



# Policy Brief: Freshwater Climate

November 2023



The **goals** of the **Paris Agreement** and of the **Global Biodiversity Framework (GBF)**, along with many other conservation and development government commitments, **cannot be achieved without freshwater**. Water, and the ecosystems that depend on its availability, are at the heart of demonstrated, cost-effective, and readily available solutions for the triple planetary crisis of climate change, biodiversity loss and pollution, and they must be elevated in the climate discourse, reflecting the GBF Targets for freshwater ecosystems, species, and services. The curve for freshwater biodiversity loss is far steeper than for terrestrial and marine. Water resources continue to be degraded at alarming rates. We have long exceeded and continue to put pressure on the freshwater planetary boundary. The mounting, inherently cross-cutting water crisis affects all other challenges, sectors, and biomes. UNFCCC and CBD parties should incorporate clear, detailed freshwater-related commitments into their revised national climate, biodiversity, and finance plans, supported by robust targets and indicators. It is in interest of states to do so – for mobilizing resources, getting buy-in from their national constituencies, and accounting for tradeoffs and co-benefits, in ways that accelerate transformative, equitable, sustainable, and net-zero, and nature-positive change for resilient and productive societies and economies. The water-climate narrative must unpack relationships with, and impacts on, dependent sectors, such as energy and food security, health, and biodiversity; and with other global processes and platforms, including the Convention to Combat Drought and Desertification, the Ramsar Convention, Agenda 2030, and the Water Action Agenda. To tackle these interlinked challenges, multilevel transboundary cooperation, including within the framework of strengthened and well-implemented legal instruments and robust institutions, is essential.

## In the context of COP28, TNC urges Parties to:

- **Join the Freshwater Challenge by committing, by COP30 in 2025, to include into new or revised NDCs, NAPs, and other climate strategies quantitative targets on the protection and restoration of freshwater ecosystems, and by reaffirming land degradation neutrality, water security, and related commitments.**
- Mandate the IPCC to further assess climate-water-nature linkages and how they may impact progress on development and conservation goals.
- Operationalize ‘water and nature’ targets of the Sharm el-Sheikh Adaptation Agenda, in particular on the protection, sustainable management, and restoration of lands and inland waters; sustainable irrigation; and nature-based solutions for smart water systems and wastewater management.
- Increase dedicated funding for adaptation, while embedding water and aquatic ecosystems across all actions carried out to implement the Paris Agreement, the GBF, and other strategic plans under relevant multilateral environmental agreements.
- Retain ‘water’ and ‘freshwater ecosystems’ as themes of the Global Goal on Adaptation.
- Build on the COP27 cover decision to further raise the profile of water and nature-based solutions in tackling the climate challenge, including to prevent and mitigate loss and damage.
- Mandate and provide for the required resources for the NWP, the WMO and the GCF to follow through with the joint action pledge registered in the Water Action Agenda to enhance knowledge and catalyze innovation with a view to scaling up adaptation centered on the water–climate nexus.
- Mandate the NWP to establish a new thematic area on water-climate adaptation into its work on knowledge gaps, building on the new thematic area on ‘mountains, high-latitude areas and the cryosphere from a water system or catchment perspective’ and on the outcomes of the 16<sup>th</sup> Focal Point Forum at COP28.

## Background:

Actions to protect and restore water and related ecosystems and to enable basin-level cross-sectoral planning and management, from source to sea and across land and living resources, and across political borders, have significant climate mitigation and adaptation benefits.

- **The effects of climate change are mostly felt through water** – both as a vulnerable resource from which risks arise for human activities and the environment and as a vital enabler of nature-based solution to deal with climate change and variability, including through the conservation of resilient watersheds and expanded regenerative agricultural practices. Protecting this biome also brings valuable co-benefits for biodiversity conservation and pollution control.

Healthy freshwater ecosystems and their watersheds contribute to the alleviation of increasingly potent, frequent, and widespread water-related climate risks, like floods, drought, and fire. Free-flowing rivers deliver sediments and nutrients necessary to protect coastal cities, infrastructure and nature against sea-level rise, saltwater intrusion and sinking deltas. Ultimately, sustained freshwater inflows into the oceans are a necessary requirement for maintaining coastal and marine life into the long-term. Connected floodplains mitigate the effects of rapid water levels increases associated with more intense storms and flash floods, while filtering pollution of vital and, in many places, diminishing water supplies to meet the needs of humans and nature. Aquifers explored in sustainable rates or artificially recharged store water that does not evaporate, which is ever more important with rising temperatures. Infrastructure built to supply water for various uses and to collect and treat wastewater is highly vulnerable to natural disasters, with enormous impacts on lives, property, and nature when that infrastructure fails. Ice melting, increasing droughts and worsening water scarcity are a threat for ensuring communities can maintain good sanitation and hygiene practice; and floods and heavy rainfall affect water quality and aggravate risks associated with vector-borne diseases. Examples abound of ravaged urban areas due to floods and yet low-cost nature-based solutions for improved rainwater drainage exist, and they simultaneously improve life quality through green and blue spaces.

