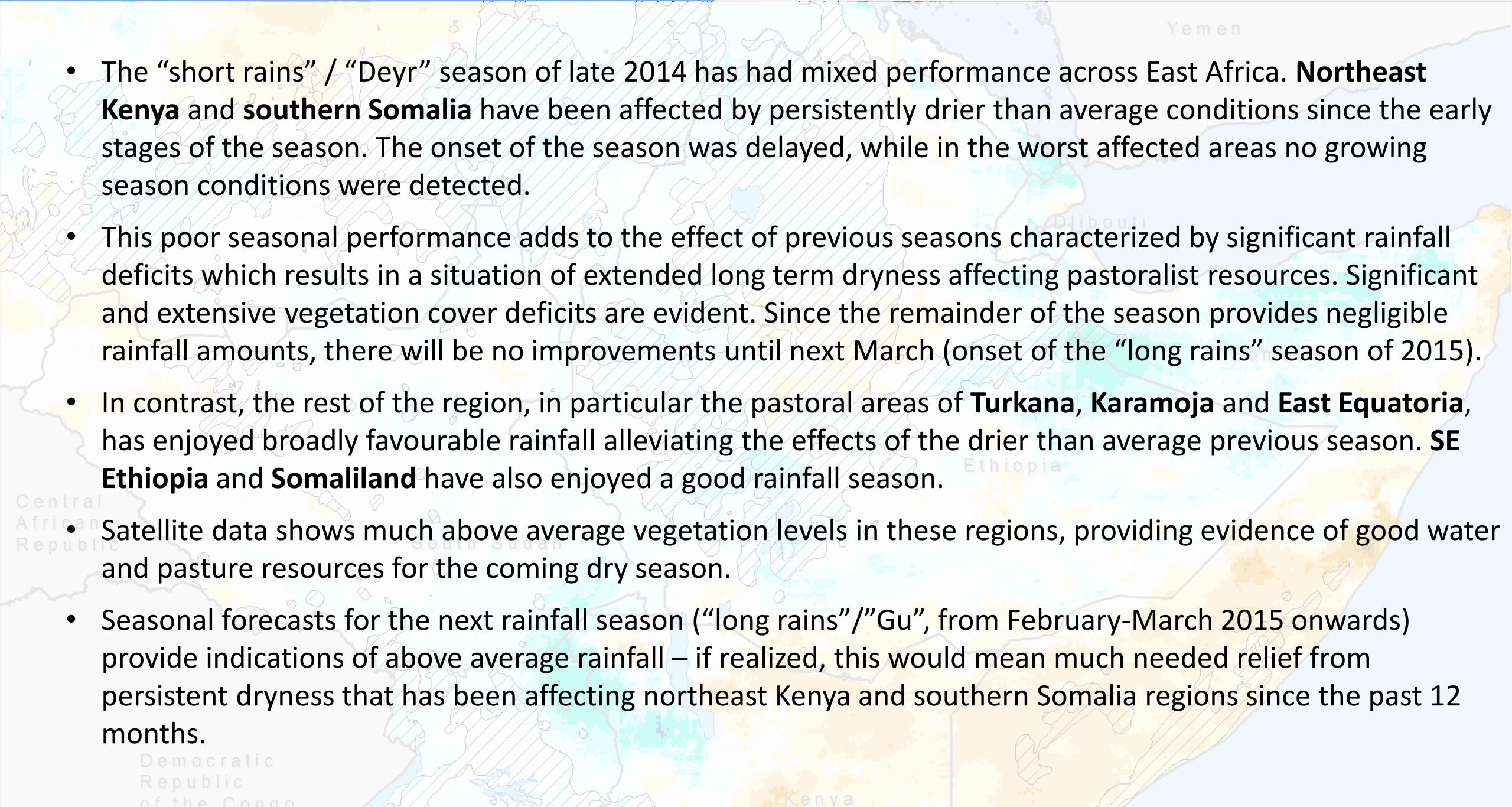


East Africa

The 2014-2015 Rainfall Season (Short Rains)



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- The “short rains” / “Deyr” season of late 2014 has had mixed performance across East Africa. **Northeast Kenya** and **southern Somalia** have been affected by persistently drier than average conditions since the early stages of the season. The onset of the season was delayed, while in the worst affected areas no growing season conditions were detected.
- This poor seasonal performance adds to the effect of previous seasons characterized by significant rainfall deficits which results in a situation of extended long term dryness affecting pastoralist resources. Significant and extensive vegetation cover deficits are evident. Since the remainder of the season provides negligible rainfall amounts, there will be no improvements until next March (onset of the “long rains” season of 2015).
- In contrast, the rest of the region, in particular the pastoral areas of **Turkana, Karamoja** and **East Equatoria**, has enjoyed broadly favourable rainfall alleviating the effects of the drier than average previous season. **SE Ethiopia** and **Somaliland** have also enjoyed a good rainfall season.
- Satellite data shows much above average vegetation levels in these regions, providing evidence of good water and pasture resources for the coming dry season.
- Seasonal forecasts for the next rainfall season (“long rains”/”Gu”, from February-March 2015 onwards) provide indications of above average rainfall – if realized, this would mean much needed relief from persistent dryness that has been affecting northeast Kenya and southern Somalia regions since the past 12 months.

