

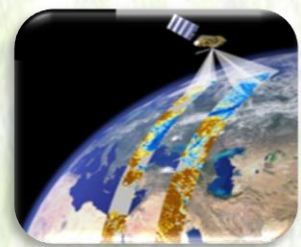
# ETHIOPIA METEOROLOGY INSTITUTE

## Agrometeorological Bulletin

### SEASONAL AGROMETEOROLOGICAL BULLETIN

---

Belg 2024 VOLUME 41 No. 15 DATE OF ISSUE: - June 07, 2024



Ethiopia Meteorological Institute P.O.BOX 1090, ADDIS ABABA, ETHIOPIA

Website: [http:// www.ethiomet.gov.et](http://www.ethiomet.gov.et) E-mail [nmsa@ethionet.et](mailto:nmsa@ethionet.et) Fax 251-1-517066, Tel. 251-1-512299

## **TABLE OF CONIENTS**

<b>FORE WARD.....</b>	<b>2</b>
<b>SUMMARY .....</b>	<b>6</b>
<b>1. WEATHER ASSESSMENT .....</b>	<b>13</b>
<b>1.1. Rainfall amount (21 – 31) May 2024 .....</b>	<b>13</b>
<b>1.2. Rainfall Anomaly (21 – 31) May 2024 .....</b>	<b>14</b>
<b>1.3. Moisture status (21 – 31) May 2024.....</b>	<b>15</b>
<b>1.4. Rainfall amount on the month of May 2023 .....</b>	<b>16</b>
<b>1.5. Rainfall Anomaly on the month of May 2024.....</b>	<b>17</b>
<b>1.6. Moisture status on the month of May 2024 .....</b>	<b>18</b>
<b>1.7. Rainfall Amount on Belg season 2024 .....</b>	<b>19</b>
<b>1.8. Rainfall Anomaly on Belg Season 2024 .....</b>	<b>20</b>
<b>2. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE.....</b>	<b>21</b>
<b>2.1. VEGETATION CONDITION AND IMPACT ON         AGRICULTURE DURING BELG 2024 .....</b>	<b>21</b>
<b>2.2. EXPECTED WEATHER IMPACT ON AGRICULTURE DURING         THE COMING KIREMT, 2024 SEASON .....</b>	<b>22</b>
<b>3. DEFNITION OF TERMS.....</b>	<b>25</b>

## **FORE WARD**

This Agro met Bulletin is prepared and disseminated by the Ethiopia Meteorology Institute (EMI). The aim is to provide those sectors of the community involved in Agriculture and related disciplines with the current weather situation in relation to known agricultural practices.

The information contained in the bulletin, if judiciously utilized, are believed to assist planners, decision makers and the farmers at large, through an appropriate media, in minimizing risks, increase efficiency, maximize yield. On the other hand, it is vital tool in monitoring crop/ weather conditions during the growing seasons, to be able to make more realistic assessment of the annual crop production before harvest.

The Agency disseminates ten daily, monthly and seasonal weather reports in which all the necessary current information's relevant to agriculture are compiled.

We are of the opinion that careful and continuous use of this bulletin can benefit to raise ones agro climate consciousness for improving agriculture-oriented practices. Meanwhile, your comments and constructive suggestions are highly appreciated to make the objective of this bulletin a success.

Director General

EMI

P.O.Box 1090

Tel: 011661-57-79

FAX 00251-11-6625292

E-mail [nmsa@ethionet.et](mailto:nmsa@ethionet.et)

Addis Ababa

## አህፅሮት

እ.ኤ.አ በልግ 2024

በመደበኛ ሁኔታ መካከለኛው፣ የሰሜን ከፍተኛ ቦታዎች፣ የምስራቅ ከፍተኛ ቦታዎች፣ ከፊል የመካከለኛው፣ የደቡብ ምዕራብና የደቡብ የሀገሪቱ አካባቢዎች በልግ አብቃይ በመባል ይታወቃሉ። በሰሜን፣ በሰሜን ምሥራቅና በምስራቅ ከአመታዊው ምርት የበልግ ምርት አስተዋፅኦ ከ5-30%፣ በደቡብና ደቡብ ምእራብ ከ 30-60% ይደርሳል። ሰሜን ሸዋ፣ ምስራቅና ምእራብ ሐረርጌ፣ አርሲ፣ ባሌ፣ ሰሜንና ደቡብ ወሎ፣ ቦረናና የደቡብ ብሔር ብሔረሰቦችና ህዝቦች ክልል (ከምባታ፣ ሀድያ፣ ወላይታ፣ ጉለኔ፣ ከፋና ቤንች) የማሣ ዝግጅትና የዘር ጊዜ የሚጀምሩት ከደሴምበር እስከ ፌብሩዋሪ ባለው ጊዜ ውስጥ ነው። በተጨማሪም ወቅቱ የደቡብና ደቡብ ምስራቅ አካባቢዎች ለግጦሽ ሣርና ውሃ አቅርቦት የሚሆን ውሃ የሚያከማቹበት ጊዜ ነው።

እ.ኤ.አ በፌብሩዋሪ ወር 2024 የነበረው የእርጥበት ሁኔታ ሲገመገም በአብዛኛዎቹ የበልግ አብቃይና እርጥበት ተጠቃሚ በሆኑት የሀገሪቱ ክፍሎች በተለይም በመጀመሪያውና በሁለተኛው አስር ቀናት ከቀላል እስከ ከባድ መጠን ያለው የእርጥበት ሁኔታ እንደነበራቸው የተተነተኑ የግብርና ሚኒስቴሮች አመላካቾች ያሳያሉ። ይህም ሁኔታ የአፈር ውስጥ እርጥበትን በማሻሻል የበልግ ወቅት የማሳ ዝግጅትን አስቀድሞ ለመጀመርና ሰብሎችን በወቅቱ ለመዝራት፣ የግብርና ግብዓቶችን አስቀድሞ ለማቅረብና ለማሟላት እንዲሁም ለቋሚ ተክሎች የውሃ ፍላጎት ማሟላት ከፍተኛ ጠቀሜታ ነበረው። በተጨማሪም የነበረው ከፍተኛ የእርጥበት ሁኔታ ለአርብቶ አደርና ከፊል አርብቶ አደር አካባቢዎች የግጦሽ ሳርና የመጠጥ ውሃ አቅርቦትን ከማሻሻል አንጻር እንዲሁም የአረንጓዴ ዕጽዋት ልምላሜና ሽፋንን ከማሻሻል አኳያ ከፍተኛ ጠቀሜታ ነበረው።

እ.ኤ.አ በማርች ወር 2024 የበልግ ወቅት ዝናብ ተጠቃሚ በሆኑት አካባቢዎች እርጥበታማ ሁኔታ እንደነበራቸው የተተነተኑ የግብርና ሚኒስቴሮች መረጃዎች ያመለክታሉ። ይህም ሁኔታ አስቀድመው ለተዘሩ የበልግ ሰብሎች፣ ለቋሚ ተክሎች፣ የረጅም ጊዜ ሰብሎችን አስቀድመው ለሚዘሩ አካባቢዎች የማሳ ዝግጅት ለማካሄድ አዎንታዊ ሚና የነበረው ሲሆን በተጨማሪም የተገኘው እርጥበት በአርብቶ አደርና ከፊል አርብቶ አደር አካባቢዎች ለመጠጥ ውሃና ለግጦሽ ሣር አቅርቦት መሻሻል የጎላ ጠቀሜታ ነበረው። በሌላም በኩል በአንዳንድ ሥፍራዎች ላይ በ24 ሰዓት ውስጥ መጠኑ ከ30 ሚ.ሜ የበለጠ ከባድ ዝናብ ነበራቸው። ከዚሁም ጋር ተያይዞ የተገኘው ከፍተኛ መጠን ያለው እርጥበት በተለይም ውሃ አጠር ለሆኑት አካባቢዎች የዝናብ ውሃን ለማሰባሰብና ለማከማቸት መልካም አጋጣሚን የፈጠረ ቢሆንም በአንዳንድ ቦታዎቻቸው ላይ ቅጽበታዊ ጎርፍና የወንዞች መሙላት ሊያስከትል በመቻሉ በእንሰሳት፣ በሰዎችና በንብረት ላይ እንዲሁም ቀደም ብለው በተዘሩና በተለያዩ የእድገት ደረጃ ላይ በሚገኙት ሰብሎች ላይ አሉታዊ ተፅዕኖ ነበረው።



እ.ኤ.አ በኦፕሬሽን ወር 2024 የነበረው የእርጥበት ሁኔታ በተለይም የበልግ አብቃይና ዝናብ ተጠቃሚ በሆኑት የሀገሪቱ አካባቢዎች ላይ የተገኘው እርጥበት የበልግ የእርሻ ስራ እንቅስቃሴን ለማከናወን፣ ቀደም ብለው ለተዘሩና በተለያዩ የእድገት ደረጃ ላይ ለሚገኙ የበልግ ሰብሎች፣ ለጓሮ አትክልቶችና ለቋሚ ተክሎች የውሃ ፍላጎት መሟላት ከፍተኛ ጠቀሜታ ነበረው። በተጨማሪም የተገኘው እርጥበት አስቀድመው ለሚዘሩ የመኸር ወቅት ሰብሎች ማሳን ለማዘጋጀትም ሆነ ዘር ለመዝራት ምቹ እንደነበረ የተተነተኑ የግብርና ሚኒስቴሮች መረጃዎች ያመለክታሉ። ከዚህም በተጨማሪም ለአርብቶ አደርና ከፊል አርብቶ አደር አካባቢዎች ለመጠጥ ውሃና ለግጦሽ ሣር አቅርቦት መሻሻል የጎላ ጠቀሜታ ነበረው። በሌላም በኩል የተገኘው እርጥበት በአንዳንድ እርጥበት አጠር እና ቀጣይ ክረምት የዝናብ ወቅታቸው ባልሆነባቸው አካባቢዎች የተገኘውን እርጥበት እንደ መለካም አጋጣሚ በመጠቀም የበልግ የዝናብ ውሃን ለማሰባሰብና ለማከማቸት ምቹ ሁኔታን የፈጠረ ቢሆንም፣ በአንዳንድ ሥፍራዎች ላይ የነበረው ከፍተኛ መጠን ያለው እርጥበት በረባዳማ እና የአፈር ጸባያቸው ውሃን በማያሰርጉ ማሳዎች እንዲሁም በወንዝ ዳርቻ አካባቢዎች በሚገኙ ማሳዎች ላይ የውሃ በሰብሎች ላይ መተኛት እና በደለል የመሞላት እንዲሁም በጎርፍ የመጠረግ ሁኔታዎች ነበሩ።

