



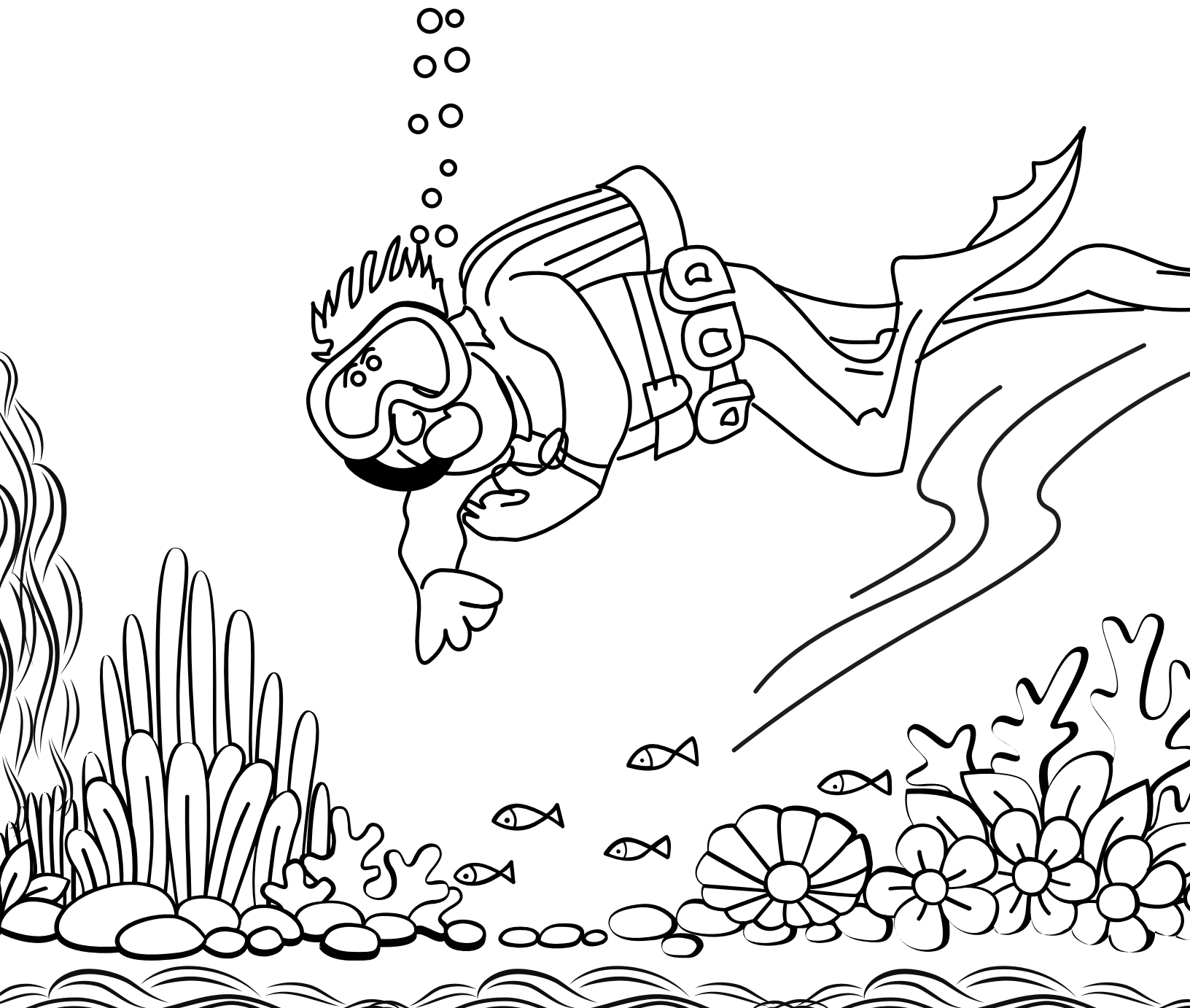
CORAL  
REEF ALLIANCE



## **Coral Reefs for Kids**

*An educational guide focused on coral reefs, some of our oceans' most colorful and valuable ecosystems.*

# LET'S EXPLORE CORAL REEFS



# What is a Coral Reef?



# What is a Coral Reef?

## About Coral Reefs

**Coral reefs** are underwater structures made up of tiny animals called **coral polyps**.

The animals live in big groups and stick to a hard surface. Together, they create a bright and colorful **ecosystem** that provides food and shelter for many marine animals, like turtles, fish, sharks, and more.

Reefs are made up of a variety of shapes, sizes, and colors—which is one reason why so many people love them! The bright colors on coral reefs come from special symbiotic algae called **zooxanthellae**, which live inside the coral and act as their food.