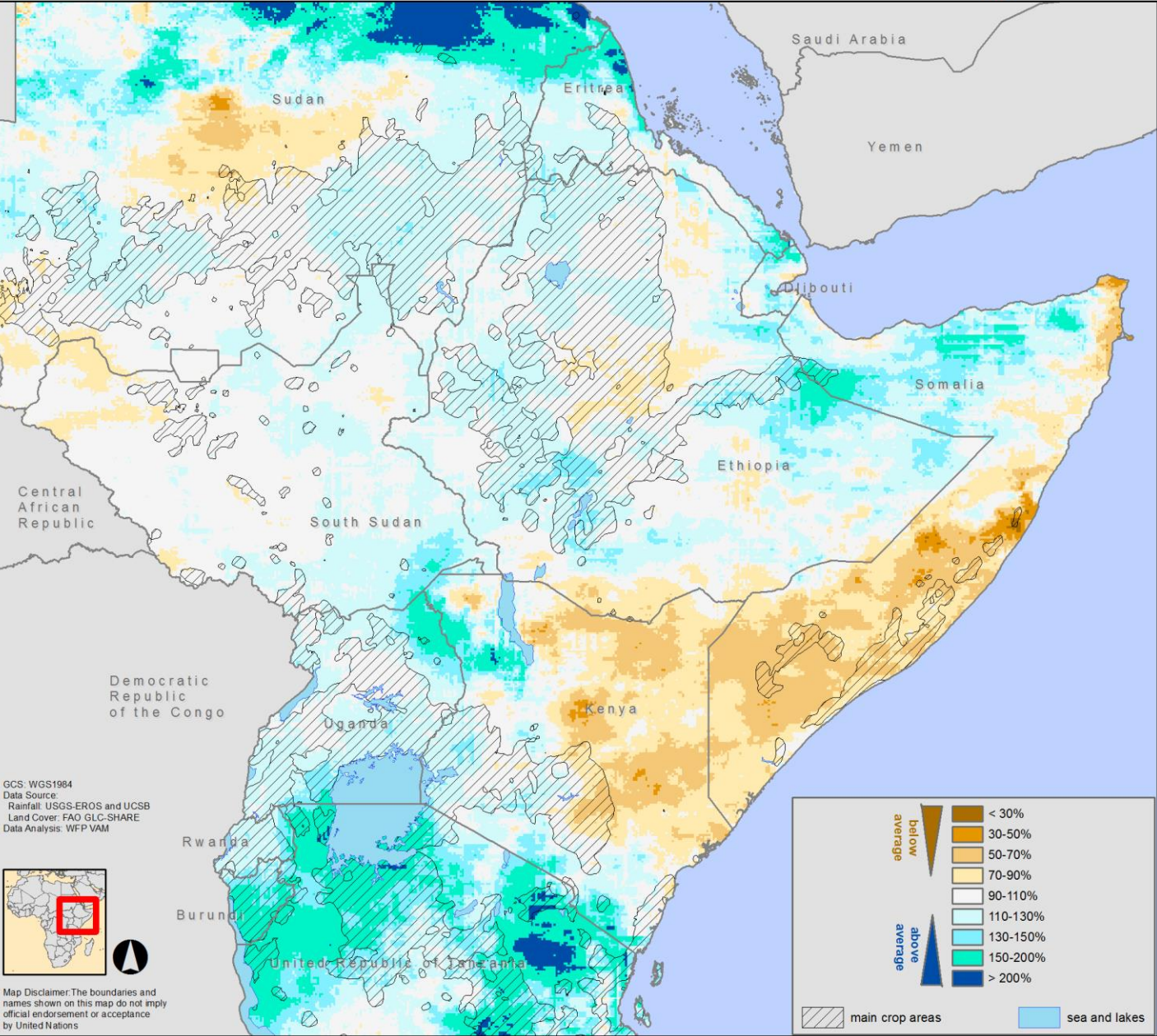
Current Situation and Near Term Perspectives



