

Coral Reef Goes Digital

Can computers help save this endangered habitat?



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Although coral may look like a plant, it is actually made up of tiny sea animals called polyps.

Live from Australia, it's the Great Barrier Reef! Scientists are using special sensors, known as digital skins, to monitor changes in this underwater treasure.

The sensors are devices that record changes in the ocean and send up-to-the-minute information to computers. Until now, scientists were able to monitor changes only after they had occurred. Scientists hope the new information will help them learn how to better care for coral reefs.

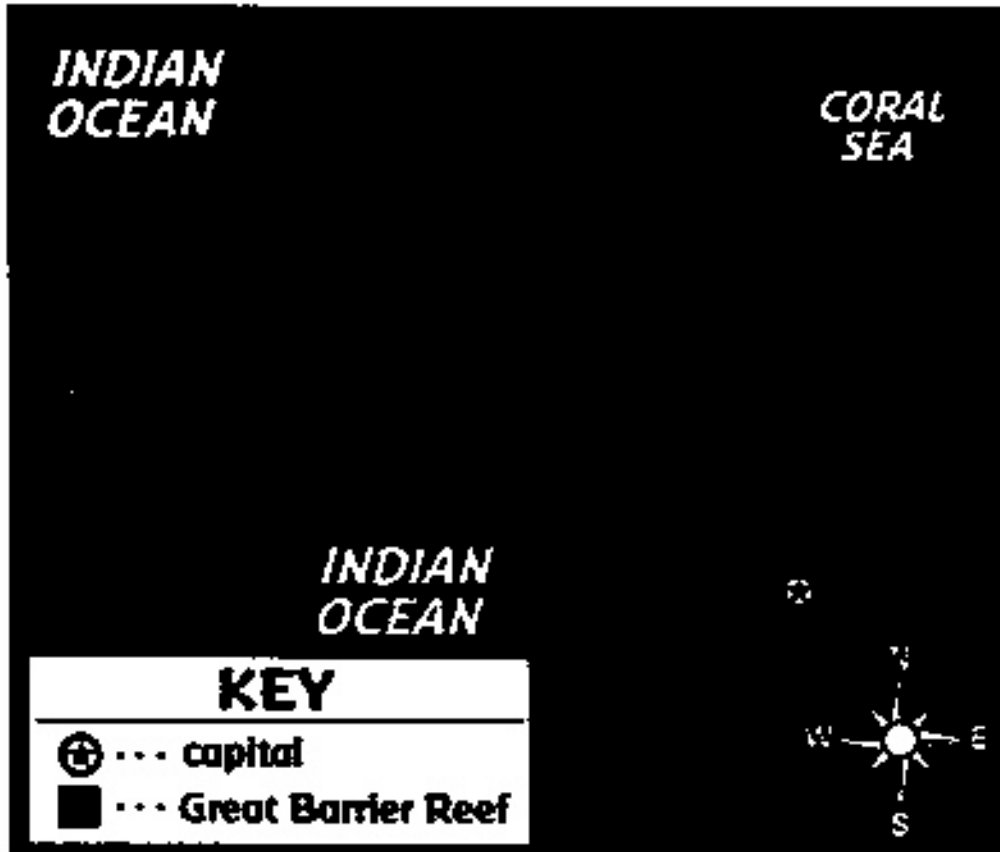
Reef Rescue

Coral reefs around the world are in trouble. Fishing nets and ships damage the reefs and break off sections of them. Natural disasters and pollution are also doing harm. At the same time, warmer sea temperatures cause the coral to die.

Although coral may look like a plant, it is actually made up of tiny sea animals called polyps. As polyps die, they leave behind hard shells. Other polyps grow on top of the shells. Over many years, the polyps form coral reefs.

Coral reefs play a very important role in ocean life. They supply food and shelter to thousands of different types of ocean creatures living in and around the reefs. People also depend on coral reefs for jobs, food, and medicine to treat diseases.

"Coral reefs are incredibly threatened," Rick MacPherson of California's Coral Reef Alliance told *Weekly Reader*. "They require, now more than ever, that people pay attention and work toward protecting them."



Leigh Haeger

The Great Barrier Reef is the largest coral reef in the world. It stretches 1,250 miles along the northeast coast of Australia.

