

# FLOOD ALERT



*Flooding - Abiabo Village on the banks of Lake tana,  
Amhara region 2006*

JULY 2013

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## INTRODUCTION

Following the National Meteorology Agency (NMA) forecast for the 2013 *kiremt* season, the DRMFS-led national Flood Task Force was reactivated to closely monitor the situation and timely facilitate preparedness and response activities in areas likely to be affected. The Flood Task Force, under the Disaster Risk Management Technical Working Group (DRMTWG) has members from NMA, sector line ministries, UN Agencies, NGOs, and donors.

This Flood Alert summarizes the probable weather condition for the *kiremt* season and identifies the areas likely to be affected in the country to prompt timely mitigation, preparedness and response measures. The Alert will be regularly updated based on further NMA forecasts and the development of the situation on the ground. The Alert will also form the basis for flood contingency plan preparation.

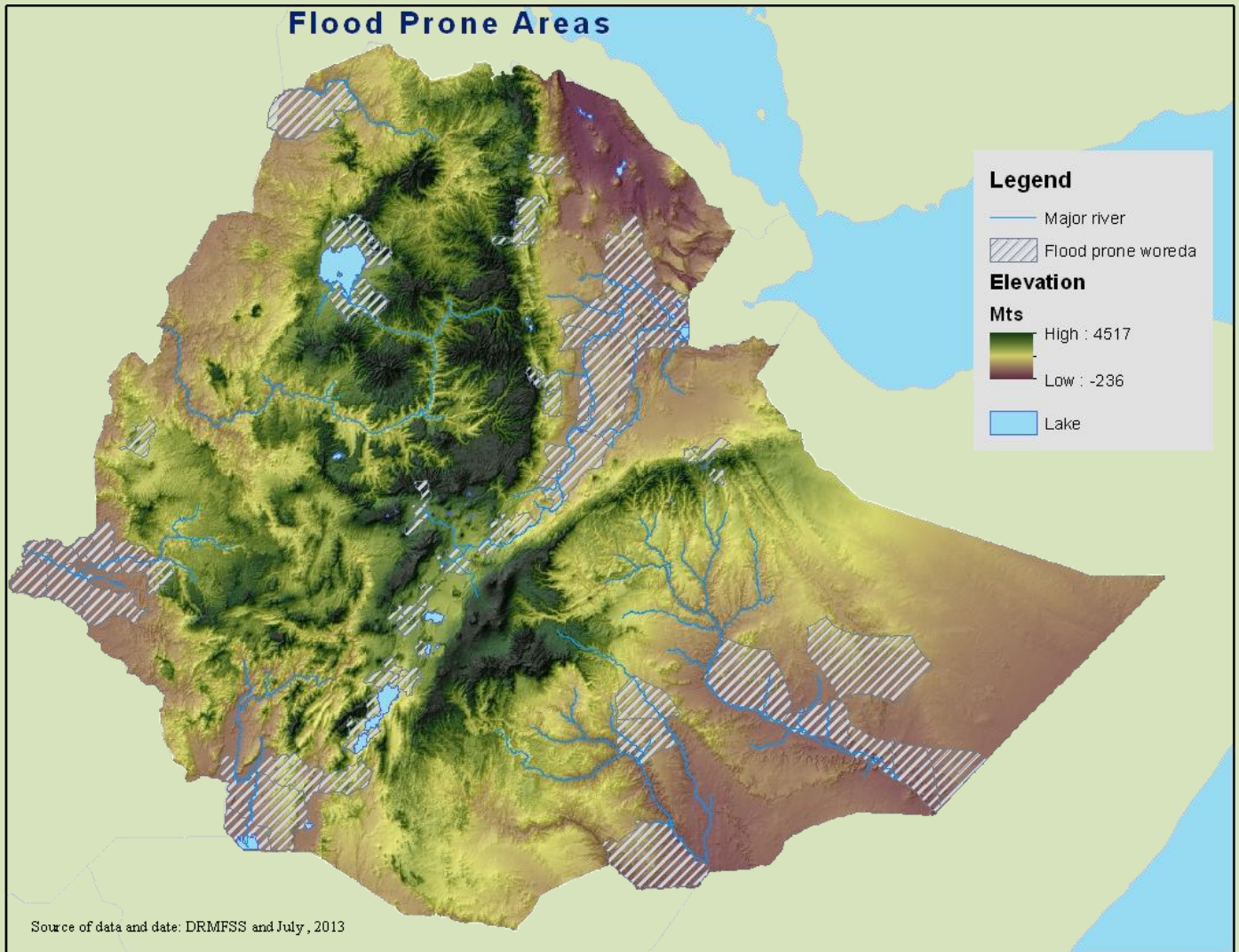
## BACKGROUND

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 the national topography of the 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 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, mid and downstream plains of the Awash River; parts of Somali Region along the Wabeshebelle, Genale and Dawa Rivers; low-lying areas of Gambella along the Baro, Gilo, Alwero and Akobo Rivers; downstream areas along the Omo River in SNNPR and the extensive floodplains surrounding Lake Tana and the banks of Gamera, Rib and Megech Rivers in Amhara (see Map 1 below).

