

Earthweek: Diary of a Changing World

By Steve Newman

Week ending Friday, June 21, 2024

Orbital Pollution

Orbiting objects, especially those in the vast and growing constellation of Starlink satellites, could damage Earth's protective ozone layer when they disintegrate upon reentry.

A new study finds the spacecraft spew large amounts of ozone-killing aluminum oxide when they burn up in the atmosphere, which could deplete the ozone layer, according to the research published in the journal *Geophysical Research Letters*.

Even small satellites produce about 65 pounds of the alumina when they burn up.

It is estimated that nearly 19 tons of the chemical compound were created by falling human-made objects during 2022 alone.

Earthquakes

A magnitude 4.9 temblor killed at least four people and injured 120 others as it wrecked numerous buildings in Iran's Khorasan Razavi Province.

• Earth movements were also felt South Asia's Hindu Kush region, Trinidad and Tobago, southern Peru and Hawaii's Big Island.

Energy Imbalance

The amount of solar energy being trapped in Earth's atmosphere has increased sharply in recent decades and is now twice what it was in 1993.

Writing in the latest *Indicators of Global Climate Change* study, an international team of researchers says the finding raises concerns about how much of that heat is being absorbed by the oceans.

Other studies suggest the increased warmth is penetrating thousands of feet into the ocean depths, from where it may take thousands of years to resurface.

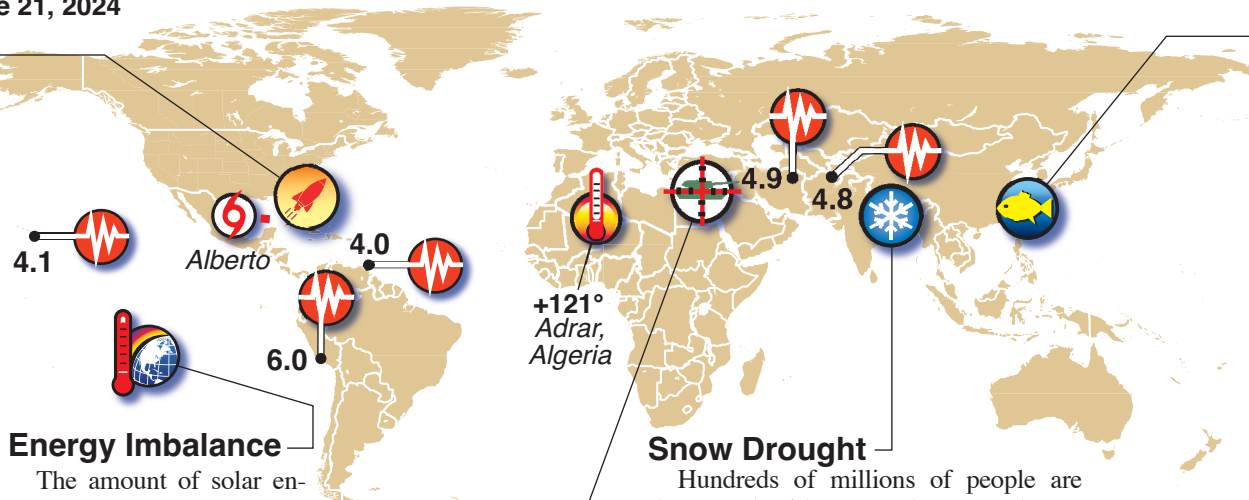
Scientists warn that the energy imbalance could affect ocean currents, oxygen levels and the chemistry of the maritime environment.

War Pollution

Israel's bombing campaign on Gaza for the past eight months has resulted in an unprecedented amount of soil, water and air pollution for the region, according to a new United Nations report.

"All of this is deeply harming people's health, food security and Gaza's resilience," said U.N. Environment Program Executive Director Inger Andersen.

Eoghan Darbyshire, a senior researcher at the U.K.-based nonprofit Conflict and Environment Observatory said that "large areas of Gaza will not be recovered to a safe state within a generation, even with limitless finance and will."



Farming vs. Wild

Rising demand for seafood has resulted in the amount of fish farmed globally now surpassing the wild catch for the first time in history.

A new report from the U.N. Food and Agriculture Organization (FAO) says that while hauls from fisheries have largely stagnated in recent decades, aquaculture production has soared.

The FAO points to the growing recognition of the nutritional benefits of seafood, such as omega-3 and other micronutrients, for the increased demand.

But environmental advocates say aquaculture can pollute waterways with excess nutrients and fecal waste generated in aquatic farms.

A NOAA report cautions that farmed fish can also be vulnerable to disease transmission and may pass those illnesses on to wild fish.

Snow Drought

Hundreds of millions of people are threatened with water shortages due to low levels of snow this year in the Himalayas and Hindu Kush mountains.

Snowmelt brings a quarter of the total water flow to the region's 12 major river basins, and this year's snow cap is the second smallest for the past 22 years, trailing only slightly behind the record low set in 2018.

A report by the Nepal-based International Center for Integrated Mountain Development said the lack of adequate snow could have devastating consequences in the future for large populations that rely on runoff.



Soaring numbers of satellites in orbit threaten the ozone layer, which shields the surface from dangerous radiation. Photo: SpaceX (CC BY-NC 2.0)

Tropical Cyclone

Tropical Storm Alberto killed at least three people in torrential rainfall across southern Texas and northeastern Mexico.

Dist. by: Andrews McMeel Syndication
©MMXXIV Earth Environment Service