

Receding Reefs: Understanding and Protecting our Coral Ecosystems

Source: fix.com

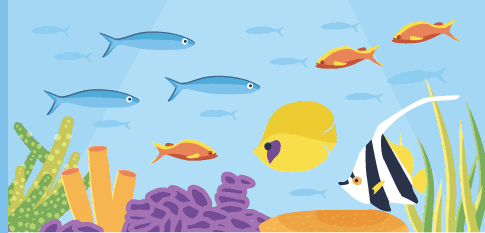
Published: May 10, 2016



Coral reefs are important for a number of reasons. They:



Protect shorelines from erosion



Serve as nurseries for growing fish

Coral reefs support more species per unit area than any other marine environment. Those species include:



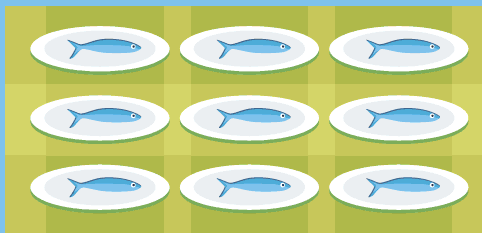
About **4,000** species of fish



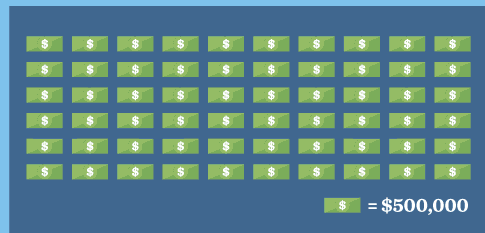
800 species of hard corals



Potentially **millions** of undiscovered species



Provide food for many coastal communities



\$ = \$500,000

Via fishing and tourism, are a **source of income** for many people

They provide roughly **\$30 billion** annually through food, fisheries, and tourism

The infographic is set against a blue background with a wavy border. At the top left, a white box contains an illustration of two medicine bottles and several pills. To the right, a dashed white box encloses three circular icons: one with blue dots labeled 'Cancer', one with yellow and blue shapes labeled 'Viruses', and one with red and blue shapes labeled 'Bacterial infections'. The central part of the infographic features a vibrant illustration of an underwater reef with various coral species in shades of red, orange, yellow, and purple, and several colorful fish swimming around. The title 'UNDERWATER GARDENS' is written in large, white, bold letters across the middle of this illustration. At the bottom, two white circular callouts are connected to the reef illustration by dashed white lines. The left callout contains text about coral skeletons, and the right callout contains text about corals being marine invertebrates.

Many **drugs** are being developed from coral reef animals and plants for:

- Cancer
- Viruses
- Bacterial infections

UNDERWATER GARDENS

Coral reefs are large underwater structures made of **coral skeletons**

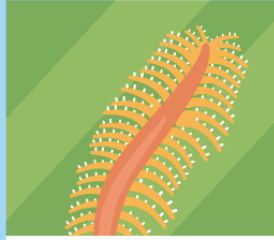
Corals are **marine invertebrate animals**