## Why are Coral Reefs Important?

**Coral reefs** are some of the most **biodiverse** marine **ecosystems** in the world, supporting a quarter of all ocean animals.



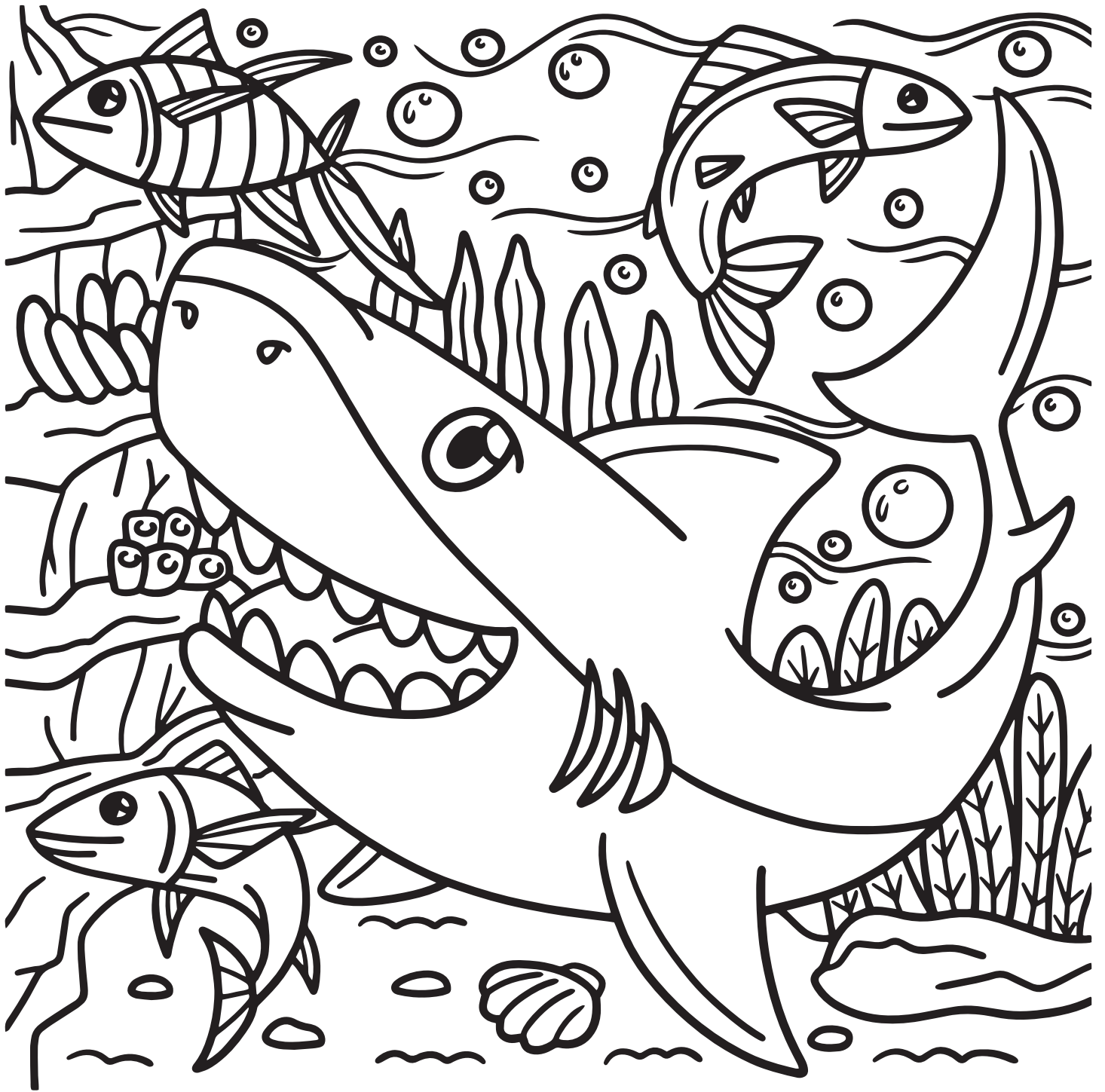
They also provide food and income to millions of people and can help advance modern medicine.

Additionally, many **coral reefs** keep our shorelines safe by acting as a barrier during storm surges and floods.

These incredible benefits are what make **coral reefs** such an important part of our oceans—and our planet!

