

East Africa

The 2015 Season (Long Rains)



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- The Long Rains season in the Horn of Africa has come to an end in May. With no further rainfall until the Short Rains start next October, current conditions represent the available resources for the dry season that is now starting.
- **Favourable seasonal conditions in northern Kenya and south-eastern Ethiopia** broke a **succession of poor seasons**, easing the pressure on pastoralist livelihoods and allowing a degree of asset recovery.
- However, in **Ethiopia, drought conditions** dominated the season, affecting large areas from the Afar region to parts of Amhara, Oromia and SNNP. Severe **negative impacts** can be expected on **Belg crop production** and pastoralists livelihoods, including poor livestock condition and disruption of movements. Some improvement in pasture conditions may follow above average May rainfall, but overall it has been a very poor season in these regions. **Forecasts** for the Ethiopian **Meher** season (July-September) are also **pessimistic**, due to El Nino influence.
- Elsewhere, consistent and above average seasonal rainfall led to **much better than average vegetation** development across wide regions from **south-eastern Ethiopia to Somalia**, and from **eastern South Sudan** through **Karamoja** and **north-western Kenya** providing evidence of **favourable resource base** at the outset of the long dry season that will last until late September.
- **Very strong possibilities of El Nino** conditions extending **into early 2016** and evidence from seasonal forecasts of October-December rainfall, point to the coming **Short Rains** season being **wetter than average**, leading to **further improvements to pastoralist livelihoods** in marginal semi-arid regions of the Horn.

Main Features and Current Situation

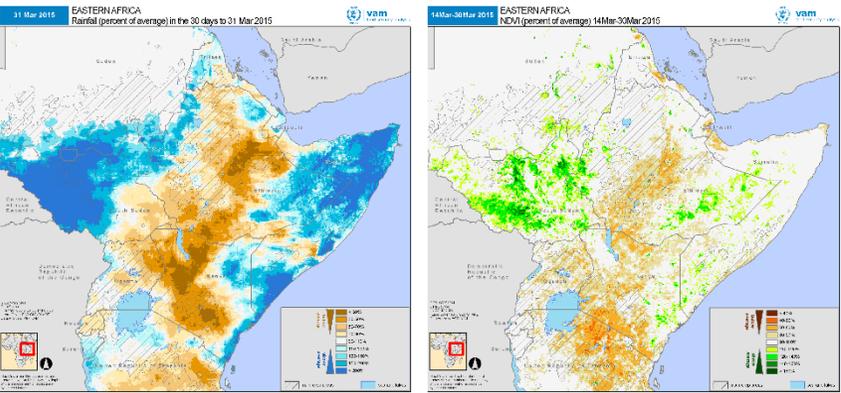


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March, a poor start...

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.

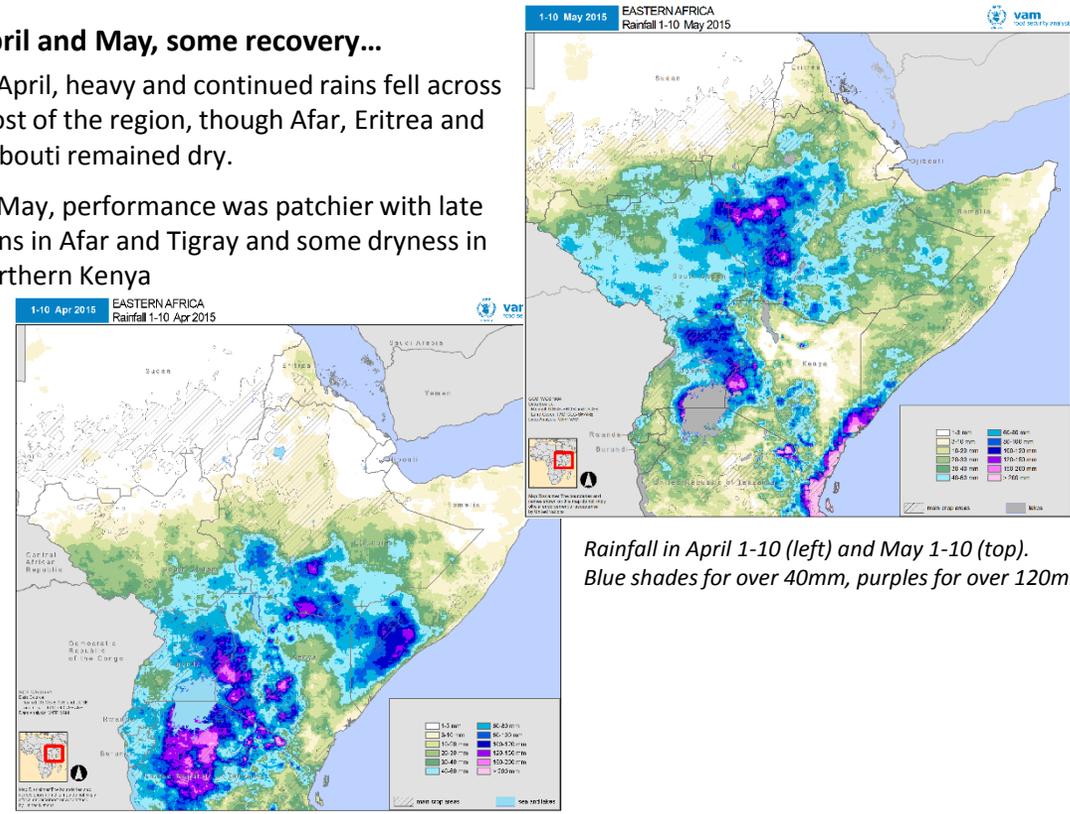


March rainfall (top) as a percentage of the 20-year average. NDVI by late March (bottom) as a percentage of the 12 year average. Warm shades for below average conditions, Cool shades for above average levels.

April and May, some recovery...

In April, heavy and continued rains fell across most of the region, though Afar, Eritrea and Djibouti remained dry.

