2. State of Global Water Resources Report 2024 - Report & Indices

From drought to deluge - WMO report highlights increasingly erratic water cycle. The WMO's 2024 report reveals an intensifying imbalance in the global water cycle, marked by record glacier loss, widespread droughts, and severe floods. The report warns of growing water stress for billions and calls for urgent global collaboration in monitoring and data sharing to address the crisis

WMO Report Highlights Global Water Imbalances

The State of Global Water Resources Report 2024, recently released by the World Meteorological Organization (WMO), paints a stark picture of the world's water cycle. The report highlights intensifying imbalances, with an increasing frequency of severe droughts, devastating deluges, and rapid glacier loss, impacting billions of people worldwide.

About the Water Cycle (Hydrological Cycle)

Definition - The Water Cycle, also known as the Hydrological Cycle, is the continuous movement of water on, above, and below the surface of the Earth.

Significance - This natural process is fundamental to life, as it regulates freshwater availability, influences climate systems, and sustains ecosystems across the globe.

Key Findings of the WMO Report 2024

The report reveals a planet where the water cycle is significantly out of balance, driven by climate change and human activity.

Domain / Theme	Key Observations and Data
Global River Basins	For the sixth consecutive year, the water cycle remained disrupted. Only one-third of global river basins experienced normal conditions, while two-thirds were either wetter or drier than average.
Glacier Loss	For the third straight year, there was widespread and significant ice loss, totaling approximately 450 Gigatonnes. This melt added 1.2 mm to the global sea level and is equivalent to the volume of 180 million Olympic swimming pools. Some regions, like the Colombian glaciers, lost 5% of their ice mass.
Water Stress	3.6 billion people already face inadequate access to water at least once a year. This number is projected to rise to over 5 billion by 2050 (UN Water).
Climatic Conditions (2024)	2024 was the hottest year on record. The El Niño phenomenon triggered severe droughts in northern South America, the Amazon, and Southern Africa. Conversely, regions like Central Africa, parts of Europe, Northern India, and Pakistan experienced wetter-than-average conditions.
Regional Patterns (Droughts & Floods)	Severe droughts were observed in the Amazon Basin and across major rivers in South America (Paraná, Orinoco) and Southern Africa (Zambezi, Limpopo). Major floods occurred in West Africa (Niger, Lake Chad) and Europe, which saw its worst flooding since 2013.
River Discharge	Several major river systems, including the Danube, Ganges, Godavari, and Indus, recorded above-normal discharge.
Lakes, Reservoirs, & Groundwater	75 major lakes showed above-normal summer temperatures, affecting water quality. Only 38% of monitored groundwater wells had normal water levels, with over-extraction being a persistent issue.

Broader Implications of the Findings

The disruptions in the water cycle have cascading effects on ecosystems, societies, and economies.

Ecosystems - Erratic freshwater availability and warming water bodies pose a significant threat to global biodiversity.

Socio-economic Impacts - The consequences include threats to food security, disruptions in energy

supply (hydropower), forced displacement of populations, and negative impacts on public health.
Glacier Melt - The accelerated melting of glaciers is a primary driver of sea-level rise, which threatens hundreds of millions of people living in coastal zones.
Sustainable Development Goal 6 - The report confirms that the world is falling far short of achieving SDG 6 (Clean Water and Sanitation for all).

Recommendations from the WMO

To address the growing water crisis, the WMO has put forward several key recommendations.
Address Critical Data Gaps - Current global monitoring of water resources is fragmented. The report warns, "without data, we risk flying blind."
Enhance Global Collaboration - There is an urgent need for increased investment in hydrological monitoring systems, satellite technology, and, crucially, open data sharing among countries.
Promote Science-Based Policy - Reliable and accessible "water intelligence" is critical for developing effective climate adaptation strategies and improving disaster risk reduction.

About the Report and the WMO

About the State of Global Water Resources Report

Published by - World Meteorological Organization (WMO).
Frequency - It is an annual report that offers a comprehensive and consistent overview of water resources worldwide.
Methodology - The report is compiled using input from dozens of National Meteorological and Hydrological Services, research institutions, and experts.

About the World Meteorological Organization (WMO)

Nature - The WMO is an intergovernmental organization with 193 member states and territories, including India.
Origin - It evolved from the International Meteorological Organization, which was founded in 1873.
Establishment - The WMO was formally established on March 23, 1950.
UN Affiliation - It is a specialized agency of the United Nations responsible for meteorology (weather and climate), operational hydrology, and related geophysical sciences.
Headquarters - Geneva, Switzerland.
Source - https - //wmo.int/news/media-centre/from-drought-deluge-wmo-report-highlights-increasingly-erratic-water-cycle