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Executive summary

- Sub-Saharan Africa has a long record of droughts that have caused extensive damage in the recent past. The high seasonality of rainfall, the number of people exposed and the vulnerability of their societies and economies make this geographic region particularly susceptible to drought risk¹. At present, there are five areas of major concern: southern Madagascar, Angola (western and coastal regions), central Nigeria, Kenya and southern Somalia (coast), and northern Zambia. All events are geographically distant: in Madagascar and Angola are very severe and long-lasting. The other three feature an initial status of drought, requiring a close follow-up, to understand their potential evolution and impacts over time.
- All of these regions are characterised by marked precipitation seasonality and the main issue leading to the current drought is the widespread failure of previous wet seasons, in some cases for several consecutive years.
- Drought impacts in Southern Madagascar are widespread and severe, with 1.31 million persons targeted by humanitarian aid and agricultural losses up to 60% in the most populated provinces. In Angola, an estimated 3.81 million people are without sufficient food supply

¹ Masih, I., Maskey, S., Mussá, F. E. F., and Trambauer, P.: A review of droughts on the African continent: a geospatial and long-term perspective, Hydrol. Earth Syst. Sci., 18, 3635–3649, <https://doi.org/10.5194/hess-18-3635-2014>, 2014

since January 2021. Risk of food insecurity is reported from Malanje province and as much as 70% of crops are allegedly affected by drought.

Overview and introduction

Sub-Saharan Africa and Southern Africa are often affected by drought-related disasters, and consequent food insecurity. Their structural social and economic vulnerability and dependence on rain-fed crops makes them particularly susceptible to any drought. At present (2nd 10-day period of August 2021, Figure 1) there are some spots of high Risk of Drought Impact for Agriculture (RDri-Agri), concentrated in the Gulf of Guinea and along the coast of southern Somalia, Kenya and Tanzania. In Southern Africa there are several clusters of medium and low values of RDri-Agri.

A deeper analysis about the evolution over time of the indicators is required to get a more accurate and complete view, keeping in mind that the present condition could have different meanings according to its time trajectory.

The constant monitoring of the drought indicators' evolution over time suggests concentrating the analysis on five areas: Southern Madagascar, Angola (in particular the coast), Nigeria (central part), Kenya and Southern Somalia (coast), and Zambia (northern part). Despite in some of these areas the current RDri-Agri doesn't appear to be critical in itself, more detailed analysis in the following sections shows how the persistence of an emergency state can be determined through indicator trends and consecutive severe phases.

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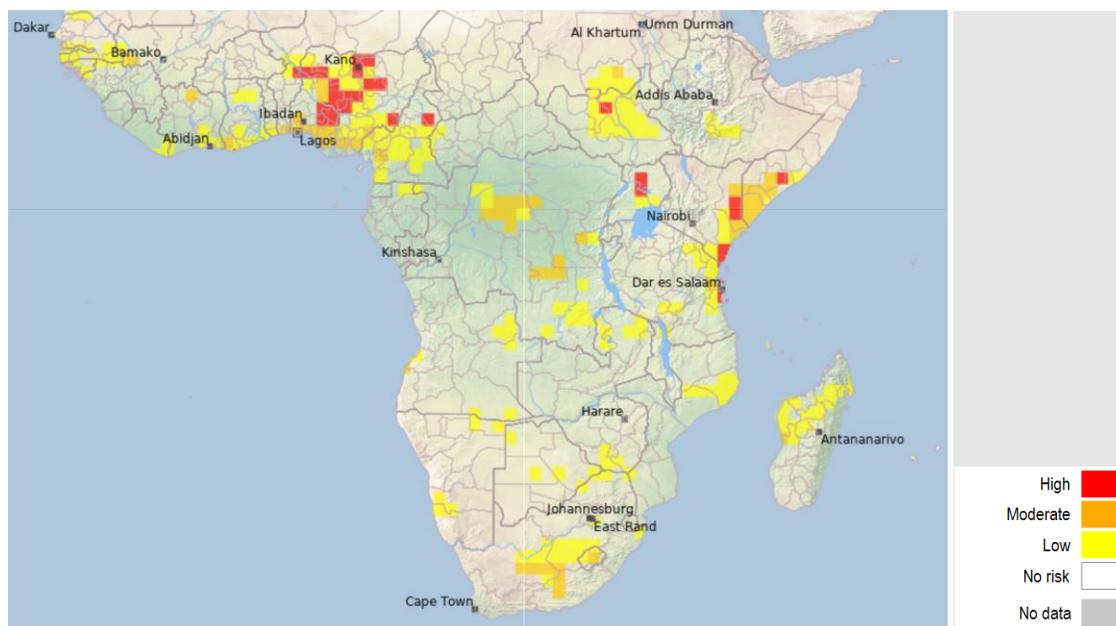


Figure 1: Risk of Drought Impact for Agriculture (RDri-Agri) – 2nd 10-day period of August 2021.

According to climatic features, July precipitations have been concentrated mostly on the Sub-Saharan belt (Figure 2), especially on the west coast and on the northern region of the Horn of Africa. Southern regions are almost completely dry, since the period of analysis falls in the dry season. This is a clear example of the importance of precipitation seasonality in drought analysis.

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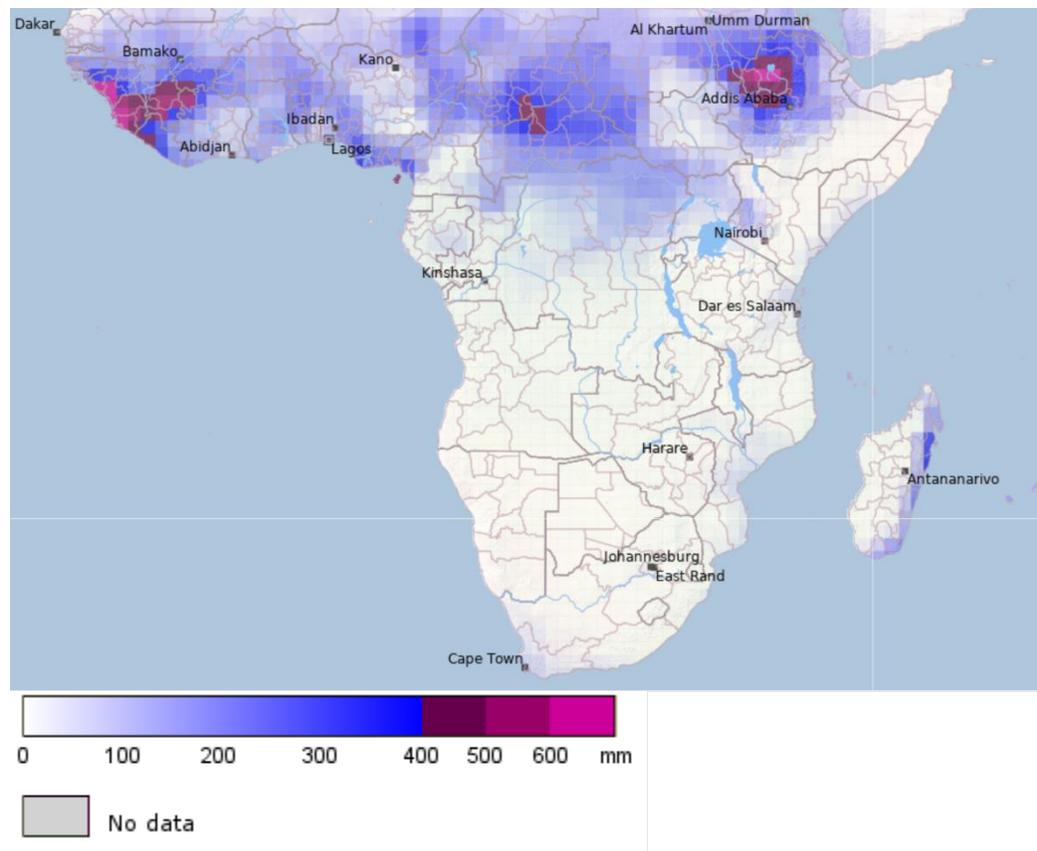


Figure 2: Monthly precipitation [mm/month] - July 2021.

The lack of precipitation is the main driver of drought indexes. The comparison of Standardized Precipitation Index (SPI) at different accumulation periods highlights how for these specific regions and during this period of the year, normally dry in most of Southern Africa, it is important to consider a wider time interval, to reveal anomaly conditions in their entirety. In Figure 3, SPI-3 perfectly overlaps the RDrl based on it of Figure 1. In Figure 4, considering the SPI-9, lack of precipitation becomes also evident for some Southern Africa regions.