In May, performance was patchier with late rains in Afar and Tigray and some dryness in northern Kenya

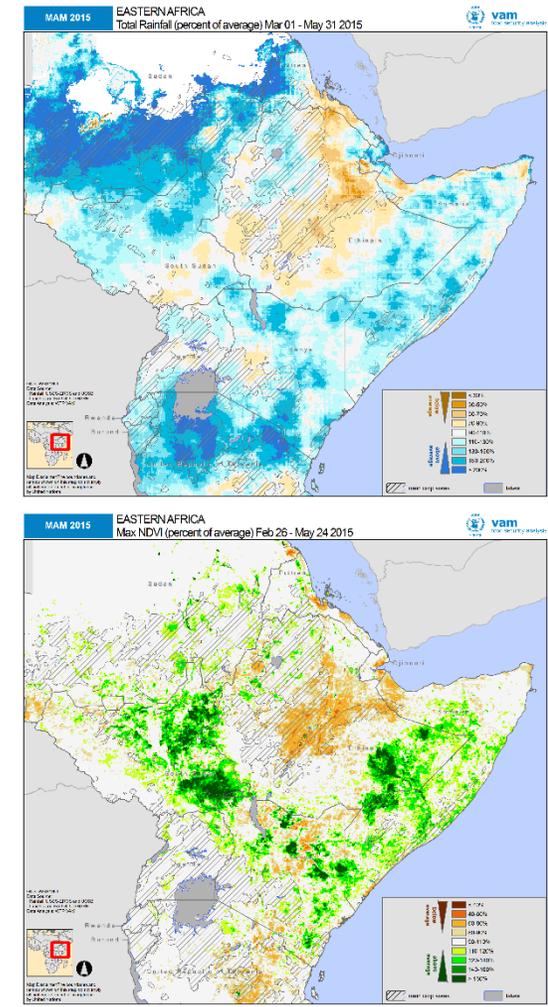


Rainfall in April 1-10 (left) and May 1-10 (top). Blue shades for over 40mm, purples for over 120mm

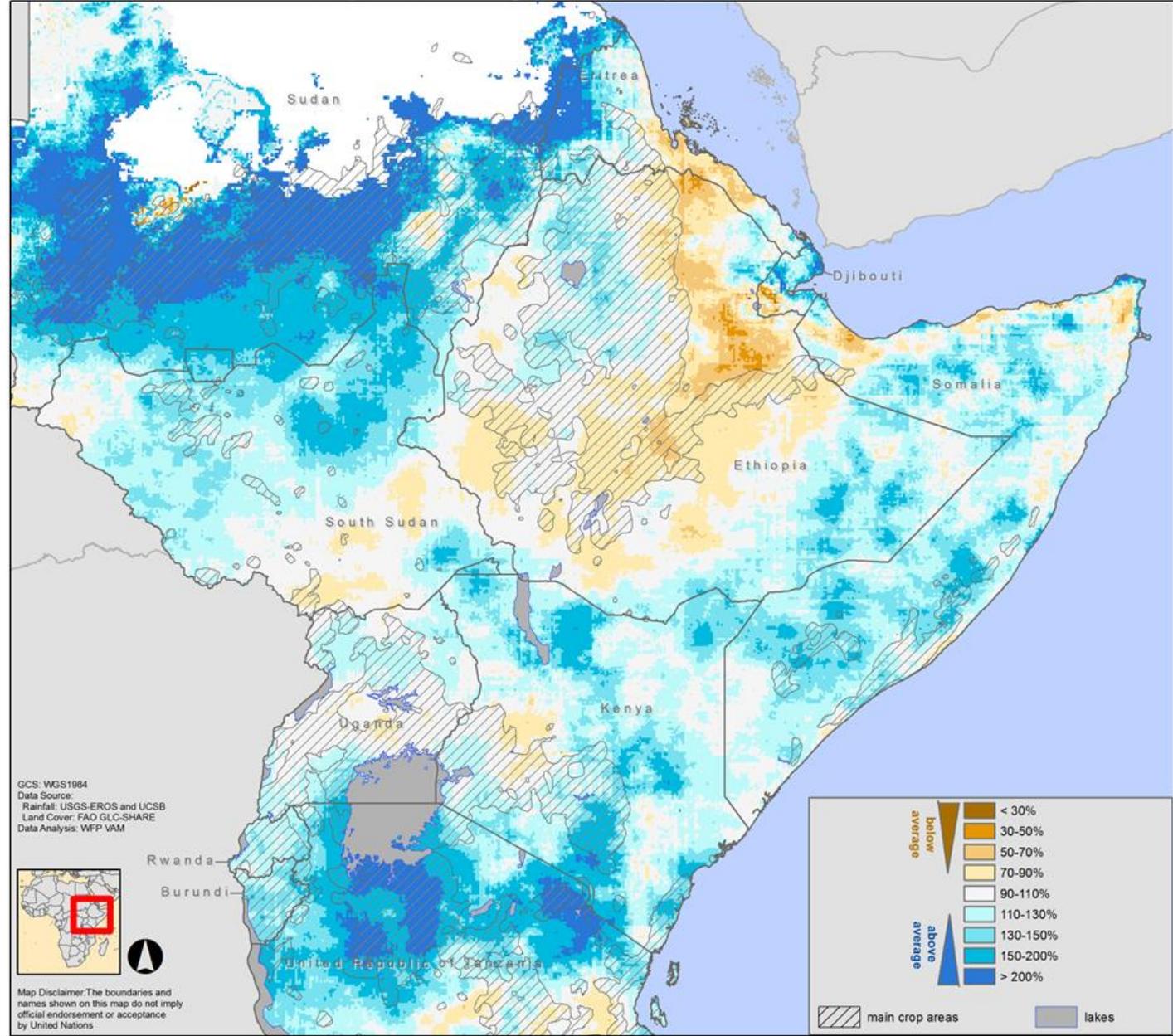
Final Seasonal Status

Although April-May rains eliminated the seasonal rainfall deficit across most of the region, Afar and some central Ethiopian regions remained affected by drought.

