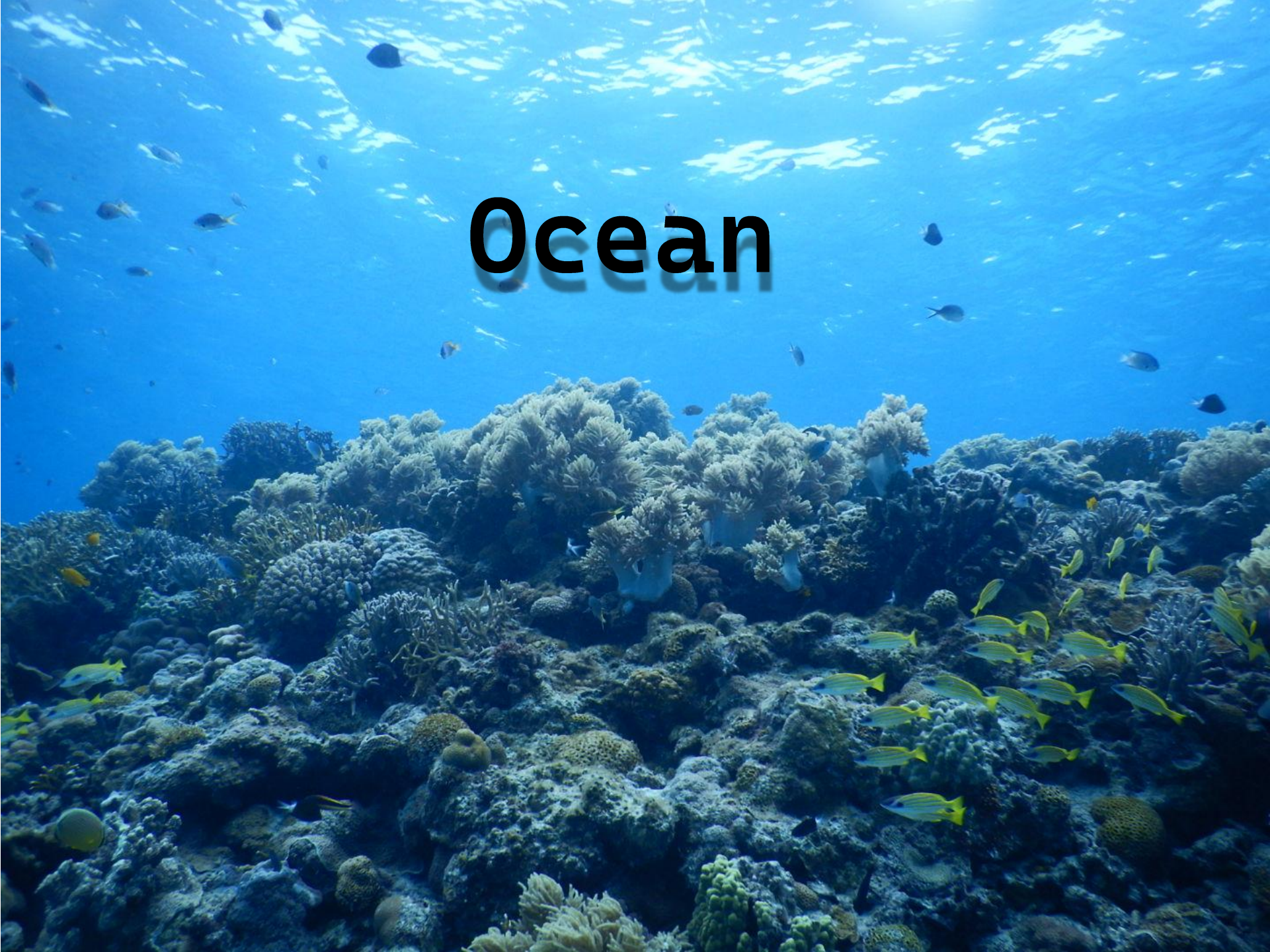
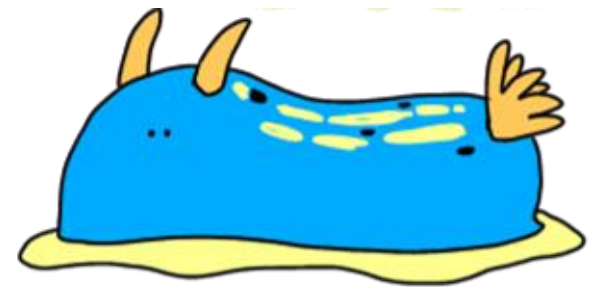
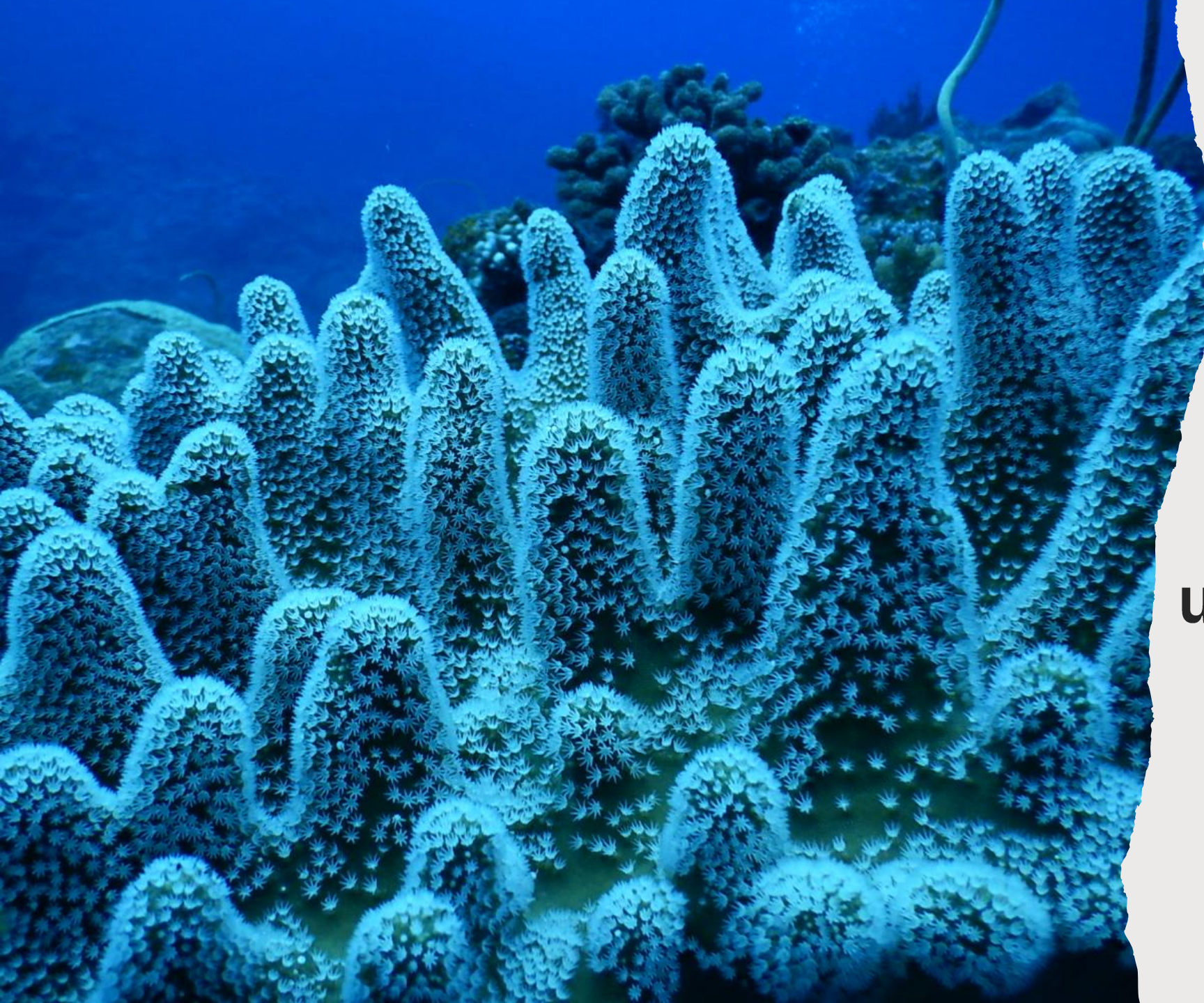


