Early Warning Bulletin

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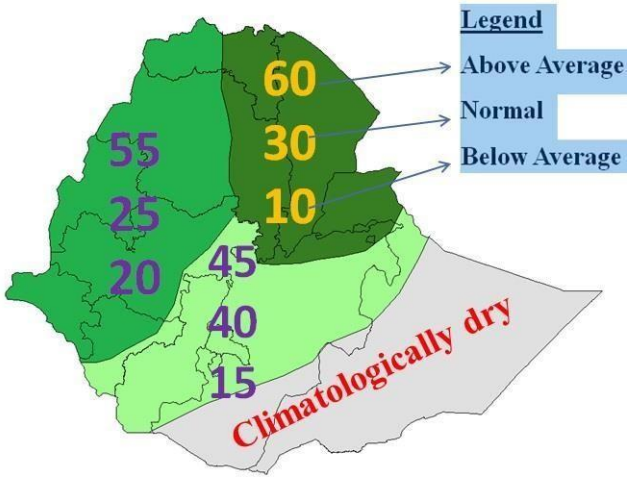
Early Warning Information and Operation Coordination Center, EDRMC www.edrmc.gov.et

CLIMTE OUTLOOK FOR *KIREMT*, 2024

Based on the global, Regional and local preseason indicators, as well as, their dynamical/statistical predictions, the following conclusions can be drawn for the *Kiremt* climate outlook 2024.

- Most of the recent and prognostic products depicts that the occurrence of Neutral to LA NINA episodes in the coming *Kiremt* 2024 and IOD tends to be positive phase.
- The seasonal rainfall onset will be early over Southwest portions and normal over much of the JJAS *(Kiremt*) rainfall benefiting areas.
- Occasional heavy rains will occur during July and August may cause of flood across flood prone areas including cities and landslide over isolated places.
- Early onset across southwestern portion of the country.
- Late cessation from western, central, eastern and northeastern portions of the country.
- Above normal rainfall is expected over Central and South Tigray, Afar, East Amhara northern Somali and eastern portions of the country.
- Moreover, western Tigray, west Amhara, Benishagul Gumuz, west Oromia, Gambella and Southwest Ethiopia Regions will dominantly receive above normal rainfall and they will get above normal rainfall over few portions.
- Additionally, Central and South-western portions of the country will dominantly receive normal to above normal rainfall.
- The expected LA NINA and positive IOD will benefit the south and southeastern portions of the country. They will get rainfall in the coming August and September months.

Rainfall Probabilistic forecast for Kiremt 2024



Source: EMI

1. Weather Outlook and Possible Impact for the Coming second dekade of July 2024

Under normal circumstance over *Kiremt* rain benefiting areas of the country rain bring meteorological phenomena is going to strength and most areas are receive widespread rainfall during second ten days of July. According to the Ethiopia Meteorology Institute forecast in the coming second dekade of July 2024 the rain brings meteorological phenomena will continue over *Kiremt* rain benefiting areas of the country. In relation to this Southwestern, Western, Northwestern, Northern, Central and Northeastern parts of the country will receive heavy fall more than 30mm amount of rainfall within a day (fig.1)

In general in Oromia Region (Buno Bedelle, Jimma, Illu Ababora, East and West Wellega, all Zones of Shewa, Horo Guduru, Kelem Wellega, Arsi, West Arsi, East and West Harerghe Zones), Addis Ababa, Hareri, Dire Dawa City Administration, in Amhara Region (South, North, Central and West Gonder, West and East Gojam, Waghemra, Awi, North Shewa, Oromo Special Zone, North and South Wollo Zones), in Tigray Region (Western, Northwestern, Central, Eastern and Southeastern Zones), in Afar Region (Kilbeti, Fenti and Awsi Zones), in Benishangul Gumuz Region (Metekel, Pawe, Assossa, Kamashi and Mao Komo Special Woreda), in Gambella Region (Nuwer, Agnwak, Mazang and Itang Special Woreda), in South West Ethiopia Region (Keffa, Sheka, Dawuro and Konta Zones), in South Ethiopia Region (Gamo, Gofa, Wellayta, Gedeo, Basketo and Amaro Zones) and in Central Ethiopia Region (Gurage, East Guraghe, Hadiya, Halaba, Kembata and Silte Zones and Yem, Tembaro, Kebena and Mareko special Woredas) most areas are likely to receive light to moderate amount of rainfall. Besides Southeastern Tigray, western and eastern parts of North Shewa and in Zones of Gonder in Amhara, Addis Ababa, in southern Afar, in Gambella and Metekel in Benishangul Gumuz Region are likely to get heavy amount of rainfall.