Name: _____ Date: _____

1. According to the passage, the following are true about coral reefs EXCEPT

- A. they are in trouble
- B. they are made of tiny sea plants
- C. they play an important role in ocean life
- D. they are made of tiny sea animals

2. Read these two sentences from the passage:

"Fishing nets and ships damage the reefs and break off sections of them."

How do these two sentences relate to each other?

- A. The two sentences contrast two events.
- B. The second sentence describes the first sentence.
- C. They describe two steps in a process.
- D. The first gives a cause of the second.

3. Which of the following conclusions about the special sensors is supported by the passage?

- A. Damage to the coral reefs is primarily caused by natural disasters.
- B. Until now, scientists had up-to-the-minute information about changes in the reefs.
- C. Sensors in the reefs will provide information about changes as they occur.
- D. Scientists have been reluctant to use these sensors because of the damage they cause.

4. Read this sentence from the passage:

"Scientists are using special sensors, known as digital skins, to monitor changes in this underwater treasure."

Based on the text, the word **monitor** means

- A. to make up
- B. to reverse
- C. to care for
- D. to examine

5. What is the main idea of this passage?

- A. Sensors that monitor changes in reefs will help scientists learn how to better care for reefs.
- B. Coral reefs are a crucial part of ocean life as they supply food and shelter to thousands of creatures.
- C. Coral reefs form as polyps grow on top of the hard shells of other dead polyps.
- D. Not enough is being done to save coral reefs from the dangers of fishing, natural disasters, and pollution.

6. What kind of sea temperatures cause coral to die?

7. Why are the special sensors so much better than what scientists used before?

8. The question below is an incomplete sentence. Choose the answer that best completes the sentence.

_____ coral may look like a plant, it is actually made up of tiny animals called polyps.

- A. On the other hand
- B. Even though
- C. Earlier
- D. But

Eruption!

Mexico's "Volcano of Fire" roars back to life. When will the next big explosion occur?



Colima Volcano Observatory
The Colima Volcano

The Colima (koh-LEE-mah) Volcano in Mexico has roared to life again. The 12,500-foot volcano is also called the "Volcano of Fire." Over the past few centuries, it has had several major eruptions.

The Volcano of Fire is Mexico's most active volcano. It has erupted many times over the years. What scientists are most worried about is the next big eruption. The volcano has had huge eruptions about every hundred years. In the 20th century, there was one that took place in 1913.

Scientists study the pattern of activity and compare it to data taken from the major eruption of 1913. Volcano experts can use their studies to predict a time period when there might be a

large, explosive eruption.



