



METEOWORLD

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United in Science Report sounds +1.5 °C Alarm



“Our world remains off track – far off track – to meet the objectives of the Paris Agreement to limit global temperature rise to 1.5 °C. If things would remain as they are, we would go up 3 to 5 degrees above the pre-industrial level,” said United Nations Secretary-General António Guterres at a press conference on 9 September to launch the 2020 United in Science report.

The United in Science 2020 report, the second in an annual series, is coordinated by WMO. This year, it includes input from the Global Carbon Project, the Intergovernmental Panel on Climate Change (IPCC), the Intergovernmental Oceanographic Commission (IOC) of UNESCO, the UN Environment Programme and the UK Met Office. It presents the very latest scientific data and findings related to climate change to inform global policy and action.

WMO Secretary-General Petteri Taalas also spoke at the press conference in a virtual link-up from WMO headquarters in Geneva. He presented the key findings of the report that showed that climate change has not stopped for COVID-19. Greenhouse gas concentrations in the atmosphere are at record levels and continue to increase. Emissions are heading in the direction of pre-pandemic levels following a temporary decline caused by the lockdown and economic slowdown. Professor Taalas also highlighted the increasing impacts of climate change, which affects glaciers, oceans, nature, economies and human living conditions and is often felt through water-related hazards like drought and flooding.

“The five-year period since the signing of the Paris Agreement on Climate Change will be the hottest on human record – with average global temperatures 1.1 °C above pre-industrial levels. The report also rings the alarm that there is a significant and growing chance of temporarily reaching the 1.5 °C threshold in the coming five years,” said Mr Guterres, citing data from the report. He launched an appeal, “We have a choice: business as usual, leading to further calamity; or

we can use the recovery from COVID-19 to provide a real opportunity to put the world on a sustainable path,”

He outlined six climate-related actions to shape the recovery.

1. As we spend huge amounts of money to recover from the coronavirus, we must deliver new jobs and businesses through a clean, green transition.
2. Where taxpayers’ money is used to rescue businesses, it needs to be tied to achieving green jobs and sustainable growth.
3. Fiscal firepower must drive a shift from the grey to the green economy and make societies and people more resilient.
4. Public funds should be used to invest in the future, not the past, and flow to sustainable sectors and projects that help the environment and the climate. And so, fossil fuel subsidies must end, polluters must pay for their pollution, and no new coal power plants should be built. It is already cheaper to build new renewable energy capacity than to continue operating 39% of the world’s existing coal capacity.
5. Climate risks and opportunities must be incorporated into the financial system, as well as all aspects of public policymaking and infrastructure.
6. We need to work together as an international community.

“As we work to tackle both the COVID-19 pandemic and the climate crisis, I urge leaders to heed the facts in this report, unite behind the science and take urgent climate action,” said Mr Guterres.

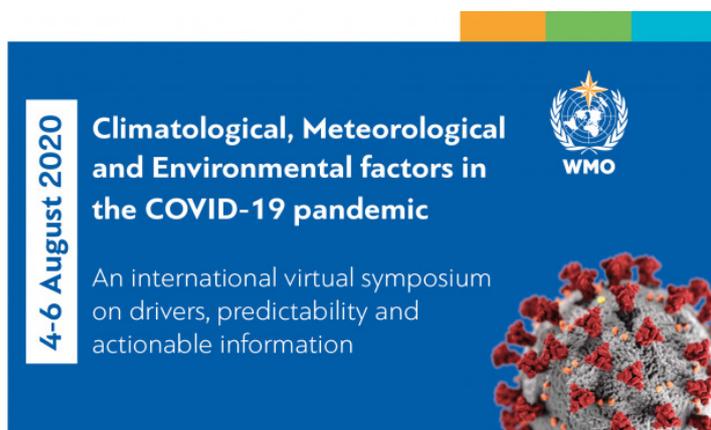
COVID-19 and Environmental Factors

Finding out whether there was a relationship between COVID-19 and meteorological, climatological and environmental factors became a pressing concern as the pandemic spread across the globe. WMO supports international COVID-19 research and control efforts in this area by engaging experts through two channels to interrogate the issue and identify where and how meteorological and environmental information can best support research and public health decision-making.

First, the WMO Research Board established a Task Team to monitor the state of knowledge on COVID-19 and linkages to environmental conditions, including air quality, solar radiation, weather and climatic conditions. This expert group will issue periodic authoritative statements, help inform the immediate global response

to COVID-19, foster good practice in interdisciplinary research, and help operationalize predictive modeling if deemed necessary. This effort of the Research Board also supports the World Health Organization and the health community at large, as called for by the World Meteorological Congress, to Advance Integrated Health Science and Services.

