Intro to Coral Reefs

Plenty of Wildlife

- Did you know that more wildlife live around coral reefs than in any other part of the ocean?
- We are going to study these and learn how important they are.

BIODIVERSITY

Home to a quarter of the world's marine species.

FOOD SOURCE

Provides foot to more than 500 million people that live near the coast.

TOURISM

Provide a livelihood for millions of individuals in the tourism industry

CORAL REEF

BENEFITS

SHARE this message so everyone can learn about the environmental and economic benefits that coral reefs provide to our planet.

PROTECTION

They serve as natural marine barriers that protect coastal communities from high impact waves.

MEDICINE

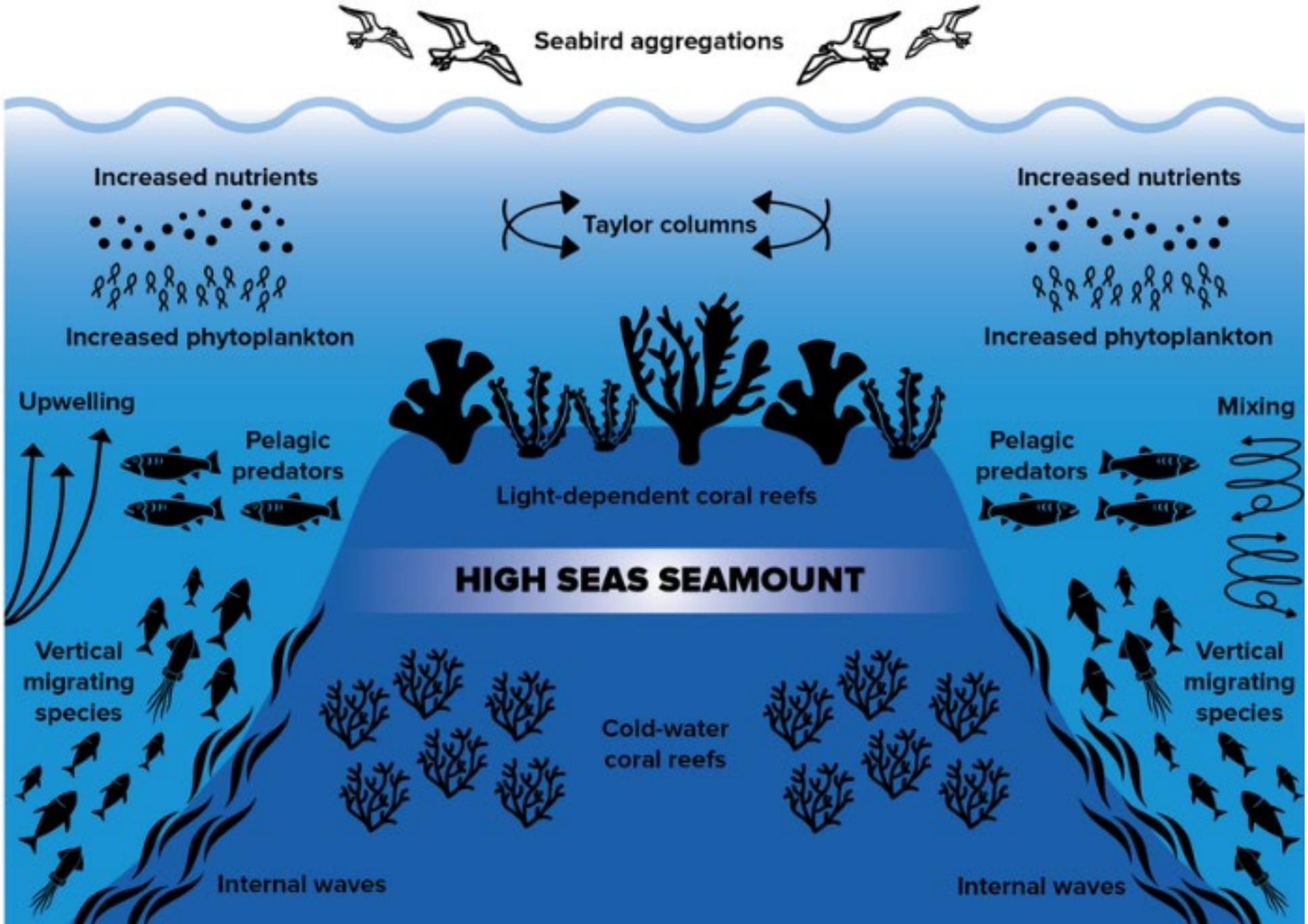
Important medicinal components have been found in several marine species that inhabit coral reefs.

Did you know:

Scientists have estimated that 75% of the world's corals are at risk and at least 10% have already died.

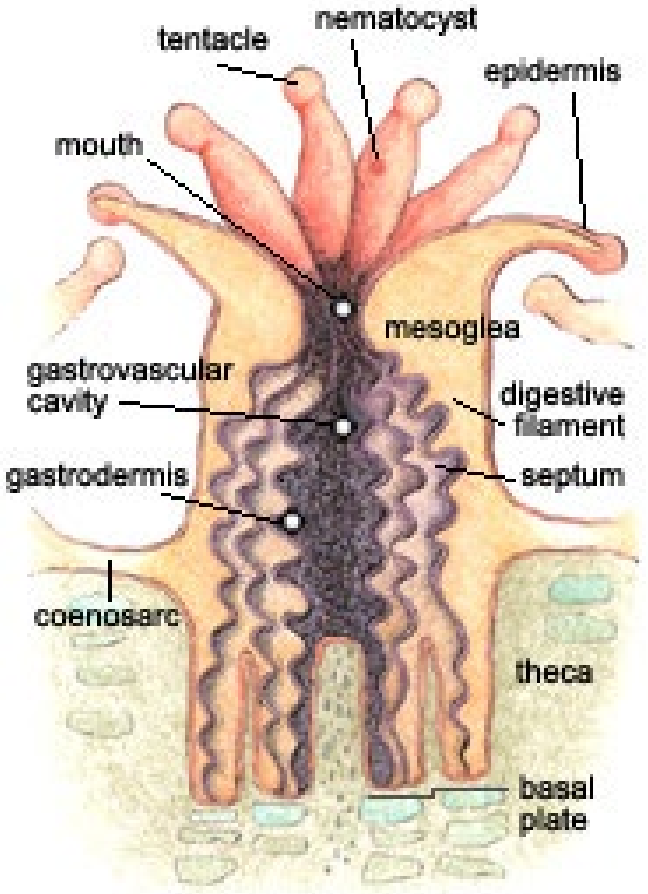
WILDCOAST
COSTASALVAJE

wildcoast.net


Seabird aggregations
Increased nutrients
Increased phytoplankton
Taylor columns
Increased nutrients
Increased phytoplankton
Upwelling
Pelagic predators
Light-dependent coral reefs
Mixing
Pelagic predators
HIGH SEAS SEAMOUNT
Vertical migrating species
Cold-water coral reefs
Vertical migrating species
Internal waves
Internal waves

What are Coral Reefs?

- When you look at a coral reef, you might think that you are seeing a group of colorful rocks. But don’t be mistaken! Reefs are actually made out of living creatures called coral.