እ.ኤ.አ በሜይ ወር 2024 ባሳለፍነው የሜይ ወር የበልግ እርጥበት ተጠቃሚ በሆኑት የሀገሪቱ አካባቢዎችም ሆነ በልግ ሁለተኛ የዝናብ ወቅታቸው በሆኑት የሀገሪቱ አካባቢዎች ላይ የተለያዩ የግብርና ስራዎችን ለማከናወን የሚያስችል እርጥበት እንደነበራቸው የተተነተኑ የግብርና ሚኒስቴሮች መረጃዎች ያመለክታሉ። ይህም ሁኔታ የበልግ ወቅታቸውን ጠብቀው አስቀድመው የተዘሩ የበልግ ሰብሎች ፍሬ ለማፍራት፣ በተለያዩ የእድገት ደረጃ ላይ ለሚገኙ ሰብሎች እድገታቸው የተሟላ ለማድረግ እና ለቋሚ ተክሎች እንዲሁም ለጓሮ አትክልቶች የውሃ ፍላጎት መሟላት ከፍተኛ ጠቀሜታ ነበረው። በተጨማሪም አስቀድመው ለሚዘሩ እንደ በቆሎና ማሽላ ለመሳሰሉት የረጅም ጊዜ የመኸር ሰብሎችን ለመዝራትና ማሳን ለማዘጋጀት አዎንታዊ ጎን ነበረው። ከዚህም በተጨማሪ የነበረው የእርጥበት ሁኔታ በተለይም ለአርብቶ አደርና ከፊል አርብቶ አደር አካባቢዎች ለእንስሳት የግጦሽ ሳርና ለአረንጓዴ እጽዋት ልምላሚ እንዲሁም ለመጠጥ ውሃ አቅርቦት አመቺ ሁኔታን የፈጠረ ነበር። በሌላ በኩል በአንዳንድ አካባቢዎች ላይ አልፎ አልፎ የነበረው ከፍተኛ ነፋስና በረዶ የቀላቀለ ከባድ ዝናብ በዳውሮ፣ በሃዲያ ዞን እንዲሁም በስልጤ ዞን ቀቤና ወረዳ በሰብሎች እና በጓሮ አትክልቶች ላይ መጠነኛ ጉዳት እንዳሰከተለ ከመስክ የተሰበሰቡ መረጃዎች ያመለክታሉ።

የበልግ 2024 በግብርና ስራ እንቅስቃሴ ላይ የነበረው ሁኔታ ሲገመገም በአብዛኛዎቹ የበልግ አብቃይና እርጥበት ተጠቃሚ በሆኑት የሀገሪቱ ክፍሎች በተለይም በፌዴራል ወር በመጀመሪያውና በሁለተኛው አስር ቀናት ከቀላል እስከ ከባድ መጠን ያለው

የእርጥበት ሁኔታ እንደነበራቸው የተተነተኑ የግብርና ሚኒስቴሮች አመላካቾች ያሳያሉ። ይህም የተገኘው እርጥበት ለዘር እና ለማሳ ዝግጅት የእርሻ ስራ እንቅስቃሴ፣ ቀደም ብለው ተዘርተው በተለያዩ የእድገት ደረጃ ላይ ለሚገኙ የበልግ ሰብሎች፣ ለቋሚ ተክሎች እንዲሁም በአረንጓዴ አሻራ መረሀግብር ለተተከሉ ችግኞች የውሃ ፍላጎት መሟላትና እድገት ከፍተኛ ጠቀሜታ ነበረው። በተጨማሪም ለአርብቶ አደሮችና ከፊል አርብቶ አደር አካባቢዎች ለመጠጥ ውሃና ለግጦሽ ሳር አቅርቦት ጠቀሜታ የነበረው ሲሆን በዋናነት የ Gui/Genna ዝናብ በሚጠበቅባቸው የደቡብ እና የደቡብ ምስራቅ አርብቶ አደሮችና ከፊል አርብቶ አደሮች፣ እንዲሁም የበልግ ወቅት አዝዕርቶችን ለመዝራት፣ ለመጠጥ ውሃና ለእንስሳት መኖር አቅርቦት ከፍተኛ ጠቀሜታ ነበረው። በሌላም በኩል ከኤፕሪል ወር ጀምሮ የተገኘው እርጥበት ለረጅም ጊዜ ሰብሎች የማሳ ዝግጅት ማደረግና ዘር ለመዝራት አመቺ ሁኔታን የፈጠረ ነበር። በአንጻሩ ደግሞ በብዙ የሀገሪቱ ሥፍራዎች ላይ በ24 ሰዓት ውስጥ የተመዘገበው ከባድ መጠን ያለው ዝናብ ካስከተለው ቅጽበታዊ ጎርፍ እና ከወንዞች መሙላት ጋር ተያይዞ በተለይም በወንዝ ዳርቻ፣ ተዳፋት እና ለጎርፍ ተጋላጭ በሆኑት አካባቢዎች ላይ በሚገኙ ሰብሎች እንዲሁም በሰው እና በንብረት ላይ የተለያዩ መጠን ያለው ጉዳት እንዳደረሰ ከመስክ የተሰበሰቡ መረጃዎች ያመለክታሉ።

በአጠቃላይ የዘንድሮው የበልግ 2024 ወቅት በተወሰኑ አካባቢዎች ላይ ከደረሰው መጠነኛ ጉዳት ውጪ የበልግ እርሻን አስቅድሞ ለመጀመርና ዘር ለመዘራትም ሆነ የተለያዩ አረንጓዴ እጽዋት የሚያስፈልጋቸውን የእርጥበት መጠን ከማግኘት አንጻር ከፍተኛ ጠቀሜታ ነበረው። እንዲሁም በአርብቶ አደሮችና በከፊል የአርብቶ አደር አካባቢዎች ለእንስሳት ጤንነትና የምርታማነት መሻሻል የጎላ ጠቀሜታ ነበረው።

## **SUMMARY**

### **Belg 2024**

Based on NMA's seasonal classification, Belg is consisting of four months starting from February and ending with the month of May. Normally central parts of northern highlands, eastern highlands, parts of central, south-western and southern Ethiopia are known as Belg growing areas. The contribution of Belg rainfall is ranging from 5-30% over north, north-eastern, and eastern highlands, whereas 30-60% over south and south-western parts of the country from annual total crop production of the areas. North Shewa, East and West Hararge, Arsi, Bale, north and south Wollo, Borena and SNNPR (Kembata, Hadiya and Welayita, Gurage, Keffa and Bench) start their land preparation and sowing activities during December to February. It is the time for water harvesting over pastoral and agro pastoral areas of southern and south-eastern Ethiopia.

During the month of February 2024, particularly in the first and second dekad of the month, According to the agro-meteorological information collected from various parts of the country, light to moderate rainfall was recorded over southern, south-western, central, northern and north-eastern Ethiopia including southern Rift Valley and adjacent areas. The moisture obtained during the month played certain positive role for conducting land preparation in the southwest, the north-east and central parts of the country, where Belg season agricultures are practiced widely. In addition, it might also have positive contribute toward the supply of water for perennial plants and ensure the availability of drinking water and pasture for pastoral and agro pastoral communities.

During the month of March 2024, most of Belg rain benefiting areas of the country experienced good moisture condition in amount and distribution. This situation had positive contribution for land preparation, sowing of Belg crops as well as satisfies the water need of perianal plants and availability of pastors and drinking water across the pastoral and agro-pastoral areas. Moreover especially, after the second dekad of the month relative increase in moisture was observed over southern, south-western, eastern, north-eastern and central parts of the country. The situations was sustain sowing of long cycle crops as well as satisfy the water need of perennial plants. Heavy rainfall was also recorded in 24 hours over most part of Belg rain benefiting areas of the country, the obtained heavy fall could be favorable for farmers who are in moisture stress areas, to collect and store rain water where that can be used in time of deficit. However the observed heavy fall might have created flood and river

flow which has negative impact on animals, people and property, as well as on the crops that were sown earlier and at different stages of development.

