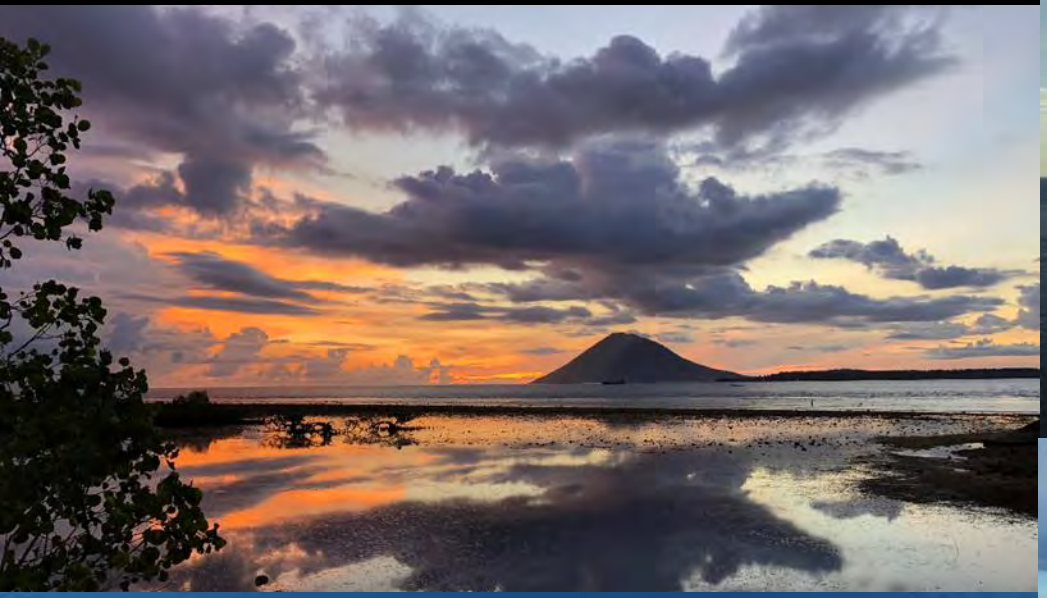
## Bunaken Coral Reef Study – Our Results