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10 Dec 2014

EASTERN AFRICA
Total Rainfall (percent of average) by 10 Dec 2014



Overall Rainfall Performance

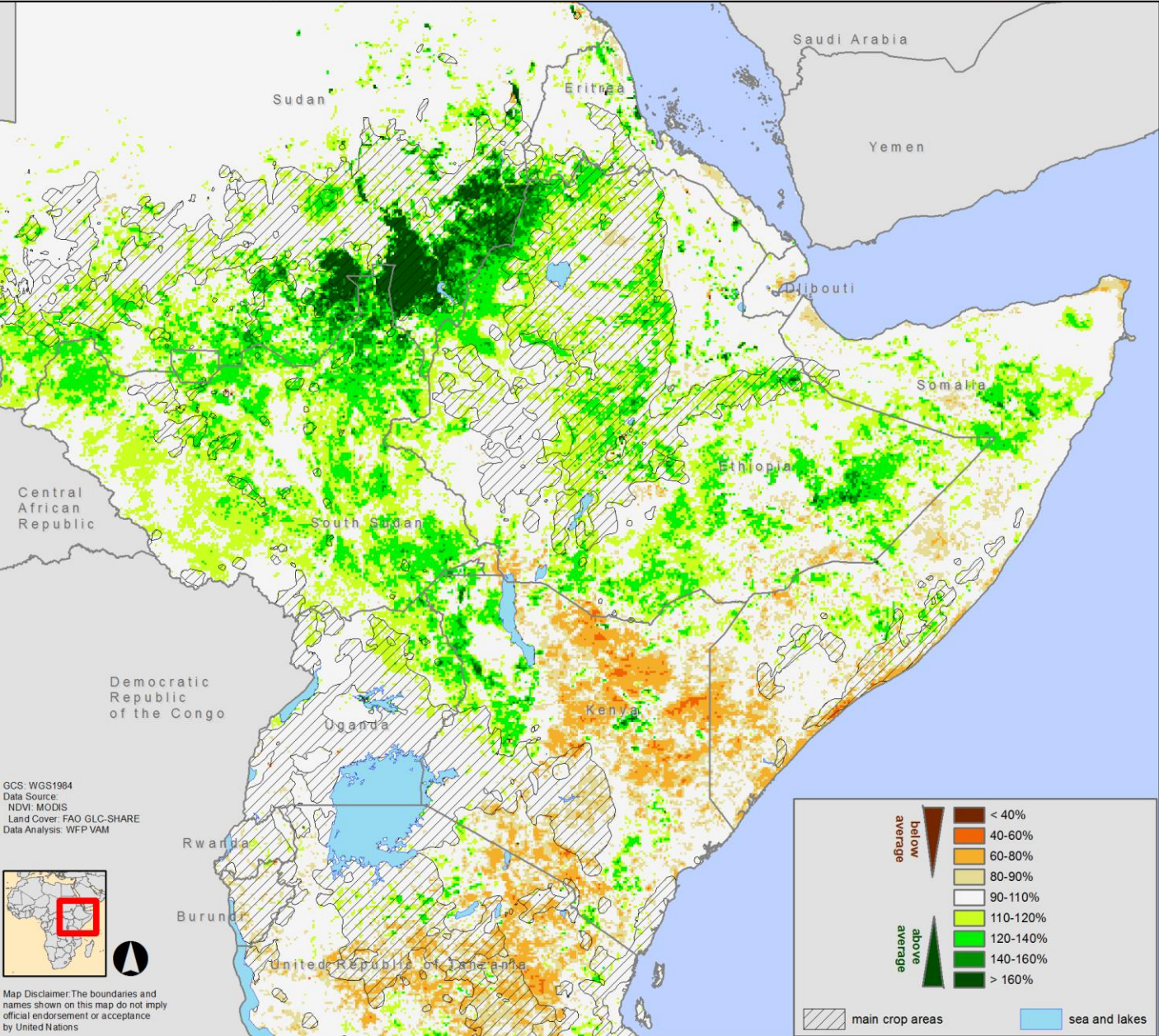
The 2014-2015 rainfall season (“short rains” or “Deyr”) has had mixed performance across East Africa.

In the eastern half of Kenya and southern half of Somalia below average rainfall has been the norm during the season. In Kenya, this affects mostly pastoral semi-arid lands, while in Somalia it also impacts the major agricultural regions.

These regions had already experienced a drier than average “long rains” / “Gu” season during February-May 2014 as well as rainfall deficits in the previous “short rains” season of one year ago; this results in a situation of long term persistent dryness putting local livelihoods under considerable stress.

In contrast, Somaliland and SE Ethiopia have had a favourable season though with some dryness during November. NW Kenya and the Karamoja region in Uganda have also enjoyed wetter than average conditions – unseasonal rainfall in September was followed by good rains in October, with more above average rainfall in late November.