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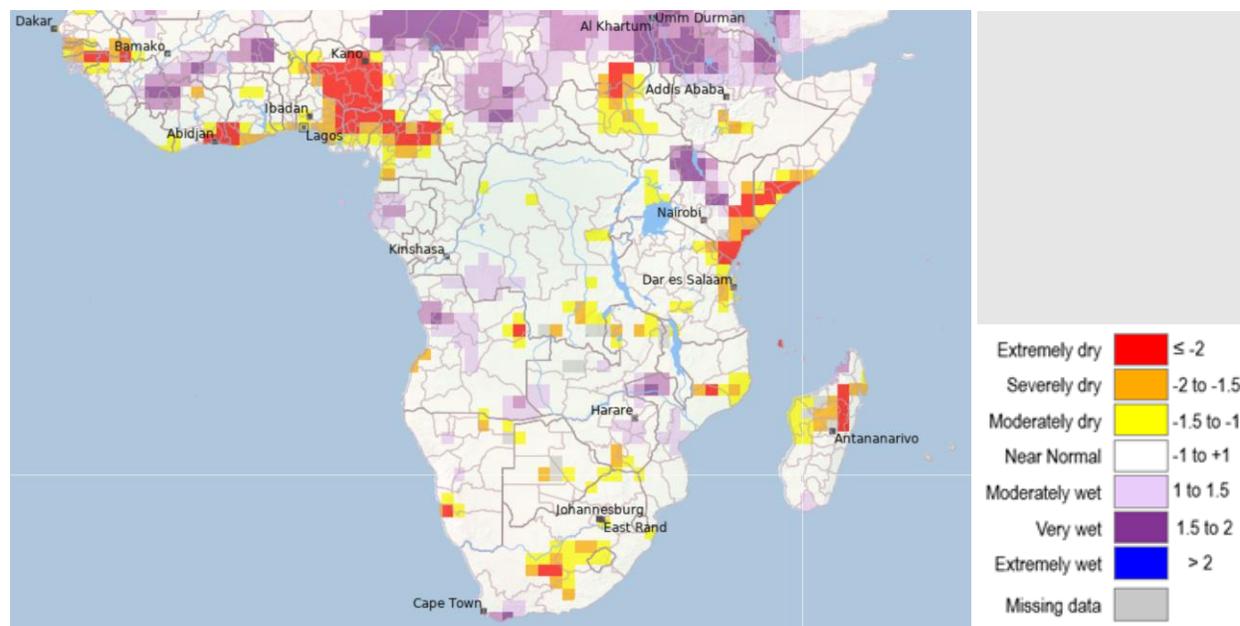


Figure 3: Standardized Precipitation Index with three months accumulation period (SPI-3) for July 2021.

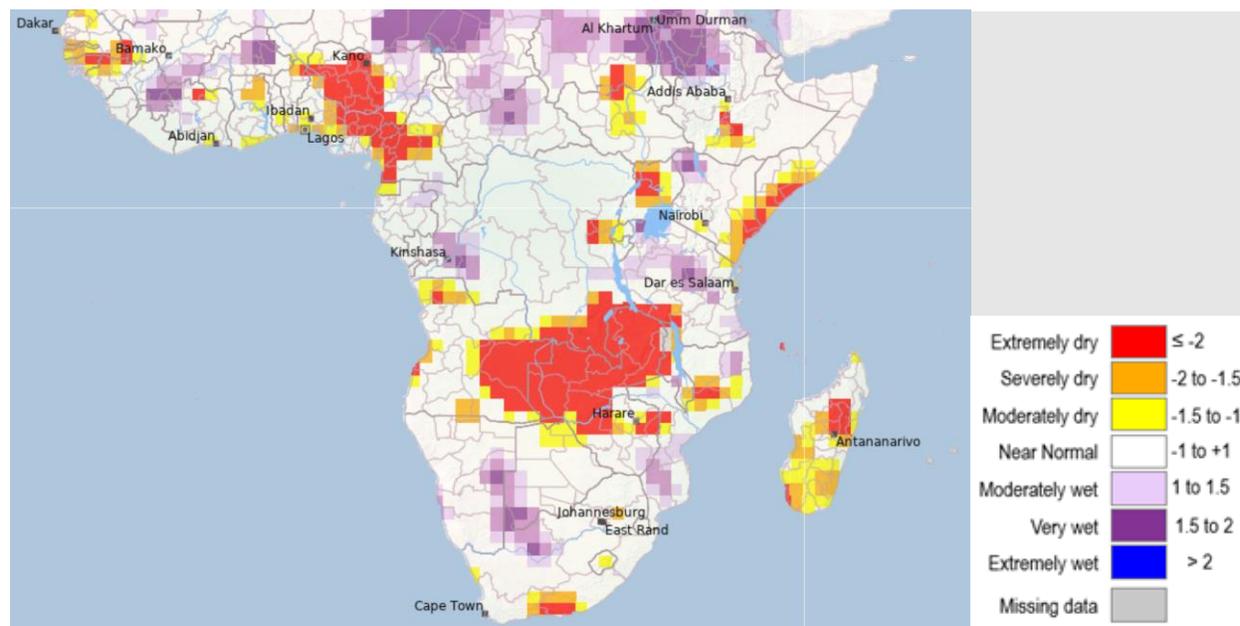


Figure 4: Standardized Precipitation Index with nine months accumulation period (SPI-9) for July 2021.

Southern Madagascar

Southern Madagascar (also known as Grand South) is experiencing one of the worst droughts of its history in terms of meteorological conditions (Figure 7) and consequent humanitarian impacts. As mentioned, even if the current RDri-Agri value is not highlighting any emergency, looking at the SPI-9 map (Figure 4), the extent and the magnitude of the lack of precipitation deficit are evident.

The evolution over the period of the RDri-Agri (Figure 5) is clearly showing high risk values rising in extent from September 2020 to January-February 2021.

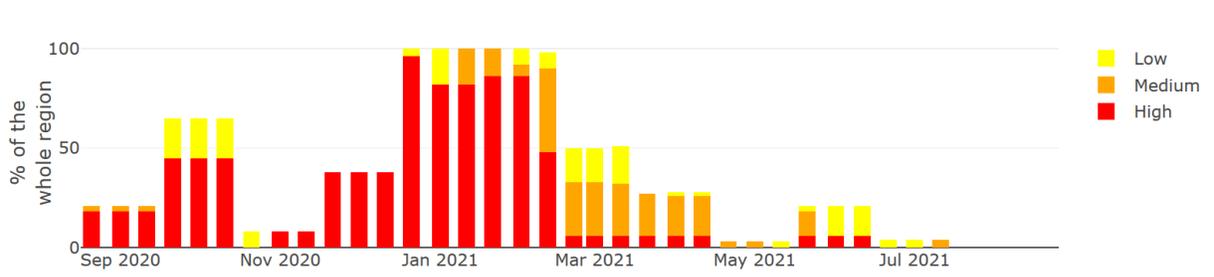


Figure 5: Risk of Drought Impact for Agriculture (RDri-Agri) - evolution over time for Southern Madagascar from the 3rd 10-day period of August 2020 to the 2nd 10-day period of August 2021

The current drought situation is mainly due to the strongly reduced precipitation in the middle of the rainy season (January-February 2021, Figure 6) which caused cascading impacts in the following months, normally expected to be dry according to the climatology of the region. Moreover, considering a 10-year precipitation analysis (Figure 6) it is clearly visible how four out of the last five years experienced a drier than normal rainy season. This rain reduction clearly explains the severity of the present drought condition in Madagascar. After a prolonged period of precipitation above the average (from 2013 to 2017), the last five years, and in particular, the last two, shifted the cumulative values from surplus to a severe deficit where a series of sub-average rainy seasons cannot provide or restore the required buffer for the dry seasons.

