

# Underwater Colorimetry 2025

## Basic Photogrammetry Lab





# Lab roadmap & objectives

Collecting underwater images  
in guided snorkeling



Gaining experience collecting  
images for a 3D model  
reconstruction



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Collecting underwater images  
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Reconstructing  
underwater 3D model  
using Agisoft Metashape



Gaining experience collecting  
images for a 3D model  
reconstruction



Becoming familiar with a  
photogrammetry software



# Lab roadmap & objectives

Collecting underwater images  
in guided snorkeling

Reconstructing  
underwater 3D model  
using Agisoft Metashape

Scaling a model



Gaining experience collecting  
images for a 3D model  
reconstruction

Becoming familiar with a  
photogrammetry software

Exporting scene depth  
from a 3D model



# Required equipment

Each pair will get:

- GoPro kit - including underwater housing.

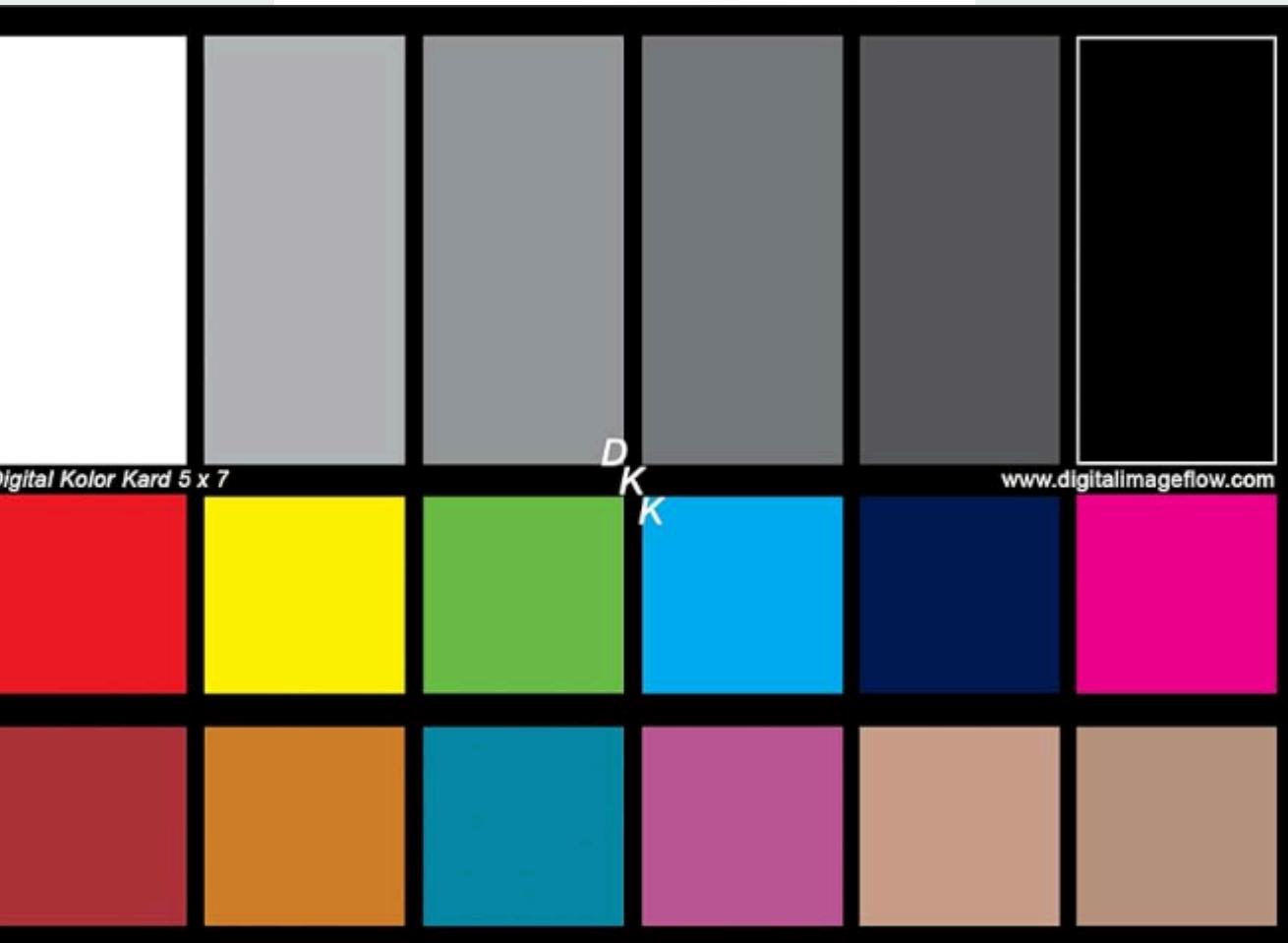




# Required equipment

Each pair will get:

- GoPro kit - including underwater housing.
- Color-chart.

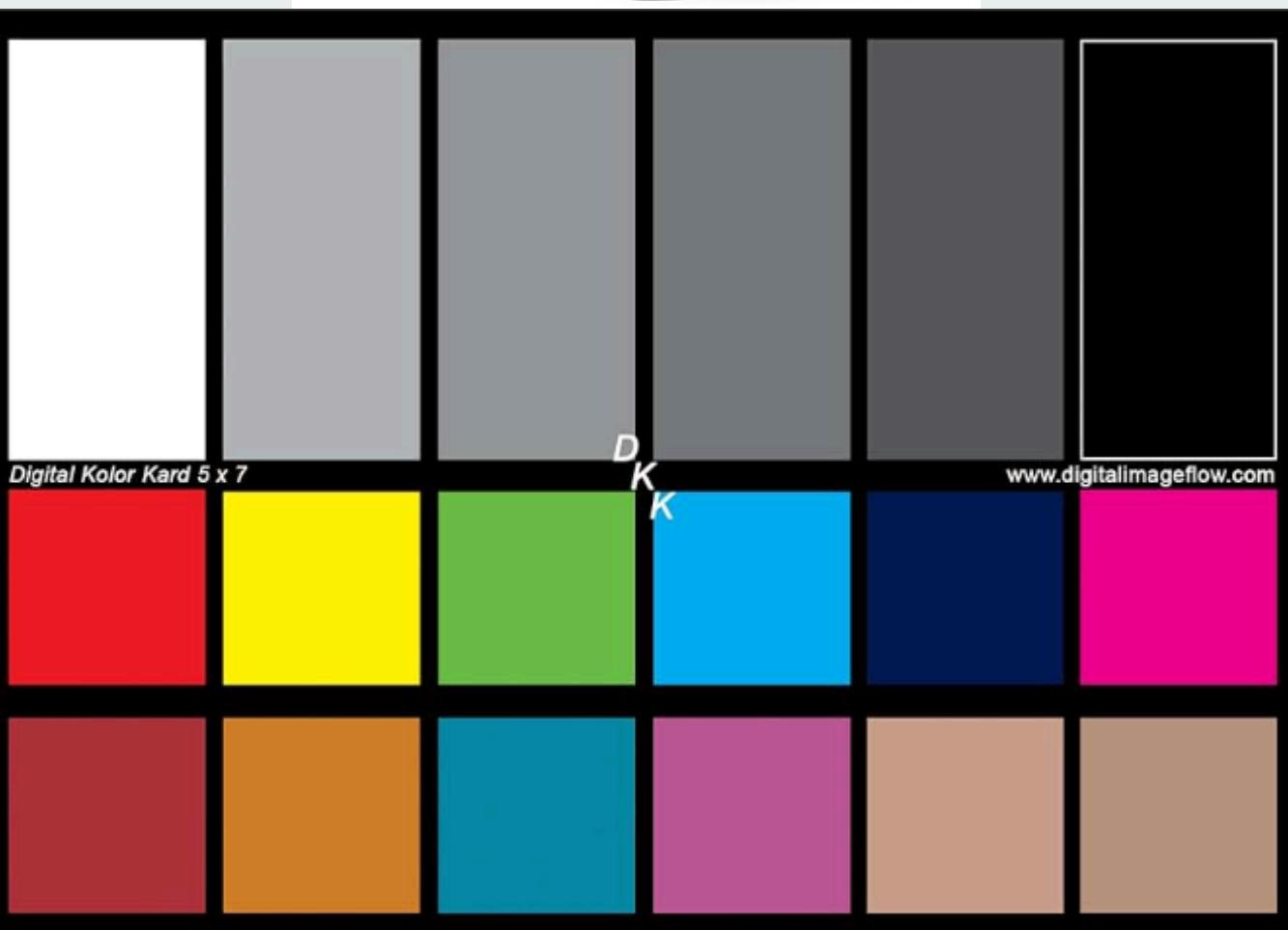




# Required equipment

Each pair will get:

