



# Dekedal Hydro Meteorology



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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 march 21-31 2026-month climate condition and its impacts over the river catchment across the country and highlights the April 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.*



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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 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.

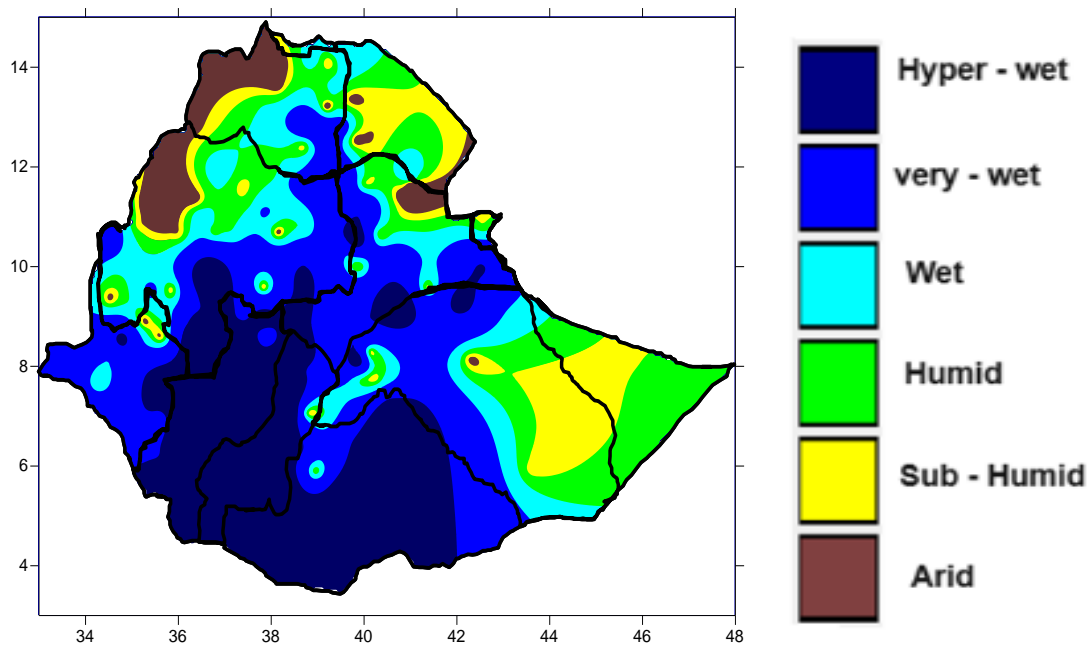


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## Hydro Meteorological Impact Assessment March 21-31, 2025

During the first eleven days of last March, analysed hydro meteorological data showed that most of the river basins in our country that benefit from the Belg rainy season experienced improved surface water flow. In particular, the Genale Dawa, Omo Gibe, Rift Valley, Wabi Shebelle, Awash, Afar-Danakil, Baro Akobo, Abay, Ogaden, as well as the upper and middle Tekeze basins recorded surface water flows ranging from moderate to very high levels. In addition, the Omo Gibe, Rift Valley, Genale Dawa, and middle Abay basins showed extremely high conditions that not only enhanced surface water flow but also helped improve groundwater storage. This overall situation played a positive role in increasing water storage within basins and sub-basins and in boosting the amount of water flowing into reservoirs and dams.



**Figure 1 Dekedal Hydro Meteorological Assessments from March 21-31, 2026**



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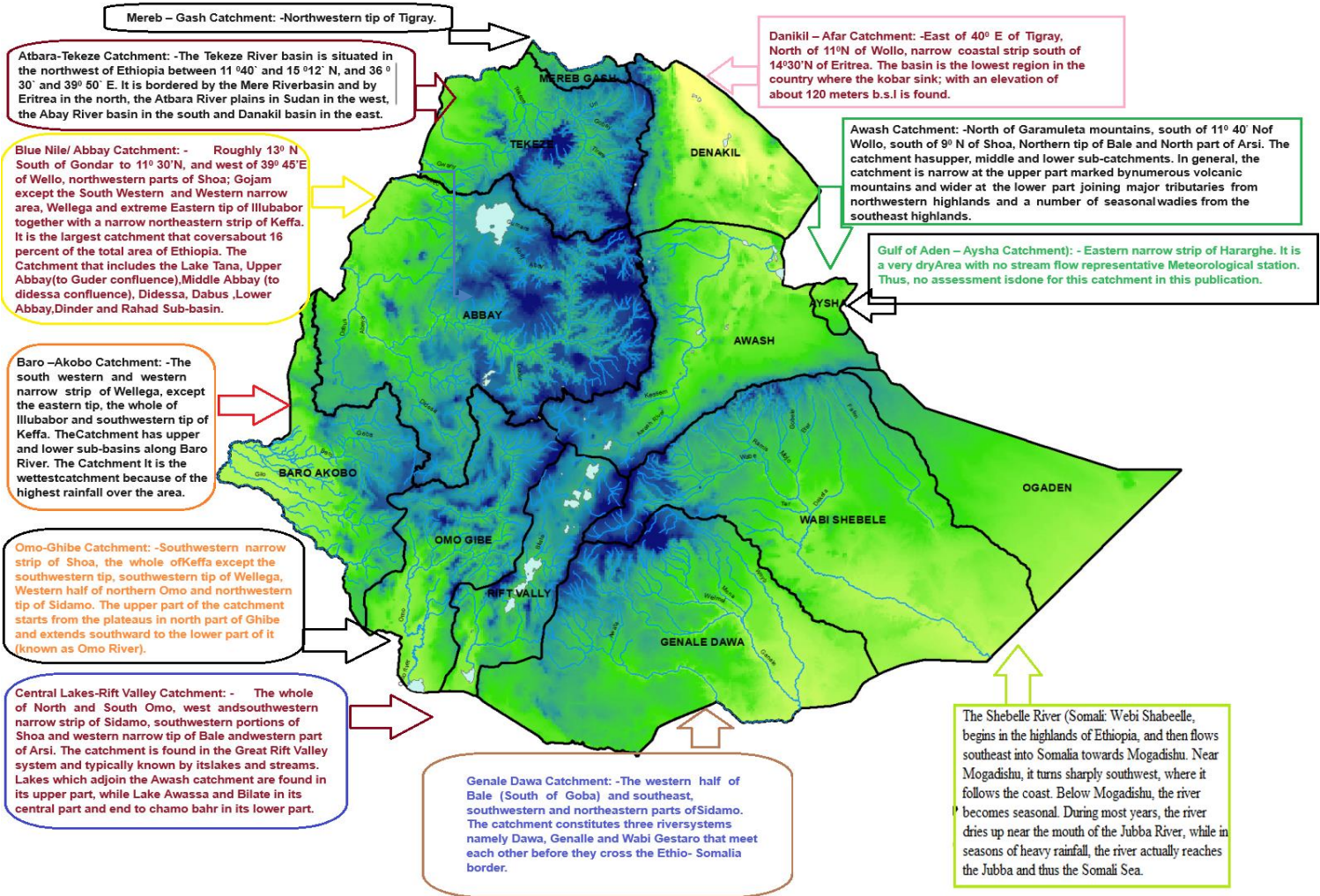
## **1.2 Hydro Meteorological Impact Outlook for April 1-10, 2026**