Total rainfall from 1 August to 30 November 2014 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



Overall Vegetation Status

Current vegetation patterns reflect the predominant rainfall situation – below average vegetation are noticeable across NE Kenya and also in the southern half of Somalia in response to rainfall deficits in these regions.

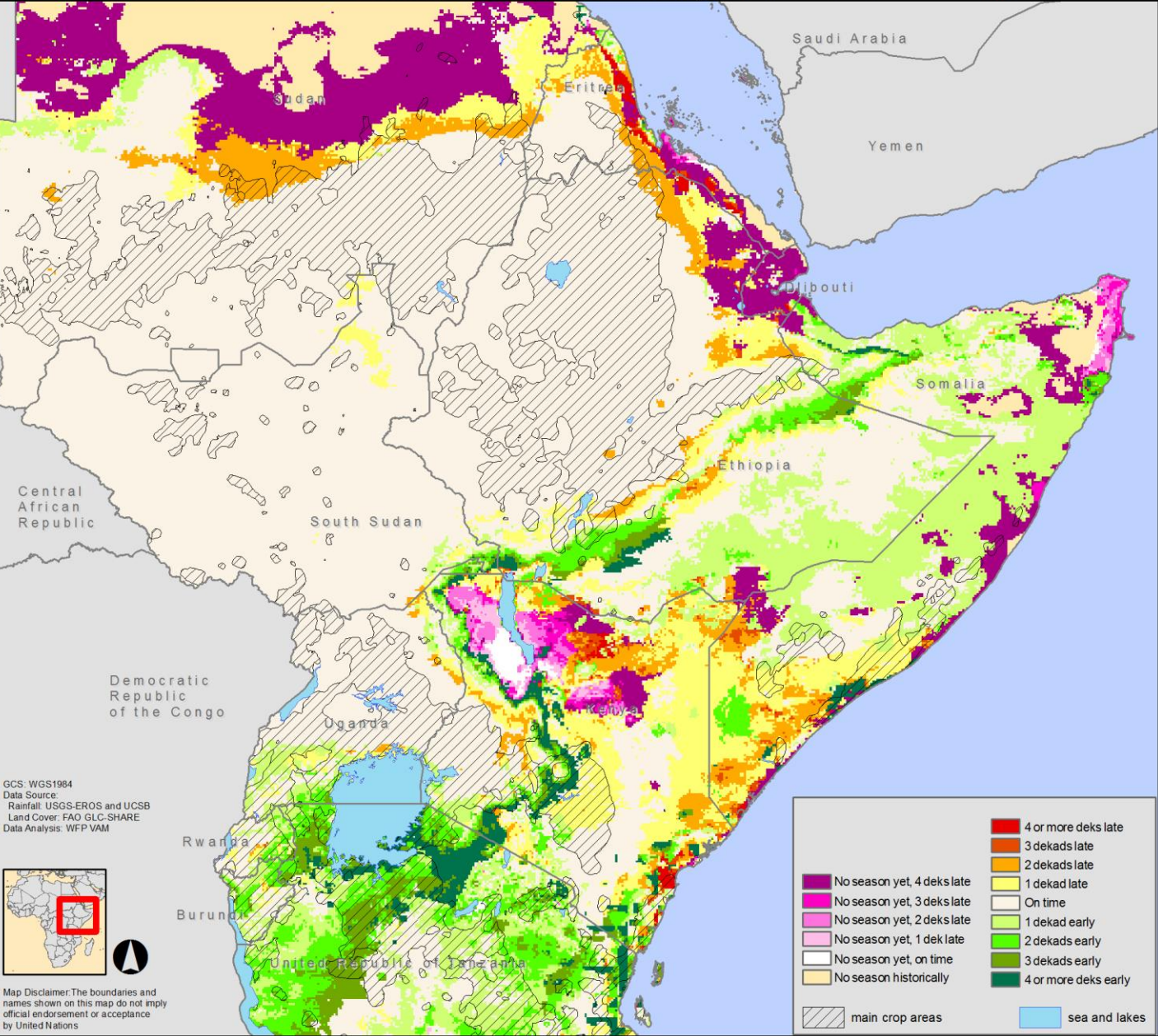
The vegetation response also reflects the long term dryness that has persisted for almost a year and implies continued poor to very poor grazing conditions for pastoralist livelihoods. There is little or no likelihood of this situation being improved as January makes a negligible contribution to the seasonal rainfall totals. The next rains will not be due until March and the current situation offers a very poor basis for pastoralists to deal with the coming short dry season.

