

# How can the eruption of a volcano affect the ocean everywhere on Earth?

TEACHER'S KEY  
UPPER READING LEVEL

## Check your understanding

**1** Not all volcanic eruptions cause a tsunami. Why did the Hunga Tonga-Hunga Ha'pai volcano generate one?

*Answer* [ The Hunga Tonga-Hunga Ha'pai volcano is submarine. An underwater explosion can displace large amounts of water, generating a tsunami. ]

**2** Why did the ocean levels change in the Gulf of Mexico and the Caribbean Sea?

*A.* [ The shock wave produced by the volcanic eruption caused the ocean levels to change in these locations. ]

**3** Why were we concerned about the tsunami warning that was received by the people in Mexico?

*A.* [ The tsunami warning was given after the tsunami reached the Mexico coast. The warning didn't make the situation sound dangerous and didn't warn most people to stay away from the ocean. ]

**4** Why haven't volcanic eruptions typically been included in the tsunami warning systems?

*A.* [ Tsunamis caused by volcanic eruptions are not as common as those caused by earthquakes. ]

**5** The Hunga Tonga-Hunga Ha'pai volcanic eruption is an example of a natural hazard. With a partner, identify a type of natural hazard that is common where you live. Then brainstorm ways that people can be prepared when this natural hazard occurs.

*Answer* [ Answers will vary based on location. Common natural hazards include:

- Earthquakes
- Tsunamis
- Blizzards
- Flooding
- Tropical cyclones
- Tornadoes
- Wildfires
- Droughts
- Landslides or mudslides

Students should brainstorm how people can stay safe during one of these events. If they are unsure how to create a safety plan, encourage them to carry out some research about their selected natural hazard. ]

Where was the average tsunami height maximum larger, in the Pacific Ocean or the Gulf of Mexico? Explain your answer.

*Answer* [ The average tsunami height maximum was larger in the Pacific Ocean. The tsunami height maximum is much larger for many of the locations on the Pacific Coast. That means the average height would be higher. ]