## Vocabulary

Coral Reef, Coral Polyps, Ecosystem, Zooxanthellae, Biodiversity



COLORFUL LIFE  
UNDERWATER

# How to Keep Coral Reefs Healthy



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# How to Keep Coral Reefs Healthy

Coral reefs are some of the most threatened ecosystems on the planet. If we don't take action now, it is predicted that nearly all reefs will be threatened by 2050. Two direct threats to coral reefs are **overfishing** and **water pollution**.

More than half of the world's coral reefs are impacted by **overfishing**. When too many fish are removed from the ecosystem, there aren't enough **herbivorous fish** to feed on **algae**. Too much **algae** can take over and smother a coral reef.

In response, **conservationists** are working to expand protected waters, establish sustainable fishing regulations, and spread awareness.

**Water pollution** from sewage and **runoff** is also a major direct threat to coral reefs. When wastewater enters the marine environment, it brings with it chemicals and bacteria that are harmful to coral reefs and humans alike.



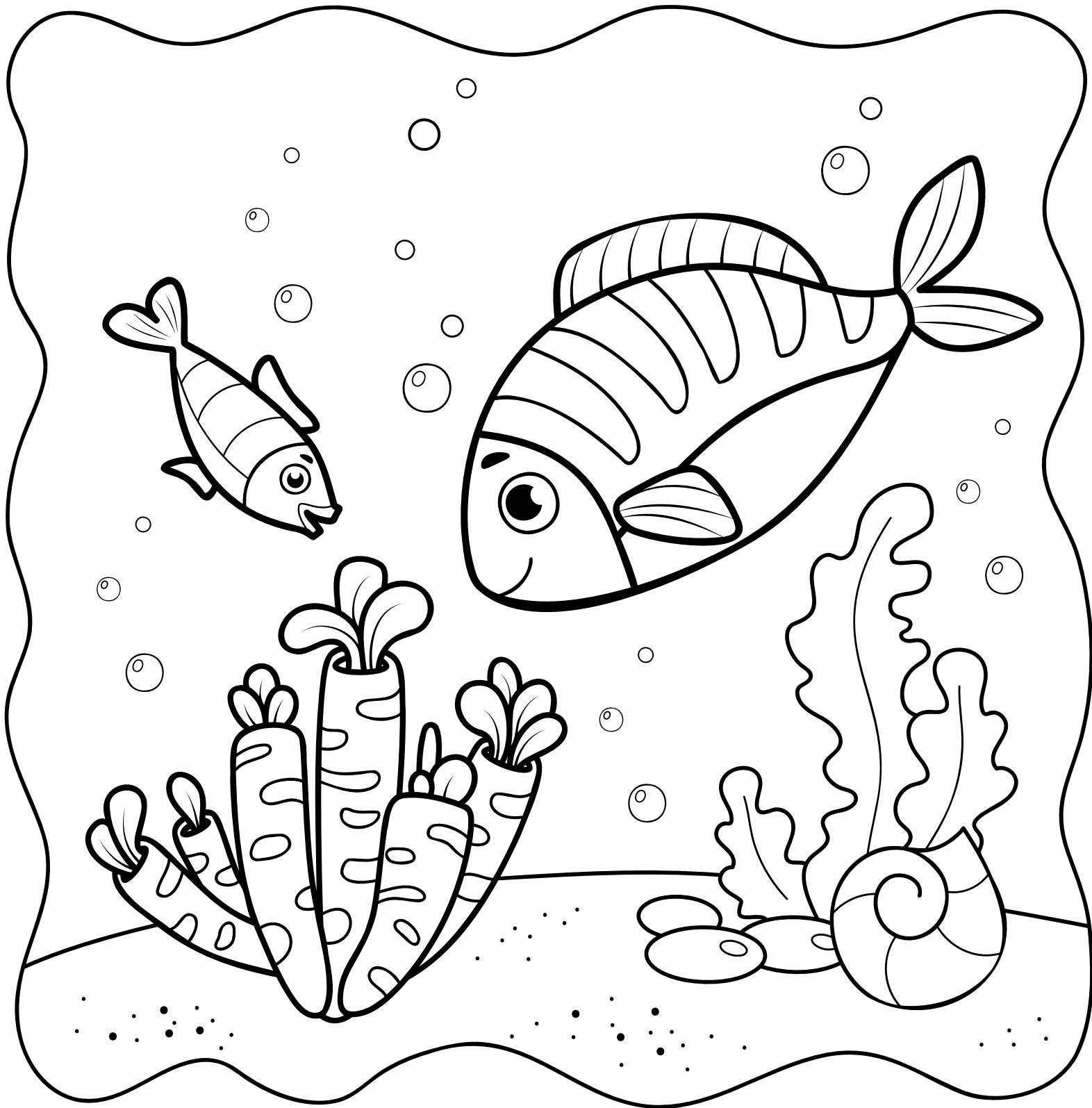
Photo Credit: Kellon Spencer

It can also block out the sunlight that corals need to survive.