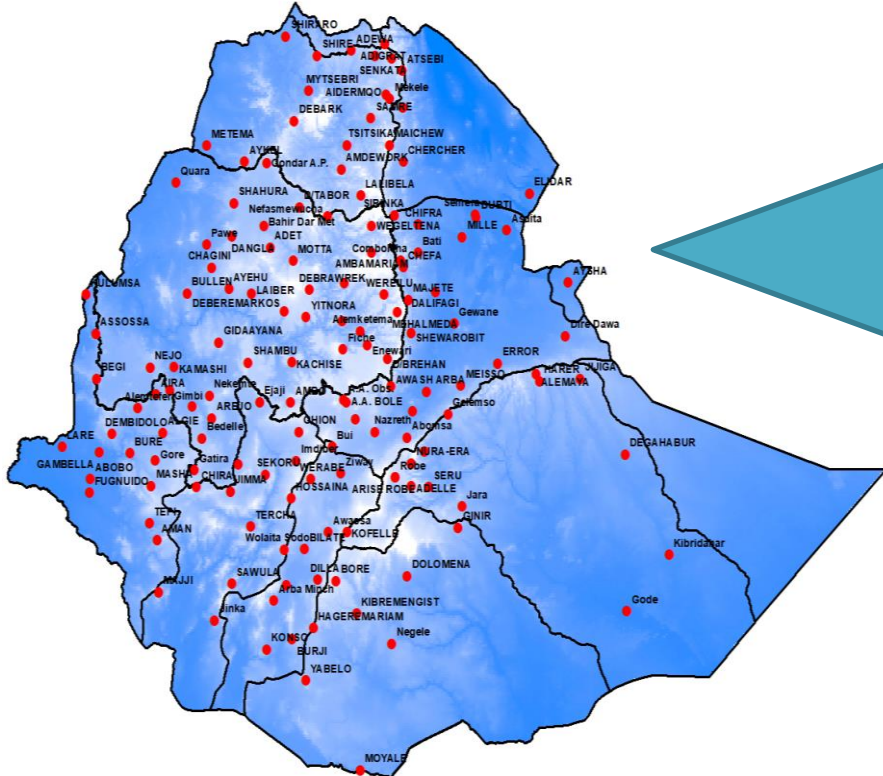
During the first ten days of April, the Basins benefiting from the Belg season experienced moderate to high moisture levels. This condition enhances both surface water flow and ground water resource availability. On the other hand, the excessively high moisture occurring intermittently in some sub-basins such as Abay, Baro Akobo, Omo Gibe, Rift Valley, Upper & Middle Awash, Genale Dawa, and in urban centers as well as flood-prone rural areas, may lead to localized flooding. To mitigate and prevent such negative impacts, and to effectively manage the high moisture observed, it is advisable to implement early preparedness and pre-emptive measures based on the recommendations outlined below.



<b>Surface Water Flow Level</b>	<b>Areas (Basins)</b>	<b>Positive Impacts</b>	<b>Negative Impacts</b>	<b>Hydro meteorological Advice</b>
<b>Medium to High</b>	Abay, Baro Akobo, Omo Gibe, Rift Valley, Upper & Middle Awash, Genale Dawa, parts of Lower Tekeze, Upper Wabi Shebelle	Improved water supply for irrigation, hydropower, and drinking	Flash floods, urban flooding, river overflow, lightning risks	Collect and store rainwater; implement flood prevention measures; avoid crossing flowing water; stay away from lightning-prone areas
<b>Light to Moderate</b>	Upper Abay, Middle Wabi Shebelle, Lower Genale Dawa, Rift Valley, parts of Lower Tekeze, Ogaden	Moderate improvement in surface water flow	Increased evaporation; possible water shortages	Properly manage available water; reduce water loss
<b>Dry Conditions</b>	Afar-Danakil, Tekeze, Ogaden, Middle & Lower Wabi Shebelle, Lower Genale Dawa, Mereb Gash, Aysha	Reduced flood and sediment risks	Increased evaporation; reduced drinking water supply; decreased water levels in rivers and dams	Use water efficiently; apply water conservation methods







Number  
of  
station

[EMI]

