

2019 Gu (March to June) Rainfall Performance and Impacts

Summary

The Overall 2019 Gu season rainfall performance was normal to below normal in terms of amount but highly erratic and poorly distributed. The rains started a month late in most areas leading to a prolonged dry period in some areas and moderate drought conditions in others especially during March and April. The last half of May saw increased rainfall activity, including heavy storms that lasted a few hours and distributed within a period of less than ten days during the whole season. Some places received more than 200mm of rainfall especially in the southern regions and a few pockets of Somaliland which is normal for this season. Bari region and the east parts of Sool and Sanag regions in the north recorded the least amounts of rainfall of 30 to 75 mm (Figure 1). Comparing the 2019 Gu rainfall amounts to the long term average, most areas recorded amounts within the normal range. However, some areas recorded below normal amounts (Bari, east of Sool and Sanaag, pockets of central regions and some areas in Middle and Lower Shabelle (Figure 2).

Figure 1: 2019 Gu Total Rainfall Estimates in mm (Source - TAMSAT)

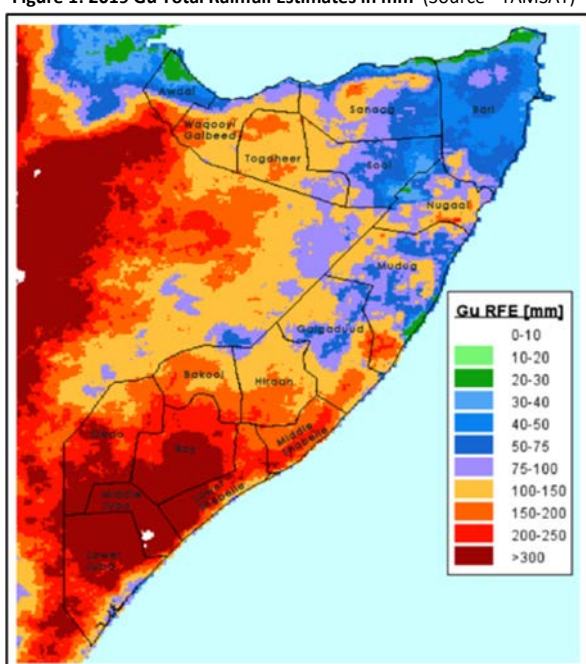
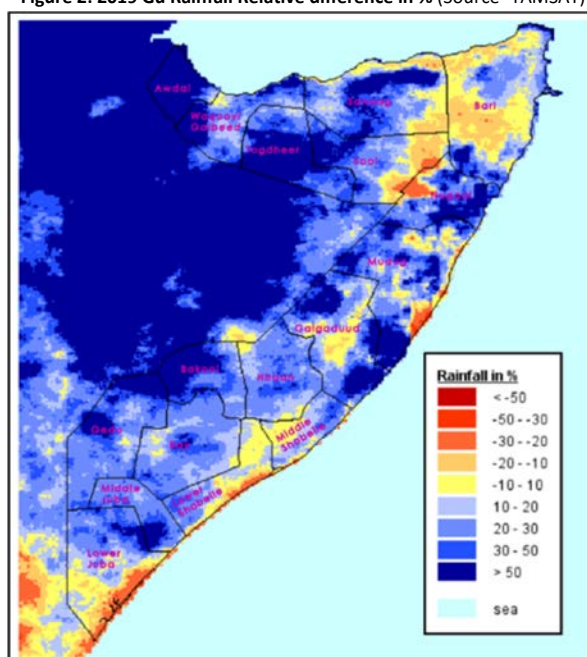


Figure 2: 2019 Gu Rainfall Relative difference in % (Source - TAMSAT)



Increased rainfall since mid-May were mainly beneficial to pastoral livelihoods and subsurface water recharge. Deep ground water recharge did not benefit much from these rains and there remains a deficit. In most crop growing areas the rains came too late for the seasonal crop production which is expected to be 50 percent lower than average both in the rain-fed agricultural areas and the riverine areas. The negative impacts of the poorly distributed 2019 Gu season in northern and central parts of Somalia is partly exacerbated by the extended impact of the severe 2016/2017 drought and poor 2018 Deyr (October-December) season rainfall. More rains are required to fully recover from the combined impacts of below average to poor rainfall over consecutive season. Harsh and hot weather conditions could prevail during the *Hagaa* (July to September) season.