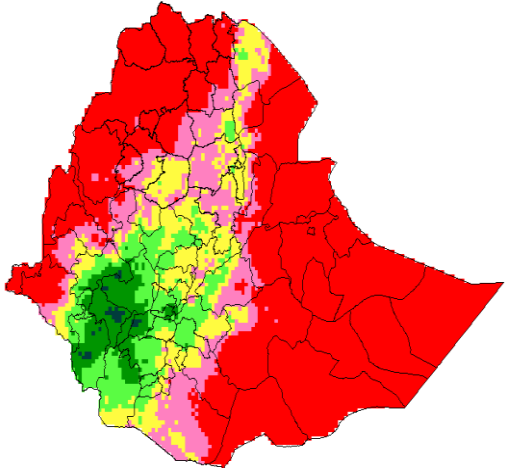
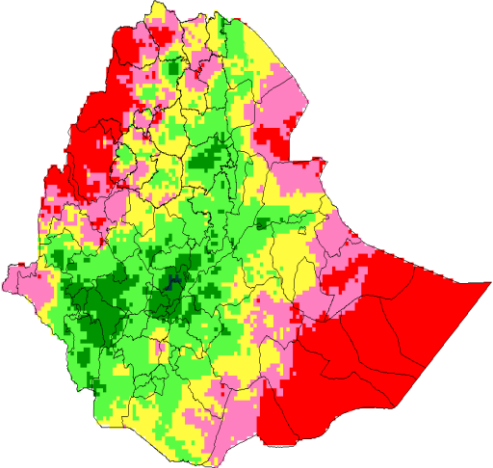
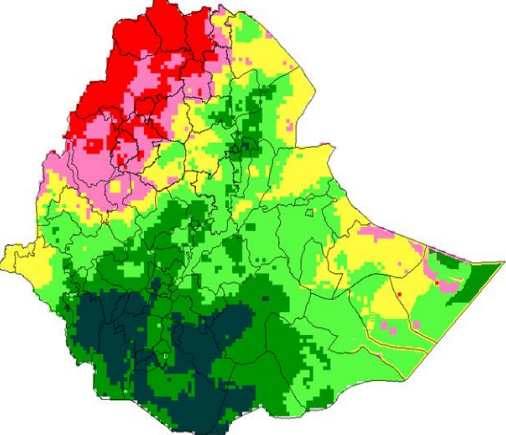
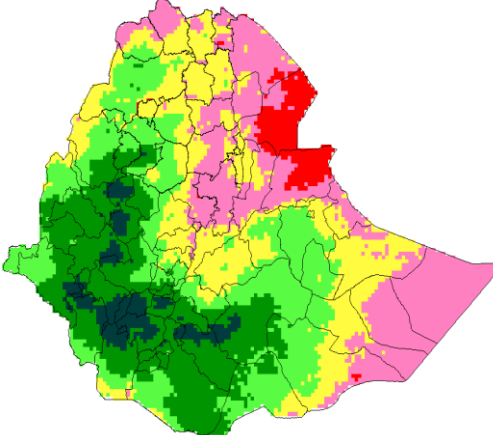
During the month of April 2024, in the first dekad of the month the moisture condition prevailed only over eastern, south-eastern, central and western parts of the country. However in the second and third dekad rain bearing meteorological phenomena was strengthening in amount and distribution over much of Belg rain benefiting area of the country. This situation might have positive impact on moisture requirement of different Belg and Meher long cycle crops found at various phases of growth, perennial plants, general agricultural activities, improve pasture and drinking water availability in pastoral and agro pastoral areas. Besides, the observed heavy rainfall over much of the country might have positive impact on the ongoing Belg agricultural activities normally moisture deficit areas and water harvesting where that can be used in time of deficit. On the other hand, the observed extreme heavy fall greater than 30mm in one rainy day may cause flood and water logging on crops field in low lying areas and soil erosion on sloppy areas as well as it could affect by washing away the crops found in different growth stages.

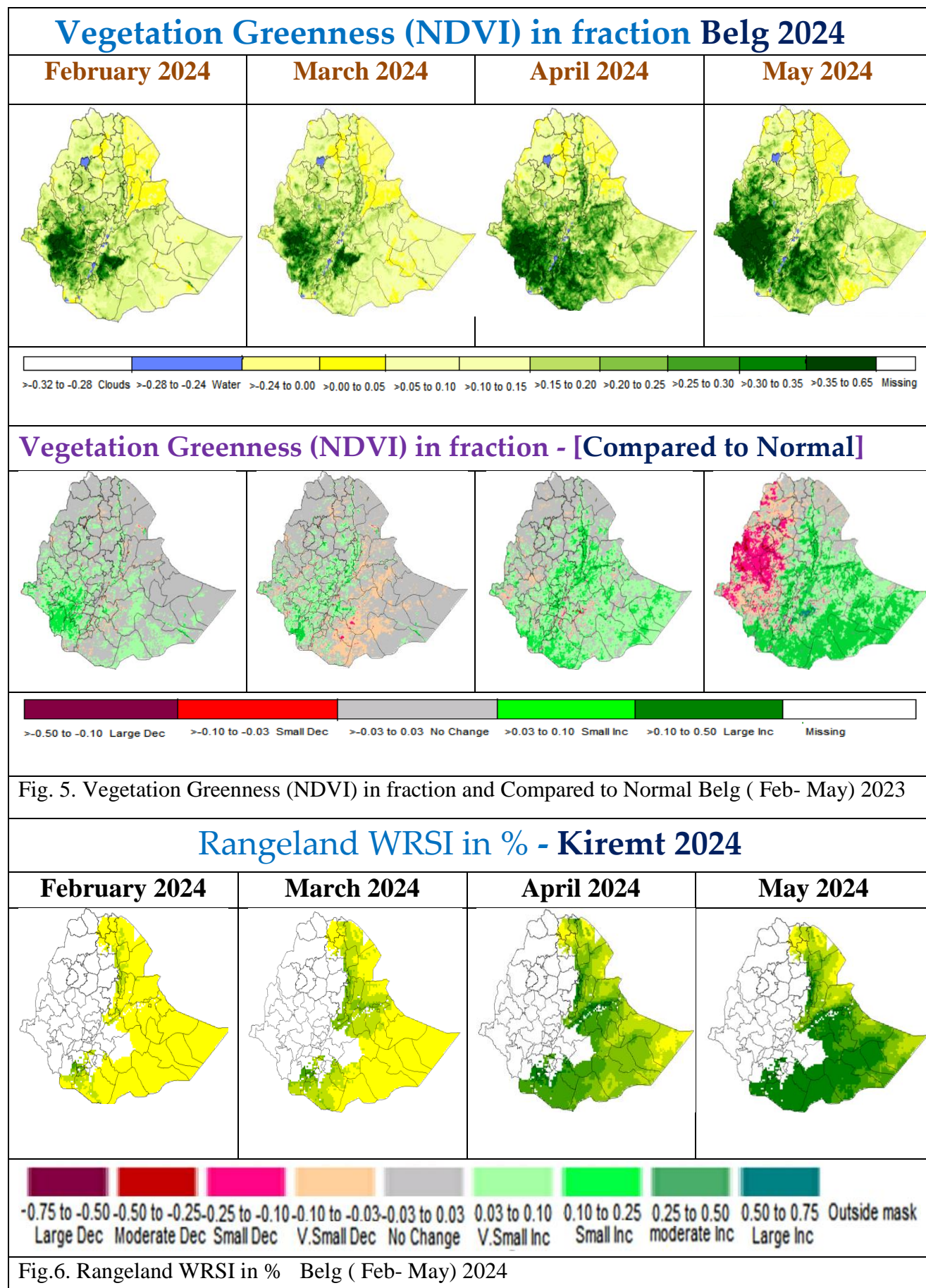
During the month of May 2024, under normal circumstance the rainfall activity has been decreasing from eastern, north-eastern, central and southern parts of the country and expands to western half of the region. During the month under review according to the analysed agro-meteorological information, most of Belg crop growing as well as Belg season rain benefiting areas experienced enhanced moisture situation in amount and distribution. In relation with the enhanced moisture condition heavy rainfall 30mm and above during 24hrs period were reported at several agro-meteorological stations. This situation might have positive impact on moisture requirement of Belg crops found at various phases of growth and water need of perennial plants, the observed condition was positive to conduct land preparation and sowing of long cycle crops that could be performed during April, it could also gave good opportunity to perform rain water harvesting and storing. Moreover the observed widespread moisture distribution could also have indispensable contribution on the availability of pasture and drinking water for pastoral areas. However, due to the pronounced widespread and intensified rainfall with high wind and hailstone over some places of the country like Dawro, Hadya and Silti zone of Kebena Woreda might result in crop damage, which were attaining at different phenological stages. Moreover the observed heavy fall might have positive impact on the ongoing Belg agricultural activities normally moisture deficit areas and water harvesting where that can be used in time of deficit.



Generally, when assessing the agricultural activities of Belg 2024, the analyzed agro-meteorological indicators show that during the current season, agromet index and ground observations confirmed an early start for the Belg season, while timely onset on the north-eastern and Gu/Genna rainy season. The timely/early onset and the wet conditions as depicted on MI, NDVI and RLWRSI, Crop WRSI and SPI which indicate better moisture receiving all over the seasons. This situation might have positive impact on early sown of Belg crops found at various phases of growth, satisfy the water need of perennial plants, Meher crops field preparation and sowing of long maturing crops as well as favor the seasonal agro-pastoral practices adequacy of livestock fodder, forages and drinking water Afar, northern Somali and the main rainfall region Gui/Genna rains over south Omo, southern Oromia and southern Somali. Moreover over the Gui/Genna rain-regimes of south and southeast Ethiopia, the whole index obtained in each month were above average, hence good moisture conditions were experienced over the major portions of these regions. This is consistent with good rainfall performance during the Belg 2024 season. In addition to this, the long rains have started on time over much portions of western and southwestern Ethiopia suitable for land preparation and planting of long cycle crops like maize and sorghums. On the other hand, Heavy fall over many parts experienced water logging, runoff, soil erosion and landslide which have negatively impacted on crops, animals and properties. However, heavy fall had a good opportunity to collect rain water harvesting where that can be used in time of deficit.

