

FLOOD ALERT

INTRODUCTION

Based on the *kiremt 2012* seasonal and mid-season forecasts issued by the National Meteorological Agency (NMA), the DRMFSS-led Flood Task Force comprised of representatives from NMA, sectoral line ministries, UN agencies, NGOs and donors, under the Disaster Risk Management Technical Working Group (DRMTWG) has been reactivated to closely monitor the flood situation and facilitate timely preparedness and response measures.

The Flood Task Force prepared this Flood Alert, which indicates the forecast for the remaining *kiremt 2012* season and identifies flood risk areas in order to trigger timely mitigation, preparedness and response measures. The western half of the country will continue to receive normal to above normal rains during August and September 2012, posing increased risk of flooding. Areas facing the highest risk constitute **western Amhara** (areas surrounding Lake Tana and Rib, Gumera, Gilgel Abay, Dirma and Megech rivers); **Gambella** (Baro, Gilo and Akobo rivers) and **western SNNPR** (South Omo and Woito rivers). Middle and lower Awash catchments are also likely to face short-lived flood risks.

The alert will be regularly updated based on weather updates by NMA and the development of the situation on the ground.

BACKGROUND

Flood, as one of the major natural hazards in Ethiopia, impacts lives and livelihoods in some parts of the country. Flooding in Ethiopia is mainly linked with the national topography of highland mountains and lowland plains with natural drainage systems formed by the principal river basins.

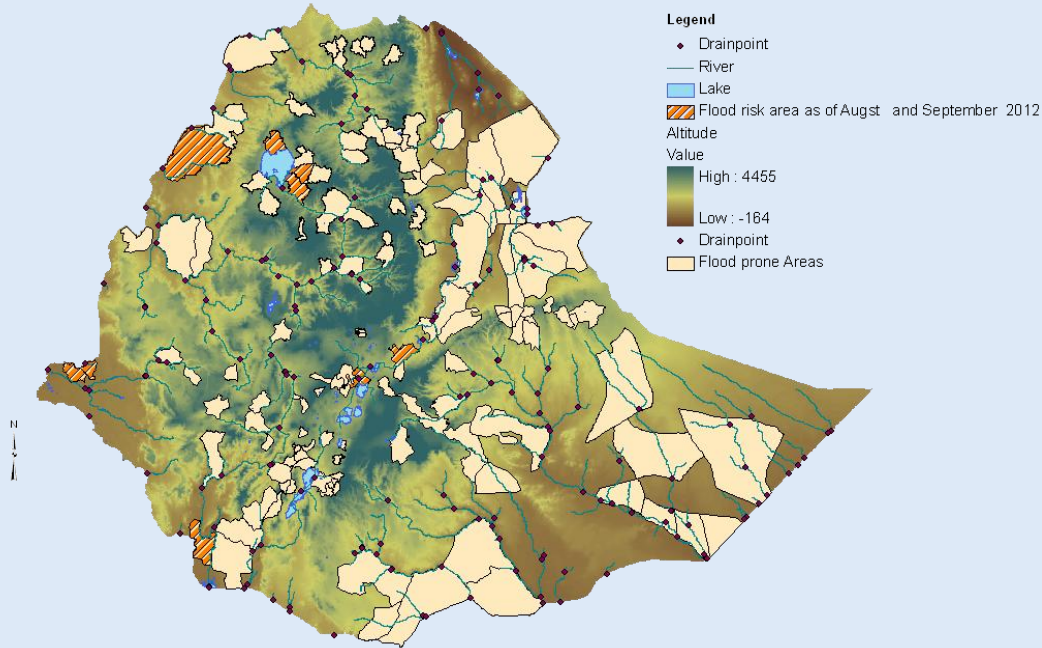
Most floods in the country occur as a result of river overflow following prolonged rainfall that causes rivers to runoff and inundate areas along their banks in lowland plains. Among the major river flood-prone areas are parts of Oromia and Afar regions lying along the upper, mid and downstream plains of the Awash River; parts of Somali Region along the Wabishebelle, Genale and Dawa rivers; low-lying areas of Gambella along the Baro, Gilo and Akobo rivers; downstream areas along the Omo River in SNNPR and the extensive floodplains surrounding Lake Tana and the banks of Gumara, Rib and Megech rivers in Amhara (see Map 1 below).

Flash floods, which occur in lowland areas when excessive rain falls in the highlands, are also frequent in central and western Tigray; North and South Wollo, West Gojjam and Oromia zones (Amhara); North and West Shewa (Oromia); Wolayita, Hadiya, Guraghe and Sidama zones (SNNPR) and Dire Dawa and Jijiga Towns. Such flash floods are characterized by sudden onset with little lead time for early warning and often resulting

in loss of life and property. Flooding usually occurs at the peak of the *kiremt* rainy season (July and August) in most flood-prone areas.

