

UNSEASONAL RAINFALL AND FLOOD ALERT



Overflow of Shebelle River – Somali region



Crop damage due to heavy rain, Kelafo – Somali region

October 2015

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INTRODUCTION

Following the incidences of flood situations in pocket areas of the country since June 2015, the DRMFS-led, multi-sector national Flood Task Force was re-activated in early August and has been closely monitoring the situation.

Based on the National Meteorology Agency (NMA) forecast for the *bega* season (October 2015 to January 2016), this *Unseasonal Rainfall and Flood Alert* is prepared to provide information on the probable weather condition for the *bega* season and to identify the areas likely to be affected in the country to prompt timely mitigation, preparedness and response measures. The Alert will be further updated based on revisions in NMA forecast for the season and the development of the situation on the ground. The Alert will also form the basis for contingency/operation plan preparation.

BACKGROUND

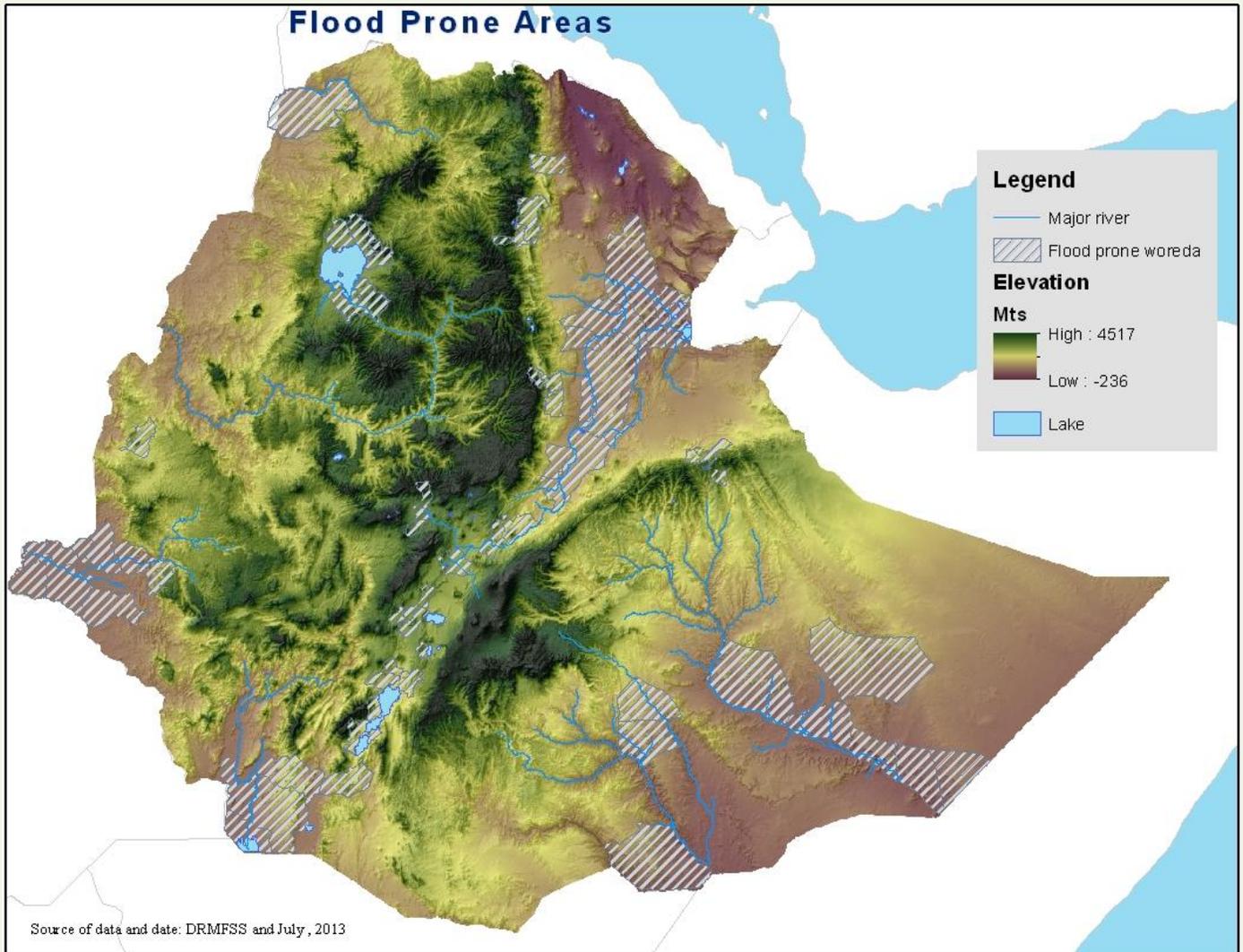
Unseasonal rains occur due to weather disruptions as a result of El Niño episode in areas where rainfall is not normally expected at a particular period of time. For instance, in the NMA analogue years of 1982/83 and 1997/98, unseasonal rains affected crop harvest in parts of Oromia, Amhara and SNNP regions.