In response, **conservationists** are advocating for solutions to treat **wastewater**, restoring and reforesting watersheds, monitoring water quality, and educating local communities.

## Vocabulary

Overfishing, Water Pollution, Herbivorous Fish, Algae, Conservationist, Runoff, Wastewater



HEALTHY REEFS  
NEED HEALTHY FISH



# Climate Change and its Impact on Coral Reefs



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# Climate Change and its Impact on Coral Reefs

**Climate change** is impacting our planet's people, animals, and ecosystems. This includes coral reefs, which suffer from **coral bleaching** when ocean waters get too warm.

When hard corals are stressed due to warm waters and direct threats, they expel their colorful symbiotic zooxanthellae—tiny algae that provide energy to the coral. This leaves the coral very weak and with little food. The coral's white skeleton becomes visible through the transparent tissue of the coral animal. This is why the event is called "bleaching."

If corals stay bleached for too long, they can get sick and die. It's currently projected that by 2050, 90% of the globe's coral reefs will experience **coral bleaching** annually.

The good news is that research shows coral reefs can actually adapt to **climate change**.



But in order for adaptation to happen, we need to slow down **carbon emissions** and keep coral reefs healthy by reducing local threats.

As coral reef experts focus on reducing local threats and keeping reefs healthy, it's important that governments, corporations, and individuals do their part to slow down the planet's changing climate.

## Vocabulary

Climate Change, Coral Bleaching, Carbon Emissions

# Glossary

**Algae** - simple aquatic organisms capable of producing oxygen through photosynthesis.

**Biodiversity** - the variety of life in the world or in a particular habitat.

**Carbon Emissions** - greenhouse gas emissions that primarily stem from the burning of fossil fuels.

**Climate Change** - long-term shifts in temperatures and weather patterns.

**Conservationist** - a person who advocates or acts for the protection and preservation of the environment and wildlife.

**Coral Bleaching** - corals that expel symbiotic algae living in their tissues due to changes in conditions such as temperature, light, or nutrients, causing corals to turn completely white.

**Coral Polyps** - tiny animals that are related to anemones and jellyfish. They can live individually, or in large colonies that make up a coral reef.

**Coral Reef** - an underwater structure made up of tiny animals called coral polyps.

**Ecosystem** - a geographic area where plants, animals, and other organisms, as well as weather and landscape, work together to form a bubble of life.

**Herbivorous Fish** - fish that eat plants.

**Overfishing** - catching too many fish at once, in which species are unable to recover back to normal amounts.

**Runoff** - when there is more water than land can absorb. The excess liquid flows across the land and into nearby water sources.

**Wastewater** - used water that can include substances like human waste, food scraps, oils, soaps, and chemicals.

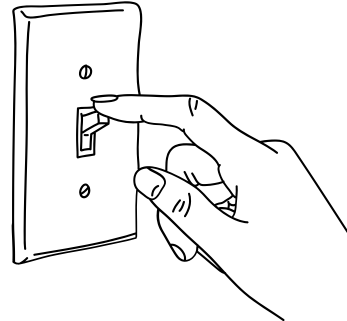
**Water Pollution** - when harmful substances contaminate a body of water, degrade the water quality, and become dangerous to humans or the environment.

**Zooxanthellae** - algae that grow inside coral animals to photosynthesize and provide food to the coral.

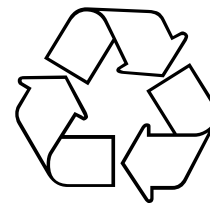
# MY CLIMATE CHANGE CHECKLIST

*I pledge to reduce carbon emissions by...*

Turning off the lights when I'm not using them



Reducing, reusing, and recycling

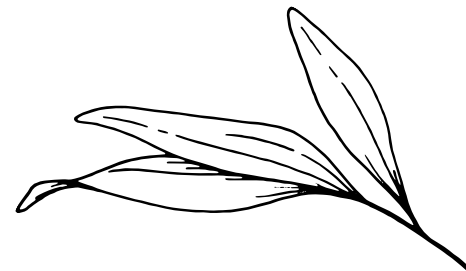


Eating less meat and more veggies



Writing to a letter my representatives

Starting a garden to grow my own plants and food



Walking or biking, whenever possible!

Spreading the word! I want to tell others why fighting climate change is so important



# LOVE OUR PLANET






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