

# Pioneering Discoveries in Natural Disasters

Natural Disasters · Answer Key · 15 Questions

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**1. Who is credited with the first systematic study of seismic waves and the development of early seismographs, laying the groundwork for modern seismology?**

- A) Charles Francis Richter
- B) John Milne**
- C) Giuseppe Mercalli
- D) Robert Hooke

**2. The first successful prediction of a major volcanic eruption based on scientific observation occurred in 1902. Which volcano was it, and which scientist was instrumental in its warning?**

- A) Mount Vesuvius by Raffaello Giovene
- B) Mount Pelée by Frank Perret**
- C) Mount Krakatoa by Willem Molengraaff
- D) Mount St. Helens by David Johnston

**3. What significant invention in the early 20th century allowed for the continuous recording and analysis of ground motion, revolutionizing the study of earthquakes?**

- A) The Richter scale
- B) The seismograph**
- C) The accelerograph
- D) The seismoscope

**4. The earliest known detailed eyewitness account of a major earthquake's impact and aftermath comes from which ancient civilization and event?**

- A) The destruction of Pompeii in 79 AD**
- B) The Lisbon earthquake of 1755
- C) The Minoan eruption of Thera around 1600 BC
- D) The Tangshan earthquake of 1976

**5. Who developed the first widely accepted scale for measuring earthquake intensity based on observable effects, known as the Mercalli scale?**

- A) Charles Richter
- B) John Milne
- C) Giuseppe Mercalli**
- D) Alfred Wegener

**6. The discovery of what geological phenomenon in the mid-20th century fundamentally changed our understanding of plate tectonics and the causes of earthquakes and volcanic activity?**

- A) Anticlines and synclines
- B) Continental drift
- C) Seafloor spreading**
- D) Subduction zones

**7. The first successful comprehensive study of tsunami propagation and impact was significantly advanced following which major event, leading to improved warning systems?**

- A) The 2004 Indian Ocean tsunami
- B) The 1960 Valdivia earthquake and tsunami
- C) The 1946 Aleutian Islands tsunami
- D) The 1883 Krakatoa eruption and tsunami**

**8. What meteorological instrument, first developed in the late 18th century, was crucial for the early understanding and tracking of weather patterns that lead to severe storms?**

- A) The anemometer
- B) The barometer**
- C) The hygrometer
- D) The thermometer

**9. The first successful large-scale deployment of weather radar in the United States, significantly improving storm detection, occurred in which decade?**

- A) 1930s
- B) 1940s**
- C) 1950s
- D) 1960s

**10. The scientific concept of 'thermodynamics' was foundational in understanding the energy transfer within atmospheric systems. Who is largely credited with developing these fundamental principles?**

- A) Isaac Newton
- B) James Joule**
- C) Michael Faraday
- D) Galileo Galilei

**11. What significant early 20th-century invention allowed for the measurement of atmospheric pressure at different altitudes, aiding in understanding weather dynamics?**

**A) The radiosonde**

- B) The aneroid barometer
- C) The barometer altimeter
- D) The microbarograph

**12. The first comprehensive mapping of potential flood plains and the development of early flood control strategies were significantly influenced by observations and engineering practices from which historical period?**

**A) Ancient Mesopotamia and Egypt**

- B) The Roman Empire
- C) Medieval Europe
- D) The Renaissance

**13. The scientific understanding of how volcanic ash plumes disperse and their impact on aviation was significantly advanced following the eruption of which volcano in 1980?**

A) Mount Pinatubo

**B) Mount St. Helens**

- C) Kilauea
- D) Mount Fuji

**14. What early observational tool, used for centuries, provided the first empirical evidence of the relationship between atmospheric moisture and weather phenomena like rain and fog?**

A) The rain gauge

**B) The hygrometer**

- C) The cloud chart
- D) The anemometer

**15. The development of the first reliable methods for monitoring and predicting hurricane paths in the Atlantic Ocean owes a significant debt to the pioneering work of which U.S. Navy meteorologist in the early 20th century?**

A) Jerome Namias

**B) Francis Reichelderfer**

- C) Robert Simpson
- D) Harry Wexler