

Pioneers and Milestones in Climatology

Climatology · Answer Key · 10 Questions

1. Who is credited with being the first to theorize the 'greenhouse effect' in 1824, suggesting that the atmosphere acts like a glass vessel?

- A) Joseph Fourier**
- B) John Tyndall
- C) Svante Arrhenius
- D) Guy Stewart Callendar

2. In 1859, which scientist identified that water vapor and carbon dioxide are the primary atmospheric gases responsible for trapping heat?

- A) James Hansen
- B) John Tyndall**
- C) Milutin Milankovitch
- D) Vladimir Köppen

3. What is the name of the long-term project started by Charles David Keeling in 1958 to record the continuous rise of atmospheric carbon dioxide concentrations?

- A) The Mauna Loa Curve
- B) The Vostok Ice Core Project
- C) The Keeling Curve**
- D) The IPCC Baseline

4. Which scientist first calculated in 1896 that doubling the amount of carbon dioxide in the atmosphere would raise global temperatures by 5 to 6 degrees Celsius?

- A) Gilbert Plass
- B) Svante Arrhenius**
- C) George Simpson
- D) C.G. Abbot

5. In the 1920s, who proposed the theory that cyclic changes in Earth's orbit, known as 'eccentricity, obliquity, and precession,' drive glacial-interglacial cycles?

- A) Milutin Milankovitch**
- B) Alfred Wegener
- C) L.F. Richardson
- D) Vilhelm Bjerknes

6. What was the first official international organization established in 1873 to standardize global meteorological observations?

A) World Meteorological Organization (WMO)

B) International Meteorological Organization (IMO)

C) Global Climate Forum

D) Intergovernmental Panel on Climate Change

7. In 1938, who was the first to demonstrate that global warming was actually occurring by linking temperature increases to rising carbon dioxide levels?

A) Guy Stewart Callendar

B) Roger Revelle

C) Hans Suess

D) Bert Bolin

8. Which research vessel was the first to provide significant oceanographic and climatological data from the deep Arctic in the late 19th century?

A) HMS Challenger

B) Fram

C) USS Jeanette

D) Belgica

9. What is the name of the system developed by Wladimir Köppen in 1884 to categorize global climates based on vegetation and temperature?

A) Holdridge Life Zones

B) Köppen Climate Classification

C) Thornthwaite System

D) Bailey's Ecoregions

10. The first evidence of climate-altering pollutants in the stratosphere was discovered in the 1970s; which compounds were identified as responsible for ozone depletion?

A) Sulfur hexafluoride

B) Chlorofluorocarbons (CFCs)

C) Nitrous oxide

D) Hydrofluorocarbons