



Monthly Hydro Meteorology Bulletin 2026

Forward

This Monthly 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 monthly Bulletin reviews the February 2026-month climate condition and its impacts over the river catchment across the country and highlights the March 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.

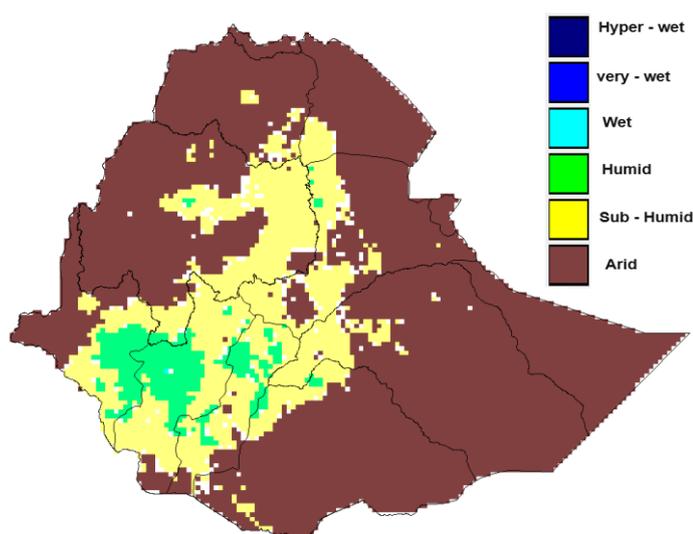
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1. Introduction

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 month climate on each and every water basins and the associated climate risks observed during the month under review. In addition to the previous month impact assessment, the bulletin also provided the expected climate condition for the coming months 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.

1.1 Monthly Hydro Meteorological Assessments

1.1.1 February Monthly Climatology of the Ethiopian River Basin



As can be seen in figure 1, most parts of Omo Gibe, Rift valley, upper and middle Baro Akobo, Awash, upper Wabi shebele and Genale Dawa, Abay, few area border of Awash of Afar Danakil, receive significant amount of moisture exceeding the potential evapotranspiration of the areas. In climatologically the south western, southern and portion of south eastern basin experienced sub humid to Humid. And the rest northern, north eastern and eastern climatological dry, such as most of Ogaden, Tekeze, wabi shebele, lower Abay, middle and lower Genale Dawa Ogaden, and Afar Danakil.

Figure 1. February Monthly climatology of the Ethiopian river basin

1.1.2 July 2025 Rainfall Assessment over the River Basins

During February 2026, the observed rainfall over the basin illustrated in figure 2, a better monthly rainfall distribution is observed across the south West, and western. The result shown over the most parts of Omo Gibe, Baro Akobo, Middle and lower Rift Valley, 22-110 mm of rainfall and in addition few place of upper Baro Akobo, lower and Omo Gibe have received 120-150 mm. The other, most of Genale Dawa, wabi shebele, and Ogaden, Aysha, Awash and Afar Danakil basins have received below 22 mm rainfall.