Flash floods occur in lowland areas when excessive rains fall in adjacent highland areas. Flash floods mostly affect areas including central and western Tigray Region; North and South Wollo, West Gojjam and Oromia zones in Amhara Region; North and West Shewa zones in Oromia Region; Wolayita, Hadiya, Silitie, Guraghe and Sidama zones in SNNPR; Jijiga 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 Somali and Gambella Regions, flooding often occurs during August and September. It is also likely that heavy *belg/gu/ganna* seasonal rains (between March and June) induce flooding in *belg*-benefitting areas. In Somali Region, the October-December *deyr* rains could also cause flooding depending on the intensity.

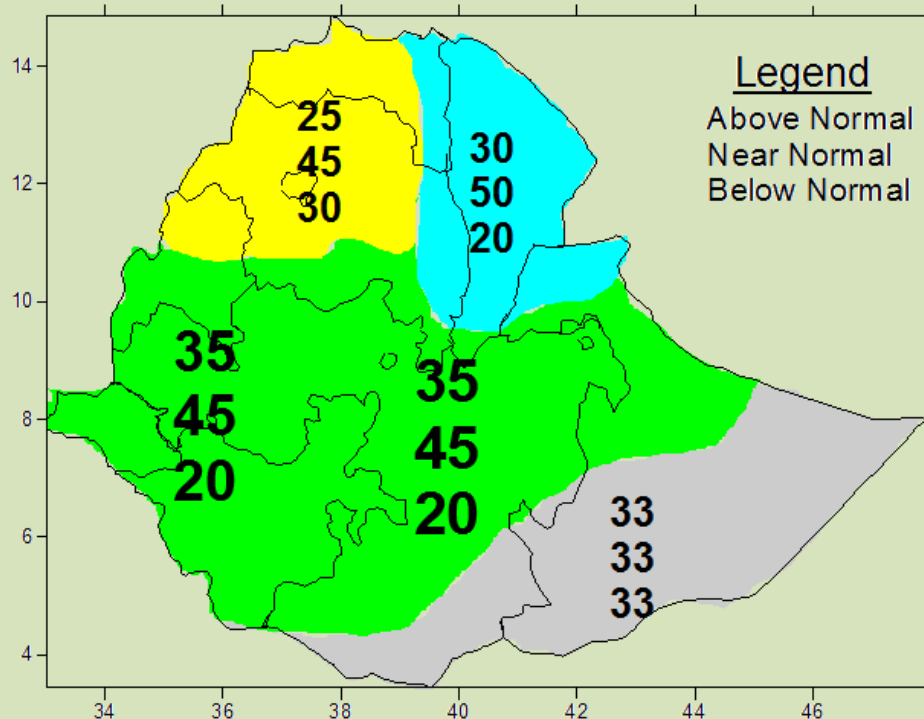
## WEATHER OUTLOOK FOR *KIREMT* (June – Sept) 2013

According to the National Meteorology Agency (NMA) forecast for the season, near-neutral Sea Surface Temperature (SST) is anticipated over the Tropical Equatorial Pacific Ocean; SST's of Atlantic as well as Indian Ocean are expected to be near normal during *Kiremt* 2013. Based on current observations and dynamical model forecasts, ENSO-neutral condition is expected to prevail through the Northern Hemisphere. However, there is a growing possibility of La Niña development during the second half of 2013.

