

# Integration of Science and Community for Coastal Ecosystem Monitoring in Bangladesh

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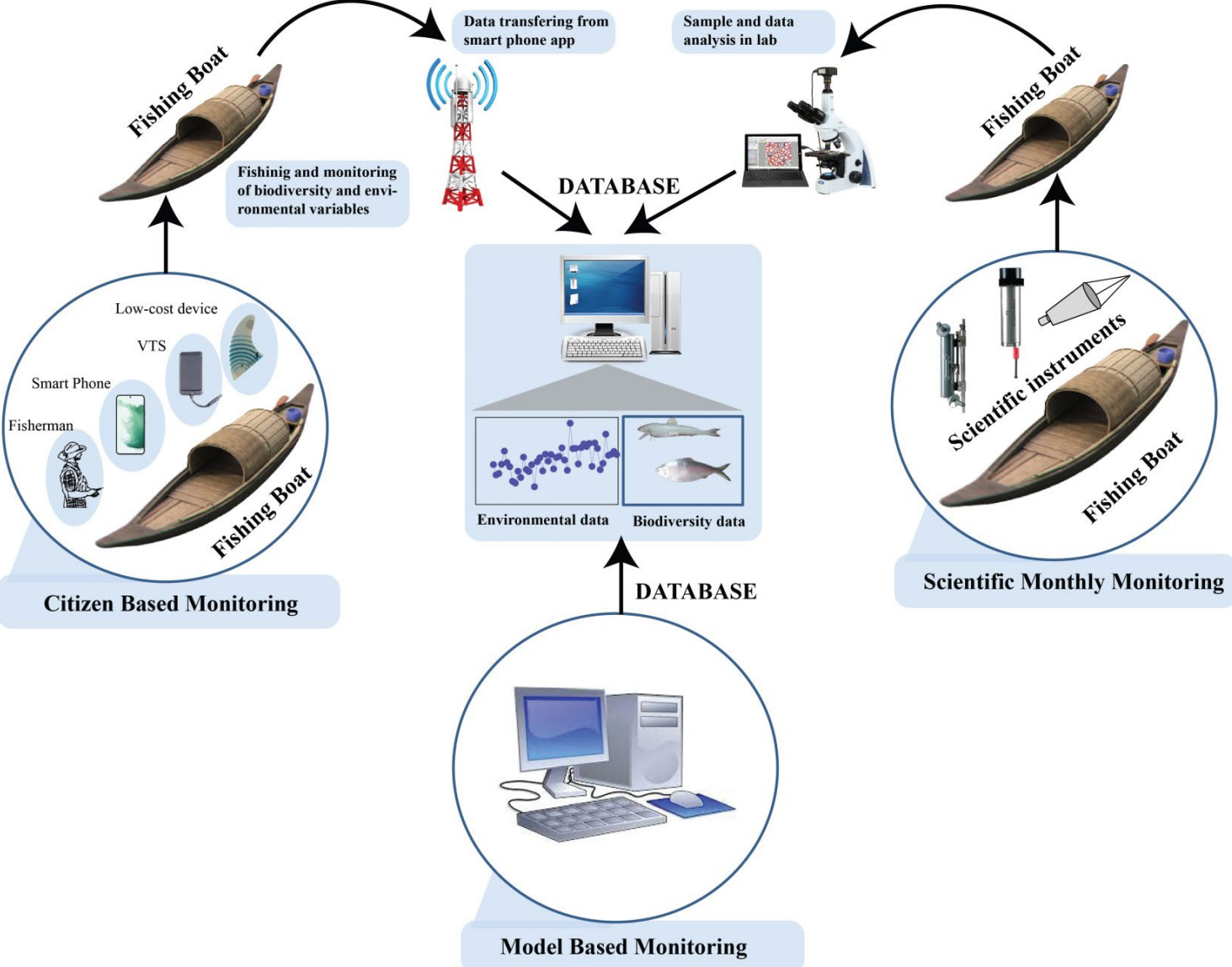


# Introduction

- ❑ Bangladesh is a maritime country with about 119000 square kilometer of EEZ
- ❑ Current focus on the conservation and sustainable utilization of marine resources
- ❑ Limited data are available to support the conservation and sustainable blue economy development
- ❑ An initiative has taken to develop a monitoring system to understand the coastal and marine ecosystem of Bangladesh is essential
- ❑ This initiative integrated scientific and citizen based observations to monitor the coastal ecosystem of Bangladesh