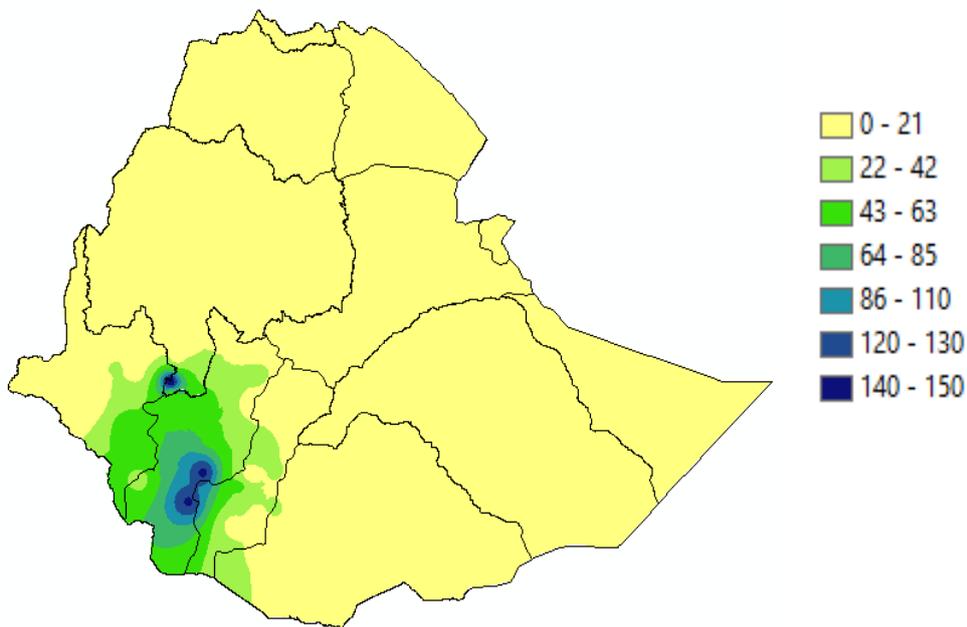


Figure 2 February monthly mean rainfall over Ethiopian River Basin

1.1.3 Monthly Mean Temperature over the River Basin

During February, 2026, the observed mean temperature, as shown in Figure 3, was below 25°C in the majority of the central catchments, including in some part of most of Abby, Omo-Gibe, Rift Valley, Wabisheble, Genale-Dawa upper and middle Awash, basins have lower evapo-transpiration. However, the monthly average temperatures reported in the Ogaden, Lower Awash, Baro Akobo, Wabi shebele, and Genale Dawa, catchments were above 26.6°C.

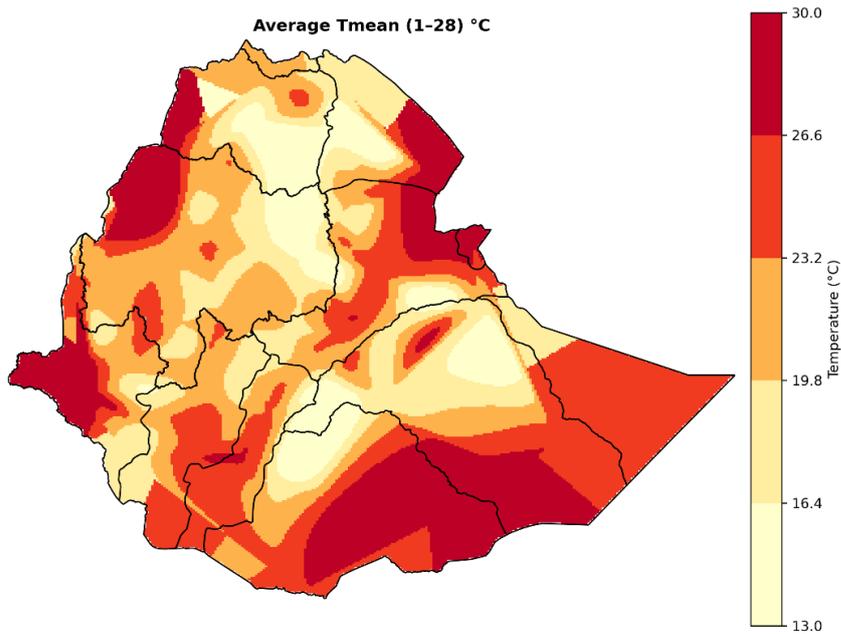


Figure 3 February monthly mean temperature over Ethiopian River Basin

1.1.4 Assessments of Aridity Index during the month of February

During February 2026, the observed Aridity Index is shown in Figure 4. The results indicate that the southern, south western, and northeastern part of the basins have significant distribution of surface water. This is evidenced by the sub humid to Very wet Index observed in the majority of the Baro Akobo, Omo Gibe, Rift Valley and Genale Dawa, upper and middle bay.

