

# World Meteorological Organization (WMO) Weather, Climate, Water - Beyond Borders



Award  
2018 LUI Che Woo Prize in Welfare Betterment Category

Weather, climate and the water cycle shape almost every aspect of our lives. They can be benevolent and bring abundance and well-being, but they can also be dangerous and cause great damage. Since these powerful natural forces do not recognise national borders, global and regional cooperation in climatology, meteorology and operational hydrology is essential.

To predict next week's weather or next year's climate, forecasters must have timely, quality-assured, standardised information from all corners of the world. Even the accuracy of a two-day weather forecast relies on observations from far beyond national borders.

## Who is the WMO?

The WMO is dedicated to international cooperation and coordination on the state and behaviour of the Earth's atmosphere, its interaction with the land and oceans, the weather and climate it produces, and the resulting distribution of water resources.

The WMO originated from its predecessor, the International Meteorological Organization (IMO), which was founded in 1873 to facilitate the exchange of weather information. The WMO formally became a Specialized Agency of the United Nations in 1951.

## A Global Enabler

### Broad and Open Real-Time Data for All

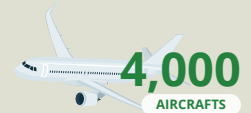
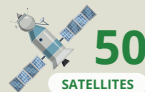
WMO advocates for broad, and open data policies and maintains standardised data and exchange mechanisms, collecting data from all over the world.

**SUPER  
OBSERVATORY**  
An internationally co-ordinated network of  
**191 WMO MEMBERS**



Issuing and updating forecasts every  
minute of every day worldwide

### WMO Integrated Global Observing System



### WMO Information System (WIS)

#### WIS CORE NETWORK

##### Global Information System Centres (GISC)

Hold WMO metadata catalogue, 24hr cache of all GTS data, and act as core communications hub

##### National Centres (NC)

Collect and/or produce national information

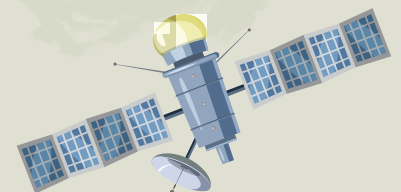
##### Data Collection or Production Centres (DCPC)

Collect and/or produce regional or international information or are communications hub

##### Data Communication Network

GTS, satellite two way and broadcast systems, internet, etc  
Core network  
Area based networks (AMDCN)

In addition to the sharing of operational and time-critical information in accordance to the policy of the information providers, WIS facilitates the free and unrestricted access to data and information products and services on matters relating to safety and security of society, economic welfare and the protection of the environment.



Thanks to the WIS and WIGOS networks, every minute of every day weather forecasts and related products are broadcast in real-time to the public and myriad of users worldwide. This enables governments to provide reliable and effective weather services to protect lives and property; and to ensure sustainable economic development and the general welfare of their citizens.

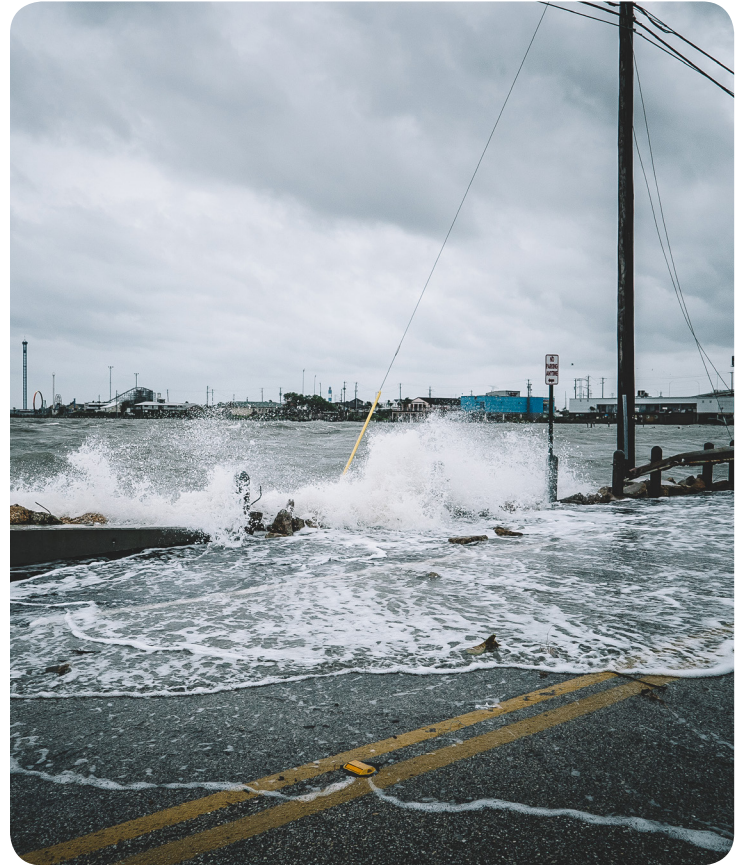
## Critical Role in Disaster Risk Reduction (DRR)

Nine out of ten natural disasters are directly or indirectly attributed to weather or climate. In many regions, the economic development and urbanisation processes are exacerbate disaster risks as more people are drawn to inhabit high-risk areas. Over the past 50 years or so, the proportion of people living in flood-prone river basins has increased by 114% and along cyclone-hit coastlines by 192%.

Through its own cross-cutting DRR programme established in 2003, WMO aims to strengthen capacities in support of various aspects of DRR decision-making and planning at the international, regional, national and community levels.

WMO also has a crucial role to play in bridging the gap between the developed and developing worlds, so that the latest knowledge, state-of-the art technology and reliable disaster risk information from advanced countries can be adequately transferred to vulnerable communities in disaster-prone regions where such support is most needed. The WMO Mobile Weather Alert pilot projects, for example, disseminate weather and climate information directly to end-users in Uganda, targeting farmers and fishermen.

WMO's international coordination provides timely early warnings to vulnerable populations, reducing disaster risks, minimizing the impacts of extreme weather, climate and water-related events and, in the immediate aftermath of such events, facilitating relief work.



Weather and climate-related disasters are on the rise.



Extreme weather can lead to thousands of fatalities per year and billions in economic damage.

## Hong Kong's Pride

WMO recognizes the Hong Kong Observatory (HKO) as a **Centennial Observing Station** and a unique sources of past information about atmospheric parameters, thus it is a reference for climate variability and change assessments. The long-term meteorological observations of HKO date back to 1884 and are part of the irreplaceable cultural and scientific heritage of the mankind that serve the needs of current and future generations for long-term high quality climate records.

HKO developed and operates the **Severe Warning Information Centre (SWIC)** and **World Weather Information Services (WWIS)** on behalf of WMO.

HKO Director **Shun Chi-ming**, is the President of the WMO Commission for Aeronautical Meteorology, which:

- creates weather forecast standards based on the requirements of the **International Civil Aviation Organization (ICAO)**
- coordinates scientific research to improve forecasts and warnings for aviation weather hazards and enhance the safety of aviation worldwide, eg. estimate wind shear and turbulence which are among the main threats to flying