

East Africa

The 2015 Season (Long Rains)



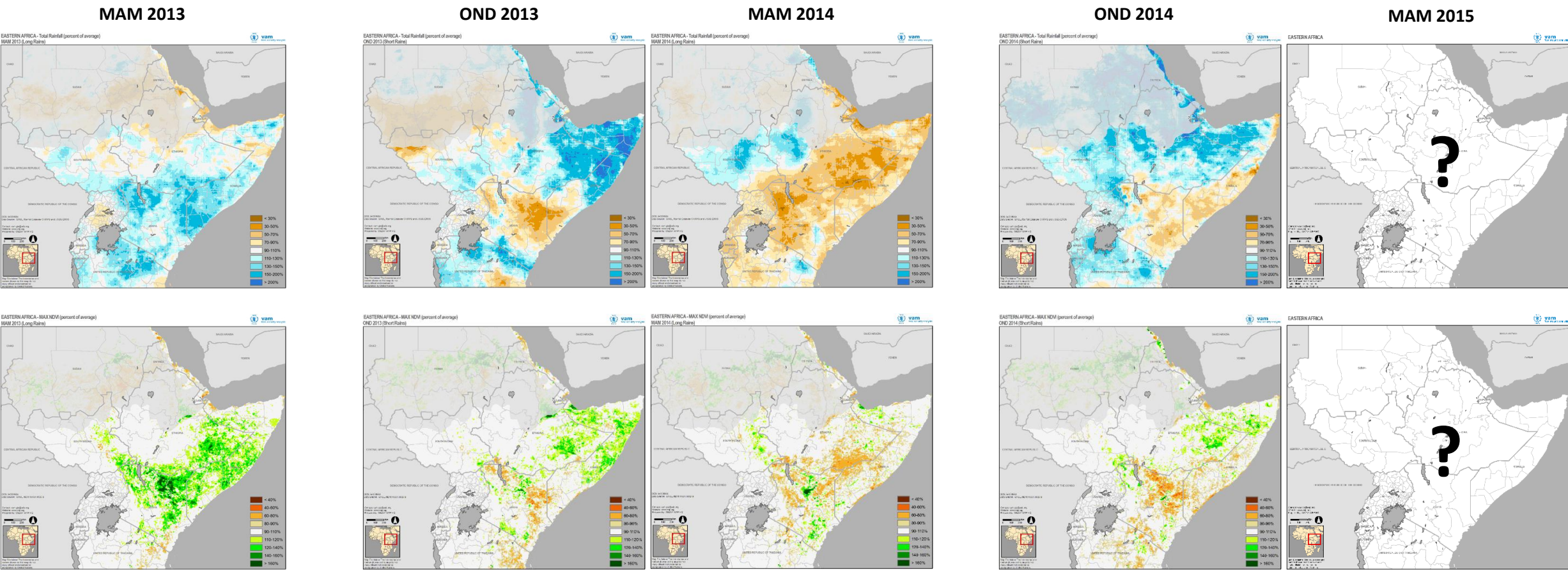
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- During March 2015, the early stages of the 'long rains' ('*Gu*') season, pronounced rainfall deficits were the norm across **Ethiopia, Kenya** and parts of Uganda. In contrast, **Somalia** and **South Sudan** had more regular and **above average rainfall**.
- The drier than average start follows a season (short rains of late 2014) also marked by rainfall deficits. In fact, **Kenya** and **southern Ethiopia** have undergone a **succession of poor seasons**: the last good seasonal rainfall occurred in 2013, but had been preceded by other unfavourable seasons including the large droughts of 2010-2011. A pessimistic seasonal forecast and the early rainfall deficits raised the possibility of further **pressure on the livelihoods** of pastoralists in the semiarid lands of these countries.
- However, widespread and **above average April rainfall** followed the drier than average conditions of March, leading to evident signs of **recovery** in vegetation conditions in easternmost Ethiopia, southern Somalia and Uganda. In Kenya, the dryness from the last season is still delaying recovery in pasture resources.
- In **Ethiopia, drought conditions** are affecting large regions from Afar across to Borena and parts of Oromia and SNNPR. Absent or irregular and sparse rainfall implies that severe negative impacts can be expected on *Belg* crop production and pastoralists livelihoods, including poor livestock condition and disruption of movements.
- **More sustained**, average or above average **rainfall** is critical **during May** to ensure that this season provides enough resources to face the longer dry season before the next rains occur during September in Kenya and Somalia. In Ethiopia, the *Meher* season (May-October) should bring relief where it occurs, but elsewhere significant negative impacts may be unavoidable.

Context: An Unfavourable Recent Past



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Growing season conditions in the more marginal regions of East Africa have not been favourable in the recent past. An overview covering the past two years (see map sequence above) shows that the last favourable growing season occurred two years ago – the Long Rains season of 2013. The preceding years were also marked by a predominance of poor seasonal rains, including the severe droughts of late 2010 and early 2011. The most affected areas include **northern and central eastern Kenya, southern Somalia** and to a lesser degree, **south and south-eastern Ethiopia**, largely supporting pastoralist and agro-pastoralist livelihoods.