Ocean

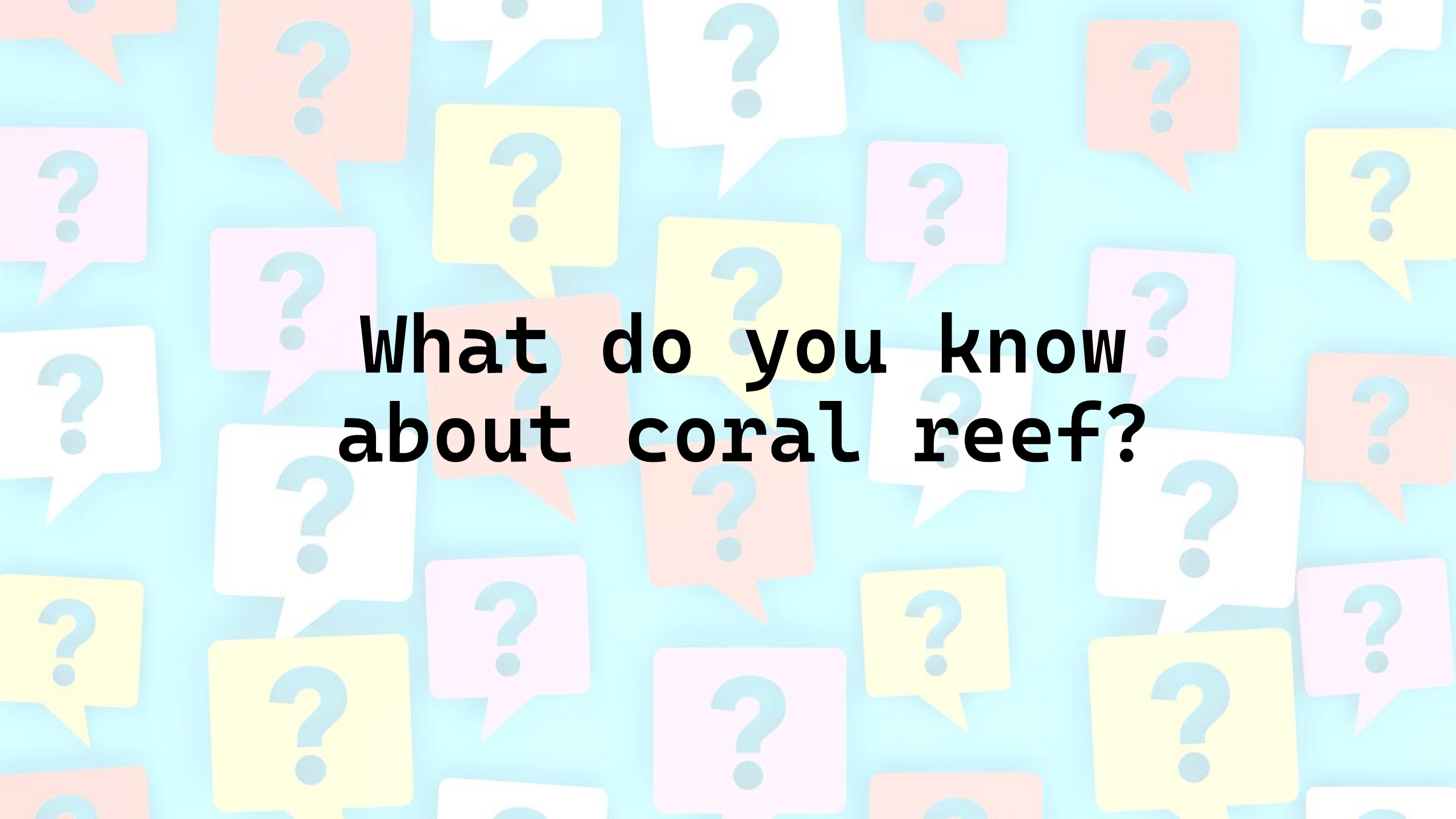


今回海中にはいきませんが...





**Amazing
creatures
under the sea.**

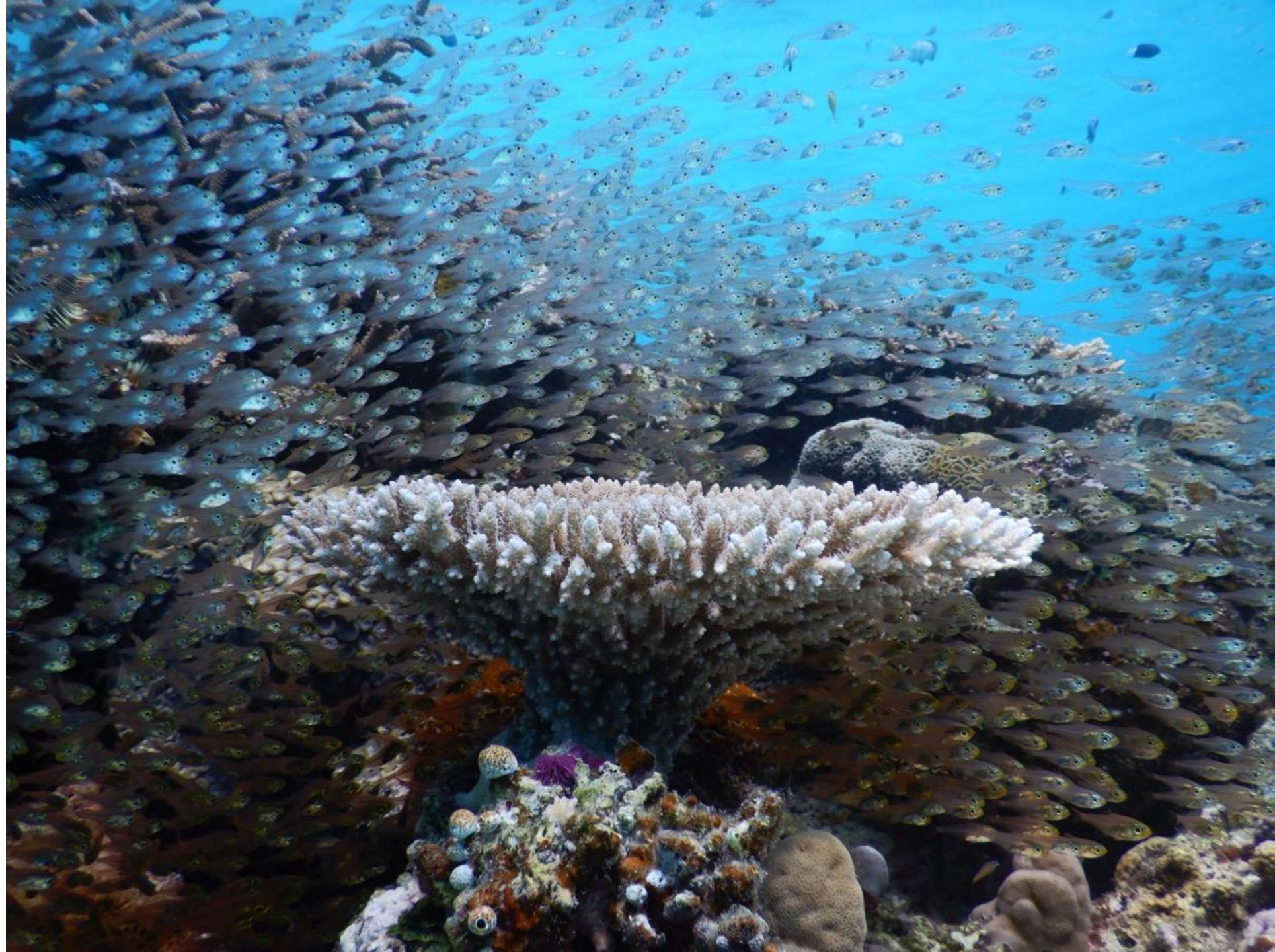
The background of the image is a light blue color, populated with numerous speech bubbles of various colors including white, yellow, pink, and orange. Each speech bubble contains a blue question mark. The bubbles are scattered across the entire frame, creating a pattern that suggests a state of inquiry or a collection of questions.