Secondly, WMO hosted an international symposium online on Climatological, Meteorological and Environmental factors in the COVID-19 pandemic from 4 to 6 August. The symposium attracted 400 researchers and stakeholders from 50 countries, representing a wide range of disciplines and organizations. It reviewed the global state of knowledge to date, discussed what could be reliably predicted about the influence of climatological, meteorological and environmental factors on the trajectory of the COVID-19 epidemic, and identified potential applications and additional research and communication needs.



The symposium's key conclusion was that current peer-reviewed publications on the SARS-CoV-2 virus and the COVID-19 disease do not show a robust and consistent response to temperature, humidity, wind, solar radiation, nor other proposed meteorological and environmental drivers. Some evidence exists that suggests regulated indoor environmental conditions, in concert with behavioural factors, indirectly modulates localized spread of the virus. More research is needed on which climatic variables are most critical.

First Meeting of the Capacity Development Panel

The first meeting of the Executive Council (EC) Capacity Development Panel, held virtually from 26–27 August, agreed on the modality of work and set approaches and timelines for delivering its mandate. Participants included members of the Panel, some observers, and staff of the Secretariat. The meeting was chaired by its newly elected Vice-Chair John Ogren, on behalf of the Chair, Dr Agnes Kijazi.

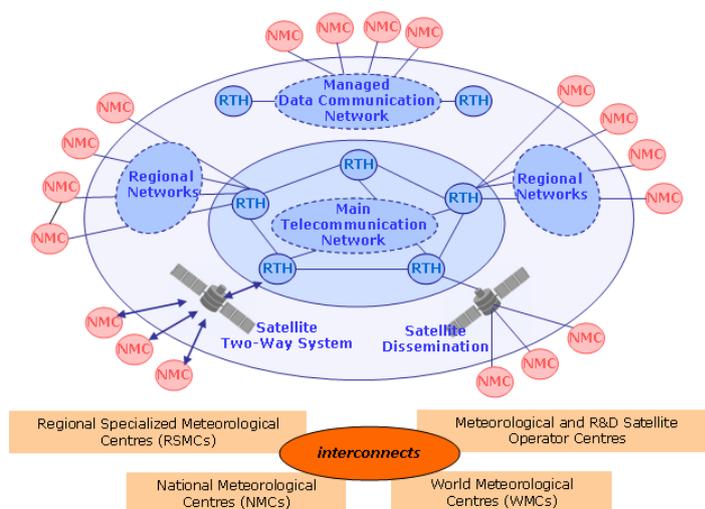
The Panel was invited to make written contributions on the agenda ahead of the session. These contributions were put into a synthesis document for review and comments at the virtual meeting. This preparatory work permitted tangible outcomes from the Panel deliberations.

The Panel recommended that EC expand its membership to include a representative from Hydrological Coordination Panel, from each of the two technical commissions and the Research Board, and from the Joint WMO-IOC Collaborative Board. This would permit the Panel to implement the cross-cutting approach that is necessary to capacity development.

The Panel will also need to be kept up-to-date on constituent body activities through formal reports, especially on decisions and actions that relate to capacity development. The Panel advised Expert Teams to review the suggested lists of experts for each team and to make recommendations to the Chair if changes were required. Expert Teams and Task Team will set their own timetable to assure timely delivery of outputs for deliberations ahead of next meeting of the Panel.

Trial phase for the monthly reporting of daily climate data

In mid 2018, WMO Members were invited to participate in the trial phase for the monthly reporting of daily climate data (DAYCLI) via the WMO Global Telecommunication System (GTS). Some 20 Members volunteered, and the trial started in January 2019.



Structure of the WMO Global Telecommunication System (GTS)

The U.S. National Oceanic and Atmospheric Administration (NOAA)/ National Centers for Environmental Information (NCEI) provided participants with access to the DAYCLI software demonstration package. DAYCLI messages are consistent with national climate records, thus allow greater comparability between regional and global climate data analyses and products and national ones.

Over the course of the trial, the main challenge concerned differing definitions of “climatological days”: The trial phase confirmed that different national climate observing and data management practices had been established historically in the absence of global coordination. The trial, therefore, revealed the need to attach information on the hour and period of observation to each of the climate variables reported.

