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State of Climate Services Report 2021: WMO

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Why in News

Recently, the **World Meteorological Organization (WMO)** released the **State of Climate Services report 2021**. It focuses on **Terrestrial Water Storage**.

Earlier, on **water day** (22nd March), in a **report** released by the **United Nations Children's Fund (UNICEF)**, **one in five children** worldwide reside in areas of high or **extremely high water vulnerability**.

Key Points

- **Terrestrial Water Storage (TWS):**
 - TWS is the **sum of all water on the land surface and in the subsurface**, i.e. surface water, soil moisture, snow and ice and groundwater.
Water is a key prerequisite for human development. But only **0.5% of water on Earth is usable** and available as freshwater.
 - Water **resources across the world are under tremendous pressure** due to human and naturally-induced stressors.
These include population growth, **urbanisation** and decreasing availability of freshwater.
 - **Extreme weather events** too have been responsible for the pressure on water resources realised across sectors and regions.
- **Global Scenario:**
 - TWS **dropped at a rate of 1 cm per year in 20 years** (2002-2021).
 - The **biggest losses have occurred in Antarctica and Greenland**. But many highly populated, lower latitude locations have also experienced TWS losses.

- **Indian Scenario:**

- **About:**

- The TWS has been **lost at a rate of at least 3 cm per year**. In some regions, the loss has been over 4 cm per year too.
- India has recorded the **highest loss in terrestrial water storage** if the loss of water storage in **Antarctica and Greenland is excluded**.
- India is the **'topmost hotspot of TWS loss'**. The **northern part of India** has experienced the **maximum loss** within the country.

- **Per Capita Availability:**

- In India, per capita water availability is **reducing due to an increase in population**.
- The average annual per capita water availability has **reduced to 1,545 cubic metres in 2011, from 1,816 cubic metres in 2001**.
- It is **projected to further decrease to 1,367 cubic metres in 2031**, according to the Union Ministry of Housing and Urban Affairs.

- **River Basins:**

- **Five** of the 21 river basins in India are **'absolute water scarce'** (per capita water availability below 500 cubic metres) according to the Falkenmark Water Stress Indicator.
- **Five** are **'water scarce'** (per capita water availability below 1,000 cubic metres) and three are **'water stressed'** (per capita water availability below 1,700 cubic metres).
- By 2050, six will become absolute water scarce, six will become water scarce and four will become water stressed, according to the State of India's Environment in figures, 2020.

The **Falkenmark indicator** is one of the most widely used indicators for assessing the stress on water. It **relates the total freshwater resources with the total population** in a country and indicates the pressure that population puts on water resources, including the needs for natural ecosystems.

- **Recommendations:**
 - **Investments Needed:**
 - **Integrated Resources Water Management** as a solution to better manage water stress, especially in **Small Island Developing States (SIDS)** and Least Developed Countries (LDCs).
 - In **end-to-end drought and flood early warning systems** in at-risk LDCs, including for drought warning in Africa and flood warning in Asia.
 - **Fill Capacity Gap:**
 - Fill the capacity gap in collecting data for basic hydrological variables which underpin climate services and early warning systems.
 - Fill the gaps in data on country capacities for climate services in the water sector, especially for SIDS.
 - **Improve Interaction:**
 - Improve the interaction **among national level stakeholders** to co-develop and operationalize climate services with information users to better support adaptation in the water sector.
 - There is also a pressing need for **better monitoring and evaluation of socio-economic benefits**, which will help to showcase best practices.
 - **Join the Water and Climate Coalition:**

Water and Climate Coalition is a platform for its members to partner on joint activities and implement solutions that address the gaps of operational water and climate challenges with a focus on data and information.

Related Government Initiatives

- **Jal Kranti Abhiyan.**
- **National Water Mission.**
- **National Rural Drinking Water Programme.**
- **NITI Aayog Composite Water Management Index.**
- **Jal Jeevan Mission.**
- **Jal Shakti Abhiyan.**
- **Atal Bhujal Yojana.**

Source: DTE