On the other hand due to day to day strengthen of wet weather condition, Zones of Sidama, from Oromia Region (Bale, East Bale, Guji and West Guji Zones), Dire Dawa, Hareri, in Somale Region (Sity, Fafen, Jerer, Erer, Nogob, Liben and Dawa Zones), in Afar Region (Gabi and Hari Zones), from South Ethiopia Region (Konso, Ari, Derashe, Burji and South Omo Zones) and from South West Ethiopia Region Bench Sheko and West Omo Zones will get light to moderate amount of rainfall.

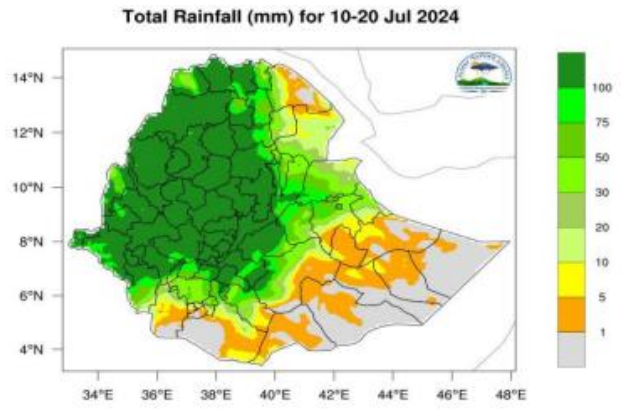


Fig.1 Rainfall amount during July 10-20/2024

Source, EMI

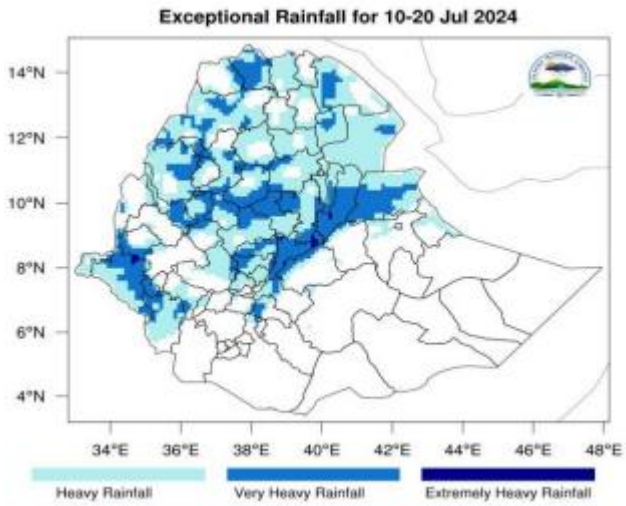


Fig.2 Exceptional Rainfall amount during July 10-20/2024

Source, EMI

2. Issues needing attention based on the seasonal and the above second dekade of July 2024 amended weather forecast given by EMI.

According to Ethiopia Meteorology Institute forecast, it shows the weather condition would favor *Meher* agricultural activities over most places of *Kiremt* rain benefiting areas. The predictable weather condition light to moderate amount of rainfall have more advantage for improvement of water and pasture availability over most kiremt benefiting areas of the country. Therefore, areas which are benefiting from the current wet season for agricultural activities are advisable to take appropriate measure in order to exploit the expected moisture and rainwater harvesting techniques are important to preserve water for long period of time

The anticipated heavy falls over northwestern Tigray, western, southern and eastern parts of Nort Shewa and in Zones of Gonder in Amhara, central and some areas of western Oromia, Addis Ababa, in southern Afar, in Gambella and Metekel Zone in Benishangul Gumuz Region mainly areas which indicate in the above figure to receive exceptional rainfall which is from heavy fall to extremely heavy amount of rainfall might be cause flash flood and river flood. Thus, the concerned body should take attention and appropriate measurement over those areas in order to protect the adverse effect of flash flood, river flood and agricultural related hazards.

In addition, excessive water and flood water over agricultural field might cause water logging in areas with poor drainage system. Thus, responsible bodies need to work on possible water drainage techniques early in order to reduce the negative consequence of unnecessary moisture concentration.