**What do you know
about coral reef?**

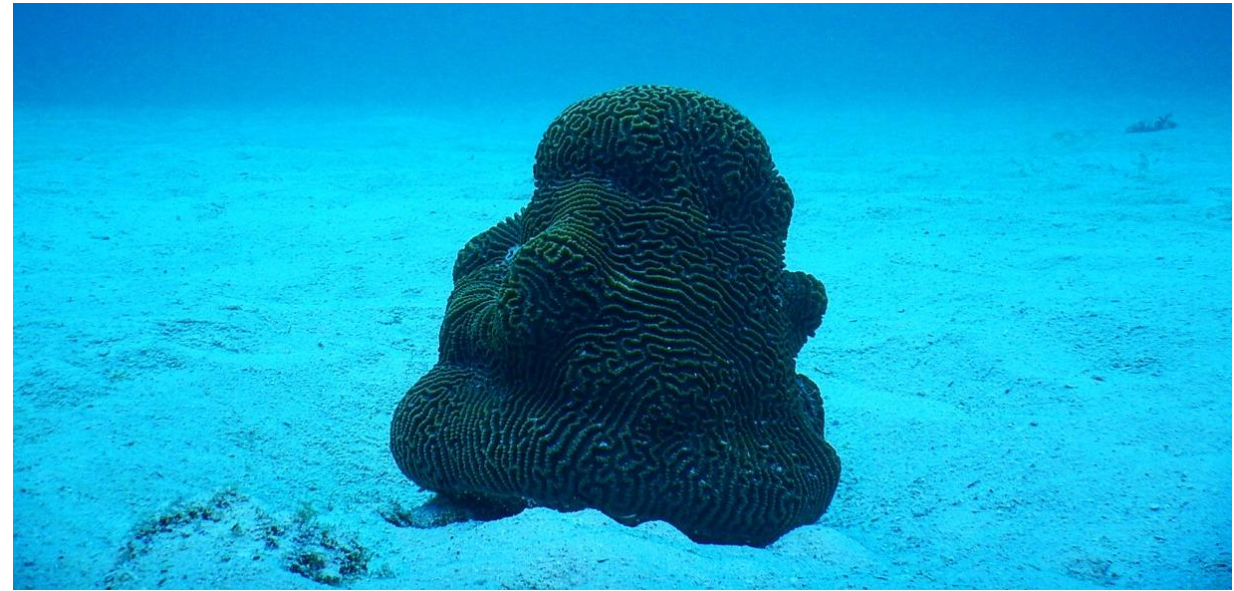
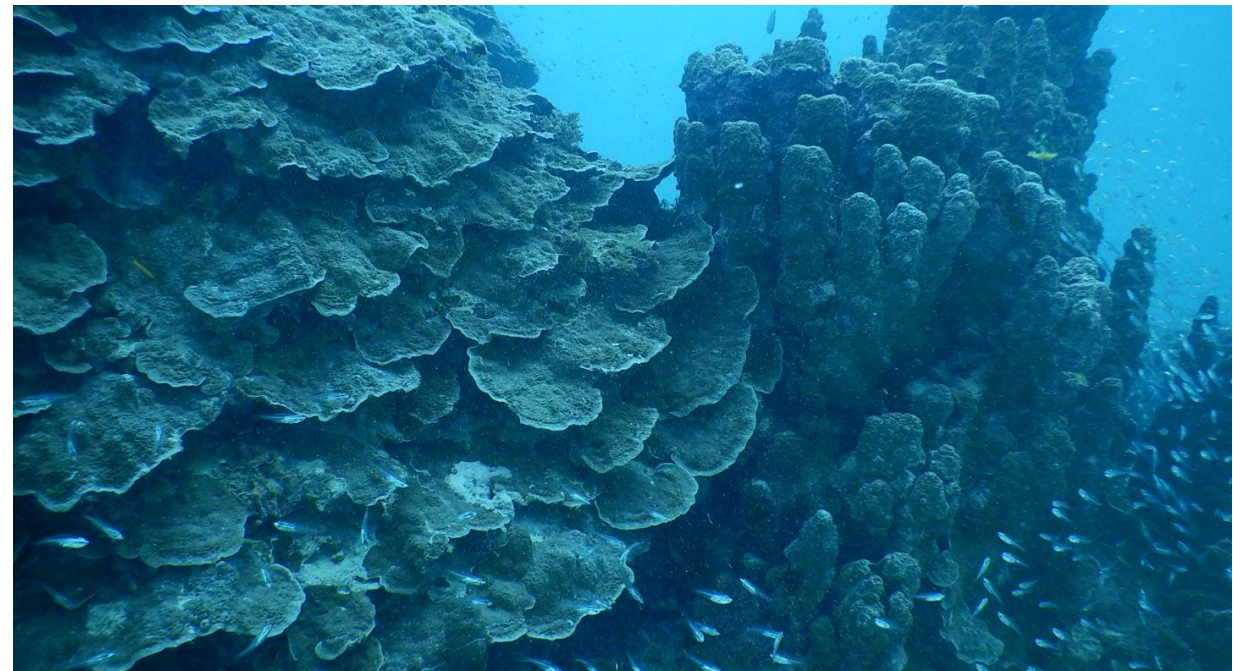
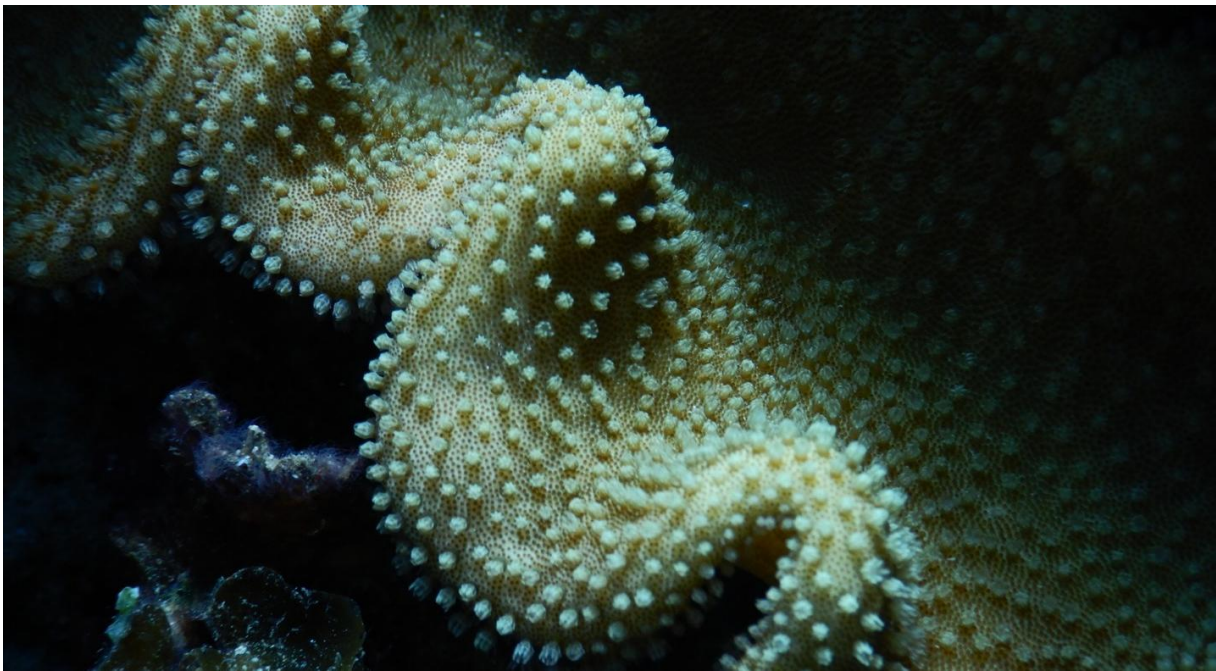
Total area 600,000km²

||

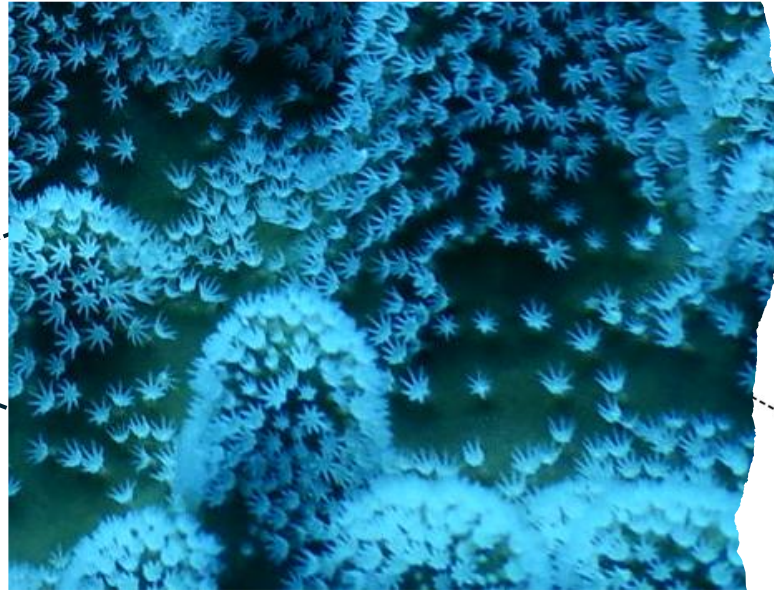
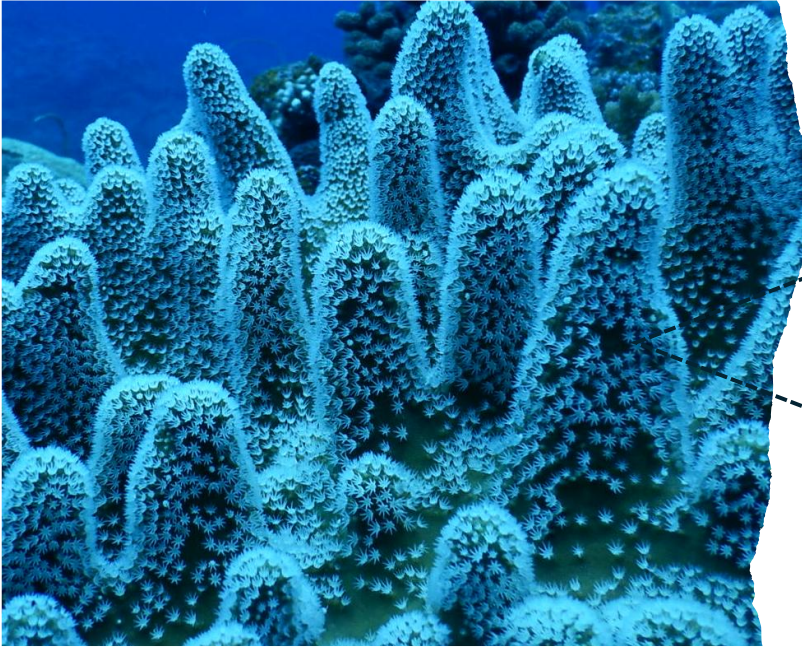
0.1~0.2% of the total area on the Earth



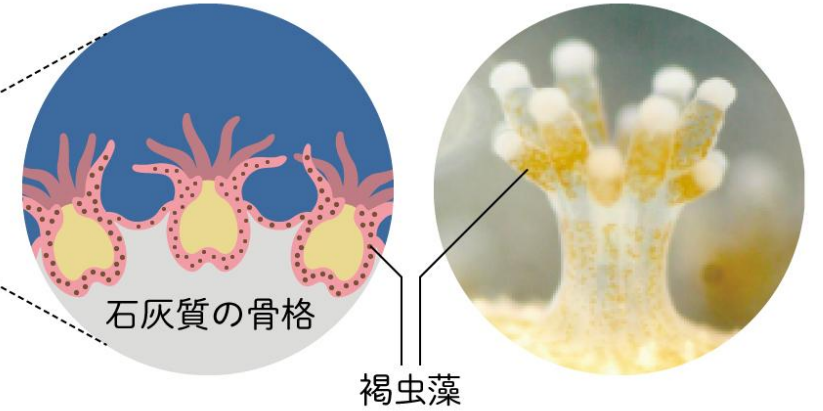




How do they live?