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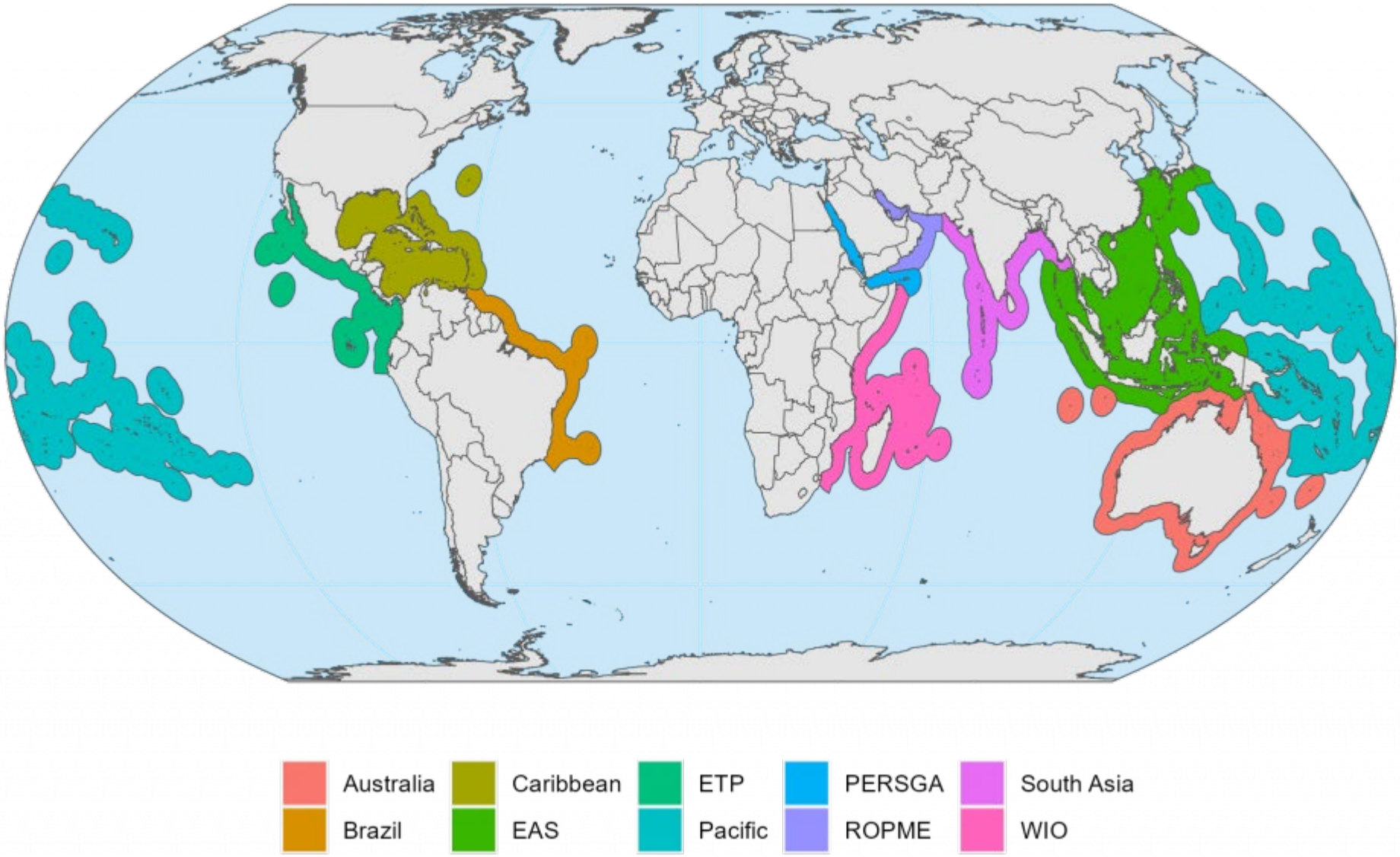
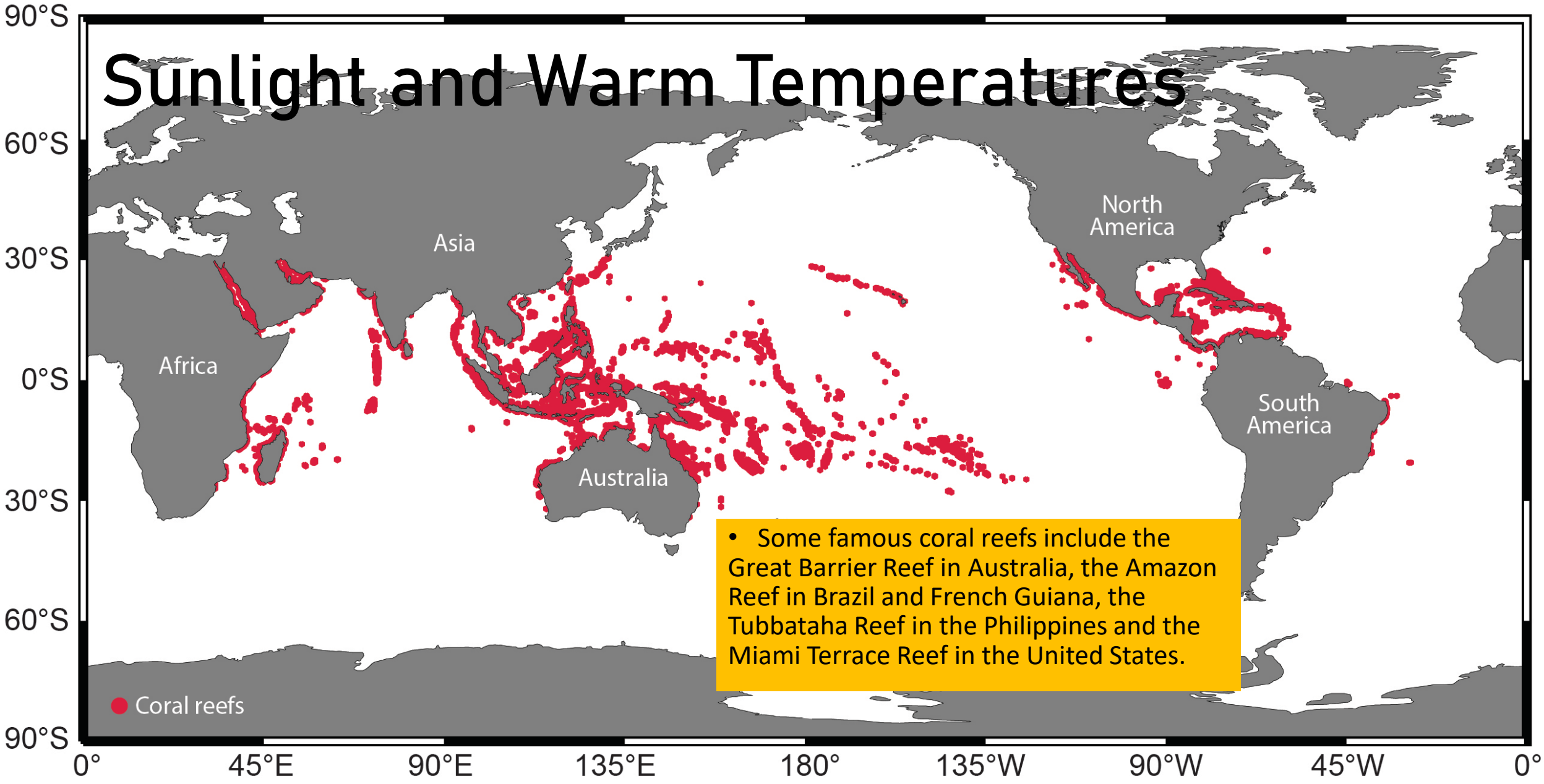
Sunlight and Warm Temperatures

Coral reefs can be found all over the world! However, most coral reefs grow in shallow, clean ocean waters on either side of the Equator, because they need sunlight and warm temperatures all year to survive.



Sunlight and Warm Temperatures



- Some famous coral reefs include the Great Barrier Reef in Australia, the Amazon Reef in Brazil and French Guiana, the Tubbataha Reef in the Philippines and the Miami Terrace Reef in the United States.

Growth Rings

- Coral have growth rings, just like trees!

Scientists discover world's largest coral—so big it can be seen from space

Exclusive photos reveal a sprawling, 300-year-old coral near Solomon Islands, recently discovered by the National Geographic Society's Pristine Seas expedition team.

- The first coral reefs formed on Earth 240 million years ago. That's before the dinosaurs were alive! Most coral reefs today are between 5,000 and 10,000 years old.

Many different kinds…

- There are more than 800 different types of hard coral around the world.

Great Barrier Reef

- The Great Barrier Reef is the largest reef system on Earth. You can even see it from space!


South Korea
Japan
China
AR
Philippines
Thailand
HI
Indonesia
Papua New Guinea
NT
QLD
Australia
WA
SA
NSW
VIC
TAS
New Zealand

Who lives there?

- Lots of different types of sea creatures call coral reefs their home – giant clams, starfish, sea turtles, seahorses, eels, cuttlefish and many, many more. The reefs provide this diverse range of animals with everything they need, including food and shelter.

12 Creatures in the Reef

1 of 12 **Bartlett's Anthias**

- Many fish find solace in the coral reef, but Bartlett's anthias travel in large groups, finding shelter in the branches of coral. Found in the Western Pacific Ocean, all anthias fish start out as female, and some turn into males — but only the most colorful male leads the pack, or harem. Males tend to be more brightly colored, with yellow and violet bodies, while females are yellow and lavender.