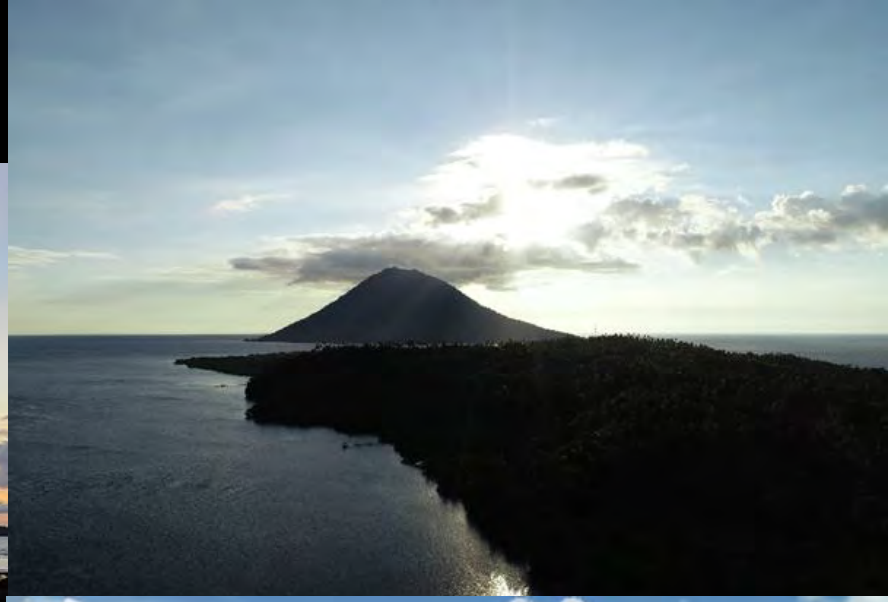
# ROV Imagery – the problem



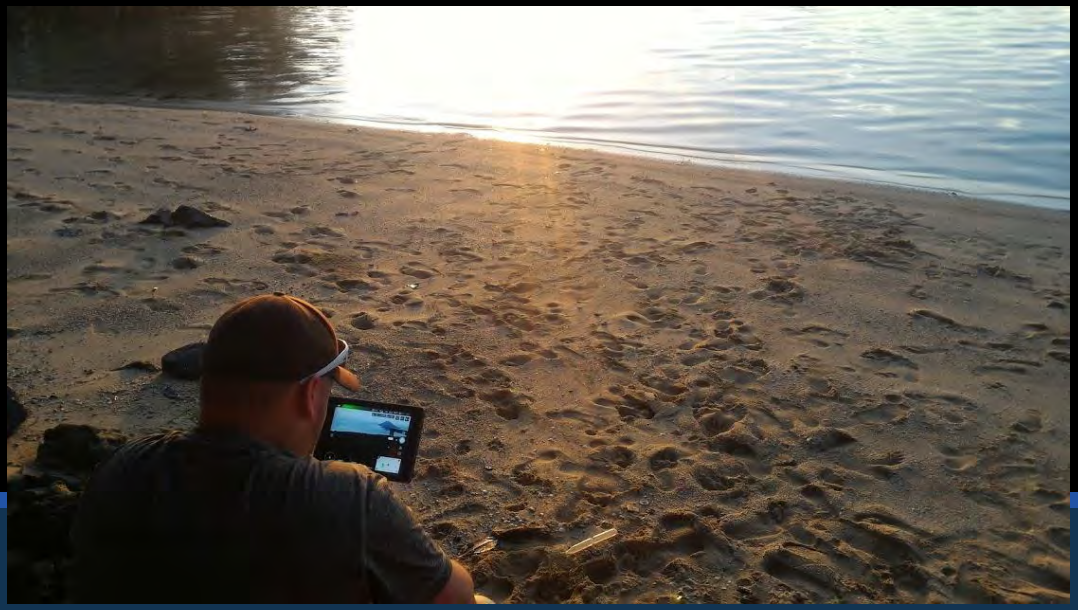
## Bunaken Coral Reef Study – Our Results

# UAV Imagery

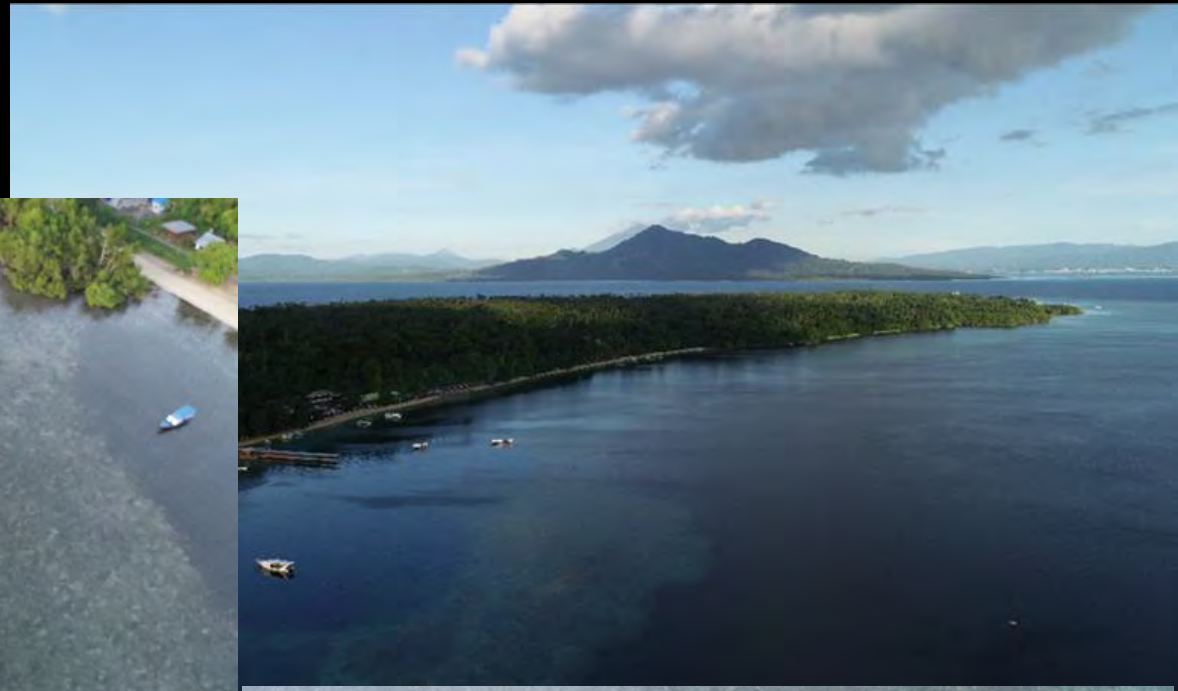




## Bunaken Coral Reef Study – Our Results



# UAV Imagery



## Bunaken Coral Reef Study – Our Results

# Our success

## Bunaken Coral Reef Study – Our story

# Our celebration - Singapore

Bunaken Coral Reef Study – Singapore

# Our Results - StoryMap

# QUESTIONS

# 2019 - Bunaken Revisited

# Snorkeling and SCUBA