Hundreds of different species of coral can be found **all over the world**

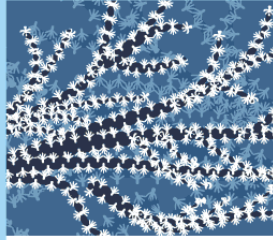
They vary in size, shape, and color



Staghorn coral



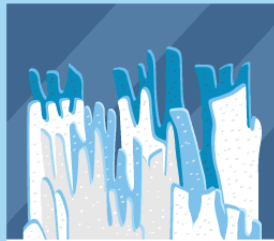
Sea pen



Black coral



Pillar coral



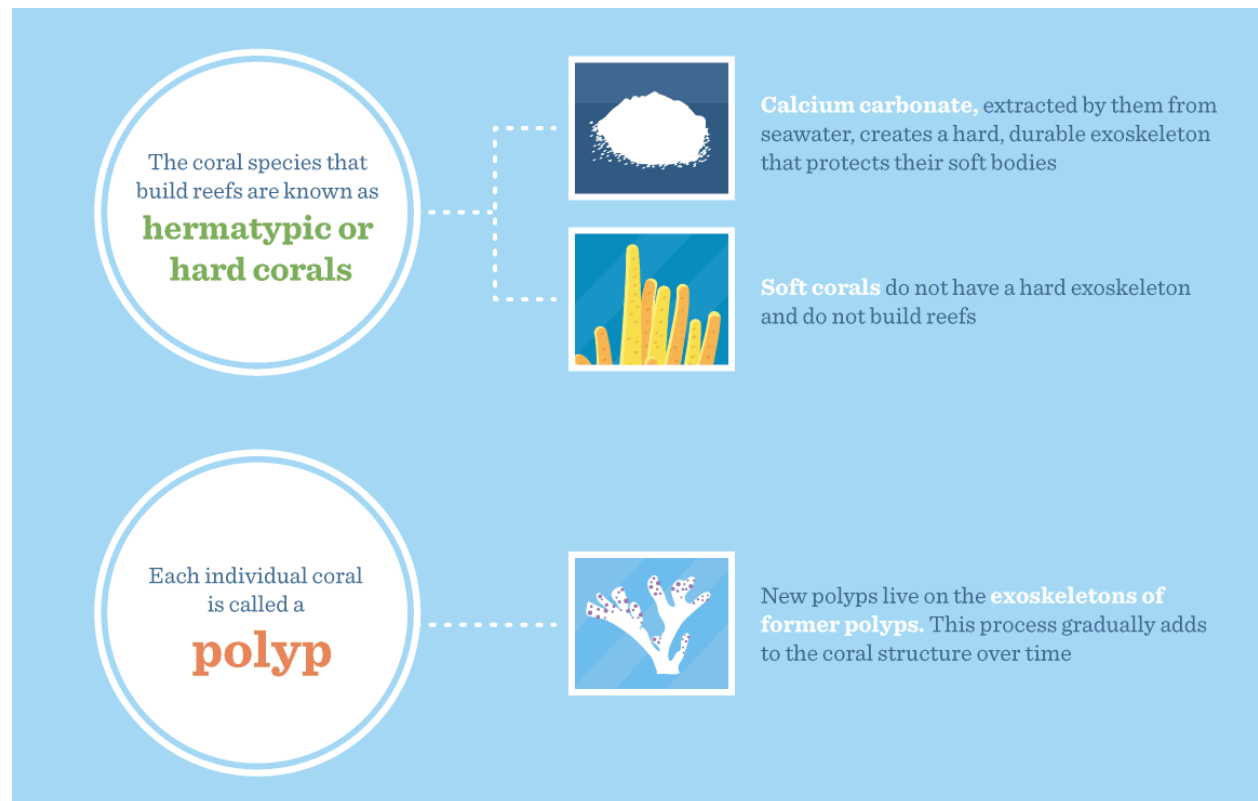
Blue coral



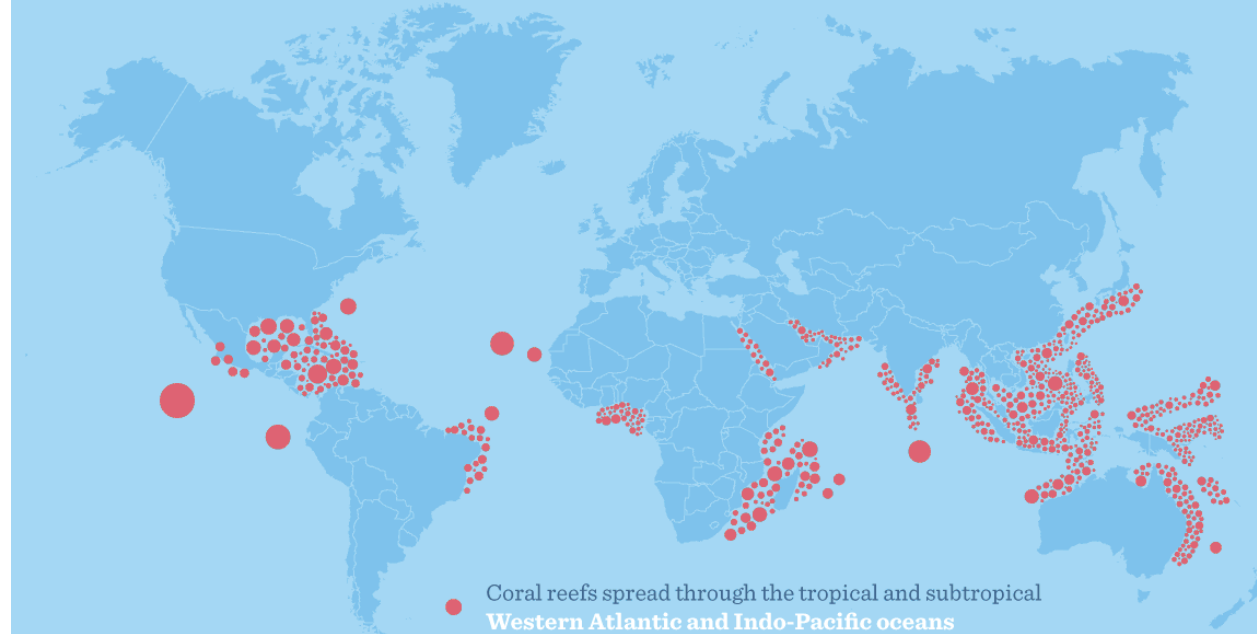
Elkhorn coral



Sunset cup coral



Coral Reefs Around the World





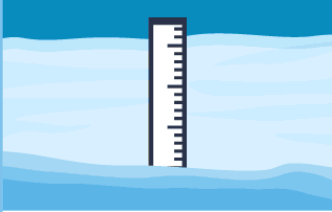
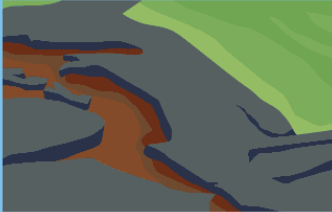


Western Atlantic coral reefs include:

- Bermuda
- The Bahamas
- The Caribbean Islands
- Belize
- Florida
- The Gulf of Mexico

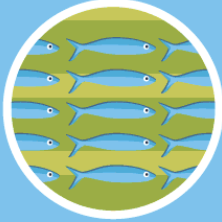
- **The Indo-Pacific ocean region** extends from the Red Sea and the Persian Gulf through the Indian and Pacific oceans to the western coast of Panama

- Corals grow in some areas of the **Gulf of California**

Natural Impacts

 <p>Tropical storms</p>	 <p>Waves</p>	 <p>Flooding</p>
 <p>Earthquakes</p>	 <p>Natural diseases</p>	 <p>Crown of Thorns (Starfish) predator outbreaks</p>

Manmade Impacts



Overfishing



Destructive fishing methods

Such as dynamite blasting and poisons



Increased sedimentation

As a result of deforestation and poor land use



Coral and coral sand mining



Mangrove harvesting



Carbon Dioxide

CO₂ absorbed into the ocean alters the pH in the water



Construction

Such as dredging, filling, and increased siltation



Tourism

CLIMATE'S CONTRIBUTION to Coral's Demise

Climate change is one of the greatest global threats to coral reef ecosystems

As temperatures **rise**, mass bleaching and infectious disease outbreaks are expected to expand, increasing **coral mortality**

The global ocean temperature has risen by **0.81°C (1.46°F)** above the 20th century average of **15.9°C (60.6°F)**

This has caused **more frequent and severe bleaching** of coral reefs around the world

