



T.C.
TARIM VE ORMAN BAKANLIĞI
Su Yönetimi Genel Müdürlüğü



Su Yönetimi Genel Müdürlüğü'nün "2026 BM Su Konferansı" Konulu Yazısının Ekidir.

(C) WATER FOR PLANET: CLIMATE, BIODIVERSITY, DESERTIFICATION, ENVIRONMENT, SOURCE TO SEA, RESILIENCE AND DISASTER RISK REDUCTION

Introduction

Climate change directly affects water resources through global temperature increases and irregularities in precipitation patterns. In semi-arid countries like Türkiye, these impacts are more pronounced, putting pressure on the quantity, quality, and spatial distribution of water.

Status and Trends

Since 2007, average temperatures in Türkiye have shown an upward trend. In 2024, the national average temperature reached 15.6°C, which is 1.7°C above the 1991–2020 average (13.9°C), making it the warmest year of the past 54 years. Precipitation in 2024 was 6.3% below the long-term average.

Climate change is also increasing the number of natural disasters in the country. In 2024, 1,257 meteorological disasters were recorded, 35% of which were severe rainfall and flood events. By 2100, average temperatures in Türkiye are projected to rise by up to 6°C, with the most pronounced increases expected in the eastern and southeastern regions.

Annual precipitation across Türkiye is projected to decline by around 10%. Significant decreases of up to 30% are anticipated along the Aegean and Mediterranean coasts as well as in the Eastern and Southeastern regions, while northern regions are expected to experience increases in both total precipitation and extreme rainfall events. The country's available water potential is projected to decrease by up to 25% by the end of the century.

Alongside rising temperatures, winter precipitation is expected to increasingly fall as rain rather than snow, leading to a reduction in snow-covered areas and the number of snow days in mountainous regions. A study in the Keban Dam Basin—where approximately 70% of annual streamflow is generated by snowmelt—projects that by the last quarter of the century, snow-covered areas at higher elevations could decline by up to 44%, with shorter accumulation and melt periods. Snow accumulation is expected to start later and snowmelt to occur earlier, reducing snow cover duration by up to 45 days.

Challenges and emerging issues

- Rising evaporation losses due to increasing temperatures
- Growing demand for agricultural, energy, and domestic water
- Intensification and frequency of climate-induced disasters such as droughts and floods
- Increased risks to water access for vulnerable groups



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Solutions

- Promoting rainwater harvesting and greywater reuse
- Implementing drought and flood management plans on a basin basis
- Integrating early warning systems and climate projections into decision-making processes
- Establishing climate adaptation networks with the participation of local governments and communities

Recommendations and conclusions

To reduce the impacts of climate change on water resources in Türkiye:

- Strengthening Integrated Water Resources Management (IWRM)
- Encouraging water-efficient agricultural irrigation techniques
- Developing cross-sectoral adaptation strategies are of critical importance.

Guiding Questions

- Which innovative technologies should be prioritized to mitigate the impacts of climate change on water resources?
- At what scale can solutions such as rainwater harvesting and greywater reuse be expanded?
- What cooperation mechanisms should be established to enhance the contribution of local governments to national adaptation policies?



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(B) WATER FOR PROSPERITY: VALUING WATER, WATER-ENERGY-FOOD NEXUS, ADVANCING INTEGRATED AND SUSTAINABLE WATER RESOURCE MANAGEMENT, WASTEWATER AND WATER-USE EFFICIENCY ACROSS SECTORS, AND ECONOMIC AND SOCIAL DEVELOPMENT

Introduction

Türkiye approaches the issue not merely by treating water resources as a natural input, but rather as a key pillar of social well-being, economic development, and environmental sustainability.

Status and trends

In the 21st century, Türkiye's water management strategies have evolved beyond the classical supply-demand paradigm. This shift necessitates multidimensional strategies, such as:

- Valuing water in its broadest sense,
- Managing the water-energy-food-ecosystem nexus,
- Enhancing wastewater reuse, and
- Scaling water use efficiency across sectors.

Valuing Water – Conceptual and Practical Approaches

Guiding Questions:

- What kind of value do we attribute to water in economic, social, cultural, and environmental terms?
- At what stage are Türkiye's national and local "valuing water" policies?
- Are local governments and the general public aware of the multidimensional value of water?
- How can we balance water pricing, the human right to water, and affordability/accessibility?

Key Topics:

- Pricing policies of water
- Perception differences in valuing water between rural and urban areas
- Expansion of awareness campaigns and water literacy programs
- The concept of "invisible water" (e.g., water footprint, virtual water)

Managing the Water-Energy-Food Nexus

Guiding Questions:

- How do Türkiye's water, energy, and food systems interact?
- How does water scarcity affect agricultural production and energy security?
- Is there conflict or integration in planning across these three sectors?



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Key Topics:

- Sectoral water allocation and prioritization (e.g., drinking water during drought)
- Groundwater storage and recharge
- Planning based on water availability and optimizing crop patterns by water-energy footprint
- Sustainable agricultural practices and drought-resistant crops

Integrated and Sustainable Water Resources Management (IWRM)

Guiding Questions:

- What are the current achievements and priorities in Türkiye's basin-scale water management?
- What role do water budget studies play in the context of climate change?
- How can coordination between central authorities and local water governance be improved?

