

WORLD METEOROLOGICAL DAY - 2020

CLIMATE & WATER



Every year, on the 23rd of March, **World Meteorological Organization (WMO)** celebrates **World Meteorological Day**. In this respect, the theme chosen for this year's event is called ***Climate & Water***. It is well known the importance of fresh water for the environment as well as the excess or lack of it, which can lead to stress. For this, the main topics of the chosen theme are (<https://worldmetday.wmo.int>): *Count every drop; Frozen water; Drought; Floods; Climate change and water; Every drop counts.*

- ***Count every drop*** and ***Every drop counts***. Actions to reduce the effects of extreme phenomena such as droughts and floods can only be implemented by monitoring and modeling their frequency and intensity. From this perspective, it is important to know some aspects such as: quantity, quality and distribution of water resources for the needs of population and the environment; hydraulic, hydroelectric, water supply, navigation, and irrigation projects, in order to establish a balance between the inputs and outputs of the water system; protection of the population, property and ecosystems from floods, droughts and pollution. To meet these challenges, WMO has implemented a series of projects to facilitate the access and the use of hydrometeorological data. Thus, we note *WMO HydroHub - The Global Hydrometry Support Facility*, which supports users' access to hydrometeorological data and services for making optimal decisions regarding water use, based on 3 major directions: innovation, data exchange, and projects. *The HydroSOS Project* will have the role of monitoring and forecasting the current hydrological situation, the deviation of the global hydrological conditions from the "normal" ones, the possibility of the actual hydrological status to improve or worsen in the next period (weeks or months), based on the meteorological and hydrological forecasts.

Due to the increasing water consumption by approx. 1% per year since the 1980s, population growth, rainfall variability, water supply deficiencies for the population, WMO through the *Making Every Drop Count Report*, engages in 8 long-term objectives, like: preparing the population for droughts and floods; ensuring food security; knowledge of water resources and water quality.

- ***Frozen water***. The increase of the global average temperature as a consequence of the greenhouse gases emissions, will determine the melt of more than 80% of the continental glaciers mass. As a result, the sea level is expected to rise, from a rate of 15 cm during the 20th century, to approx. 3.6 mm/year (IPCC Special Report, 2019). For this, WMO through *High Mountain Summit* (2019), is committed to ensure access of the population living in the mountains and downstream to the hydrometeorological, cryospheric and climatic data in order to manage the risk phenomena generated by the amplification of melting glaciers.

• **Drought.** Droughts have the greatest negative impact, affecting food security, health and population migration. The analysis indicates that since 1900, over 11 million people have died and over 2 billion have been affected by drought. WMO has initiated *The Integrated Drought Management Program*, with the aim of providing guidance in drought management, based on 3 directions: Monitoring and Early Warning Systems (drought indicators monitoring and drought forecasting); Vulnerability and Impact Assessment (analyzes the social, economic and environmental factors to determine the exposure of communities to drought); and Mitigation and Responses (structural and non-structural measures needed to limit the impact of droughts).

• **Floods.** As in the last decades flood damages trend has grown exponentially, due to the heavy precipitations, flood management must be an important action for protecting society and environment. Some facts must be mentioned: for the 1970-2012 period, 1 million death caused by storms and floods were registered; 85% of the flooding cases were generated by flash floods, with an average mortality of 5000 people per year. WMO has taken two initiatives for flood management: *Associated Programme on Flood Management* and *Flash Flood Guidance System*.

Associated Programme on Flood Management has the main purpose to support countries to implement *Integrated Flood Management* by using land and water resources from floodplains in order to minimize the lives loss. Some of the main goals of *Flash Flood Guidance System*, are: to issue flash flood early warnings based on the hydrometeorological forecast models and provide training for hydrometeorological forecasters.

• **Climate change and water.** As Climate Change is affecting evaporation rate, higher amount of precipitation is expected to fall. This will affect people living in rural areas (agricultural incomes, infrastructure, food security and water supply), as well as urban areas (sea level rise, landslides, storms and extreme precipitation). For a good management of surface water supplies and to reduce risk disasters, heavy rainfall frequency and duration, the probable maximum precipitation calculations at weekly, seasonal and annual timescale for local, regional and national levels must be used.

We must realize that it is up to us how our Earth will look like in the future. So, let us *count every drop*, in case of *flood*, make *every drop counts*, for *drought*, and don't let *climate change* melt our *frozen water*!

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