12 Creatures in the Reef

2 of 12 **Butterflyfish**

- Butterflyfish primarily occur in the shallow, warm tropical waters of the Indian and West Pacific oceans, as well as the Atlantic Ocean and the eastern Pacific. They tend to be bright yellow or white in color, with a false eye spot to ward off predators.

12 Creatures in the Reef

3 **Clown Anemonefish**

of 12

- Clown anemonefish are bright orange fish with three white bands. These fish are well known for finding shelter in sea anemone on the ocean's floor. The two have a symbiotic relationship: The stinging anemones protect the anemonefish, while the fish's waste provides food for the anemone. Clown anemonefish are found in the warm tropical waters of the Pacific and Indian Oceans.

12 Creatures in the Reef

4 of 12 **Lionfish**

- With its flare of long, venemous fins, the lionfish is an impressive (and beautiful) predator. Although native to the Indo-Pacific, the lionfish has flourished since its introduction to the East Coast of the United States. The lionfish is considered a global invasive species with a negative impact on native species and habitat. They are at the top of the food chain and have few natural predators.

12 Creatures in the Reef

5 **Yellow Tang**

of 12

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12 Creatures in the Reef

6 of 12 **Harlequin Shrimp**

- Harlequin shrimp might look tiny, but they are fierce predators of their primary food source: Linckia sea stars. Found in the intertidal region of the Indo-Pacific oceans, these spotted shrimp have flattened front claws and a strong sense of smell. The two-inch long harlequin shrimp live and work in pairs, and can take down even the intimidating crown-of-thorns starfish.

12 Creatures in the Reef

7 **Mandarinfish**

of 12

- Also known as the Mandarin dragonet, this multicolored fish is so named because of its resemblance to a traditional Imperial Chinese robe. With a native range that includes the western Pacific regions of the Philippines, Indonesia, Hong Kong, Australia, and New Guinea, these fish tend to feed near the bottom of reefs, so they can be quite elusive. Male mandarinfish are primarily green and orange in color. Due to their lack of scales, mandarinfish are protected by their thick, smelly mucus coating.

12 Creatures in the Reef

8 **Banded Pipefish**

of 12

- Found throughout the western Atlantic from Bermuda to Brazil, including the east coast of Florida, banded pipefish are associated with reef, coarse rock, and seagrass habitats. Banded pipefish tend to have black and white rings or bars in shades of yellow, white, and brown. When it comes to parenting, banded pipefish switch roles: the male gives birth after transferring the female's eggs into his pouch. Their long, thin bodies allow them to hide within their reed and reef habitat.

12 Creatures in the Reef

9 of 12 **Moon Jellyfish**

- Moon jellyfish, though translucent, look majestic as they capture the light around them. They are found in the warm tropical waters of the Atlantic, Pacific, and Indian oceans. They are a valuable part of the food chain in coral seas, eating shrimp, fish eggs, and larvae and, in turn, becoming food for leatherback and other sea turtles. Unfortunately, marine animals looking for food often mistake plastic bags for moon jellies.

12 Creatures in the Reef

10 of 12 **Harlequin Tuskfish**

- Found throughout the outer edges of reef areas in the Indo-Pacific and the Great Barrier Reef, harlequin tuskfish are a bright and colorful fish with blue and orange body stripes and a yellow fin. They are also carnivores, with sharp blue teeth that allow them to easily eat their prey of choice, which includes crustaceans, mollusks, and other fish found in their habitat.

12 Creatures in the Reef

11 of 12 **Moorish Idol**

- With a black and white anterior body and a yellow and black posterior, the Moorish idol is so named for the Moors of Africa, who were said to believe that the fish brought happiness. Moorish idols are widely distributed throughout the subtropical waters of the Indo-Pacific and eastern Pacific oceans. Adults mate for life, and male Moorish idols show aggression toward other males that invade their territory.

12 Creatures in the Reef

12 **Blue Tang**

of 12

- Blue tang are surgeonfish that inhabit the coral reefs of the Caribeean Sea. Best known as Dory in Finding Nemo, blue tang rely on the coral reef for safety when they are alarmed. Blue tangs range from blue to deep purple in color, with white or yellow fins. They are herbivores and keep the surfaces of coral reefs clean by feasting on the algae that can damage the reef.

Camouflaging

- A lot of animals who live on the reef camouflage themselves to blend amongst the coral, either to stay safe from other animals or to hide as they hunt.

Reef stonefish (Synanceia Verrucosa)

REINHARD DIRSCHERL/ULLSTEIN BILD VIA GETTY IMAGES

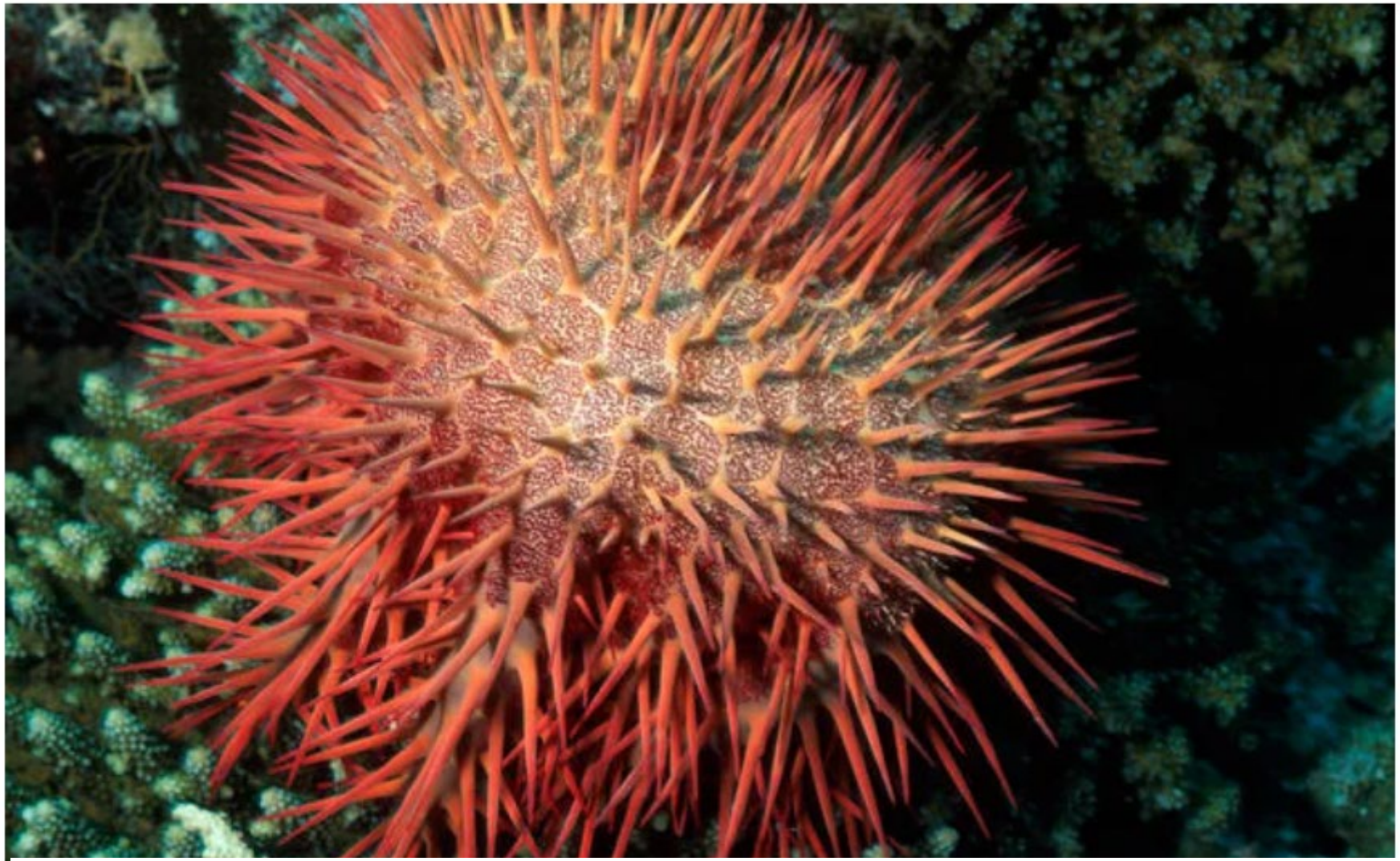
Giant clam (Tridacna Gigas)