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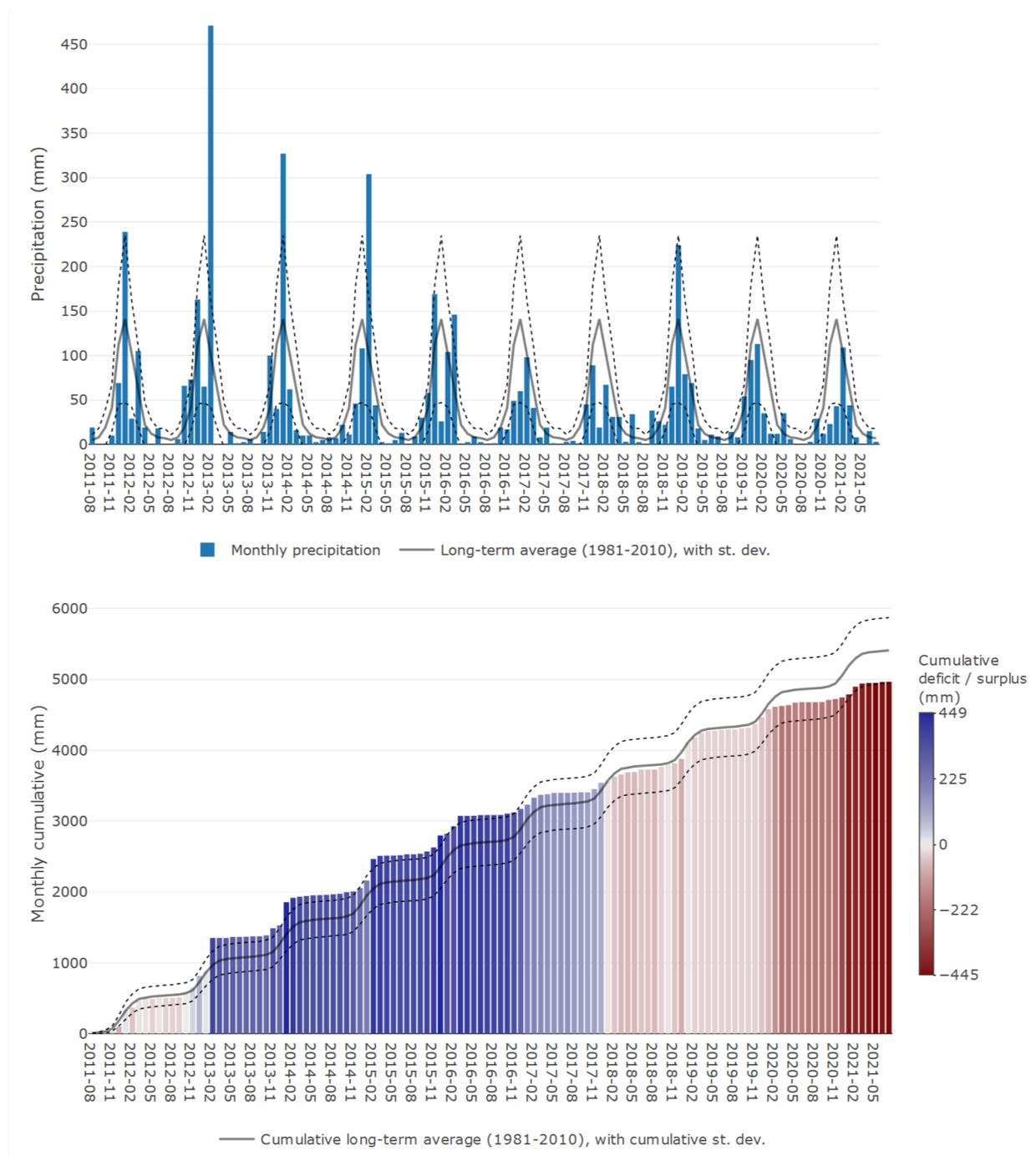


Figure 6: Monthly total (upper) and cumulative (lower) precipitation - evolution over time - Southern Madagascar (-23.9N, 44.4E) from August 2011 to July 2021

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Standardized Precipitation Index analysis over the last 40 years (Figure 7) for medium (6 months) and long (12 months) accumulation periods confirms that since 2016 the region is experiencing very dry conditions almost continuously with an outstanding duration if compared to the historical data.

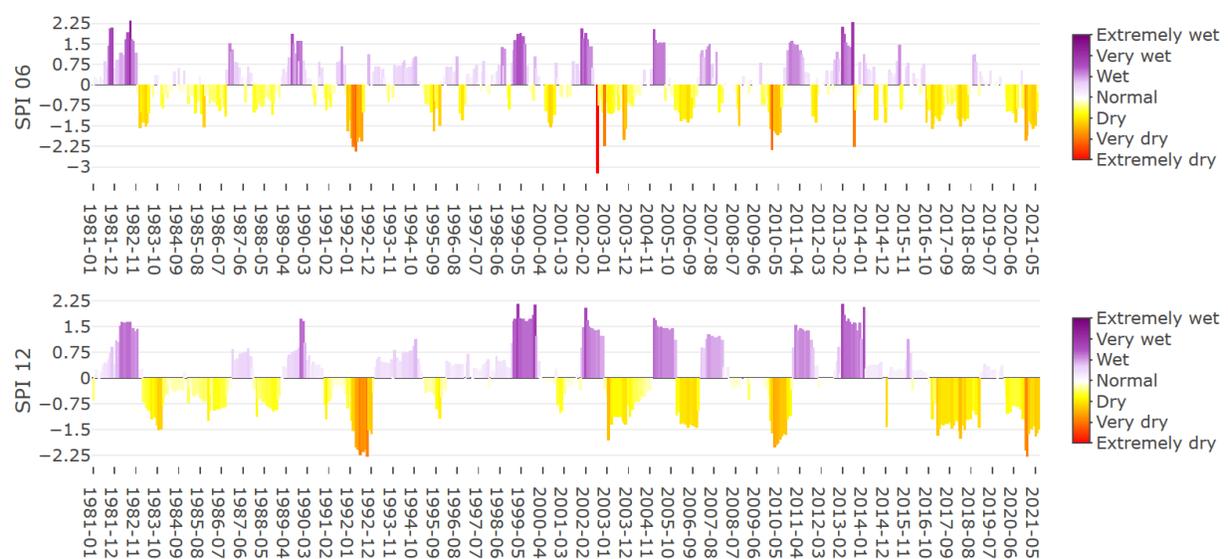


Figure 7: Standardized Precipitation Index (SPI-6 and SPI-12) evolution over time – Southern Madagascar from January 1981 to July 2021

Soil Moisture Anomaly (SMA) provides the same signal with very dry soil conditions in most of the country, mainly in January and February 2021, rising from the previous months (Figure 8). Afterwards, the anomaly is reduced, but only relatively to normally dry months without any possibility of soil moisture recovery. Moreover, in July the negative SMA is increasing in a large part of the country, giving a negative outlook.

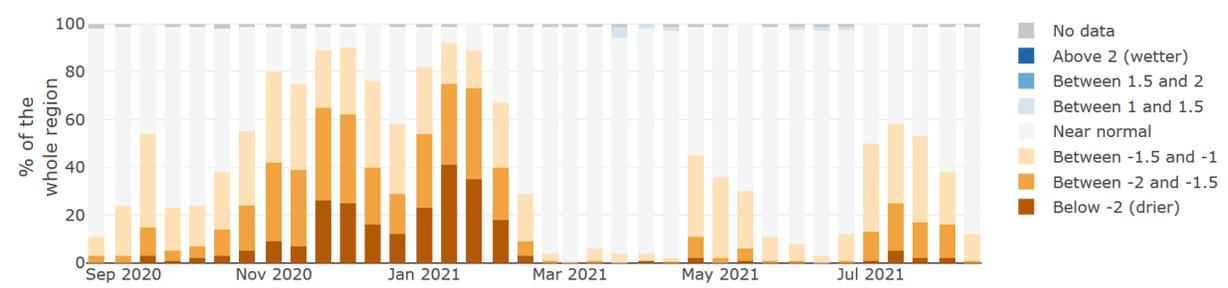


Figure 8: Soil Moisture Anomaly evolution over one year (August 2020 – August 2021) in Southern Madagascar (each column in the histogram refers to a 10 days step for a 30 days moving window average)

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A few maps of SMA in Madagascar depict well the drought severity and its change in time, featuring a severe negative anomaly in January 2021, a temporary improvement in March 2021 thanks to short rainfall, and finally worsening again from July 2021 (Figure 9).

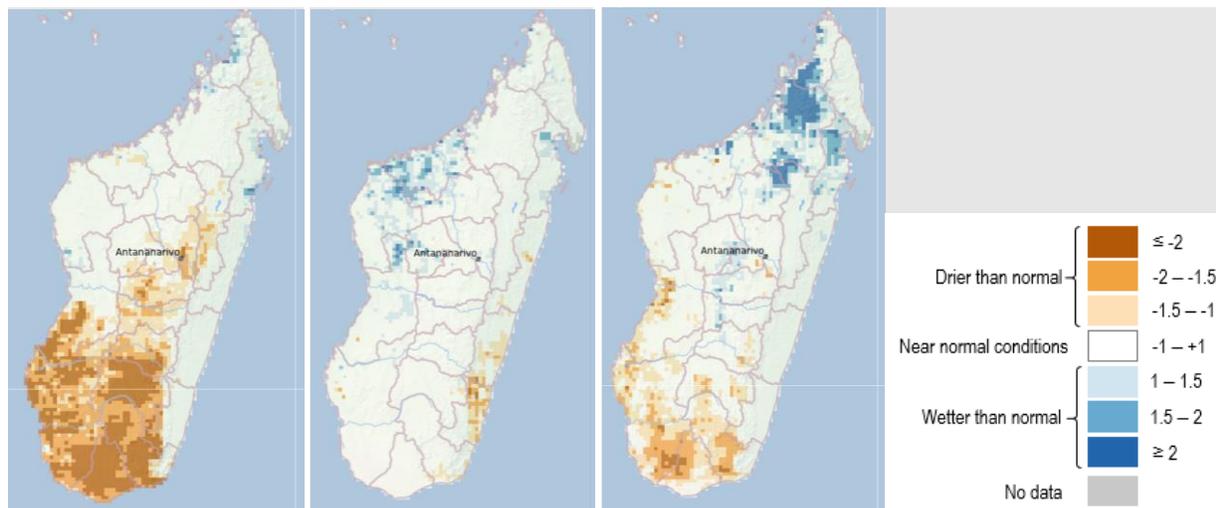


Figure 9: Soil Moisture Anomaly – 30 days up until the 20th of January 2021 (left), 30 days up until the 10th of March 2021 (central) and 30 days up until the 20th of July 2021 (right).

