The Nile Basin Water Resources Atlas has been prepared to support stakeholder dialogues and inform decision-making by the Nile Basin riparian states in order to achieve the shared vision of “sustainable socio-economic development through the equitable utilization and, benefit from, the common Nile Basin water resources”.

The basin is home to more than 257 million people or around 20% of the population of the African continent. The water resources of the Nile Basin are of paramount importance for the socio-economy and sectors such as agriculture, power, navigation, fisheries and water supply, sanitation and health and the environment.

The upper parts of the Nile Basin are characterized by mountain ranges and steep slopes. In the middle reaches there are large plateau regions, while the lower parts have wide flood plains and ultimately the huge Nile Delta. The population’s settlement patterns are heavily influenced by the availability of water and the infrastructure. The Nile Basin Regional Hydromet System based in the Ethiopian Highlands has completed a design of a Nile basin-wide can surpass available water will be become unable to meet the water demand.

The Nile Basin streamflow patterns are influenced by the variations in climate and topography/altitude. The Blue Nile is highly seasonal with most of its flow occurring between July and September, while the White Nile flow is stable over the year. On the average, the Blue Nile contributes almost twice the volume of water (roughly 1600 m³/s) of the White Nile. Groundwater is another, though small part of the water resources of the basin. The most significant aquifer is the Nubian Sandstone. Sediment production takes place in upland areas with the Ethiopian Highlands as the main source compared to other parts of the basin. Water quality is generally influenced by human activities and urban areas and industrial activities are the main influencing factors.

The water resources in the basin are essential for sustaining life, the economy and a healthy environment. Water is used off-stream (withdrawn e.g. for agriculture or domestic use), in-stream (e.g. hydropower, fisheries, environment) or on-stream (e.g. transport, tourism). By far, the largest consumptive use is for irrigation (roughly 2600 m³/s) with Egypt and Sudan as the largest users. Water demand for municipal and industrial use is rapidly increasing from the present estimates of roughly 400 m³/s. Water demands for all sectors is expected to increase substantially and there is a risk that the aggregate water demand basin-wide can surpass available water will become unable to meet the water demand. A high degree of trust, collaboration and sharing of water and benefits between the Nile riparian nations becomes imperative and the Nile Basin Initiative has a strategic mission to facilitate the cooperation.