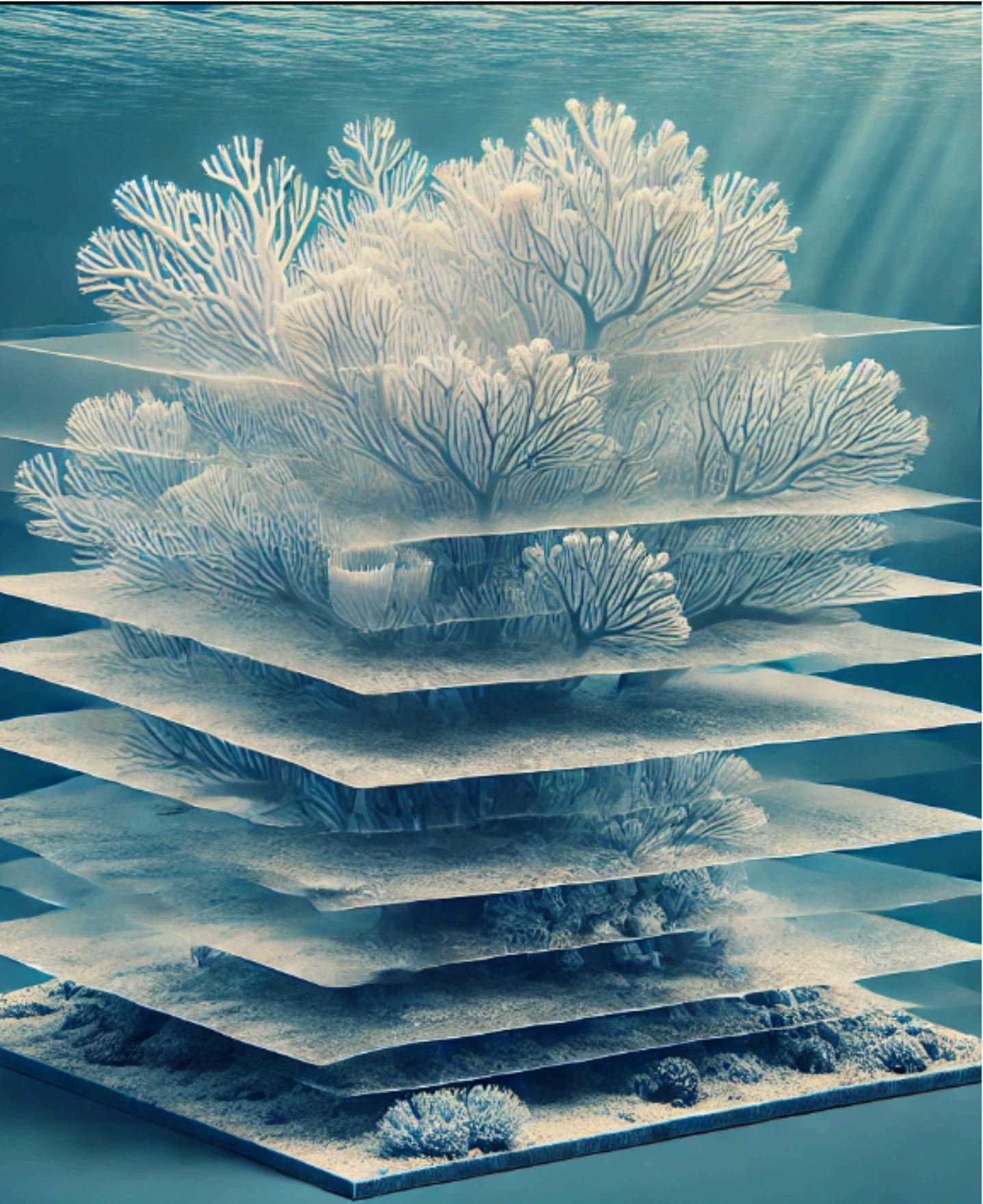
- GoPro kit - including underwater housing.
- Color-chart.
- Snorkeling equipment.