ポリプ(サンゴ个体)

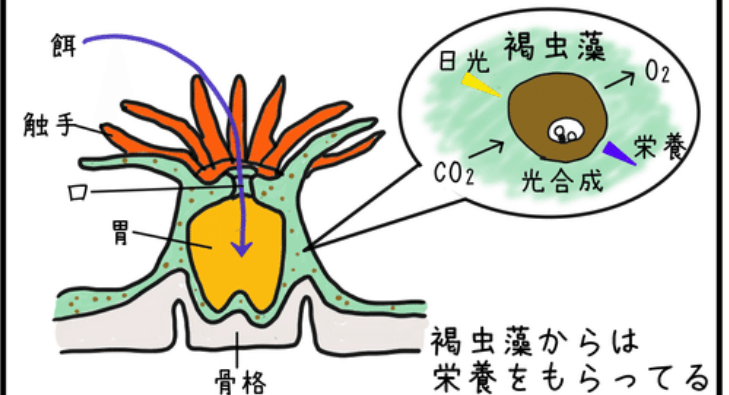


サンゴと褐虫藻

サンゴはポリプ(個虫)の集まりだ



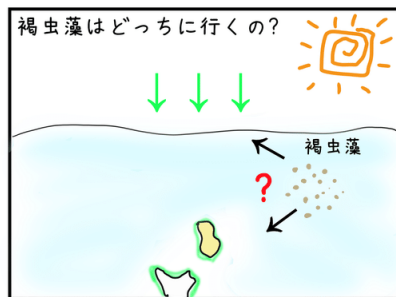
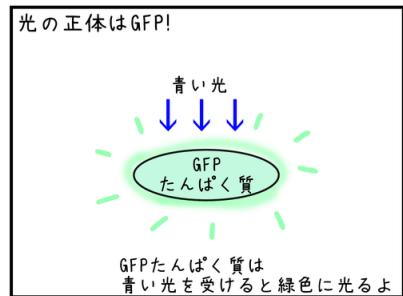
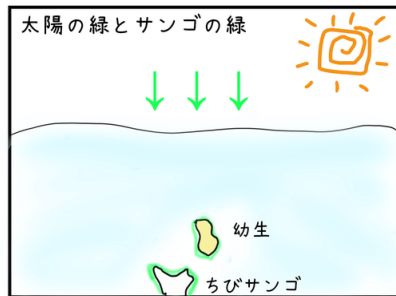
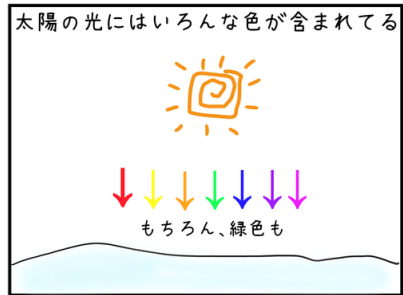
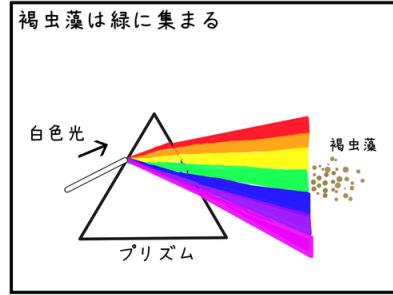
ポリプには褐虫藻が住んでるよ