Moreover, water born human diseases like AWD case is likely to occur after any flood occurrence due to heavy falls, as a result of poor sanitation and improper use of contaminated water for drinking and cleaning vegetable products particularly in case of urban agriculture. Thus, concerned bodies need to carry out proper preparedness and give awareness for the community ahead of time to reduce the impact of flood situation.

3. Crop and livestock condition based on the weekly Regional Situation update report

3.1 Crop condition

Sidama Region: For 2016 *Belg season* production, 68,229 hectares of land are planned to be cultivated with various crops (64,197 hectares of maize, 89 hectares of sorghum, 3,865 hectares of haricot bean solo, 16,123 hectares of haricot bean intercropping, and 78 hectares of ground nut) were planned in the region. As a result, 67,390 hectares (98.77%) have been sown with various crops. Growing crops are found at the flowering and grain-filling stages in most areas of the region.

However, the severe rainfall shortage that has happened in 16 woredas of the region has led to moisture stress in maize crops, posing a significant threat to their growth and productivity.

Regard to the 2016/17 Mehere season production, land preparation has been started in some woredas of the region.

South Ethiopia Region: In 2016/17 *Meher season* production, 660,529 hectares were planned to be cultivated with various crops. As a result, 135,062 (20.45%) hectares of land have been plowed and 719 hectares were sown in the region. On the other hand, Belg season-grown crops are found at flowering, and grain-filling stages, while early sown crops are found at maturity and harvesting stages.

Central Ethiopia: For 2016 *Belg season* and *Bega* irrigation production 269,049.6 ha and 86,121.8 ha of land were planned in 7 zones and 3 special woredas respectively. As a result, 319,557.9 (118.8%) hectares and 99,239.6 (115.23%) hectares have been covered with various crops in *Belg* and *Bega* irrigation production schemes respectively. The annual Belg farming performance of the region exceeded the plan, and this difference was caused by the fact that 3 zones (East Gurage, Gurage, and Silte) and 1 special woreda (Kebena) performed more than their plans.

Table 1: 2016 *Belg season* and *Bega irrigation* crop production performance by zone in Central Ethiopia region.

Zone/ S/woreda	Planned Area in hectares			Sown Area in hectares			% of sown area from the plan
	Belg season	Bega Irrigation	Total	Belg season	Bega Irrigation	Total	
Kembata	29,583.4	0.0	29,583.4	29,583.4	0.0	29,583.4	100.0
Halaba	39,316.0	260.0	39,576.0	35,428.3		35,428.3	89.5
Hadiya	51,956.0	34,694.2	86,650.2	52,854.0	33,950.0	86,804.0	100.2
Silte	50,663.2	12,656.0	63,319.2	58,698.0	13,188.0	71,886.0	113.5
Gurage	39,069.0	27,304.0	66,373.0	69,846.0	41,440.0	111,286.0	167.7
East Gurage	26,876.5	1,722.0	28,598.5	45,289.8	990.2	46,280.0	161.8
Yemi s/woreda	5,339.0	1,769.0	7,108.0	5,383.0	1,792.4	7,175.4	100.9
Tembaro s/woreda	4,416.5	4,655.6	9,072.1	931.4	5,014.0	5,945.4	65.5
Kebena s/woreda	9,060.0	2,953.0	12,013.0	10,037.0	2,821.0	12,858.0	107.0
Mareko s/woreda	12,770.0	108.0	12,878.0	11,507.0	44.0	11,551.0	89.7
Total	269,049.6	86,121.8	355,171.4	319,557.9	99,239.6	418,797.5	117.9

In 2016/17 *Meher season* production, 215,538 hectares were planned, and 135,175 (62.72%) hectares of land have been plowed in Halaba, Hadiya, Silta zones as well as Mareko and Kebena special woreda of the region.

Oromiya Region: In 2016 *Belg season production*, 1,482,931 hectares of land have been planned in the region. As a result, 1,482,931 hectares were plowed and 1,509.060 (102 %) hectares were sown with various crops, and growing crops are found at the mid-development to harvesting stages in Bale, Arsi, E/Hararghe, W/Hararghe, Borena, E/Borena, S/W/Shewa, Ilubabor, and Guji zones. In addition, for the 2016/17 *Meher season*, 10,558,093 hectares of land have been planned to be cultivated with various crops in the region. As a result, 7,855,751 hectares of land were plowed, and 3,850,548 (36.47%) hectares have been sown in different areas of the region.

