Dekedal Hydro Meteorology Bulletin

Forward

This Dekedal Hydro Meteorological Bulletin is prepared and disseminated by the Ethiopia Meteorological institute (EMI). The ultimate objective of producing and disseminating this bulletin is to inform all level decision makers with the updated and relevant hydro meteorological information. This Dekedal Bulletin reviews the April21-30, 2026-month climate condition and its impacts over the river catchment across the country and highlights the May 1-10, 2026 climate outlook along with the likely impact over the water dams and the rivers basins.

The information contained in this bulletin is believed to assist the water professionals for planning the capacity expansion of reservoirs, water supply, ecosystem restoration as well as rehabilitation of existing systems including dams, irrigation, canals, pumps, wetlands and the likes. In addition to the aforementioned benefit the bulletin also reveals the aridity levels of each basin, extremes heavy rainfall events and areas where significant amount of moistures loss through evapotranspiration. In the impact outlook section of the bulletin it provides the likelihood of the climate in the coming month and its potential impact over various aspect of the river basins including the hydraulic structures such as culverts, bridges, reservoir spillways, road embankments and dikes. It also indicates the measures need to be taken as the early actions so as to reduce the possible negative impact of the upcoming month climate condition. Meanwhile, your comments and constructive suggestions are highly appreciated to make the objectives of this bulletin a success.

1. *Introduction*

The provision of hydro meteorological services can contribute a significant role toward water resource management and socio-economic development. Both surface water and groundwater management are essentially linked to climate variability. Therefore, the provided climate information and knowledge in this monthly hydro meteorological bulletin have a critical importance for efficient, equitable and sustainable development and management of the national water resources and for coping with any climate related risks. The information illustrates the impact of previous 10 day weather on each and every water basins and the associated climate risks observed during the day under review. In addition to the previous 10 day impact assessment, the bulletin also provided the expected climate condition for the coming ten day and its impact on the water resource. The design of water-use and flood-control facilities, mainly dams and reservoirs, is frequently based on these analyses. Estimating the likelihood of precipitation, the distribution of precipitation and the rate of evaporation in location and time, the heavy rainfall and the subsequent runoff, extreme temperature and wind are among issues that hydro meteorologists are concerned with.

Hydro Meteorological Impact Assessment April 21-30, 2026

During the third dekade of April, most of the Belg rainfall benefiting river basins and sub-basins experienced improved surface water flow conditions. In particular, very high surface water flow was observed in the Omo-Gibe, Central Rift Valley, most parts of the Upper Baro-Akobo, Genale-Dawa, and Wabi Shebelle basins, as well as in some parts of the Lower Ogaden, Middle and Upper Tekeze, and Abay basins. In addition, high to moderate surface water flow conditions were recorded across most of the Wabi Shebelle, Ogaden, Afar-Danakil, Lower and Middle Abay, Baro-Akobo, Tekeze, Upper and Lower Rift Valley basins, and in some parts of the Middle Awash basin.

According to the analyzed Hydro meteorological data, these favorable conditions significantly enhanced both surface water and groundwater resources. Furthermore, the increased water availability provided significant benefits for irrigation development, hydropower generation, and domestic water supply across many parts of the country.

