



Environmental Science & Other Innovations:

Environmental Science

A new study from the Potsdam Institute for Climate Impact Research in Germany and BOKU University in Vienna has found that 60% of the Earth's land is now outside its "safe ecological zone." The study, published in the journal One Earth, analyzed historical data back to 1600 and revealed that human activities, such as logging and farming, have severely disrupted natural processes. The most affected regions are Europe, Asia, and North America.

Clean Energy and Sustainable Technology

The first half of 2025 saw a 64% increase in global solar installations compared to the same period in 2024, with China leading the surge. Additionally, a new Yogi Goswami Clean Energy Laboratory was inaugurated at Delhi Technological University to boost research into renewable energy and sustainable technologies. In other innovations, chemists at the University of Copenhagen have created a new material called BAETA from plastic waste that efficiently captures carbon dioxide.

Other Innovations

Space Exploration: The James Webb Space Telescope (JWST) is beginning to study the atmosphere of the exoplanet TRAPPIST-1e. Early findings suggest the planet may have lost its original atmosphere due to powerful stellar flares. In a separate development, NASA is preparing to launch three new missions later

this month to the Sun-Earth L1 point to better understand and forecast space weather.

Artificial Intelligence: The Republic of Korea is organizing a high-level briefing on AI as part of its UN Security Council presidency to discuss the connection between AI and international peace and security.

Quantum Computing: Researchers have developed modular superconducting qubits that can be linked together like LEGO bricks, which is a significant step toward creating more fault-tolerant and scalable quantum computers.

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MCQS

1: According to a new study, what percentage of the Earth's land is now considered to be outside its "safe ecological zone"?

- A) 30%
- B) 45%
- C) 60%
- D) 75%

Answer: C) 60%

The news states, "A new study... has found that 60% of the Earth's land is now outside its 'safe ecological zone.'"

2: Which country is leading the global surge in solar installations, which saw a 64% increase in the first half of 2025?

- A) United States
- B) Germany
- C) India

D) China

Answer: D) China

The summary indicates that "the first half of 2025 saw a 64% increase in global solar installations compared to the same period in 2024, with China leading the surge."

3: What is the new material called BAETA, created from plastic waste, designed to do?

- A) Generate electricity
- B) Capture carbon dioxide
- C) Create biofuels
- D) Purify water

Answer: B) Capture carbon dioxide

The news explains that "chemists at the University of Copenhagen have created a new material called BAETA from plastic waste that efficiently captures carbon dioxide."

4: What is the primary reason the exoplanet TRAPPIST-1e may have lost its original atmosphere, according to early observations from the JWST?

- A) Its low gravitational pull
- B) Its proximity to a black hole
- C) Powerful flares from its star
- D) A collision with a meteoroid

Answer: C) Powerful flares from its star

The summary states that early findings suggest the planet "may have lost its original atmosphere due to powerful stellar flares."

5: What is the significance of the new modular superconducting qubits developed by researchers?

- A) They are able to operate at room temperature.
- B) They can be linked like LEGO bricks to create more scalable quantum computers.





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C) They are the first-ever qubits to exist in superposition.

D) They use light instead of electricity for computation.

Answer: B) They can be linked like LEGO bricks to create more scalable quantum computers.

The news states that the new modular superconducting qubits "can be linked together like LEGO bricks, which is a significant step toward creating more fault-tolerant and scalable quantum computers."

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