REINHARD DIRSCHERL/ULLSTEIN BILD VIA GETTY IMAGES

Dugong (Dugong Dugon)

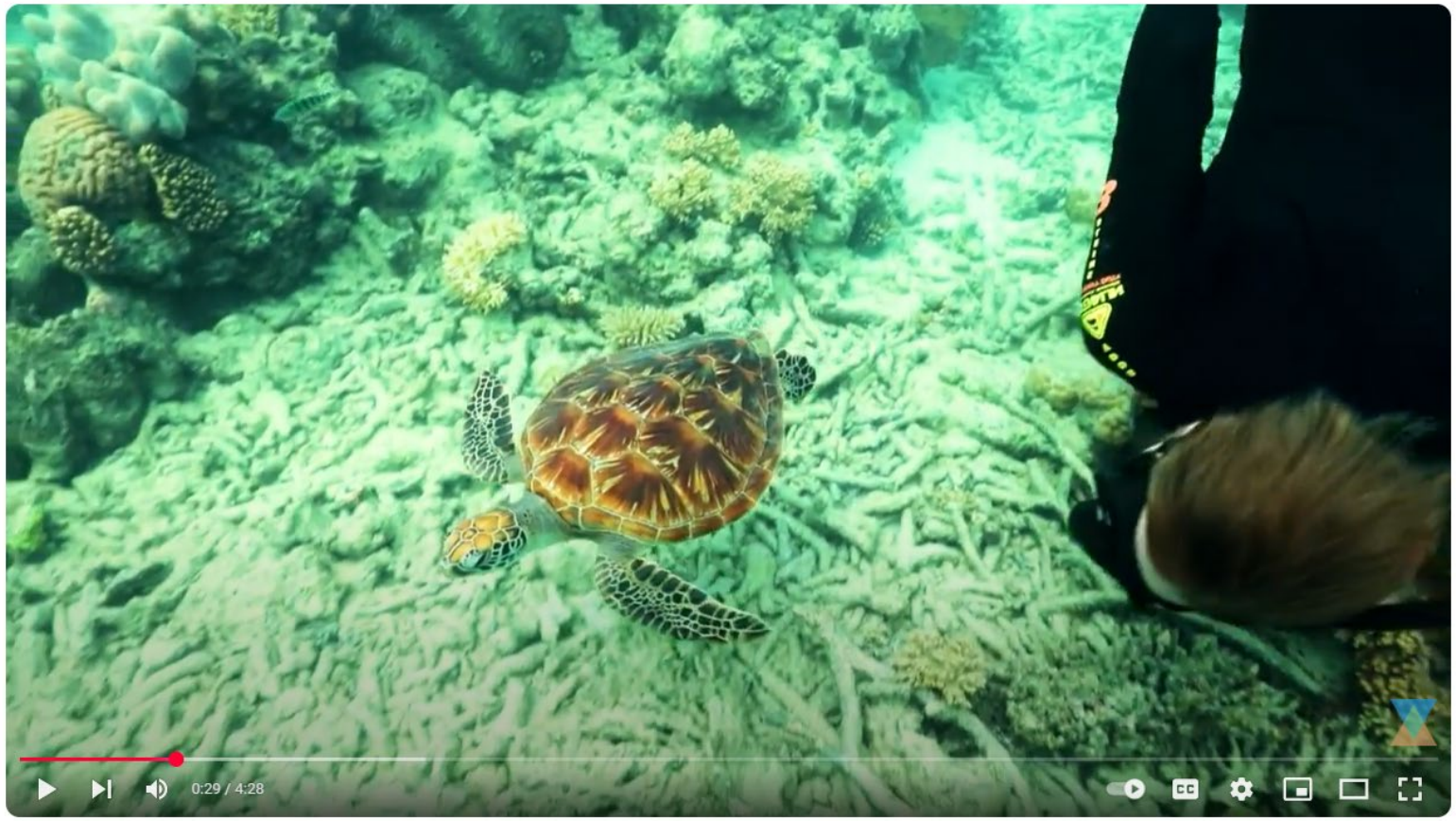
Affectionately dubbed the "sea cow," these creatures normally eat seagrass, which grows abundantly at the Great Barrier Reef. They can live as long as seven decades.

Crown-of-thorns starfish (Acanthaster Planci)



These spiky, venomous invertebrates are one of the Great Barrier Reef's chief nemeses. Scientists estimate it's responsible for nearly a quarter of coral destruction over the past three decades.

Short Video- Made in the Wild

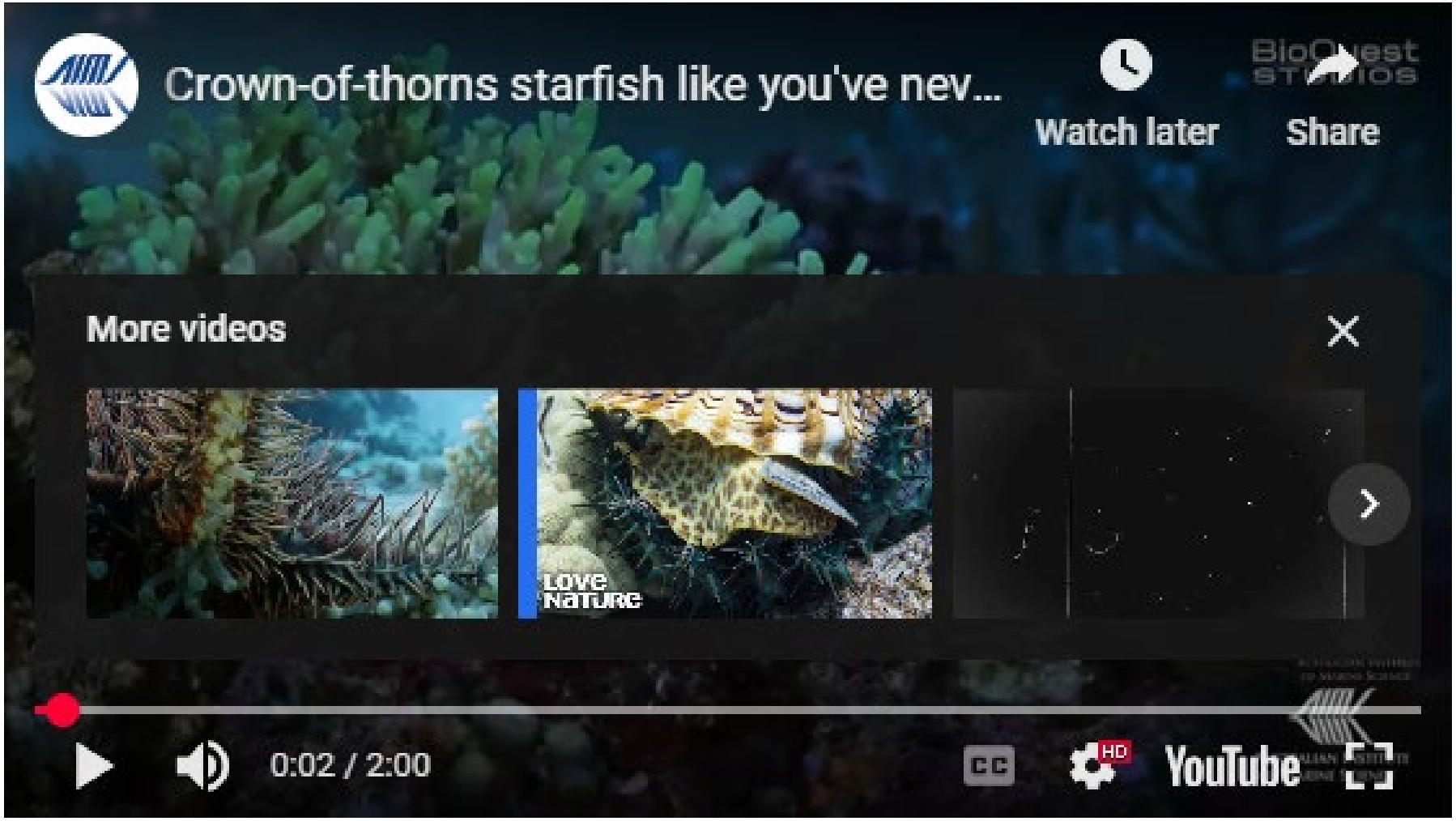


Venomous Starfish are eating the Great Barrier Reef! ft. Crown of Thorns Starfish