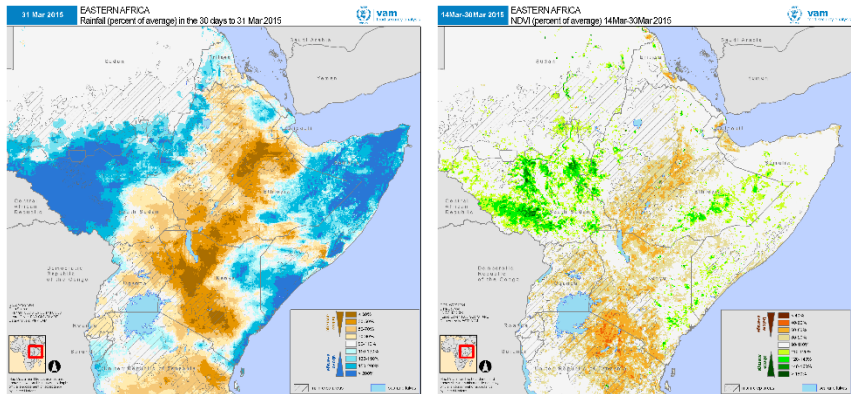
The climate of these regions is broadly defined by two rainfall seasons, the “short rains”/”Deyr” (core period October to December) and the “long rains”/”Gu” (core period March to May), separated by a short dry season of less than two months. The long rains are followed by a longer dry season from June to September. Therefore, a poor rainfall season results in an insufficient resource base for the following dry season. Depending on the seriousness of the situation, households may engage in distress sales and face increased livestock mortality. Hence, consecutive poor seasons lead to a cumulative erosion of household assets, increasing vulnerability and stretching their coping ability.

Currently, these regions have had three poor seasons in a row, compounded by severe droughts of 2010-2011. Low rainfalls now could result in an extremely severe situation for these populations given the cumulative effects of four consecutive poor seasons.

Main Features and Current Situation



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March rainfall (top) as a percentage of the 20-year average. NDVI by late March (bottom) as a percentage of the 12 year average. Warm shades for below average conditions, Cool shades for above average levels.

March, a poor start...

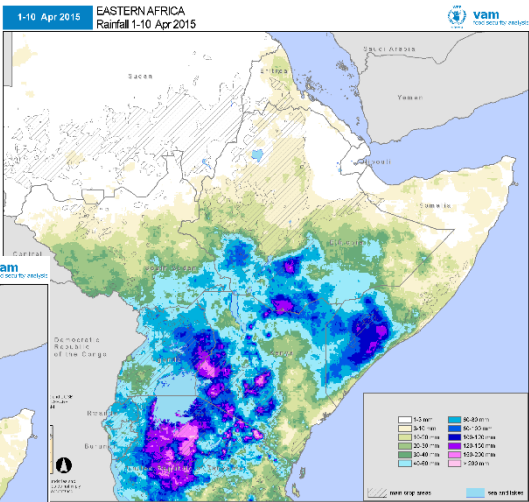
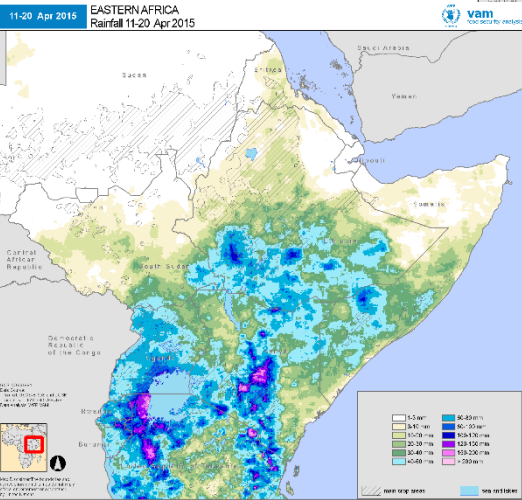
The dryness that prevailed through most of the last season continued in the early stages of this season. Severe rainfall deficits extended from Afar (Ethiopia) all the way to southern Kenya.

Vegetation, already depressed from the lack of rainfall in the last season fell even further below average.

April, a revival...

In contrast, heavy and continued rainfall was experienced throughout April across most of the region.

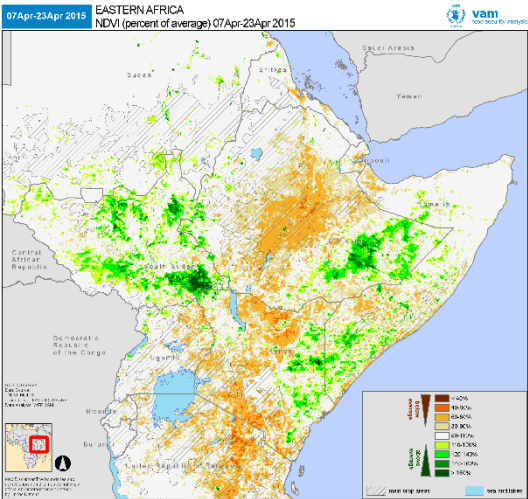
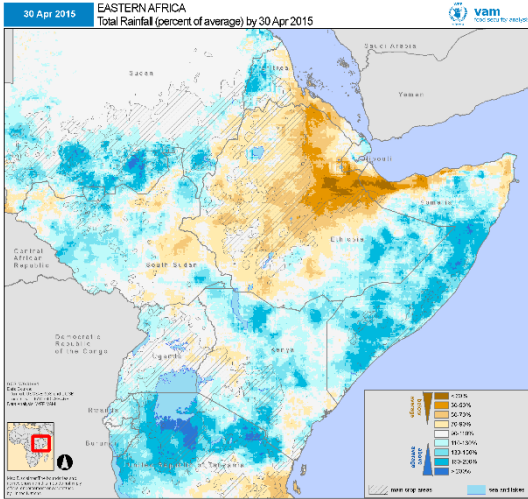
Still Afar, Eritrea and Djibouti have remained dry.