Good rains elsewhere led to much better than usual vegetation, providing good resources for the dry season that will last until September.



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.



Seasonal rainfall performance

Overall seasonal rainfall (March to May) was above average across most of the region, as a direct result of heavy rains in April and broadly favourable, though patchy rainfall in May.

However, across many areas of Ethiopia, in particular the Afar region, parts of Amhara, Oromia, Somali and SNPP, the season comes to a close with significant seasonal deficits.

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

Regions of Ethiopia that cultivate during this first March to May season (so called *Belg* season) face poor to very poor crop production perspectives as persistent dryness led to reductions in planted area, delayed planting and stressed crop development.

Although in these regions, May rainfall was better than average, actual amounts at this time of the season are small and happened too late to provide a significant recovery.

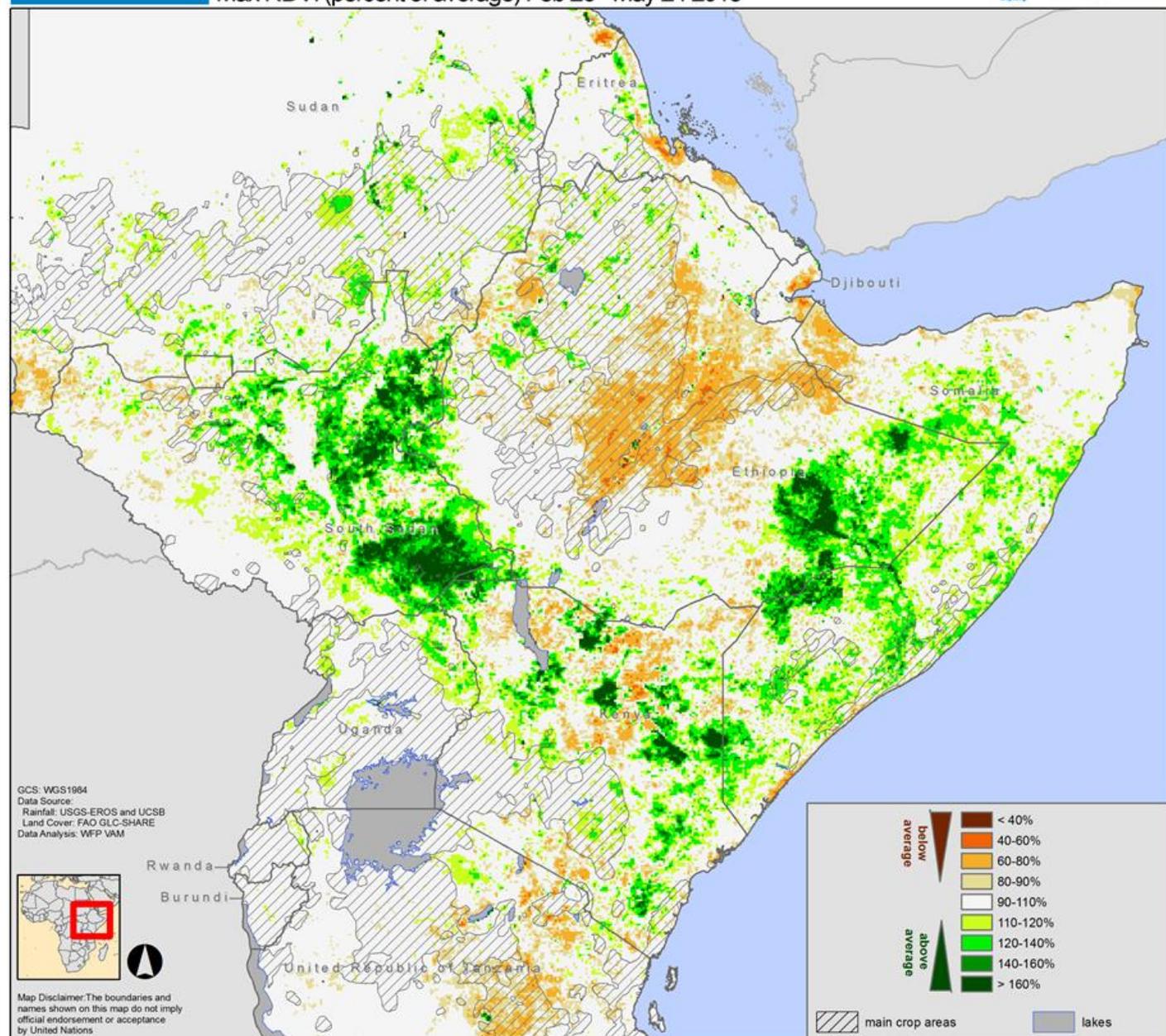
Elsewhere, conditions are more favourable: the season in northern Kenya and SE Ethiopia regions was broadly favourable and should help ensure local populations can cope with the forthcoming longer dry season. Good recovery also took place in northwest Kenya and neighbouring areas of Karamoja (Uganda) and Eastern Equatoria (South Sudan).

March to May 2015 total rainfall 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.

MAM 2015

EASTERN AFRICA

Max NDVI (percent of average) Feb 26 - May 24 2015



Vegetation Status

Maximum seasonal vegetation development (March to May) resulted from the rainfall season just ended and from the effects of the poor performance of the last couple of seasons.

Extensive below average vegetation extends across Ethiopia from the Afar to areas of Amhara, Oromiya, northern Somali and SNPP, due to pronounced drought conditions that affected the region during most of the season. Such conditions also extended to Djibouti and neighbouring areas of northwest Somalia. The vegetation patterns support the likelihood of significant negative impacts on *Belg* crop production, pasture resources and livestock condition.

This contrasts with conditions in south-western Ethiopia (Somali region) where extensive vegetation development is evident following continued above average rainfall. Favourable conditions are also noticeable across most of Somalia and eastern Kenya.

