

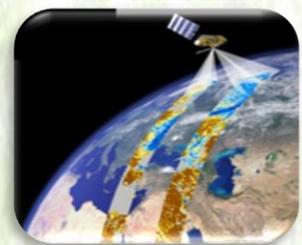
# NATIONAL METEOROLOGY AGENCY

## Agrometeorological Bulletin

### SEASONAL AGROMETEOROLOGICAL BULLETIN

---

Belg 2022 VOLUME 39 No. 15 DATE OF ISSUE: - June 8, 2022



National Meteorological Agency 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>12</b>
<b>1.1. Rainfall amount (21 – 31) May 2022 .....</b>	<b>12</b>
<b>1.2. Rainfall Anomaly (21 – 31) May 2022 .....</b>	<b>13</b>
<b>1.3. Moisture status (21 – 31) May 2022.....</b>	<b>14</b>
<b>1.4. Rainfall amount on the month of May 2022 .....</b>	<b>15</b>
<b>1.5. Rainfall Anomaly on the month of May 2022.....</b>	<b>16</b>
<b>1.6. Moisture status on the month of May 2022 .....</b>	<b>17</b>
<b>1.7. Rainfall Amount on Belg season 2022 .....</b>	<b>18</b>
<b>1.8. Rainfall Anomaly on Belg Season 2022.....</b>	<b>19</b>
<b>2. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE.....</b>	<b>20</b>
<b>2.1. VEGETATION CONDITION AND IMPACT ON         AGRICULTURE DURING BELG 2022 .....</b>	<b>20</b>
<b>2.2. EXPECTED WEATHER IMPACT ON AGRICULTURE DURING         THE COMING KIREMT, 2022 SEASON .....</b>	<b>21</b>
<b>3. DEFNITION OF TERMS.....</b>	<b>23</b>

## **FORE WARD**

This Agro met Bulletin is prepared and disseminated by the National Meteorological Agency (NMA). 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  
NMA  
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 2022

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) የማሳ ገገጅትና የዘር ጊዜ የሚጀምሩት ከደሴምበር እስከ በፌብሩዋሪ ባለው ጊዜ ውስጥ ነው። በተጨማሪም ወቅቱ የደቡብና ደቡብ ምስራቅ አካባቢዎች ለግጦሽ ሣርና ውሃ አቅርቦት የሚሆን ውሃ የሚያከማቹበት ጊዜ ነው።

እ.ኤ.አ በፌብሩዋሪ ወር 2022 የነበረው የእርጥበት ሁኔታ ሲገመገም በመጀመሪያዎቹ እና በሁለተኛዎቹ አስር ቀናት ሞቃታማ እና ፀገያማ የአየር ሁኔታ በአብዛኛዎቹ የሀገሪቱ አካባቢዎች ላይ አመዝኖ የቆየ ሲሆን ነገር ግን በሶስተኛው አስር ቀናት በተለይም አስቀድመው ተፈጥረው የነበሩ የባህር ላይ ሞገዶች እየተዳከሙ በመሄዳቸው ምክንያት የተወሰነ እርጥበት ወደ ሀገራችን አንዲገባ ምቹ ሁኔታ በመፈጠሩ አንዳንድ የሀገሪቱ አካባቢዎች የተወሰነ እርጥበት አግኝተዋል። ከዚህም ጋር ተያይዞ በደቡብ ብሄር ብሄረሰቦች፣ በሲዳማ፣ በደቡብ ምዕራብ ኢትዮጵያ፣ በምዕራብና መካከለኛው ኦሮሚያ፣ በመካከለኛውና ምስራቅ አማራ እንዲሁም በጥቂት የደቡብ ደጋማ ስፍራዎችና ምስራቅ ኢትዮጵያ አካባቢዎች ከቀላል እስከ መካከለኛ መጠን ያለው ዝናብ እንደመዘገቡ ከተለያዩ የሀገሪቱ ክፍሎች የተሰበሰቡ የግብርና ሚቲዎሮሎጂ መረጃዎች አመልክተዋል። በወሩ የተገኘው እርጥበት የበልግ ሰብል በስፋት አምራች ለሆኑት ለደቡብ ምእራብ አካባቢዎችም ሆነ ለሰሜን ምስራቅ እና ለመካከለኛው የሀገሪቱ አካባቢዎች የማሳ ገገጅት ለማድረግ አዎንታዊ ሚና ነበረው። በተጨማሪም ለቋሚ ተክሎች የውሃ ፍላጎት መሟላት ከነበረው አስተዋፅኦ ጎን ለጎን ለመጠጥ ውሃና ለግጦሽ ሳር አቅርቦት በመጠኑም ቢሆን በጎ ጎን ነበረው።

እ.ኤ.አ በማርች ወር 2022 የነበረው የእርጥበት ሁኔታ ሲገመገም በተለይም በመጀመሪያዎቹ አስር ቀናት ደረቃማ የአየር ሁኔታ በአብዛኛዎቹ የሀገሪቱ አካባቢዎች ላይ አመዝኖ የቆየ ሲሆን ነገር ግን በሁለተኛውና በሶስተኛው አስር ቀናት አንጻራዊ የሆነ የእርጥበት መጨመር የታየ ሲሆን ከዚህ ጋር ተያይዞ በተለያዩ አካባቢዎች ላይ ከቀላል እስከ ከባድ መጠን ያለው ዝናብ እንደተመዘገበ ከተለያዩ የሀገሪቱ ክፍሎች የተሰበሰቡ የግብርና ሚቲዎሮሎጂ መረጃዎች አመልክተዋል። በወሩ የተገኘው እርጥበት የበልግ ሰብል በስፋት አምራች ለሆኑት ለደቡብ ምዕራብ፣ ለሰሜን ምስራቅ እና ለመካከለኛው የሀገሪቱ አካባቢዎች የማሳ ገገጅት ለማከናወንና የተለያዩ የበልግ ወቅት ሰብሎችን ለመዝራት አዎንታዊ ሚና ነበረው።

በተጨማሪም ለቋሚ ተክሎች የውሃ ፍላጎት መሟላት ከነበረው አስተዋፅኦ ጎን ለጎን ለመጠጥ ውሃና ለግጦሽ ሳር አቅርቦት የጎላ ሚና የነበረው ሲሆን በአጠቃላይ ከዝናብ ወቅት መዘግየት ጋር ተያይዞ ተፈጥሮ የነበረውን የእርጥበት እጥረት ከመቅረፍም ሆነ የአፈር ውስጥ እርጥበትን ከማሻሻልና ለመጠጥ ውኃ አቅርቦት አስተዋጽኦ የሚያበረክቱ ምንጮችን ከማጎልበት አንጻር በወሩ ውስጥ የተገኘው እርጥበት ከፍተኛ ግምት የሚሰጠው ነበረ።

እ.ኤ.አ በአፕሪል ወር 2022 ለወቅቱ ዝናብ መኖር አመቺ ሁኔታን የሚፈጥሩ የአየር ሁኔታ ክስተቶች በበልግ አብቃይ እና ተጠቃሚ በሆኑ የሀገሪቱ አካባቢዎች ላይ ተጠናክረው ተስተውለዋል። ከዚህም ጋር ተያይዞ በአብዛኛው የበልግ አብቃይ እና ተጠቃሚ የሀገሪቱን ክፍሎችን ያዳረሰ የእርጥበት ሁኔታ ነበረው። ይህም ሁኔታ ቀደም ብለው ተዘርተው በተለያዩ የእድገት ደረጃ ላይ ለሚገኙ የበልግ ሰብሎች ቀጣይ እድገታቸው ላይ የጎላ ጠቀሜታ የነበረው ሲሆን፤ ለረጅም ጊዜ ሰብሎች የማሳ ዝግጅትና ለዘር እርሻ እንቅስቃሴ፤ ለቋሚ ሰብሎች የውሀ ፍላጎት መሟላት በተጨማሪም ለአርብቶ አደሮችና ከፊል አርብቶ አደሮች አመቺ ሁኔታን የፈጠረ ነበር። በተለይም በደቡብና በጥቂት ሰሜን ምስራቅ የሀገሪቱ አካባቢዎች ላይ በአንዳንድ ስፍራዎች የነበረው ከባድ መጠን ያለው ዝናብ ለአዝዕርቱ የውሃ ፍላጎት መሟላት፤ ለግጦሽ ሳርና ለመጠጥ ውሀ አቅርቦት አመቺ ሁኔታን ቢፈጥርም፤ በአንዳንድ ክፍላይ በተጠቀሱ አካባቢዎች የነበረው ከባድ ዝናብና ቅጽበታዊ ጎርፍ በተለያዩ የእድገት ደረጃዎች ላይ ባሉ ሰብሎች እንዲሁም በሰው እና በንብረት ላይ አሉታዊ ተፅዕኖ ነበረው። በሌላ በኩል ባለፈው የሚያዚያ ወር በማዳካስካር አካባቢ በተከታታይ በተፈጠረው ዝቅተኛ የአየር ግፊት ምክንያት በዚህ ወቅት በዋናነት ዝናብ በሚጠበቅባቸው የቦረናና ጉጂ እንዲሁም የደቡብ ምስራቅ የሀገሪቱ ክፍሎች ላይ አልፎ አልፎ ከነበራቸው አነስተኛ መጠን ያለው እርጥበት በስተቀር በአብዛኛው የእርጥበት እጥረት የነበራቸው ሲሆን፤ ይህም ሁኔታ በእነዚህ አካባቢዎች ለአርብቶ አደሮችና ከፊል አርብቶ አደሮች በተወሰነ መልኩ አሉታዊ ተጽእኖ ነበረው ።