Based on the above, the NMA 2013 *kiremt* seasonal forecast shows that:

- Normal onset and cessation of the seasonal rains in most *kiremt* benefiting areas;
- Near normal rainfall is anticipated over northern half with slight below-normal performance over northwestern parts of the country;
- Normal to above-normal rainfall is anticipated over eastern, central western and southwestern parts;
- Heavy rains are highly likely to cause flooding in most flood-prone areas of the country and most likely along the river banks and low lying areas.

### Rainfall Tercile Probability for Kiremt 2013

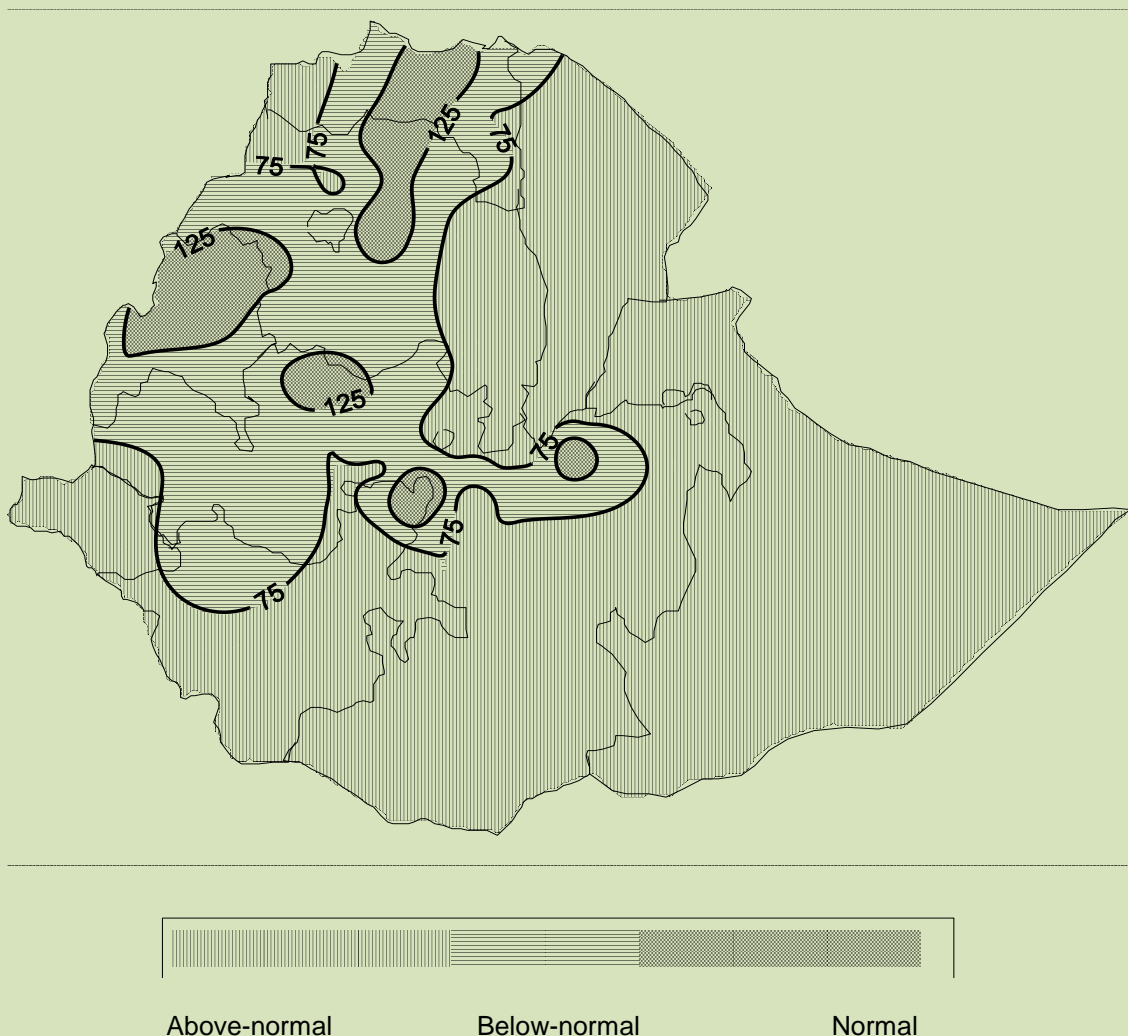


## RAINFALL PERFORMANCE DURING 21-30 JUNE 2013

NMA updated that the rain bearing weather systems strengthened over much of the *kiremt* rain benefitting areas during the 3<sup>rd</sup> *dekad* (the last ten days) of June. As a result, most *kiremt* benefitting areas received good rainfall both in terms of coverage and intensity. These areas include Tigray, Amhara, Beneshangul-Gumuz, most parts of Oromia, SNNPR, and Gambella. Heavy rains were received in some central, western and northern parts of the country.