In the south and central areas, the rains were short lived. The season started in late April and ended in late May. The delay led to late planting, while some farmers did not plant at all. Crop production in the rain-fed areas of Bay and Bakool is expected to be below normal due to the erratic rainfall pattern. Also, irrigated crop production may decrease significantly along the Juba and Shabelle Rivers, which remained at alarming low levels during the season. In Somaliland, heavy rains in late May and early June came as a big relief to the region and were beneficial to all sectors including pasture regrowth and sub surface water recharge. Livestock body conditions also improved during this period. On the negative, the stormy rains led to high runoff causing flash floods in some areas. High runoff usually leads to low moisture recharge that may not sustain optimal crop growth nor replenish the groundwater resources adequately.

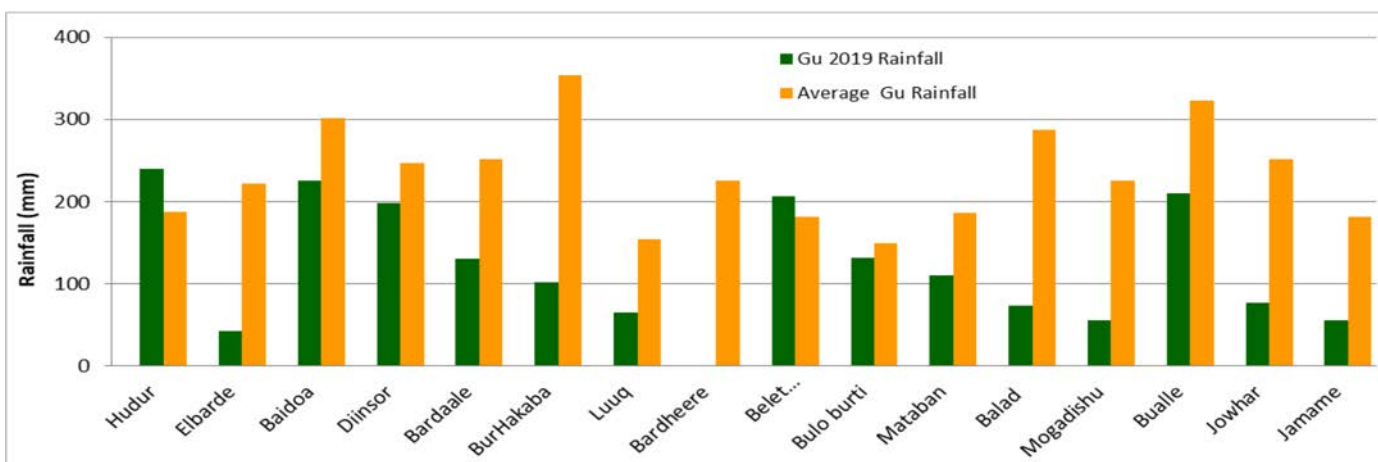
In Puntland, a prolonged dry spell persisted until the mid-May, when a few stations recorded heavy storms which were distributed within a few days. The heavy storms brought some relief to drought conditions that prevailed in the area as availability of water for both domestic and livestock improved. Significant improvement can only be expected during the forthcoming Deyr (October-December) season rainfall.

Regional Overall Gu Rainfall Performance

South and Central: In these regions there was a late start of rains, from late April to late May indicating an early end of the season. The peak of the season was registered in the second half of May. There remains a large rainfall deficit in some of the areas (Figure 3). Gedo, Hiraan, Middle Shabelle, Lower Shabelle, Galgaduud and Mudug regions recorded the lowest amounts of rainfall with many stations receiving less than half of the expected amounts.

