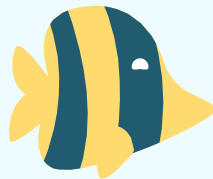


# Coral Reefs

By Jason L.  
Class of 2023



# What Are Coral Reefs?

Coral reefs are underwater ecosystems characterized by reef-building corals. Each individual coral is classified as a polyp. Coral polyps live off the calcium carbonate exoskeletons of their ancestors. As centuries pass, reefs gradually grow, one small exoskeleton at a time.



# Threats to Coral Reefs (Climate Related)



**A Warming Ocean-** causes thermal stress that leads to coral bleaching and infectious disease.

**Rising Sea Levels-** leads to sedimentation for reefs located near land base sources of sediment.

**Storms-** causes destruction of coral reefs

**Ocean Acidification-** a result of an increased CO<sub>2</sub>, and it causes a reduction of pH levels which decreases coral growth and weakens their structural integrity.



Coral bleaching happens when sea temperatures get too high or low, causing the algae to get stressed out and leave the coral (algae produces 90% of the food coral needs to grow). This then turns the coral white and, with its main source of food gone, it is left very vulnerable.





## Coral Reefs Today

- Around 75% of the world's coral reefs are currently threatened by local and global stressors.
- Coral reefs are experiencing higher ocean temperatures and higher ocean acidification than ever before.
- Fishing threats are the most significant non-climate related threats to the reefs. They affect 55% of all reefs worldwide.
- By 2050 all coral reefs will be classified as threatened.
- 95% of coral reefs in Southeast Asia are threatened.
- In Indonesia, fishing is the number one threat to the destruction of coral reefs.
- The percentage of coral reefs being threatened has increased by 30% in the past 10 years.
- Mass coral bleaching is now occurring in every region in the world.

# How Coral Reefs Affect the Environment, People and Marine Life

## The Environment

Coral reefs provide a buffer, protecting our coasts from waves, storms, and floods. Corals form barriers to protect the shoreline from waves and storms.



## People

The coral reef structure buffers shorelines against waves, storms, and floods, helping to prevent loss of life, property damage, and erosion. Over half a million people depend on coral reefs for food, income and protection.

## Marine Life

The species that live in coral reefs are fish, corals, lobsters, clams, seahorses, sponges, and sea turtles, and these are only a few of the thousands of creatures that rely on reefs for their survival. Coral reefs provide shelter, spawning grounds, and protection from predators. They also support organisms at the base of ocean food chains.



## Ways to Take Action:

1. Shrink your carbon footprint to reduce greenhouse gases.
2. Drive less, reduce, reuse, recycle.
3. Purchase energy efficient appliances.
4. Print less, download more.
5. Use less water.
6. Reduce the use of lawn and garden chemicals.
7. Do not dump household chemicals into storm drains.
8. Choose sustainable seafood
9. Volunteer for beach and waterway cleanups.

Websites to Donate to, to Help Restore Coral Reefs:

<https://www.coralrestoration.org/donations>

<https://coral.org/donate/>

<https://www.reeflifefoundation.org/donate>

## True or False:

Climate Change is a Reason for the decay of Coral Reefs?

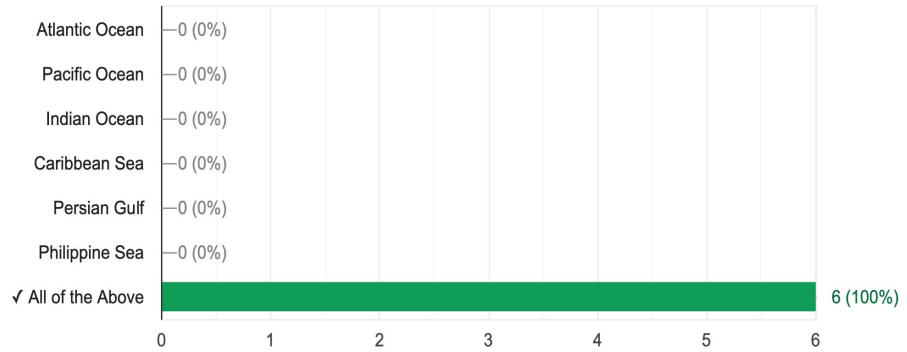
True

False

# Survey Results

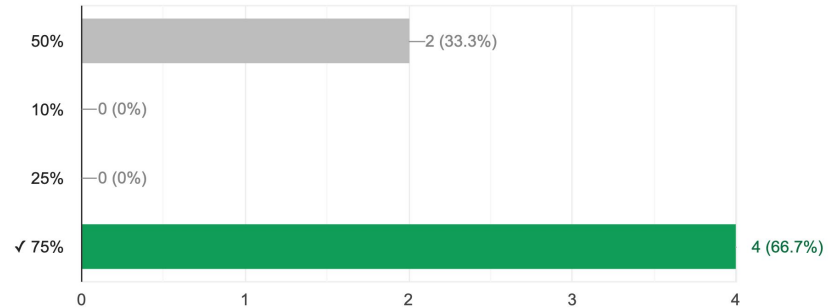
Where in the world are coral reefs?

6 / 6 correct responses



Do you know what percent of coral reefs are threatened today?