Vegetation conditions are monitored by fAPAR Anomaly. Here, a similar trend is outlined with the worst phase in January/February 2021, only partially recovered in the following months (Figure 10).

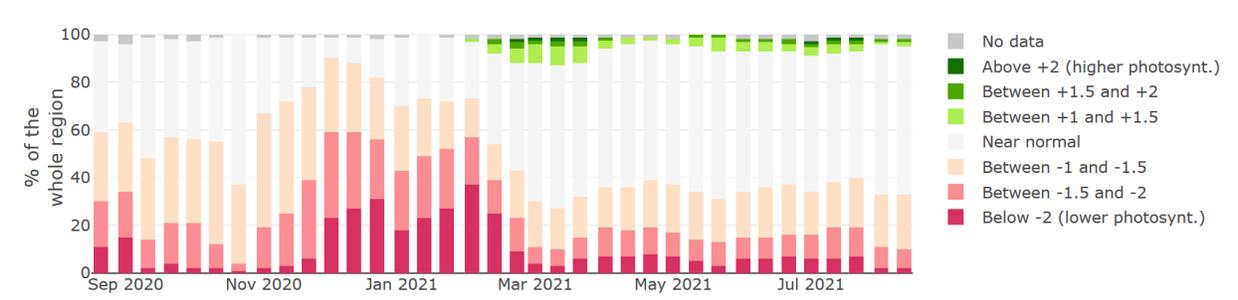


Figure 10: fAPAR evolution overtime in Southern Madagascar, from the 3rd 10-day period of August 2020 to the 2nd 10-day period of August 2021

Also, in this case, the spatial representation of these values in two relevant phases (January and July) shows how the recovery has been only partial, and the region is still prone to severe drought and even to a worsening of the current condition (Figure 11).

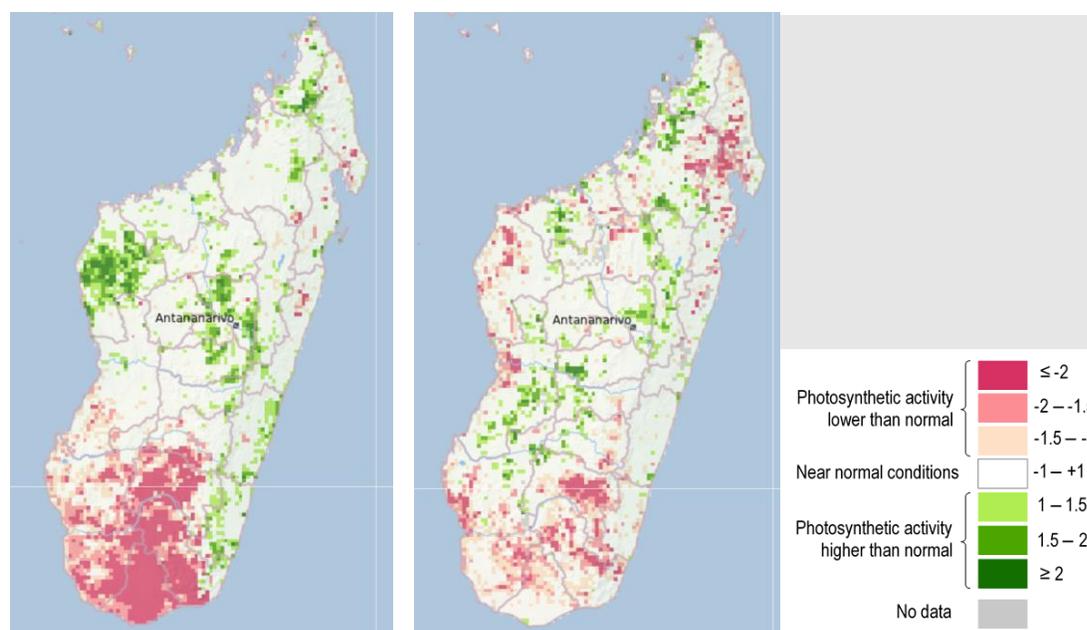


Figure 11: *fAPAR Anomaly – 2nd 10-day period of January 2021 (left) and 2nd 10-day period of July 2021 (right).*

Angola

In Angola something similar to Southern Madagascar is happening and the strongly reduced precipitation in the rainy months (November 2020 to April 2021) resulted in high values of the RDri-Agri (Figure 12). As a consequence, no significant recovery could be expected during the following dry season, even if the RDri-Agri improved somewhat. Also, in this case, the SPI-9 map (Figure 4) is catching the signal of the lack of precipitation better, as the longer accumulation period includes the rainy season.

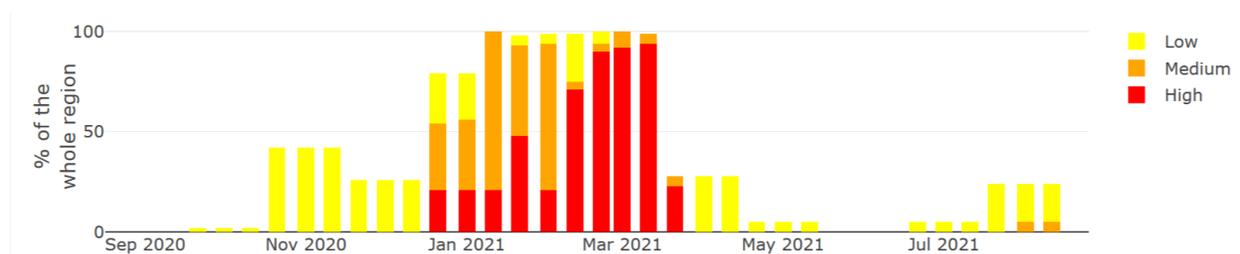


Figure 12: *Risk of Drought Impact for Agriculture (RDri-Agri) - evolution over time for Angola (coast zone) from the 3rd 10-day period of August 2020 to the 2nd 10-day period of August 2021*

This region features almost ten years annual precipitation amounts below the long-term average (1981-2010), cumulating the deficit year after year. In the last 3 or 4 years, precipitation has been

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especially reduced, reaching approximately only 20% of the yearly average and generating a severe cumulative deficit (Figure 13).