Rainfall in April 1-10 (above) and April 11-20 2015 (left). Blue shades for over 40mm, purples for over 120mm

Current Status

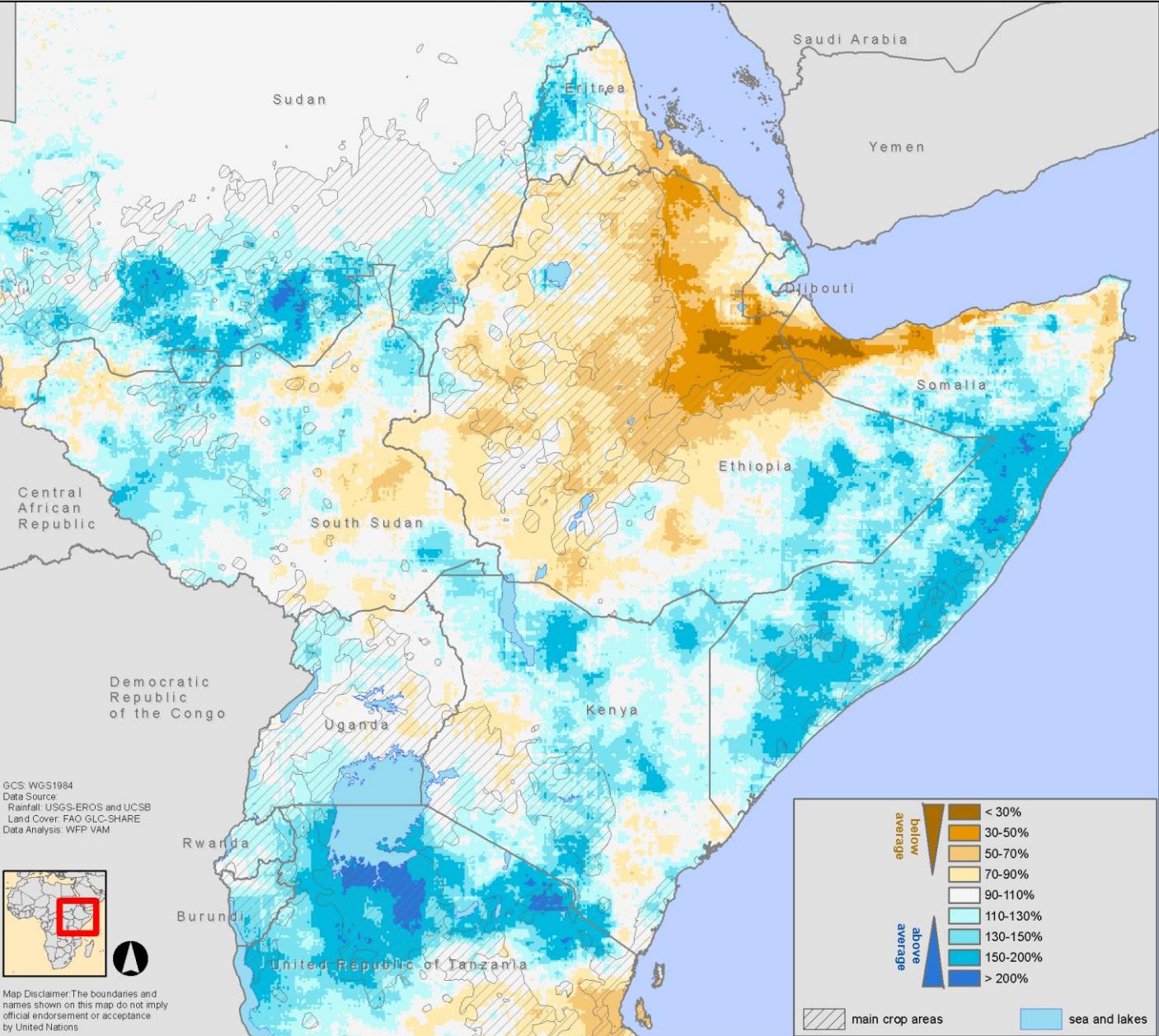
Although April rains wiped out the seasonal rainfall deficit across most of the region, a drought like situation has developed in Afar and along the Ethiopian Rift Valley.



Total March to April 2015 rainfall (top) as a percentage of the 20-year average. NDVI by mid April (bottom) as a percentage of the 12 year average. Warm shades for below average conditions, Cool shades for above average levels.

30 Apr 2015

EASTERN AFRICA
Total Rainfall (percent of average) by 30 Apr 2015



Seasonal rainfall performance

Seasonal rainfall levels (from February to mid April) are now above average across most of the region, as a direct result of the heavy and above average April rainfall.