እ.ኤ.አ በሜይ ወር 2022 ለወቅቱ ዝናብ መኖር አመቺ ሁኔታን የሚፈጥሩ የአየር ሁኔታ ክስተቶች በደቡብ፣ በደቡብ ምዕራብ እና በምዕራብ የሀገሪቱ አካባቢዎች ላይ የተሻለ ገፅታ ነበራቸው ከዚህም ጋር በተያዘ በአብዛኛዎቹ ቦታዎች ላይ የእርጥበት ስርጭቱ ብዙ ቦታዎችን ያዳረሰ የነበር ሲሆን በመካከለኛውና ምስራቅ ኢትዮጵያ አካባቢዎች ላይም አነስተኛ መጠን ያለው እርጥበት አግኝተዋል። ይህም ሁኔታ በበልግ አብቃይ እና ተጠቃሚ የሀገሪቱ ክፍሎች ተዘርተው ፍሬ በማፍራት እና በተለያዩ የእድገት ደረጃ ላይ ለሚገኙ የበልግ ሰብሎች ቀጣይ እድገታቸው ላይ ጠቀሜታ የነበረው ሲሆን፤ እንዲሁም ለረጅም ጊዜ ሰብሎች የማሳ ዝግጅትና ለዘር እርሻ እንቅስቃሴ፤ ለቋሚ ሰብሎች የውሀ ፍላጎት መሟላት በተጨማሪም ለአርብቶ አደሮችና ከፊል አርብቶ አደር አካባቢዎች ለግጦሽ ሳር እና ለመጠጥ ውሃ አቅርቦት አመቺ ሁኔታን የፈጠረ ነበር። በአንዳንድ ቦታዎች ላይ አልፎ አልፎ የነበረው ከባድ መጠን ያለው ዝናብ ለአብዛኛው የእርሻ እንቅስቃሴ ጠቀሜታው የጎላ የነበረ ሲሆንም፤ በተወሰኑ ቦታዎች ላይ አሉታዊ ጎን ነበረው። በተጨማሪም በመካከለኛው፣ በምስራቅ አማራና በደቡብ

ትግራይ በልግ አብቃይ አካባቢዎች ላይ የእርጥበት መቀነስ የነበረ ሲሆን፤ ይህም ሁኔታ ለበልግ ሰብሎች እድገት በመጠኑም ቢሆን አሉታዊ ጎን ነበረዉ። በሌላ በኩል በሀገሪቱ ቆላማ ቦታዎች ላይ የቀኑ ከፍተኛ ሙቀት ካለፉት ወራት አንጻር ጨምሮ የተስተዋለ ከመሆኑም ባሻገር በአንዳንድ ስፍራዎች ላይ እስከ 45 ዲግሪ ሴልሽየስ ሆኖ ተመዝግቧል። ይህም የተስተዋለው ከፍተኛ ሙቀት ከነበረው የዝናብ እጥረት ጋር ተያይዞ በእርሻው እንቅስቃሴ ላይ አሉታዊ ጎን ነበረው ።

የበልግ 2022 አጠቃላይ በእርሻ ስራ እንቅስቃሴ ላይ የነበረውን ሁኔታ ሲገመገም ከበልግ ወቅት ዝናብ አገባብ ጀምሮ በተለይም በመጀመሪያዎቹ የፌብሩዋሪና ማርች የበልግ ወራት በደቡብ ምእራብ እንዲሁም በተወሰኑ የሰሜን ምስራቅና የደቡብ በልግ አብቃይና ተጠቃሚ አካባቢዎች ላይ ከቀላል እስከ መካከለኛ መጠን ያለው እረጥበት የነበራቸው ሲሆን ይህም የተገኘው እርጥበት ለዘር እና ለማሳ ዝግጅት የእርሻ ስራ እንቅስቃሴ፣ በቡቃያ እና በእድገት ደረጃ ላይ ለሚገኙ የበልግ ሰብሎች የውሃ ፍላጎት መሟላት እንዲሁም በአርብቶ አደሮችና ከፊል አርብቶ አደር አካባቢዎች ለመጠጥ ውሃና ለግጦሽ ሳር አቅርቦት ጠቀሜታ የነበረው ቢሆንም በተለይም በነዚህ ወራቶች በአብዛኛው የበልግ ዝናብ ተጠቃሚ የሀገሪቱ አካባቢዎች ላይ ዝናቡ ዘገይቶ ከመግባቱ ጋር ተያይዞ የነበረው ደረቃማ የእርጥበት ሁኔታ በግብርናው እንቅስቃሴ በአርሶ አደሩ እና በአርብቶ አደሩ ላይ አሉታዊ ተጽዕኖ ነበረዉ። በሌላ መልኩ ከማርች መጨረሻ ጀምሮ ዘገይቶም ቢሆን የተገኘው እርጥበት በተለያየ የእድገት ደረጃ ላይ ለሚገኙ የበልግ ሰብሎች ቀጣይ እድገታቸው ላይ ጠቀሜታ የነበረው ቢሆንም ባለፈው የሚያዚያ ወር በማዳካስካር አካባቢ በተከታታይ በተፈጠረው ዝቅተኛ የአየር ግፊት ምክንያት በዚህ ወቅት በዋናነት Gui/Genna ዝናብ በሚጠበቅባቸው የቦረናና ጉጂ እንዲሁም የደቡብ ምስራቅ የሀገሪቱ ክፍሎች ላይ አልፎ አልፎ ከነበራቸው አነስተኛ መጠን ያለው እርጥበት በስተቀር በአብዛኛው የእርጥበት እጥረት የነበራቸው ሲሆን፤ ይህም ሁኔታ በእነዚህ አካባቢዎች ለአርብቶ አደሮችና ከፊል አርብቶ አደሮች በመጠጥ ውኃና በእንሰሳት መኖ አቅርቦት ላይ አሉታዊ ተጽእኖ ነበረዉ። በሌላም በኩል ከአፕሪል ወር ጀምሮ ወደ ምዕራብ አጋማሽ የሀገሪቱ ክፍሎች ተስፋፍቶ የነበረው እርጥበት ለረጅም ጊዜ ሰብሎች የማሳ ዝግጅትና ለዘር እርሻ እንቅስቃሴ፣ ለቋሚ ሰብሎች የውሃ ፍላጎት መሟላት በተጨማሪም ለአርብቶ አደሮችና ከፊል አርብቶ አደር አካባቢዎች ለግጦሽ ሳር እና ለመጠጥ ውሃ አቅርቦት አመቺ ሁኔታን የፈጠረ ነበር። በተጨማሪም በአንዳንድ ቦታዎች ላይ አልፎ አልፎ የነበረው ከባድ መጠን ያለው ዝናብ ለአብዛኛው የእርሻ እንቅስቃሴ ጠቀሜታው የጎላ የነበረ ቢሆንም፤ በተወሰኑ ቦታዎች ላይ አሉታዊ ጎን ነበረዉ። በተጨማሪም በተለይም በሀገሪቱ ቆላማ ስፍራዎች የተስተዋለው ከፍተኛ ሙቀት ከነበረው የዝናብ እጥረት ጋር ተያይዞ በእርሻው እንቅስቃሴ ላይ አሉታዊ ጎን ነበረው ። ጠቅለል ባለ መልኩ የዘንድሮው በልግ 2022 ከዝናቡ ዘገይቶ መግባትና ደረቅ ቀናቶች የበዙበት ከመሆኑ ጋር የእርጥበት እጥረት በበልግ ዝናብ ተጠቃሚ አካባቢዎች ላይ በስፋት የተስተዋለ በመሆኑ በግብርና እንቅስቃሴው ላይ አሉታዊ ተፅእኖ ነበረዉ።

## **SUMMARY**

### **Belg 2022**

During Belg 2020 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 Wello, 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 2022, particularly in the first and second dekad of the month, dry moisture condition prevailed across most parts of the country. However, during the last dekad, some places had received certain amount of moisture due to the relative weakening of previous developed tropical Cyclones. According to agricultural meteorological data collected from various parts of the country, light to moderate rainfall was recorded in the SNNPR, Sidama region, southwestern region, western and central Oromia, central and eastern Amhara, and some areas of southern highlands and eastern Ethiopia. Moisture obtained during the month played certain positive role for conducting land preparation in the southwest, the northeast 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 2022, the dry moisture condition was prevailed, especially for the first dekad of the month. However, relative increase in moisture was observed and as per the report obtained from various agro meteorological stations, parts of the country received light to heavy amount of rainfall during the second and third dekad of the month. The observed moisture during the month might be positive implication to plant various Belg season crops over Belg rain benefiting areas, including, the south-western, north-eastern and central as well as to sustain early planted and perennials. In addition, the

situation was also favourable the generation of pasture and the availability of drinking water. In general, the observed moisture during the month played a significant role toward alleviating the dry moisture observed due to the late onset of Belg rainfall as well as improves the soil moisture content and replenishes the water points.

During the month of April 2022, 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 low land areas. Besides, the observed heavy rainfall particularly southern half, central, eastern and south-western parts 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 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 the by washing away the newly sown Meher crops in areas where sowing activities are the main practices at this time of the year.

During the month of May 2022, 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 rain bearing meteorological phenomena was strengthening in amount and distribution over southern, south-western and western parts of the country and over central and eastern parts received some amount of moisture. This situation would have significant contribution for belg crops which were at different phenological stage, Perennial plants, sowing of long cycle crops like maize and sorghum including pulse crops like haricot bean and also fevered for pasture and drinking water over pastoral and agro postural area of the country. On the other hand, occasional heavy fall ranging from 50 – 150 mm in one rainy day observed over western and south-western, parts of the country which have positive contribution for general agricultural activities. However in some parts may cause flood and water logging on crops field in low lying areas. Besides, the increasing of maximum temperature with decreasing of rainfall over low land parts of the country might have negatively affected seasonal agricultural activities.