Regarding the growing stages of crops, it was found at different stages depending on the agroecology and crop type grown in the areas, for instance in Arsi teff is found at harvesting, while other crops are found from flowering to grain filling stages. In East and West Hararghe at maturity and harvesting stages, in Borena at harvesting stage, in East Borena, S/West Showa, Guji, and West Guji, it was found from development to grain filling stages. However, Belg season crops in Hawi Gudina woredas located in the West Hararghe zone are severely affected by moisture stress due to the rainfall shortage that occurred in the area. Additionally, growing crops are starting to wilt due to the interrupted rain for more than two weeks, in three lowland woredas (Melka Sodo, Dugda Dawa, and Suro Berguda) of West Guji zone.

Amhara Region: For 2016/17 *Meher season* production, 5,116,068 hectares were planned to be cultivated with various crops. As a result, 3,455,579 (67.54%) hectares were plowed, and 623,016 (12.18%) hectares have been sown in the region. Regarding *Belg season* production, 229,526 hectares of land were planned for cultivation in *Belg*-benefiting areas of the region. As a result, 232,238 (101.2%) hectares were plowed, and 227,686 (99.2%) hectares have been sown in the region. According to the regional report, only 19% of crops grown in *Belg season* are harvested and the rest are found from the first to last development stages. On the other hand, *Meher season* production status is found at land preparation, sowing, and germination stages.

Afar Region: Meher season production has been started and sowing operation has been continued in most areas of the region. In zone 3 and zone 5 woredas growing crops are found from sowing to development stages, while maize and onion crops are being harvested in Telalak and Dewa woredas. In addition, crops grown using irrigation are found at good growth stages, while some other crops sown with rainfall are currently found under moisture stress and poor growth conditions.

Gambela Region: According to the regional report, in Agnuwa, Neur, and Mejang zones, as well as Itang

special woredas, Meher-season crops are currently found at the weeding and hoeing stages. Whereas maize crops grown using recession farming methods have reached the flowering and grain-filling stages in these same zones across various woredas.

Benishangul Gumz Region: According to the regional report, for the 2016/17 *Meher season* production field cleaning, land preparation, input distribution, and planting of long-cycle crops are being conducted and continued in the region.

Harari Region: The regional crop production report states that in the Erer, Sofi, and Dire Teyara woredas of the region, 95.52% of the planned areas for *Meher season* production were covered with groundnut, maize, and sorghum crops. In terms of input accessibility and utilization, most parts of the region have reported shortages of fertilizer and improved seed.

Table 2: 2016 Meher *season* crop production performance by woreda in Harari region.

Woreda	***Meher season* crop production performance by woreda**			
	Planned area in hectare	**Plowed area in hectare**	**Sown area in hectare**	**% of sown area from the plan**
Erer	6,285	6,033	5,970	94.99
Sofi	3,279	3,180	3,115	95.00
Dire Teyara	3,420	3,317	3,317	96.99
Total	12,984	12,530	12,402	95.52

Dire Dawa city administration: According to the report sent from the city administration, out of the planned 15,375 hectares for *Meher season* production, 70 to 75 % have been sown and found in the germination and development stages. The city administration has distributed insecticides to control the pest problem in areas infested by shoot flies.

Somali Region: According to the regional early warning report *Belg season* growing crops like maize and sorghum are found from germination to flowering stages.

Tigray Region: In 2016 *Belg season* production, 16,773 hectares were sown with various crops in five woredas of the Southern and Southeastern zones of the region. Growing crops are found at grain filling and harvesting stages. However, the rainfall interruption that has occurred in these areas has imposed a negative impact the expected yield is only 16% of the initial plan. In addition, for *Meher season* production, 1.3 million hectares were planned to be cultivated with various crops. As a result, 589,843 hectares were plowed, and 186,970 (31.7%) hectares have been sown from the tilled area in 36 woredas of the region. Regarding input supply and utilization, 896,650 quintals of NPS and Urea fertilizer have been planned, and 720,519 quintals or above 80 % were supplied and distributed to different woredas of the region. However, from the planned 150,000 quintals of improved seed, only 27,000 quintals (18%) have been supplied and distributed to the farmers. Therefore, if the required input has not been supplied at the right time there should be a significant yield reduction in the coming *Meher* season.