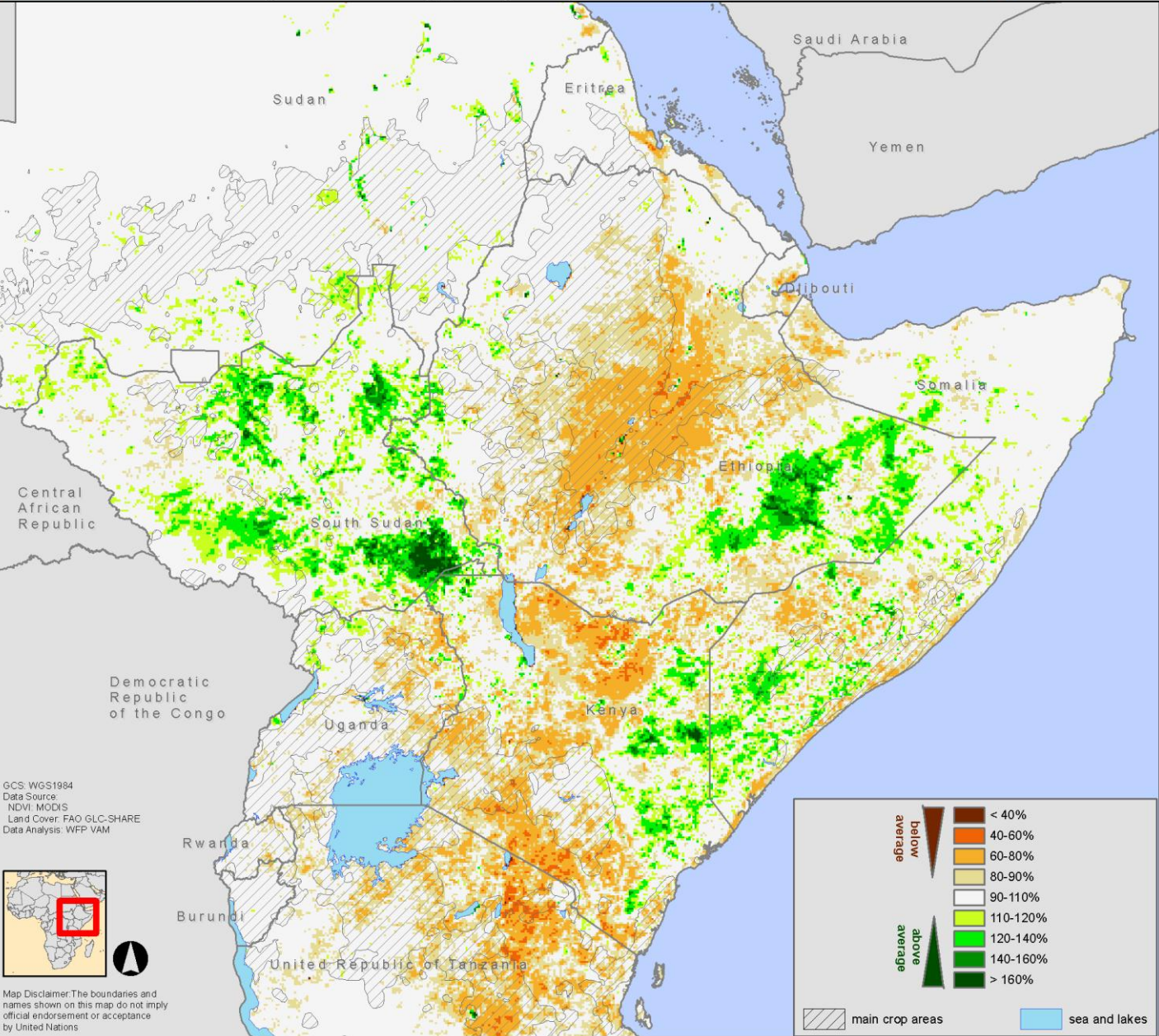
However, this is not the case in many areas of Ethiopia, such as the Afar region, parts of Oromia, Somali and SNPP, where large rainfall deficits still remain. April rains were also weak in South Sudan.

The rainfall deficits in Ethiopia have reduced pasture and grazing resources on which pastoralist livelihoods depend, decreasing livestock condition and disrupting customary livestock movements.

Regions that cultivate during this first season (*Belg*), will suffer delayed planting and stressed early crop development, leading to reduced planted area. Late planting will push sensitive crop development stages to later, drier phases of the season, thereby increasing the likelihood of low production. Only a wetter than average May and a later than usual end of season can revert the expected damage to crops and pasture.

Elsewhere, although seasonal rainfall is now above average, its distribution has been fairly irregular, with a late start of the season followed by heavy rains in April. More sustained rainfall in May at least at average levels is required to ensure local populations can cope with the forthcoming longer dry season.

Total rainfall from 1 February 2015 to 30 April 2015 as a percentage of the 20-year average.
Hashed pattern indicates main agricultural areas.
Brown shades indicate below-average rainfall; blue shades indicate above-average seasonal rainfall.



Vegetation Status

Current below average vegetation status is a consequence of recent rainfall patterns and the longer term impacts of the last few seasons:

Extensive below average vegetation extending across Ethiopia from the Afar in the northeast to Borena in the south, mainly due to pronounced drought affecting the region since early March.

Similar patterns were observed across Kenya and northern Tanzania where last season had depressed vegetation and even the above average rains in April led to a delayed response. However, significant improvements are expected shortly.