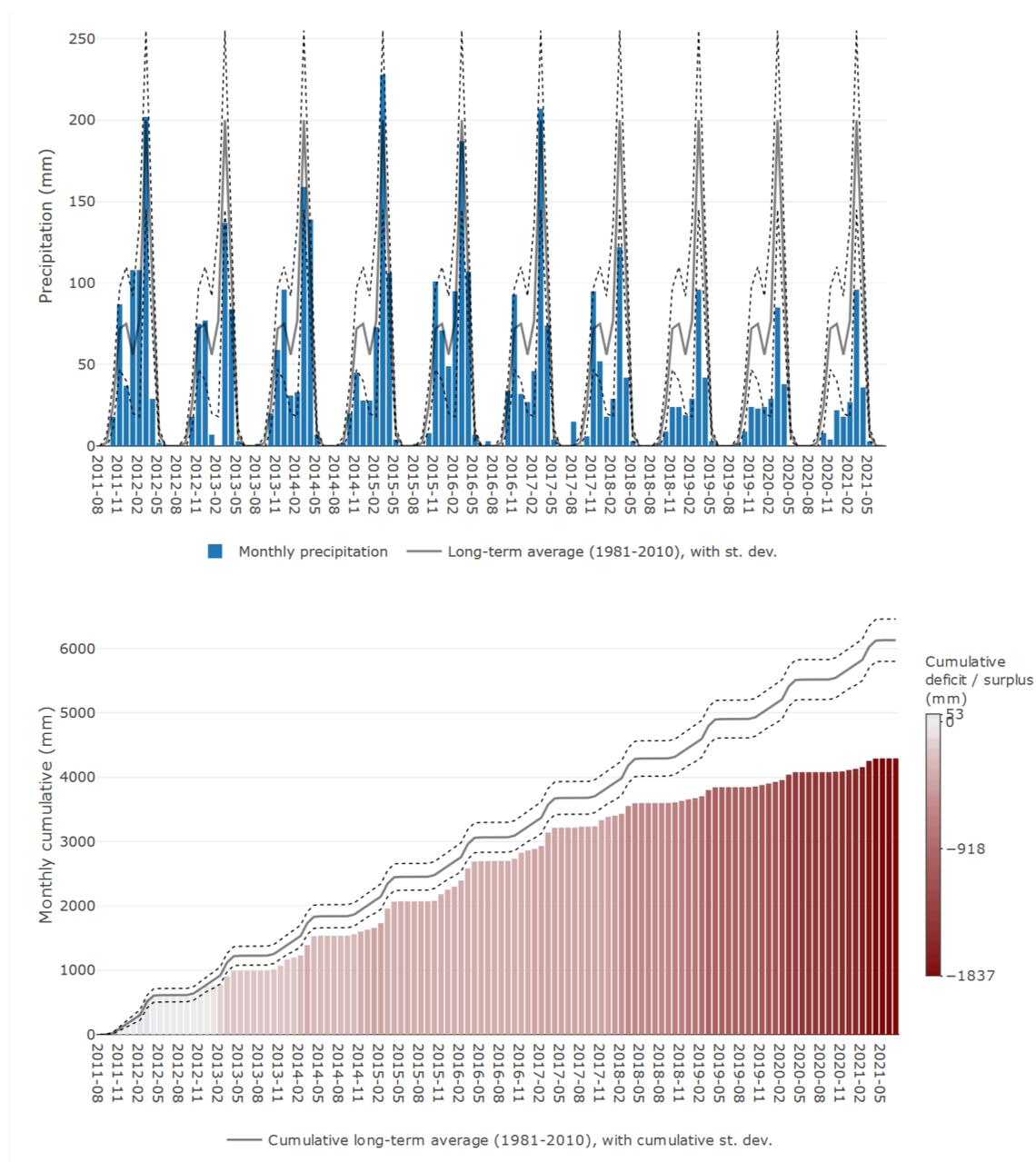


Figure 13: Monthly total (upper) and cumulative (lower) precipitation - evolution over time – Angola (Coast) (-13.1N, 12.8E) from August 2011 to July 2021

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Standardized Precipitation Index analysis over the last 40 years (Figure 14) for different accumulation periods (3, 6 and 12 months) confirms that since 2017 the region is experiencing extremely dry conditions almost continuously with an outstanding duration and magnitude if compared to the historical data. Such a large precipitation deficit will likely require a long period of time and adequate precipitation recharge to guarantee a full recovery.

Such an extreme condition, outlined by precipitation data and SPI analysis, could partially be due to an overestimation of the anomaly by the models or the data themselves. Different sources, showing negative SPI anomalies as well, do not confirm the magnitude of these values.²

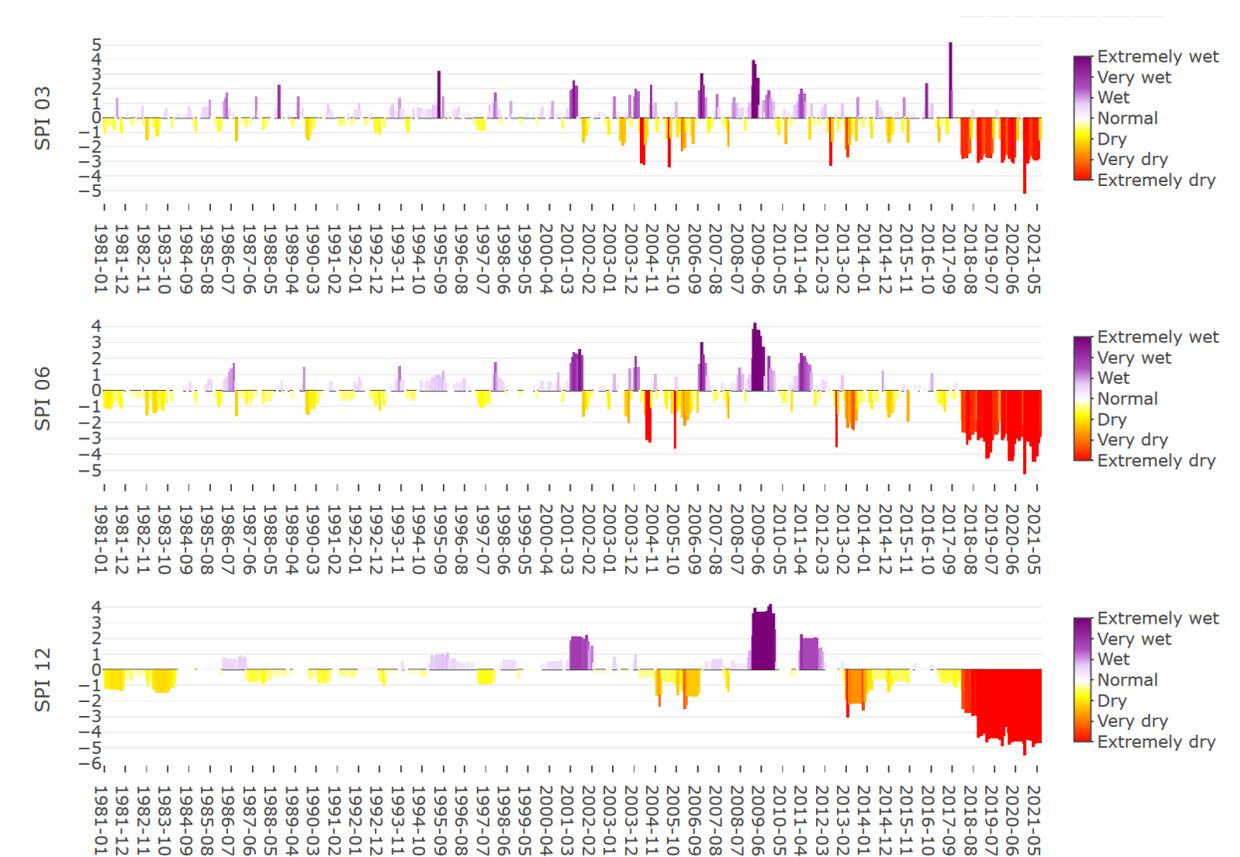


Figure 14: Standardized Precipitation Index (SPI-3, SPI-6, SPI-12) evolution over time – Angola (coast) from January 1981 to July 2021

² https://iridl.ldeo.columbia.edu/maproom/Global/Drought/Global/CPC_GOB/Analysis.html?SPiselect=SPI-GOBv0px1deg_12-Month&bbox=bb%3A-20%3A-40%3A55%3A40%3Abb®ion=bb%3A-20%3A-40%3A55%3A40%3Abb

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Soil Moisture Anomaly (SMA) provides the same signal of Madagascar (Figure 15) with very dry soil conditions, mainly from January to March 2021. Afterwards, the anomaly is reduced, but only relatively to normally dry months without any possibility of soil moisture recovery. Moreover, in July the negative SMA is newly rising, giving a negative outlook.