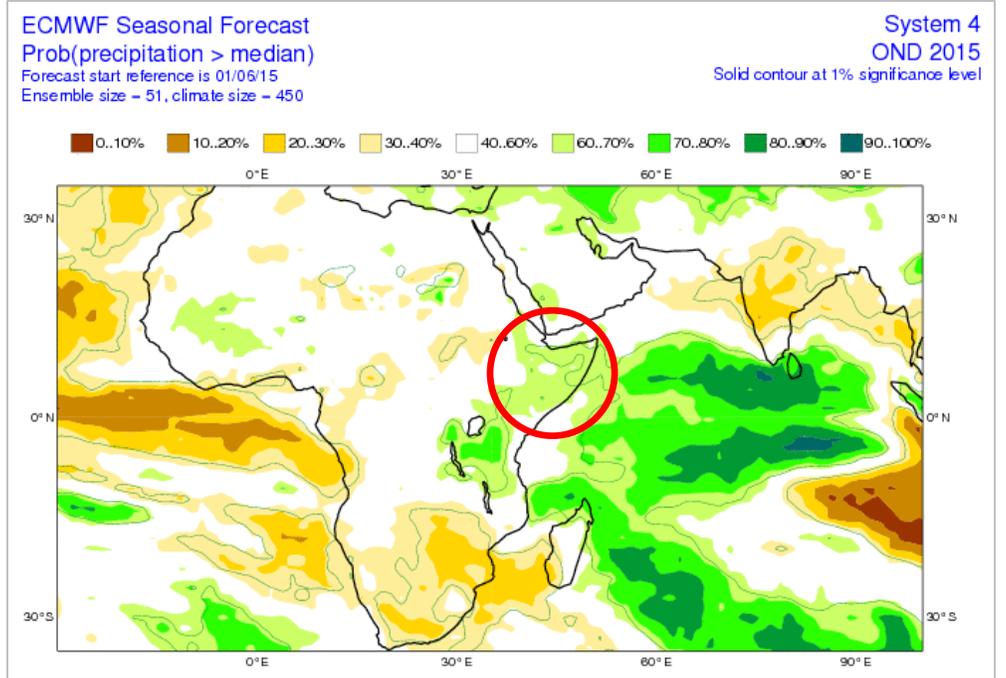
The situation in northern Kenya is patchier with a mixed pattern of below and above average vegetation reflecting a complex influence of the current season rainfall and longer lasting effects of the previous poor seasons. On balance, pasture and water resources have improved, helping pastoralist to better deal with the long dry season that will extend until next October.

The same applies to pastoral areas around the borders of South Sudan, Uganda and Kenya (Eastern Equatoria, Karamoja and Turkana) which are enjoying good (in places exceptional) vegetation conditions.

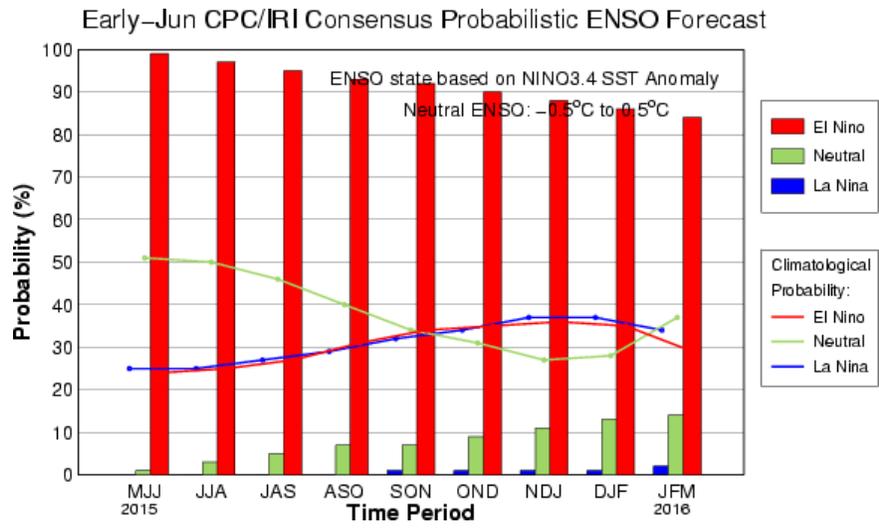
March to May 2015 maximum Vegetation Index as a percentage of the 12-year average.

Hatched pattern indicates main agricultural areas.

Orange shades indicate below-average vegetation; green shades indicate above-average vegetation



Probability of October to December rainfall (core period of coming Short Rains season) being above typical values (historical median). Green shades for wetter than usual, orange shades for drier than usual.



Probability of an El Niño developing (red bars) vs neutral conditions (red) and La Niña (blue). Though probabilities decrease somewhat from current values they remain at 80% through to early 2016, enclosing the coming Short Rains season.

Longer Term Perspectives

Current forecasts unanimously provide very strong probabilities of an El Niño event developing throughout the northern hemisphere Summer and more importantly for the Horn of Africa, lasting through to the end of 2015, beginning of 2016.

Typically, El Niño events are associated with wet conditions in the Horn of Africa. Accordingly, seasonal forecasts for late 2015 (October-November), covering the coming “Short Rains” or Deyr” season, point to a wetter than average rainfall season. Although floods maybe associated with these rainfall patterns, higher rainfall will improve conditions in the marginal agricultural and pastoral areas of Kenya, Somalia and SE Ethiopia.