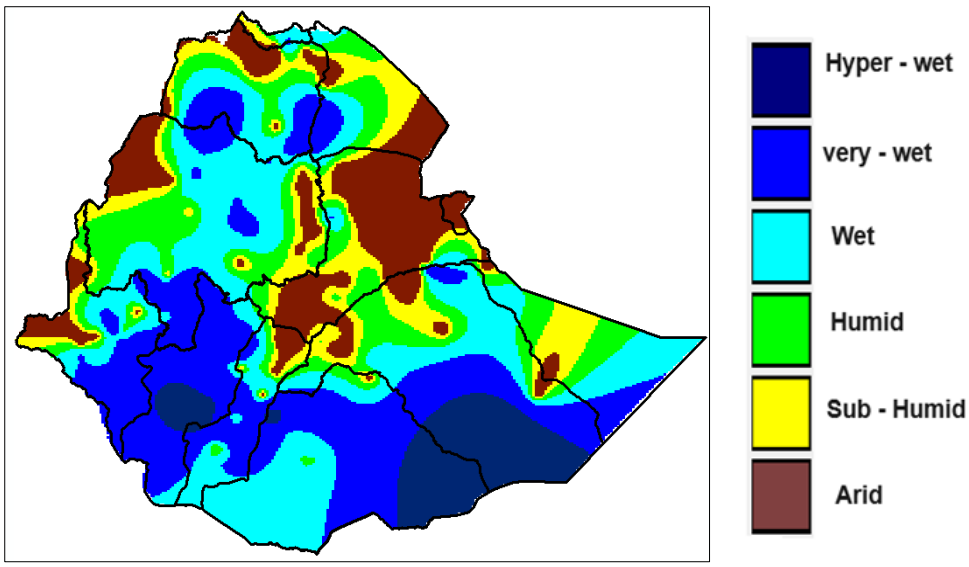


Figure 1 Dekedal Hydro Meteorological Assessments from April 21-30, 2026

1.2 Hydro Meteorological Impact Outlook for may, 1-10, 2026

The hydro meteorological data analysed during the May 1st ten day, most of the country's basins had good surface water flow. Most of the West Shebelle, Baro Akobo, Abay, Omo Gibe, Rift Valley, Awash, Aysha, Ogaden, Tekeze, Wabe shebele, Ogaden, and Afar Danakil had moderate to high surface water flow, while the Middle and Lower Omo Gibe, Rift Valley, and Abay basins had very high surface water flow. Therefore, it contributed well to the water resources. On the other hand, the Lower Omo Gibe and Rift Valley basins had high surface water flow. The rest remained dry in the Middle Abay, Upper Tekeze, and Awash, and in some parts of the Lower Baro Akobo.

Basin Areas	**Positive Impacts**	**Negative Impacts**	**Hydro meteorological Advisory**
Moderate to High Surface Water Flow			
Most parts of the Baro-Akobo, Abay, Tekeze, and parts of the Upper Wabi Shebelle basins	• Improved water availability for irrigation, hydropower generation, and domestic water supply	• Urban flooding• River overflow and inundation• Flash flood occurrence• Blockage of urban drainage systems by waste materials	• Implement flood prevention and mitigation measures• Promote rainwater harvesting and storage• Regularly clean and maintain drainage channels
Light to Moderate Surface Water Flow			
Upper and Middle Omo Gibe, Rift Valley, Middle Awash, Genale-Dawa, and Afar-Danakil basins	• Moderate improvement in surface water availability	• Relatively increased evaporation losses• Insufficient water supply in some areas	• Reduce water pollution and contamination• Efficiently manage and utilize available water resources
Dry Surface Water Flow Condition			
Most parts of the Ogaden, Lower Omo-Gibe, Rift Valley, and Afar-Danakil basins	• Reduced risk of flooding and sediment-related hazards	• Declining water levels in rivers, reservoirs, and other water bodies• Increased evaporation and moisture loss	• Promote efficient water use practices• Implement water conservation and saving measures

Mereb – Gash Catchment: -Northwestern tip of Tigray.

Atbara-Tekeze Catchment: -The Tekeze River basin is situated in the northwest of Ethiopia between 11 ^{0}40` and 15 $^{0}$12` N, and 36 ^{0} 30` and 39$^{0}$ 50` E. It is bordered by the Mere Riverbasin and by Eritrea in the north, the Atbara River plains in Sudan in the west, the Abay River basin in the south and Danakil basin in the east.

Blue Nile/ Abbay Catchment: - Roughly 13^{0} N South of Gondar to 11^{0} 30'N, and west of 39^{0} 45'E of Wello, northwestern parts of Shoa; Gojam except the South Western and Western narrow area, Wellega and extreme Eastern tip of Illubabor together with a narrow northeastern strip of Keffa. It is the largest catchment that coversabout 16 percent of the total area of Ethiopia. The Catchment that includes the Lake Tana, Upper Abbay(to Guder confluence),Middle Abbay (to didessa confluence), Didessa, Dabus ,Lower Abbay,Dinder and Rahad Sub-basin.