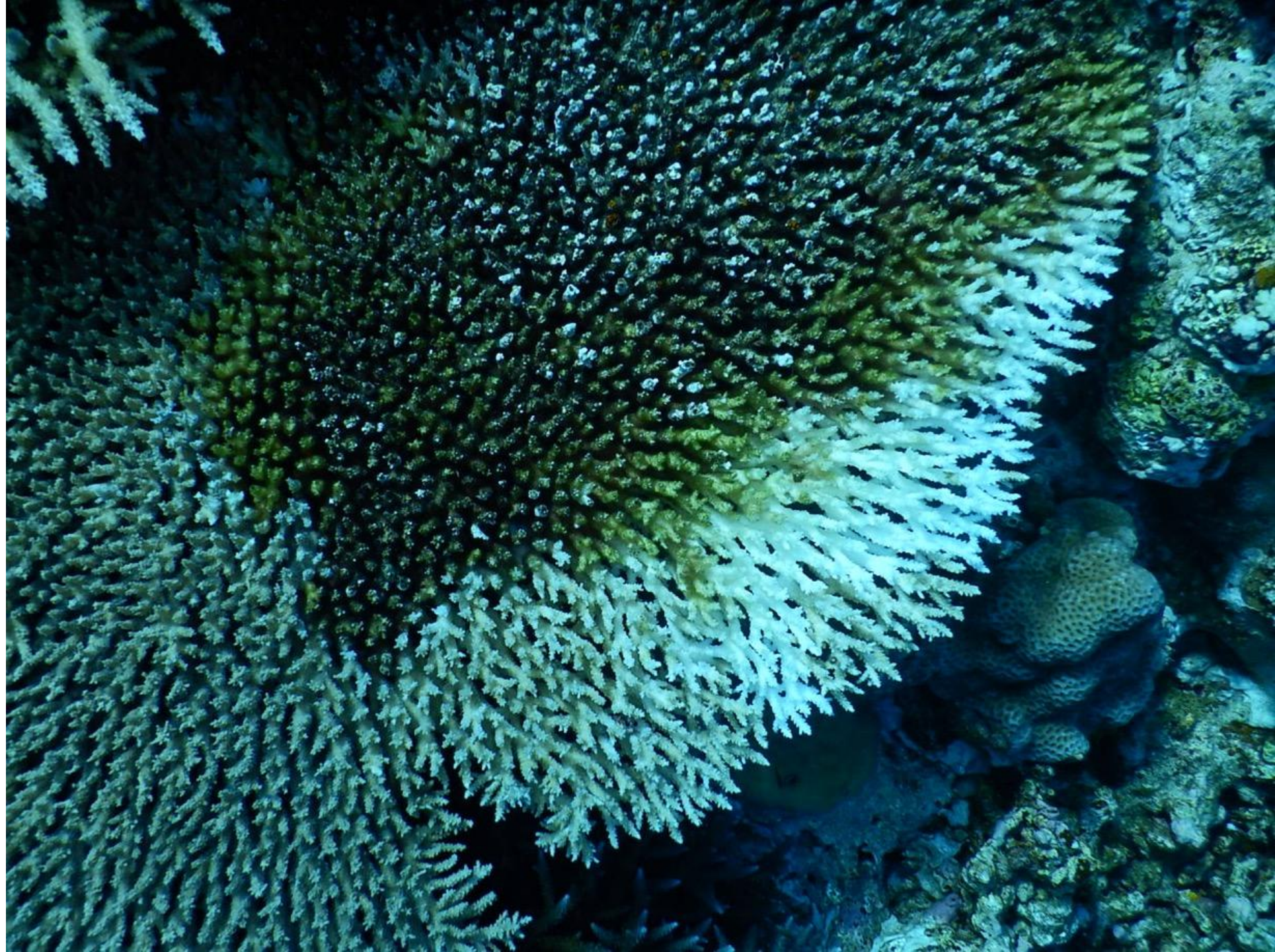
褐虫藻はどっちに？



褐虫藻は緑が好き

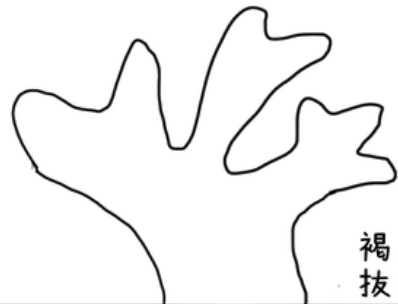


サンゴの白化現象 Bleaching



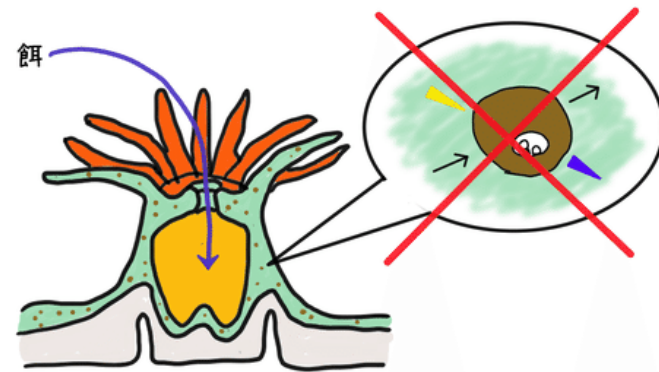
サンゴの白化現象 Bleaching

サンゴの白化は
褐虫藻がいなくなること



褐虫藻の色が
抜けちゃった

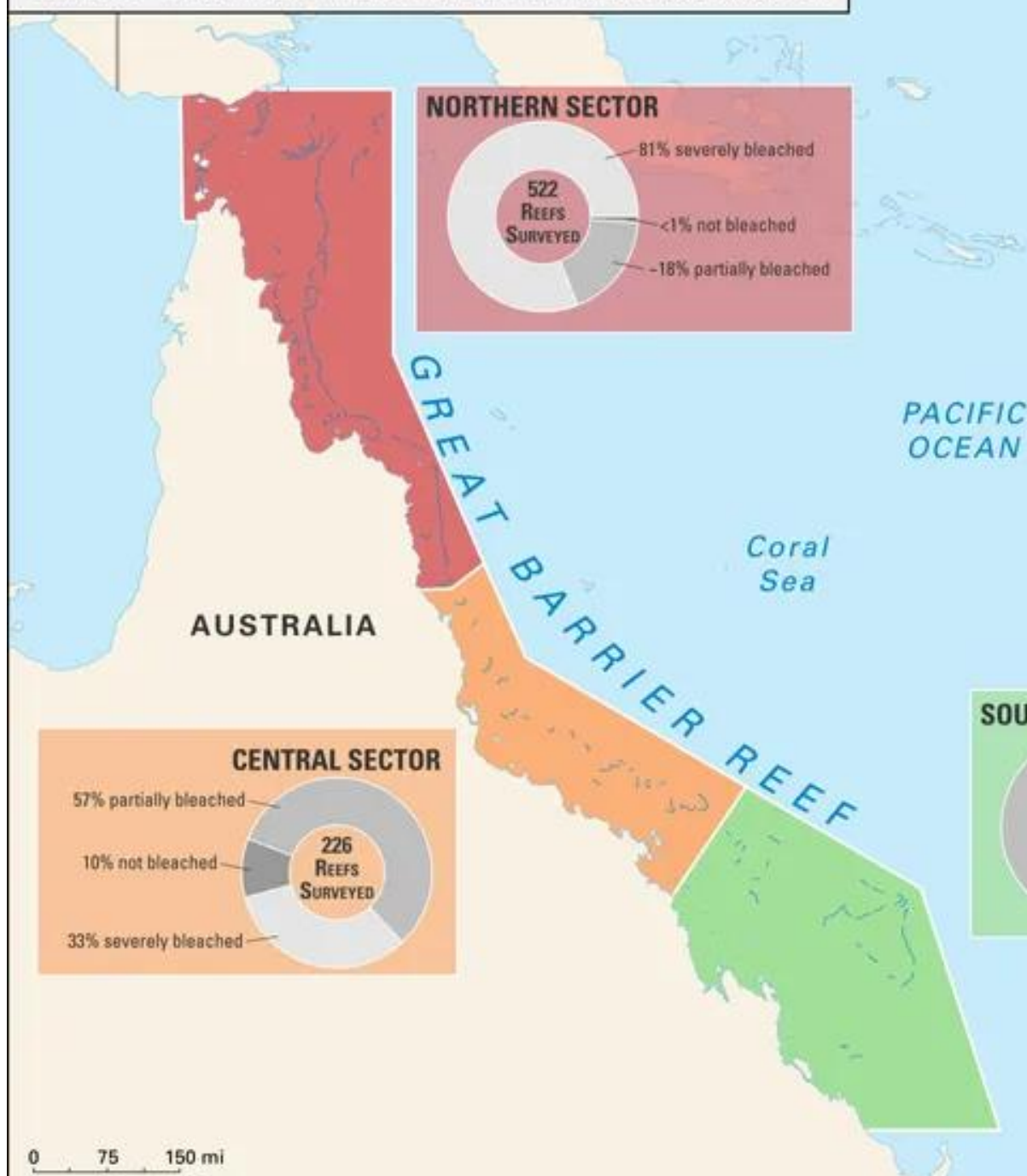
白化すると栄養が足りない!



サンゴは死んでしまう

Green fluorescence from cnidarian hosts attracts
symbiotic algae

GREAT BARRIER REEF BLEACHED AREA 2016



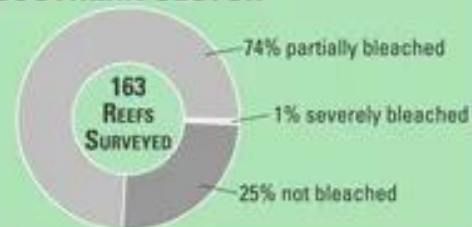
NORTHERN SECTOR



CENTRAL SECTOR



SOUTHERN SECTOR



STAGES OF CORAL BLEACHING



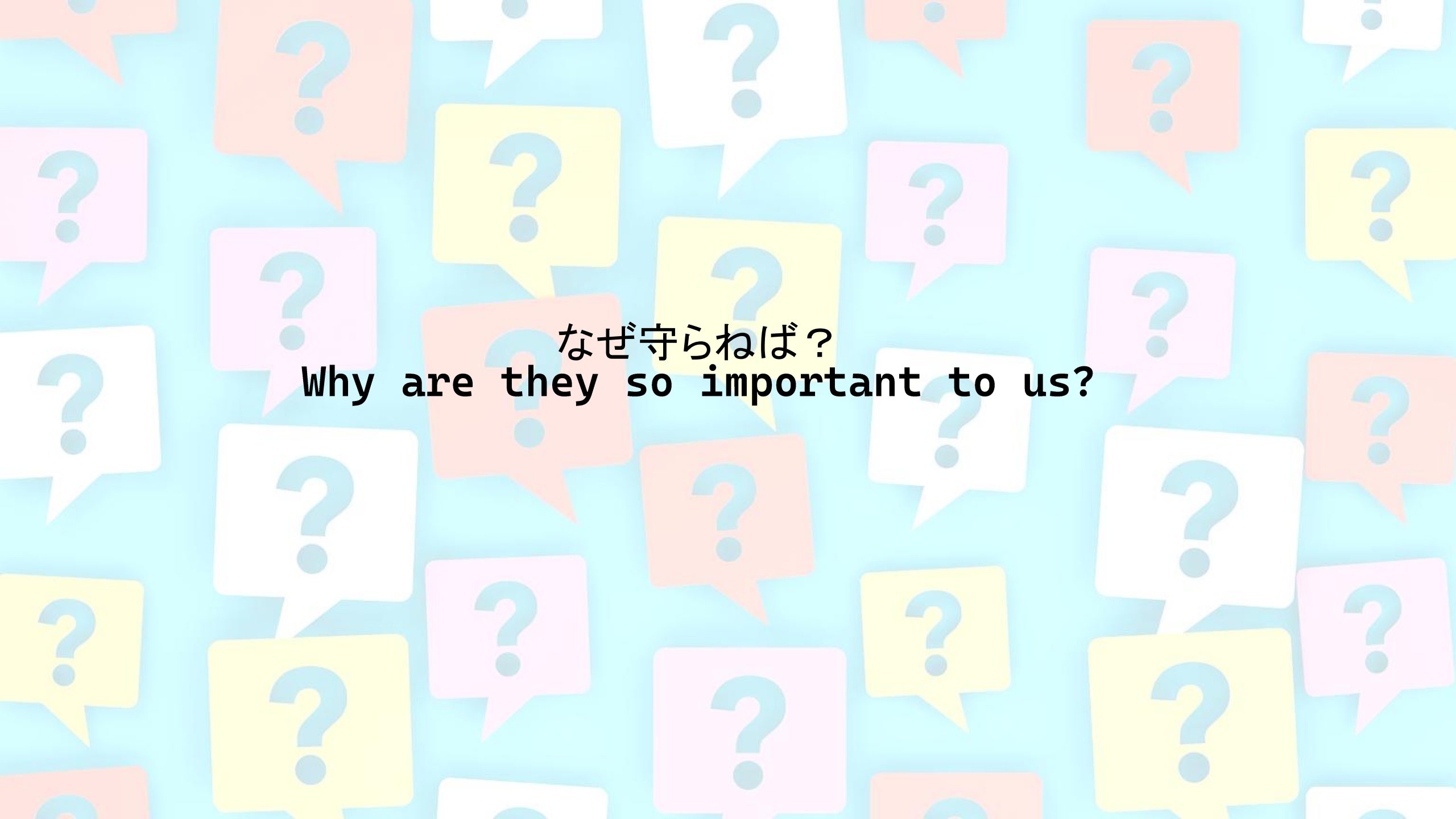
0 75 150 mi





サンゴの生きる
力



The background of the image is a light blue gradient, populated with numerous speech bubbles of various colors including white, light orange, light yellow, and light pink. Each speech bubble contains a large, dark blue question mark. The bubbles are scattered across the frame, some overlapping, creating a pattern that suggests a multitude of questions or a state of inquiry.

なぜ守らねば？
Why are they so important to us?

90,000specie
are living in coral reefs



ただ、生きてただけなのに・・・

Ghost netの存在→



**Have you ever heard of
garbage dump in Cebu?**



**Have you ever
heard of GPGP?**

As big as Queensland!



Great Pacific Garbage Patch(GPPG)