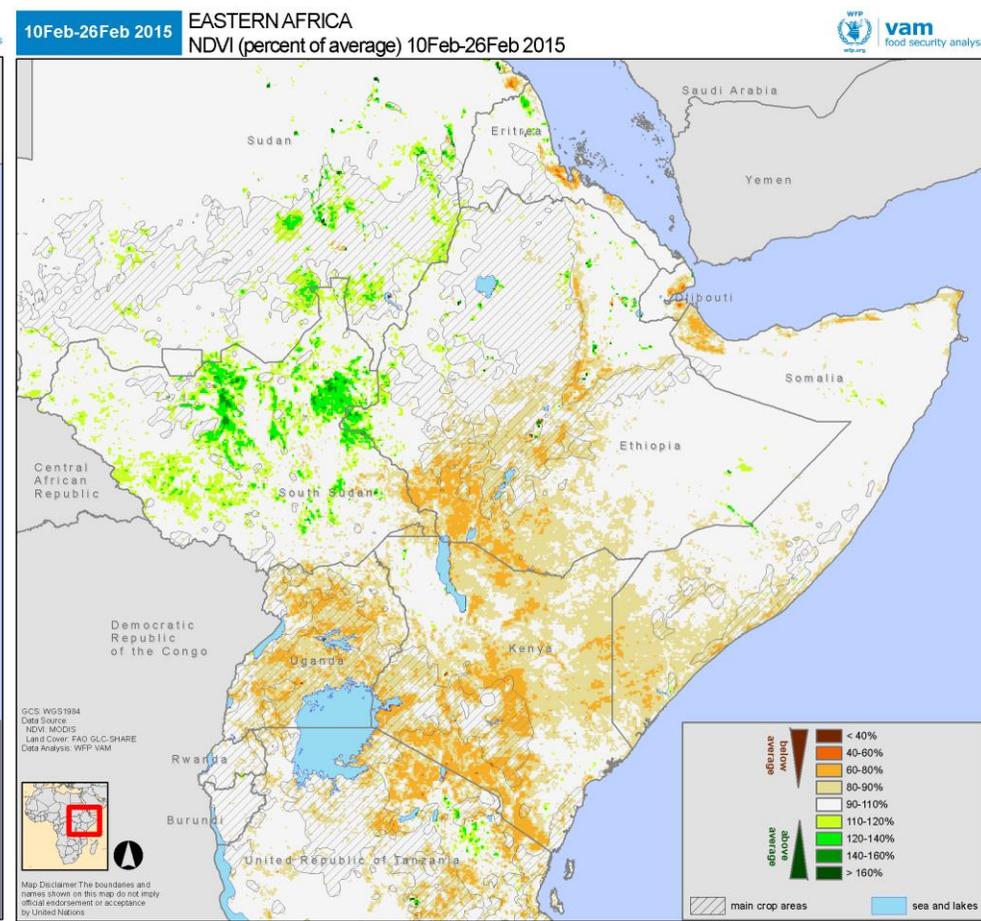
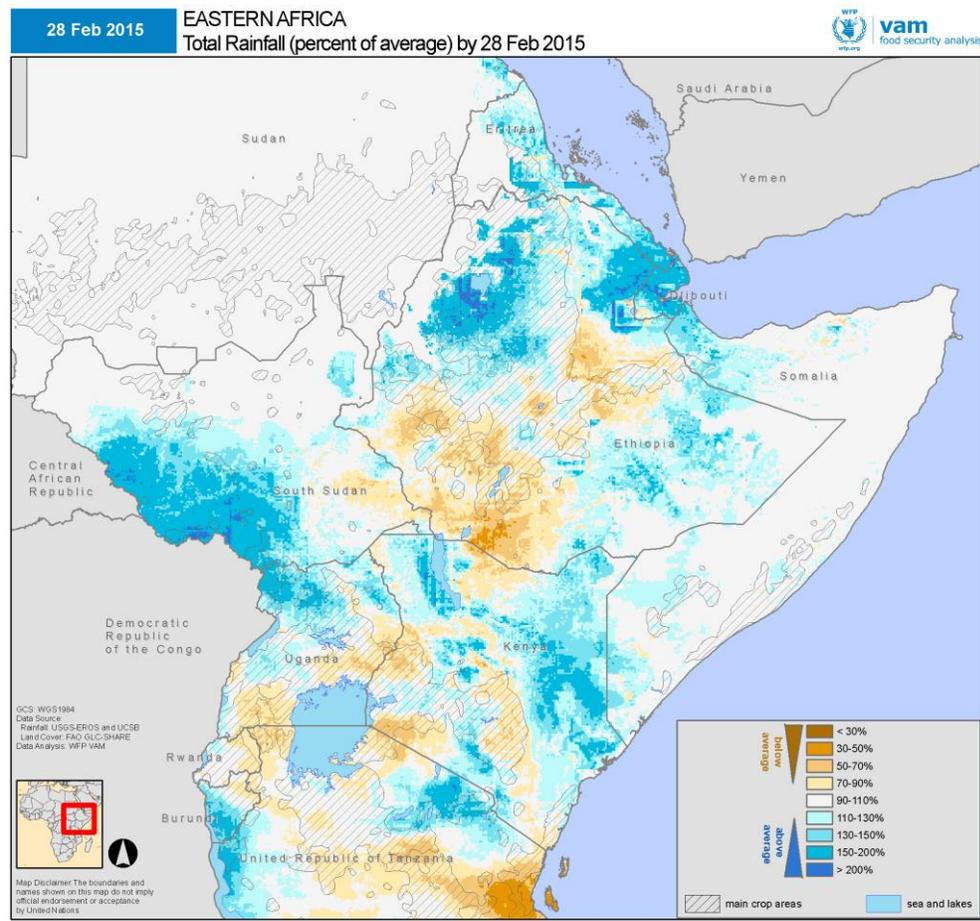
Although current forecasts for October-December are at the limit of what can be relied upon, the strength of the El Niño signal makes a wetter than average “Short Rains” season the most likely scenario at this point in time.

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.