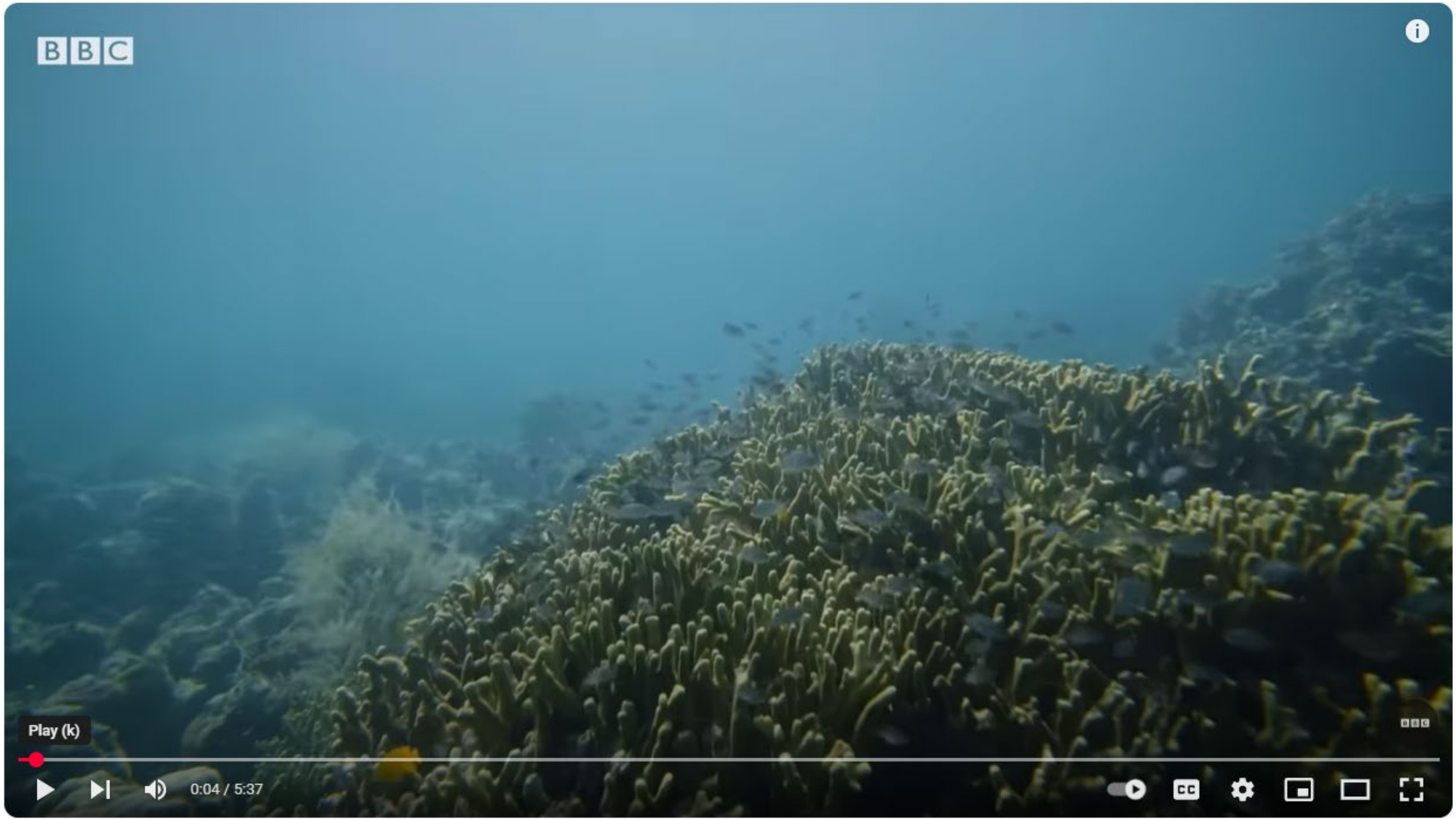
View Video of Crown of Thorns Starfish

- Outbreaks of crown-of-thorns starfish are responsible for extensive loss of reef-building corals on the Great Barrier Reef and elsewhere. Scientists and managers work together to understand outbreaks and develop new ways to control them.

TIMELAPSE OF A CROWN-OF-THORNS STARFISH SCURRYING TO HIDE UNDER ITS MEAL - A TABLE CORAL.



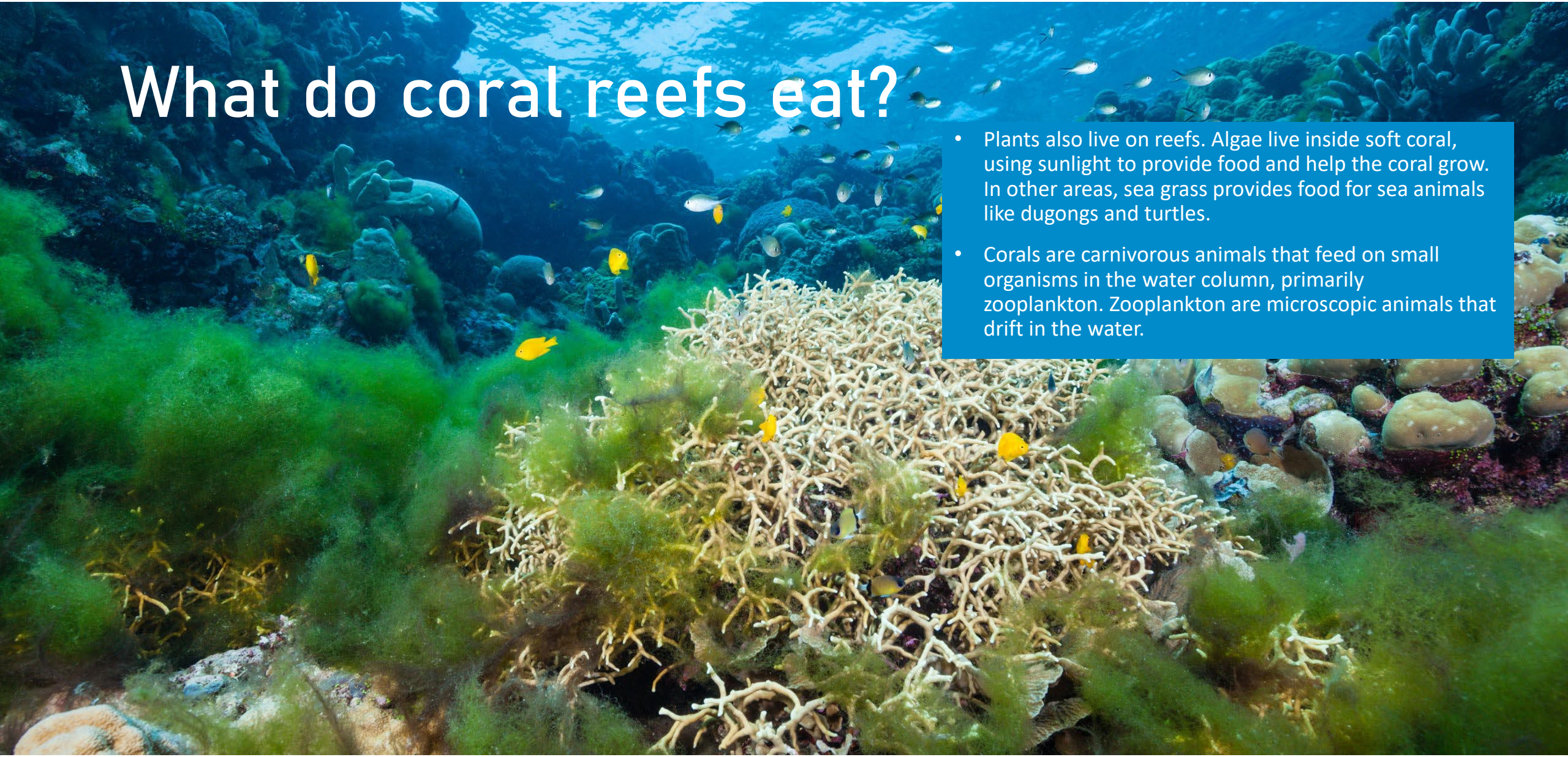
A CLOSE LOOK AT THE EARLY LIFE OF A CROWN-OF-THORNS STARFISH. VIDEO: BIOQUEST STUDIOS



The tribe that evolved to stay underwater longer – BBC REEL

This Filipino Tribe LIVES in the water PH

What do coral reefs eat?