In general, when compared to the long-term rainfall performance, most parts of Tigray, western and central Amhara, Beneshangul-Gumuz, western and central Oromia and western parts of SNNPR received normal to above-normal rains during the period 21 to 30 June. The rains were beneficial for performance of long-cycle crops such as maize and sorghum while also supporting land preparation for planting *meher* crops, and improving water and pasture availability in pastoralist and agro-pastoralist areas.

**Map 3: June 21-30 Rainfall Performance Compared to the Average (in %)**



## FORECAST FOR JULY 2013

The month of July is normally a period where the seasonal *kiremt* rains strengthen in intensity and distribution in most *kiremt* rain benefitting parts of the country. Moreover, heavy rains with thunder and hail storms are expected in some areas.

The NMA forecasts that in July, the rain bearing meteorological incidents will further strengthen in most *kiremt* rain benefitting areas. In relation to this, the rest of north eastern and eastern parts of the country are expected to receive rains in July in addition to the areas that received rainfall in June. Moreover, flash floods are anticipated in some parts where the intensity of the rains strengthens.

Overall, normal to above-normal rains are expected in Amhara, Tigray, Beneshangul-Gumuz, Gambella, most parts of Oromia and SNNPR. Near-normal rainfall is anticipated in Afar, Dire Dawa, Harari and northern Somali, in July.

## FLOOD RISK AREAS AND THE PROSPECT OF FLOODING

In line with the NMA forecast, flood is likely to happen in flood-prone areas with high probability in the western, central and southwestern parts of the country. Taking into consideration the above-normal performance of the rains in the 3<sup>rd</sup> *dekad* of June and the resultant soil saturation coupled with anticipated heavy rains in July and August, flood risks are likely in the below listed woredas in flood prone areas.

**Amhara:** Gonder Zuria and Dembia in North Gonder zone; Dera, Libo Kemkem and Fogera in South Gonder zone; and Bahir Dar Zuria and Bure in West Gojjam zone.

**Tigray:** Kefta Humera in Western Tigray zone; Alamata and Raya Azebo in Southern Tigray zone.

**Oromia:** Boset, Adama and Dugda Bora in East Shewa zone; Becho, Sebeta Awas, and Illu in Southwest Shewa zone; and Ejere in West Shewa zone.

**SNNPR:** Loka Abaya and Awasa Zuria in Sidama zone; Humbo, Damot Woyde and Kindo Didaye in Wolayita zone; Nyangatom, Hamer, Benatsemay, and Dasenech in South Omo zone; Shashego in Hadiya zone, Arbaminch Zuria and Mirab Abaya in Gamo Gofa zone; Sankura and Lanfero in Siltie zone; Konso and Alaba Special Woredas.

**Gambella:** Gambella Zuria, Gog and Jor in Agnuak zone; Itang Special Woreda; and Wanthowa, Jikawo, Akobo, Lare and Makoy in Nuer zone.

**Beneshangul-Gumuz:** Bambasi in Assosa zone.

## **RECOMMENDATION**

In order to minimize the likely adverse impacts of flooding on lives and livelihoods, appropriate mitigation and preparedness measures need to be undertaken in a timely manner. These activities need to include dissemination of early warning information to population at risk; strengthened communication linkages between woredas located in highland areas (that are likely to receive heavy rainfall) and the downstream woredas (which will likely be affected by flooding due to heavy rains in the highland areas). It is also recommended that flood protection structures in at-risk areas are strengthened. Reactivation of regional level Flood Task Forces and preparation of evacuation plans is as well highly recommended. Moreover, 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 Flood Alert report. Flood Contingency/Operation Plan will be developed, as the need arises.