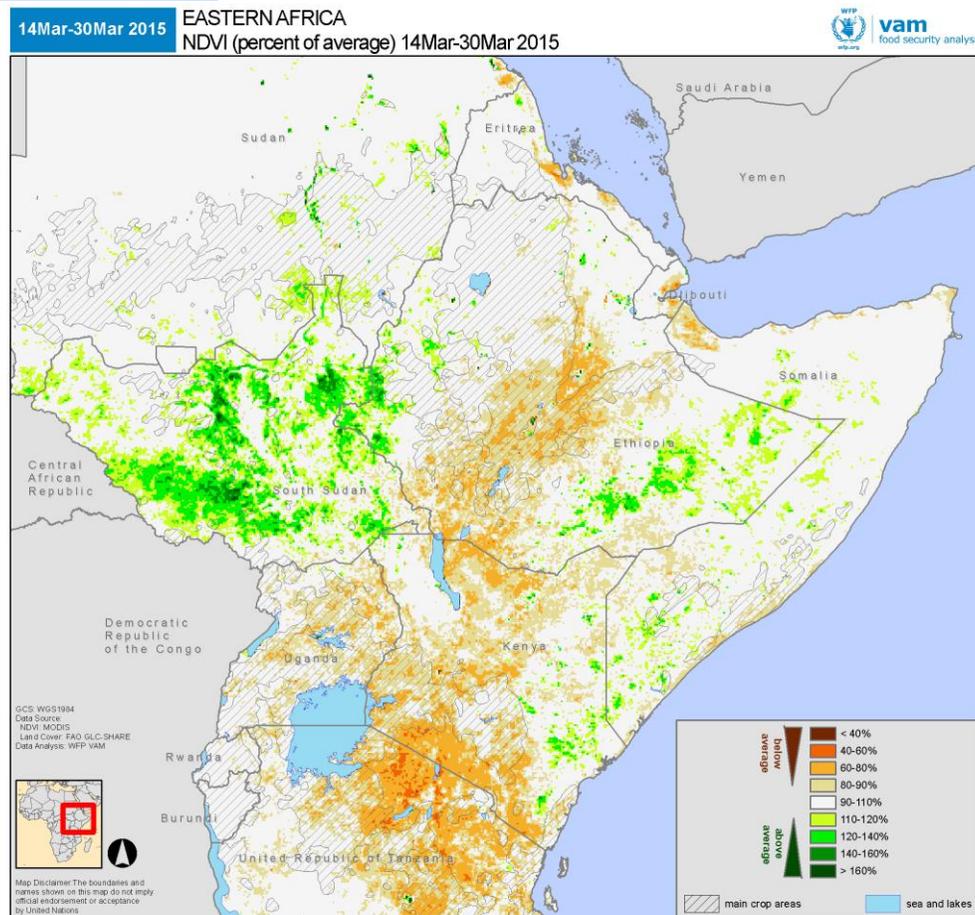
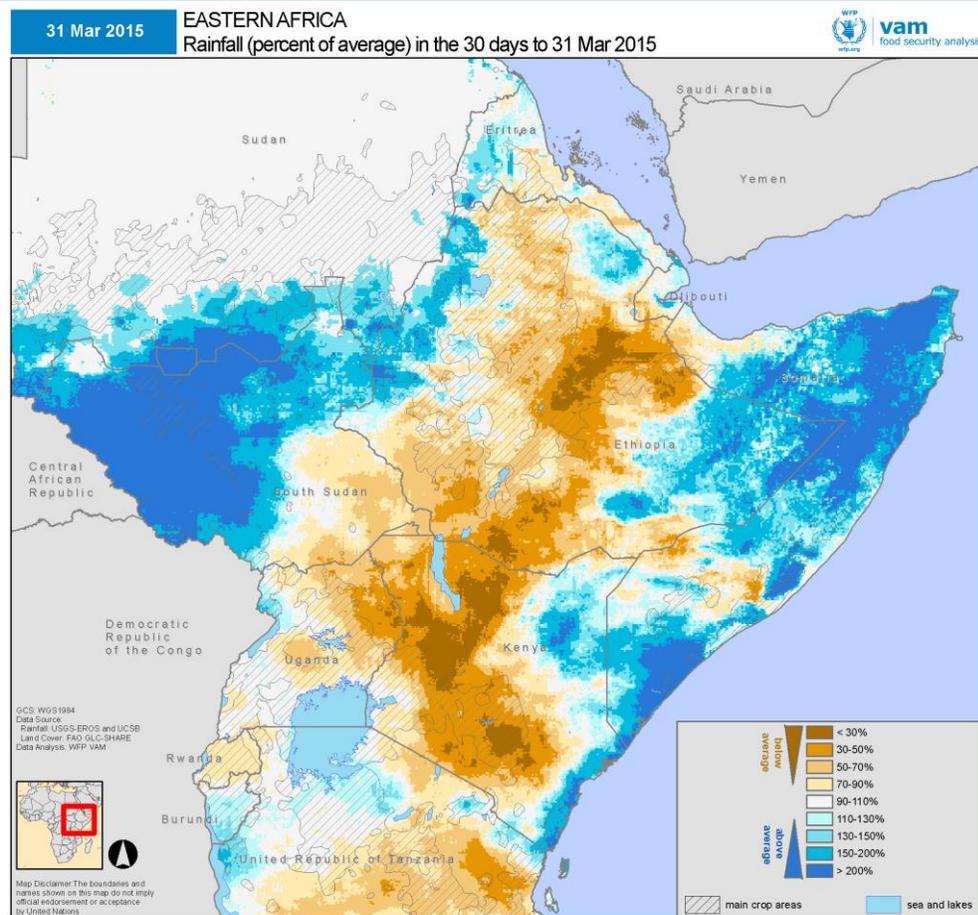
Hashed pattern indicates main agricultural areas.

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.