# Data collection guidelines

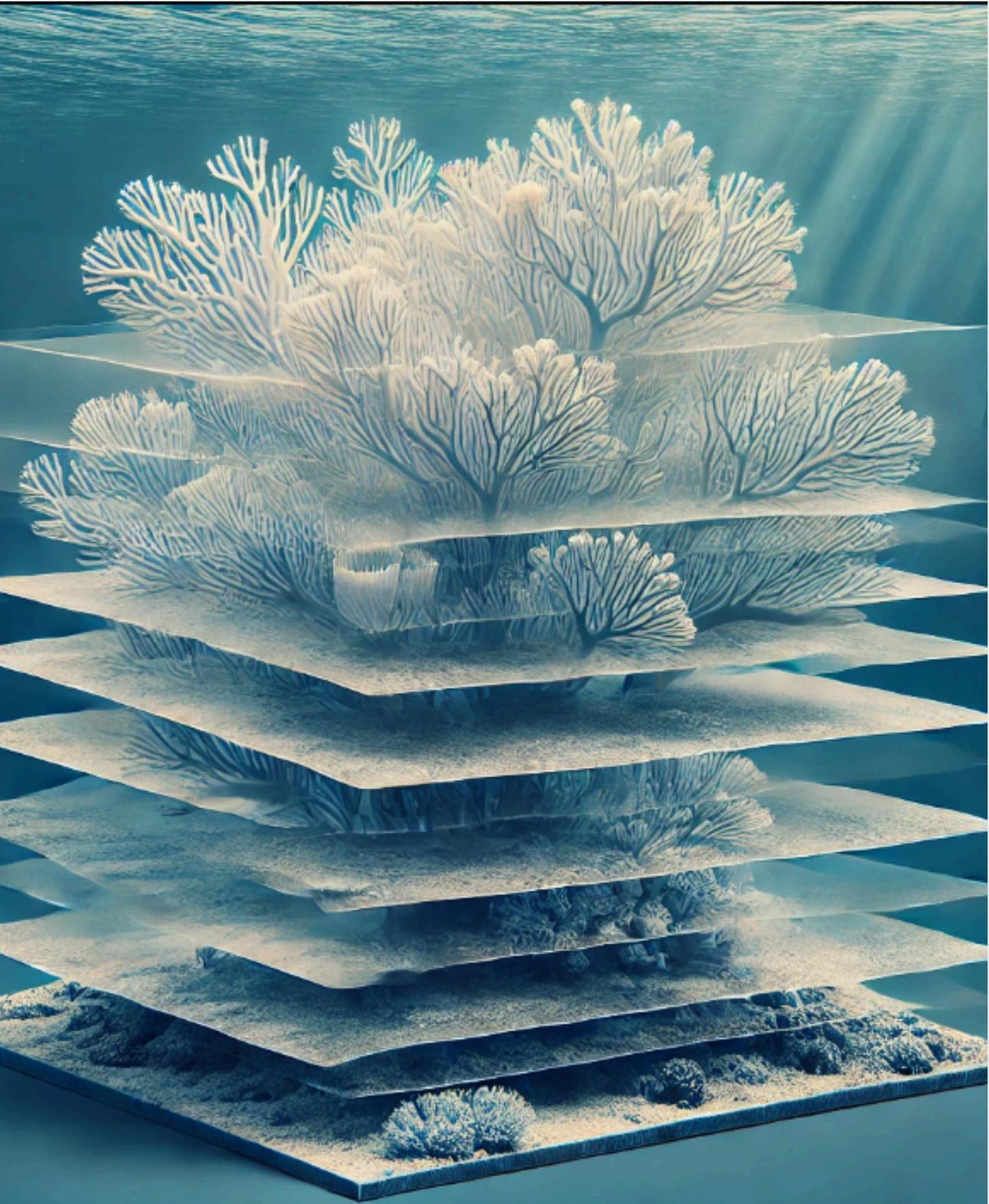
- Camera setting: Capture raw images.