In places where the last season performed normally or close to normal, vegetation levels are already responding to April rainfall. This is the case of Ethiopia's eastern Somali region as well as eastern Kenya and southernmost Somalia. South Sudan is also showing noticeable vegetation development resulting from unseasonably early rains – this however may not last much further given the weak rains in April.

In the drought affected areas of Ethiopia (Afar, parts of Tigray, Oromia-Borena and SNNP) the vegetation data supports the likelihood of significant negative impacts on *Belg* crop production and pasture resources, livestock condition and normal migration patterns.

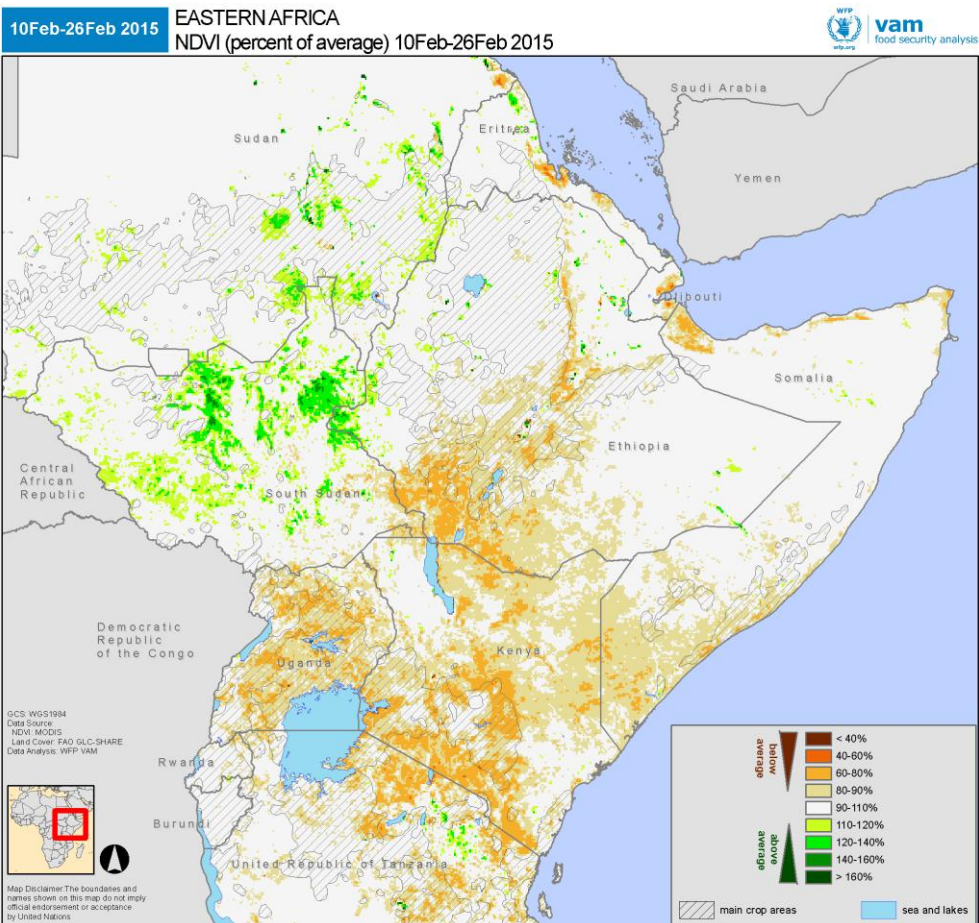
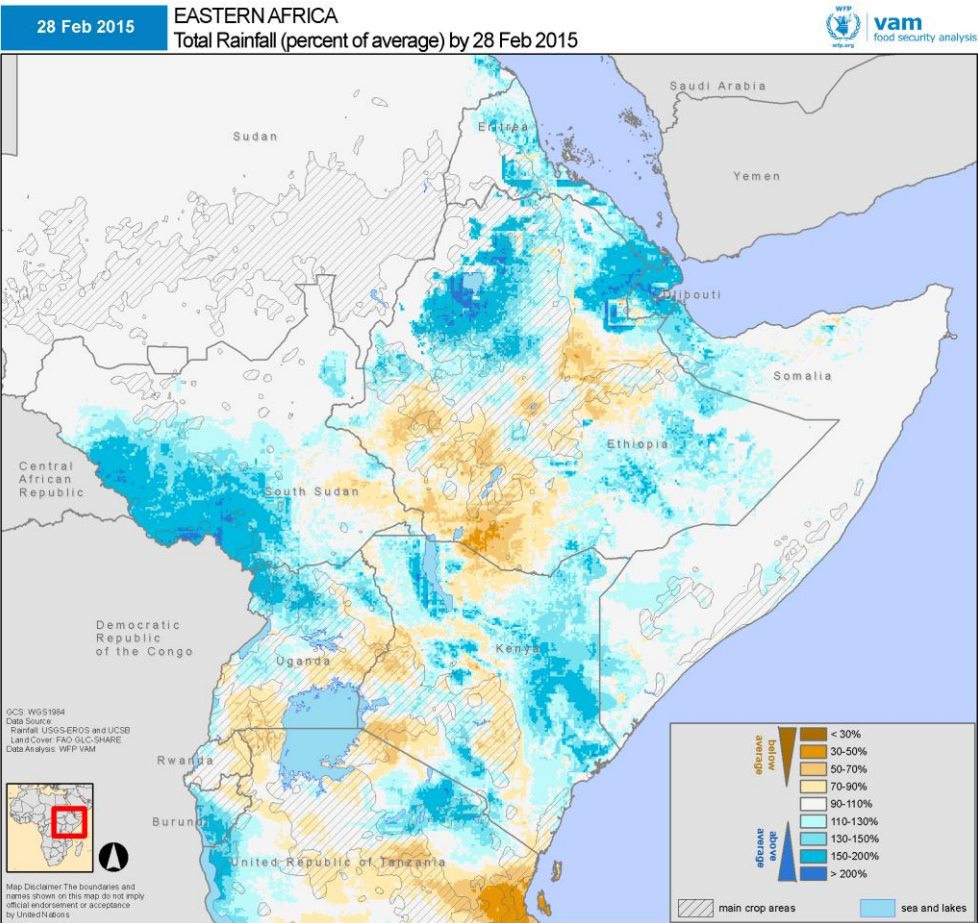
Vegetation index in mid April 2014 as a percentage of the 12-year average.
Hashed pattern indicates main agricultural areas.
Orange shades indicate below-average vegetation; green shades indicate above-average vegetation