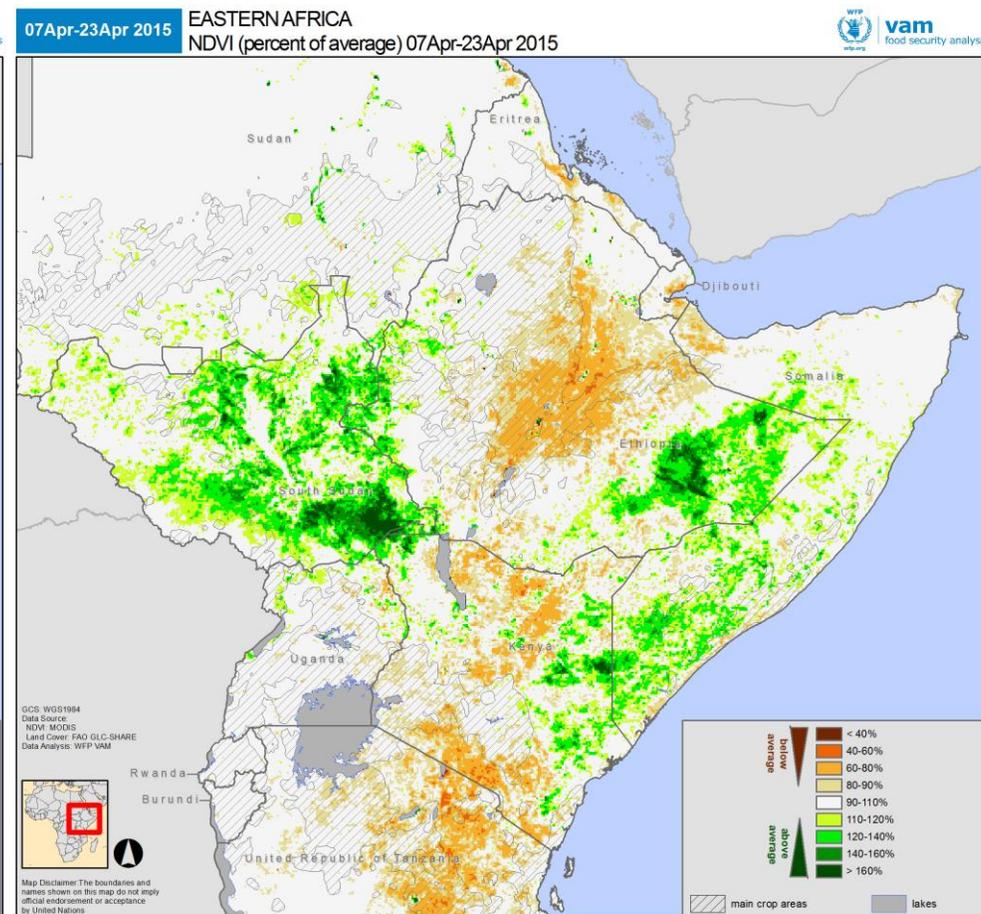
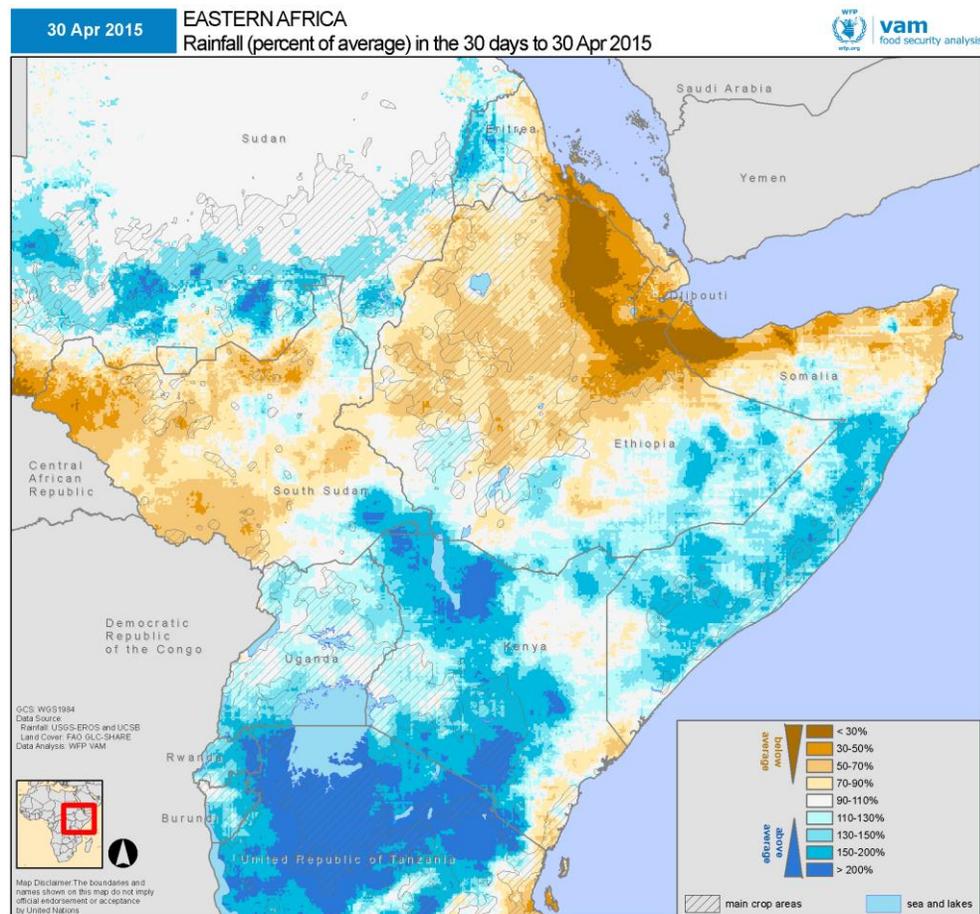
Hashed pattern indicates main agricultural areas.

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.