## Belg 2024 Moisture Status Map

		<ul style="list-style-type: none"> <li><span style="color: red;">■</span> Very Dry</li> <li><span style="color: pink;">■</span> Dry</li> <li><span style="color: yellow;">■</span> Moderately Dry</li> <li><span style="color: lightgreen;">■</span> Moist</li> <li><span style="color: green;">■</span> Humid</li> <li><span style="color: darkgreen;">■</span> Hyper Humid</li> <li>Outside mask</li> </ul>
<p>Figure 1. Moisture status for the month of February 2024</p>	<p>Figure 2. Moisture status for the month of March 2024</p>	
		<ul style="list-style-type: none"> <li><span style="color: red;">■</span> Very Dry</li> <li><span style="color: pink;">■</span> Dry</li> <li><span style="color: yellow;">■</span> Moderately Dry</li> <li><span style="color: lightgreen;">■</span> Moist</li> <li><span style="color: green;">■</span> Humid</li> <li><span style="color: darkgreen;">■</span> Hyper Humid</li> <li>Outside mask</li> </ul>
<p>Figure 3. Moisture status for the month of April 2024</p>	<p>Figure 4. Moisture status for the month of May 2024</p>	



## Computed Crop WRSI on Belg\_2024\_Maize, Sorghum, Teff and Wheat

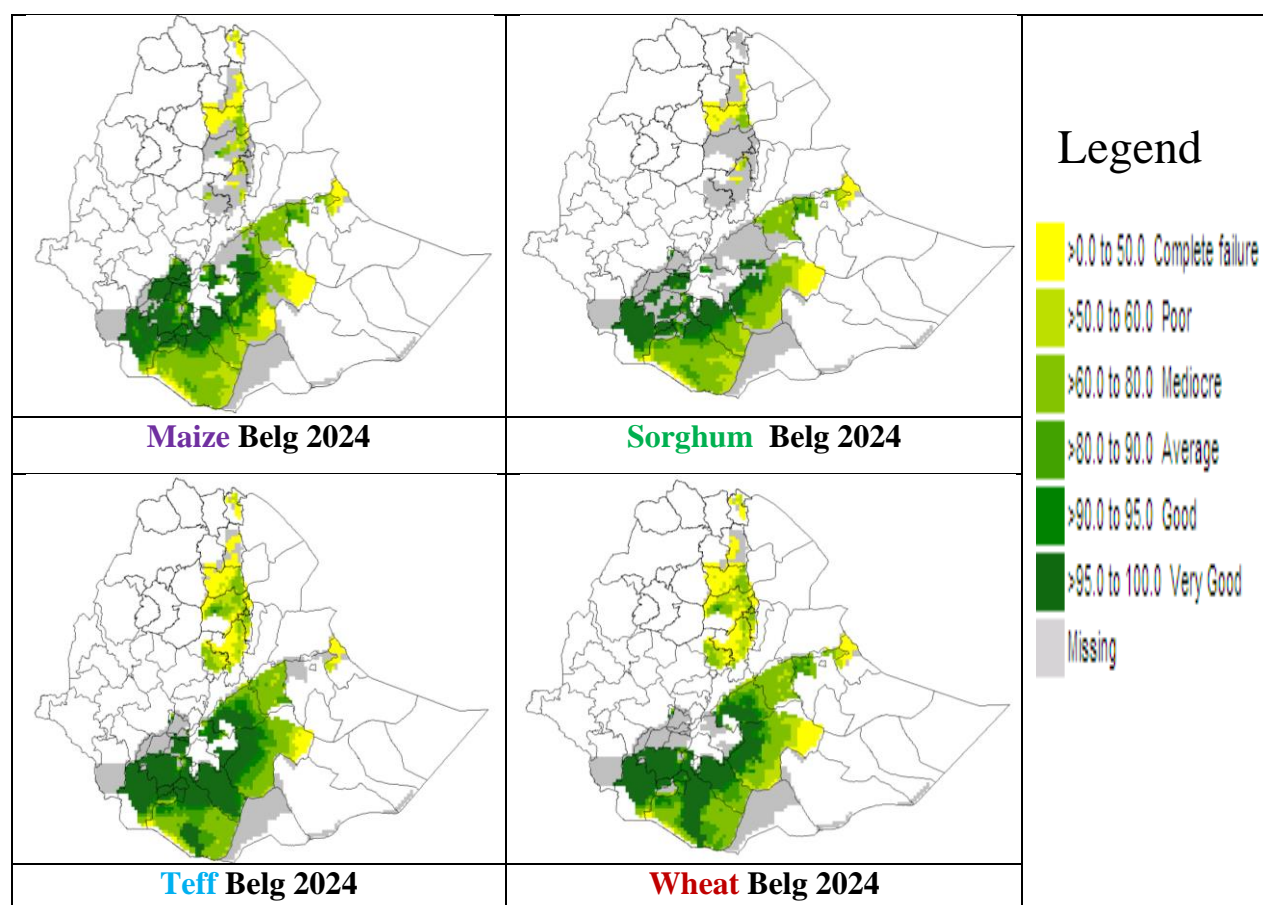
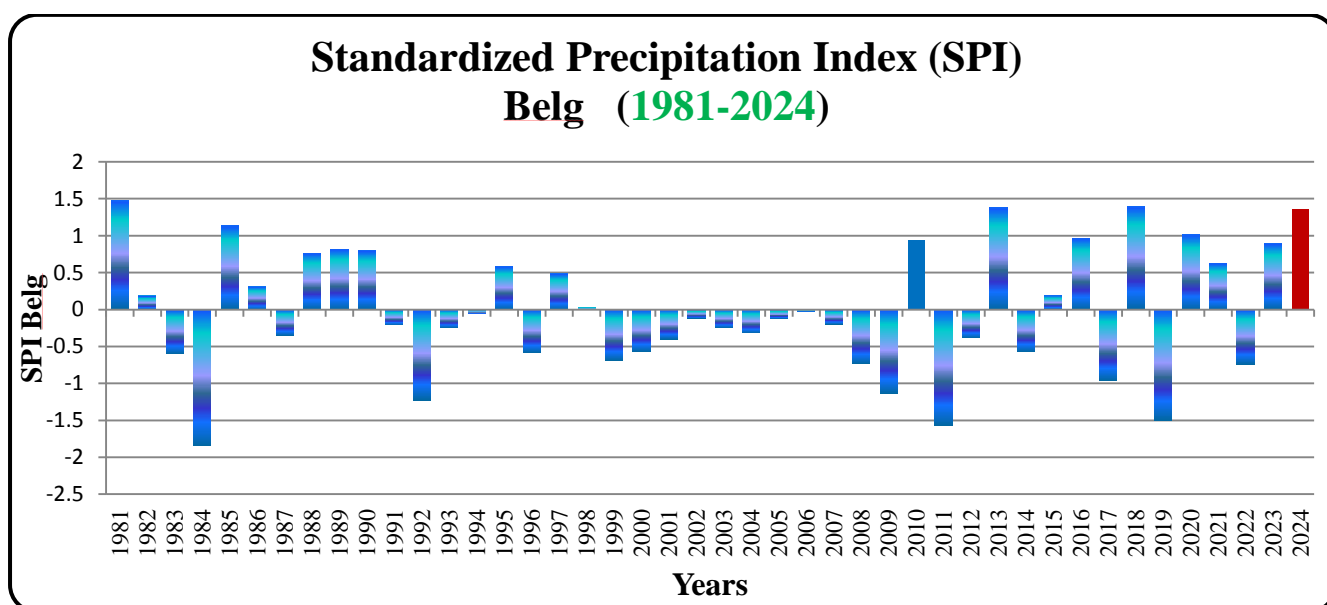
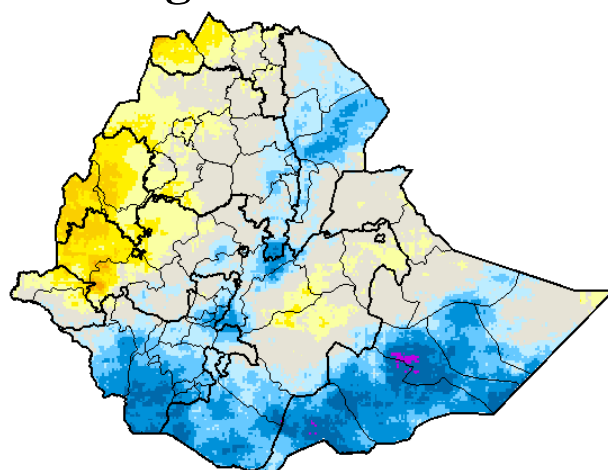