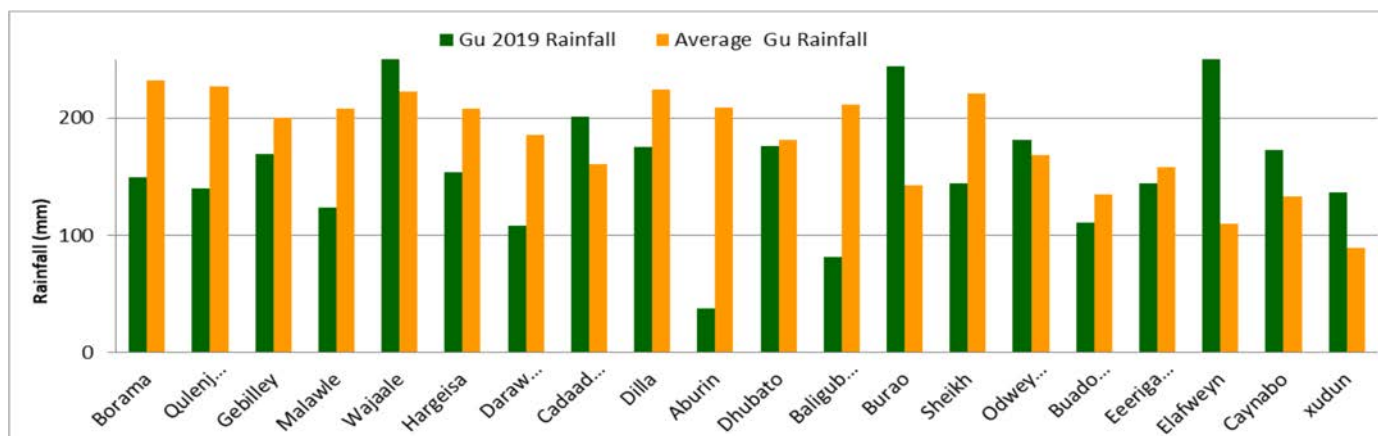
Huddur, Dinsoor, Baidoa, Bualle and Belet Weyne recorded more than 200mm of rainfall during the season which is within the normal for some stations and below for others. For example Baidoa station recorded 200mm against the normal of 300mm, same with Bualle and Dinsor. Luuq, Bardheere, Dollow in Gedo received minimal rains while Balad and Jowhar in Middle Shabelle also recorded significantly below normal rains.

Figure 3: 2019 Gu Rainfall Performance in South and Central Somalia (Source - SWALIM)



Somaliland: A prolonged dry spell in April was noticed across Somaliland with most stations recording little or no rains at all. There was a relief in May following good rains in the area which may continue to benefit from the *Karan* rains (June - August) thus further improving pasture growth and crop production in the agro pastoral areas. Cumulatively, most stations received within normal rains with a few like Borama, Malawle, Aburin and Sheikh recording below normal rains for the season (Figure 4). On the downside the heavy rains led to flash floods in some areas with reported cases of lose of lives and properties.

Figure 4: 2019 2019 Rainfall Performance – Somaliland (Source - SWALIM)