During Belg season 2022 has started after delayed by more than two to four dekads and with poor temporal distribution over central, southwestern, eastern, and northeastern Ethiopia. Also, the Gui/Genna rains over SNNPR, southern Oromia and Somali have started

late. South-western parts of the country received better moisture and a significant improvement of rainfall after the second dekad of March over the rest parts of Belg rain benefiting areas. The experienced low rainfall amounts as depicted on MI, SPI and NDVI, which indicate persistent of severe moisture stress. Moreover over the Gui/Genna rain-regimes of south and southeast Ethiopia, the total rainfall were still far below-average, hence suppressed moisture conditions was persisted over the major portions of these regions. This is consistent with poor rainfall performance during the Belg 2022 season. In contrast, the Long Rains have started on time over portions of western and southwestern Ethiopia suitable for land preparation and planting long cycle crops like maize and sorghums. Generally all Agro meteorological information indicated a delayed onset to the season over Belg producing areas and the Gui/Genna rains have started late with prolonged severe droughts and hot temperatures. Hence suppressed moisture conditions were persisted over the major portions of these regions that have impacted these regions for the past several months.

## Belg 2022 Moisture Status Map

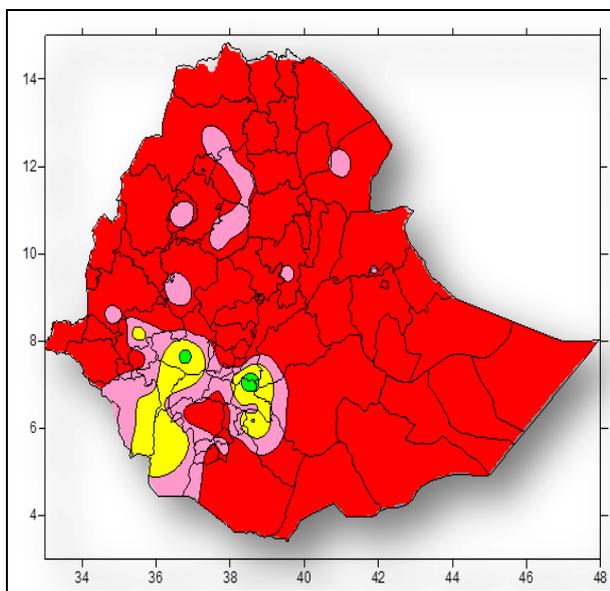


Figure 1. Moisture status for the month of February 2022

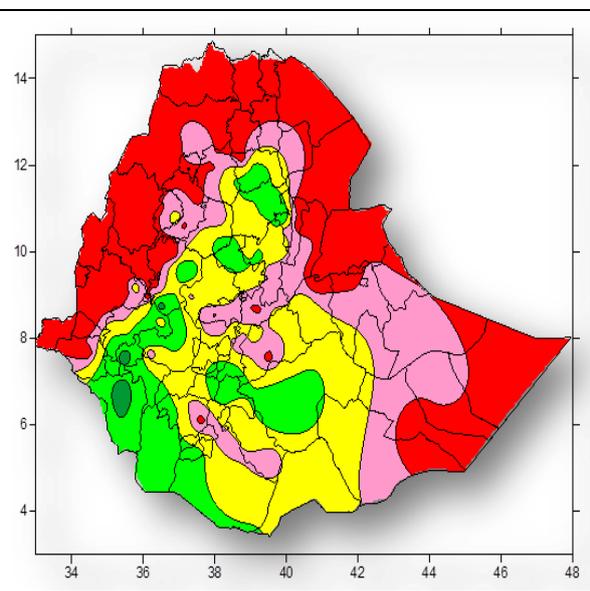


Figure 2. Moisture status for the month of March 2022

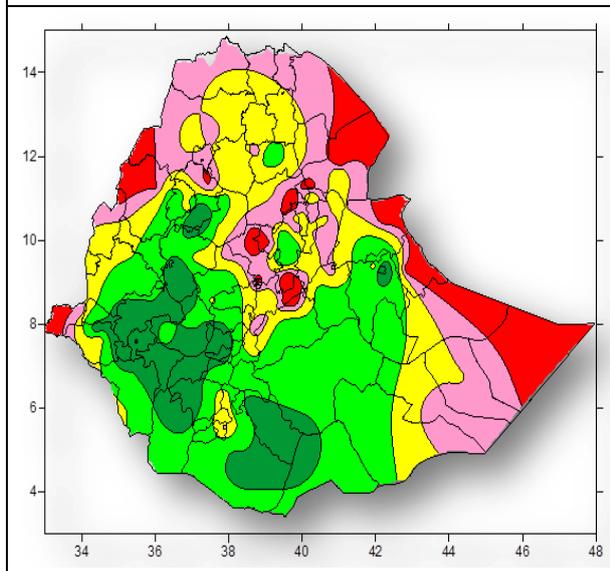
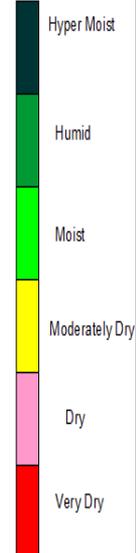


Figure 3. Moisture status for the month of April 2022

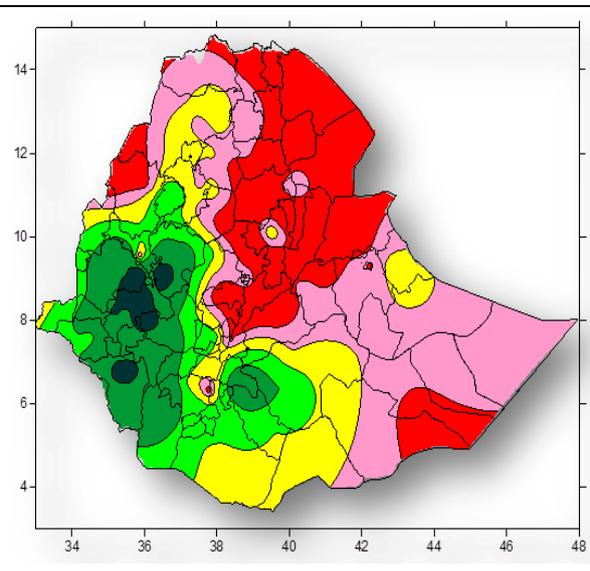
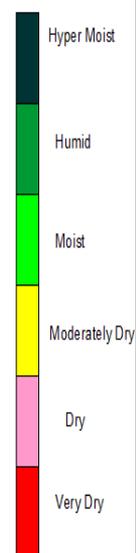


Figure 4. Moisture status for the month of May 2022



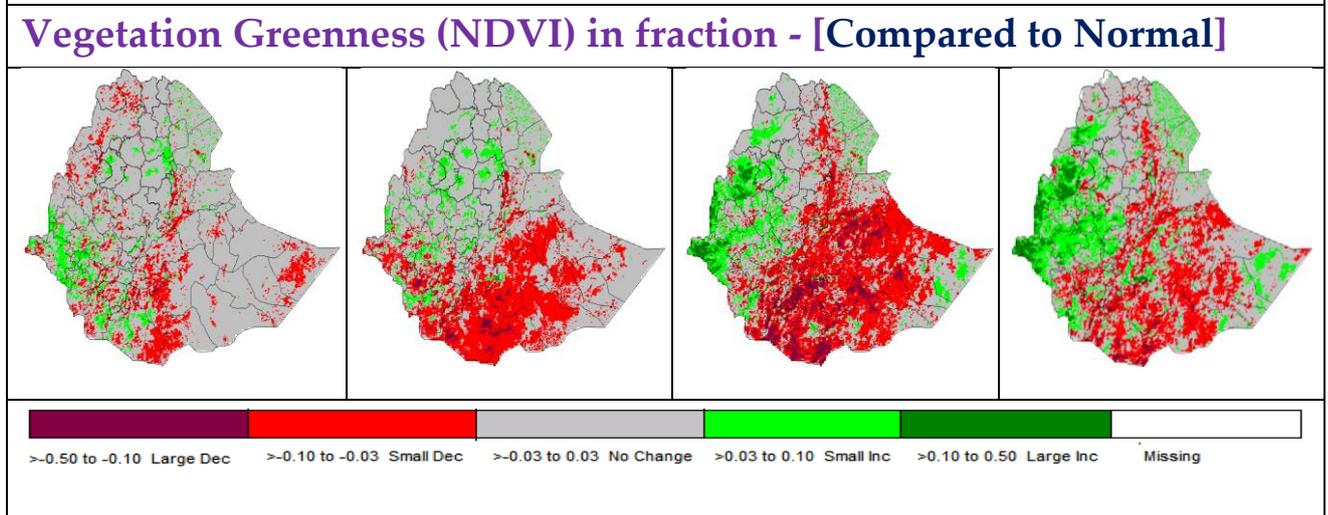
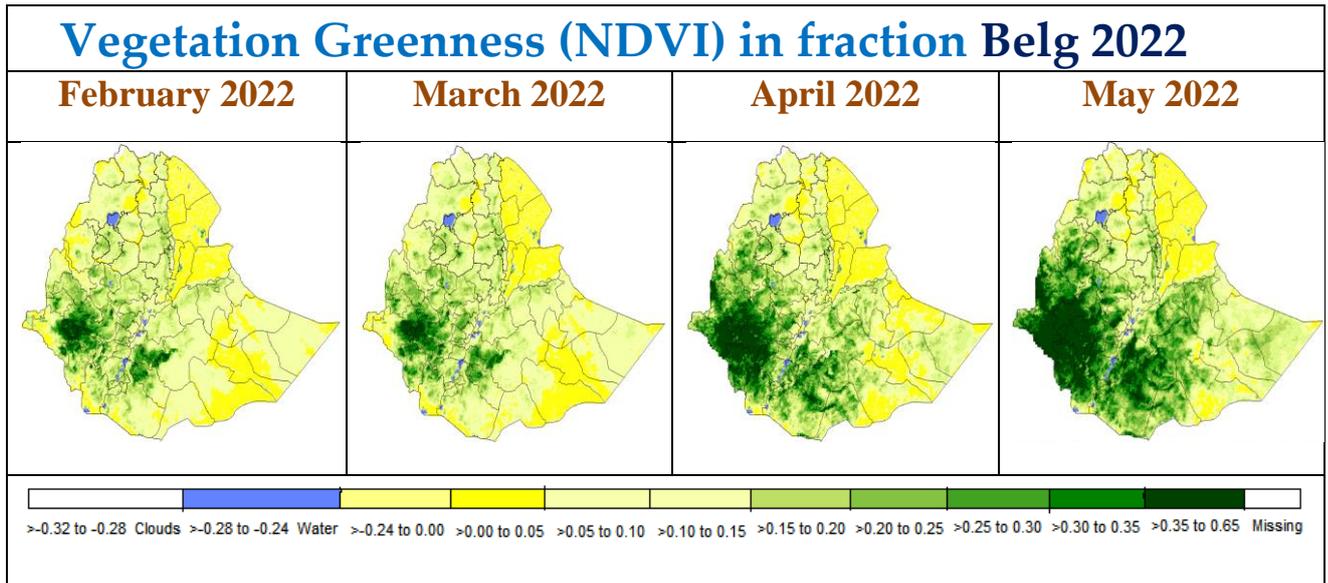