Fig. 7. Computed Crop WRSI on Belg\_2024 Maize, Sorghum, Teff and Barely

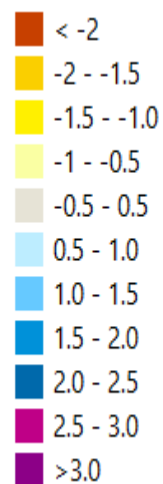




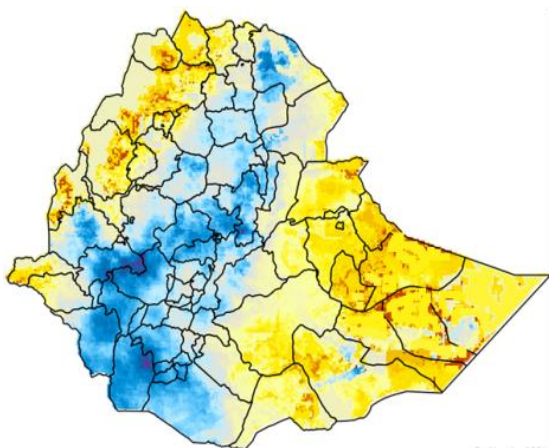
## Belg 2024 SPI



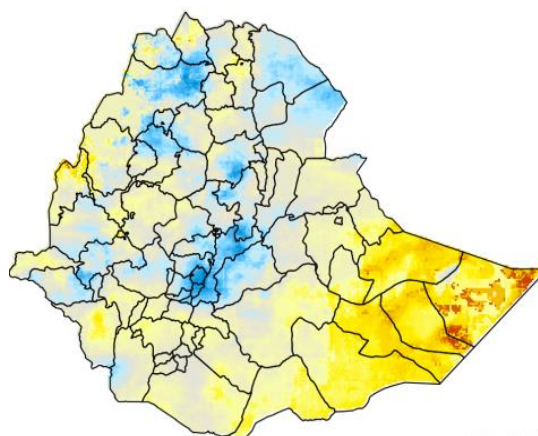
## Legend



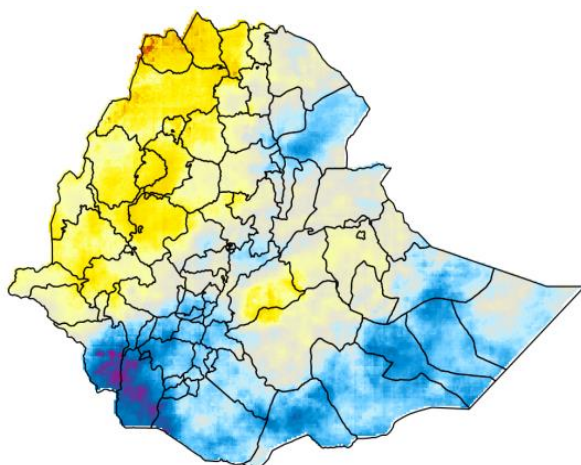
## SPI February 2024



## SPI March 2024



## SPI April 2024



## SPI May 2024

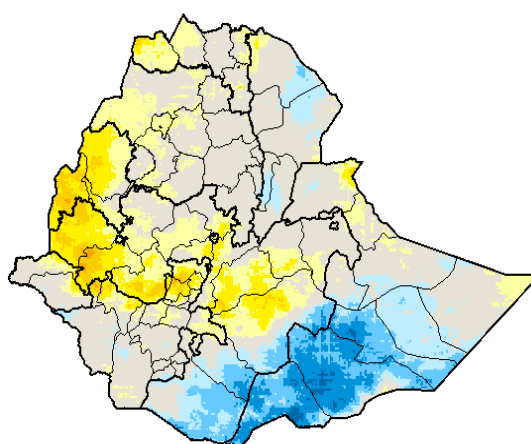


Fig. 8. Computed SPI Belg ( Feb- May) 2024.



## 1. WEATHER ASSESSMENT

### 1.1. Rainfall amount (21 – 31) May 2024

During the third dekad of May 2024, pocket areas of East and West Wellega dividend areas were received above 200mm rainfall. Some adjacent areas of East Wellega, Illubabor, West Wellega, Kemash, Metekel and some pocket areas of Sheka, South Wollo and Sidama Zones were received 100-200mm rain fall. In addition to this East and West Wellega, Godere, Assossa, Jimma, North Gonder, pocket areas of South Wollo, Agew Awi, Metekele, Kemashe, West Shewa, Keffa, Wolayta, Dawuro, Hadiya, Gedeo, Gammo Goffa and Illubabor Zones were prevailed 50-100mm rainfall. Inline to this some parts of North Gonder, Adjucent areas of East Gojam and Awi, Assossa, Bench Maji, Basketo, South Ommo, West Shewa, Guji and Gedeo Alaba, Silte and Dawro Zones were experienced 25-50mm of rain fall. However the rest part of the country especially Central, Southern and Eastern half as well as Northeastern parts of the country was received 0-25 mm of rain fall.

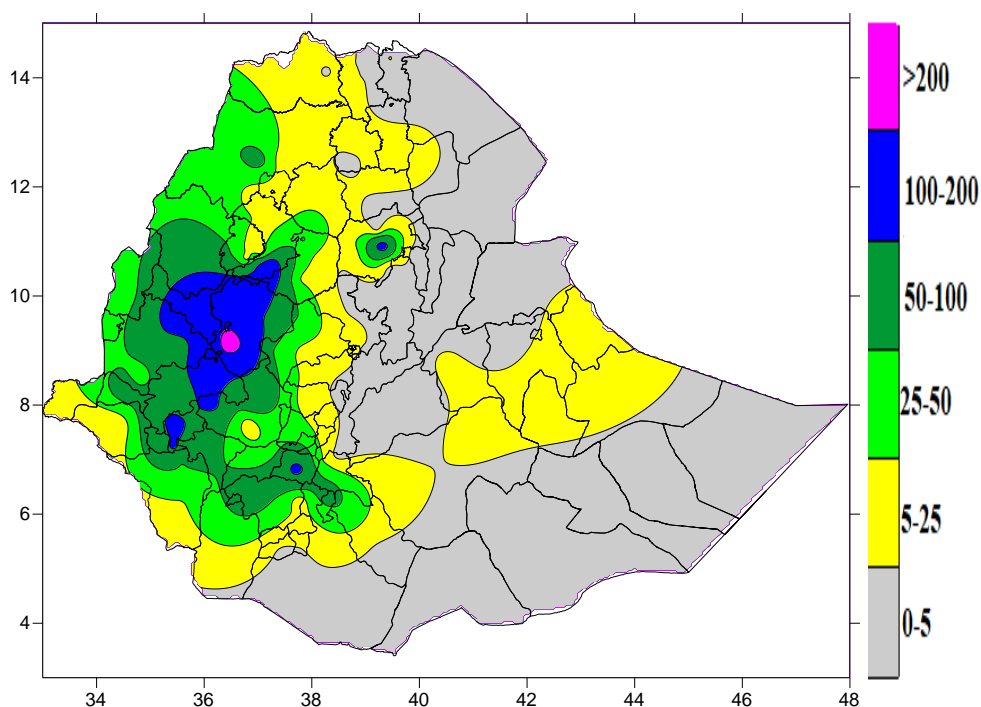


Fig 9. Rainfall distribution in mm (21 – 31) May 2024

## 1.2. Rainfall Anomaly (21 – 31) May 2024

During the third dekad of May 2024 the rain fall anomaly map below most parts of the country except some parts of Central half and Western tip of the country the rest parts of were exhibited Below Normal to Much Below Normal rainfall condition.

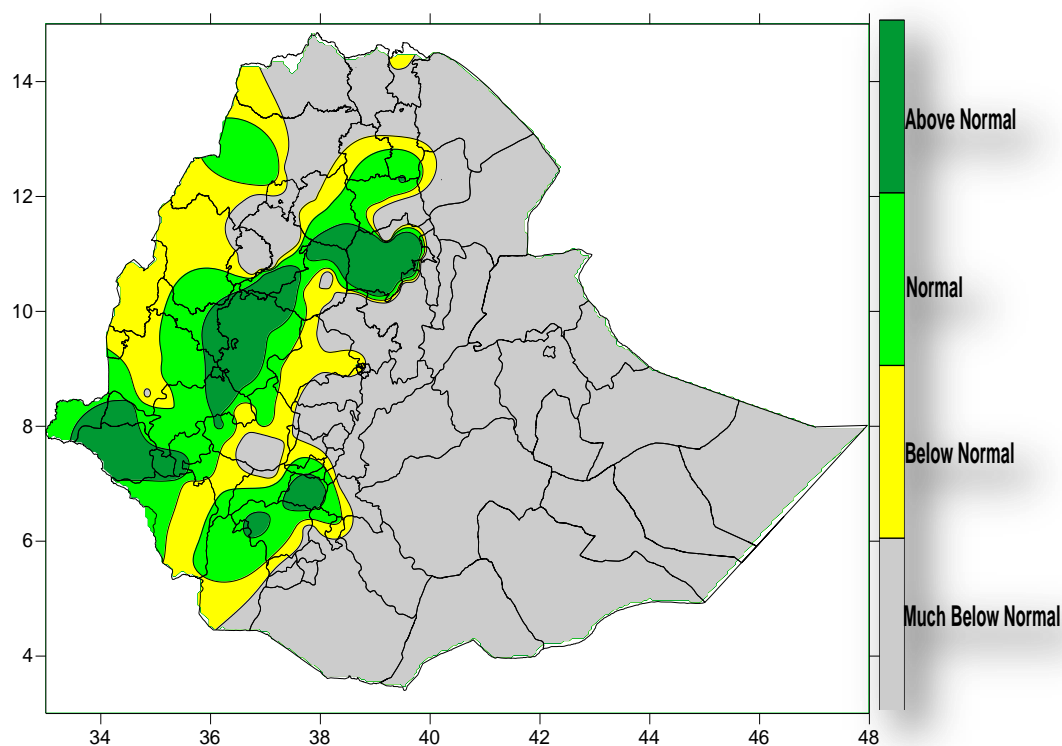


Fig. 10. Percent of normal rainfall distribution (21 – 31 May 2024)

### Explanatory notes for the Legend

- < 50-Much below normal
- 50-75%-Below normal
- 75-125%- Normal
- > 125% - Above normal

### 1.3. Moisture status (21 – 31) May 2024

During the third decade of May 2024, western half of Belg rain receiving areas except north western Tigray and some parts of Gambela region exhibited moist to hyper moist soil moisture. The rest parts of the countries exhibited Moderately Dry to Very Dry.