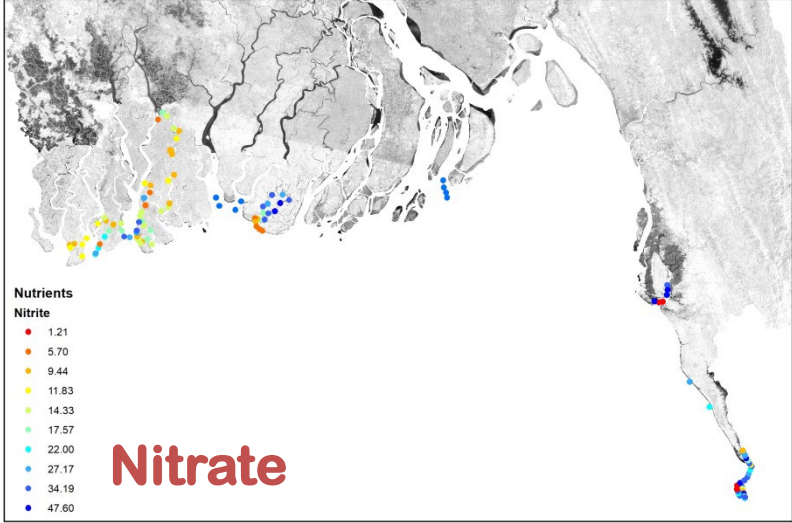
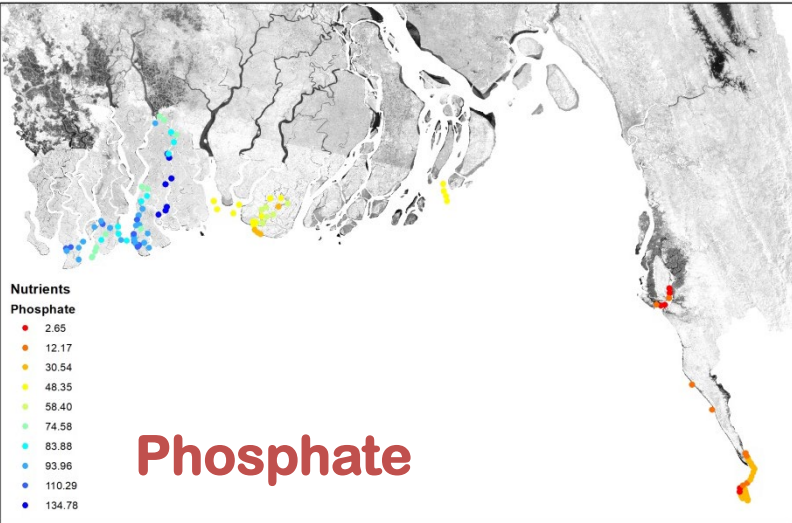
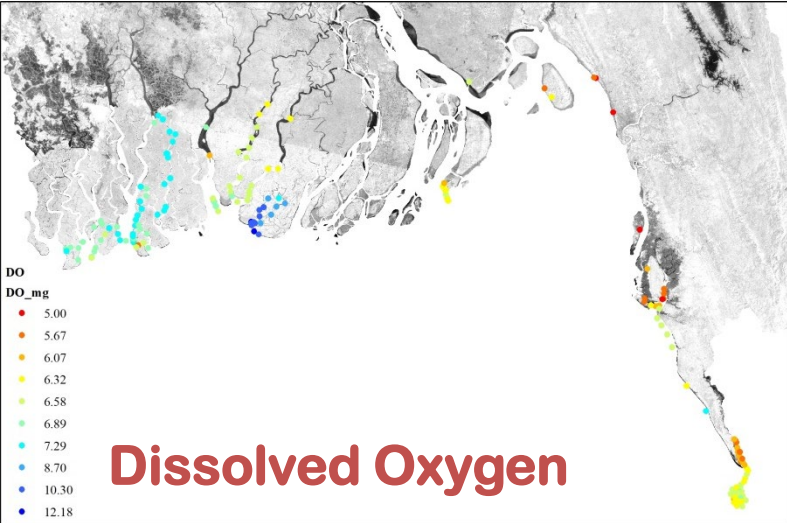
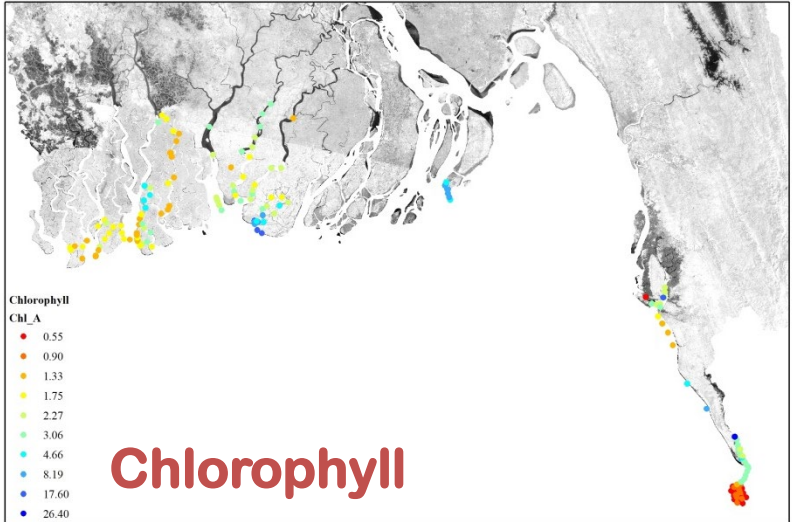
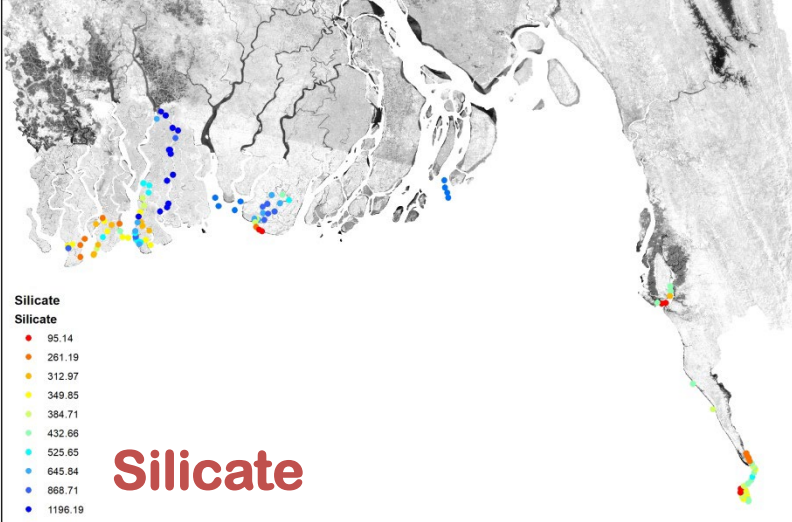
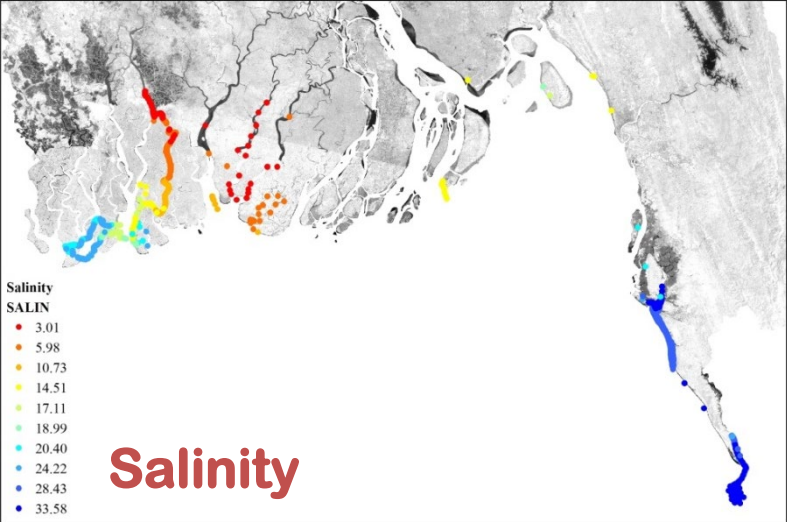