In contrast, better than average vegetation conditions in NE Kenya (Turkana region) and Karamoja signal much improved pasture and grazing resources – a situation that extends into South Sudan's Eastern Equatoria region, across SE Ethiopia and into Somaliland.

*Vegetation index in early December 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*

10 Dec 2014

EASTERN AFRICA
Date of Onset of Growing Season (relative to average) by 10 Dec 2014



Timing of Growing Season Start

The onset of the agricultural season depends on sufficient and regular enough rainfall. The time when these conditions are met can be mapped and compared with the historical average dates.

By the end of November 2014, the season had started across most of the region, with the exception of northern Kenya where no growing season has yet been detected, having already accumulated delays of 20-40 days relative to the usual start dates. This further underlines the very poor quality of the current season in these regions.

Delays of 10-20 days are seen in coastal Kenya and southern Somalia, though here a growing season is already on going. Elsewhere, favourable rainfall led to timely or moderately earlier than average growing season starts. Therefore, in cropping regions of Somalia problems will arise from seasonal rainfall deficits rather than significant delays in the start of the season.

Date of start of the 2014-15 growing season compared to a 20 year average. Green shades represent earlier than average start dates, yellow to reds later than usual start dates. Pinks also represent delays in the start of the season but where the season has not yet started / been detected. Hashed pattern indicates main agricultural areas.

Forecasts for the current and next growing season

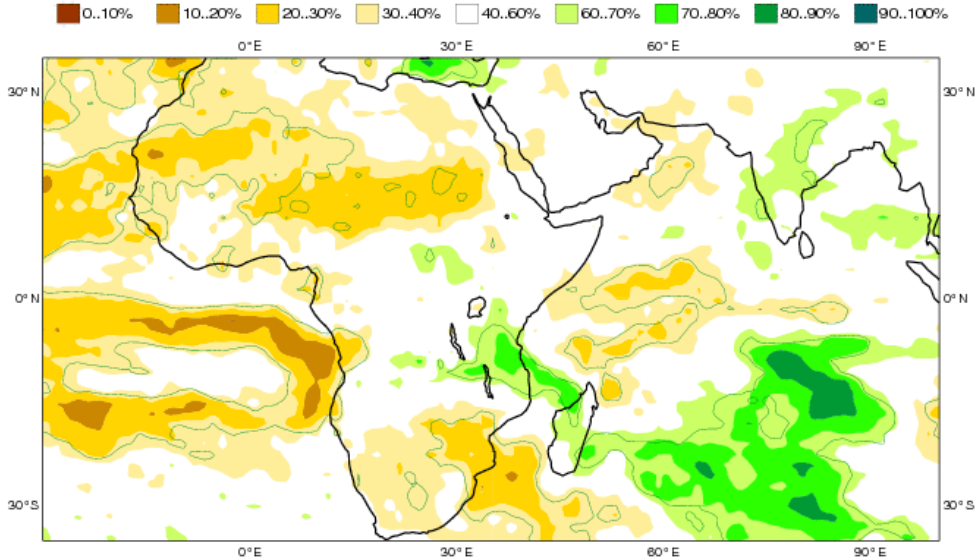
Current Season

Most recent rainfall forecasts from ECMWF (European Centre for Medium Weather Forecasts) for the remainder of the current season (December to February) in the Eastern Africa region are neutral.

The forecasts provide expectations of on average rainfall for this period, with no discernible tendency for either below or above average rainfall.