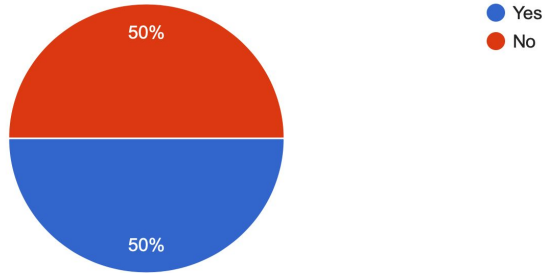
4 / 6 correct responses





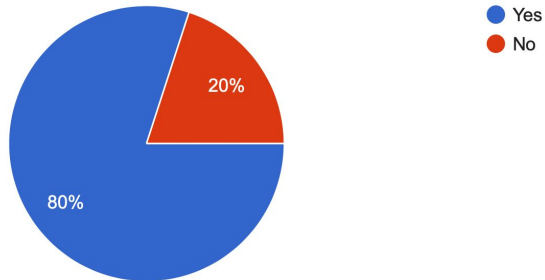
Do you know what ocean acidification is?

6 responses



Are you aware of the threats and decay of coral reefs?

5 responses



## Survey Results



# Survey Results

What do you know or think is causing danger towards coral reefs?

6 responses

pollution and ocean acidification

I think some dangers are ocean acidification and rising temperatures. Pollution has probably caused an imbalance causing coral to die as well.

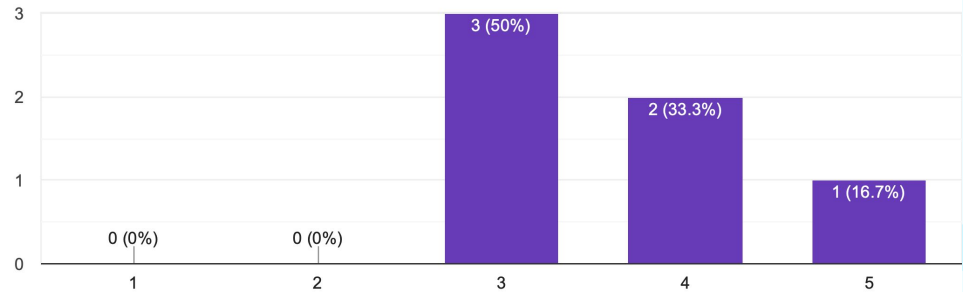
pollution and climate change

Maybe pollution, like plastic is getting into the coral reefs.

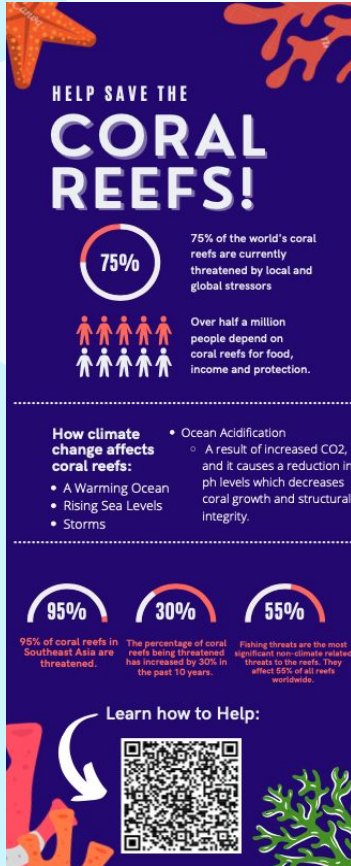
Oil spills, plastic, and pollution in general?

Are you interested in learning how to help and reverse the damage and decay of coral reefs?

6 responses



# Flyer



## HELP SAVE THE CORAL REEFS!

75% 75% of the world's coral reefs are currently threatened by local and global stressors

Over half a million people depend on coral reefs for food, income and protection.

**How climate change affects coral reefs:**

- A Warming Ocean
- Rising Sea Levels
- Storms

• Ocean Acidification

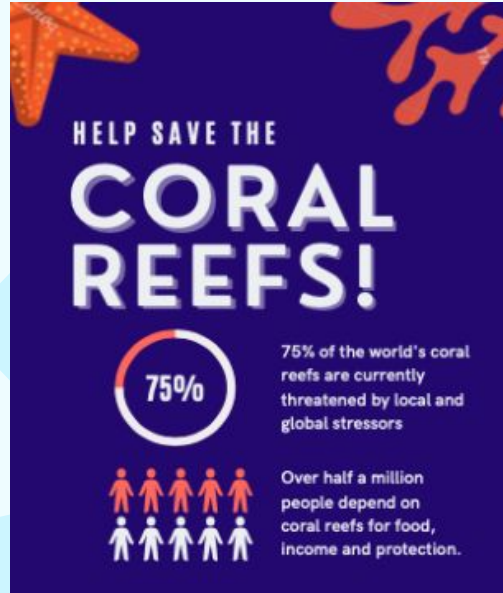

- A result of increased CO<sub>2</sub>, and it causes a reduction in pH levels which decreases coral growth and structural integrity.

95% 95% of coral reefs in Southeast Asia are threatened.

30% The percentage of coral reefs being threatened has increased by 30% in the past 10 years.

55% Fishing threats are the most significant non-climate related threats to the reefs. They affect 55% of all reefs worldwide.

Learn how to Help:



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# Sources:

- ★ <https://reefresilience.org/reefs-are-at-risk/>
- ★ <https://www.bbc.com/news/world-australia-54533971>
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- ★ <https://coral.org/coral-reefs-101/reef-threats/global/>
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