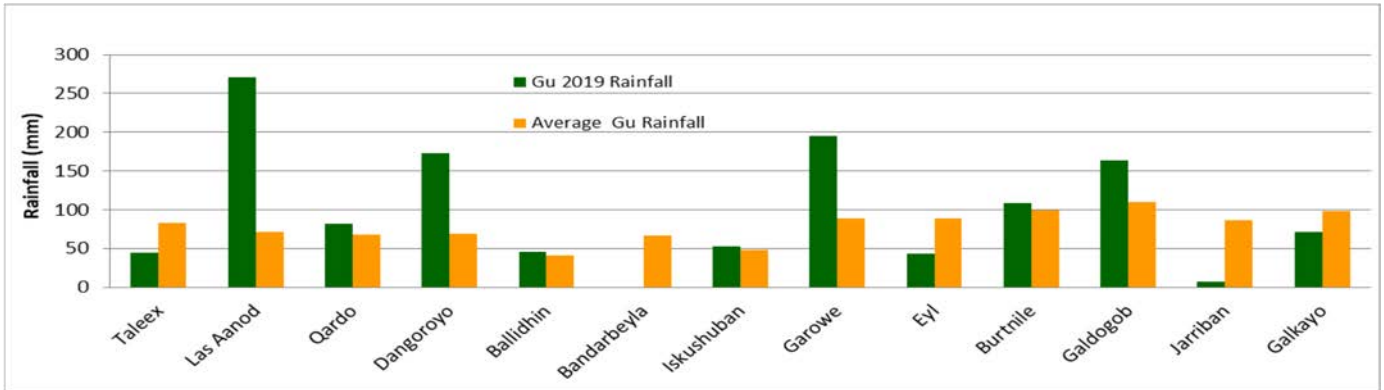


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Puntland: The rains started off late in second week of May and continued to spread further in quantity and space, ending during the first week of June. Harsh weather conditions were experienced in March and April, which led to mild to moderate drought conditions. The rains were a major relief among the communities because there was pasture growth and ground water replenishment. However, this just served as an immediate relief and did not completely end the drought conditions. The rains had a very poor temporal distribution, for instance, the Garowe gauging station recorded three days of rainfall of 26mm, 50mm and 88mm during the entire season while Galgadob recorded only one day rainfall of 150mm.

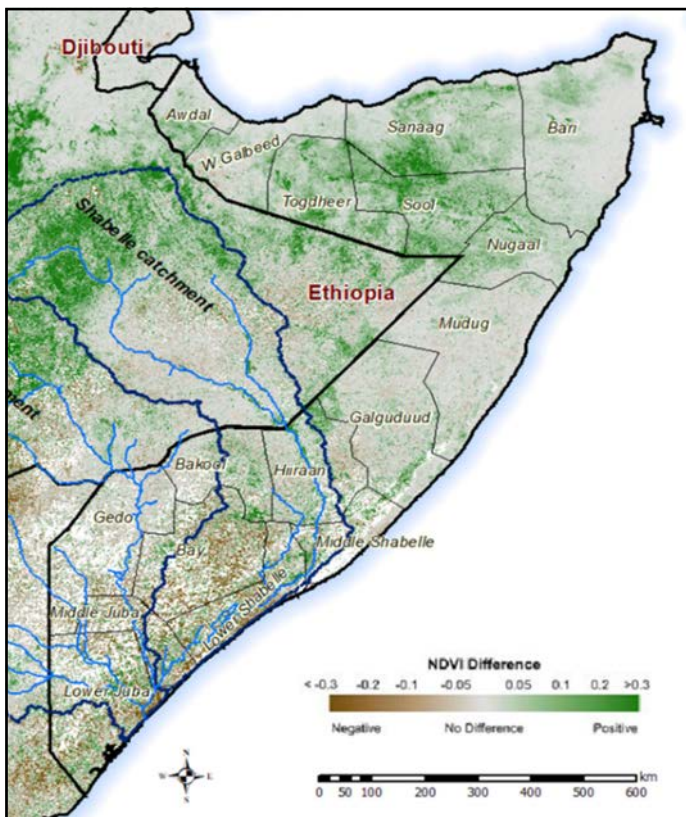
Many areas in Puntland had experienced prolonged dry period following a poor 2018 Deyr season. More rains are required to end the impacts of droughts the region. The May rains saw some days of heavy storms that led to flash floods in some areas with cases of destruction of property.