ECMWF Seasonal Forecast
Prob(precipitation > median)
Forecast start reference is 01/11/14
Ensemble size = 51, climate size = 450

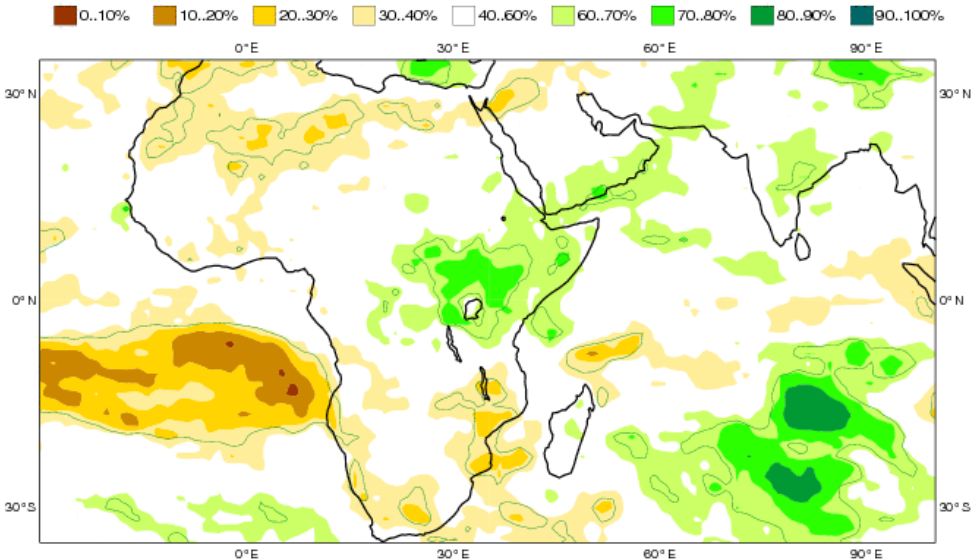
System 4
DJF 2014/15
Solid contour at 1% significance level



Forecast for the December-February (DJF) 2014-2015 rainfall: Probability of DJF rainfall exceeding the usual amount (long term median). Green shades – wetter than usual conditions more likely, yellow/browns – drier than usual conditions more likely. Source: ECMWF.

ECMWF Seasonal Forecast
Prob(precipitation > median)
Forecast start reference is 01/11/14
Ensemble size = 51, climate size = 450

System 4
FMA 2015
Solid contour at 1% significance level



Forecast for the February-April 2015 rainfall: Probability of FMA rainfall exceeding the usual amount (long term median). Green shades – wetter than usual conditions more likely, yellow/browns – drier than usual conditions more likely. Source: ECMWF.

Next Season (Long Rains / Gu)

In contrast, forecasts from the same institution for the first three months of the following season (“Long Rains” or “Gu”) point to better than average rainfall across most of the Horn of Africa.

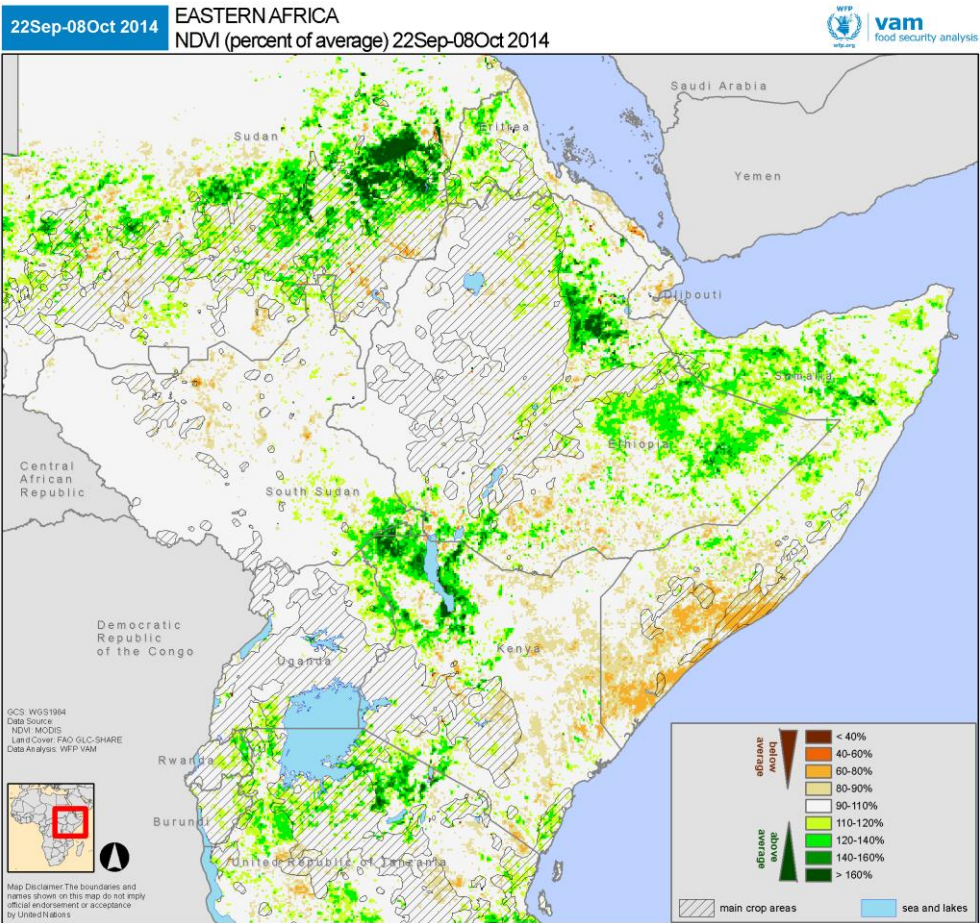
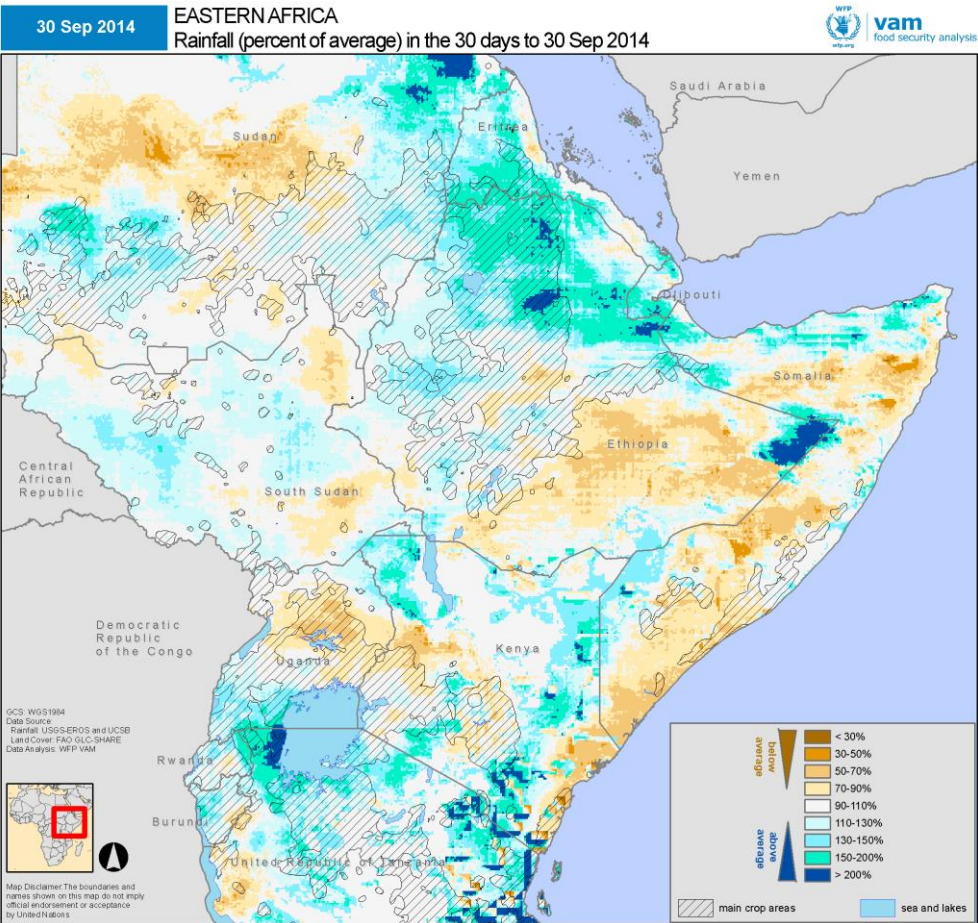
If realised, these conditions would bring considerable relief to the areas that have been suffering from prolonged drier than average conditions. Given that these forecasts are made at a considerable time ahead, at this stage they should be taken only as a hopeful indication of improvements.