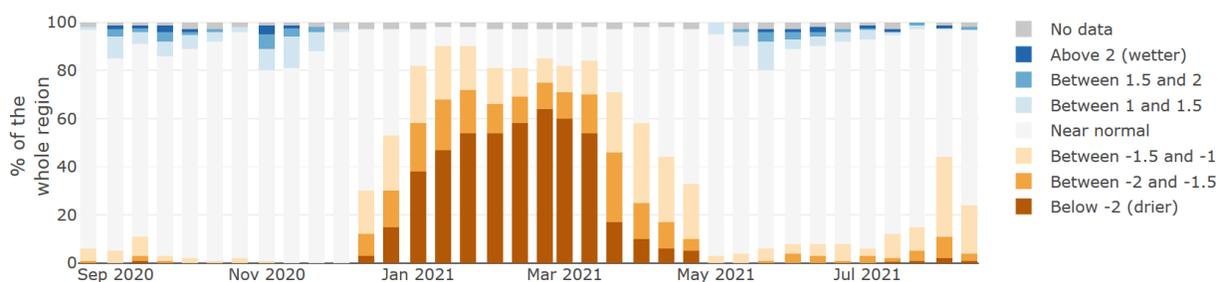
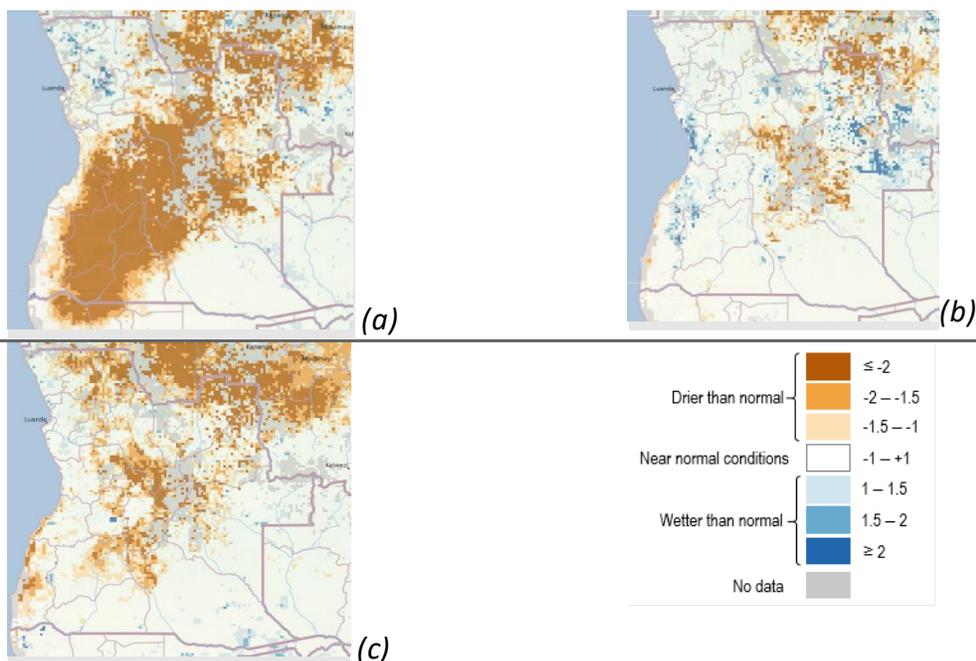


Figure 15: Soil Moisture Anomaly evolution over one year (August 2020 – August 2021) in Angola (coast) (each column in the histogram refers to a 10 days step for a 30 days moving window average).

A few maps of SMA in Angola depict well the drought severity and its change in time, featuring a severe negative anomaly in March 2021, a temporary improvement in May 2021 thanks to short rainfall, and finally worsening again in July 2021 (Figure 16).



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Figure 16: Soil Moisture Anomaly – 30 days up until the 10th of March 2021 (a), May 2021 (b), and 30 days up until the 10th of August 2021 (c).

Vegetation conditions are monitored by fAPAR Anomaly. Like soil moisture anomaly, the worst phase is outlined between January and May. Afterwards, the very positive values are most likely due to anticipated vegetation growth and development. The initial worsening of soil moisture condition could lead to new suffering conditions for vegetation (Figure 17)

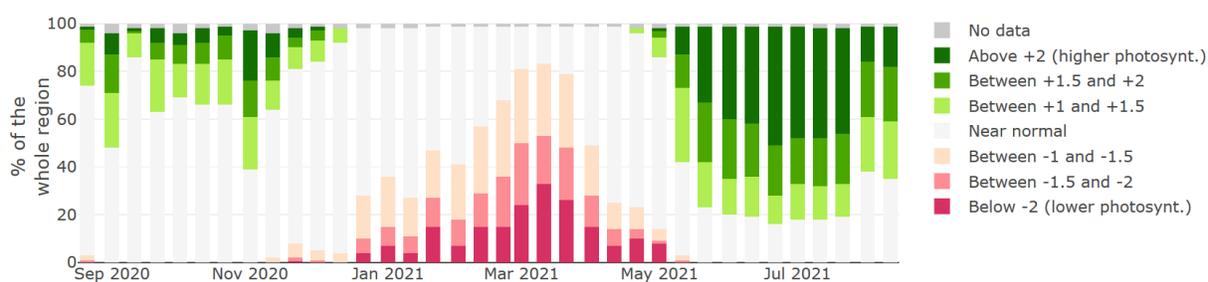


Figure 17: fAPAR evolution over time in Angola (coast), from the 3rd 10-day period of August 2020 to the 2nd 10-day period of August 2021

The peak, in terms of spatial extent and severity, for vegetation condition was reached in the first 10-day period of May (Figure 18).

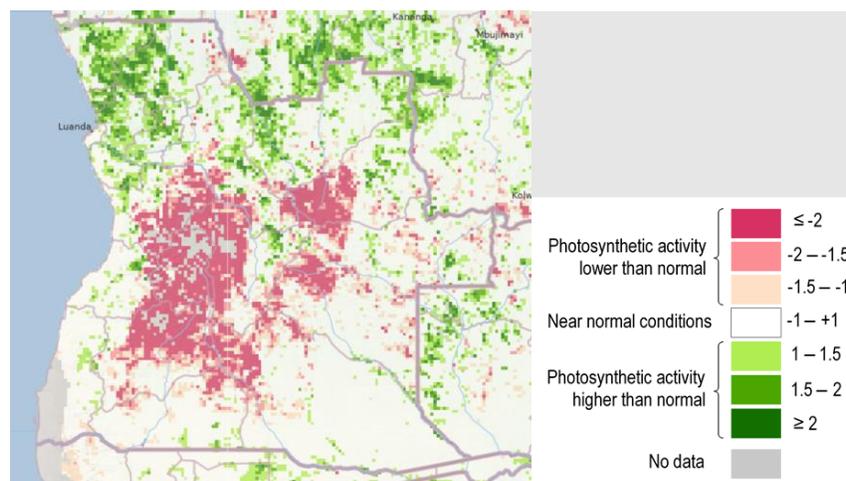


Figure 18: fAPAR Anomaly – 1st 10-day period of May 2021.

Nigeria

Nigeria in August is in the middle of the rainy season. From September 2020 to April 2021 there is no critical drought evidence and RDri-Agri has been quite regularly low. In May 2021 an abrupt rise of the risk indicator (Figure 19) happened and since then it has remained consistently on high and medium values. Potentially, it could be the beginning of a critical situation quite similar to the situation in Angola, with a temporal shift of a few months due to the different climatic region.

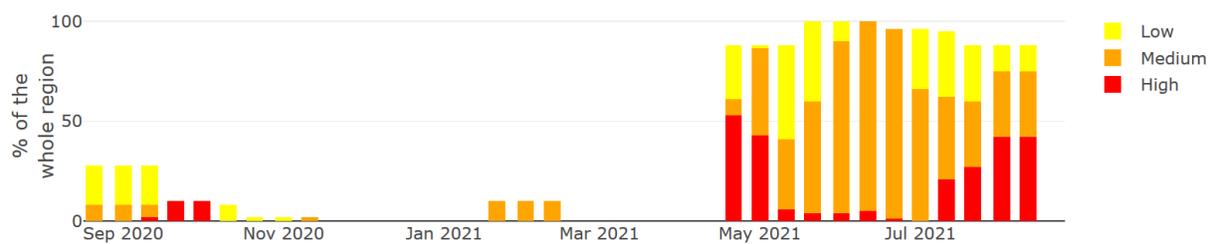


Figure 19: Risk of Drought Impact for Agriculture (RDri-Agri) - evolution over time for Nigeria (central Western) from the 3rd 10-day period of August 2020 to the 2nd 10-day period of August 2021

Analyzing more in detail the precipitation pattern it is clearly visible that for 2021 the beginning of the rainy season has been almost completely missed (Figure 20). May to July precipitation data are far below the average. Even coming from a quite wet couple of years, this condition could lay the basis for a severe drought in the next months.