Baro –Akobo Catchment: -The south western and western narrow strip of Wellega, except the eastern tip, the whole of Illubabor and southwestern tip of Keffa. TheCatchment has upper and lower sub-basins along Baro River. The Catchment It is the wettestcatchment because of the highest rainfall over the area.

Omo-Ghibe Catchment: -Southwestern narrow strip of Shoa, the whole ofKeffa except the southwestern tip, southwestern tip of Wellega, Western half of northern Omo and northwestern tip of Sidamo. The upper part of the catchment starts from the plateaus in north part of Ghibe and extends southward to the lower part of it (known as Omo River).

Central Lakes-Rift Valley Catchment: - The whole of North and South Omo, west andsouthwestern narrow strip of Sidamo, southwestern portions of Shoa and western narrow tip of Bale andwestern part of Arsi. The catchment is found in the Great Rift Valley system and typically known by itslakes and streams. Lakes which adjoin the Awash catchment are found in its upper part, while Lake Awassa and Bilate in its central part and end to chamo bahr in its lower part.

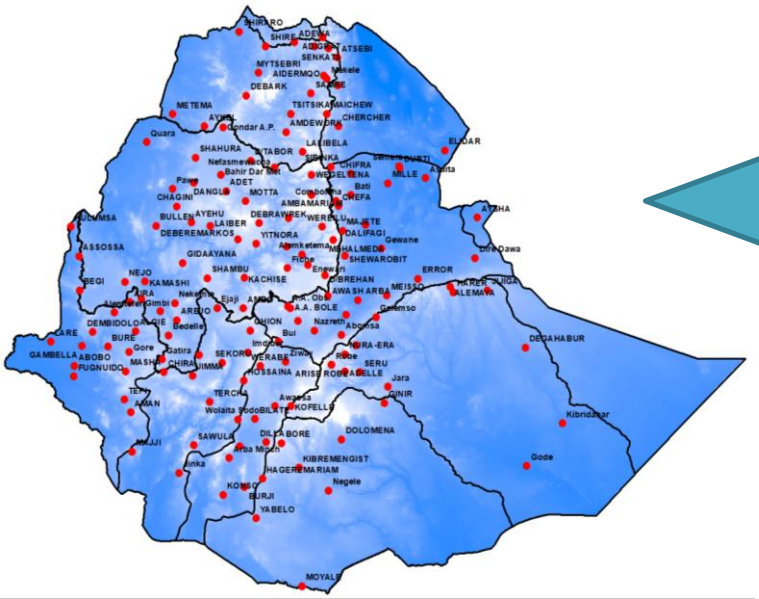
Danikil – Afar Catchment: -East of 40^{0} E of Tigray, North of 11^{0}N of Wollo, narrow coastal strip south of 14^{0}30'N of Eritrea. The basin is the lowest region in the country where the kobar sink; with an elevation of about 120 meters b.s.l is found.

Awash Catchment: -North of Garamuleta mountains, south of 11^{0} 40` Nof Wollo, south of 9^{0} N of Shoa, Northern tip of Bale and North part of Arsi. The catchment hasupper, middle and lower sub-catchments. In general, the catchment is narrow at the upper part marked bynumerous volcanic mountains and wider at the lower part joining major tributaries from northwestern highlands and a number of seasonalwadies from the southeast highlands.

Gulf of Aden – Aysha Catchment): - Eastern narrow strip of Hararghe. It is a very dryArea with no stream flow representative Meteorological station. Thus, no assessment isdone for this catchment in this publication.

Genale Dawa Catchment: -The western half of Bale (South of Goba) and southeast, southwestern and northeastern parts ofSidamo. The catchment constitutes three riversystems namely Dawa, Genalle and Wabi Gestaro that meet each other before they cross the Ethio- Somalia border.

The Shebelle River (Somali: Webi Shabeelle, begins in the highlands of Ethiopia, and then flows southeast into Somalia towards Mogadishu. Near Mogadishu, it turns sharply southwest, where it follows the coast. Below Mogadishu, the river becomes seasonal. During most years, the river dries up near the mouth of the Jubba River, while in seasons of heavy rainfall, the river actually reaches the Jubba and thus the Somali Sea.



Numb er of statio