# Data collection guidelines

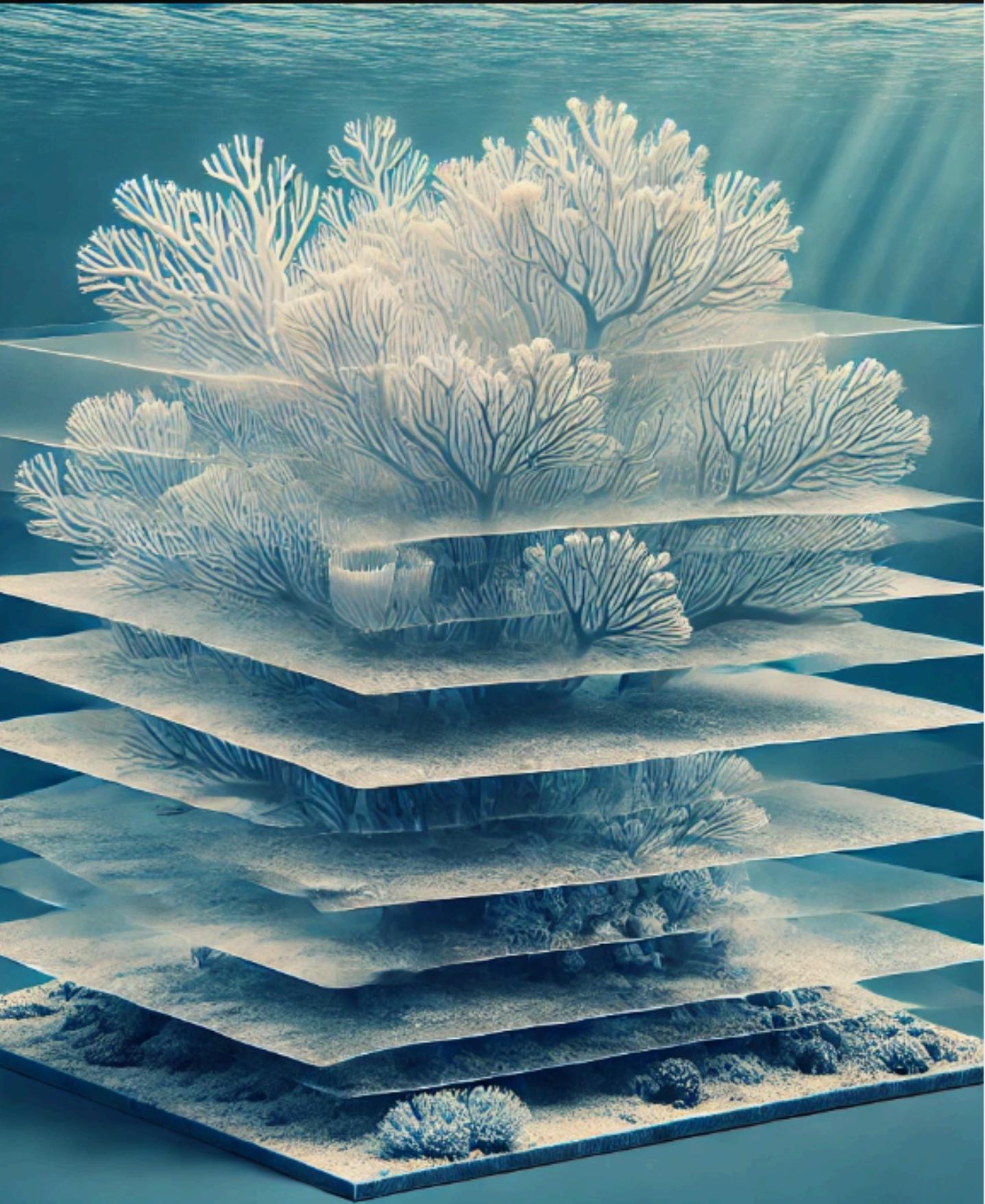
- Camera setting: Capture raw images.
- Image count: Aim for at least 100 images.