Fig. 5. Vegetation Greenness (NDVI) in fraction and Compared to Normal Belg ( Feb- May) 2022

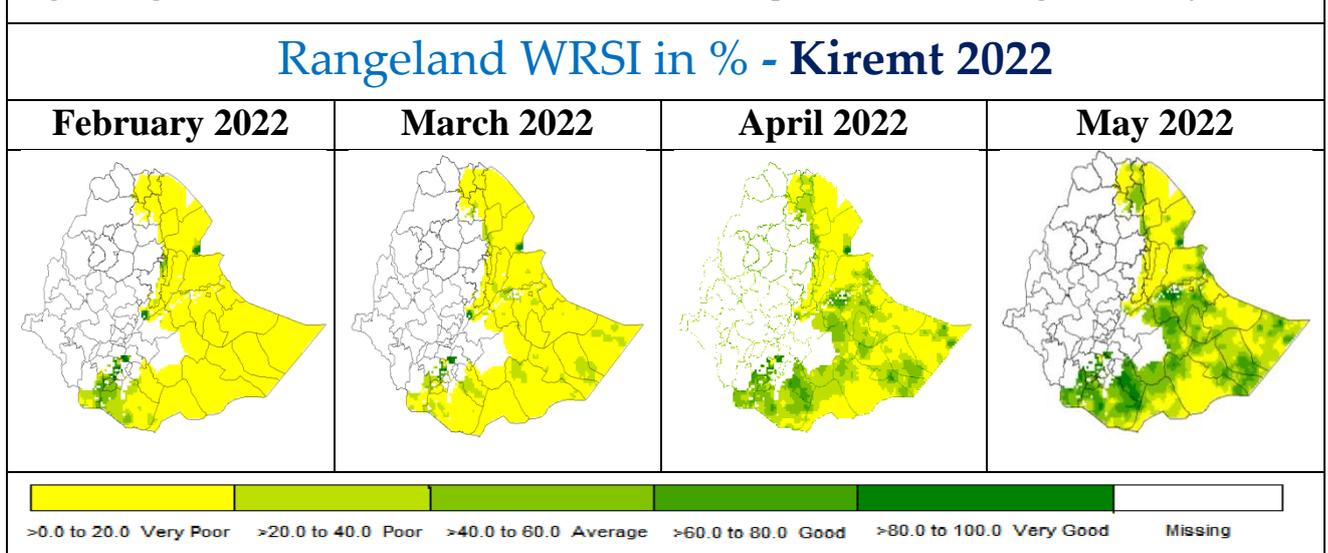


Fig.6. Rangeland WRSI in % Belg ( Feb- May) 2022

## Planting Dekad in dekad – Belg 2022

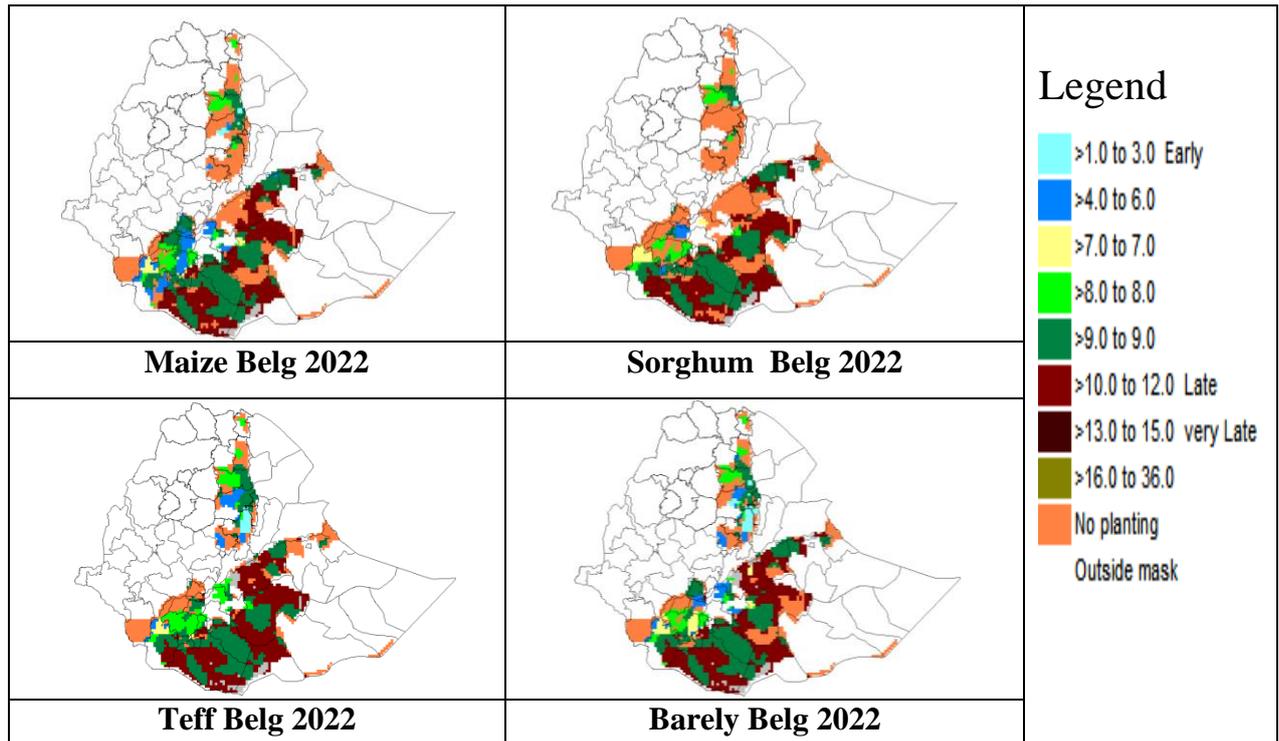


Fig. 7. Belg 2022 Planting oportunity of four major crops (Belg\_Maize, Sorghum, Teff and Barely)