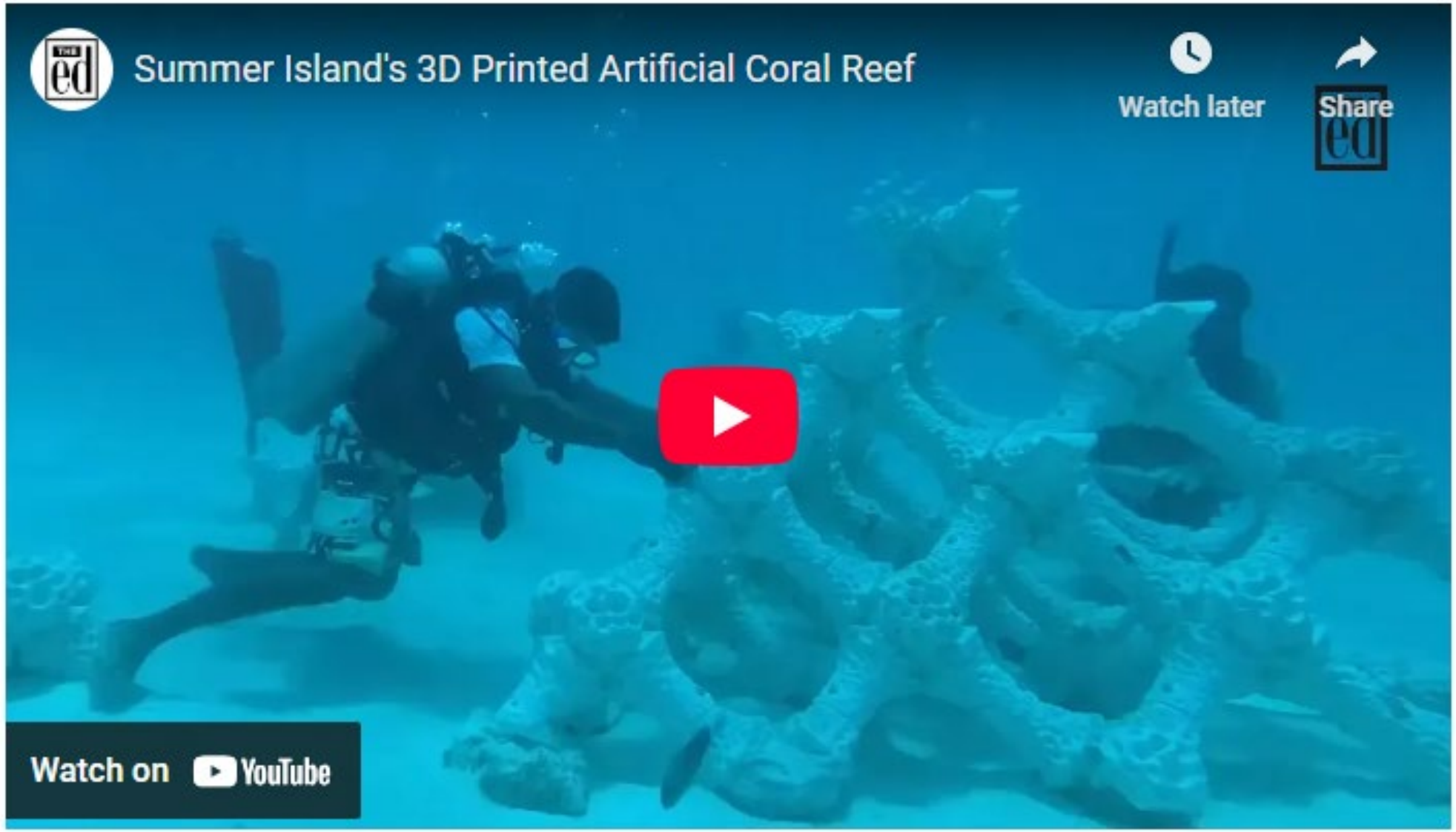


- Plants also live on reefs. Algae live inside soft coral, using sunlight to provide food and help the coral grow. In other areas, sea grass provides food for sea animals like dugongs and turtles.
- Corals are carnivorous animals that feed on small organisms in the water column, primarily zooplankton. Zooplankton are microscopic animals that drift in the water.

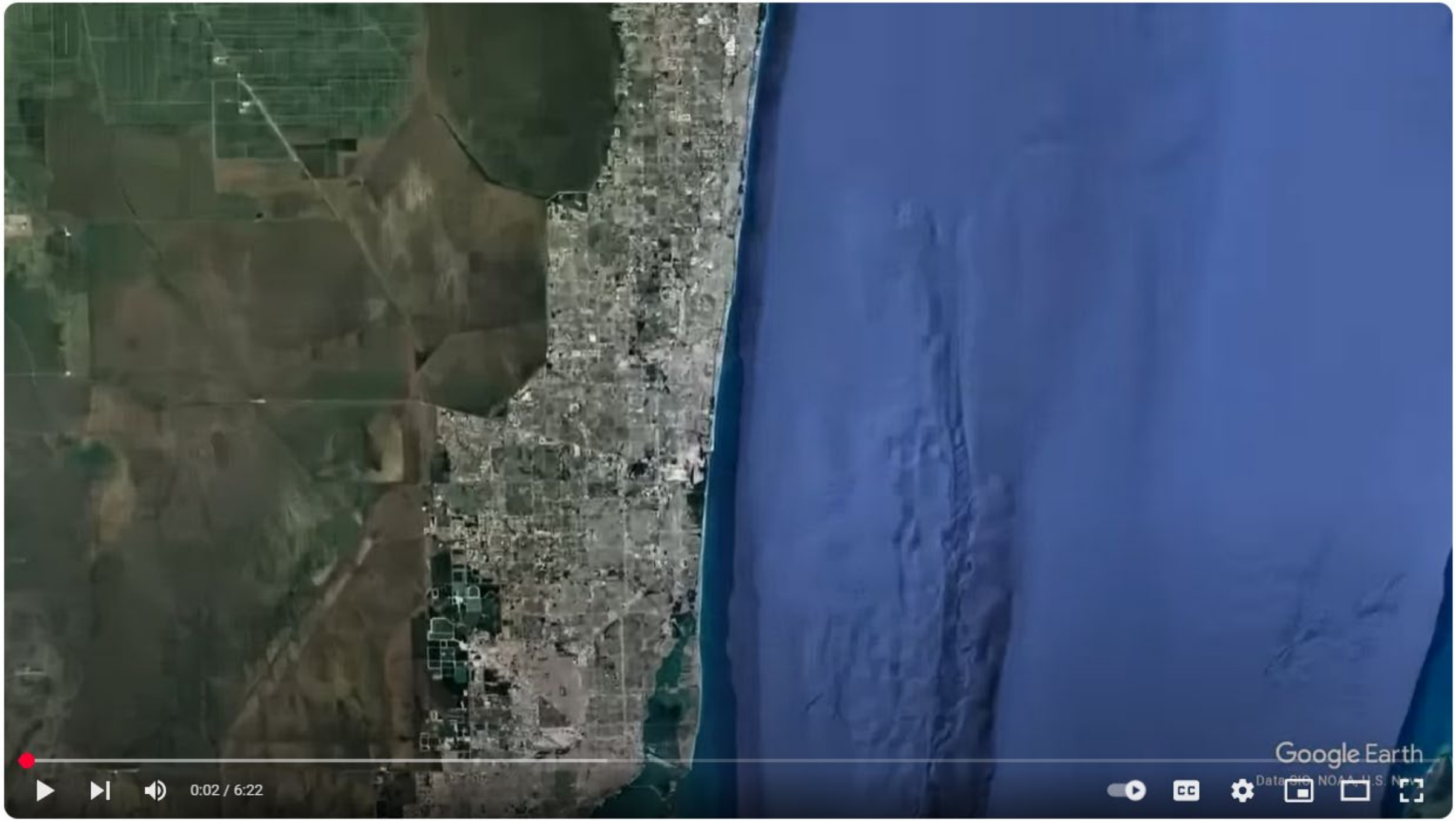
Endangered

- Why are coral reefs endangered?