# Data collection guidelines

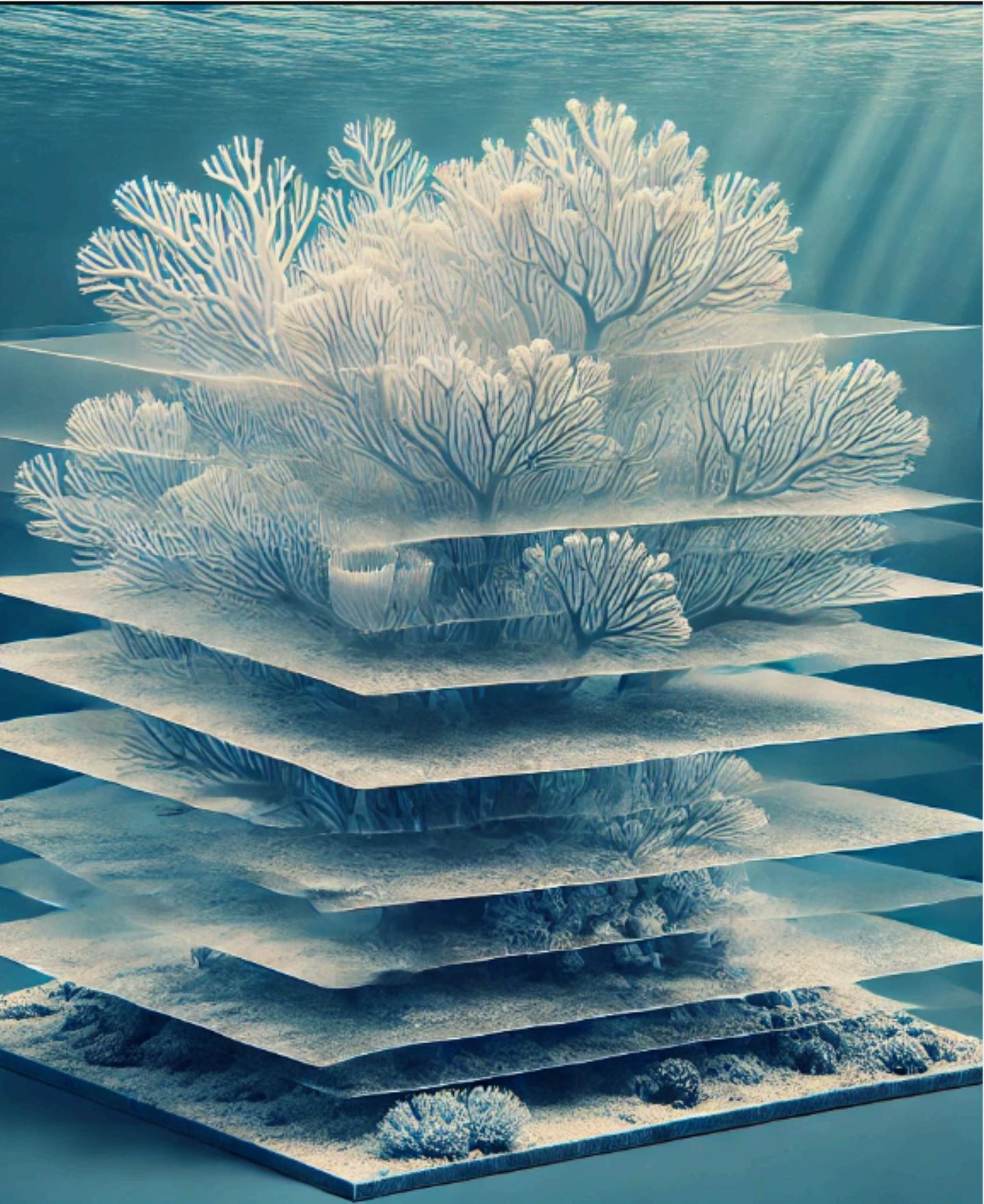
- Camera setting: Capture raw images.
- Image count: Aim for at least 100 images.
- Overlapping images: Aim for ~70% overlap.





# Data collection guidelines

- Camera setting: Capture raw images.
- Image count: Aim for at least 100 images.
- Overlapping images: Aim for ~70% overlap.
- Viewing angle: Take images from all possible viewing directions.