## Computed Crop WRSI on Belg\_2022\_Maize, Sorghum, Teff and Barely

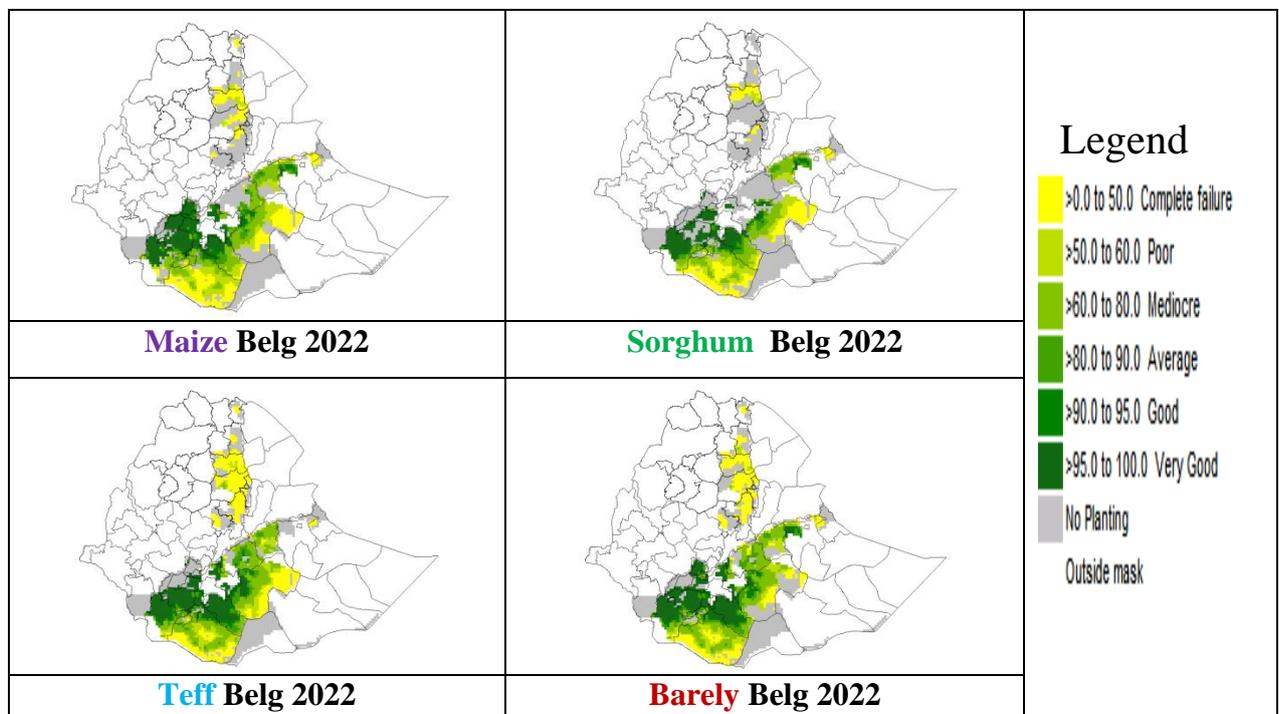


Fig. 8. Computed Crop WRSI on Belg\_2022 Maize, Sorghum, Teff and Barely

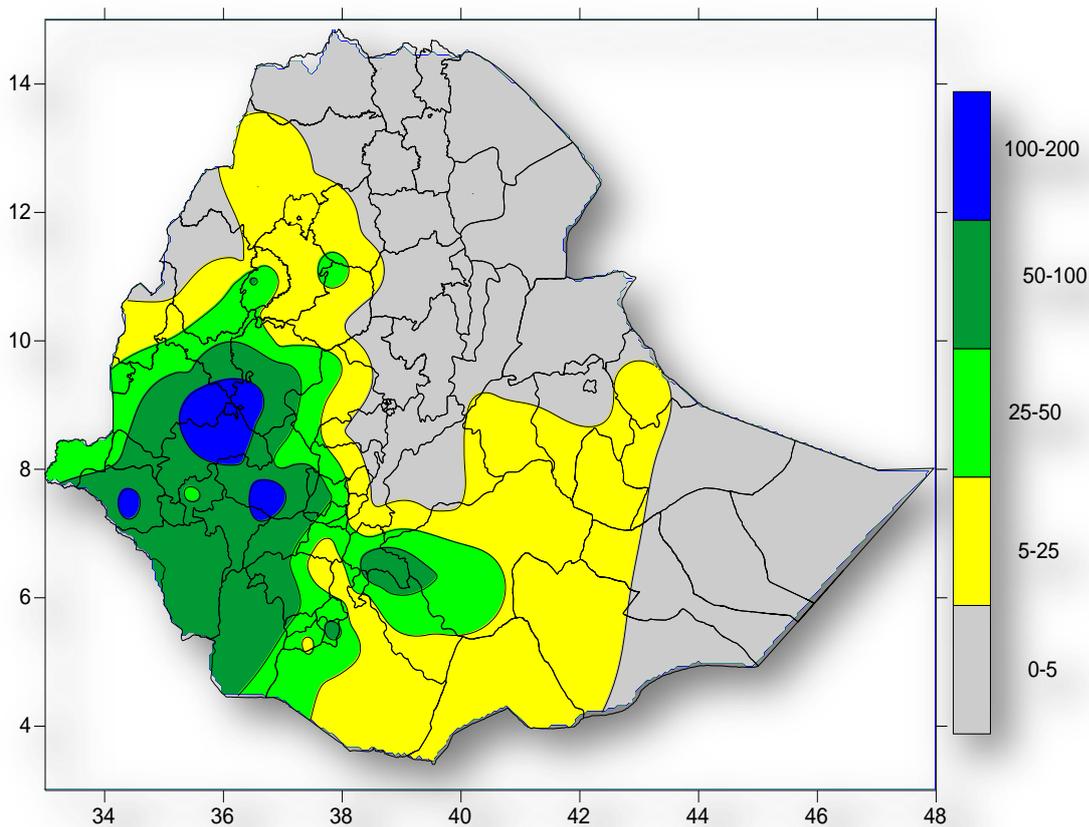


Fig 8. Rainfall distribution in mm (21 – 31) May 2022

## 1. WEATHER ASSESSMENT

### 1.1. Rainfall amount (21 – 31) May 2022

During third dekad of May 2022 east and west Wellega, Illubabur, Gambela zone 2, Keffa, YEM, Dawuro and Jimma received 100-200 mm rainfall. Kamashi, west and east Wellega, Gambela zone 1 & 2, Sheka, Jimma, YEM, Bench Maji, Dawuro, KT, Basketo, Gamo gofa, South Omo, Derashe, Burji, Gedeo, Sidama, Guji and Bale received 50 – 100mm Rainfall. west and east Gojam, Assosa, Agew –Awi, Kamashi, north, west and south west Shewa, Tongo, Gambela zone 3, Gurage, Selti, Alaba, Welayita, Sidama, Gamo gofa, Amaro, Gedeo, Guji and Bale received 25 – 50mm rainfall. north and south Gonder, Bahir Dar, west and east Gojam, Metekel, Assosa, north, west and south west Shewa, Addis Ababa zone, Gurage, Selti, Alaba, Borena, Gedeo, Guji, Liben, Bale, Afder, Gode, west and east Harergie, Fik, Jigjiga and Deghabur received 5 – 25mm rainfall. The rest parts of the country got less than 0-5mm rainfall.

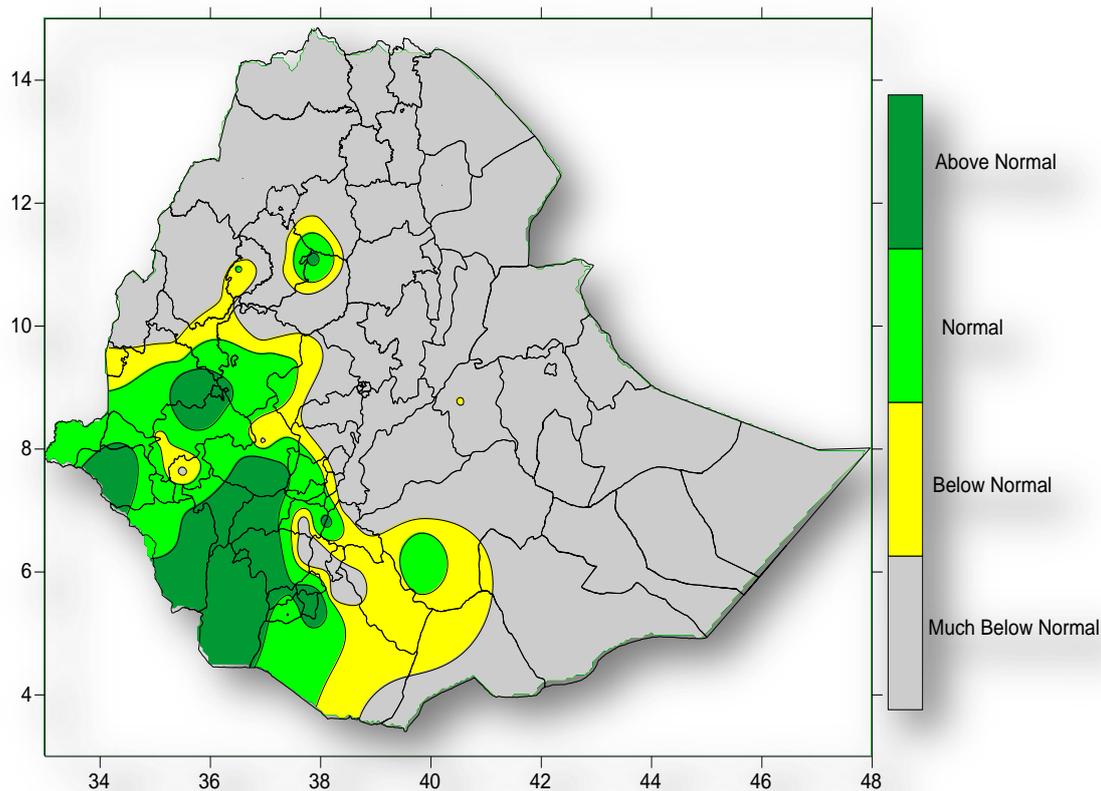


Fig. 9. Percent of normal rainfall distribution (21 – 31 May 2022)

### Explanatory notes for the Legend

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

### 1.2. Rainfall Anomaly (21 – 31) May 2022

On third dekad of May 2022 west and east Gojam, Bahir Dar, west and east Wellela, Illubabur, Gambela zone 1, 2, 3, Godere, Keffa, Dawero, Bench Maji, Basketo, Gamo gofa, South Omo, Dirashe, Konso, Burji, Amaro, Borena, Hadiya, Alaba, Sidama, Welayiya and Bale exhibited Normal to Above normal rainfall. The rest parts of the countries exhibited much below Normal to Below Normal.