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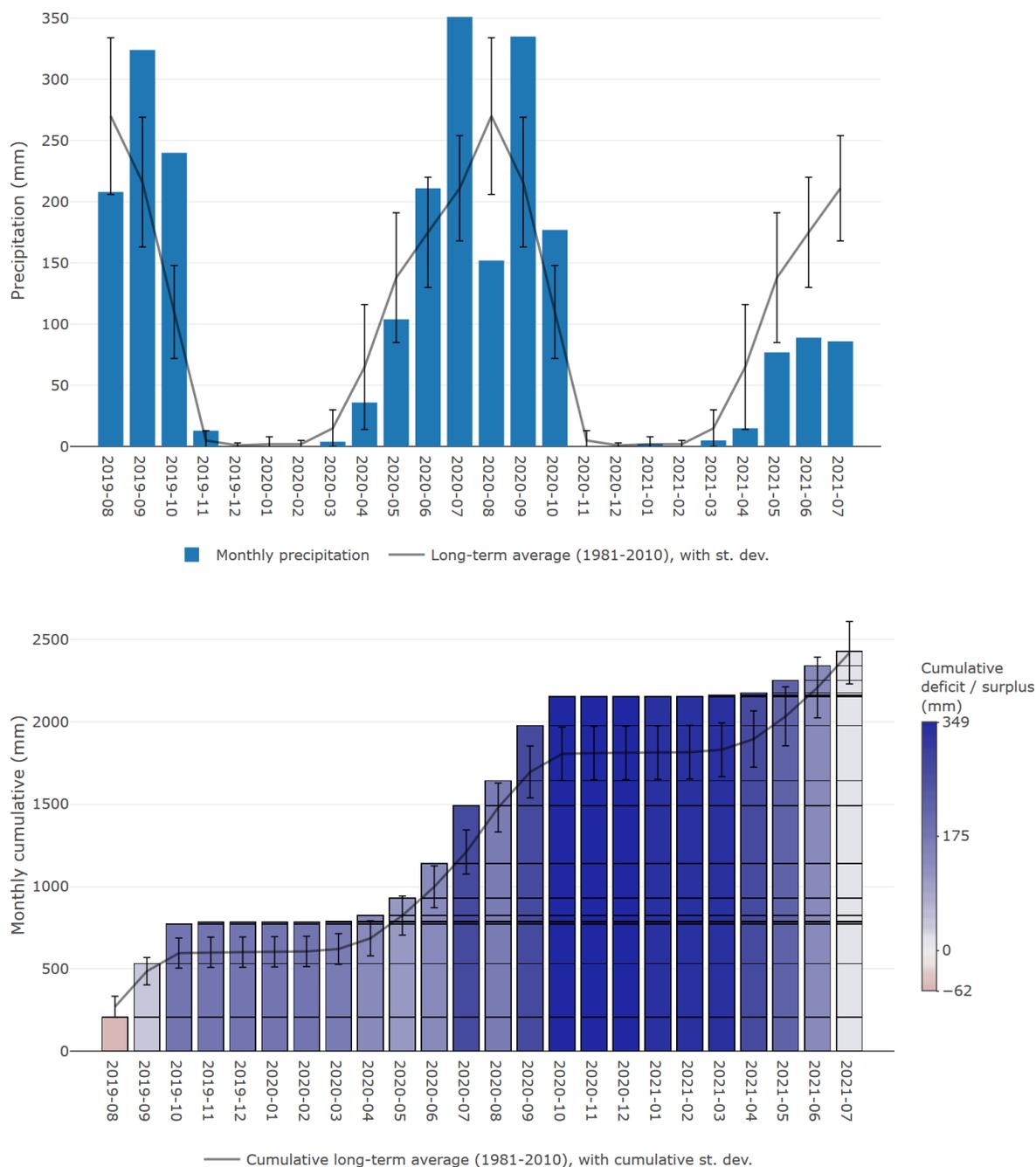


Figure 20: Monthly total (upper) and cumulative (lower) precipitation - evolution over time – Nigeria (central Western) (9.1N, 6.7E) from August 2019 to July 2021

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In this case, considering the initial and potential status of the drought, SPI analysis has been focused on short-medium accumulation periods (Figure 21) as the longer ones would have flattened the signal within the previous wet period. The months from April to July feature very dry or extremely dry conditions highlighting the missing precipitation at the beginning of the rainy season. The evolution relies entirely on the last months of the rainy season, but a negative outcome may be a distinct possibility.



Figure 21: Standardized Precipitation Index (SPI-3, SPI-6) evolution over time – Nigeria (central Western) from August 2018 to July 2021

In this region and for this period Soil Moisture Anomaly is affected by missing data for quite a large extent and duration, mainly due to the unreliability of earth observation data (Figure 22).

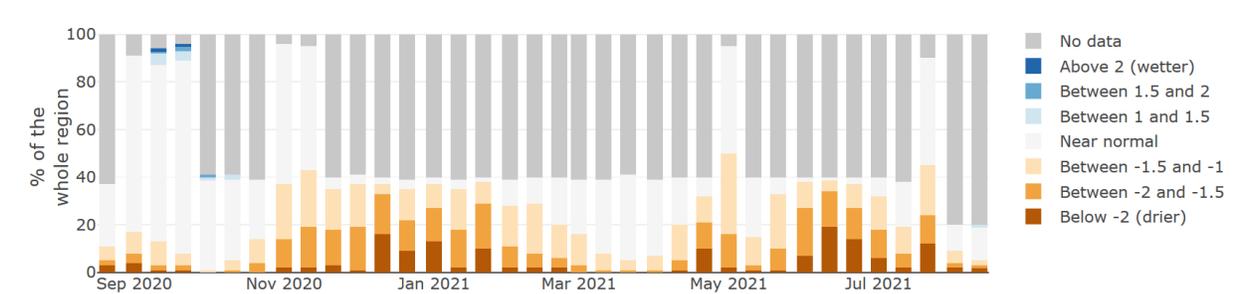


Figure 22: Soil Moisture Anomaly evolution over one year (August 2020 – August 2021) in Nigeria (central Western) (each column in the histogram refers to a 10 days step for a 30 days moving window average).

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According to the data, June 2021 appears to be the worst period in terms of SMA in Nigeria. The map (Figure 23) shows severe dry conditions for a large extent mainly in the country's central belt.

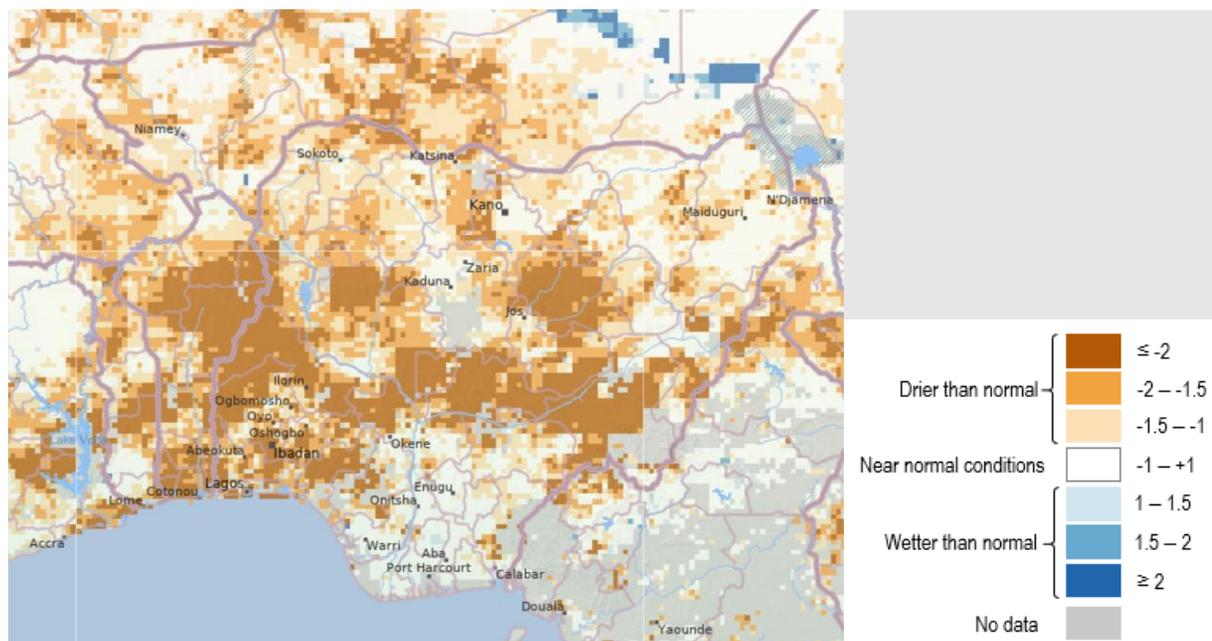


Figure 23: Soil Moisture Anomaly – 30 days up until the 10th of June 2021.

fAPAR Anomaly data indicate a certain spatial and temporal variability with a patchwork of affected, normal and healthy areas of vegetation. In particular at the end of July and in the first part of August, at the end of the monitored period, a significant general deterioration is visible (Figure 24), confirmed on a wider extent also by the map of Figure 25.

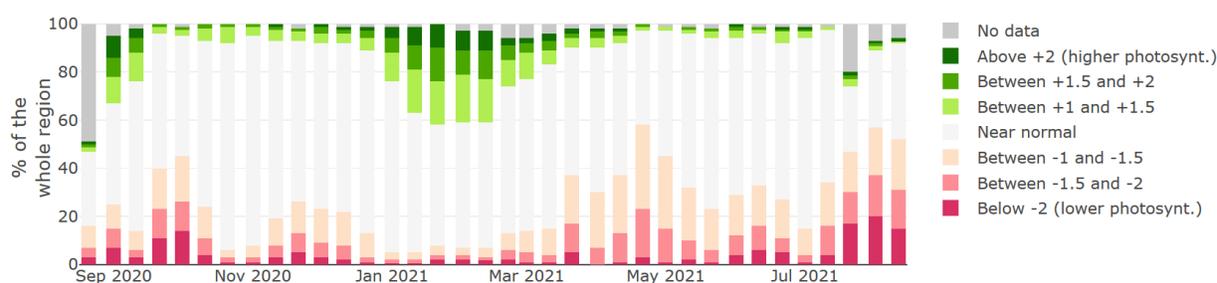


Figure 24: fAPAR Anomaly evolution over time in Nigeria (central Western), from the 3rd 10-day period of August 2020 to the 2nd 10-day period of August 2021.