THE GREAT PACIFIC GARBAGE PATCH

EXPLAINED

HAWAII

CALIFORNIA

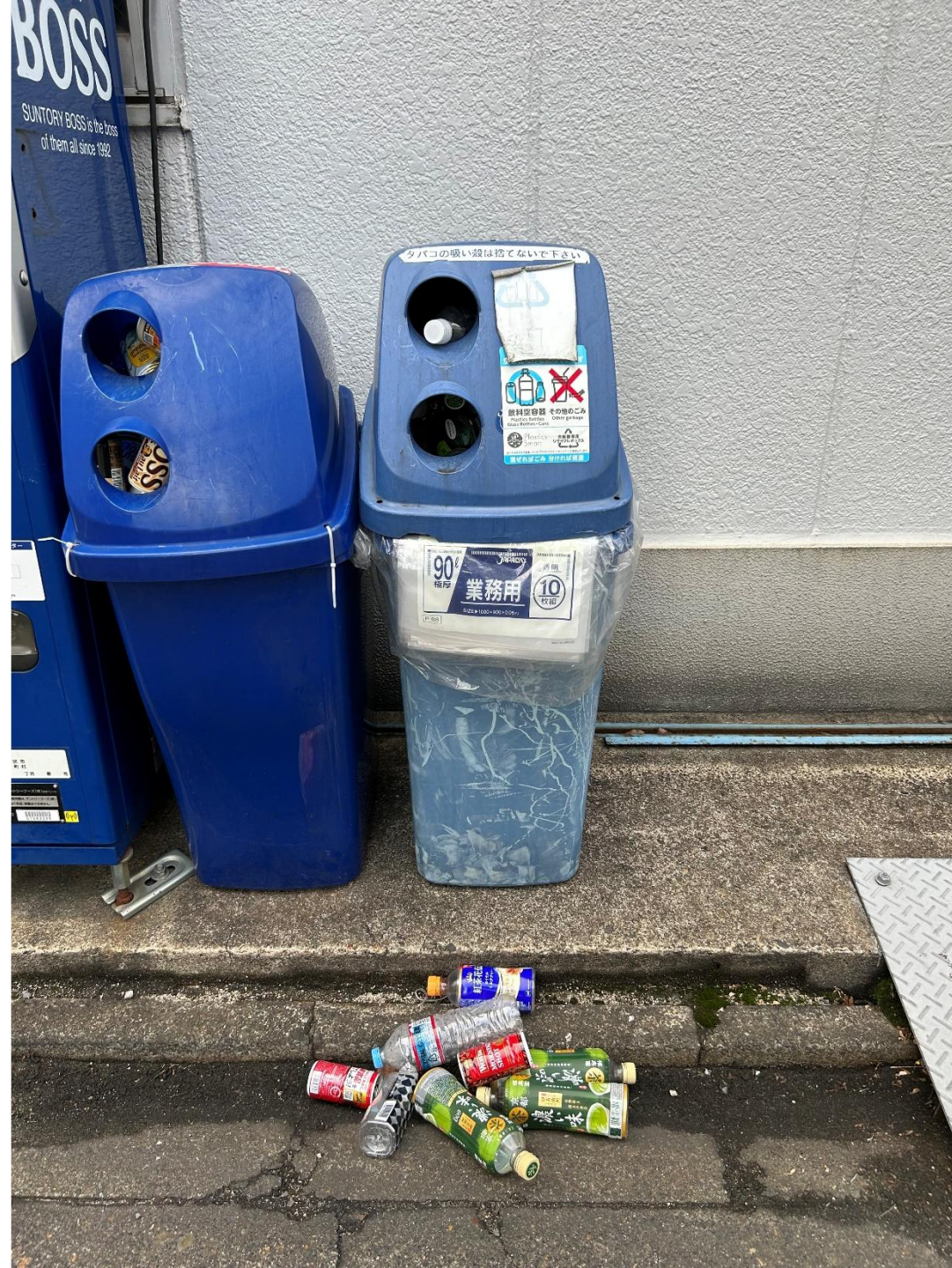


In Japan?

**How many bottles
can you see?**

Countless...

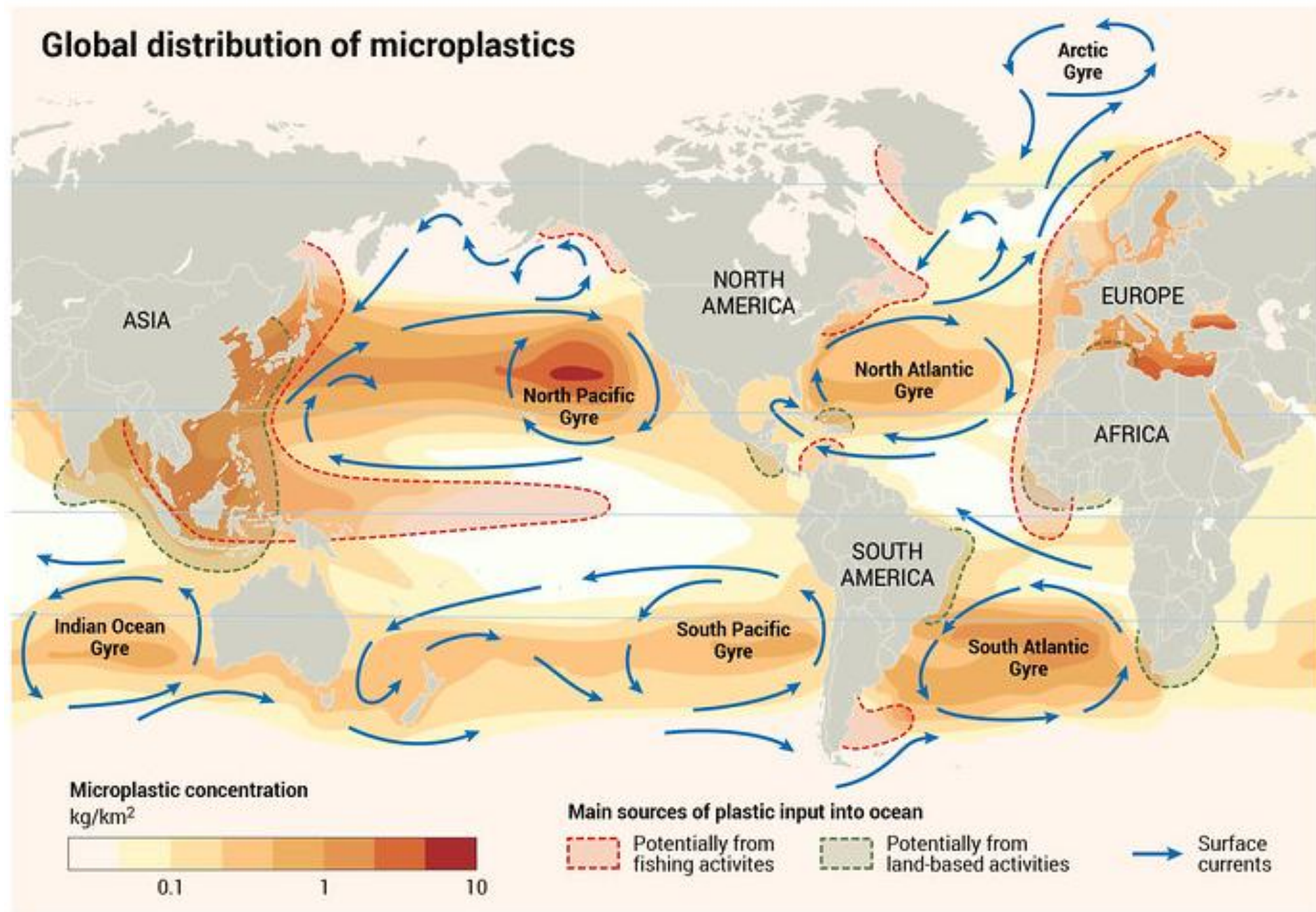




**Not only bottles
but also fishing net,
or ghost net become a
big issues.**



Global distribution of microplastics



Share of global plastic pollution entering the ocean through rivers, 2019

Estimated share of global plastic pollution entering the ocean via rivers.