The season: Month by month



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EAST AFRICA SEASONAL ANALYSIS – 2015



February 2014 rainfall as a percentage of the 20-year average (left). Brown shades for below-average rainfall; blue shades for above-average seasonal rainfall.

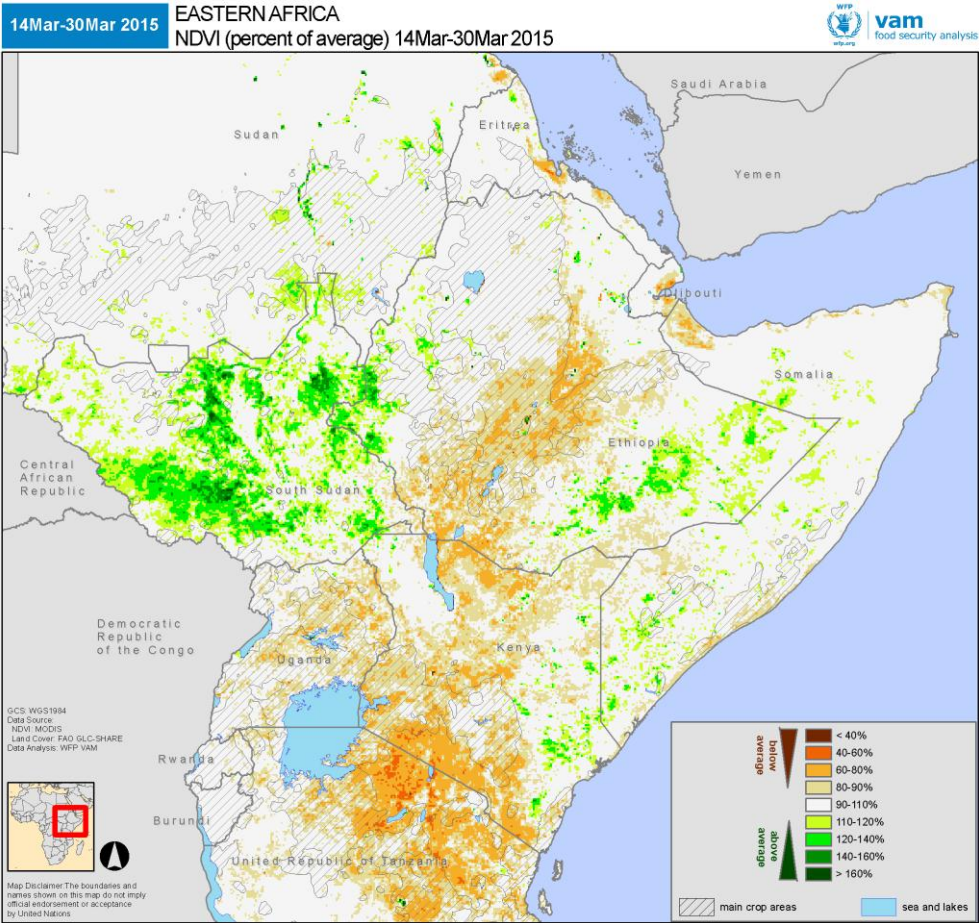
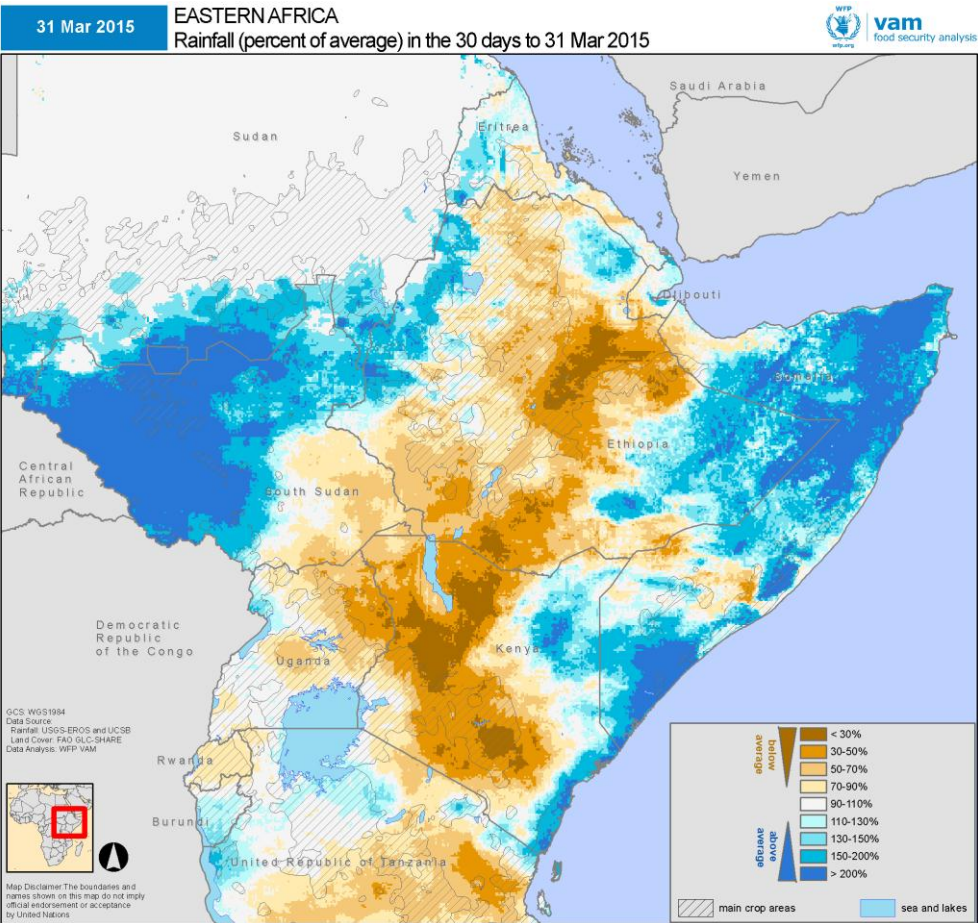
Mid-late February 2014 vegetation index as a percentage of the 12-year average (right). Orange shades for below-average vegetation; green shades for above-average vegetation. Hashed pattern indicates main agricultural areas.

