

Environment News Futures

What are Bomb Cyclones and Atmospheric Rivers?

Environment

Published on January 07, 2023—10:57 AM IST

Bomb cyclones are often associated with atmospheric rivers and are also called “explosive cyclogenesis” or a “weather bomb”. A bomb cyclone is a low-pressure system that experiences a fall in pressure of 24 millibars in 24 hours.

Atmospheric rivers are storms akin to rivers in the sky that dump massive amounts of rain and can cause flooding, trigger mudslides and result in loss of life and enormous property damage. One such storm — along with a bomb cyclone — was battering California on Thursday, killing a child and knocking out power to tens of thousands.

Atmospheric rivers can carry up to 15 times the volume of the Mississippi River, according to the National Oceanic and Atmospheric Administration. They appear as a trail of wispy clouds that can stretch up to hundreds of miles.

El Nino may Emerge this Summer, Indicate Global Models

Environment

Updated on January 04, 2023—12:39 PM IST

El Nino has a major influence on weather and climate patterns and is associated with drought and weak monsoons in India

El Nino climate pattern associated with extreme heat waves and weak monsoon in India is likely to emerge from July to September, the latest global meteorological models have indicated even as meteorologists said it was too early to speculate on its implications. India Meteorological Department (IMD) earlier on Saturday said La Niña, which is associated with cooler temperatures in the Indian subcontinent, also prevailed over the equatorial Pacific region.

Experts said they were watching El Niño-Southern Oscillation (ENSO), a recurring climate pattern involving changes in the temperature of waters in the central and eastern tropical Pacific Ocean, to be better prepared for El Nino’s impact.

The latest Monsoon Mission Coupled Forecast System (MMCFS), which combines data from ocean, atmosphere, and land for long-range forecasting, has indicated La Niña was likely to persist from January to March and weaken thereafter. It indicates the neutral Indian Ocean Dipole (IOD) conditions are likely to continue this season.

IMD's forecast based on MMCFS indicates a 45 to 50% chance of an El Nino emerging from July to September coinciding with the monsoon season. The neutral IOD is a significant contributor to rainfall variability.

Centuries-old Oases in Morocco Reeling from Effects of Climate Change

Environment

Published on December 26, 2022 — 08:39 PM IST

Home to centuries-old oases that have been a trademark of Morocco, this region about 170 miles southeast of Marrakesh is reeling from the effects of climate change, which has created an emergency for the kingdom's agriculture.

Residents of the oasis of Alnif say they can't remember a drought this bad: The land is dry. Some wells are empty. Palm groves that date back more than 100 years are barren. Home to centuries-old oases that have been a trademark of Morocco, this region about 170 miles southeast of Marrakesh is reeling from the effects of climate change, which has created an emergency for the kingdom's agriculture.

COP15 Vows to Protect 30% Land, Water by '30

Environment

Updated on December 20, 2022 — 04:16 AM IST

The Kunming-Montreal Global Biodiversity Framework aims to bring the loss of areas of high biodiversity importance, including ecosystems of high ecological integrity, close to zero by 2030, while respecting the rights of indigenous peoples and local communities.

South Asian Black Carbon Aerosols Increase Glacial Mass Loss Over Tibetan Plateau: Study

The South Asia Region Adjacent to the Tibetan Plateau has among the Highest Levels of Black Carbon Emission in the World.

January 02, 2023 — 01:14 pm | Updated 01:14 pm IST

Black carbon aerosols have indirectly affected the mass gain of the Tibetan Plateau glaciers by changing long-range water vapour transport from the South Asian monsoon region, a study has found.

It is Raining Plastic: 74 Tonnes of Microplastics Fell from the Air on Auckland in 2020

Tinier particles that are inhaled easily were found in higher quantities

By DTE Staff

Published: Wednesday 14 December 2022

With our every breath, we may be inhaling substantial quantities of microplastics that eventually flow into our blood and accumulate on our organs, according to a new study.

As much as 74 tonnes of microplastics fell from the air and settled on rooftops, gardens and other surfaces in Auckland, New Zealand in 2020, the study published December 12, 2022 in the journal *Environmental Science & Technology* found. The volume is equivalent to three million plastic bottles, it added. These tiny pieces of plastic that are less than 5 millimetres in length have already invaded our food chains and have been found in veins, and this new mode of transmission is raising new health concerns.

The smallest particles can enter blood streams and collect in organs like the liver and brain (*See Snapshot 3*).

Scientists have been discussing the possibility that microplastic mists and clouds exist in the atmosphere but this is the first study to quantify the magnitude of the problem.