- The biggest threats to coral reefs are pollution spilling into the oceans, damage from ships and boats, and climate change, which makes the water warmer and more acidic.



https://youtu.be/Nc5SBCw_DJo

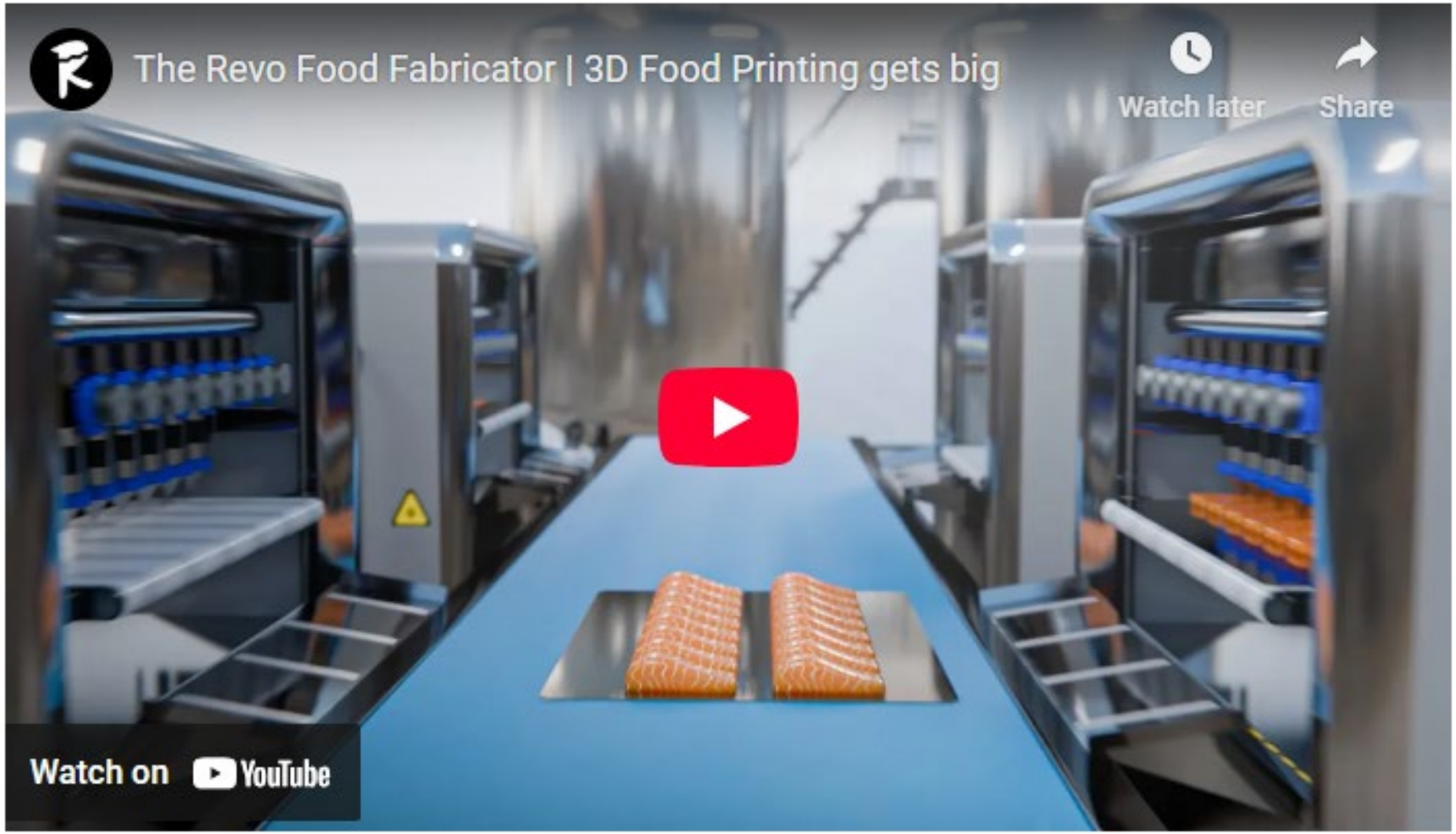


Dumping 2 Million Tires In The Ocean To "Help" Fish

Climate change

United Nations • Climate change refers to long-term shifts in temperatures and weather patterns. Human activities have been the main driver of climate change, primarily due to the burning of fossil fuels like coal, oil and gas.

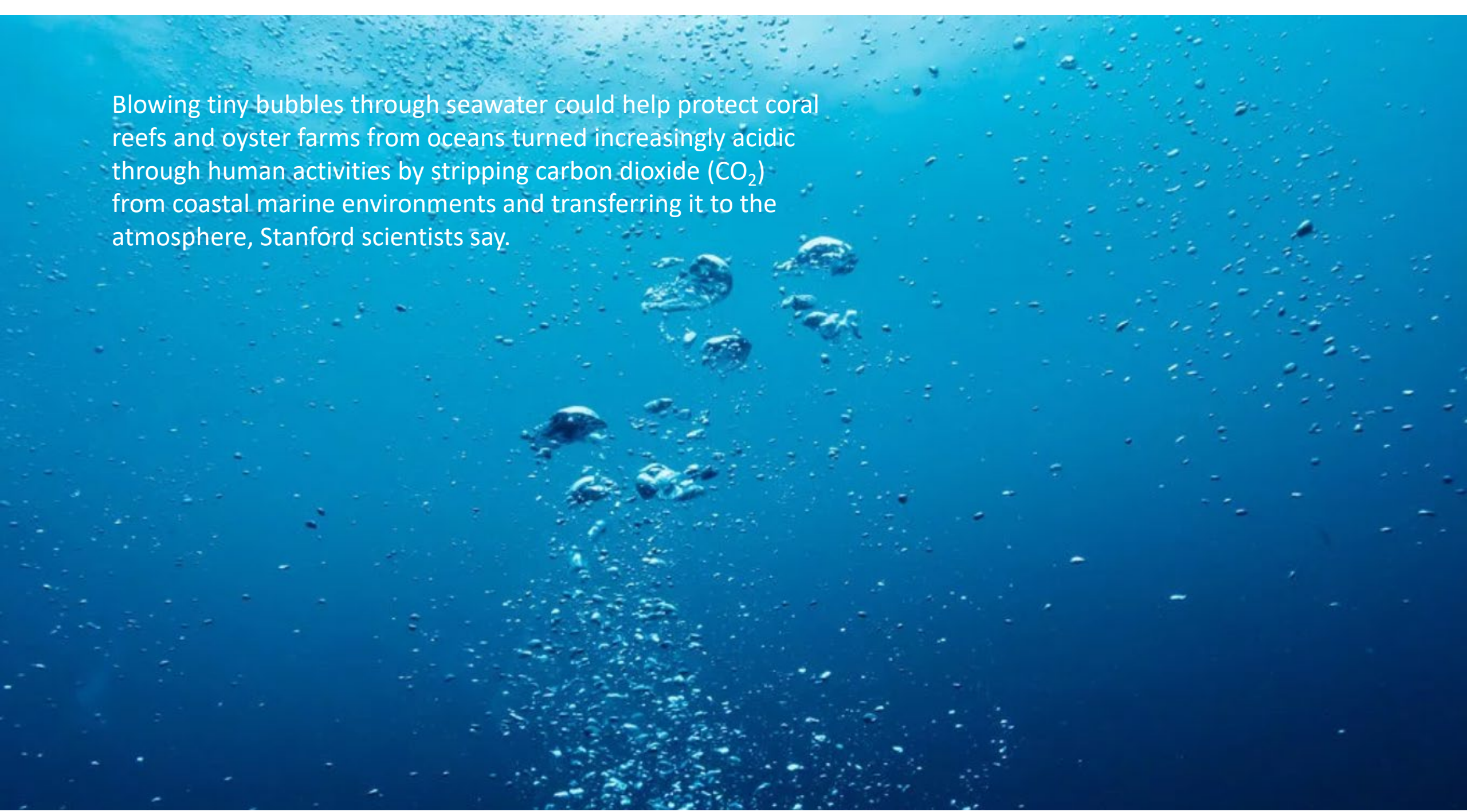
Scientists Are Breeding Super Coral That Can Survive Climate Change


The Revo Food Fabricator | 3D Food Printing gets big
Watch later
Share
Watch on YouTube