February 2015

This month is usually characterized by low rainfall across most of the region, and can be viewed as a transition month to the coming “long rains” season. This February, the region had mixed performance with some unseasonably early rains in South Sudan and northern Ethiopia.

Below-average vegetation patterns were highly evident but these resulted from the low rainfall of the previous season (October to January). This shows that the region started the new season already on a poor footing in terms of resources for pastoralists.

EAST AFRICA SEASONAL ANALYSIS – 2015



March 2015 rainfall as a percentage of the 20-year average (left). Brown shades for below-average rainfall; blue shades for above-average seasonal rainfall .

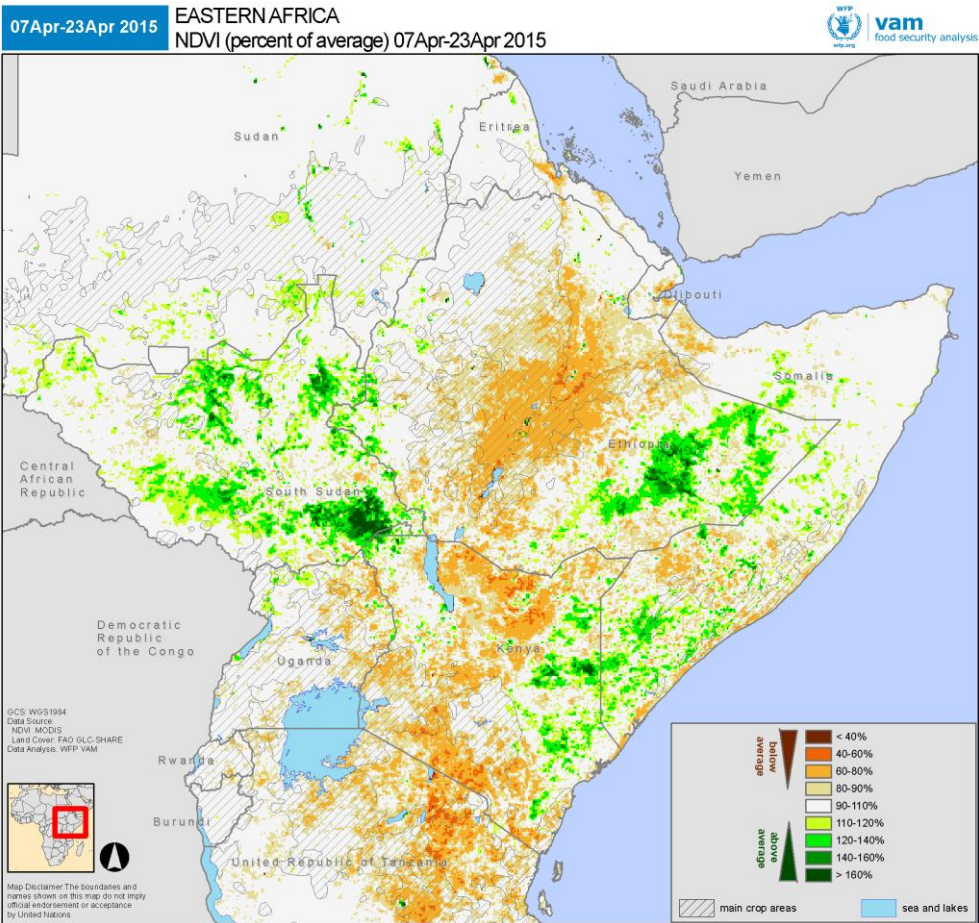
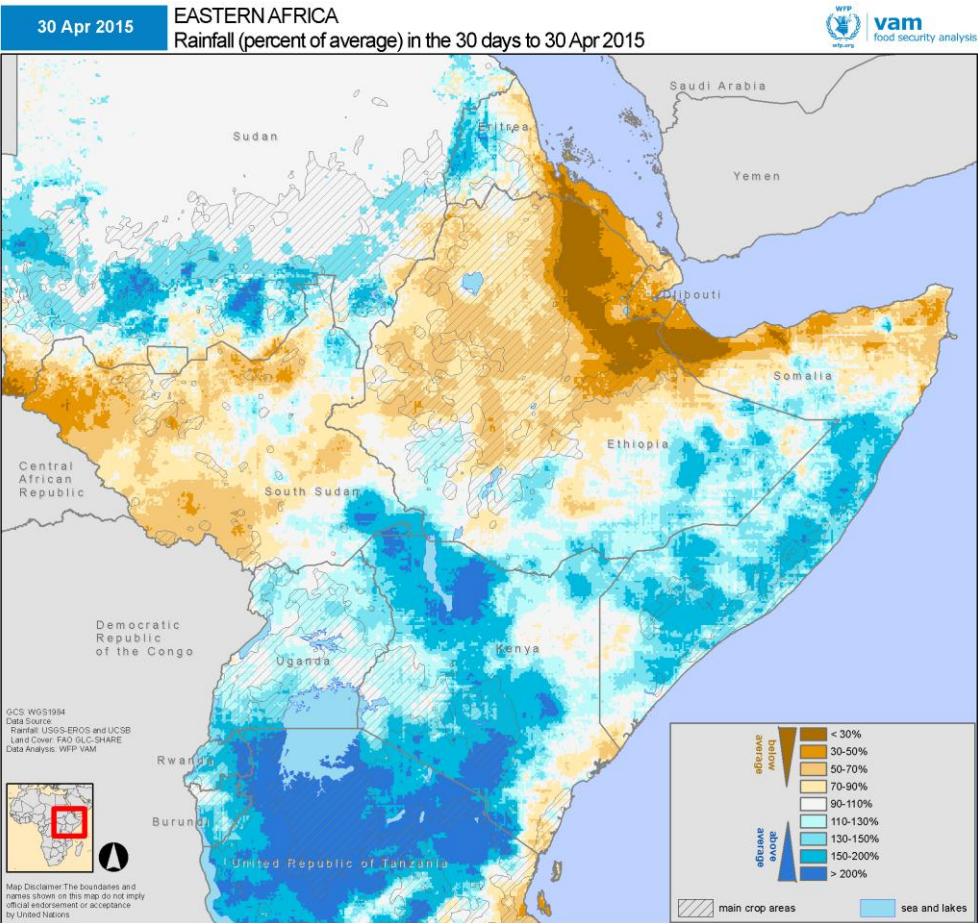
Late March 2015 vegetation index as a percentage of the 12-year average (right). Orange shades for below-average vegetation; green shades for above-average vegetation. Hashed pattern indicates main agricultural areas.

March 2015

The performance of March rainfall varied considerably. While most of Somalia, eastern and coastal Kenya and South Sudan had well above average rainfall, severe rainfall deficits extended from Eritrea, across Ethiopia and into most of Kenya and Uganda. This delayed the start of the planting season and further decreased pasture and grazing resources.

These rainfall deficits reinforced the widespread pattern of below average vegetation from the previous season, in particular where conditions were pronouncedly drier than average (Ethiopia, Kenya, Uganda). In contrast, favourable rains led to better than average vegetation development in South Sudan. In Somalia and parts of SE Ethiopia, vegetation was poised to recover, subject to a continuation of the rains.