Figure 5: 2019 Gu Rainfall Performance – Puntland (Source - SWALIM)



Vegetation Conditions

Figure 6: Vegetation Conditions at the end of Gu 2019 Rainy Season (Source—USGS)



A prolonged dry period in the country that extended from late last year to April led to stressed vegetation conditions across the country. Below normal conditions persisted in March, April and first half of May which led to depletion of pasture due to overgrazing and unfavorable hot conditions.

However, following heavy rains in late May and the first week of June, most areas in northern Somalia have improved vegetation conditions towards the end of the season. This saw regrowth of pasture and improved crops in some parts, particularly in the North which shows an increase in Vegetation conditions compared to the normal as seen in Figure 6 (green shade)

The southern parts however show mixed vegetation conditions, with pockets of negative anomalies (brown shades) in areas where rainfall deficits were recorded such as the areas of Gedo, Bay, Bakool, Lower Shebelle, Galgaduud and Mudug regions. The rains came late and ended early in some of these areas, leaving a soil moisture deficit as shown in the figure. While no rains are expected in the inland, southern regions stressed vegetation conditions will be expected to continue until the next rainy season.

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Water Resources

Since the beginning of the year, the river levels both at Juba and Shabelle Rivers remained below normal. Some sections of the Shabelle River dried up especially in the mid and lower sections.

The levels remained low until late May when there was a slight increase following good amounts of rainfall in the Ethiopian highlands and within Somalia. Currently the levels are within normal at this time of the year.

Riverine flooding was reported in Middle Shabelle which was caused by lateral flows from existing open river breakages.

Below-average river levels between March and mid-May have negatively affected Gu season crop production in riverine and adjacent agro-pastoral communities.

The country will need a lot more rains to be able to have an adequate deep ground water recharge especially in the northern areas which are significantly dependent on ground water.

Figure 7: Observed river levels along Shabelle River at Belet Weyne (Source -SWALIM)