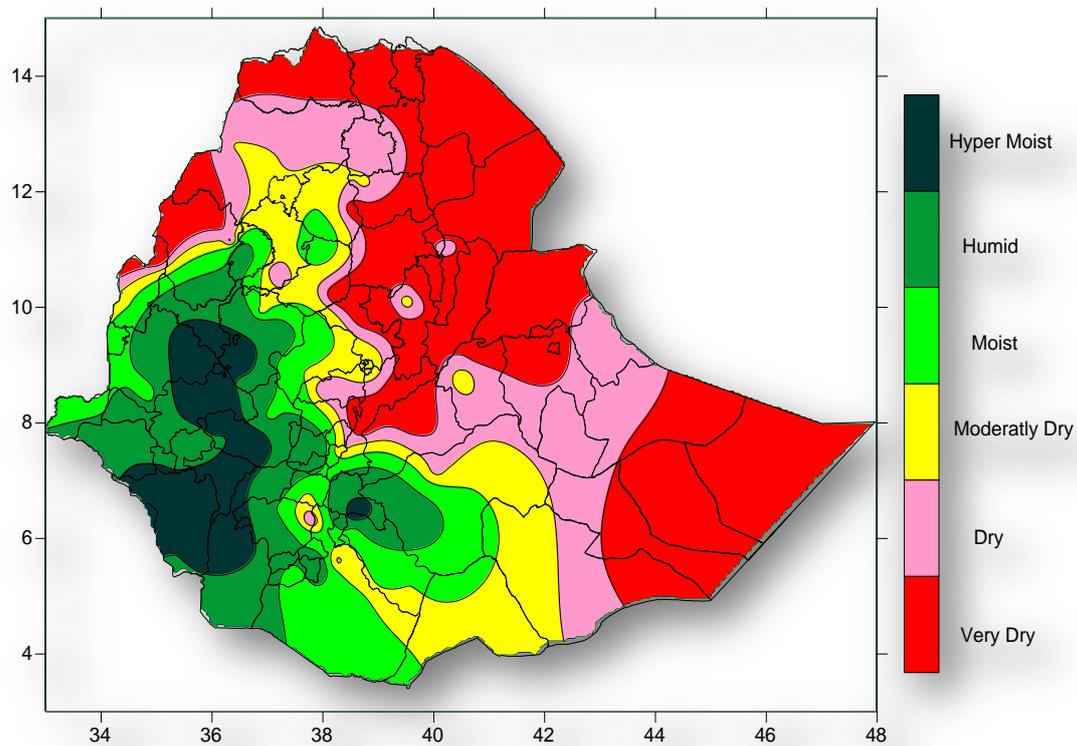


Fig.10. Moisture Status (21-31 May 2022)

### 1.3. Moisture status (21 – 31) May 2022

During the third decade of May 2022 south Gonder, west and east Gojam, Agew-Awi, Bahir Dar, Metekel, Assosa, Tongo, Kamashi, west and east Wellega, north, west and south west Shewa, Illubabur, Gambela zone 1, 2 &3, Sheka, Godere, Keffa, Jimma, YEM, Gurage, Bench Maji, Basketo, South Omo, Dawero, KT, Hadiya, Welayita, Sidama, Bale, Guji, Gedeo, Dirahse, Konso, Amaro, Borena, Liben and Afdere exhibited moist to hyper moist. The rest parts of the countries exhibited Moderately Dry to Very Dry.

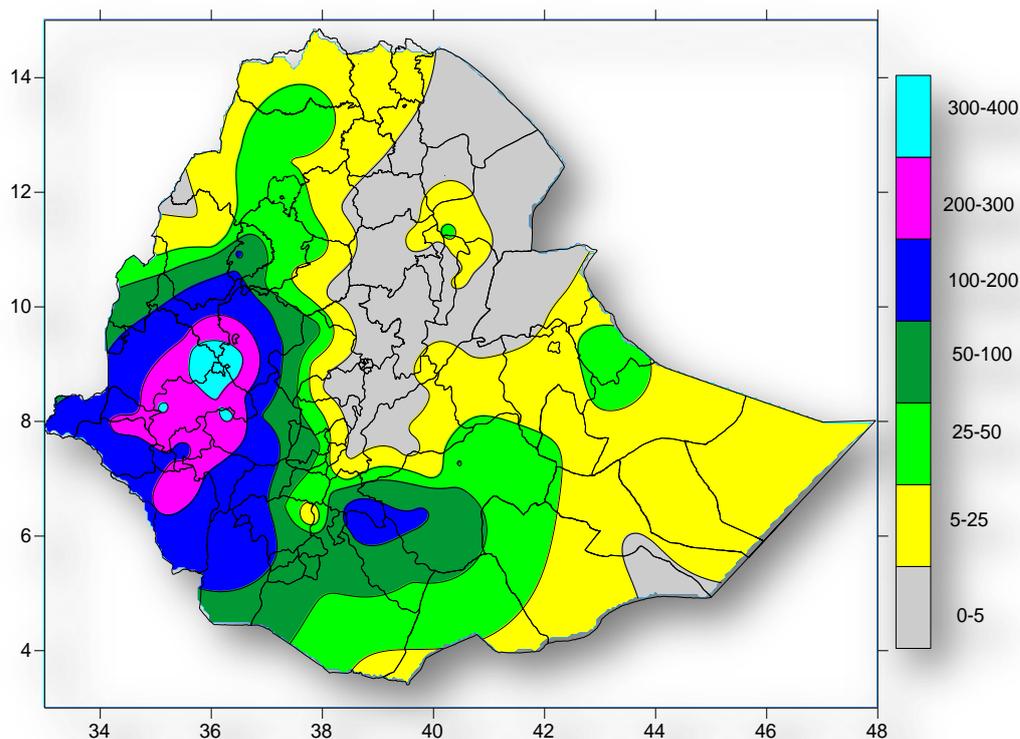


Fig. 11. Rainfall amount in mm for the month of May 2022

#### 1.4. Rainfall amount on the month of May 2022

During the month of May 2022 west and east Wellega, Illubabur and Jimma received 300-400 mm rainfall. west and east Wellega, Illubabur, Sheka, Bench Maji, Gambela zone 1 and 2, Keffa, Kamashi and Jimma received 200-300 mm rainfall. Agew –Awi, Metekel, Kamashi, Tongo, east and west Wellega, Gambela zone 1, 2 & 3, Illubabur, Sheka, Godere, Keffa, Jimma, YEM, Bench Maji, Basketo, Gamo gofa, South Omo, Derashe, Konso, Sidama, Gedeo, Guji and Bale received 100-200 mm rainfall. Metekel, Agew-Awi, Bahir Dar, west Gojam, Assosa, Tongo, north, west and south west Shewa, YEM, KT, Hadiya, Welayita, Sidama, Gamo gofa, Burji, Konso, Amaro, Borena, Guji, Bale, Liben and Afder received 50 – 100mm Rainfall. west Tigray, north and south Gonder, Bahir Dar, west and east Gojam, Metekel, Assosa, north, west and south west Shewa, Selti, Hadiya, Welayita, Sidama, Borena, Liben, Afder, Fik, Gode, Jigjiga and Deghabur received 25 – 50mm rainfall. west, central, east and south Tigray, Wag Himera, north and south Gonder, Bahir Dar, east Gojam, Afar zone 1 & 4, Oromia especial zone, north, west and south west Shewa, YEM, KT, Hadiya, Borena, Liben, Afder, east and west Harergie, Harer, Jigjiga, Fik, Deghabur,

Gode, Koraha and Warder received 5 – 25mm rainfall. The rest parts of the country got less than 0-5mm rainfall.

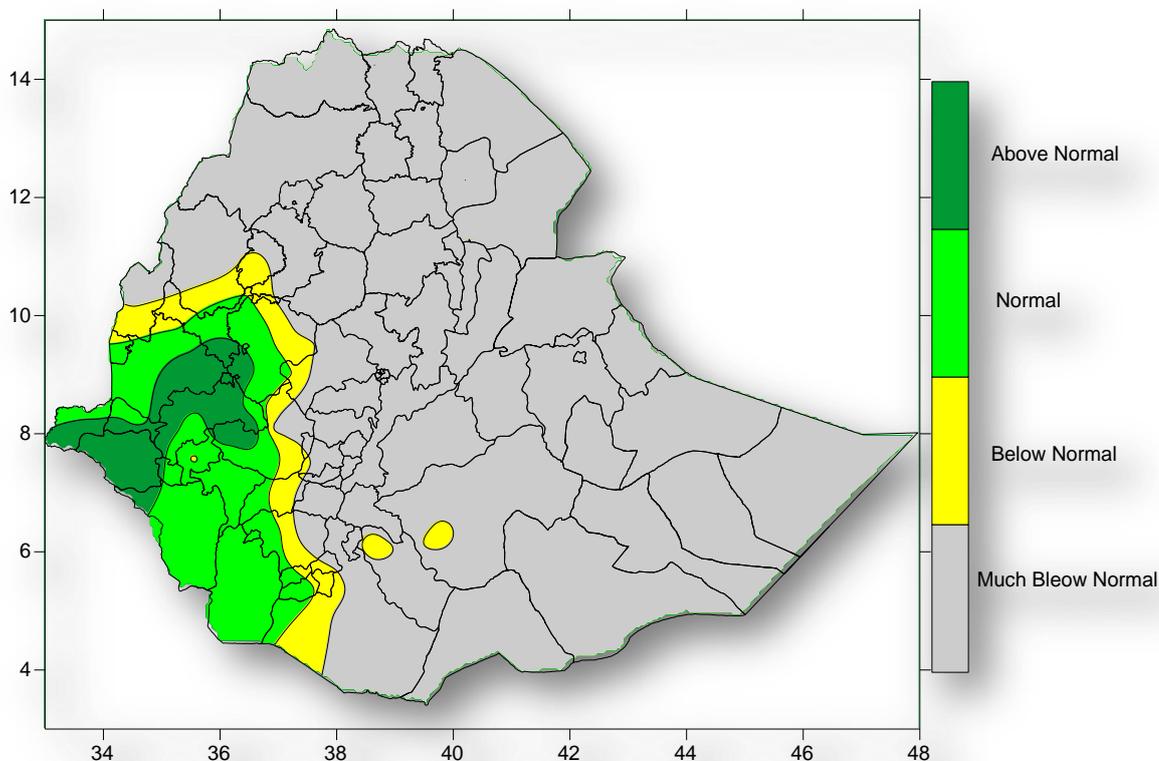


Fig. 12. Percent of Normal Rainfall for the month of May 2022

### Explanatory notes for the Legend

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

### 1.5. Rainfall Anomaly on the month of May 2022

On May 2022 east and west Wellega, Illubabur, Gambela zone 1,2& 3, Keffa, YEM, Jimma Kamashi, Sheka, Bench Maji, Dawuro, KT, Basketo, Gamo gofa, South Omo, Derashe, Burji, Gedeo, Sidama, Guji, Amaro and Bale exhibited Normal to Above normal rainfall. The rest parts of the countries exhibited much below Normal to Below Normal.