EAST AFRICA SEASONAL ANALYSIS – 2015



April 2015 rainfall as a percentage of the 20-year average (left). Brown shades for below-average rainfall; blue shades for above-average seasonal rainfall.

Mid April 2015 vegetation as a percentage of the 12-year average (right). Orange shades for below-average vegetation; green shades for above-average vegetation.

Hashed pattern indicates main agricultural areas.

April 2015

Good widespread rainfall overturned seasonal rainfall deficits in Uganda, Kenya and most of Somalia. In contrast, over southern Eritrea, Djibouti, Somaliland and the Afar region of Ethiopia, April rainfall was markedly below average further enhancing the very pronounced rainfall deficits that continue to impact local livelihoods. Moderately drier than average conditions prevailed in South Sudan during April, but so far without great significance, given the usually long growing period.

Vegetation has been responding positively where April rainfall has been good. However, recovery of vegetation levels in Kenya and Tanzania will take longer, given the impacts of the previous season dryness. In Ethiopia, the effects of continued poor rainfall are clearly seen in below average vegetation levels.

Data Sources:

Rainfall: CHIRPS, Climate Hazards Group, UCSB

Vegetation: MODIS NDVI, EOSDIS-NASA

Land Cover: FAO GLC-Share

Processing:

VAM software components, ArcGIS

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