



Climate change



- Climate change could cut world economy by \$23 trillion in 2050
- Climate summit: Modi announces launch of India-US clean energy partnership
- Assessment of Climate Change over Indian Region
- IMD launches portal to aid climate change mitigation in India
- Invest \$131 trillion in clean energy by 2050 to hit climate goals, agency says
- Food drives a third of global emissions: Report
- Climate Change behind Chamoli floods: Study

Air quality



- IIT Guwahati technology to remove microplastics from seawater
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- 17 rivers in Karnataka highly polluted: Jal Shakti Ministry
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Climate change could cut world economy by \$23 trillion in 2050. The effects of climate change can be expected to shave 11 percent to 14 percent off global economic output by 2050 compared with growth levels without climate change, according to a report from Swiss Re, one of the world's largest providers of insurance to other insurance companies. That amounts to as much as \$23 trillion in reduced annual global economic output worldwide as a result of climate change.

Climate summit: Modi announces launch of India-US clean energy partnership. Prime Minister Mr Narendra Modi has announced that India and the US are launching an "agenda 2030" partnership on green collaborations as he pitched for concrete action at a "high speed" and on a "large scale" globally to combat climate change. The partnership will aim to mobilise finance and speed clean energy deployment; demonstrate and scale innovative clean technologies needed to decarbonise sectors including industry, transportation, power and buildings; and build capacity to measure, manage and adapt to the risks of climate-related impacts.

Assessment of Climate Change over Indian Region. The Ministry of Earth Sciences (MoES) has recently published a Climate Change report entitled [Assessment of Climate Change over the Indian Region](#) which covers all the aspects of regional climate change including the climatic extremes across India. Clear signatures of human-induced changes in climate

have emerged over the Indian region on account of anthropogenic GHG and aerosol forcing, and changes in land use and land cover which have contributed to an increase in the climatic extremes. The complex interactions between the earth system components amidst the warming environment and regional anthropogenic influences have therefore led to a rise in frequency of localized heavy rainfall events, drought and flood occurrences, and increase in the intensity of tropical cyclones etc. in the last few decades. Future projections of regional climate, performed under different climate change scenarios, too indicate robust changes in the mean, variability and extremes of several key climatic parameters over the Indian subcontinent and adjoining areas (e.g. land temperature and precipitation, monsoons, Indian Ocean temperature and sea level, tropical cyclones, Himalayan cryosphere, etc).

The report documents the surface air temperature over India has risen by about 0.7 °C during 1901–2018 which is accompanied with an increase in atmospheric moisture content. The sea surface temperatures in the tropical Indian Ocean have also increased by about 1 °C during 1951–2015.

IMD launches portal to aid climate change mitigation in India. On the occasion of World Meteorological Day, India Meteorological Department launched a '[Climate Data Service Portal](#)' that has real time visualization of meteorological data from across the country; climatological tables; visualization of historical meteorological data including of monsoon rainfall pattern; mean temperature rise; and frequency of cyclones etc. This portal will help researchers and the government in climate change studies; planning and mitigation strategies; and offer early warning to people. Statistical analysis of meteorological data on the portal is still under development.

The mean temperatures have shown a steep rise across all seasons since 1996 over India with the sharpest trend recorded in the pre-monsoon season.

Invest \$131 trillion in clean energy by 2050 to hit climate goals, agency says. Planned investment in clean energy must increase by 30% to a total of \$131 trillion by 2050 to avert catastrophic climate change, with the need to massively scale up hydrogen production particularly acute, according to the annual flagship [report](#). International Renewable Energy Agency underscored the scale and pace of change needed to cap the rise in average global temperatures at 1.5 degrees Celsius, in line with the 2015 Paris climate accord. Renewable power capacity will have to expand more than ten-fold by mid-century, accompanied by a 30-fold increase in the electrification of transport, the report found. It also foresaw a dramatic increase in the production and use of "green hydrogen" -- a zero-carbon fuel made by electrolysis, using power from wind and solar, that splits water into hydrogen and oxygen. By 2050, 30% of electricity use will be dedicated to producing green hydrogen and hydrogen and its derivatives, such as e-ammonia and e-methanol, the report said.

Food drives a third of global emissions: Report. A third of all the world's man-made greenhouse gas emissions are linked to food, according to new global research that tracked produce from field to fork to landfill. Land clearing and deforestation, fertilizer use, livestock and waste all contribute to the emissions from the system to feed Earth's 7.7 billion people. While numerous reports have looked to quantify the climate footprint of food, the authors of the latest research led by the European Commission's Joint Research Centre said theirs is the first to encapsulate all countries and sectors -- from production, packaging and distribution to disposal of food waste. The [report](#), published in the journal *Nature Food*, draws on a new global database that provides estimates of food system greenhouse gas emissions from 1990 to 2015. During that period it notes a "decoupling of population growth and food-related emissions", with emissions growing slower than the population. But it found wide variations across the world, with some countries and regions seeing large increases in emissions driven by both domestic demand and exports. The estimated range of 25 to 42 percent was higher than the UN Intergovernmental Panel on Climate Change (IPCC) figure of 21 to 37 percent, partly due to a more expansive view of the global food system. According to the report food-system emissions represented 34 percent of total greenhouse gas output in 2015.

