

JOINT INTERNATIONAL CLIMATE COMMUNIQUÉ BY NATIONAL METEOROLOGICAL SOCIETIES AND ASSOCIATES

As members of the global community of national meteorological societies, we are taking the occasion of World Meteorology Day 2021 to reiterate the critical importance of addressing climate change.

The world continues to warm

The effects of human-produced greenhouse gases on the climate are increasingly and overwhelmingly evident. The three warmest years on record, including 2020 (at about 1.2°C higher than before the industrial revolution), have all occurred since the 2015 Paris Agreement to limit climate change. The global average temperature was near a record high in 2020 despite the presence of a temporary cooling of the Pacific due to La Niña, thus indicating a continued underlying warming trend.

In 2020, sea ice in the Arctic reached its lowest October extent on record. Both the extent and thickness of Arctic sea ice have decreased dramatically over the past 30 years.

Massive coastal glaciers in Greenland and Antarctica are losing more mass every year and permafrost is melting. Global sea levels are rising and ocean acidification is increasing at accelerating rates. Ocean temperatures, both near the surface and at depth, continue to increase globally with implications for the behaviour of storms, changes to ocean currents, and coral reef degradation. Also, freshwater resources and eco-systems are under pressure.

Evidence is growing that a wide variety of extreme events are now more likely to occur due to global climate change. Furthermore, increased extreme temperatures, rainfall, drought, and storms have been linked to a marked increase in the number of climate-related disasters between 2000 and 2019 compared to the preceding two decades.

Limiting climate risks

In 2015 in Paris countries agreed to *holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels*. We note that to limit the increase to 1.5°C the world needs to reduce carbon dioxide emissions globally at an unprecedented rate, likely reaching net zero by around 2050, as well as reducing other greenhouse gas emissions.

Many governments have announced their intention to markedly reduce emissions, including aiming to reach net zero greenhouse gas emissions by mid-century. However, overall, current commitments for emissions in 2030 still fall well short of the effort required to meet the Paris goals. Even if all reported commitments were implemented, temperatures could still rise to over 3°C above pre-industrial levels by 2100 and there is a risk that the average temperature rise could exceed 1.5°C within the next decade.

Our message

We stress that to meet the Paris goals, the world needs to raise its ambition significantly to be in line with the findings of the Intergovernmental Panel on Climate Change. All governments will therefore need to strengthen their efforts by taking rapid and ambitious action, including supporting those who have less capacity. Increasing nations' mitigation ambitions ahead of the Paris Agreement "stock-take" scheduled for 2023 would help set the world on a track closer to meeting the Paris goals and reducing the risk of potentially devastating climate impacts.

As well as reducing the growing risks of climate change to a more manageable level, working to meet the Paris goals can advance additional societal needs, including the achievement of many of the United Nations Sustainable Development Goals.

We note that the impact of COVID-19 restrictions has led to a slight drop in carbon dioxide emissions. This, however, is likely to be temporary unless the actions taken to recover from the pandemic also support the Paris goals. A sustainable global recovery from COVID-19 could lead to employment opportunities in clean technologies and deal with energy poverty.

Weather and climate services and observations are essential to support the assessment of climate risk and inform mitigation and adaptation strategies. We urge governments to support service providers with appropriate resources to sustain these crucial services and observations.

Further Reading

- Explaining Extreme Events of 2019 from a Climate Perspective, Special Supplement to the Bulletin of the American Meteorological Society Vol. 102, No. 1, January 2021 www.ametsoc.net/eee/2019/EEFin2019.pdf
- The Human Cost of Disasters 2000-2019, The Centre for Research on the Epidemiology of Disasters, United Nations Office for Disaster Risk Reduction, 2020 www.reliefweb.int/report/world/human-cost-disasters-overview-last-20-years-2000-2019
- National Snow and Ice Data Center: Quick Facts on Arctic Sea Ice www.nsidc.org
- State of the Global Climate 2020, World Meteorological Organization www.public.wmo.int/en/our-mandate/climate/wmo-statement-state-of-global-climate
- Global Warming of 1.5C, Intergovernmental Panel on Climate Change (IPCC) Special Report, 2018 www.ipcc.ch/sr15/
- Emissions Gap Report 2020, United Nations Environment Programme (UNEP), 2020 www.unep.org/emissions-gap-report-2020
- International Energy Agency (IEA) Energy Outlook 2020 www.iea.org/reports/world-energy-outlook-2020