How the Season Evolved



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EAST AFRICA SEASONAL ANALYSIS – 2014/2015



September 2014 rainfall as a percent of a 20 year average (left). Brown shades for below average rainfall, blue shades for above average seasonal rainfall

Early October 2014 vegetation index as a percent of a 12 year average (right). Orange shades for below average, green shades for above average vegetation.

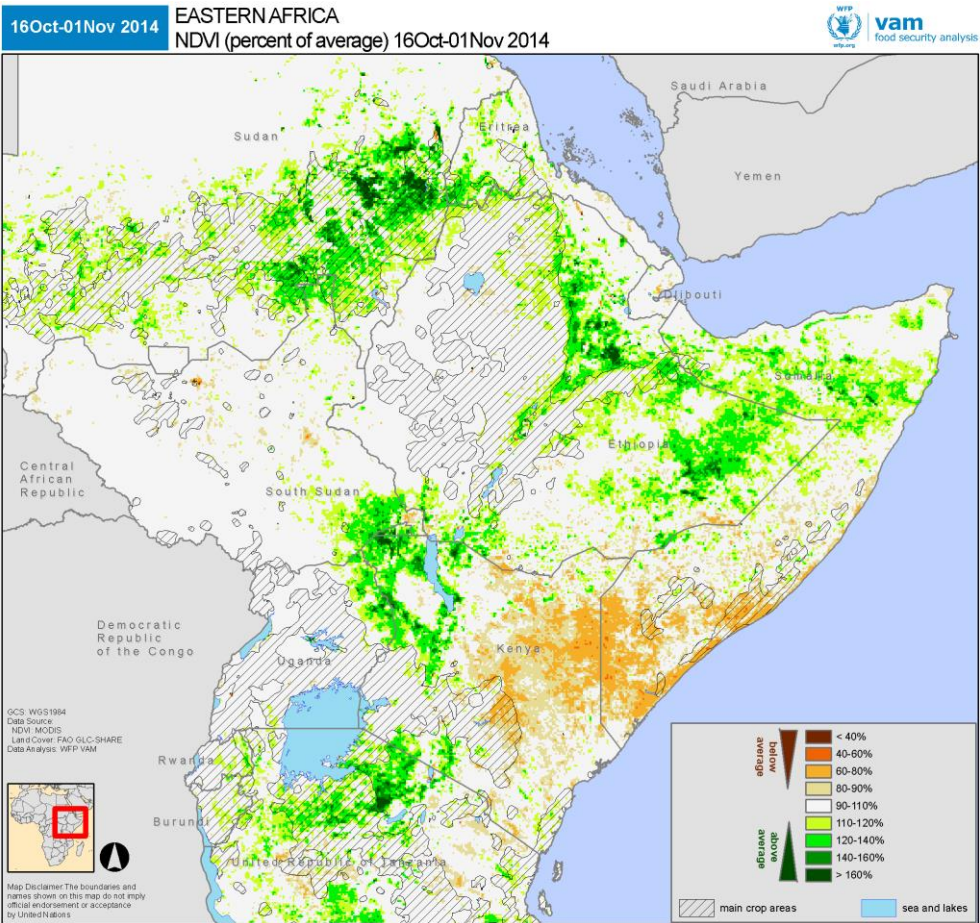
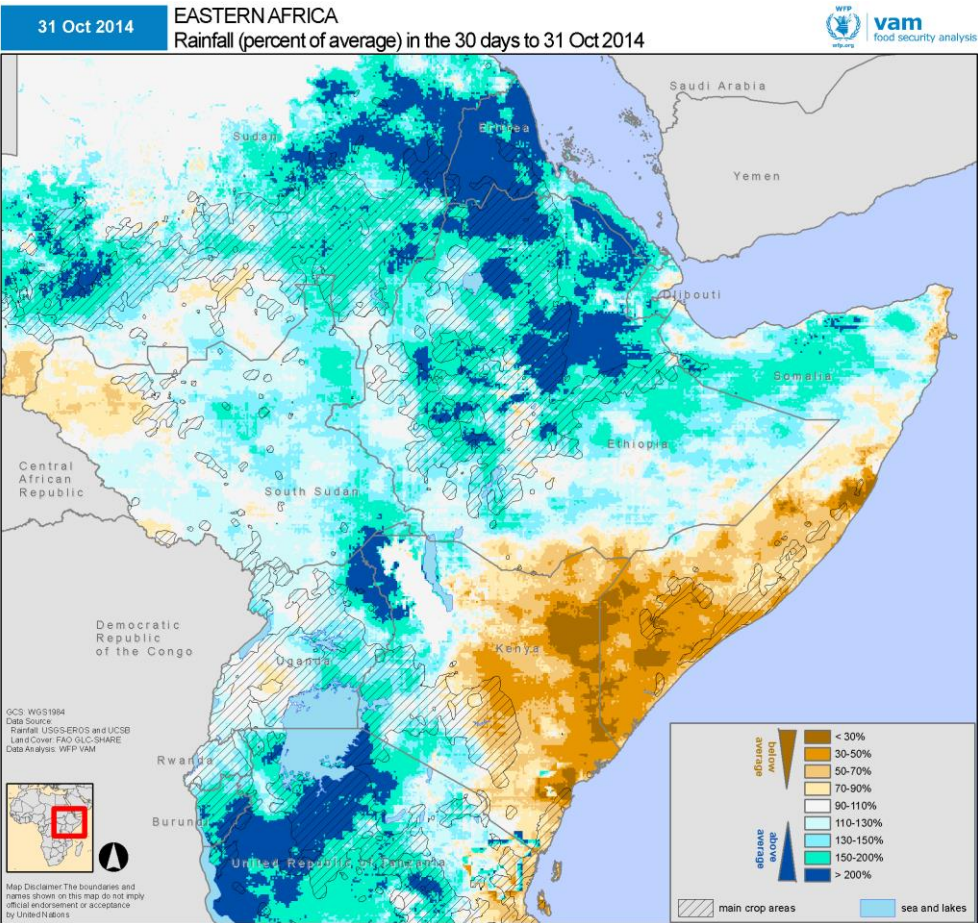
Hashed pattern indicates main agricultural areas.

September 2014

The earlier stages of the season were marked by broadly favourable rainfall across the region, though deficits were noticeable across much of Somalia and SE Ethiopia.

Below average vegetation patterns were already clearly evident in Somalia as a result of the poor performance of the previous season. In Turkana and Karamoja much better than usual vegetation growth developed in response to favourable rainfall during September and August (outside the usual seasonal timings)

EAST AFRICA SEASONAL ANALYSIS – 2014/2015



October 2014 rainfall as a percent of a 20 year average (left). Brown shades for below average rainfall, blue shades for above average seasonal rainfall

Late October 2014 vegetation index as a percent of a 12 year average (right). Orange shades for below average, green shades for above average vegetation.