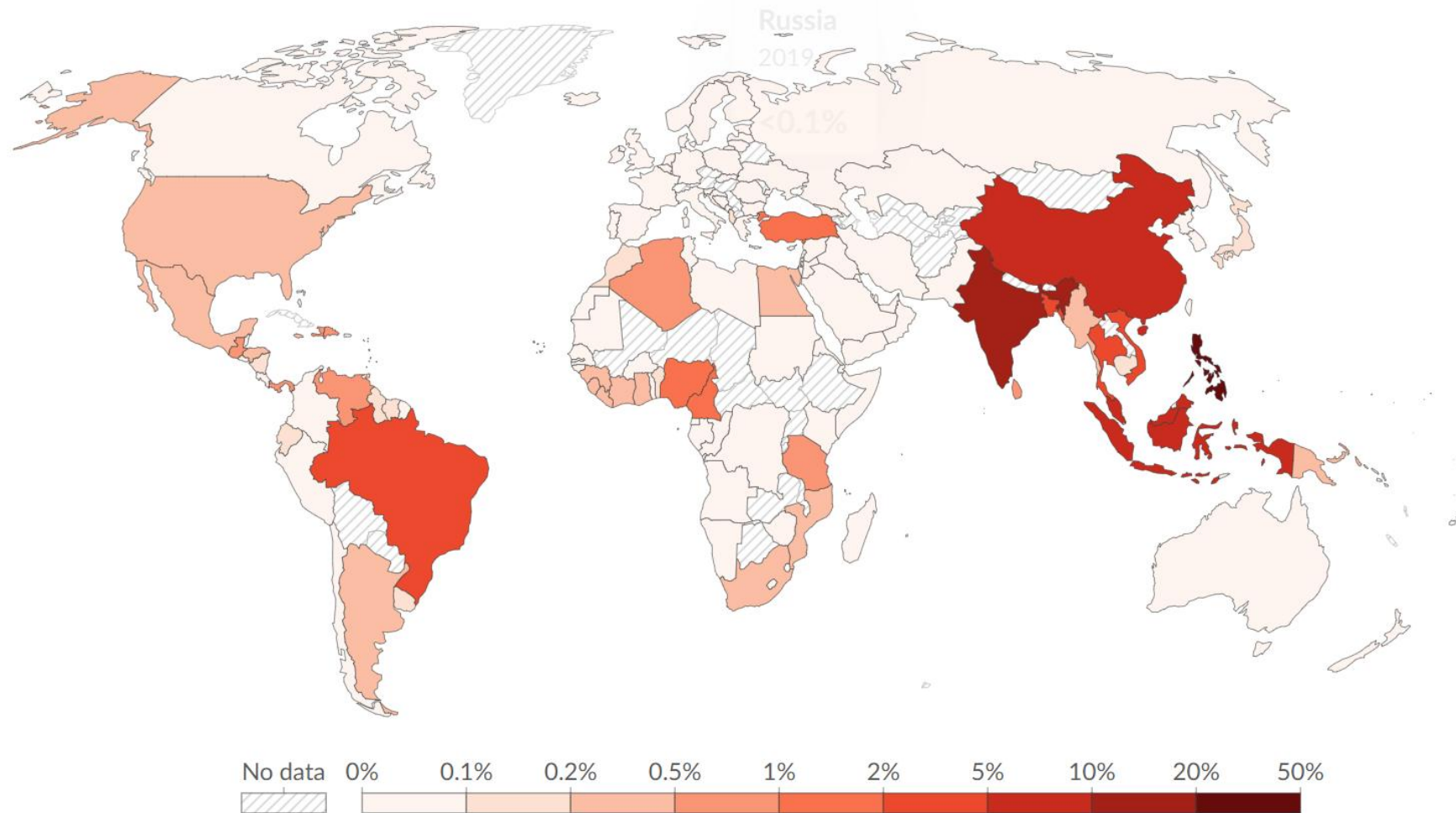
Our World
in Data

Table

Map

Chart

Select countries

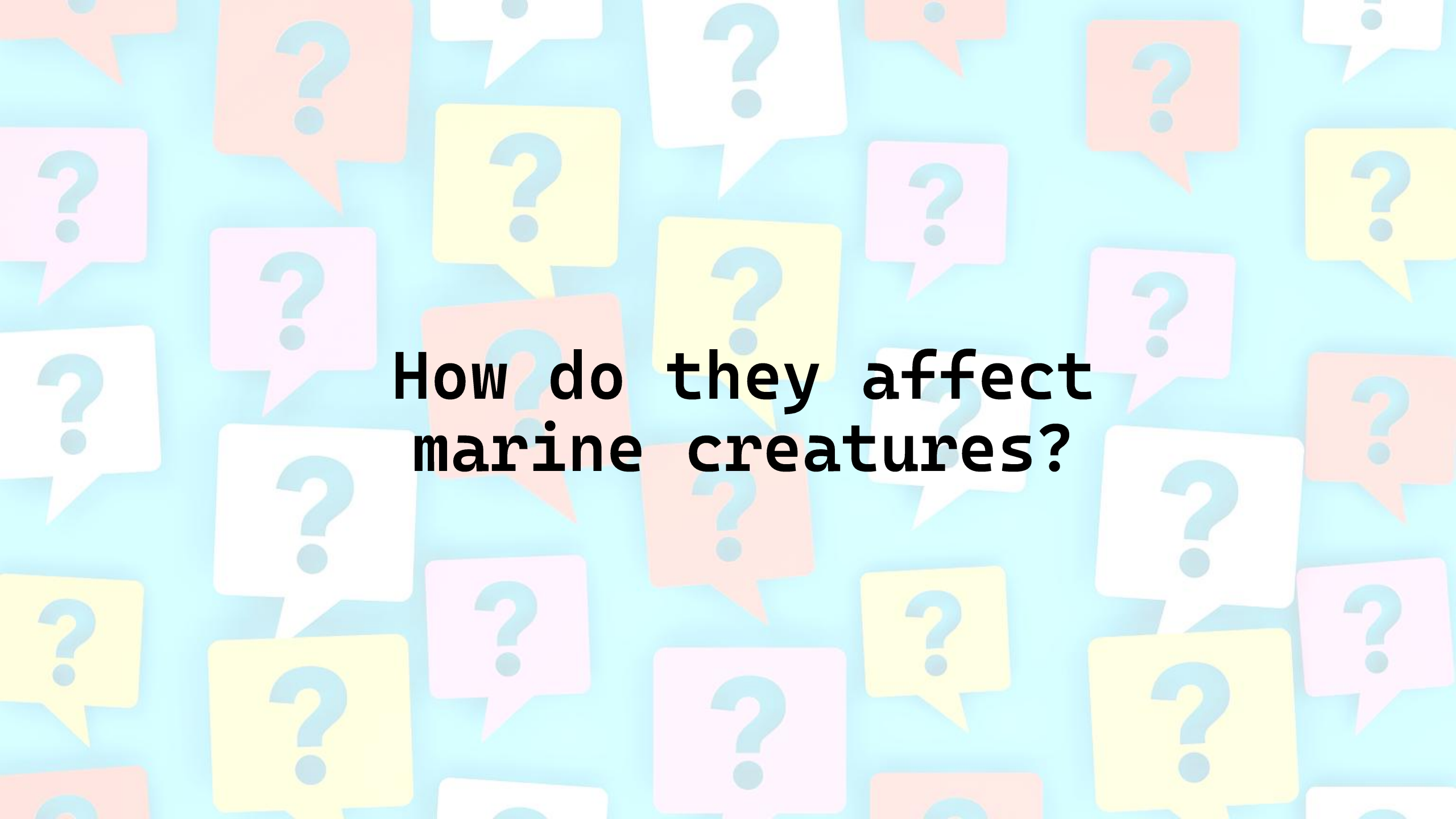


Data source: Meijer et al. (2021) – [Learn more about this data](#)

Note: Country totals exclude plastic waste exported overseas, which may be at greater risk of entering the ocean.

CC BY



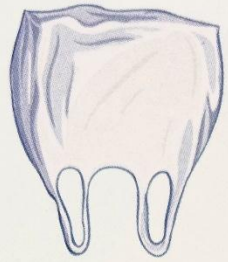
The background of the image is a light blue gradient. It is filled with numerous speech bubbles of various colors, including white, light orange, light yellow, and light pink. Each speech bubble contains a large, dark blue question mark. The bubbles are scattered across the entire frame, creating a pattern of questions.

**How do they affect
marine creatures?**



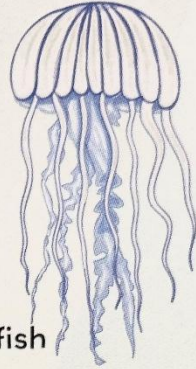


They recognize plastic waste as food...



Plastic bag

instead
of

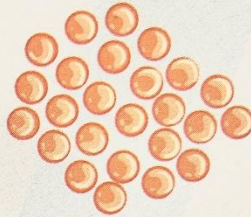


Jellyfish



Plastic nurdles

instead
of

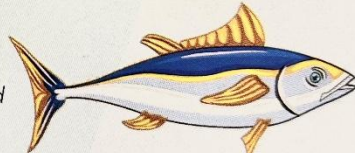


Fish eggs

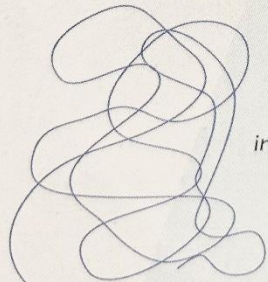


Ocean plastic

instead
of

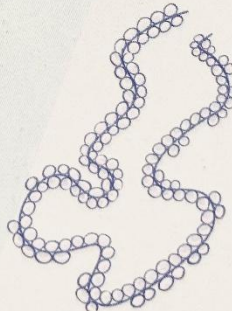


Ocean fish



Fishing line

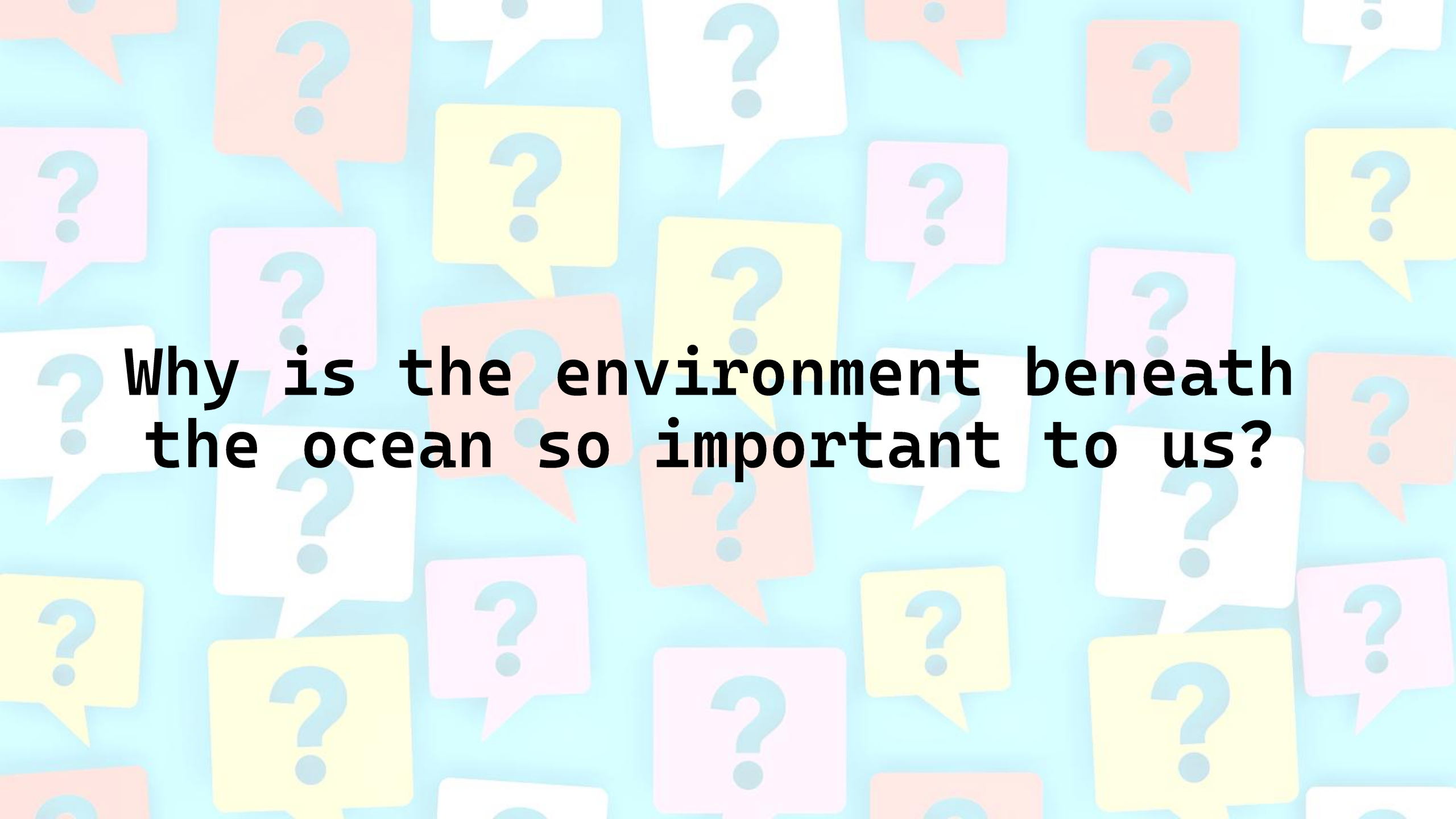
instead
of



Sea eggs

Most marine creatures rely on sight or smell to help them find food.