3.2 Migratory pest condition

Sidama **Region:** A *Fall Armyworm pest* has occurred on 12,293 hectares of maize fields in North Sidama Zone of Borcha, Bilate Zuria, Hawasa Zuria, Shebedino, Hawela and Wondogenet woredas, in Central Zone of Derara, Loka Abaya and Dale woredas, in Southern Zone of Aleta Chiko, Aleta Wondo, and Dara woredas and Eastern Zone of Bona Zuria, Chabe Gambelto, Huko and Bensa woredas of the region. Control measures have been undertaken with the traditional method and by chemical spray.

South Ethiopia: In Konso Zone, Karat woreda, 7 kebeles in *Fall Armyworm and grasshopper* occurred on 645 ha of maize and teff fields, and a control measure was conducted on 633 ha. Also, in Kena woreda, 4 kebeles *Fall Armyworm, grasshopper, and aphids* have occurred on 1,356.73 ha of maize, sorghum, teff, haircoat bean, and masho crop fields, and control measure was taken on 897.05 ha. In addition, traditional and chemical weed control measure was undertaken on 722,711 ha which is cultivated with horticulture and field crops.

Central Ethiopia Region: *Fall Armyworm* has also occurred on 1079 hectares of maize field in Kebena special woreda, however, the control measure taken to control the pest was not mentioned in their report. In Yem zone, *grasshoppers* occurred in 105 ha of crop field, and control measures taken to prevent it were not mentioned. There is a *Migratory bird invasion* in Mareko special woreda, even though the extent of the damaged crop and the prevention measures taken have not been mentioned. In Silte zone, a *Regular Armyworm pest* has occurred on 2096 hectares of crop fields. So, traditional control measures were taken on 415 hectares of maize fields and 1261.8 liters of chemical was sprayed to prevent the pest. Also, *cutworms* had occurred on 2492 hectares of crop fields, and 2204 liters of chemical was used to control the pest. In addition, *stack borer* has occurred on 2291.5 hectares of crop fields, and control measure was taken on 169 hectares with traditional methods and 2076.5 liters of chemical were also used to control the pest. Furthermore, in East Gurage zone, *Rust and Late blight disease* infestation on growing crops was reported, however, the size of the affected field and measures taken to prevent it were not mentioned.

Dire Dawa: According to the city administration Shoot fly has been occurring on growing crops found at the seedling stage.

Tigray Region: According to the regional report, sorghum beetle has occurred in a wide area of central Adiyabo woreda of the Northwest zone.

Somali Region: In Dawa zone, all woredas, *stalk borer, bollworm, and maize ears rots/mycotoxins* have occurred on growing crops such as maize, onions, tomatoes, and faba beans. As a result, it caused severe damage to maize, tomatoes, and onion and it is estimated that this may reduce the expected crop yield. In addition, the occurrence of *Regular armyworms* and stalk borer on maize crops was reported from the Fafan zone.

4. Livestock Condition

4.1 Livestock Pasture and Drinking Water Condition

For the last two weeks, both pasture and water supplies have been sufficient in the majority of the regions including in Sidama, South Ethiopia, Dire Dawa, Somali, Afar, Benishangul Gumuz and Gambella regions. However, there have been shortages of pasture and water in Oromia, Central Ethiopia and Harari. In case of Central Ethiopia, there has been a problem of pasture supply in Mareko Special woreda because of reduction of crop residue that was used as the major source of pasture. Shortage of water supply was also reported in the same woreda. Oromia region reported that pasture and water were inadequate in Bale and East Wollega zones. In Harari region, the intermittent rainfall has adversely affected the growth of pasture that was feared to influence the supply of pasture.

