



Dekedal Hydro Meteorology Bulletin



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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 May 1-10 2025-month climate condition and its impacts over the river catchment across the country and highlights the May 11-20, 2025 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 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.

Hydro Meteorological Impact Assessment May 1-10, 2025

During the first ten days of May, moderate to high moisture conditions were observed across most catchments, including Awash, Omo Gibe, Rift Valley, Genale Dawa, Tekeze, Aysha, upper and middle Baro Akobo, Wabi Shebele, and parts of the upper, middle, and some lower Abay catchments. In addition, very high moisture levels were recorded in localized areas within mid Rift Valley, upper Genale Dawa, and upper eastern Wabi Shebele catchments. These favorable moisture conditions have significantly contributed to recharging groundwater and enhancing surface water availability, according to the analyzed meteorological data. On the other hand, most parts of the Ogaden, Afar Denakil, lower Wabi Shebele, lower Genale Dawa, Baro Akobo, and lower Abay catchments experienced dry conditions. Combined with elevated daytime temperatures, these dry conditions negatively impacted water availability by reducing surface water levels and stressing water resources.



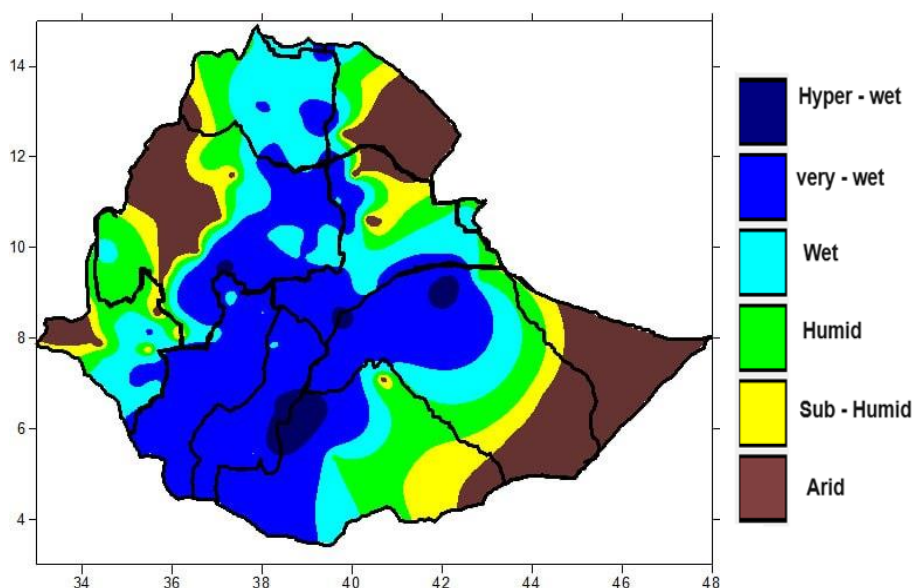


Figure 1 Dekedal Hydro Meteorological Assessments from May 1-10, 2025

1.2 Hydro Meteorological Impact Outlook for May 11-20, 2025

During the second ten days of May, many catchments are expected to receive **moderate to high moisture**, which can offer **beneficial opportunities** if managed well. However, this moisture may also pose **negative impacts** if not properly addressed. Therefore, it is recommended that appropriate **hydro meteorological advisories** be implemented to mitigate risks and maximize benefits.

Ethiopian River Basin	Expected Moisture	Positive Impacts	Negative Impacts	Hydro meteorological Advisory
Central & Lower Omo Gibe, Rift Valley, Genale Dawa, Upper Wabi Shebele, Abay, Baro Akobo	Moderate to High	<ul style="list-style-type: none"> Improved drinking water supply Increased surface water flow Increased storage in livelihood and hydropower dams 	<ul style="list-style-type: none"> Flash floods Risk of waterborne diseases Overflow onto roads and traffic disruptions Contamination of water sources Landslides and erosion 	<ul style="list-style-type: none"> Clean drainage channels Prepare temporary flood defenses Promote water conservation Raise awareness for riverbank communities Closely follow forecasts Harvest rainwater in areas with deficits



Mid & Lower Baro Akobo, Tekeze, Abay	Low to Moderate	<ul style="list-style-type: none"> • Moderate surface water increase • Potential for mild flooding and landslides 	<ul style="list-style-type: none"> • Reduced drinking water supply • Increasing PET 	<ul style="list-style-type: none"> • Harvest rainwater using various methods • Manage runoff to prevent saturation • Implement rainwater harvesting from roofs and land
Aysha, Afar Denakil, Mereb-Gash, Awash	Dry	—	<ul style="list-style-type: none"> • Drinking water shortage • Increasing PET 	<ul style="list-style-type: none"> • Use water efficiently and sparingly • Promote water recycling and reuse



