

# United Nations' WMO initiatives

## Early Warnings for All and the Coalition on Combating Sand and Dust Storms

By Greg Brock, Stéphanie Wigniolle, Cyrille Honoré, and Sara Basart (WMO)

The World Meteorological Organization (WMO) is presently spearheading a United Nations Early Warnings for All (EW4All) initiative alongside partner agencies including United Nations Office for Disaster Risk Reduction (UNDRR), the International Telecommunication Union (ITU) and the International Federation of Red Cross and Red Crescent Societies (IFRC).

EW4All aims to ensure universal protection from hazardous hydrometeorological, climatological and related environmental events through lifesaving multihazard early warning systems (MHEWS) by the end of 2027. MHEWS is an integrated system that allows people to know that hazardous weather or climate events are on their way, and informs how governments, communities and individuals can act to minimize impacts.

At the launch of the EW4All initiative in 2022, only half of the countries worldwide reported having adequate MHEWS in place. At the end of 2024, 108 countries reported having strengthened their early warning capabilities, which is an encouragement to further scale-up and accelerate the initiative, supporting countries engagement and leadership.

International civil aviation is currently served by a multitude of observations, forecasts, advisories and warnings that are issued on a local, national and multinational basis by national meteorological and hydrological services and other providers of aeronautical meteorological services.

Building the capacity of countries through initiatives such as EW4All, especially least developed countries and small island developing States, will enable these providers to more efficiently and more effectively deliver services to aviation worldwide. This, in turn, will enable aviation to operate more safely, more efficiently, more economically and more environmentally-responsibly.

WMO is committed to continuing to work with ICAO and other industry partners in the operation and further development of aeronautical meteorological services and to assisting aviation in its pursuit to reduce its environmental footprint and to respond to the impacts of climate change through adaptation, mitigation and resilience strategies. In 2024, WMO and ICAO renewed this commitment through an update to their longstanding working arrangements.



## United Nations Coalition on Combating Sand and Dust Storms

By Sara Basart (WMO)

Sand and dust storms (SDS) pose significant challenges to aviation safety, causing reduced visibility, damage to aircraft systems, and flight delays or cancellations. In response, in 2027 the United Nations General Assembly established a Coalition on Combating Sand and Dust

Storms (UNCCD)<sup>1</sup>, bringing together countries, experts and agencies to strengthen global cooperation, improve early warning systems and reduce the impacts of SDS on critical sectors, including aviation.

Through coordinated research, data sharing and policy development, the coalition aims to protect infrastructure, public health and international transport from the growing threat of sand and dust storms. Several UN agencies contribute to the coalition's efforts, including the WMO and ICAO.

WMO plays a key role in the coalition by leading the development of global early warning systems and providing real-time atmospheric data and forecasts, through its research initiative on SDS, namely the Sand and Dust Storms Warning Advisory and Assessment System (SDS-WAS).<sup>2</sup>

These tools help aviation users anticipate and mitigate SDS-related hazards. ICAO meanwhile contributes to the coalition by integrating SDS risk management into international aviation standards and promoting safety guidelines for airlines and air traffic controllers.

Together, WMO and ICAO are helping to enhance global aviation resilience and support the coalition's mission to reduce the impact of sand and dust storms on air transport and public safety.

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<sup>1</sup> <https://www.unccd.int/news-stories/stories/sand-and-dust-storms-coalition-launched-cop14>

<sup>2</sup> <https://community.wmo.int/en/activity-areas/gaw/science-for-services/sds-was>