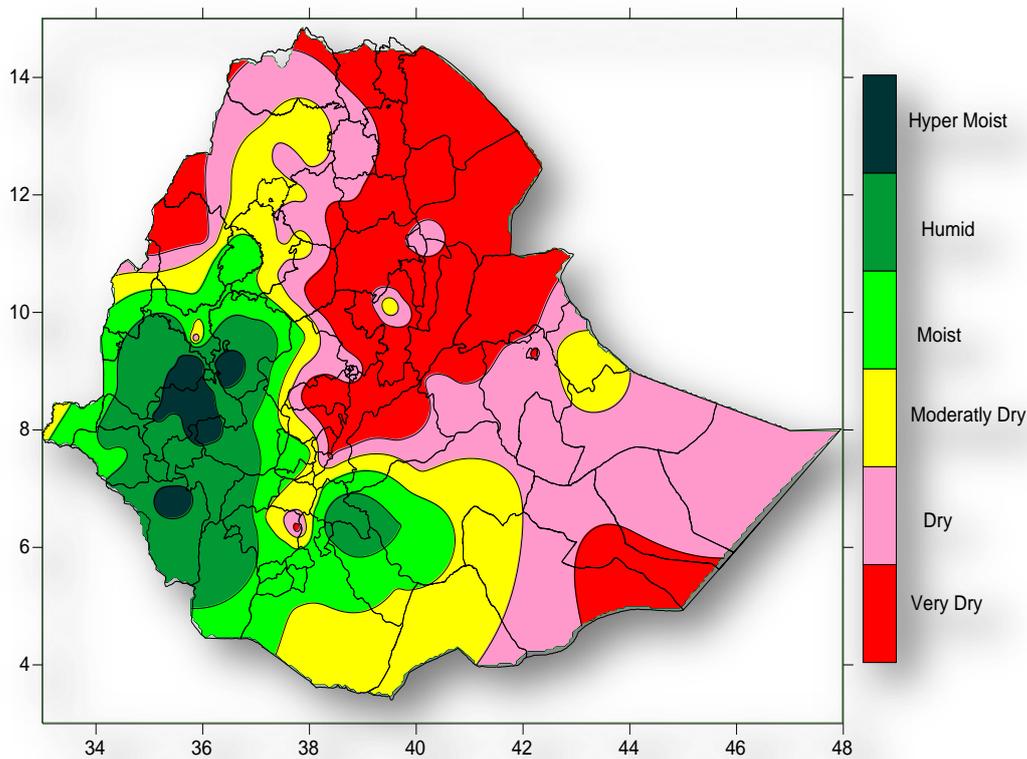


Fig. 13. Moisture status for the month of May 2022

### 1.6. Moisture status on the month of May 2022

During the month of May 2022 west and east Gojam, Bahir Dar, west and east Wellega, Illubabur, Gambela zone 1, 2 & 3, Godere, Keffa, Dawero, Bench Maji, Basketo, Gamo gofa, South Omo, Dirashe, Konso, Burji, Amaro, Borena, Hadiya, Alaba, Sidama, Welayita and Bale exhibited moist to hyper moist. The rest parts of the countries exhibited Moderately Dry to Very Dry.

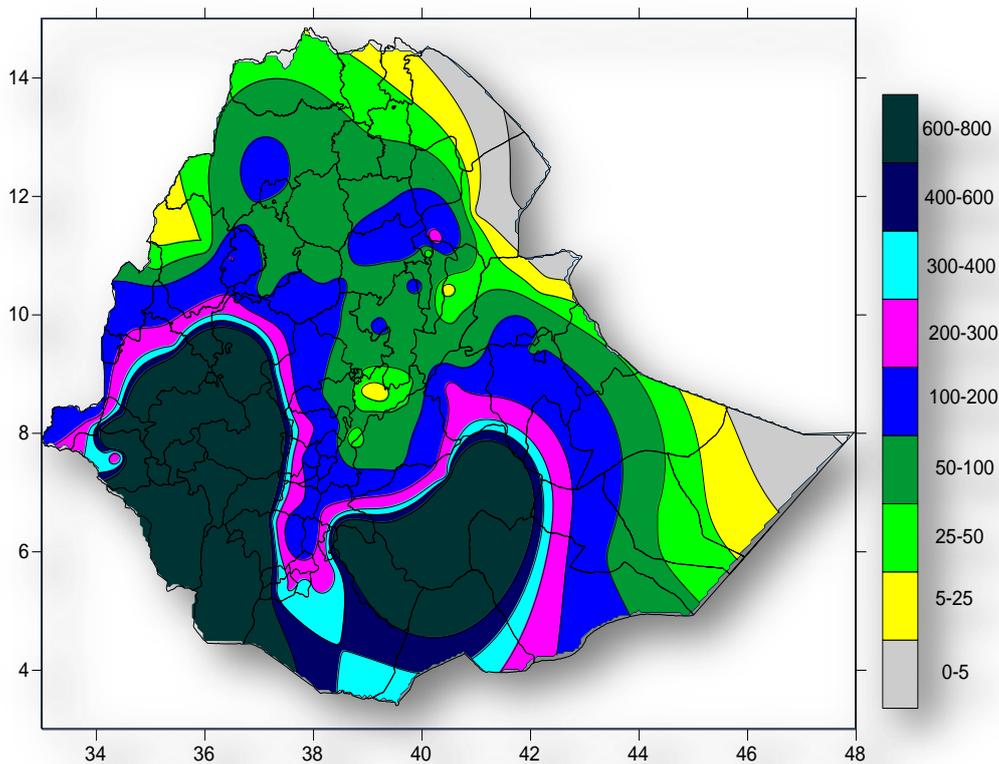


Fig.14. Rainfall amount in mm for Belg 2022

### 1.7. Rainfall Amount on Belg season 2022

During Belg 2022, Over west and east Wellega, Illubabur, Gambela zone 1 & 2, Godere, Sheka, Keffa, Jimma, YEM, Dawuro, Bench Maji, Basketo, Gamo Gofa, Derashe, South Omo, Kondo, Gedee, Guji, Bale, Liben and Afder received 600-800mm of rainfall. Gambela zone 1, west and east Wellega, KT, Gamo gofa, DIRASHE, Konso, Amaro, Borena, Gedee, Guji, Bale, Liben, Afder, Gode and Fik received 400-600mm of rainfall. Kamashi, Gambela zone 2, Konso, Amaro, Borena, Guji, Bale, Fik, Gode and Afder received 300-400 mm of rainfall. Gambela zone 3, Tongo, Kamashi, west and east Wellega, west Shewa, Gurage, Hadiya, Gamo gofa, Burji, Sidama, Bale, west and east Harergie, Fik, Gode and Afder received 200-300 mm of rainfall. north Gonder, Bahir Dar, west and east Gojam, west and east Gojam, north and south Wollo, Oromia especial zone, Assosa, Tongo, Gambela zone 3, Agew-Awi, north and west Shewa, Gurage, Selti, Alaba, Hadiya, Welayita, Sidama, Gedee, Arsi, west and east Harergie, Harer, Jigjiga, Deghabur, Gode and Korahe received 100-200 mm of rainfall. west and south Tigray, Wag Himera, north Wollo, Bahir Dar, west and east Gojam, Metekel, Afar zone 1, 3, 4 & 5, Shinille, Addis Ababa zone, west and north Shewa, Arsi, Jigjiga, Deghabur, Gode and Korahe received 50-100 mm of rainfall. Metekel, west,

east, central and south Tigray, Afar zone 1, 2, 3, 4 & 5, Shinille, Jigjiga, Deghabur, Korahe and Warder received 25- 50mm of rainfall. Metekel, east Tigray, Afar zone 1 & 2, west Shewa and Warder exhibited 5-25 amount of rainfall. The rest parts of the country exhibited 0-25 amount of rainfall

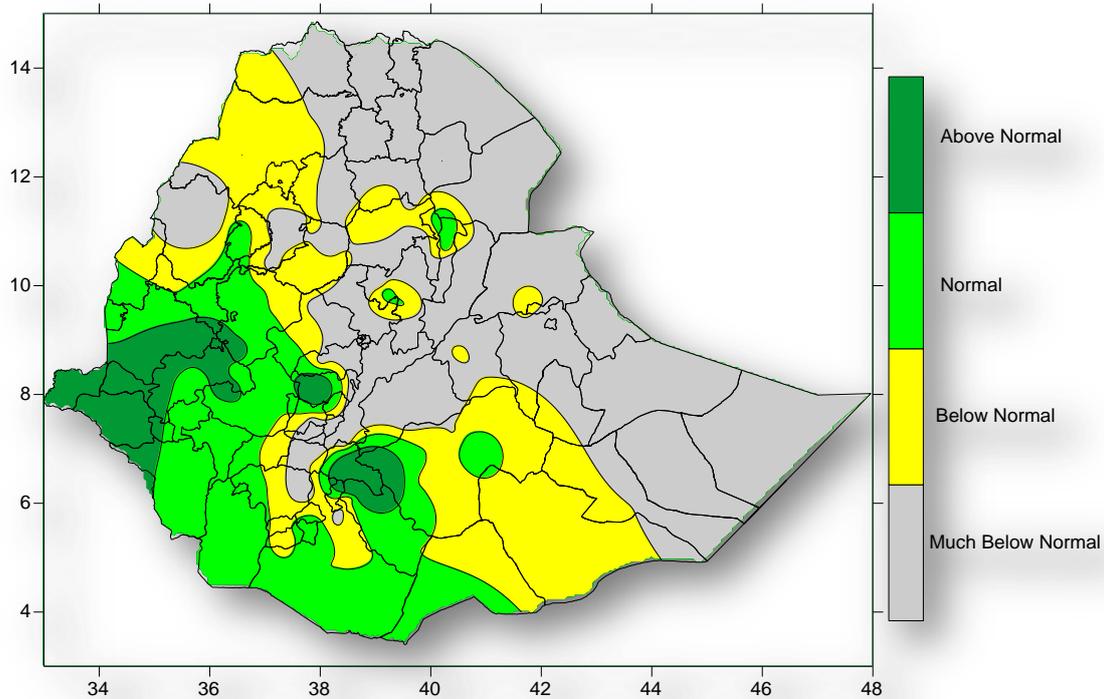


Fig.14. Percent of Normal Rainfall for Belg 2022

**Explanatory notes for the Legend**

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

**1.8. Rainfall Anomaly on Belg Season 2022**

During Belg 2022 pocket area of Oromia especial zone, Agew Awi, Assosa, Tongo, Kamashi, west and east Wellega, Illubabur, Gambela zone 1, 2 & 3, Sheka Godere, Keffa, Dawero, Jimma, YEM, Gurage, Selti, Bench Maji, Basketo, South Omo, Dirashe, Konso, Amaro, Burji, Borena, Guji, Sidama, Bale, Liben and Afder exhibited Normal to Above normal rainfall. The rest parts of the countries exhibited much below Normal to Below Normal.