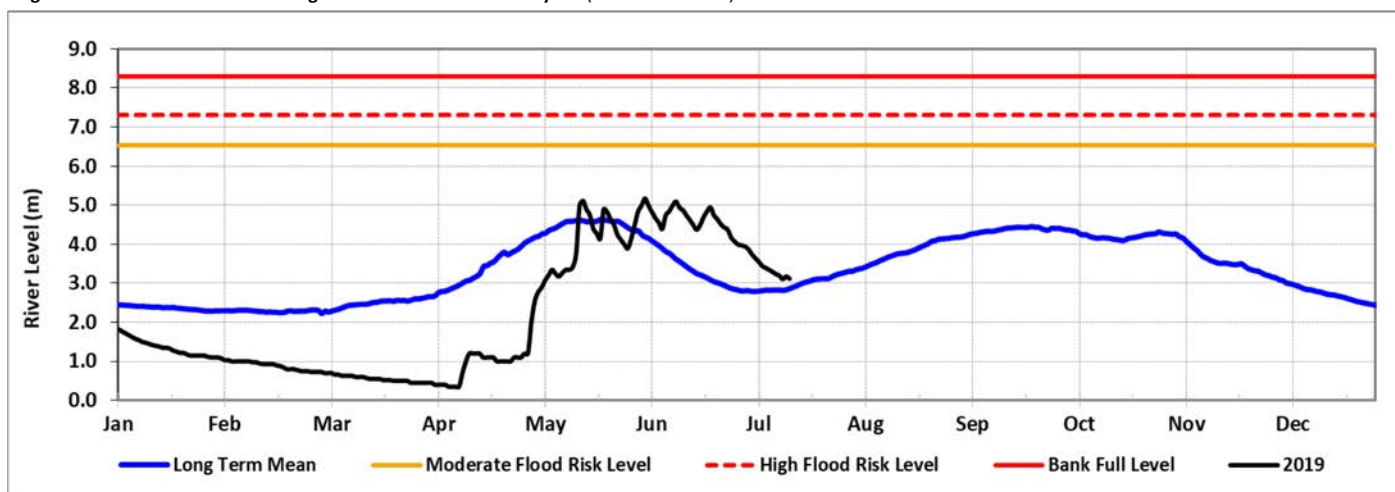
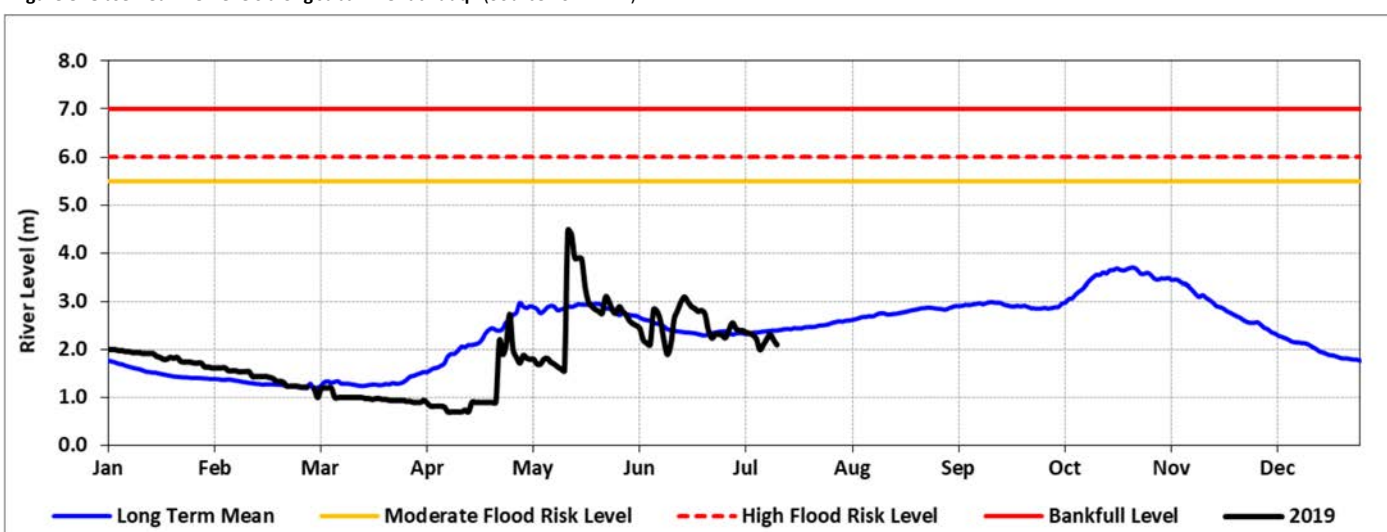


Figure 8: Observed river levels along Juba River at Luuq (Source - SWALIM)

