

# Oceanic Frontiers: Ancient Cities, Volcanic Fury, and Deep-Sea Discoveries A

Pacific Discoveries · Answer Key · 15 Questions

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**1. Recent archaeological research has revised the estimated age of ancient structures on Tongatapu, Tonga, indicating they were built around what year A.D.?**

- A) 1000 A.D.
- B) 300 A.D.**
- C) 500 A.D.
- D) 1200 A.D.

**2. According to a 2024 report, the South-West Pacific experienced its hottest year on record, with significant increases in which of the following climate indicators?**

- A) Glacier extent and ice shelf stability
- B) Sea surface temperatures and marine heatwaves**
- C) Atmospheric pressure and wind speed
- D) Average rainfall and humidity

**3. What significant discovery regarding human migration into the Pacific was made with the finding of the oldest plant artifact outside of Africa, located in West Papua?**

- A) It suggests humans arrived in the Pacific only 10,000 years ago.
- B) It indicates humans were skilled seafarers and arrived before 50,000 years ago.**
- C) It shows humans exclusively used a southern migration route.
- D) It points to the first use of metal tools in early Pacific settlements.

**4. The Pacific Ring of Fire has shown an unprecedented surge in volcanic activity. How many confirmed eruptions occurred in 2024 from 65 different volcanoes, a significant increase from previous years?**

- A) 30
- B) 55
- C) 74**
- D) 90

**5. Researchers have discovered 24 new deep-sea amphipod species in the Clarion-Clipperton Zone (CCZ) of the central Pacific Ocean. What notable evolutionary finding was also part of this discovery?**

- A) A new species of bioluminescent coral.
- B) A new family and an entirely new superfamily of amphipods.**
- C) Evidence of a previously unknown shallow-water ecosystem.
- D) Fossilized remains of ancient marine reptiles.

**6. A new analysis by NASA's sea level change team indicates that by the 2050s, nearly all Pacific Island nations will experience an increase in high-tide flooding days by what factor?**

- A) Double
- B) Triple
- C) An order of magnitude**
- D) Five times

**7. Recent genomic studies of Near Oceania populations have revealed interbreeding with which group of ancient hominins?**

- A) Neanderthals
- B) Homo erectus
- C) Denisovans**
- D) Australopithecus

**8. The 'State of the Climate in the South-West Pacific 2024' report highlighted that 2024 was the warmest year on record for the region. What was a key contributing factor mentioned in the report?**

- A) A strong La Niña event
- B) Increased solar radiation
- C) The 2023-2024 El Niño event**
- D) Reduced greenhouse gas emissions

**9. In the deep Pacific Ocean, scientists discovered a formation on the ocean floor that resembled a 'yellow brick road' at a depth of over 3,000 meters. What geological process is thought to be responsible for this formation?**

- A) Erosion by deep-sea currents
- B) Impact crater from a meteorite
- C) Seafloor spreading at a mid-ocean ridge
- D) Volcanic activity and seamounts**

**10. The Pacific Ring of Fire has seen a significant increase in seismic activity. What was the magnitude of a notable earthquake on May 23, 2026, that occurred west of the Kamchatka Peninsula and displayed an unusual faulting mechanism?**

- A) 6.1
- B) 5.3**
- C) 7.0
- D) 4.5

**11. A recent study utilizing measurements of rare isotopes in a ferromanganese crust from the Pacific Ocean concluded that debris from a giant cosmic explosion is still reaching Earth. Approximately how long ago did this explosion occur?**

**A) 1 billion years ago**

B) 10 million years ago

C) 500 million years ago

D) 2 billion years ago

**12. What is a key objective of the Innovation Grant Facility (IGF) for Pacific Agro-SMEs, which supports agribusiness development in countries like Fiji and Samoa?**

A) To fund large-scale industrial fishing operations.

**B) To provide grants for accessing knowledge, technologies, and expertise to improve agribusiness.**

C) To subsidize the import of foreign agricultural products.

D) To develop new tourism infrastructure.

**13. In the South-West Pacific, 2024 saw unprecedented ocean warming. According to the WMO report, approximately how much of the global ocean surface was affected by marine heatwaves?**

A) Less than 1%

B) Approximately 5%

**C) Over 10%**

D) Around 25%

**14. Australian astronomers, using a new technology called CRACO with the ASKAP radio telescope, have recently discovered new astronomical objects. Which of these was NOT among the discoveries mentioned?**

A) Fast radio bursts

B) Sporadically-emitting neutron stars

**C) Brown dwarf planets**

D) Pulsars (improved location data)

**15. The 'State of the Climate in the South-West Pacific 2024' report noted an unprecedented tropical cyclone season in the Philippines. How many storms occurred between September and November 2024?**

A) 5

B) 8

**C) 12**

D) 15