Plastic can fool them into thinking it is food...

The background of the image is a light blue gradient, overlaid with a repeating pattern of speech bubbles. These bubbles are in various colors including white, light orange, light yellow, and light pink. Each bubble contains a large, dark blue question mark. The bubbles are scattered across the entire frame, creating a textured, question-themed background.

**Why is the environment beneath
the ocean so important to us?**

smaller and smaller..



Then they become “nudles”...

Then they become “nudles”..
as small as a grain of rice



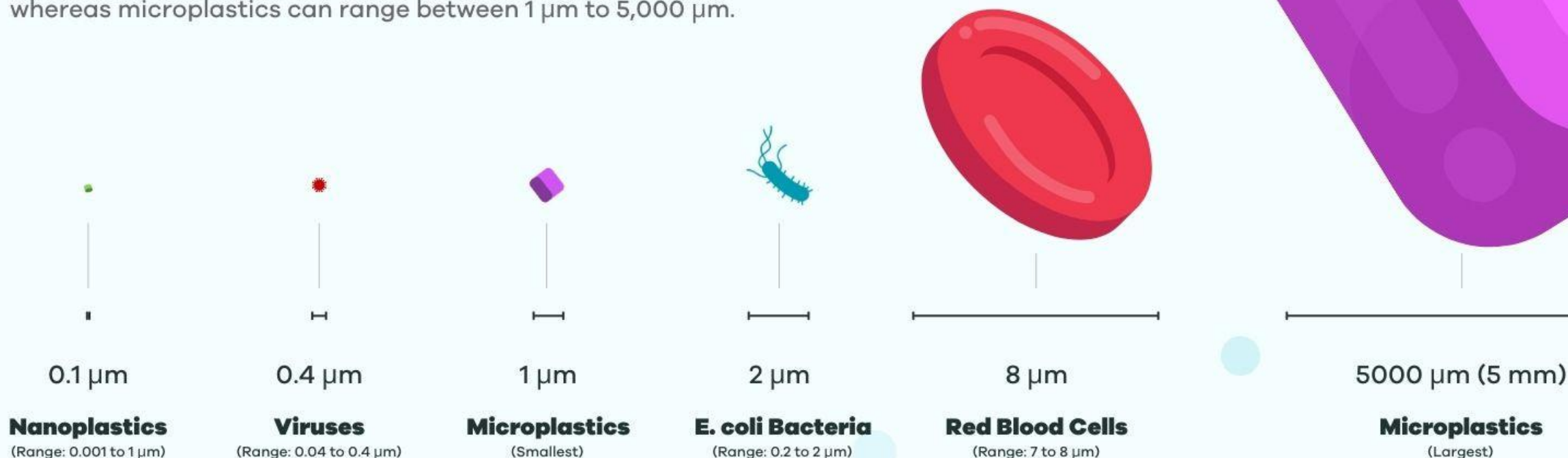
**Because of the weathering,
they become
“microplastic” → “nanoplastic”**

How small?

Size Chart

Microplastics to scale

The EPA defines nanoplastics as anything smaller than 1 μm , whereas microplastics can range between 1 μm to 5,000 μm .



Smaller than viruses!

All sizes are approximate diameters. 1 μm = 1 micron

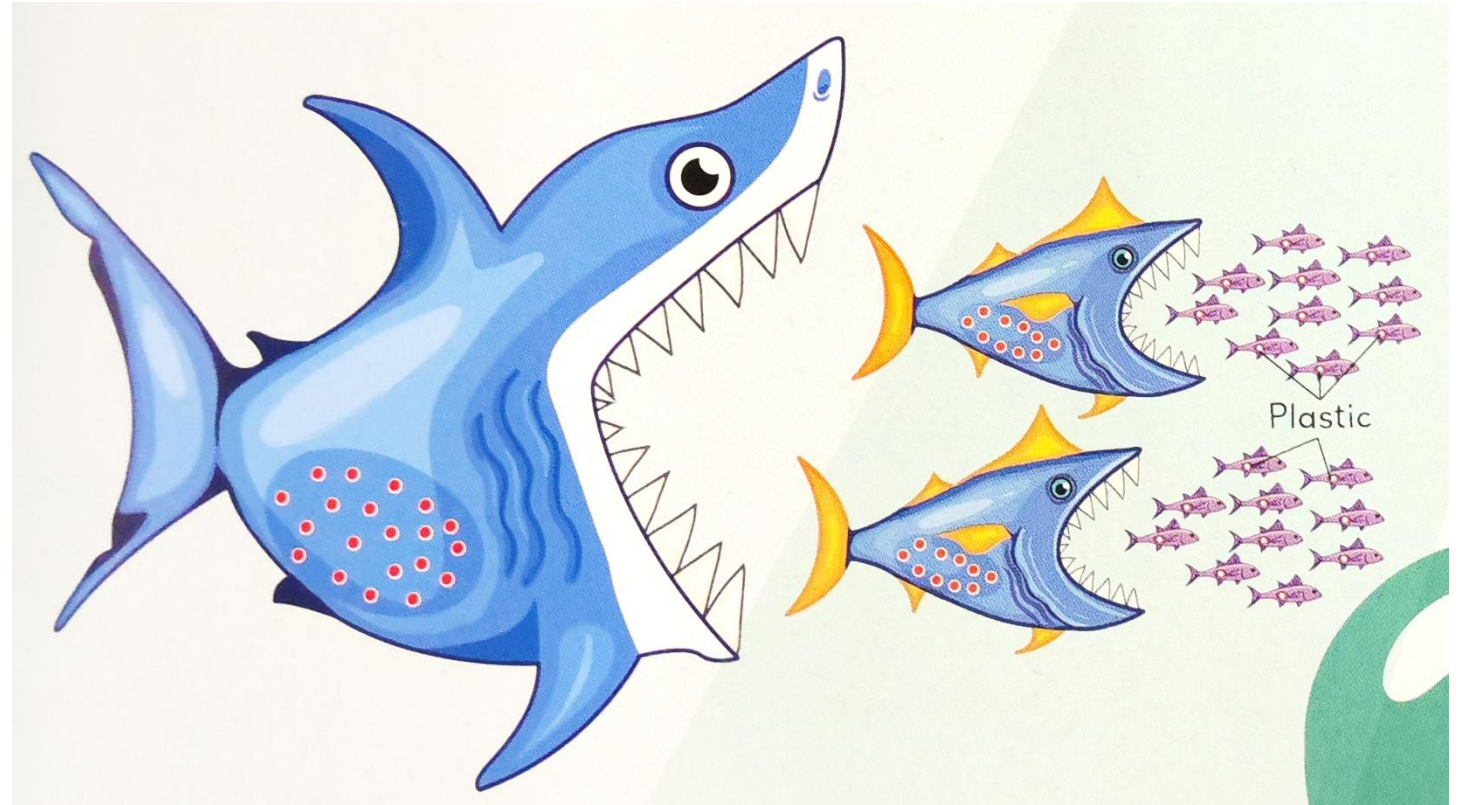
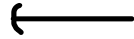
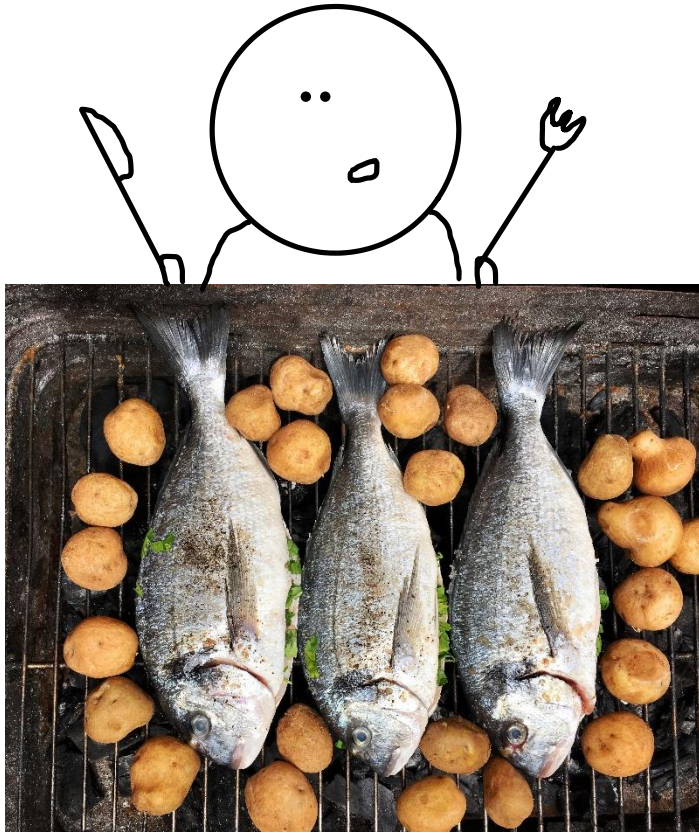
Feeding on plastic POPs

Persistent Organic Pollutants

(残留性有機汚染物質)

They are easily stored in the flesh or tissues of living things.

Bioaccumulation



A photograph of a sea turtle swimming in clear blue water. The turtle is positioned in the center-right of the frame, swimming towards the left. Its head is down, and its front flippers are extended. The background is a deep blue gradient, with a lighter blue area in the top left corner. In the bottom right corner, there is a dark, rocky coral reef structure.

It' time to think about
the plastic problem...