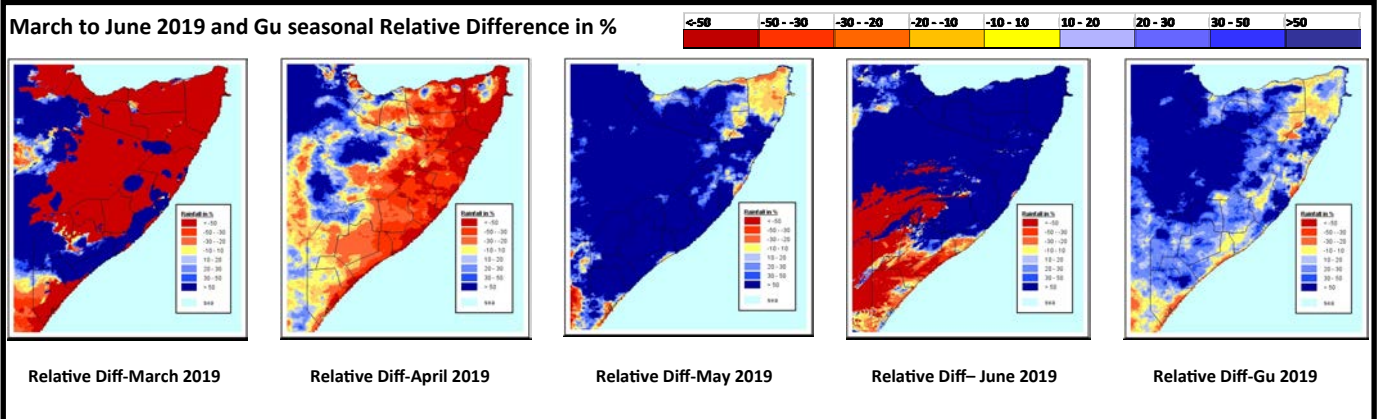
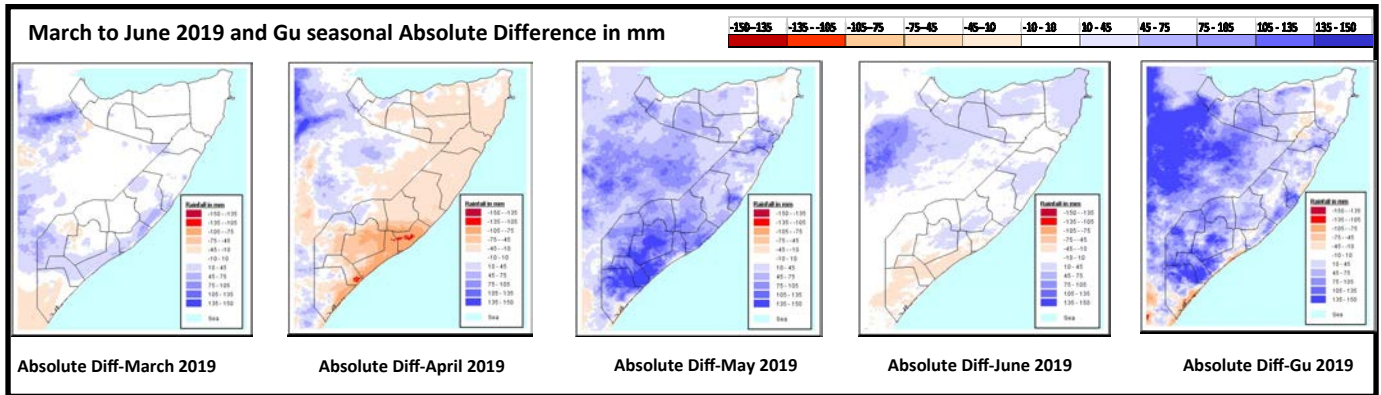
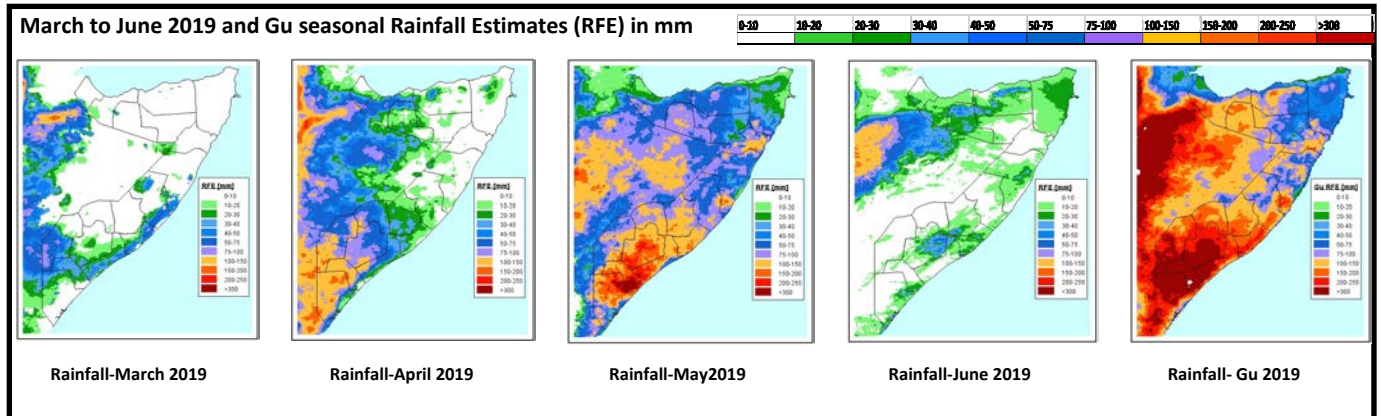