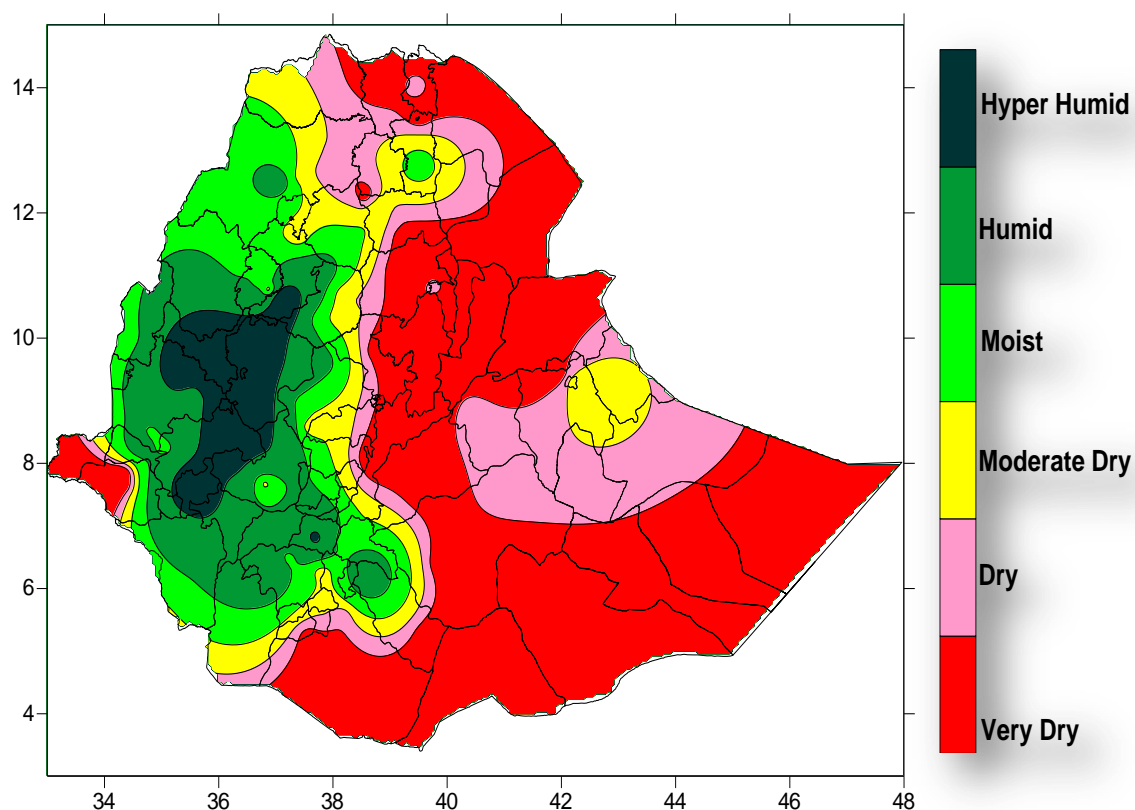


Fig.11. Moisture Status (21-31 May 2024)

#### 1.4. Rainfall amount on the month of May 2023

During the Month of May 2024 in some areas of East and West Wellega, Kemashe, Illubabor, East Gojam, Godere , Gamogoffa dividend areas of Sidama, Wolayta, Gedeo, and Bale Zones were received above 200mm rain fall. Most **areas of** East Wellega, Metekele, Kemashe, Illubabor, Godere, Jimma, Keffa, Sidama, Wolayta, Gedeo, and Bale, Dawuro, Gammo Goffa, Yem special woreda, Alaba, Dawro, Guji, Borena, Amaro, Konso, South Ommo, Liben, Derashe, Basketo, Afder, some parts of West and North Shewa, East Gojam, North Gonder and tip of South Wollo Zones were received 100-200mm rain fall.

In addition to this Afder, Gode, Fiq, East and West Hararghe, Arsi, SW Shewa, Silti, Guraghe, East and West Gojam, Bahirdar Zuria, Agew Awi, North Gonder, South Wollo, Oromia Special Zones were received were prevailed 50-100mm rain fall. On the other hand, some parts of Degahabur, Gode, Jigjiga, Shinle, Afar Zone 3, 4 and 5, North Wollo, Waghmira, most parts of Tigray, Addis Ababa, and East Shewa Zones were experienced 25-50mm of rain fall. However, the rest part of the country especially, the Eastern and South Eastern edge were received 0-25 mm of rain fall.

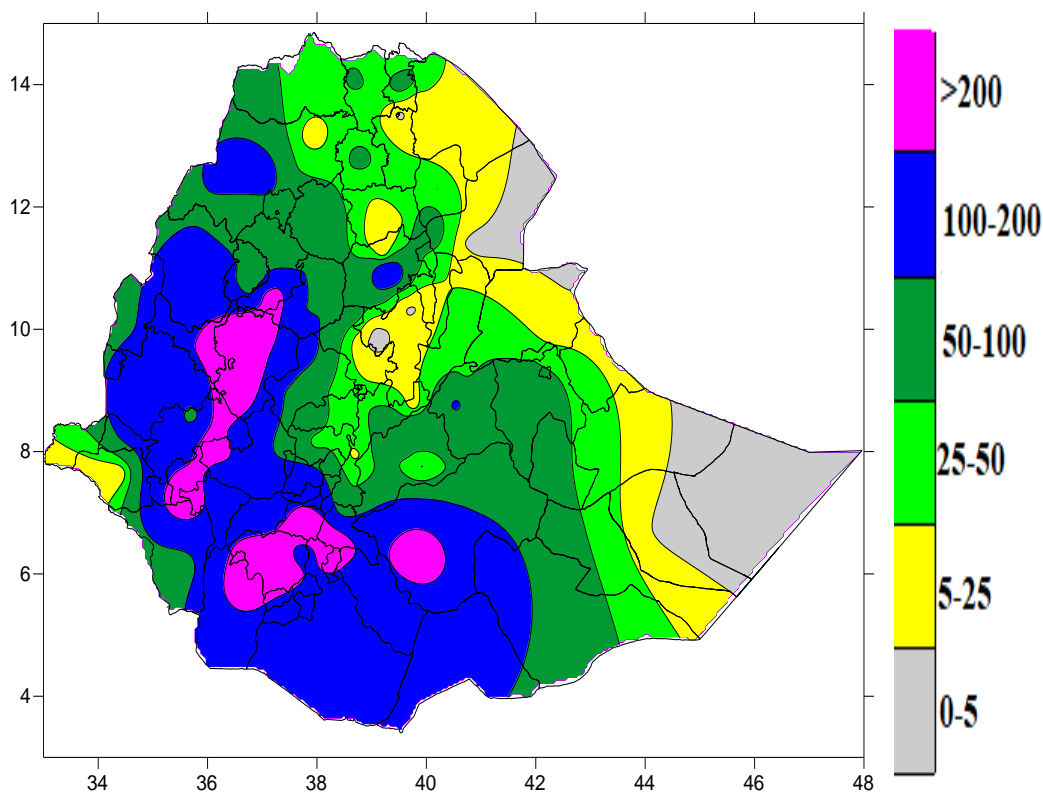


Fig. 12. Rainfall amount in mm for the month of May 2024

### 1.5. Rainfall Anomaly on the month of May 2024

During the month of May 2024, most parts of the country, except Northern and Northeastern parts of the country were exhibited Normal to Above Normal Rain fall condition.

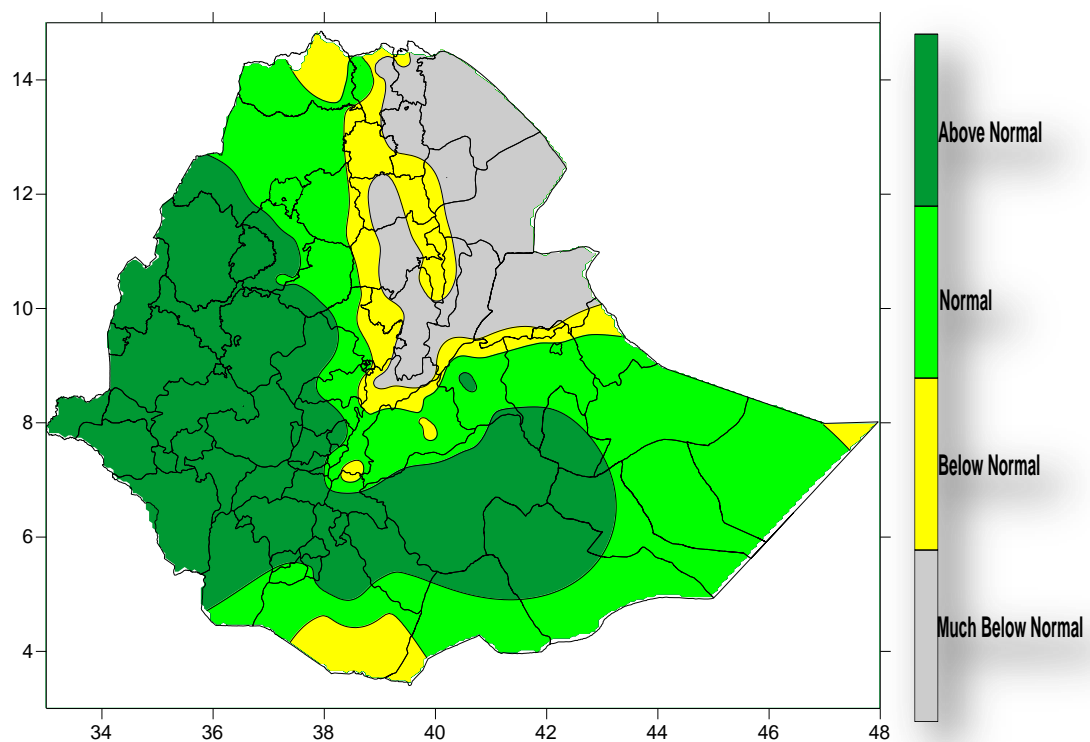


Fig. 13. Percent of Normal Rainfall for the month of May 2024

#### Explanatory notes for the Legend

- < 50-Much below normal
- 50-75%-Below normal
- 75-125%- Normal
- > 125% - Above normal



### 1.6. Moisture status on the month of May 2024

During the month of May 2023, Most parts Belg rain receiving areas except some parts South east, north western and parts nort easter parts of the country exhibited moist to Humid soil moisture. The rest parts of the countries exhibited Moderately Dry too Very Dry.