# Working Approach



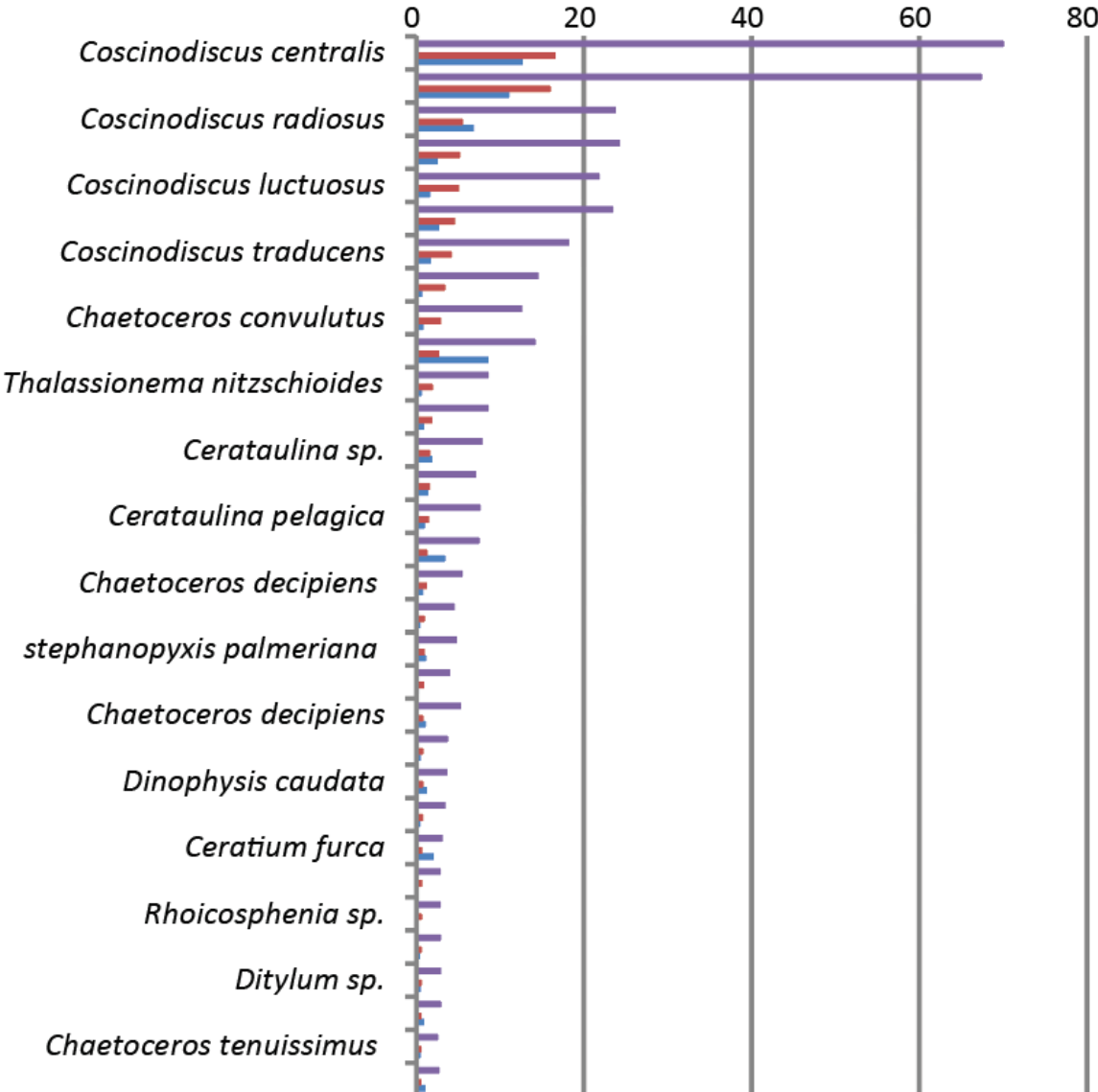
# Scientific Monitoring Activities

## Spatial variability in environmental variables



# Scientific Monitoring Activities

## Monitoring of Plankton Diversity



# Citizen Based Monitoring

**Citizen based monitoring system aims to develop a citizen led monitoring system for coastal and marine ecosystem of Bangladesh**