Flood – one of the major natural hazards in Ethiopia – affects lives and livelihoods in parts of the country. Flooding in Ethiopia is mainly linked with torrential rainfall and the topography of the highland mountains and lowland plains with natural drainage systems formed by the principal river basins.

In most cases floods occur in the country as a result of prolonged heavy rainfall causing rivers to overflow and inundate areas along the river banks in lowland plains. Among the major river flood-prone areas are parts of Oromia and Afar regions lying along the upper, middle and downstream plains of the Awash River; parts of Somali region along the Wabe Shebelle, Genale and Dawa Rivers; low-lying areas of Gambella along the Baro, Gilo, Alwero and Akobo Rivers; downstream areas along the Omo and Bilate Rivers in SNNPR and the extensive floodplains surrounding Lake Tana and the banks of Gumera, Rib and Megech Rivers in Amhara (*see Map 1*).

Flash floods occur in lowland areas when excessive rains fall in adjacent highland areas. Flash floods mostly affect areas including Central, Southern and Western Tigray region; North and South Wollo, West Gojjam and Oromia zones in Amhara region; North Shewa zone in Oromia region; Wolayita, Hadiya, Siltie, Guraghe and Sidama zones in SNNPR; Jigjiga Town in Somali region and Dire Dawa City Administration. This type of flood is characterized by sudden onset with little lead time for early warning and often resulting in considerable damage on lives, livelihoods and property.

Map 1: Flood prone areas

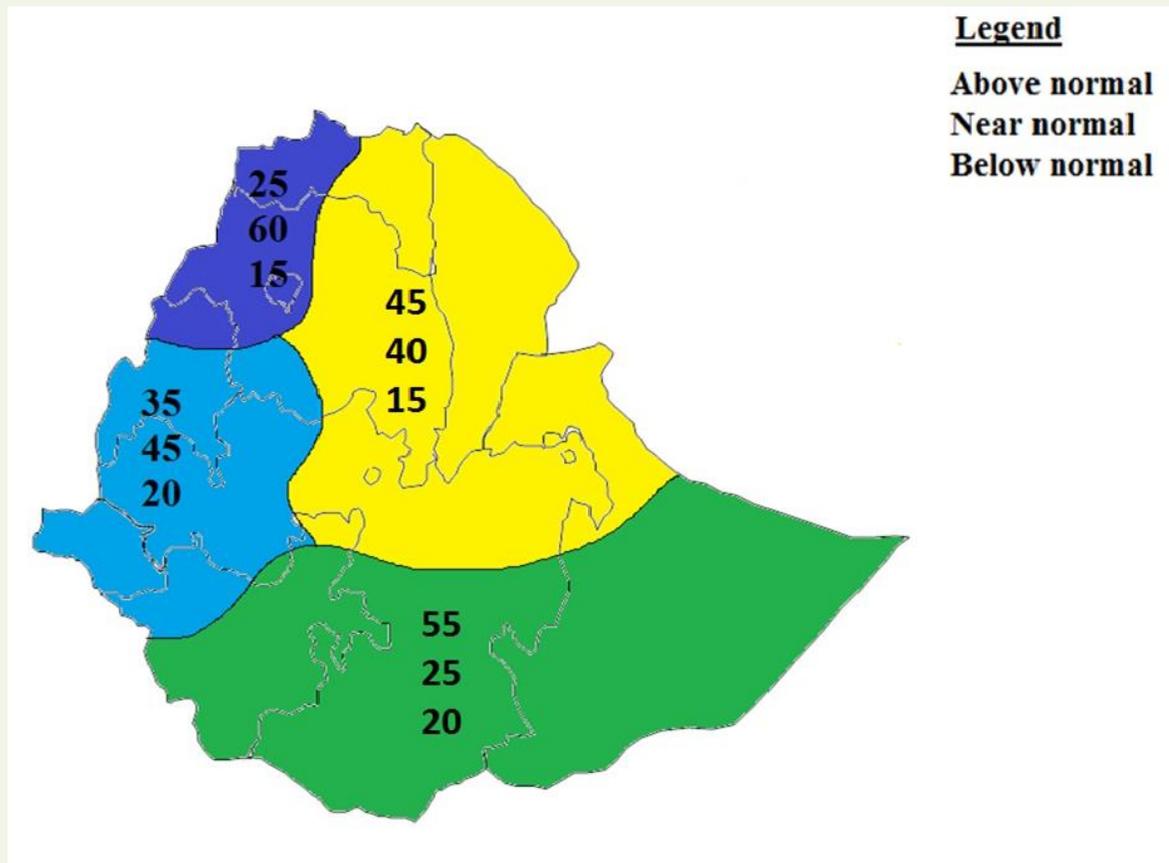


In Ethiopia, flood usually takes place at the peak of the *kiremt* rainy season (July and August) in most flood-prone areas. In Gambella flooding often occurs during August and September. In Somali region, heavy rains in the neighboring highland areas of Oromia usually cause flooding in the *kiremt* season. Unseasonal and above-normal rainfall during October to January could also cause flooding in areas along Wabe Shebelle and Genale Rivers in Somali region and Omo River in SNNPR. Similarly, heavy rainfall in the surrounding highlands of Amhara, Tigray and Oromia often result in overflow of the Awash River and its tributaries in Afar. Flooding around Lake Tana (Fogera and Dembia Plains) is induced by backflow of Lake Tana and overflow of its major tributaries at times of heavy rainfall. It is also likely that heavy *belg/gu/ganna* seasonal rains (between March and June) induce flooding in *belg*-benefitting areas.