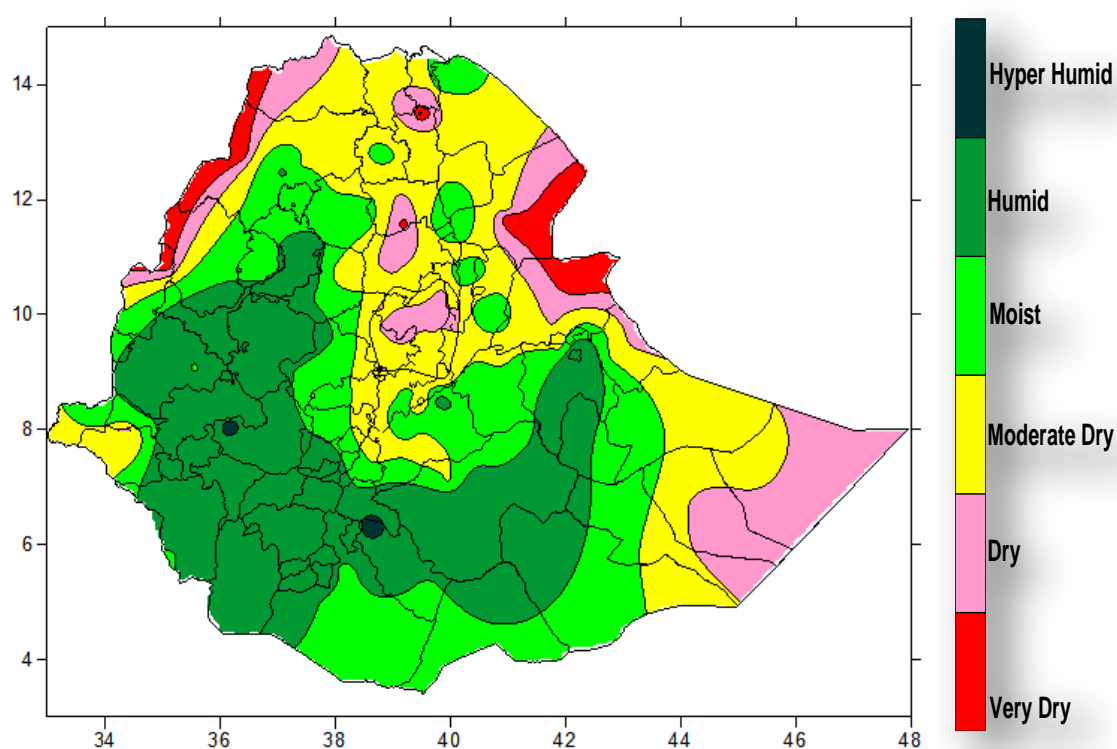


Fig. 14. Moisture status for the month of May 2024

### 1.7. Rainfall Amount on Belg season 2024

During the Belg Season of 2024 from February to May, most of the Central half, and Southern parts of the country received more than 300 mm rain fall. And the most Central half of the country also received 200-300 mm of rainfall. Northern, Eastern and Northwestern half of the country also received 100-200 mm of RF. In addition to this Northern, Eastern and Southeastern as well as Northwestern edge of the country were experienced 25-100 mm of rainfall.

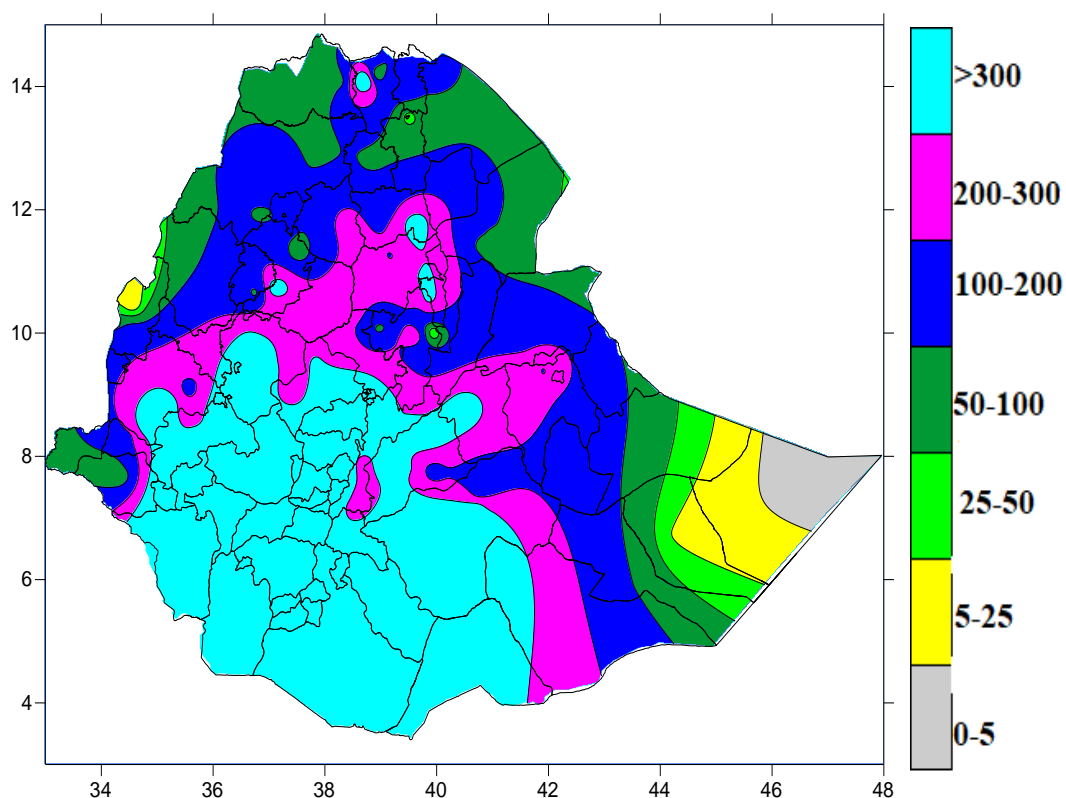


Fig.15. Rainfall amount in mm for Belg 2024

### 1.8. Rainfall Anomaly on Belg Season 2024

During Belg 2024 season the rain fall anomaly map below most parts of the country except Southeastern and Northwestern as well as Western tip of the country were exhibited Normal to Above Normal Rain fall condition.