## ❑ Fisherman

**Biodiversity and environmental data collection with low-cost device and android application**

## ❑ School students

**Plankton data collection by using paper microscope and android app**

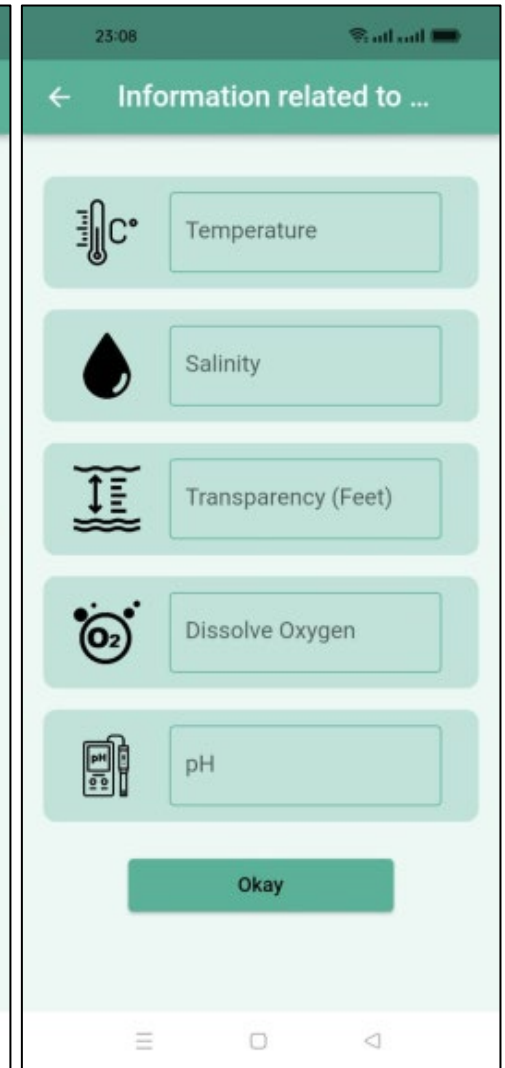
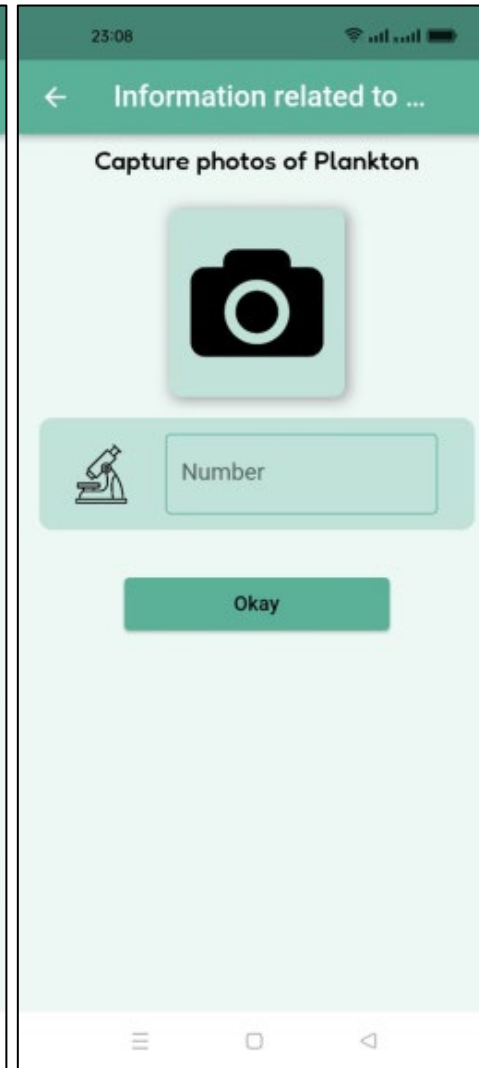
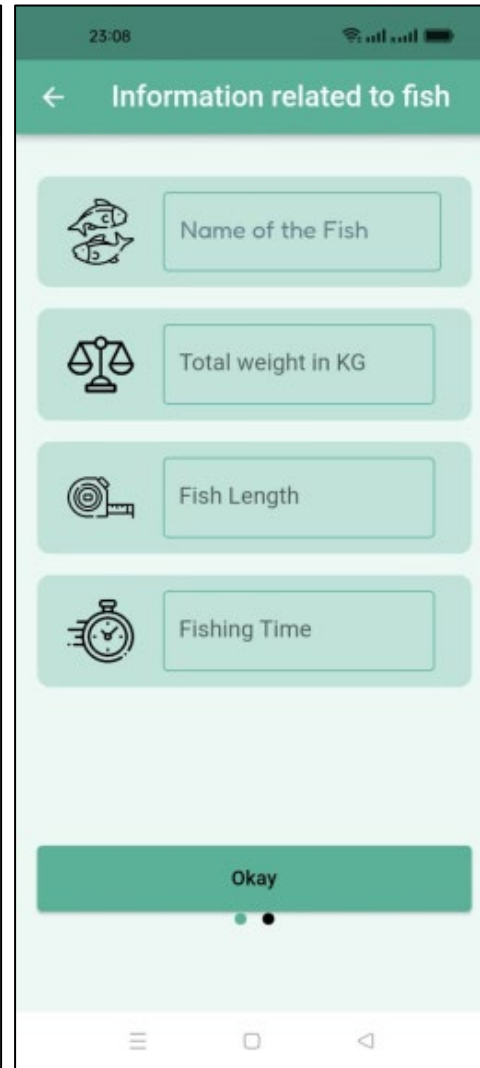
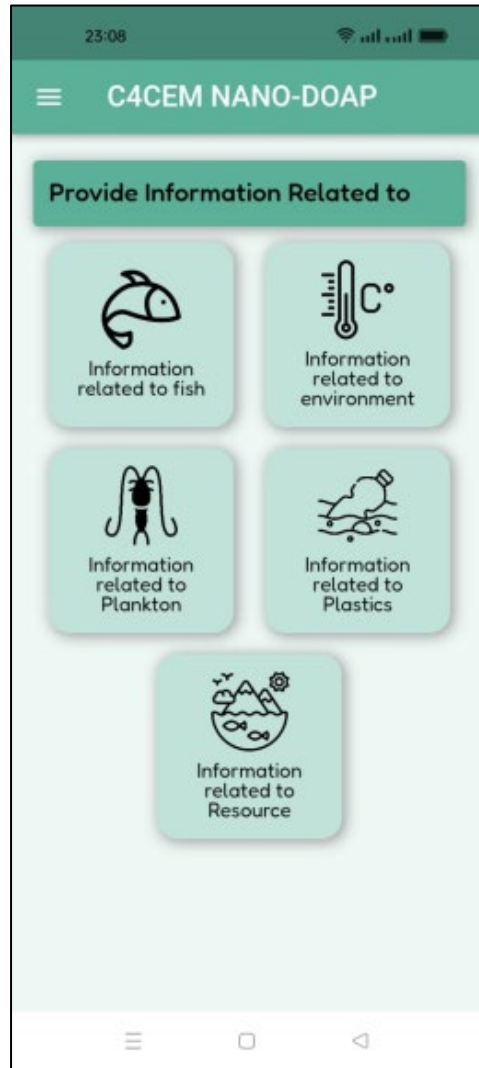
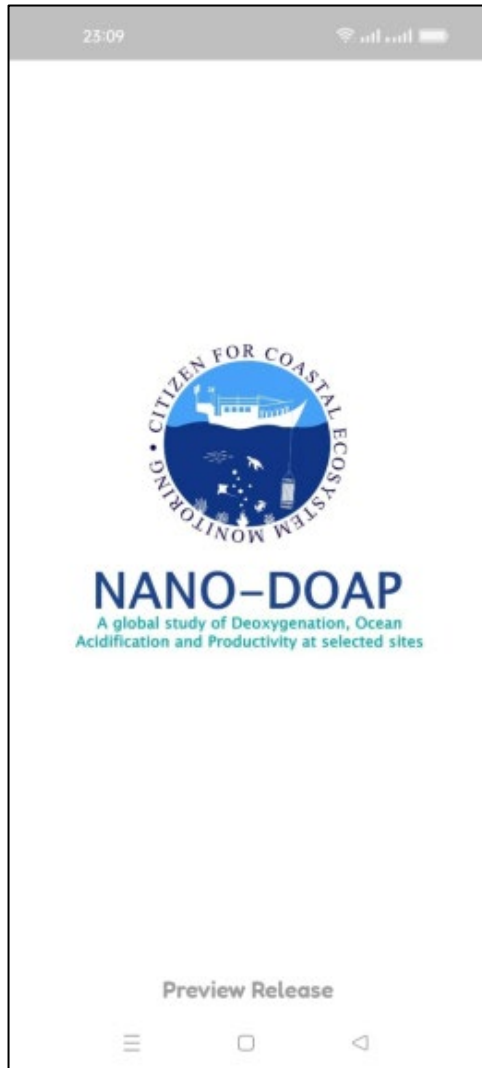
## ❑ Local people