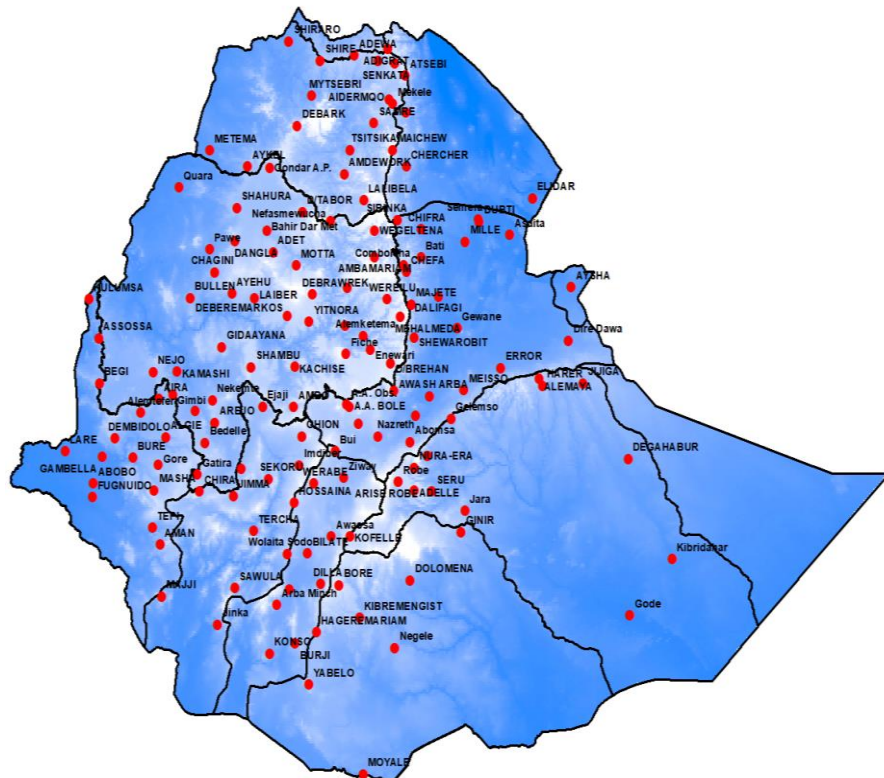
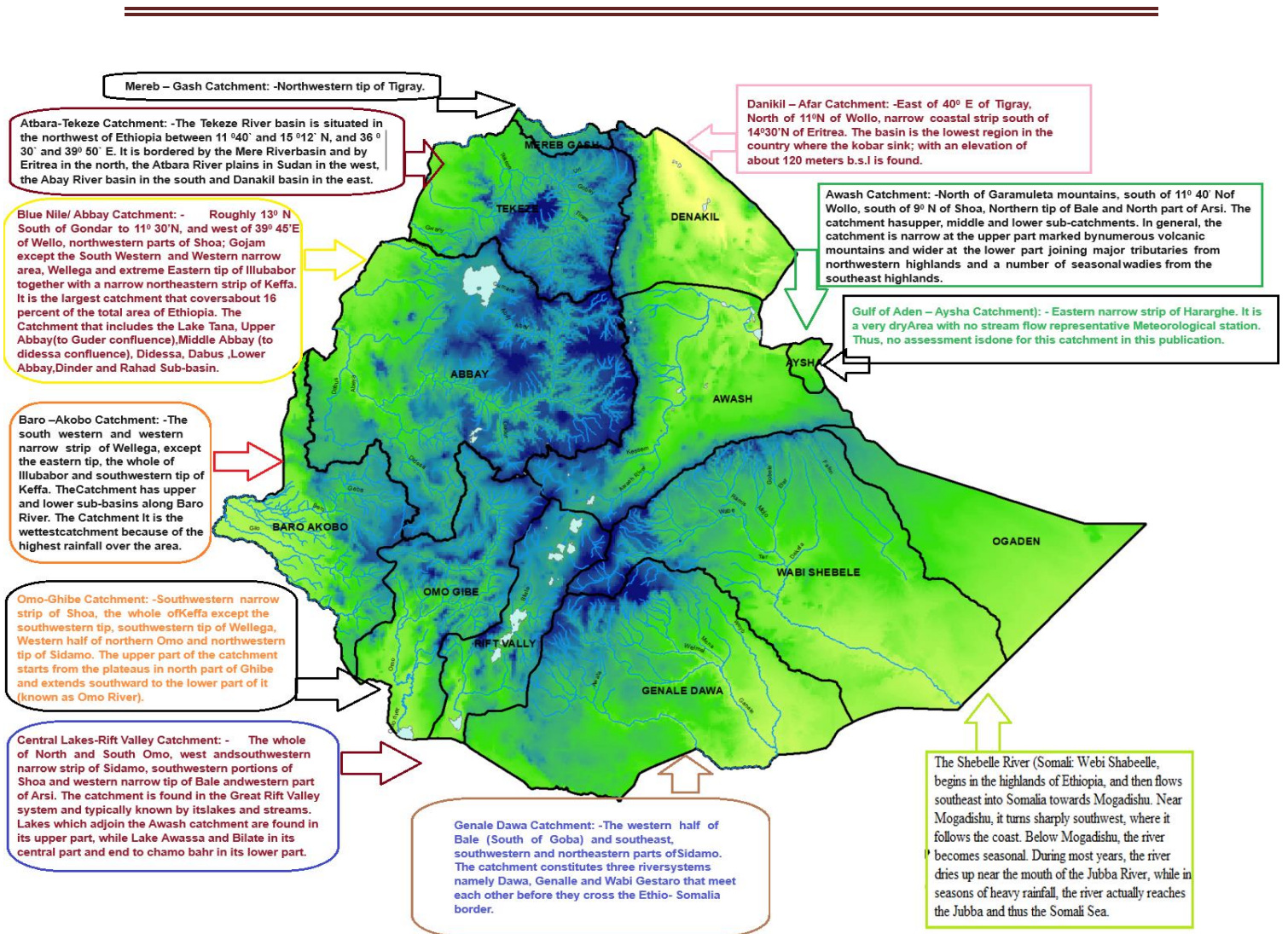


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