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Annex I - GU 2019 Observed Rainfall Data

Station	Region	Gu 2019 Rainfall (mm)	Gu Average Rainfall (mm)	Percent of Norama (%)
Borama	Awdal	149.5	232.0	64.4
Qulenjeed	Awdal	140.0	227.0	61.7
Gebilley	Wogooyi Galbeed	169.5	200.0	84.8
Malawle	Wogooyi Galbeed	123.5	208.0	59.4
Wajaale	Wogooyi Galbeed	263.0	223.0	117.9
Hargeisa	Wogooyi Galbeed	153.5	208.0	73.8
Daraweyne	Wogooyi Galbeed	108.0	186.0	58.1
Cadaadley	Wogooyi Galbeed	201.0	161.0	124.8
Dilla	Wogooyi Galbeed	175.0	224.0	78.1
Aburin	Wogooyi Galbeed	38.0	209.0	18.2
Dhubato	Wogooyi Galbeed	176.0	181.0	97.2
Baligubable	Wogooyi Galbeed	82.0	211.0	38.9
Burao	Togdheer	244.0	143.0	170.6
Sheikh	Togdheer	144.5	221.0	65.4
Odweyne	Togdheer	181.5	168.0	108.0
Buadodle	Togdheer	111.0	135.0	82.2
Eerigavo	Sanaag	144.5	158.0	91.5
Elafweyn	Sanaag	326.5	110.0	296.8
Caynabo	Sool	173.0	133.0	130.1
xudun	Sool	136.5	89.0	153.4
Taleex	Sool	44.8	83.0	54.0
Las Aanod	Sool	270.5	71.0	381.0
Qardo	Bari	81.5	68.0	119.9
Dangoroyo	Bari	173.0	69.0	250.7
Ballidhin	Bari	45.3	41.0	110.5
Bandarbeyla	Bari	0.0	67.0	0.0
Iskushuban	Bari	53.0	48.0	110.4
Garowe	Nugaal	195.2	89.0	219.3
Eyl	Nugaal	43.0	89.0	48.3
Burtnile	Nugaal	109.0	99.0	110.1
Galdogob	Mudug	163.0	110.0	148.2
Jarriban	Mudug	7.0	86.0	8.1
Galkayo	Mudug	71.0	98.0	72.4
Hudur	Bakool	240.0	187.0	128.3
Elbarde	Bakool	43.0	222.0	19.4
Baidoa	Bay	225.0	302.0	74.5
Diinsor	Bay	197.7	247.0	80.0
Bardaale	Bay	131.0	252.0	52.0
BurHakaba	Bay	102.0	354.0	28.8
Luuq	Gedo	65.0	154.0	42.2
Bardheere	Gedo	0.0	225.0	0.0
Belet weyne	Hiraan	206.0	182.0	113.2
Bulo burti	Hiraan	132.0	150.0	88.0
Mataban	Hiraan	110.0	186.0	59.1
Balad	Lower Shabelle	73.0	287.0	25.4
Mogadishu	Banadir	56.0	225.0	24.9
Bualle	Middle juba	209.5	323.0	64.9
Jowhar	Middle Shabelle	77.0	252.0	30.6
Jamame	Lower Juba	55.5	182.0	30.5

Annex II - 2019 Gu Season Rainfall Performance



Acknowledgement

Observed climate from a network of over 100 stations was collected by the Ministry of Agriculture & Irrigation of the FGS, Ministry of Energy & Water Resources of the FGS, Ministry of Agricultural Department of Somaliland and Ministry of Environment, Agriculture and Climate Change of Puntland.

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