**Biodiversity and plastic data collection by using android app**



# Citizen Based Monitoring

## Android application interface for data collection



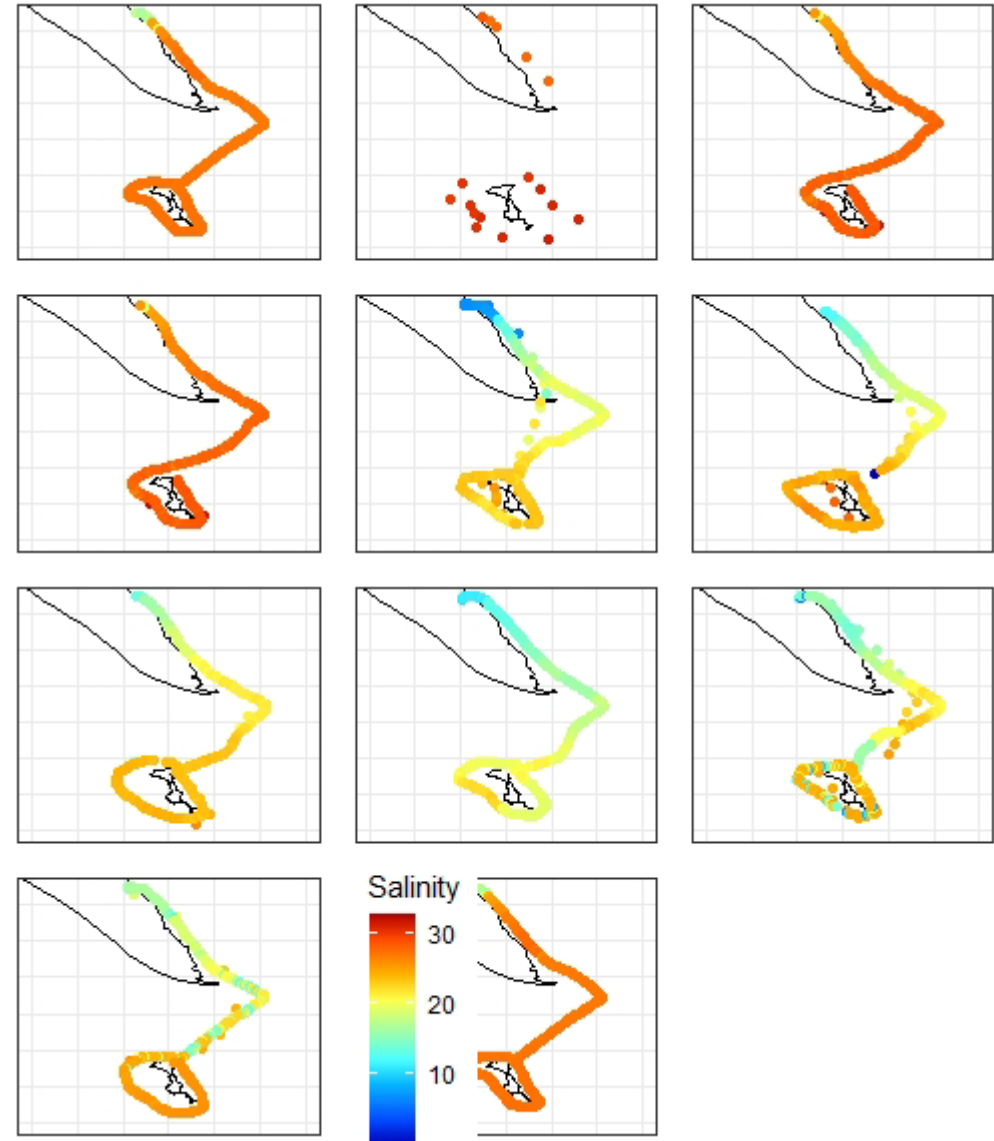
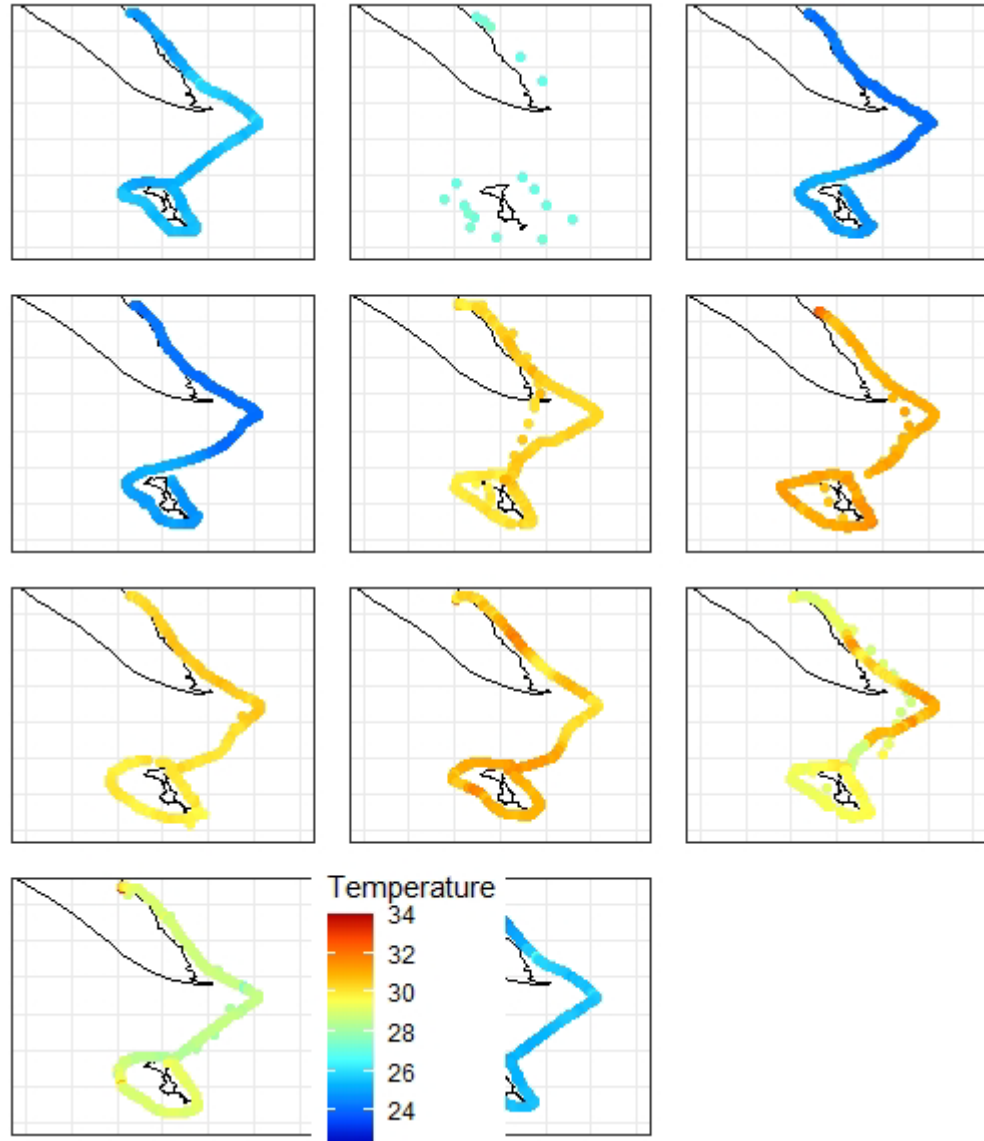
# Citizen Based Monitoring

Data collected by using C4CEM app



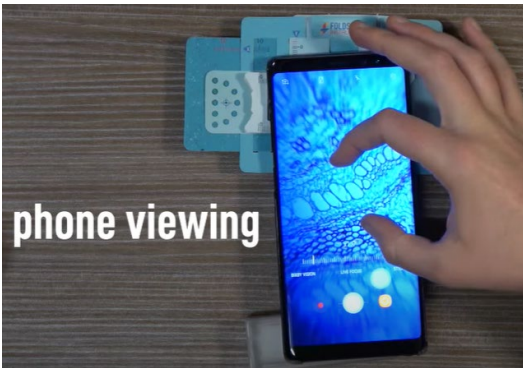
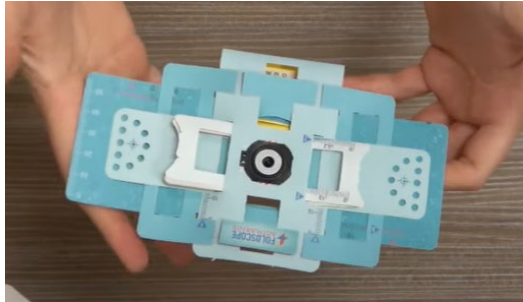


