Pioneers and Milestones in Climatology

Climatology · Answer Key · 12 Questions

1. Who is credited with first proposing the concept of the greenhouse effect in 1824?

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

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

A) Louis Agassiz
B) John Tyndall
C) Milutin Milankovitch
D) Vladimir Köppen

3. Which scientist first calculated in 1896 that doubling the atmospheric concentration of carbon dioxide would raise Earth's temperature by several degrees?

A) Charles Keeling
B) James Hansen
C) Svante Arrhenius
D) Gilbert Plass

4. What is the name of the long-term monitoring station in Hawaii that has provided the definitive record of atmospheric CO2 concentrations since 1958?

A) Mauna Loa Observatory
B) South Pole Station
C) Vostok Station
D) Barrow Observatory

5. Milutin Milankovitch is best known for discovering what set of long-term cycles that explain historical climate variations?

A) Sunspot cycles
B) Orbital eccentricity and tilt cycles
C) El Niño-Southern Oscillation
D) Deep ocean circulation cycles

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6. Which researcher published the first influential paper in 1938 suggesting that human-produced carbon dioxide was already causing global warming?

A) Roger Revelle
B) Guy Callendar
C) Wallace Broecker
D) Syukuro Manabe

7. In 1975, which scientist coined the term 'global warming' in a widely cited scientific paper published in the journal Science?

A) Wallace Broecker
B) James Hansen
C) Edward Lorenz
D) George Simpson

8. The first digital computer weather prediction was successfully performed in 1950 by a team led by which mathematician?

A) John von Neumann
B) Alan Turing
C) Norbert Wiener
D) Claude Shannon

9. Which Russian station produced the first major ice core record in the 1980s, providing a 400,000-year history of climate and atmospheric composition?

A) Mirny Station
B) Vostok Station
C) Bellingshausen Station
D) Progress Station

10. Who developed the first widely used climate classification system based on vegetation zones in 1884?

A) Vladimir Köppen
B) C.W. Thornthwaite
C) Alexander von Humboldt
D) Tor Bergeron

11. In 1967, Syukuro Manabe and Richard Wetherald created the first reliable computer model that simulated what?

A) The Earth's radiative-convective equilibrium
B) The formation of hurricanes
C) The depletion of the ozone layer
D) The path of ocean currents

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12. The term 'The Greenhouse Effect' was officially popularized in the scientific community after which 19th-century physicist performed experiments with 'radiant heat'?

A) John Tyndall

B) Michael Faraday

C) Lord Kelvin

D) James Clerk Maxwell