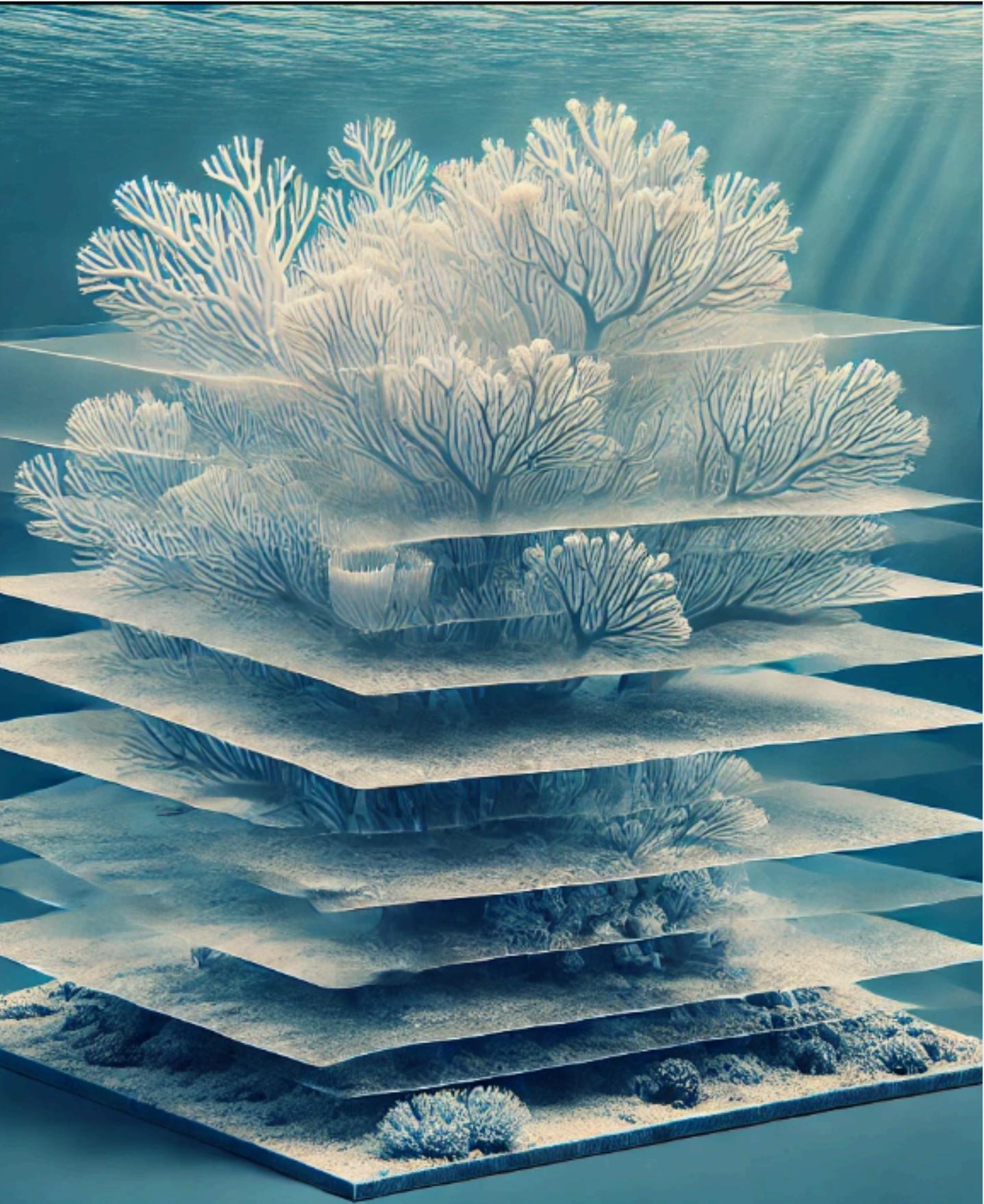




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- Viewing angle: Take images from all possible viewing directions.

Captured images will be converted to linear .png  
We did this in Lab 1 (!)





# Data collection

Get organized in groups of 4

Each group will get 2 underwater cameras (1 camera for each couple)



# Enjoy!