# Citizen Based Monitoring




# Citizen Based Monitoring




## Plankton data collected by using C4CEM app



# C4CEM Database

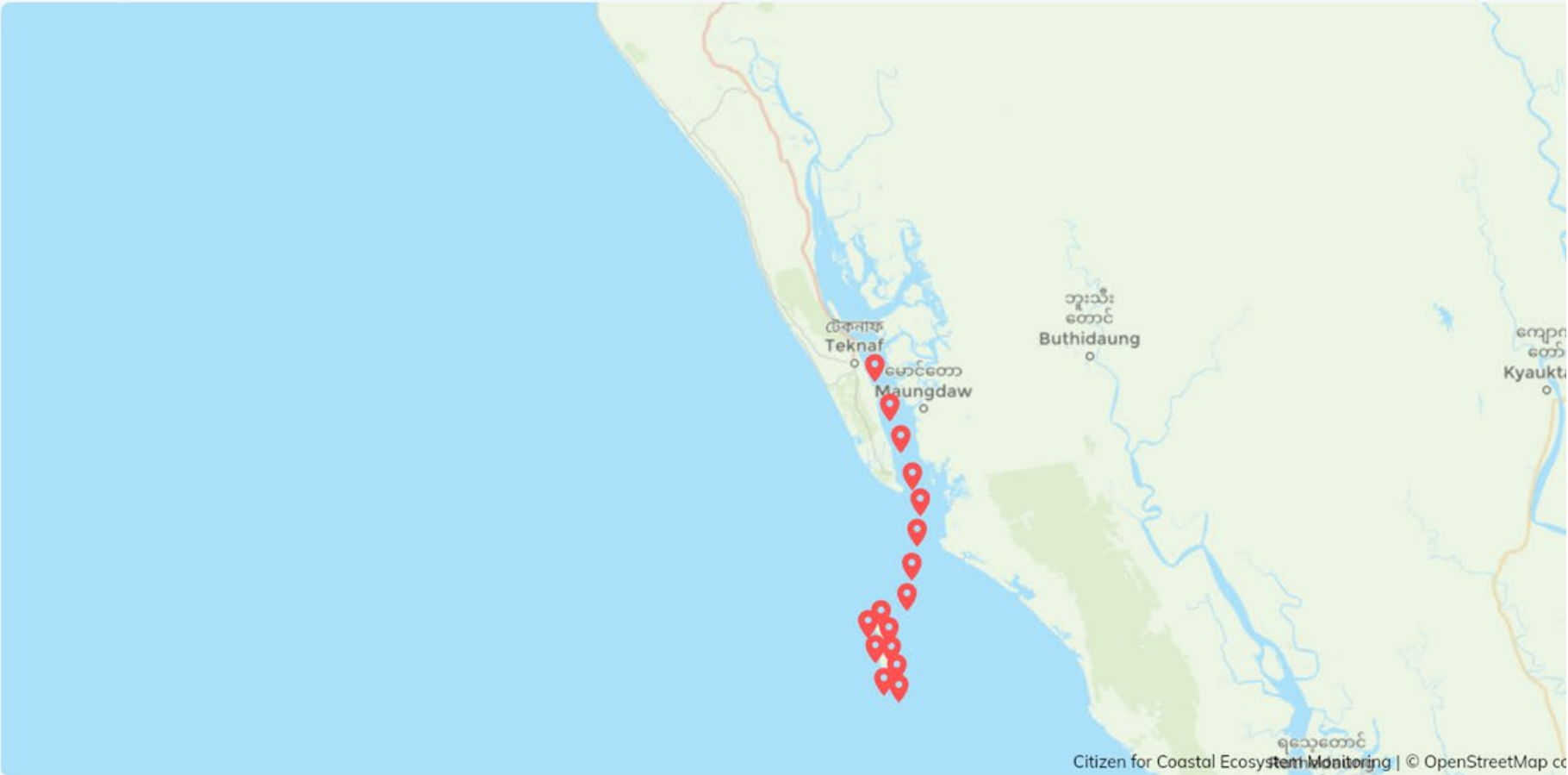
← → ↻ dashboard.c4cem.org/#/

 Dashboard

-  Overview
-  My Data
-  Log Out

Data Map Request Data

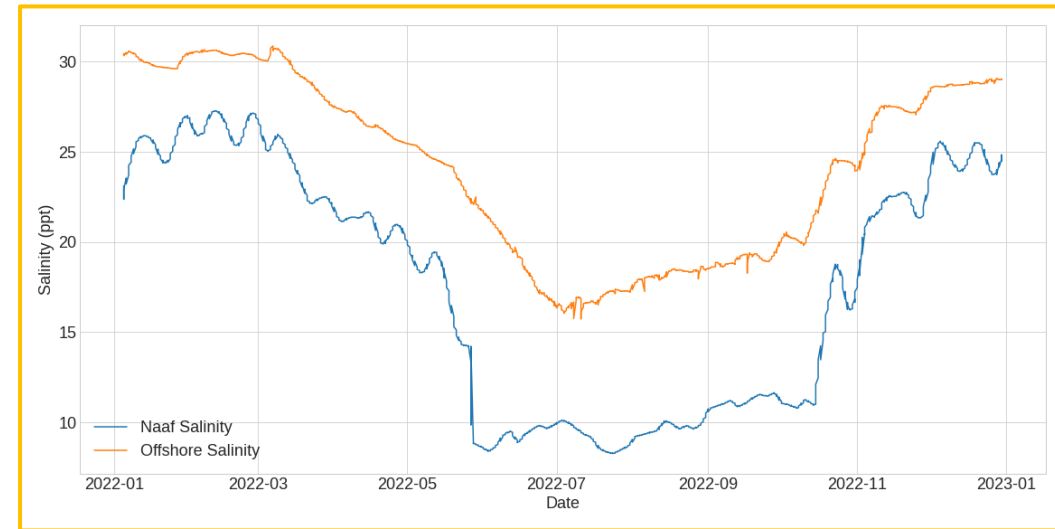
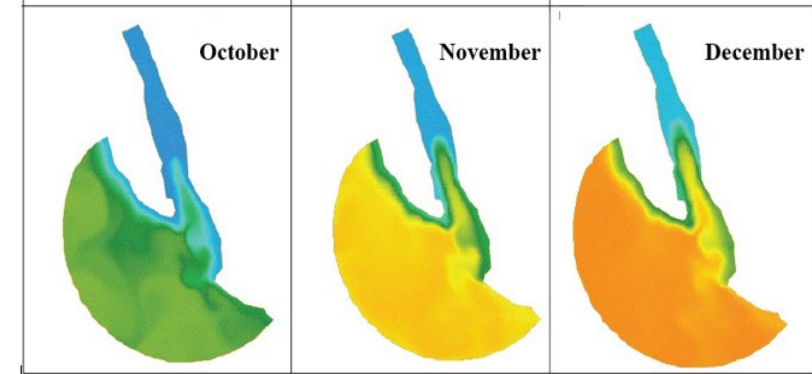
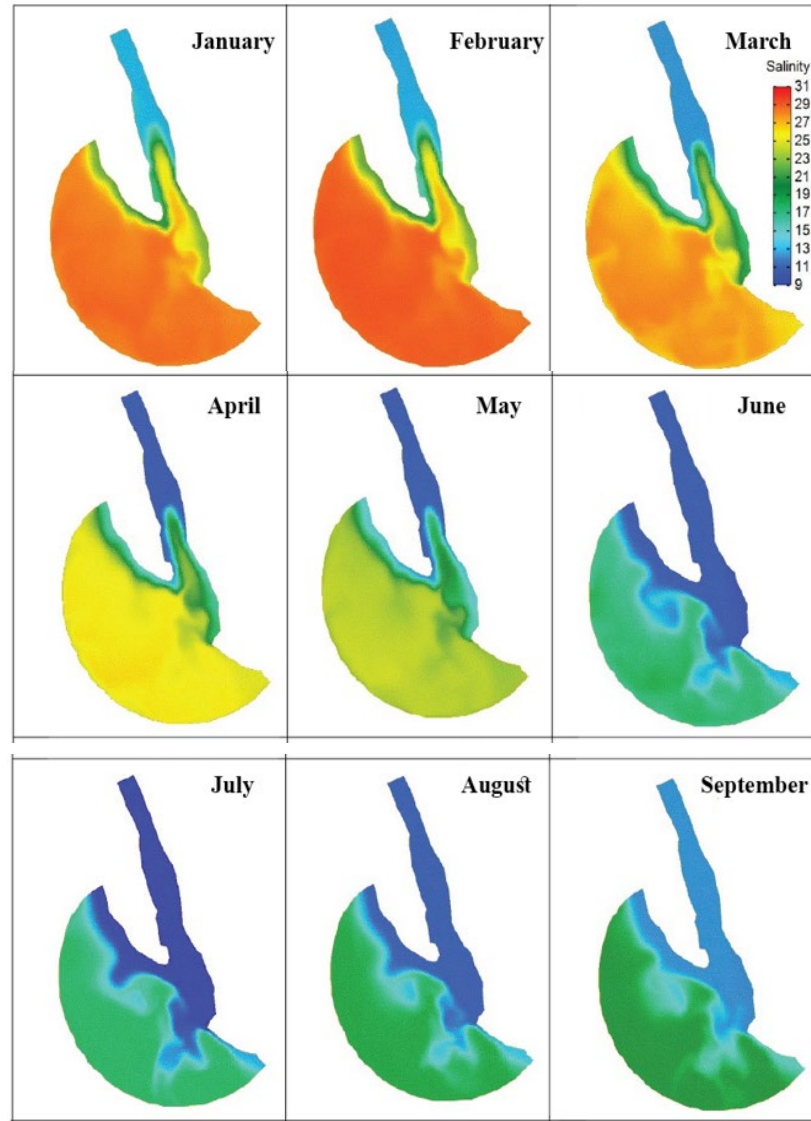
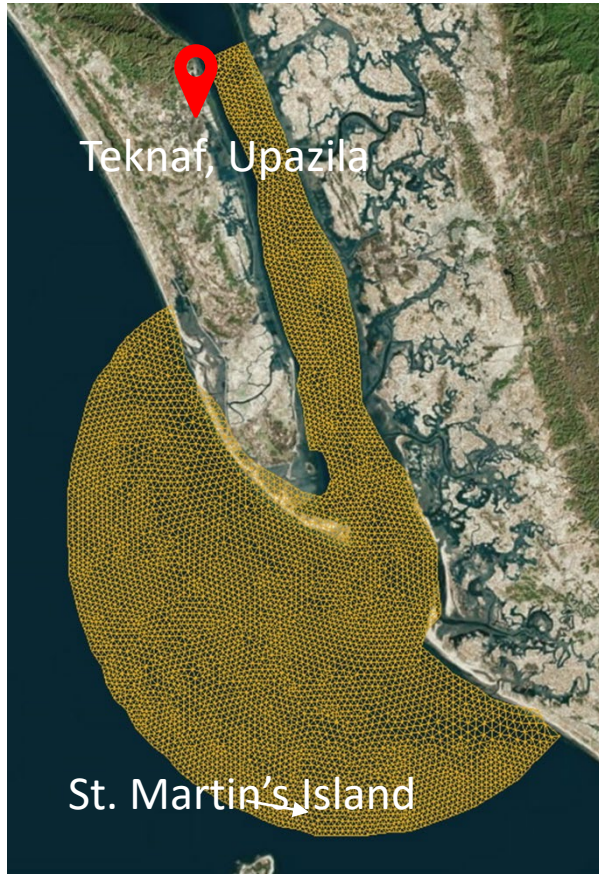
### Data Map



The map displays a coastal region in Myanmar, with several red location pins indicating monitoring sites. The pins are clustered along the coast, primarily between Teknaf and Maungdaw. Other labeled locations include Buthidaung and Kyaukt.

© Citizen for Coastal Ecosystem Monitoring | © OpenStreetMap cc

# Model Based Monitoring



# Summary

- ❑ **Integration of field based, citizen driven and model based approach is a viable option for coastal ecosystem monitoring for developing countries**
- ❑ **Scientific monitoring is required for the validation of model and citizen collected data**
- ❑ **An open access platform is required for data sharing**
- ❑ **Sustainability of such monitoring initiative should be ensured**
- ❑ **Use of such approach is required to adopt in a wider geographical scale**
- ❑ **Use of low-cost instruments to monitoring environmental variables**

For more information: <https://c4cem.org/>



# Thank You