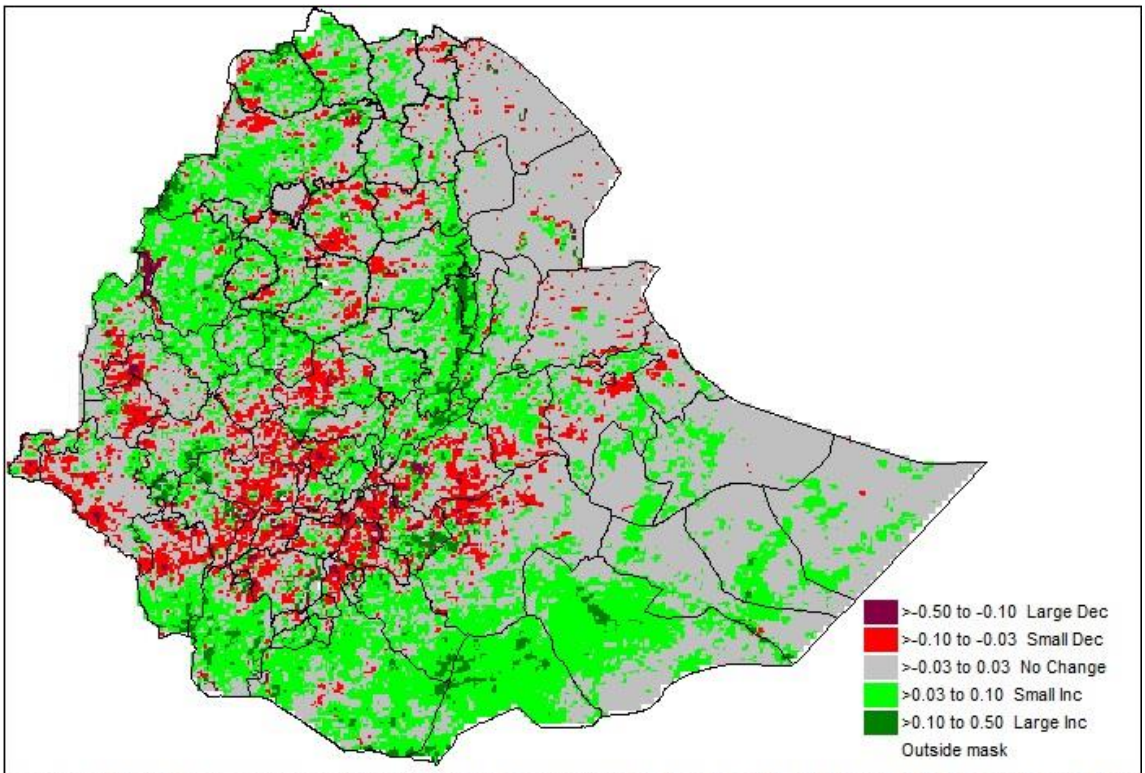
4.2 Livestock Disease Outbreak

During the last two weeks, no disease of outbreak form was reported in Sidama, Dire Dawa, Harari and Gambella regions. On the other hand, different increased disease incidences were reported in some regions. For instance, Lumpy Skin Disease cases were reported in East Gurage of Central Ethiopia, in Dasenech woreda of South Omo zone. Another urgent issue is that livestock deaths due to Anthrax infections. In the last two weeks, 5 persons died due to consumption of meat from cattle died of Anthrax. Similar situation happened in the first two weeks of July 2024 making the human deaths 11 due to consumption of meat from cattle died from Anthrax. This is an alarming issue requiring awareness creation to the community to refrain from consumption of meat from slaughter of diseased animals.

In Gomol woreda of Borana zone, 49 camels were infected with an unknown camel disease out of which 11 camels of 8 households died. In West Guji, Contagious Caprine Pleuro-Pneumonia (CCPP) has been detected in goats and there is risk of expansion due to insufficient vaccine and treatment drug supplies. Unusual occurrence of *Rabies* was reported in Benishangul Gumuz. Somali region reported various livestock diseases with considerable fatalities (Table 1). Most of the livestock deaths occurred in Somali region were due to unknown diseases requiring employing appropriate disease diagnoses.

Table 1: Summary of livestock deaths in Somali region

Disease	Region	Zone	Woreda	Kebele	Species affected	Deaths
CBPP	Somali	Fafan	Awubare	Afarta & Abayfulan	Cattle	6
Unknown disease	Somali	Shebelle	Shebelle	Waji	Cattle	30
FMD	Somali	Fafan	Babile	Erer Yaray and Ebro Muse	Cattle	6
Unknown disease	Somali	Nogob	Sagag		Camel	17
Unknown disease	Somali	Nogo	Duhun		Camel	4



Vegetation Greenness (NDVI) for the first dekade of July 2024 [Compared to Normal], Processed by LEAP (Version 3.1.1)

As can be seen from NDVI picture (01-10 July 2024 METEOSAT) the northern, northwestern, northeastern, eastern, western, and southwestern parts of the country show a mix of stable/normal to increasing vegetation greenness, with some areas experiencing small to large decreases. The central and southeastern regions show the most significant increase in vegetation greenness, while the southern region predominantly displays a significant increase with fewer areas showing decreases. Overall, the central and southeastern regions exhibit the most notable improvements, with other regions showing a mix of stability/normal and increases, alongside some localized decreases.