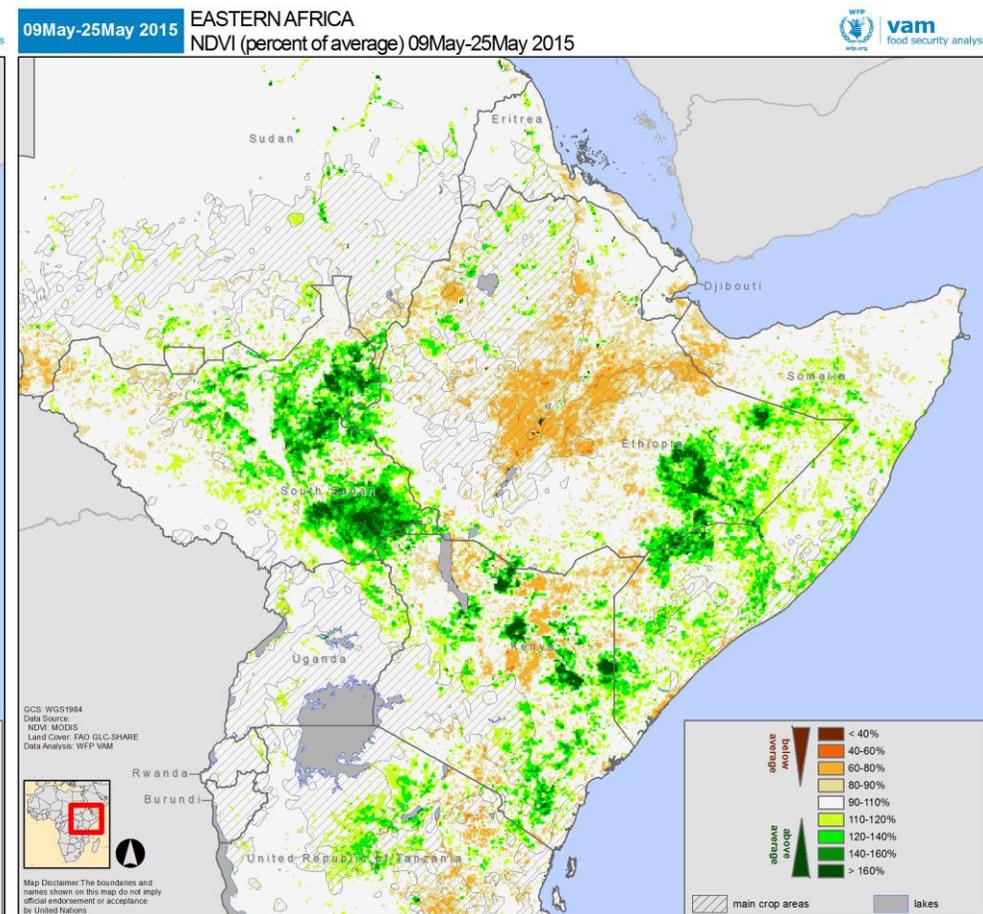
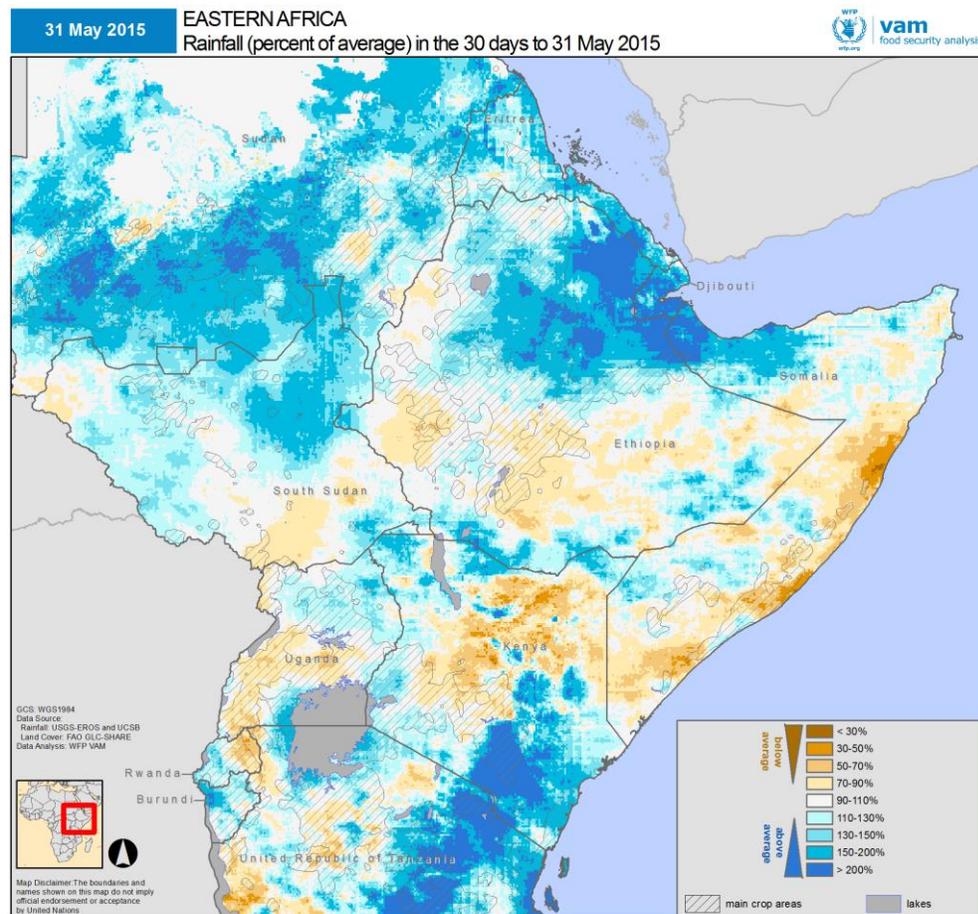
Hashed pattern indicates main agricultural areas.

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.

EAST AFRICA SEASONAL ANALYSIS – 2015



May 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 May 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.

May 2015

The season came to an end during May which provides only a relatively small proportion of the seasonal totals. Higher than average rainfall is noticeable in the regions of Ethiopia that had so far been affected by drought conditions. However, the amounts in absolute terms are relatively small and will not change the pessimistic outlook of the *Belg* season crop production. They may however provide some improvement of pasture conditions, though in general it's too little, too late.

Vegetation patterns consolidated the response to April and May rainfall, with markedly above average vegetation in South Sudan, south-eastern Ethiopia and Somalia. Good recovery in vegetation conditions extended to northern and south-eastern Kenya affected by a sequence of previous poor seasons.

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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