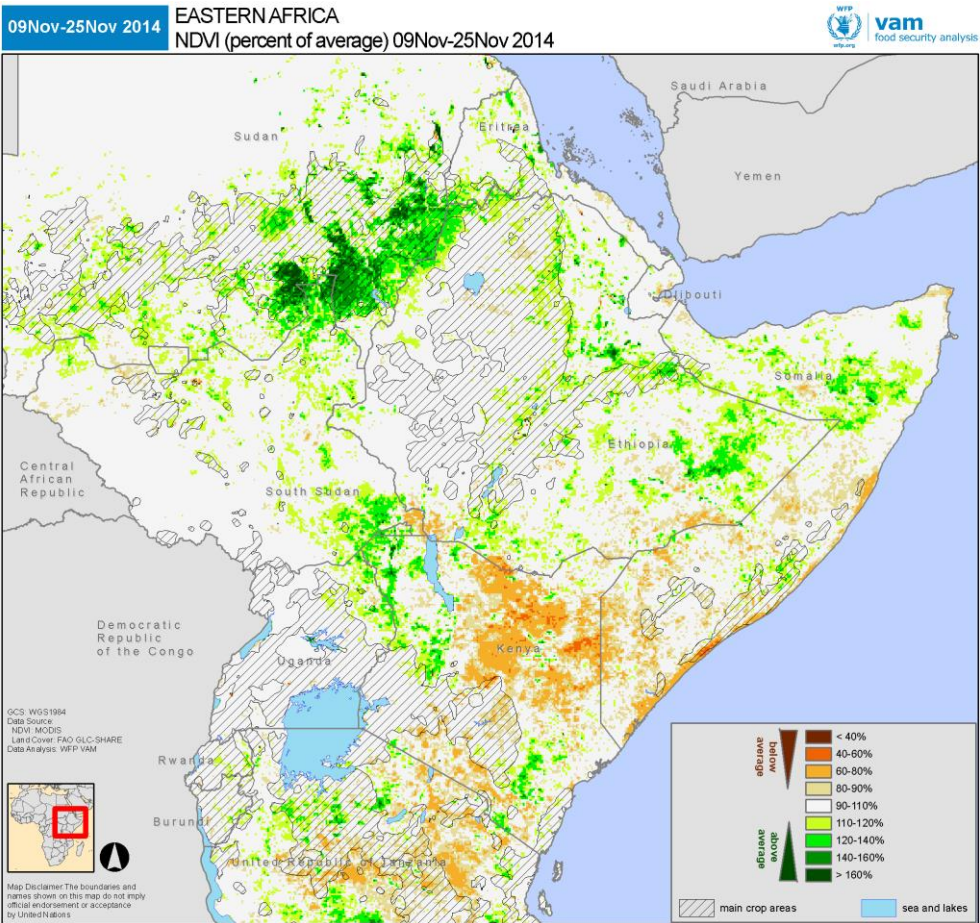
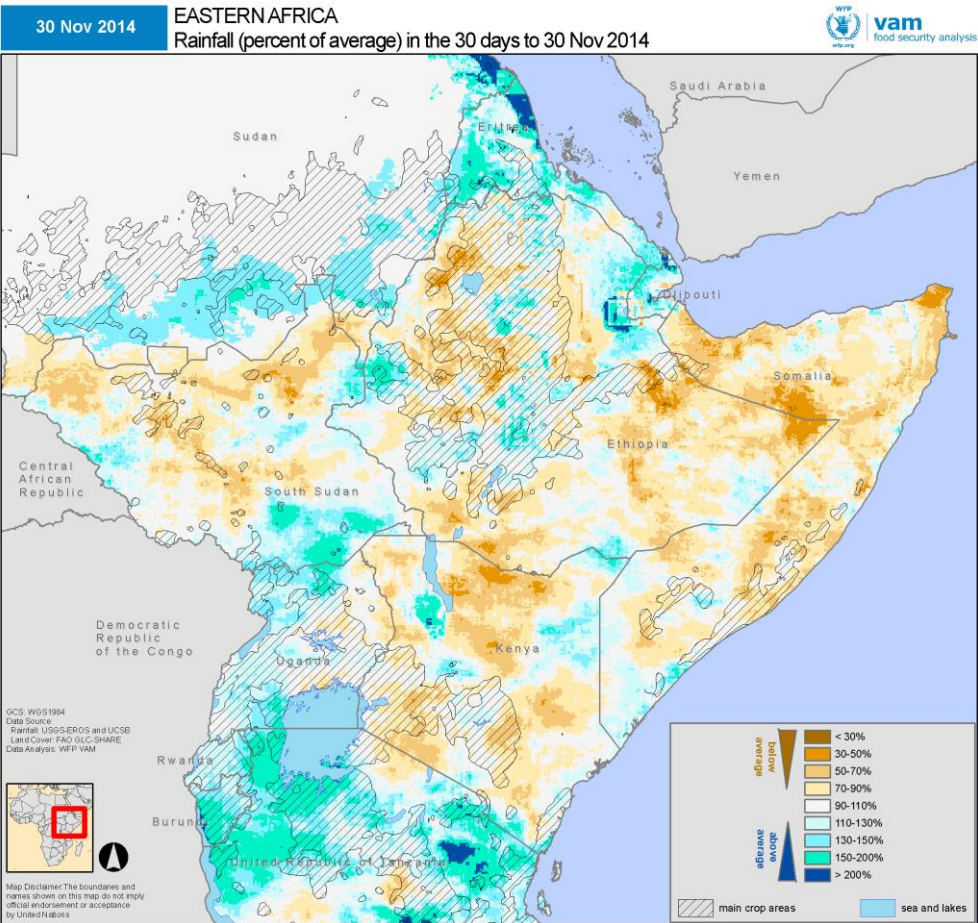
Hashed pattern indicates main agricultural areas.

October 2014

Contrasting rainfall patterns characterized this month: while in eastern Kenya and the southern half of Somalia, conditions were markedly drier than average, rainfall was above average almost everywhere else, particularly so in the Karamoja/Turkana area.

This rainfall distribution reinforced the incipient vegetation patterns of late September: lower than average vegetation spread across eastern Kenya and Somalia; elsewhere, in particular Karamoja/Turkana, SE Ethiopia and Somaliland, much higher than average vegetation levels intensified.

EAST AFRICA SEASONAL ANALYSIS – 2014/2015



November 2014 rainfall as a percent of a 20 year average (left). Brown shades for below average rainfall, blue shades for above average seasonal rainfall

Late November 2014 vegetation index as a percent of a 12 year average (right). Orange shades for below average, green shades for above average vegetation.
Hashed pattern indicates main agricultural areas.

November 2014

Conditions this month were broadly drier than average. While this maintained the tendency in place for northern and coastal Kenya and southeast Somalia (to a lesser degree), elsewhere it interrupted the wetter than average conditions that had prevailed so far.

As a result, vegetation growth in northern Kenya fell further below average levels, affecting wider areas of the region and highlighting increasing problems for the normal start of the growing season. Elsewhere, as a result of drier conditions in November, vegetation reverted to levels closer to average.

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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