The infographic features a vibrant illustration of a coral reef with various colorful corals and fish. The text is presented in white circles and boxes against a blue background with white bubbles. A thermometer icon is used to represent the temperature rise.

Coral Bleaching

When corals are stressed by changes in conditions such as **temperature, light, or nutrients**, they expel the symbiotic algae that lives in their tissues



This causes them to turn completely white

Precipitation from storms also causes bleaching by diluting ocean water



Runoff can carry pollutants which can bleach corals close to the shore



Overexposure to sunlight contributes to bleaching in shallow-water corals



Exposure to air during extreme low tides can cause bleaching in shallow corals

In 2005, the U.S. lost half of its coral reefs in the Caribbean in one year due to a massive bleaching event



The damage was greater than the previous 20 years combined

HOW YOU CAN HELP

Practice safe and responsible diving and snorkeling

Don't touch, stand on, or collect coral

Don't purchase items made from coral or other threatened marine life such as:

- Dried coral
- Pufferfish
- Giant clam shells

Practice water conservation

The less water used means less runoff and waste water polluting oceans

Volunteer for a reef cleanup

Build it into your next vacation if you don't live near a reef

Join an **environmental organization** that supports marine ecosystems

And spread the word



Coral reefs offer more than just vibrant colors for snorkelers to enjoy on vacation. Nature and humans have contributed to reef destruction—it's up to us to **help protect them for years to come.**

- defenders.org
- panda.org
- coralreef.noaa.gov
- reefball.org
- livescience.com
- oceanservice.noaa.gov
- mesfiji.org
- rjd.miami.edu
- nature.org
- ncdc.noaa.gov