Research, Oceans

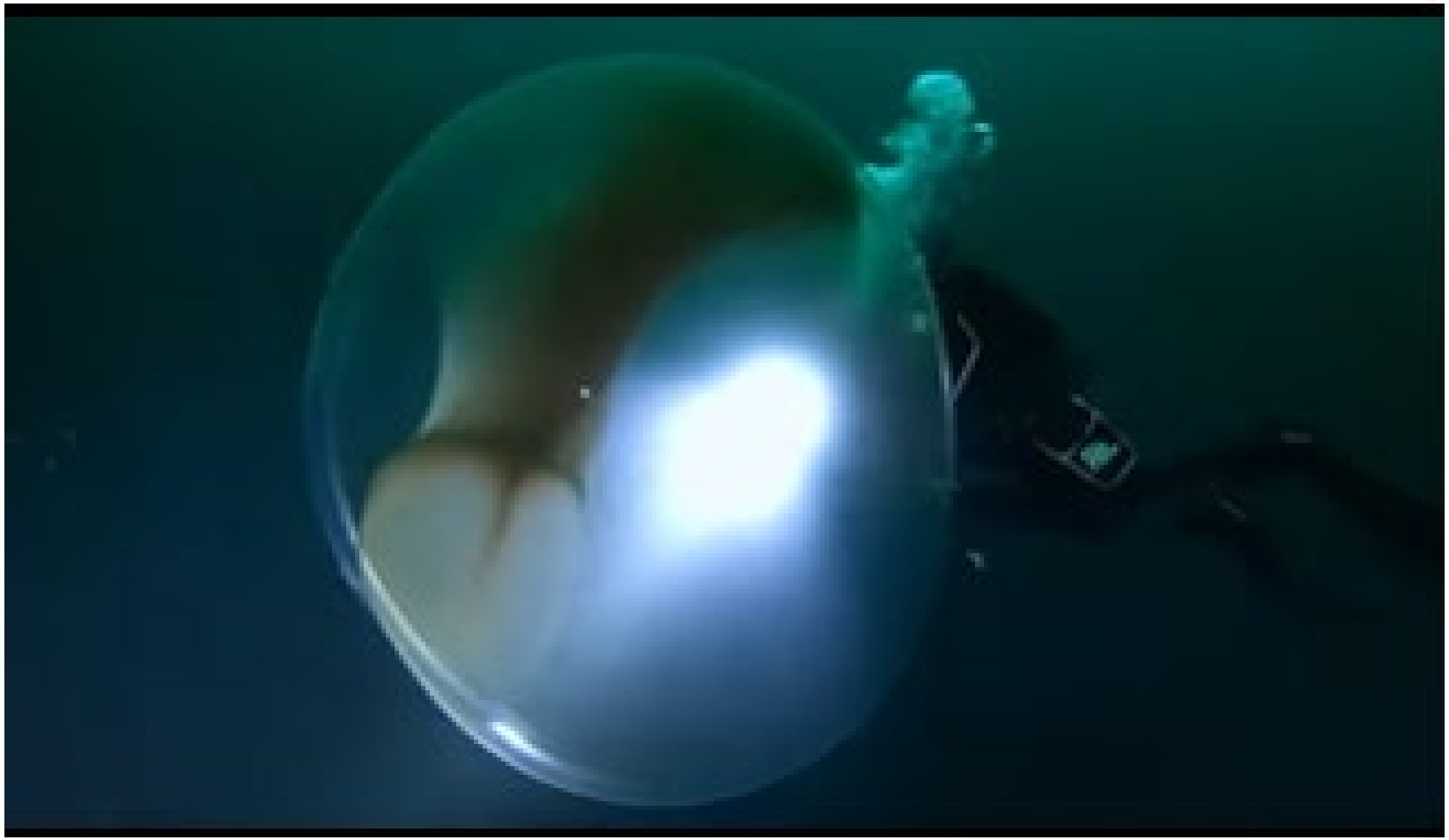
Protecting Coral Reefs with Bubbles

Bubbles – yes, bubbles – could help protect coral reefs, oyster farms, and other coastal ecosystems from increasing ocean acidification, according to new Stanford research.



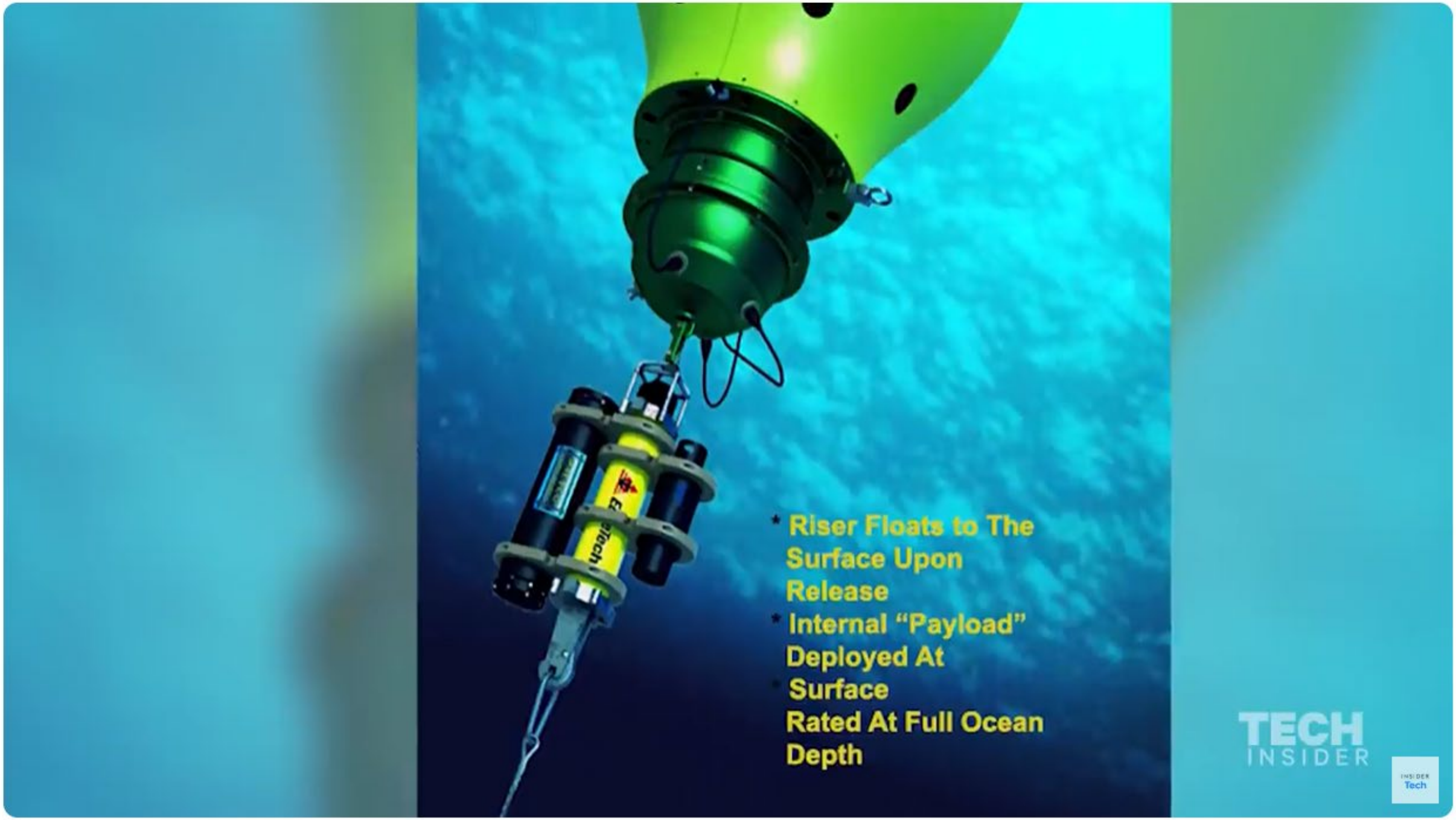
Blowing tiny bubbles through seawater could help protect coral reefs and oyster farms from oceans turned increasingly acidic through human activities by stripping carbon dioxide (CO_2) from coastal marine environments and transferring it to the atmosphere, Stanford scientists say.

What is this?



Drone Use in the Ocean

This Drone Cleans the Ocean - 4ocean Technology



The Navy wants to hide drones in oceans around the world