

Fire and Ice: The Signs of Climate Breakdown

April 19, 2021

As the world braces for Biden's virtual summit, it's time India faces its climate demons

By Sreerekha Pillai

Forest fires are on a rampage in Uttarakhand. Snow on the Tibetan plateau aka the world's roof, surrounded by Mount Everest and K2, two of the highest mountains in the world, is melting at a rapid rate. The national capital witnessed one of the coldest Novembers recently, with temperature dipping to 10 degree Celsius. Do we need more reasons to realise the world is on the edge of a precipice?

The world is warming up too fast. National Aeronautics and Space Administration (NASA) estimates that the earth's surface temperature has risen by 1.18 degrees Celsius since the late 19th century, with 2016 and 2020 being the warmest years on record. It also pegs sea level rise to be 20 cm in the last century, with the rate accelerating with each passing year.

Global warming—a concern which will figure high on the agenda of US President Joe Biden's Climate Summit—is being propelled by carbon dioxide emissions, which trap heat in earth's atmosphere. The continuous build-up of heat throws weather patterns into disarray, causing wildfires, shrinking ice sheets, sea level rise, and extreme weather events.

Forest fires

India has been increasingly battling forest fires. Though many of these might be human induced, according to a recent report in New Scientist, climate change has increased the risk of wildfires, with such events set to become more common in future. According to researchers, fire weather seasons—involving high temperatures, low humidity and rainfall, accompanied by windy conditions—have lengthened globally.

Uttarakhand, one of the worst affected Indian states on account of its fragile ecosystem, lost 1,297 hectares of forests between October 2020 and March 2021 in 989 fire incidents. Dry deciduous forests in India are prone to such fire incidents, with states such as Odisha (Simlipal National Park), Chattisgarh (6,520 forest fires from February to March), and Madhya Pradesh (Bandhavgarh Tiger Reserve) bearing the brunt this year.

Fires don't just wipe away precious forest resources but also release the carbon locked in the biomass. Thus, forest fires are also indicative of an ecological transition—from carbon sinks to sources of carbon dioxide.

With such events here to stay, going forward, satellite-based remote sensing technology and geographic information system (GIS) should be effectively employed to monitor forests and create an early warning system for fire-prone areas. Limiting climate change to well below 2 degree Celsius in line with the Paris accord could be the key to lowering future fire risks.

Melting glaciers

The world's attention might be on the melting of Antarctica's Thwaites Glacier, also called the 'Doomsday Glacier' because of its potential to raise the world sea level by more than half a metre, but closer home the glacial burst in Uttarakhand recently, resulting in a flash flood, had experts pinning the blame on a rapidly warming planet.

The World Glacier Monitoring Service, which has been monitoring global glacial change, says that glacial loss has been doubling every decade since the 1970s. Another study by the University of Reading in England, which analysed 40 years of satellite observations across India, Nepal, China, and Bhutan, concluded that climate change is devouring the Himalayan glaciers. Experts suggest that glaciers in the Hindu Kush region have thinned by 27 per cent, with the likelihood of losing half of its present-day glacial area by 2060.

Melting of glaciers in the Himalayan region can not only spark floods and landslides but also deprive communities of water availability for drinking, agriculture, and hydropower. While slowing down temperature rise might definitely help, adaptation measures such as restoring forests and shrubs on slopes will not only hold the soil together but also reduce the impact of flash floods and landslides.

Other disasters

The World Bank's 2019 Inform Risk Index ranks India 29 out of 191 countries due to its predisposition to flooding, cyclones, and drought. In 2020 alone, extreme climate events including super cyclone Amphan that hit Kolkata and Odisha and floods cost India Rs 10 lakh crore. This is 322 times higher than India's annual outlay for the environment, according to the UK-based Christian Aid.

Scientists have been warning that if greenhouse gas emissions continue at the present pace, India would become uninhabitable in 50 years, with temperatures as high as the Sahara desert.

With the stage set for the virtual theatre of 40 world leaders led by Biden, some hard-bargained climate breakthroughs can be expected. However, it remains to be seen which road the collective takes—the easy or the difficult. If it opts for the road less travelled by (the difficult one which places the interests of the planet above national concerns), it could well end up making all the difference.

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