WEATHER OUTLOOK FOR bega (October to January) 2015/16

- Above-normal rainfall performance is anticipated to dominate across the south and southeastern parts of the country. Heavy fall is likely to prevail over some pocket areas.
- Unseasonal (above-normal) rainfall is expected in the northern, northeastern, eastern and central parts of Ethiopia.
- Normal rainfall is anticipated predominantly in southwestern and western parts of the country.
- Normal to above-normal rainfall is likely in northwestern parts of the country.
- The chance for the prevalence of frost in the highland areas is minimal.

Map 2: Tercile rainfall probability for bega 2015/16 season



FORECAST FOR OCTOBER 2015

The month of October is normally a period when the south and south eastern parts of the country receive the short rainy season. The *kiremt* rains normally continue in western and south western parts of the country in the month. On the other hand, northern, northeastern, eastern and central parts of the country remain predominantly dry, sunny and windy.

According to the NMA forecast for October 2015, normal to above-normal rainfall is expected in most parts of Tigray; Awi, Bahir Dar Zuria, West and East Gojjam, South and North Gonder, Wag Hemra, South and North Wollo and Oromia zones in Amhara; Zone 3 and Zone 5 in Afar; most parts of Benishangul Gumuz and Gambella regions; Illubabor, Jimma, East and West Wollega, Borena, Guji, Horo Gudru, Arsi, Bale, East and West Hararghe zones in Oromia; Keffa and Bench Maji zones in SNNPR; Sitti, Jijiga, Fik, Degehabur, Liben, Afder, Gode, Korahe and Warder zones in Somali; Hareri; Dire Dawa; Addis Ababa.

The forecast further predicts unusually heavy rainfall which will likely cause flash and river floods in some parts of the above-mentioned areas in October. Additionally, unseasonal rainfall may result in damage of mature crops in the *meher* season benefiting areas.

UNSEASONAL RAINFALL AND FLOOD RISK AREAS

In line with the NMA *Bega* 2015/2016 forecast, unseasonal rainfall is likely to occur in the northern, northeastern, eastern and central *meher* producing parts of the country. These areas include central and eastern Amhara; Central, Northeastern and Southern Tigray; and northeastern Oromia.

Flood is likely to happen in flood-prone areas with high probability in the southern and southeastern parts. Taking into consideration the strengthened El Nino effect and with anticipated above-normal rains in the *bega* season, the risk of flooding is high in Wabe Shebelle, Genale/Dawa, and Omo River basins and particularly in the below listed areas.

SNNPR: Bonke and Mirab-Abaya *woredas* in Gamo Gofa zone; Dasenech, Nyangatom, Hamer, Jinka Town, Debub Ari and Semen Ari in South Omo zone; Loka Abaya *woreda* in Sidama zone and Humbo *woreda* in Wolayita zone.

Somali: Kelafo, Mustahil, Ferfer, Gode, Bera'ano, and East Imy *woredas* in Shebelle zone; West Imy, Cherati, Dolo Bay and Hargele *woredas* in Afder zone; and Dolo Ado *woreda* in Liben zone.

Oromia: Liben *woreda* in Guji zone; and Legehida, Gassera, Agarfa and Gololcha *woredas* in Bale zone; Boset, Dugda and Bora in East Showa zone; Becho, Sebeta Awas and Illu in Southwest Shewa zone.

RECOMMENDATION

Due to the likely adverse impact of unseasonal rains in the above-mentioned areas, it is recommended that, based on close monitoring, regular message is disseminated to farmers to mobilize efforts for timely harvesting of crops and storing in safe locations. Additionally, scaling up appropriate water harvesting activities is highly advised to contain the rain water in water-deficit areas.

Moreover, immediate mitigation and preparedness measures ought to be conducted to minimize the likely impact of flooding on lives and livelihoods. Preparedness actions including dissemination of early warning information to population at risk, reinforcing flood protection structures in at-risk areas, and strengthening communication between highland and downstream areas to better prepare for likely runoffs are recommended. It is also advised that regional flood task forces are reactivated and preparation of evacuation plan is in place. Precedence should be given for pre-positioning of food and non-food items for immediate response with particular emphasis to areas that may become inaccessible.

The national Flood Task Force will continue to closely monitor the situation and regularly update the Alert report. Contingency/operation plan will be developed to facilitate preparedness and response activities as required.