China	13.5%
Indonesia	8.8%
United States	8.2%
Brazil	7.4%
European Union	6.7%
India	6.3%

Climate Change behind Chamoli floods: Study. Heavy precipitation in the Chamoli region from February 4 to 6 and an overall rise in temperature in Uttarakhand in the past four decades could have led to the rock collapse that triggered the deadly flashfloods in the state last month, according to a [study](#) by the International Centre for Integrated Mountain Development (ICIMOD).

[The Tribune](#), March 6, 2021 | [Deccan Herald](#), March 10, 2021 | [Deccan Herald](#), March 16, 2021 | [Press Information Bureau](#), March 23, 2021 | [Hindustan Times](#), March 23, 2021 | [Business Standard](#), April 22, 2021 | [Business Standard](#), April 23, 2021



IIT Guwahati technology to remove microplastics from seawater.

Researchers at the Indian Institute of Technology (IIT) Guwahati have come up with a microfiltration process to remove microplastics from seawater in order to prevent the inclusion of plastic residues in edible salt extracted from it. Microplastics--plastic pieces smaller than one-fifth of an inch – are now found in almost all oceans and marine animals. Sea salt has been found to have considerable amounts of micro-plastic

Delhi is the most polluted capital city globally, says report.

Delhi remained the most polluted capital city in the world but India, on the whole, had improved its average annual PM 2.5 (particulate matter) levels higher in 2020 than in 2019, according to a [report](#) from IQ Air, a Swiss air quality technology company, specializing in protection against airborne pollutants, and developing air quality monitoring and air cleaning products. Delhi’s concentration level, based primarily on data from the Central Pollution Control Board, was 84.1 µg/m³ in 2020, a 15% improvement from the 98.6 µg/m³ recorded in 2019 — a consequence of the lockdown. Bangladesh and Pakistan were the countries in 2020 with worse average PM 2.5 levels than India, says the report. China ranked 11th in the latest report, it ranked 14th in the previous edition of the report. In the 2020 report, 106 countries were evaluated. The pollution levels are weighted averages, meaning that the population of a country influences the pollution values reported.

In 2020, 84% of all monitored countries observed air quality improvements. Other improvements in major cities over 2019 included 11% drop in Beijing, a 13% drop in Chicago, a 17% drop in Paris and a 16% drop in London and Seoul. However, of the 106 monitored countries, only 24 met the World Health Organization annual guidelines for PM 2.5, the report underlined.

[The Hindu](#), March 16, 2021 | [The Times of India](#), April 29, 2021



17 rivers in Karnataka highly polluted. According to Jal Shakti Ministry a total of 17 river stretches in Karnataka are polluted mainly due to discharge of untreated or partially treated sewage and industrial effluents in their catchments. Stretches of Krishna, Tungabhadra, Bhadra, Tunga, Malaprabha, Kali, Kagina, Bhima, Asangi Nalla, Cauvery, Kabini, Shimsha, Arkavathi, Lakshmantirtha, Yagachi, Kumardhara, and Netravathi rivers most polluted according to Central Pollution Control Board (CPCB). A total of 351

stretches on 323 rivers have been identified as polluted in the country in terms of bio-chemical oxygen demand (BOD) levels, an indicator of organic pollution. The non-point sources of pollution like agricultural run-off, open defecation, run-off from solid waste dump sites also contribute to pollution of rivers. The CPCB, in collaboration with the State Pollution Control Boards (SPCBs), is regularly monitoring the water quality of rivers and other water bodies in the country through a network of monitoring stations and directed all 17 categories of highly polluting industries; including sugar industries, to install Continuous Effluent/ Emission Monitoring Systems (OCEMS) to monitor the pollution levels.

Jal Shakti Ministry launches framework for water quality testing, monitoring. The Ministry of Jal Shakti launched a framework and guidelines for testing, monitoring and surveillance of drinking water quality

as well as a Water Quality Information Management System (WQMIS), an [online portal](#) that provides detailed information on laboratories for this purpose.

The guidelines specify work to be done in terms of surveillance and monitoring at the state, district, block/tehsil and village levels. The basic water quality parameters prescribed under the guidelines are pH value, total dissolved solids, turbidity, chloride, total alkalinity, total hardness, sulphate, iron, total arsenic, fluoride, nitrate, total coliform bacteria, or thermo-tolerant coliform bacteria. The guidelines have been prepared in consultation with the Indian Council of Medical Research (ICMR).

[Hindustan Times](#), March 13, 2021 | [Deccan Herald](#), March 26, 2021