- **Water is a key ingredient in climate mitigation.** Healthy freshwater ecosystems offer natural infrastructure for emissions avoidance and reduction. Significant climate mitigation benefits could be achieved through the better planning and operation of water infrastructure. Mitigation strategies often rely on water availability or are at risk from increasingly frequent and extreme water-related disasters. Depending on how they are planned, mitigation strategies may threaten water supplies, just as they may support, benefit from, or harm freshwater biodiversity.

There is a mutual dependence between healthy terrestrial ecosystems and water availability, so that the latter is necessary for the former to perform carbon sequestration services. Most of the global soil carbon pool is in wetlands, particularly peatlands, with twice as much carbon as the world's forests. Wetlands release large amounts of carbon when converted. Water demand in the energy sector is projected to increase significantly by 2050. Certain hydropower projects now being planned or implemented, in addition to impacting freshwater ecosystems and aggravating the biodiversity crisis, might become stranded since, under climate change, river flows are expected to decline and/or become more unpredictable. Fossil fuels are not only the main contributors to climate change, but they also use significant amounts of water. Desalination tends to be energy-intensive, aggravating climate change when dependent on fossil fuels. The high water consumption needs of biofuels and carbon capture and storage tend to be overlooked in favor of their role in climate mitigation. Solar and wind contribute to climate mitigation and are less water intensive, with the latter co-benefit often not captured in cost-benefit analyses for the energy sector. Opportunities to decarbonize existing infrastructure for water supply and sanitation and for wastewater management, along with the recovery of materials and energy from wastewater treatment and the construction of wetlands and restoration of watersheds, remain underexplored; as does the potential for reducing energy consumption through the more efficient use, recycling, reuse of water resources in agriculture; and for retrofitting coal-fired powerplants with already available cooling technologies that alleviate water stress.

**Global adaptation and mitigation goals cannot succeed in a water-insecure world with degraded freshwater ecosystems.** Water risk assessments and the identification of synergies and tradeoffs must be integral to the planning, financing, and implementation of climate solutions, across all sectors. The benefits linked to the joint pursuit of water and climate security must be properly valued and mainstreamed into decision-making by all stakeholders.

## Recommendations for climate-proof, nature-positive and water-smart national and international policies:

- Recognize water and freshwater ecosystems as the common thread that interconnects all climate-relevant sectors, including WASH, wastewater management, agriculture, industry, energy, health.
- Put in place a national climate policy act that accounts for the role of water resources and freshwater ecosystems in mitigation and adaptation, supplemented by a national water policy act that provides for national and basin-level planning and management, with climate change mainstreamed thereinto.
- Establish interinstitutional coordination mechanisms across government entities that have an impact and/or depend on sustainable water resources availability and healthy ecosystems in a changing climate, as well as those that are vulnerable to climate change and variability and/or may contribute to water-related climate solutions.
- Create public-participation platforms that bring together climate and water stakeholders, including indigenous people and local communities and businesses, as well as subnational governments and basin management commissions and water-users associations.
- Develop and disseminate information on interlinked water and climate risks and solutions and consider this information in climate scenarios, vulnerability assessments, and short- and long-term planning.
- Integrate freshwater resources, ecosystems, species, habitats and services into the design and implementation of climate plans and interlink GBF targets on climate and water in biodiversity plans, taking account of policy gaps, opportunities, and the need for cross-sectoral coherence.
- Design local plans and build capacities for the management of droughts and water scarcity, and other water-related natural disasters, considering the role of nature-based solutions and accelerating implementation of land degradation neutrality commitments.
- Adopt or revise watercourse agreements for transboundary waters to incorporate groundwater management, provide for robust institutions resilient to the threat of climate change and variability, promote freshwater ecosystems protection through area-based measures and restoration action, and increase focus on long-term risk assessments and climate adaptation planning.
- Account for the potential negative impacts of hydropower dams on freshwater biodiversity vis-à-vis the environmental, economic, and social values of free-flowing rivers, including by designating no-go zones at the basin level; ending instances of involuntary displacement that harm freshwater ecosystem-dependent livelihoods; integrating hydropower alongside all alternative energy sources into development planning, bearing in mind that proposed new hydropower capacity would collectively generate less than 2% of the low-carbon capacity needed to meet climate targets and certain locations and designs of reservoirs actually emit GHGs; respecting the mitigation hierarchy; assessing and maintaining environmental flows in all existing dams; and identifying where dam removals might be appropriate.