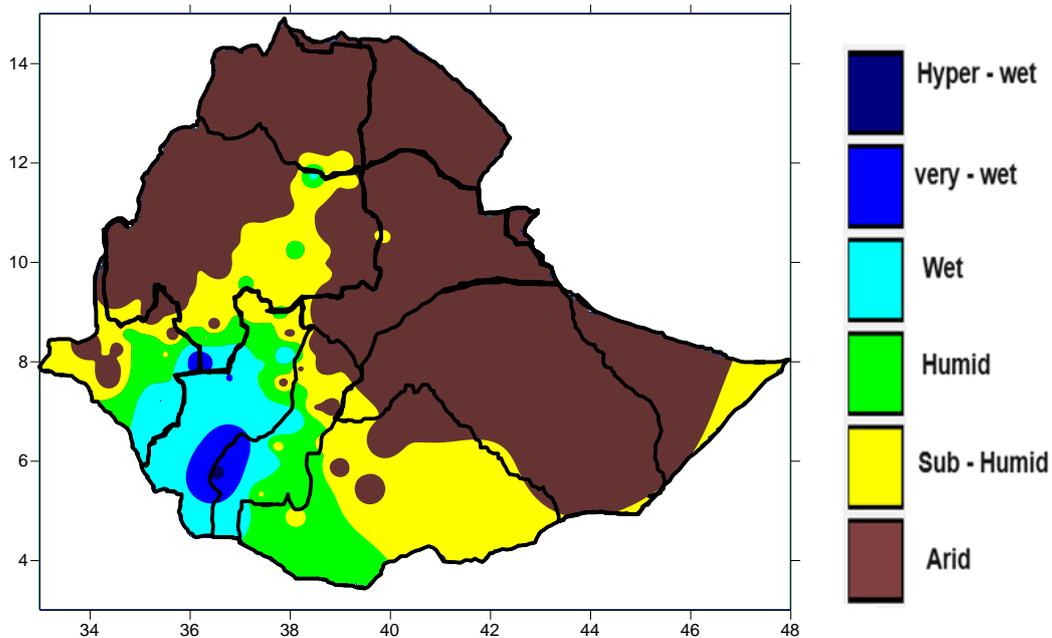


Figure .4 February monthly Aridity index

1.1.5 Distribution of Heavy fall

As can be seen in the above figure 4, some of Belg moisture benefiting Basin such as Omo gibe and Rift Valley one days of heavy fall in this month. This frequency of rainfall will be increasing water holding capacities for dams and other reservoir.

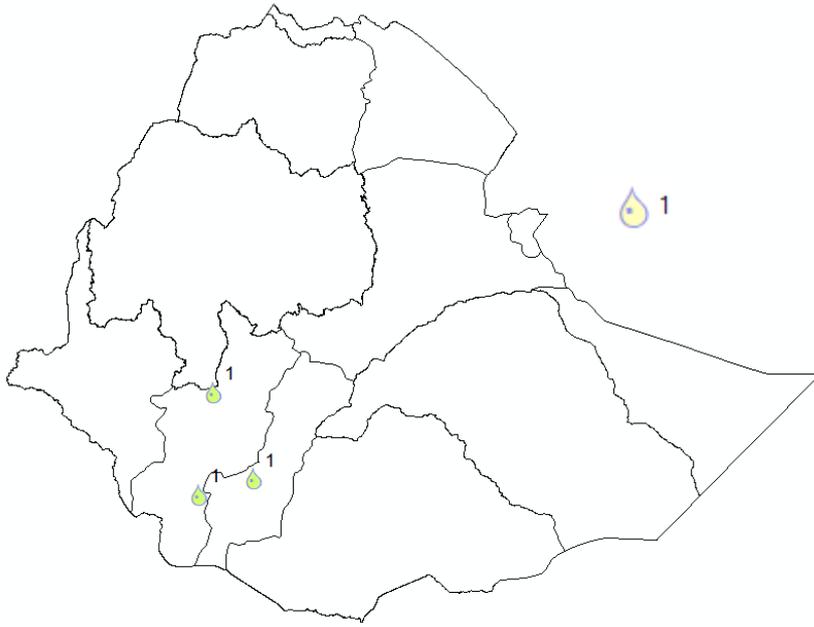


Figure 5. Heavy Fall Frequency over Ethiopian River Basis



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2. Hydro Meteorological Impact Outlook for March, 2026

2.1 *Expected weather impact on water resource during the coming March, 2026*

Next March, most of the Baro Akobo, Omo Gibe, Rift valley, Genale Dawa, wabi shebele, upper and middle Awash, Afar Danakil, will receive medium to high surface water. Therefore, occasional heavy rains, especially in flood-prone basins and cities prone to flash floods, have the potential to cause flash floods. It is also important for the relevant parties to coordinate to minimize damage to property and life in communities living in flood-prone riverbanks, and slopes and to take advantage of the opportunities. However, in both urban and rural flood-prone areas, potentially causing significant damage to human life, property, and infrastructure. As a result, concerned water professionals and the broader community are strongly advised to take precautionary measures, such as cleaning drainage systems, to reduce the potential risk. In general, residents in flood-prone areas are urged to remain alert for possible floods, flash floods, and poor visibility. Given the anticipated high water levels in rivers, lakes, and dams, Furthermore, individuals living in landslide-prone areas, especially in hilly regions, are strongly encouraged to remain watchful during this period.