Leigh Haeger

Living Near the Volcano



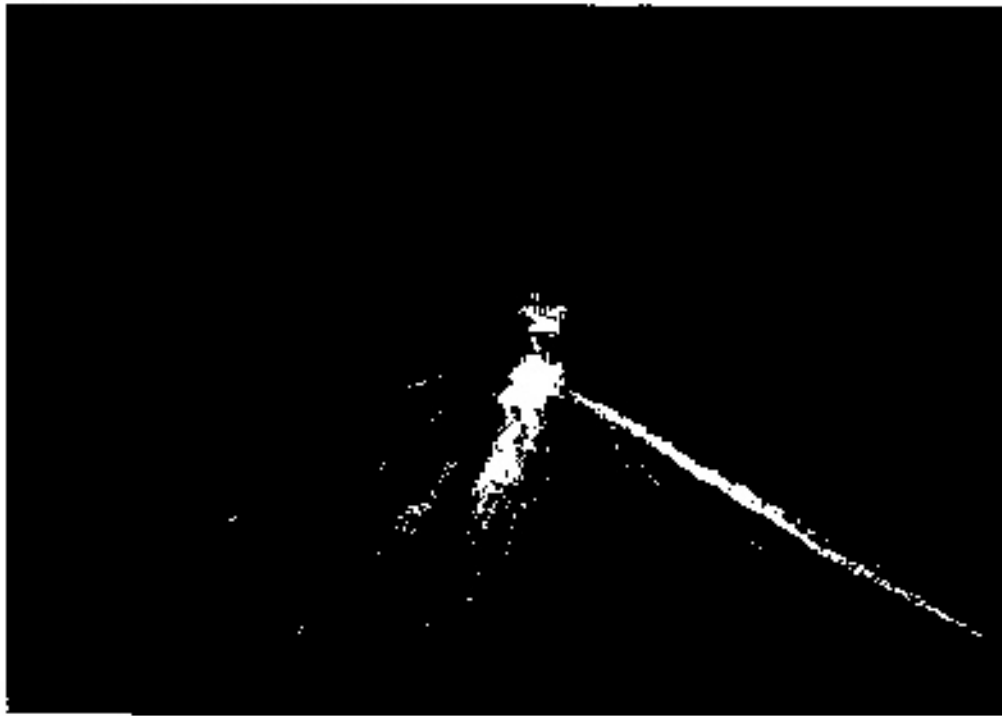
Leigh Haeger

Inside a volcano.

The volcano is 20 miles north of the city of Colima. To make sure no one is in danger, officials created a safety zone around the volcano. People aren't allowed in that area.

Scientists use special equipment to track changes within the volcano. "We're looking for clues of another large, explosive eruption," says Luhr. "That way, we can be prepared."

How a Volcano Works



Weekly Reader

Volcanoes are openings called **vents** on the surface of Earth. Volcanoes can be **active** (currently erupting or erupted not long ago), **dormant** (not currently active but likely to erupt someday), or **extinct** (unlikely to erupt again).

Magma is hot, melted rock beneath the surface of the Earth. When magma erupts onto the surface of the Earth, it is called lava. Magma collects in chambers beneath Earth's surface. After pressure from gases in the magma builds up, the magma erupts out of volcanoes. Volcanoes let out gases, ash, steam, and lava.

Name: _____ Date: _____

1. How often has the Colima Volcano had huge eruptions?

- A. once every 50 years
- B. once every 500 years
- C. once every 200 years
- D. once every 100 years

2. The *problem* for scientists was finding when Colima would have its next big eruption and how they could keep people safe. What is the solution to this problem, as described in the passage?

- A. Scientists have estimated when the volcano will erupt, and they have notified the officials of Colima.
- B. Officials created a safety zone around the volcano.
- C. Scientists use special equipment to determine when the volcano will erupt.
- D. A safety zone that includes Colima has been created, and no one is allowed in that area.

3. Scientists can predict the next eruption of a volcano based on its history of eruptions. What information from the text supports this conclusion?

- A. Scientists study the pattern of activity and compare it to data taken from the major eruption of 1913. Volcano experts can use their studies to predict a time period when there might be a large, explosive eruption.
- B. What scientists are most worried about is the next big eruption. The volcano has had huge eruptions about every hundred years.
- C. The volcano is 20 miles north of the city of Colima. To make sure no one is in danger, officials created a safety zone around the volcano.
- D. Magma collects in chambers beneath Earth's surface. After pressure from gases in the magma builds up, the magma erupts out of volcanoes.

4. Read these sentences from the passage:

"Magma collects in chambers beneath Earth's surface. After pressure from gases in the magma builds up, the magma erupts out of volcanoes. Volcanoes let out gases, ash, steam, and lava."

Based on the text, what does the word "pressure" refer to?

- A. the release of gases from the chambers in the Earth's surface
- B. the force of gases in the magma
- C. the eruption of gases from the volcano
- D. the mixture of gases in the magma that collects in the chambers

5. This passage is mainly about

- A. the safety measures taken in preparation for the Colima Volcano's next eruption
- B. the dangers facing the people of Colima who live near the "Volcano of Fire"
- C. the next big eruption of the Colima Volcano that scientists are expecting
- D. the way a volcanic eruption starts after a period of being dormant

6. How high is the Colima Volcano?

7. Based on the passage, why might it be important to track the activities of volcanoes over long periods of time? Use information from the text to support your answer.

8. The question below is an incomplete sentence. Choose the answer that best completes the sentence.

Scientists look for clues of another large, explosive eruption of the Colima Volcano.

_____, scientists, officials, and people living near the volcano will be prepared for the next eruption.

- A. In contrast
- B. As a result
- C. However
- D. Initially