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

### **2.1. VEGETATION CONDITION AND IMPACT ON AGRICULTURE DURING BELG 2022**

Generally during Belg season 2022 has started after delayed by more than two to four dekads and with poor temporal distribution over central, southwestern, eastern, and northeastern Ethiopia. Also, the Gui/Genna rains over SNNPR, southern Oromia and Somali have started late. South-western parts of the country received better moisture and a significant improvement of rainfall after the second dekad of March over the rest parts of Belg rain benefiting areas. The experienced low rainfall amounts as depicted on MI, SPI and NDVI, which indicate persistent of severe moisture stress. Moreover over the Gui/Genna rain-regimes of south and southeast Ethiopia, the total rainfall were still far below-average, hence suppressed moisture conditions was persisted over the major portions of these regions. This is consistent with poor rainfall performance during the Belg 2022 season. In contrast, the Long Rains have started on time over portions of western and southwestern Ethiopia suitable for land preparation and planting long cycle crops like maize and sorghums. Generally all Agro meteorological information indicated a delayed onset to the season over Belg producing areas and the Gui/Genna rains have started late with prolonged severe droughts and hot temperatures. Hence suppressed moisture conditions were persisted over the major portions of these regions that have impacted these regions for the past several months.

## **2.2. EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING KIREMT, 2022 SEASON**

As for the seasonal outlook for Kiremt 2022, the country is likely to be Most of the recent and prognostic products are indicting the likelihood of continuing of ENSO negative episodes will dominate the performance of Kiremt 2022. Hence, it has positive contribution for the wet performance of rainfall during the upcoming Kiremt season. In this regard, Normal to above normal rainfall is anticipated to dominate across the northern half of the country. An increased chance of the domination of Close to normal rainfall is anticipated across west, southwest central and eastern Ethiopia. The onset of the season is also expected to follow its normal pattern over much of the JJAS rain benefiting areas of the country. Few days late cessation of the Kiremt season; occasional heavy rains during July and August, may cause of flood across flood prone areas, in line with these, landslide will occur over isolated places. Erratic temporal distribution, with few prolonged dry spells during June and September.

As of the moisture conditions for all selected analogue years, most Meher crop growing areas had sufficient soil moisture which could sustain crop growth. The analyzing NDVI analysis indicated that, near normal vegetation was prevailed over most of Meher crop grown areas. Spatial and temporal SPI analysis for each analogue year doesn't indicate significant drought signals in most Meher crops growing areas and the RLWRSI shown mostly average condition across the pastoral and agro pastoral community and also given the seasonal climate outlook for JJAS 2022 (Kiremt), most parts of Kiremt rain benefiting areas are likely to observe normal condition during the season with wet rainfall performance. This condition is expected to be sufficient to sustain crop growth, pasture and drinking water availability. Thus, Farmers and eastern and north eastern pastoralist are advised to make all necessary early preparation to utilize all possible advantage of the climate condition.

The forecasted normal onset across Kiremt rain benefiting portion of the country is expected to be favorable for land preparation and the timely planting of Meher crops. In line with the few days' late commencement of the seasonal rain, 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. On the other hand, areas which are positioned in the category of dominantly normal rainfall may have high chance of getting

average amount of moisture, and this may favor early planted long cycle Meher crops as well as preparation of land and planting of both medium and short term Meher crops. Since these areas are expected to experience dominantly normal condition, generally farmers can follow business as usual scenario. The areas which are under dominantly above normal rainfall category may have high chance of experiencing wettest condition during the upcoming Kiremt season. In the positive aspect this may favor early planted long cycle crops so as to meet their daily water need as well as to plant other Meher season crop in the area. 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 over the selected woredas, Kiremt 2022 over the selected woredas expected Normal to 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.

### **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.

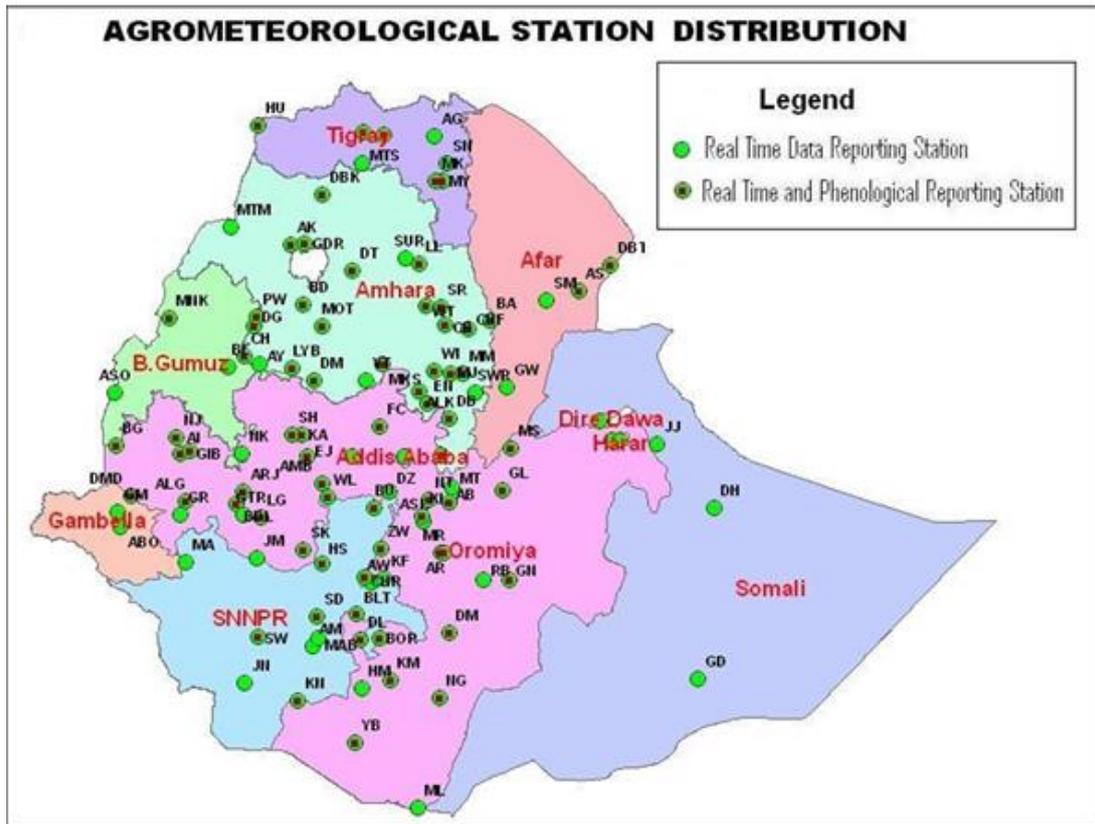
**DEKAD:** - First or second ten days or the remaining days of a month.

**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



Station	Code	Station	Code	Station	Code	Station	Code
A. Robe	AR	D. Zeit	DZ	Humera	HU	Nazereth	NT
A.A. Bole	AA	D/Dawa	DD	Jijiga	JJ	Nedjo	NJ
Adigrat	AG	D/Mena	DOM	Jimma	JM	Negelle	NG
Adwa	AD	D/Odo	DO	Jinka	JN	Nekemte	NK
Aira	AI	D/Tabor	DT	K.Dehar	KD	Pawe	PW
Alemaya	AL	Dangla	DG	K/Mingist	KM	Robe	RB
AlemKetema	ALK	Dilla	DL	Kachise	KA	Sawla	SW
Alge	ALG	Dm.Dolo	DMD	Koffele	KF	Sekoru	SK
Ambo	AMB	Dubti	DBT	Konso	KN	Senkata	SN
Arba Minch	AM	Ejaji	EJ	Kulumsa	KL	Shambu	SH
Asaita	AS	Enwary	EN	Lalibela	LL	Shire	SHR
Asela	ASL	Fiche	FC	M.Meda	MM	Shola	SG
Assosa	ASO	Filtu	FL	M/Abaya	MAB	Gebeya	SG
Awassa	AW	Gambela	GM	Maichew	MY	Sirinka	SR
Aykel	AK	Gelemso	GL	Majete	MJ	Sodo	SD
B. Dar	BD	Ginir	GN	Mashete	MJ	WegelTena	WT
Bati	BA	Gode	GD	Masha	MA	Woliso	WL
Bedelle	BDL	Gonder	GDR	Mekele	MK	Woreilu	WI
BUI	BU	Gore	GR	Merraro	MR	Yabello	YB
Combolcha	CB	H/Mariam	HM	Metehara	MT	Ziway	ZW
D. Berehan	DB	Harer	HR	Metema	MTM		
D. Habour	DH	Holleta	HL	Mieso	MS		
				Moyale	ML		