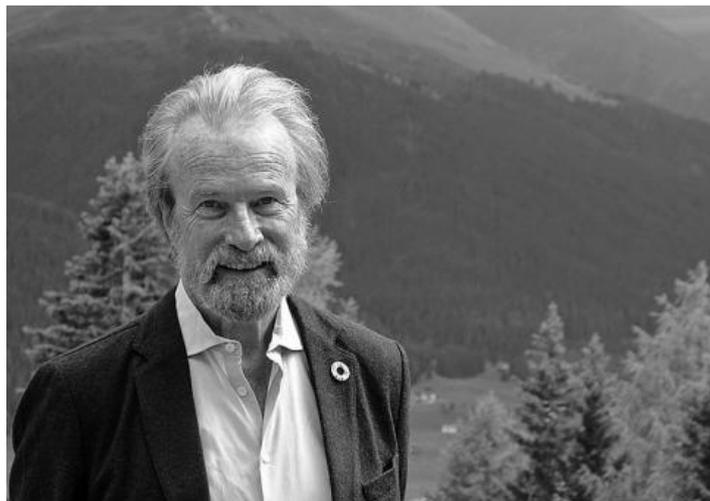
Subject to endorsement by WMO constituent bodies, an extension of the trial phase is planned while preparations for the start of the pre-operational phase - tentatively scheduled for the second half of 2021- will start soon. A global DAYCLI monitoring tool is envisaged – to be implemented in close collaboration with WMO Information System (WIS) Global Information System Centres (GISCs). A new BUFR¹ template is also intended to allow for the submission of appropriate observational metadata.

1 The Binary Universal Form for the Representation of meteorological data (BUFR) is a binary data format maintain by WMO.

as a result of increasing frequency and intensity of floods, landslides and droughts. The development of improved climate information and forecasts of decision-relevant parameters are essential to addressing these challenges. Tailored forecasts such as rainfall onset and cessation are regularly requested by users, along with the associated skill information. Development and delivery of such products and services, and the evaluation of their socio-economic benefits, are central to FOCUS-Africa.

For more detailed information, visit the project page: public.wmo.int/en/projects/full-value-chain-optimised-climate-user-centric-services-southern-africa-focus-africa

Obituary – Konrad “Koni” Steffen



WMO is greatly saddened by the tragic and untimely loss of Konrad “Koni” Steffen. He was one of the world’s leading authorities on climate change and the Greenland ice sheet. He fell to his death, aged 68, in one of the many crevasses that have appeared because of melting ice.

Professor Steffen was Director of the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL) and a former director of the Cooperative Institute for Research in Environmental Sciences at the University of Colorado at Boulder. His passion was the polar regions and he devoted his career to research on climate change and the cryosphere in the Arctic and Antarctic.

“The poles of the Earth are of great importance for the climatic balance of our planet. More research and knowledge of how they work is urgently needed,” Steffen wrote on the website of WSL.

Professor Steffen was a much-loved and highly respected figure in the WMO community. A charismatic and eloquent speaker, he gave a keynote address at the 2019 WMO High Mountain Summit, which put the spotlight on the impact of climate change on the mountain cryosphere – glaciers, snow, ice and permafrost.

He contributed to the IPCC as a Lead Author on the Special Report on the Ocean and Cryosphere in a Changing Climate and on the landmark Fifth Assessment Report. He was a longstanding contributor to the World Climate Research Programme’s Climate and Cryosphere (CliC) Program and was chair of the Global Climate Observing System’s Observation Panel for Climate.

Professor Steffen was a pioneer in the monitoring of the Greenland ice sheet. Since 1990, every spring he went to the Swiss Camp meteorological base station in Greenland, where he worked with his colleagues collecting data on snow, ice and the atmosphere. As early as 2002, he was able to use his data to demonstrate the accelerating melting of the ice.

Professor Steffen attended ETH Zurich, from which he received a first Diploma in 1977 and a Doctor of Science degree in 1984. He was a professor at the University of Colorado, at EPFL in Lausanne and at ETH in Zurich. He was a member of the International Glaciological Society, the American Geophysical Union and the American Meteorological Society.

See [here](#) an excerpt of a video of Konrad Steffen at the WMO High Mountain Summit in 2019.

Latest publications

United In Science: A multi-organization high-level compilation of the latest climate science information. WMO 2020.
Available in English.

Report of the WMO/IMO International Symposium ‘Extreme Maritime Weather: Towards Safety of Life at Sea and a Sustainable Blue Economy. WMO MMO Series - No.3. Available in English.



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