



# Cities Beneath the Sea

- 1 Coral polyps can truly be called the animals that helped make the world. For uncounted **generations**, trillions<sup>1</sup> upon trillions of coral polyps have built structures called **reefs**, larger in scale than those of any other living beings, including humans. The stone-like material  
5 created by these tiny animals becomes limestone, a prized building material that was used to construct the Great Pyramids of Egypt. Huge deposits of limestone exist underground, beneath the ocean, in islands, and in mountains. Limestone has been used in the construction of countless churches, castles, train stations, and banks, and crushed  
10 limestone is a major ingredient of cement.<sup>2</sup>

▲ Egypt's Red Sea coral reefs are home to an amazing variety of species. ▼

## A Variety of Life

- Living coral reefs are remarkable “cities beneath the sea,” filled with a rich variety of life. These undersea ecosystems<sup>3</sup> thrive in the warm, **shallow**  
15 oceans near the equator. Among the world’s most colorful places, coral reefs are full of **brilliantly** colored fish and coral covered in wonderful patterns. Reef fish are an important food **source** for humans and make up a significant percentage  
20 of the global fish catch.

<sup>1</sup> A **trillion** is 1,000,000,000,000.

<sup>2</sup> **Cement** is a gray powder which is mixed with sand and water to make concrete.

<sup>3</sup> An **ecosystem** is a particular area in which plants and animals living together have formed complex relationships.







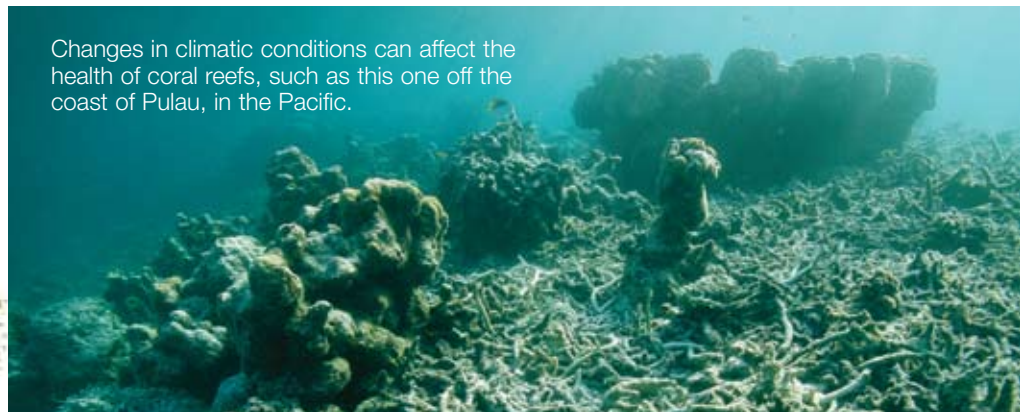
A diver uses cyanide to collect fish from coral reefs. Traders can receive a high price for reef fish in aquarium markets.

## Threats to Coral Reefs

25 In recent years, various factors have threatened coral reefs and the life that depends on them as their home. Blast fishing is an illegal fishing method which involves setting off bombs in the water to kill as many fish as possible. Its **negative** effects on a reef are significant; it kills most living things and causes great damage to the reef's structure.

Fishing with liquid cyanide, a very dangerous and deadly material, is another threat to reef ecosystems, particularly in the Philippines. Fishermen release liquid cyanide into the reef and collect the stunned<sup>4</sup> fish, which are then sold for big money to the aquarium market, or for **consumption** in restaurants. The fishermen often break apart the reef to look for hiding fish. The cyanide also kills large numbers of coral polyps, leaving large areas of the reef dead.

40 Reefs are also damaged when coral is taken for building material, **jewelry**, or aquarium ornaments. Water **pollution** also results in damage. In addition, the recent warming of the oceans has caused areas of many reefs to turn white. Biologists are concerned that coral may be negatively impacted by further warming.



Changes in climatic conditions can affect the health of coral reefs, such as this one off the coast of Pulau, in the Pacific.

## Reasons for Hope

45 Threats to coral reefs are serious, but there is reason to hope that they will manage to survive. If we take steps toward coral reef **conservation**, it is likely that these tiny **creatures**, which have survived natural threats for millions of years, will be able to rebuild the damaged reefs that so many ocean animals and plants depend on.

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<sup>4</sup> If an animal is **stunned**, it is confused or hurt and unable to move well for a time.