Map 1: Flood prone and Risk areas

Flood prone and Potential risk areas

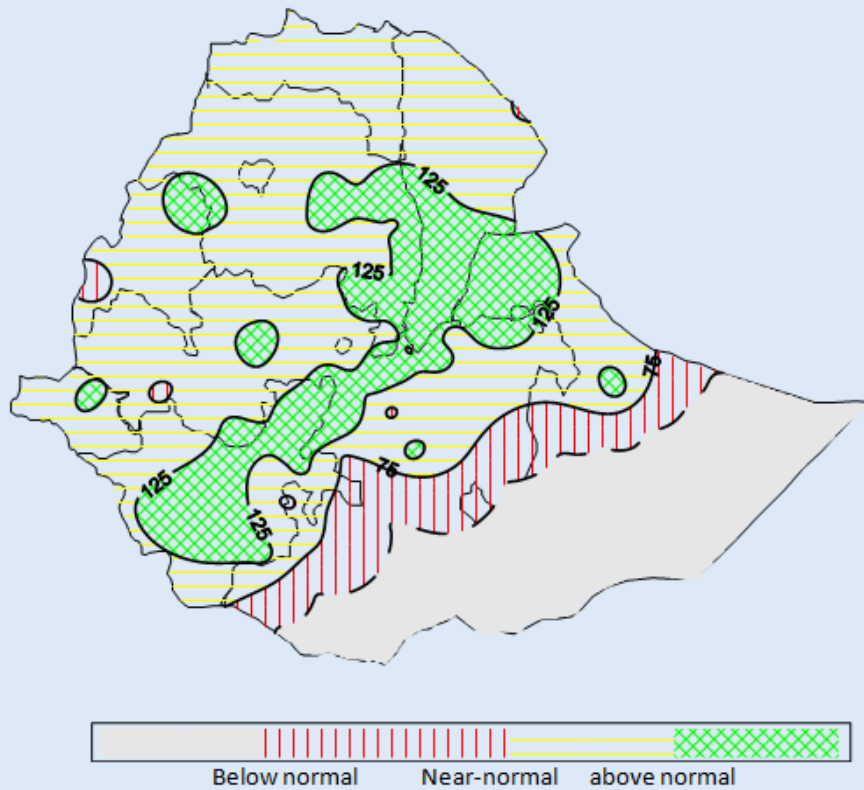


Produced by - DRMFSS
Data source _ Risk baseleine (DRMFSS) and NMA

Rainfall assessment for June 1-July 31/2012

During the month of June and July 2012, overall, most *kiremt-benefiting-areas*, which include Tigray, Amhara and most parts of Oromia; Gambella and Benishangul Gumuz received normal to above normal rains. On the other hand, pocket places of the western periphery of Benshangul-Gumuz and few places of southeastern Oromiya received below normal (See below Map 2). In terms of the amount, western and central Tigray; western and central Amhara; Benshangul-Gumuz; western and central Oromiya; Gambela and also most parts of SNNPR received 300-708mm of rainfall totals; whilst, eastern Tigray, Amhara and Oromia; Afar, northern Somali, DireDawa and Harar as well as south eastern section of SNNPR received 50-300mm.

Map 2: Percent of Normal for the month of June and July 2012



CURRENT FLOODING AND ITS IMPACT

Localized flooding has been reported from many areas subsequent to normal to above-normal rainfall through July 2012. During July some 22 woredas in Oromia, Amhara, Afar and SNNP regions reported incidences of flooding including some localized areas in Wadla and Lasta woredas (North Wollo); Dembia, Lay Armacho, Tach Armacho, Gonder Zuria, Alefa, Beyeda, and West Belessa woredas (North Gondar); Shebele Bernta and Goncha woredas (East Gojam); and Mecha woredas (West Gojam zone) of Amhara Region; Ziway Dugda, Dodota, Hitosa, Jeju, Chole, Merti, Tiyo, and Sude woredas (Arsi Zone) of Oromia, and Berhale, Abaala and Dalol woredas (Zone 2) of Afar Regions. The floods have reportedly displaced 1,731 people and damaged farmlands and some public facilities. Regional authorities, DRMFS and partners have been providing assistance to the affected community including provision of relief food and non food items (NFIs).

