

The United Nations World Water Development Report 2017

NATURE-BASED SOLUTIONS FOR WATER

Working with nature to improve the management of water resources, achieve water security for all, and contribute to core aspects of sustainable development

Key messages

- Ecological processes driven by vegetation and soils in forests, grasslands, wetlands, as well as in agricultural and urban landscapes, play a major role in the movement, storage and transformation of water.
- Nature-based solutions (NBS) use or mimic natural processes to enhance water availability (e.g., soil moisture retention, groundwater recharge), improve water quality (e.g., natural and constructed wetlands, riparian buffer strips), and reduce risks associated with water-related disasters and climate change (e.g., floodplain restoration, green roofs).
- NBS offer significant potential to address contemporary water management challenges across all sectors, and particularly regarding sustainable agriculture and sustainable cities.
- NBS contribute to reversing trends in ecosystem degradation, a major cause of water problems worldwide.
- NBS are essential to achieving the water-related Goals and Targets of the 2030 Agenda for Sustainable Development and directly contribute to meeting several other interdependent Goals and Targets.
- NBS generate social, economic and environmental co-benefits, including human health and livelihoods, food and energy security, sustainable economic growth, decent jobs, ecosystem rehabilitation and maintenance, and biodiversity.
- NBS include green infrastructure that can substitute, augment or work in parallel with human-built ('grey') infrastructure in a cost-effective manner, providing alternative options for coping with insufficient or ageing water infrastructure while improving system-wide resilience and performance.
- NBS, like grey infrastructure, have limits: NBS are not a panacea and must be evaluated and deployed based on locality specific conditions.
- Water management remains heavily dominated by grey infrastructure, such that the considerable potential for NBS is largely under-utilized.
- The objective is to find the most appropriate balance between green and grey infrastructure that maximizes benefits and system efficiency while minimizing costs and trade-offs.
- There are emerging innovative options for financing NBS, such as payment for ecosystem services schemes and green bonds.
- The substantial value of the co-benefits from NBS can tip investment decisions in their favour.
- Sustainable water security will not be achieved through business-as-usual, and NBS provide an essential means of moving beyond conventional approaches.