Key Topics:

- River Basin Management Plans
- Basin-level data collection and monitoring infrastructure
- Water resource projections based on climate scenarios
- Strengthening the role of local authorities in water planning

Cross-sectoral Wastewater Management and Water Use Efficiency

Guiding Questions:

- To what extent is wastewater reuse and circular water use applied in Türkiye's agriculture, industry, and urban sectors?
- Which technological solutions are prioritized for improving water efficiency?
- How can cross-sectoral collaboration models be developed?

Key Topics:

- The Water Efficiency Strategy Document and Action Plan (2023–2033) in the context of climate change adaptation
- Technical capacity and reuse rates of wastewater treatment plants
- Industrial water recovery practices (e.g., closed-loop systems in Organized Industrial Zones – OIZs)
- Treated wastewater reuse in agriculture
- Increasing irrigation efficiency in agriculture
- Deployment of digital water meters, remote monitoring, and IoT-based systems

Water and Development: The Foundation of Social and Economic Prosperity

Guiding Questions:

- How do water investments contribute to economic development?



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- What is the relationship between equitable access to water and social justice and prosperity?
- How does strengthening rural water infrastructure impact development indicators?

Key Topics:

- Water-oriented planning
- Regional impacts of water investments (e.g., GAP, KOP, DAP initiatives)
- The importance of women's and children's access to safe water
- The role of clean water in reducing public health expenditures
- Contribution of water infrastructure to reducing rural-to-urban migration

Conclusion: Rethinking Life, Not Just Water Management

Ultimately, our focus should extend beyond “water management” to rethinking how we design life and development around water. Water is not just a resource; it is the infrastructure of prosperity.

Key Takeaways:

- Water must be valued multidimensionally: economically, socially, environmentally, and culturally.
- Water-energy-food systems must be managed integratively, not in isolation.
- Wastewater should not be seen as “waste”, but as a resource.
- Enhancing efficiency in agriculture and industry is critical for water security.
- The active engagement of local governments, the private sector, and citizens is essential.

“Water for Cooperation: Transboundary and International Water Cooperation, including Scientific Cooperation, and Inclusive Governance”

Introduction:

Target 6.5. of the 2030 Agenda calls for the implementation of integrated water resources management at all levels, including through transboundary cooperation, where appropriate. At the global level, recent developments have demonstrated renewed momentum in advancing water cooperation. However, water cooperation is often narrowly understood in terms of accession to water related conventions or the conclusion of water sharing agreements between riparian States. In practice, water cooperation and hydro-diplomacy should be approached as a dynamic process shaped by upstream–downstream realities and broader political relationships. In this regard, effective transboundary water cooperation requires the coherent integration of water, energy, agriculture, environmental policies taking into account trade-offs while aiming to maximize mutual benefits. Strengthening cooperation on transboundary waters should therefore be pursued through a comprehensive assessment of the interlinkages across Sustainable Development Goals (SDGs) particularly those related to water, energy, health and food security. Furthermore, scientific cooperation, together with education and capacity building, plays a critical role in underpinning evidence-based decision making, fostering trust among riparian States, and advancing the effective implementation of the Sustainable Development Goals.

Status and Trends and Key Takeaways:

Progress on water cooperation should be accelerated. Currently, the world is not on track to implement integrated water resources management at all levels by 2030 (target 6.5 of the Goals). It is imperative to urgently mobilize financial resources for the implementation of global water policies and to develop fair and innovative policies to meet the needs of developing countries. Fair and comprehensive water infrastructure financing policies are crucial for the realization of inclusive water governance policies. Achieving Sustainable Development Goal 6 requires the urgent implementation of concrete actions by the global south, which is significantly lagging behind. This situation particularly in the context of transboundary waters, necessitates that not only upstream countries but also downstream countries act on the basis of shared understanding and mutual interests on the sustainable utilization of water resources. Within this framework, it is important that the foundations of cooperation on transboundary waters are approached from a rational and realistic perspective based on scientific data.

Scientific cooperation on transboundary waters should be advanced with a view to developing the capacities of the riparian countries to use water resources in a sustainable manner. In order to address the significant adverse effects of climate change, early warning systems for risk management and adaptation is crucial. Cooperation facilitates the exchange of technical expertise and best practices strengthening institutional capacity and evidence-based decision making.

Joint training programmes, expert exchanges should be promoted to address disparities in technical capacity among riparian countries. Science should be used as a confidence building measure and treated as a neutral and technical domain.

Furthermore, the extent to which existing water-related conventions respond to the current global challenges, particularly climate change should be critically examined. In transboundary water cooperation, it should be recognized that each transboundary river basin has its own specific geographical, demographic and meteorological conditions. Therefore, one size fits all approach should not be adopted and cooperation should be based on shared responsibilities and mutual interests among riparian countries. While unilateral approaches create uncertainty, genuine cooperation ensures predictability and long-term stability.

In this regard, emphasis should be placed not on the articulation of new and additional water related goals or the establishment of new institutions, but on reinforcing existing institutional mechanisms and undertaking comprehensive, inclusive and multidimensional assessment of the obstacles impeding the effective implementation and attainment of agreed objectives.

Guiding Questions:

What are the main motivations for riparian countries to address transboundary waters as an element of cooperation?

To what extent do globally recognized legal frameworks on transboundary waters effectively respond to the respective needs and priorities of both upstream and downstream riparian States?