

# State of Global Water Resources 2021 by WMO

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**In news**– WMO has published its first State of Global Water Resources report in order to assess the effects of climate, environmental and societal change on the Earth's water resources.

## **Key highlights of the report-**

- The report gives an overview of river flow, as well as major floods and droughts.
- The aim of this annual stocktake is to support the monitoring and management of global freshwater resources in an era of growing demand and limited supplies.
- **The report focusses on three major areas:**
  1. Streamflow, the volume of water flowing through a river channel at any given time.
  2. Terrestrial water storage (TWS) – all water on the land surface and in the sub-surface.
  3. The cryosphere (frozen water).
- It **provides insights into hotspots for changes in freshwater storage** and highlights the crucial role and vulnerability of the cryosphere (snow and ice).
- It **shows how large areas of the globe recorded drier than normal conditions in 2021 – a year** in which precipitation patterns were influenced by climate change and a La Niña event.
- **The area with below-average streamflow was approximately two times larger than the above-average area**, in comparison to the 30-year hydrological average.
- **Currently, 3.6 billion people face inadequate access to water at least a month per year** and this is expected to increase to more than 5 billion by 2050.
- **Between 2001 and 2018, UN-Water reported that 74% of all**

### **natural disasters were water-related.**

- The recent UN climate change conference, COP27, urged governments to further integrate water into adaptation efforts, **the first-time water has been referenced in a COP outcome document in recognition of its critical importance.**
- **The first edition of the report looks at streamflow** – the volume of water flowing through a river channel at any given time.
- It **also assesses terrestrial water storage – all water on the land surface** and sub-surface and the cryosphere (frozen water).
- It highlights the lack of accessible verified hydrological data.
- WMO's Unified Data Policy seeks to accelerate the availability and sharing of hydrological data, including river discharge and transboundary river basins information.
- The **information and accompanying maps are largely based on modelled data** (to achieve maximum geographical coverage) and remotely sensed **information from NASA's GRACE** (Gravity Recovery and Climate Experiment) mission for terrestrial water storage.
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### **What does the report say about the Indian subcontinent and Asia?**

- According to the World Meteorological Organization (WMO), there is more evidence of the worsening impact of global warming on the Indo-Gangetic Plain (IGP) that straddles eastern Pakistan, northern India, southern Nepal and the whole of Bangladesh.
- The Ganga-Brahmaputra and Indus basins that form the

Plain, recorded more water flowing in the river channels due to glacial melt even as their total water storage declined in 2021.

- Southern and northern China (the Amur river basin) were characterized by above-average discharge, similar to some basins in northern India.
- In India, headwaters of the Ganges River were characterized by above- to much above-normal discharge.
- Major Indian river basins (the Brahmaputra, Ganges and Indus), as well as other important river basins in Asia (Huang He, also known as Yellow, and Mekong), exhibit a gradual decline in TWS over the period 2002-2021.