RESERVOIR WATER LEVELS

The current water level in all dams is higher compared to the levels of last year at the same time. According to the monitoring data from MoWE, as of 17 August the water level in the major dams in comparison to the maximum capacity stands at: Lake Tana 1787.18 m (1787m – max level); Gibe 1667.55 m (1671m); Fincha 2216.35 m (2219m); Koka 107.90 m (110.30m) and Melka Wakena 2513.71 m (2520.7m). The highest concern lies on Lake Tana as it has reached its maximum holding capacity, considering the normal to above rainfall forecast for the remainder of the season. However, in technical speaking, the Lake level can be managed easily by releasing more water in both of its outlets (Chara-Chara and Tana Beles) and of course by generating hydropower in full capacities of both Beles and Tiss Abay II hydropower plants. The action is already taken. Gibe reservoir is also need to be closely monitored as it is approaching its maximum level and could be further impacted by the performance of the rains. Meanwhile, MoWR closely monitors the levels of each reservoir's water level to determine when water should be released from the dams in order to minimize the possible risk of flooding. According to the forecasts provided by the NMA, the rainfall offsets earlier and becomes normal and below normal in most part of the country where these reservoirs are located. Therefore, in relation to reservoir monitoring and flood control systems, no considerable flooding problems would be happened in the remaining rainy season of 2012.

WEATHER OUTLOOK FROM AUGUST 1-SEPTEMBER 30/2012

During August and September 2012, NMA forecasts continued normal to above normal rains and normal cessation over the majority of the regions, particularly, western and central Tigray; western and central Amhara; Benshangul-Gumuz; Gambela; western and central Oromia and western parts of SNNPR. Thunderstorms and hail may be part of this weather pattern, which could cause flash flooding and river overflow. Meanwhile, a gradual development of the El-Nno condition is expected to prevail over eastern and central Pacific Ocean. In association with this, there may be a slight negative influence on the cessation of the seasonal rains over localized portions of north eastern and eastern section. Nevertheless, eastern Tigray and Amhara, Afar, eastern Oromia, Diredawa, Harari, northern Somali and eastern parts of SNNPR will have near normal rainfall.

POTENTIAL AREAS FOR FLOODING

The forecasted normal to above normal rains in the western parts of the country (western and central Tigray; western and central Amhara; Benshangul-Gumuz; Gambela; western and central Oromia and western parts of SNNPR) compounded with the already saturated soil from normal to above normal rains in the first two months of *kiremt* 2012 and the increasing levels of rivers and dams poses a risk of floods in the remainder of August and September. Flooding in the eastern half of the country is less likely as normal rainfall is expected in these areas in the period August through September 2012

Expansion and increase in surface water levels in Lake Tana and an anticipated subsequent overflow of the Rib and Gumera rivers in South Gondor, Gilgel Abay river in Western Gojjam, and Dirma and Megech rivers in North Gondar will likely cause flooding in western and northern Amhara particularly in Fogera, Libo Kemekem and Dera woredas of south Gonder; Dembia and Quara of north Gonder.

In Gambella, the level of major rivers including Baro, Gilo and Akobo, is rising posing increasing threats of flooding in flood prone woredas of Akobo, Lare, Itang, Gambella Zuria, Gambella Town, Jor, Gog, Jikawo, Wanthoa, and Abobo.

Flood prone areas in SNNPR at risk of flooding during the current season include Dasenech and Nyangatom woredas in the lower streams of the Omo River, and areas surrounding the Woito River in South Omo zone.

In Oromia Region, flood prone woredas in East Shewa are at risk of flooding. Most vulnerable woredas include Welenchiti, Becho, Sebeta Awas, Illu, Ejere, Dugda Bora and Bosset.

RECOMMENDED PRECAUTIONARY MEASURES

In order to minimize the likely adverse impacts of flooding, appropriate mitigation and preparedness measures should be undertaken. These activities should include dissemination of early warning information to populations at risk, enhancing communication linkages between woreda officials in highland areas that receive heavy rainfall and those downstream that are at risk of flooding, dam management, strengthening flood protection structures, reactivation of regional flood taskforces in areas that are likely to be affected, and preparation of evacuation plans. Efforts should be placed to strengthen regular monitoring in flood prone areas and also to facilitate multi-agency assessment to ensure that comprehensive humanitarian needs are identified and addressed. The flood taskforce also recommends the preparation of **Flood Contingency Plan** for high risk areas – areas surrounding Western Amhara (areas surrounding Lake Tana, and Rib, Gumera, Gilgel Abay, Dirma and Megech rivers); Gambella (Baro, Gilo and Akobo rivers), South Omo (Omo and Woito rivers) and parts of the Awash River catchments.

The Flood Taskforce will continue to closely monitor the situation and regularly update the Flood Alert report as the need arises.