

WHEN THE SKY TURNS FIERCE: HOW EXTREME WEATHER IS WARNING US ABOUT A CHANGING PLANET

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Extreme weather is no longer a distant concern discussed only in climate conferences. It has become an everyday reality for millions around the world. Floods, storms and unprecedented rainfall events are reshaping landscapes, taking lives, and unsettling economies with a force we once associated only with rare natural disasters. In the last few years, but especially this year, the scale and intensity of these weather events have sent a clear message that the climate system is changing faster than our ability to adapt.

Countries across Southeast Asia, including Indonesia, Sri Lanka and Thailand, have faced devastating floods and storms that collectively claimed thousands of lives. These were not isolated disasters. They occurred within weeks of each other, powered by a combination of warmer oceans, shifting wind patterns and disrupted monsoon systems. Scientists studying these events emphasize that climate change is acting as a threat multiplier. That means it does not necessarily create new weather systems from scratch, but it strengthens existing ones, making storms wetter, floods faster, and recovery periods longer.

One of the most troubling aspects of recent floods is how unpredictable they have become. Traditional markers such as seasonal forecast patterns no longer hold the same reliability. In many regions, rainfall that is typically distributed over a month now arrives within a single day. Rivers swell with extraordinary speed, urban drainage systems collapse under pressure, and coastal regions face simultaneous threats from rain-induced flooding and rising sea levels. The combined effect leaves communities with little time to prepare and even less time to respond. Behind this lies a fundamental physical process. A warmer atmosphere holds more moisture. Every degree of temperature rise increases the air's ability to retain water vapour, making rainfall events far more intense. At the same time, oceans are absorbing excess heat caused by greenhouse gas emissions. This warms the surface waters, which then feed storms and cyclones with more energy. The storms grow in size, last longer, and produce more rain than historical averages would suggest. When these energetic systems make landfall, they unleash destructive force that even disaster-prepared regions struggle to withstand.

But floods and storms are not iust deeply meteorological episodes. They are human events that expose inequalities. Lowincome communities living in informal settlements near rivers or coastal zones suffer the most. They lack strong housing, access to early warning systems, and safe evacuation spaces. Their livelihoods are often tied to fragile ecosystems such as fishing zones, mangrove belts or agricultural fields. After a disaster, they face the double burden of rebuilding their homes and reviving their incomes, often with little government support. The climate crisis is therefore not just an environmental story but a social one, revealing how vulnerabilities are unevenly distributed.

Another consequence of extreme weather is its impact on public health. Floodwaters become carriers of disease as sewage lines overflow and clean water sources become contaminated. Hospitals, already overwhelmed during disaster seasons, struggle to handle outbreaks of waterborne illnesses. At the same time, prolonged heatwaves that often precede storm seasons weaken the body's resilience, particularly for older adults, children and those with chronic illnesses. The combination of heat stress and flood-induced disease creates a cycle of health risks that many societies are not adequately prepared for.

Agriculture, too, faces significant disruptions. Fields that should receive steady monsoon rains instead experience prolonged dry followed by intense downpours. Crops fail due to both drought and waterlogging, reducing yields and threatening food security. Farmers, especially small landholders, find themselves caught in a climate double bind. They must navigate unpredictable seasons without the financial buffer to absorb losses. In some regions, repeated crop failures have triggered migration, with rural families moving to cities in search of work, further straining already growing urban populations.

Infrastructure systems, which form the backbone of modern life, have proven extremely vulnerable to climate extremes. Roads crack under heat and collapse under floods. Electricity EARTH ROOT • VOLUME 55 • DECEMBER 2025

grids fail during storms. Water supply networks get contaminated or damaged. Repairing these systems requires huge investments and time, but many countries experience disasters so frequently that rebuilding becomes a continuous cycle rather than an occasional necessity. Economists warn that climate-related disasters could significantly slow development vulnerable regions, diverting funds away from education, healthcare and long-term planning. Despite these alarming trends, the situation is not without hope. Early warning systems have become more accurate, giving communities precious hours or even days to prepare. Naturebased solutions such as restoring wetlands, expanding mangroves and creating urban green spaces have shown remarkable potential in reducing the impact of floods. These natural absorb barriers excess water, coastlines and provide habitats for wildlife. Countries that have invested in such solutions are beginning to see measurable benefits during storm seasons.

However, what is needed most urgently is a shift in how societies think about climate risk. Extreme weather must be treated as an expected part of life rather than an occasional anomaly. Urban planning needs to incorporate flood-resistant infrastructure. Building rules must account for stronger winds and heavier rains. Agricultural practices should move toward climate-resilient water-efficient crops and farming. Governments must allocate dedicated budgets for disaster preparedness instead of reacting after the damage is done. International cooperation is equally important. Climate change does not respect national boundaries, and neither should our strategies for resilience. The recent surge in extreme floods and storms is a warning, but also an opportunity. It urges us to reconsider how we design our cities, how we use our land, how we generate energy and how we protect the poor. Climate change is not a distant future; it is unfolding right now in swollen rivers, broken dams, uprooted trees and disrupted lives. The question is whether we will act with urgency and imagination or continue responding only after disaster strikes.