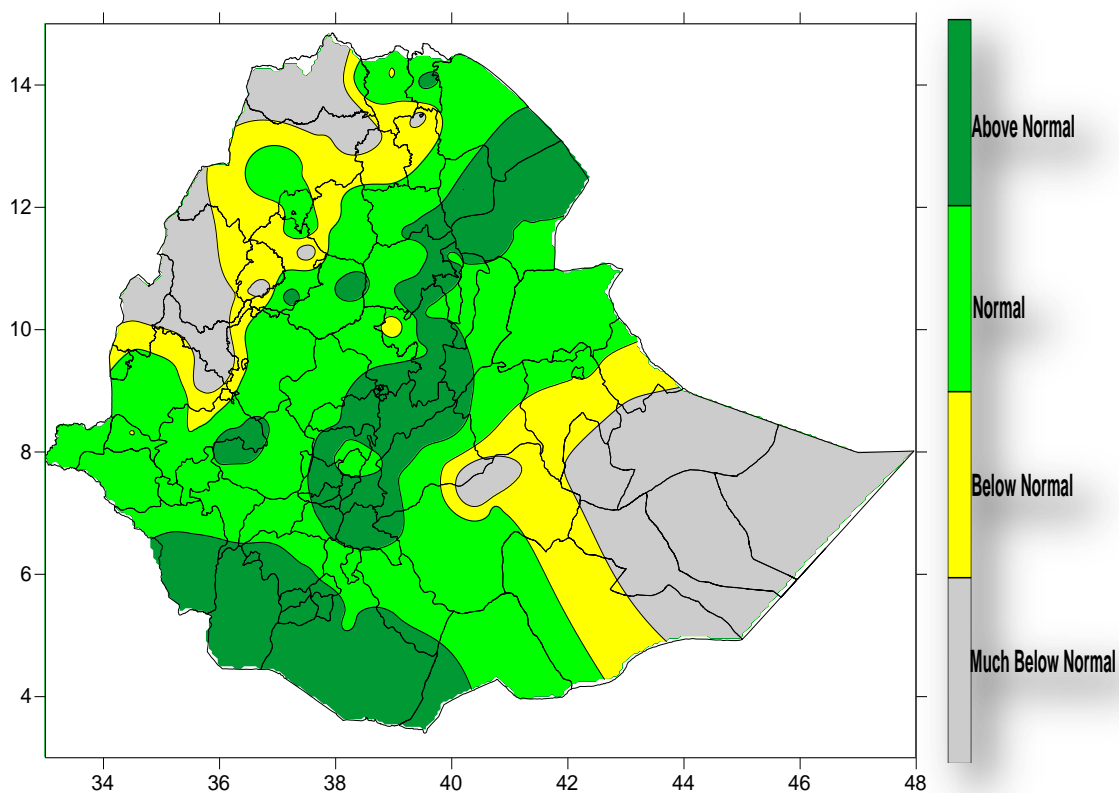


Fig.16. Percent of Normal Rainfall for Belg 2024

#### Explanatory notes for the Legend

< 50-Much below normal

50-75% -Below normal  
75-125% - Normal  
> 125% - Above normal

## **2. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE**

### **2.1. VEGETATION CONDITION AND IMPACT ON AGRICULTURE DURING BELG 2024**

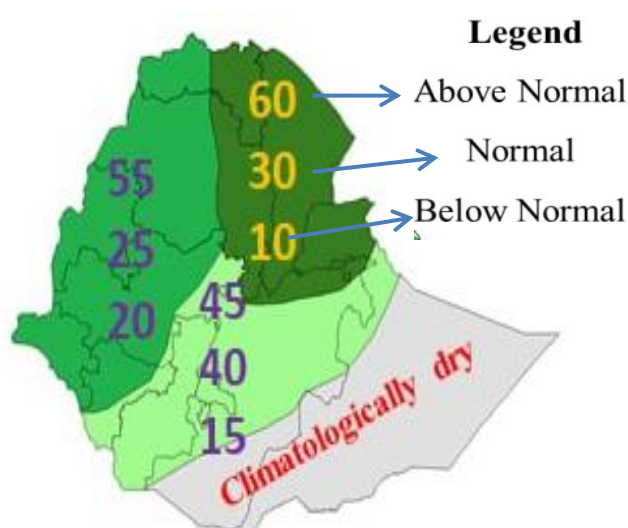
During Belg 2024 season, Agromet index and ground observations confirmed an early start of the Belg 2024 season, while timely onset for the Gu/Genna rainy season. Due to the experienced of good rainfall amount as depicted on MI, NDVI, RLWRSI, WRSI and SPI, ( Fig. 5. Vegetation Greenness (NDVI) in fraction, Fig.6. Rangeland WRSI in % and Fig. 7. Computed Crop WRSI and Fig. 8. Computed SPI Belg ( Feb- May) of Belg 2024) which indicate better moisture receiving all over Belg rain benefiting areas. In line with this the timely/early onset and the wet conditions favor for early sown of Belg crops, satisfy the water need of perennial plants and Meher crops field preparation and sowing of long maturing crops as well as favor the seasonal agro-pastoral practices adequacy of livestock fodder and forages, drinking water availability. This is consistent with good rainfall performance during the Belg 2024 season. On the other hand heavy fall over some parts experienced water logging, runoff, soil erosion and landslide which have negatively impacted on animals and crops. However, heavy fall had a good opportunity to collect rain water harvesting where that can be used in time of deficit.

## 2.2. EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING KIREMT, 2024 SEASON

Normally, the Kiremt season is the time when the moisture is prevalent in most of the Meher growing areas. Along with this, it is the time when the agricultural activities are carried out on a large scale in many areas of the country. Although in the Meher growing areas of the South and Southwest, farming activity has already started in Belg, in other meher growing areas, it is the time when farmers prepare their fields and cover them with different types of crops. It is time to get enough water for the long-cycle crops that have already been sown in April and May. Also, since it is the time when areas with moisture stress get good opportunities to store rainwater and the livestock farming in areas that benefit from kiremt rains have favorable conditions for providing pasture grass and drinking water.

The analyzed Moisture Status, Standardized Precipitation Index (SPI) and Rainfall Anomaly of all analogue years JJAS shows good spatial and temporal moisture coverage. Spatial and temporal SPI analysis for each analogue year doesn't indicate significant drought signals in most Meher crops growing areas. Total crops water requirement (WRSI) in all analogue years shows average to good WRSI condition. Over pocket areas of eastern parts slightly decrease the WRSI of common crops. Month to month improvement of NDVI and Range land WRSI expected to favor availability of pasture and drinking water over eastern and north-eastern pastoral and agro pastoral community.

### TERCILE PROBABILITY FOR KIREMT (JJAS) 2024



### IMPLICATION OF THE SEASON

- ☀️ Above Normal expected across the Central and South Tigray, Afar, East Amhara northern Somali and eastern portions of the country.
- ☀️ Above normal expected over western Tigray, west Amhara, Benishagulgumuz, west Oromiya, Gambella and South Western regions of Ethiopia.
- ☀️ Normal to above normal expected over Central and south-western portions of the country.
- ☀️ Early onset over SW portions and normal over much of the JJAS rainfall benefiting areas.
- ☀️ and Late cessation from western, central, eastern and north eastern portions of the country.
- ☀️ Occasional heavy rainfall will occur during July and August



According to the given climate outlook for Kiremt (JJAS) 2024, above normal rainfall is anticipated to dominate across the central and south Tigray, Afar, East Amhara northern Somali and eastern portions of the country as well as western Tigray, west Amhara, Benishagulgumuz, west Oromiya, Gambella and South western regions of Ethiopia will dominantly receive above normal rainfall and an increased chance of the domination of normal to above normal expected over central and south-western portions of the country.. The onset of the season is also expected to early over south west portions and follows its normal pattern over much of the JJAS rain benefiting areas of the country. Late cessation expected from western, central, eastern and north eastern portions of the country. Occasional heavy rains during July and August may cause of flood across flood prone areas. Moreover the expected La Niña and positive IOD will benefit the south and southeastern portions of the country. They will get rainfall in the coming August and September months.

In line with this, the forecasted early onset across the southwestern and normal over much of the JJAS rainfall benefiting areas will favor land preparation and the timely planting of Meher crops. The expected moisture during June possibly will have positive implication for the existing Belg crops as well as long cycle crops which were planted during April and May. Moreover areas which are positioned in the category of dominantly above normal rainfall may have high chance of getting excesses amount of moisture, In the positive aspect this may favors to sustain agricultural production, including long cycle crops which are planted during April and May, Positive contribution for fodder production and water storage and seeding of tree planting (National Green Legacy Program). The late cessation may favor toward satisfying the water need at end of the season. However, most places under above rainfall category are will get excesses moisture, the expected above average rainfall may cause saturation of soil moisture and leading to water logging, soil erosion, weed infestation, and fungus driven crop diseases. Moreover, due to longer wet spells, application of inputs, such as fertilizers and pesticides may become difficult to apply. The major challenge for areas under above average category is excessive moisture. To cope up this challenge, farmers are advised to select excess moisture tolerant crop varieties for planting. In addition, they should clear the existing drainage channels as well as preparing new drainage structure, if it is required, to drain out excessive moisture from crop fields. Farmers are also advised for getting themselves ready for managing the possible infestation of weed and fungus driven

crop disease. To minimize the risk related to flood, early preparation of diverting the runoff to the normal path of the stream flow is recommended.

Generally the following agro meteorological practice is recommended based on the Tercile rainfall category on the coming Kiremt 2024 over the selected woredas expected predominantly above normal rainfall category so the farmers to practices select excess water tolerant crops varieties/cultivars, prepare drainage structure to drain out excess water, postpone fertilizer application, protect weed infestation, conduct wide range of seedling, early preparation for protecting soil erosion, rehabilitating the available drainage systems or establishing new drainage structure, divert excess water to the normal path of their stream flow, continuous scouting of crop fields to monitor the likely occurrence of pest and disease and hunting regularly updated agro meteorological information. Finally users should interpret the weather outlook in terms of their area of interest and the existing condition of their specific areas and immediately disseminate this (early warning) information to decision makers as well as regularly follow-up the updated agro meteorological advisory in regular and timely manner from EMI website [www.ethiomet.gev.et](http://www.ethiomet.gev.et).

### **3. DEFINITION OF TERMS**

**ABOVE NORMAL RAINFALL:** - Rainfall in excess of 125% of the long term mean

**BELOW NORMAL RAINFALL:** - Rainfall below 75 % of the long term mean.

**NORMAL RAINFALL:** - Rainfall amount between 75 % and 125 % of the long term mean.

**BEGA:** - It is characterized with sunny and dry weather situation with occasional falls. It extends from October to January. On the other hand, it is a small rainy season for the southern and south eastern lowlands under normal condition. During the season, morning and night times are colder and daytime is warmer.

**BELG:** - Small Rainy season that extends from February to May and covers southern, central, eastern and north-eastern parts of the country.

**CROP WATER REQUIREMENTS:** - the amount of water needed to meet the water loss through evapotranspiration of a disease free crop, growing under non-restricting soil conditions including soil water and fertility.

**DEKAD:** - First or second ten days or the remaining days of a month.

**EXTREME TEMPERATURE:-** The highest or the lowest temperature among the recorded maximum or minimum temperatures respectively.

**ITCZ:-** Inter-tropical convergence zone (narrow zone where trade winds of the two hemispheres meet.

**KIREMT:** - Main rainy season that extends from June to September for most parts of the country with the exception of the south-eastern lowlands of the country.

**RAINY DAY:** - A day with 1 or more mm of rainfall amount