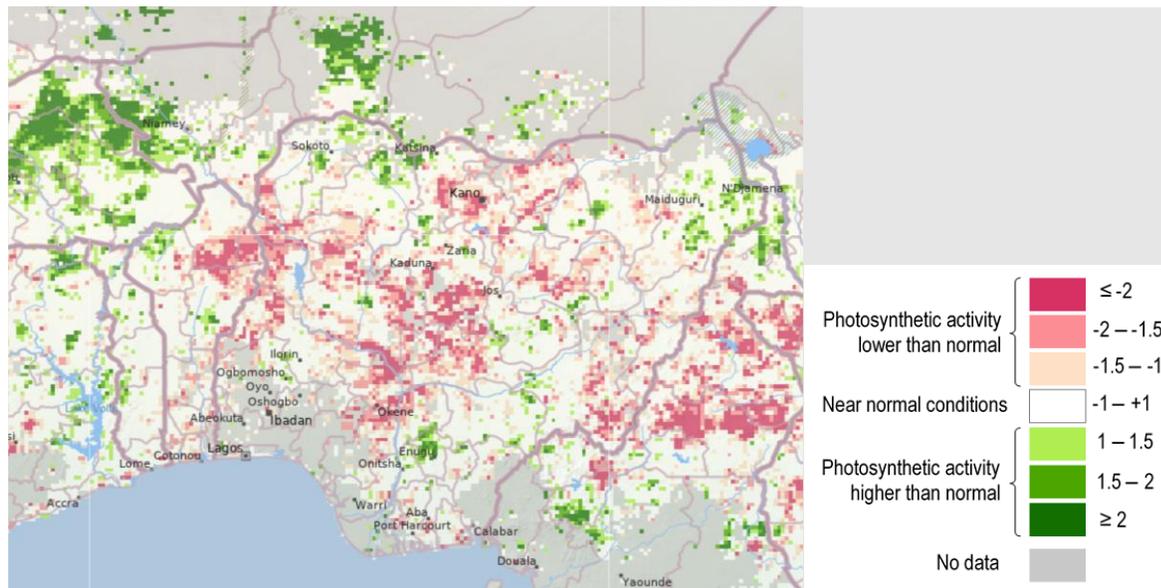


Figure 25: *fAPAR Anomaly – 2nd 10-day period of August 2021.*

Kenya and Southern Somalia (coast)

In the coastal regions of Kenya and Southern Somalia RDri-Agri started to rise already in April and now it features high values (Figure 26).

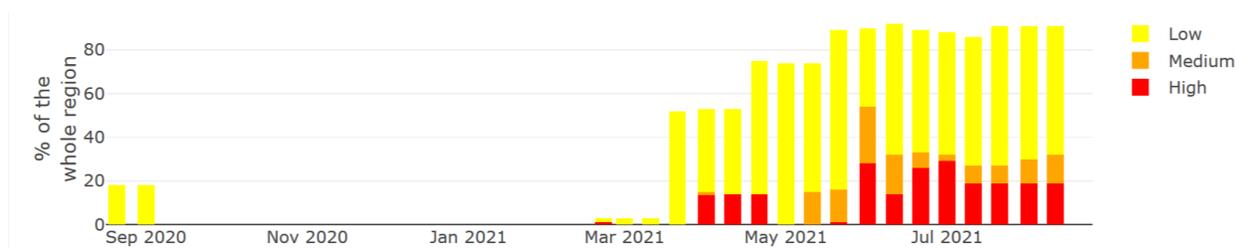


Figure 26: *Risk of Drought Impact for Agriculture (RDri-Agri) - evolution over time for Kenya (coastal zone) from the 3rd 10-day period of August 2020 to the 2nd 10-day period of August 2021.*

According to the long-term average, these regions experience a bimodal rainfall pattern, with two peaks (May and November), and two minimums (August and February). Coming from wetter than or close to the average precipitation seasons, the last wet season has been almost completely missed with very low precipitations from March to July 2021 (Figure 27). The strong reduction results into a relevant lack of precipitation for the last months.

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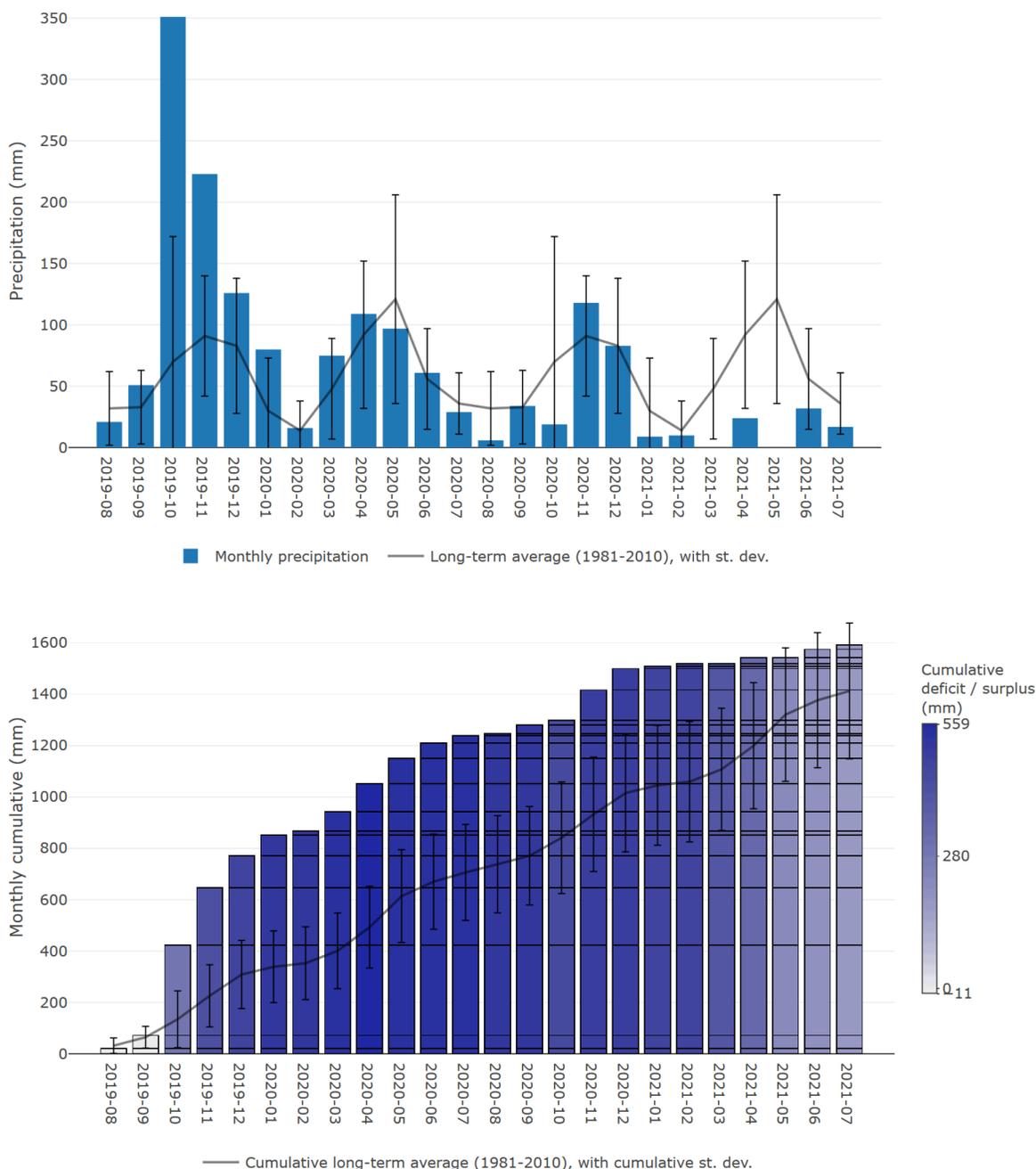


Figure 27: Monthly total (upper) and cumulative (lower) precipitation - evolution over time – Kenya (coastal zone) (-3.2N, 39.2E) from August 2019 to July 2021.

Considering the initial status of the drought, SPI analysis focuses on short-medium accumulation periods (Figure 28). In these terms, the months from March to July feature very dry conditions, highlighting the low precipitation for the last rainy season. The further evolution will depend on the next rainy season, from October 2021 to January 2022, but in case of a continuation of this reduction, an outcome similar to the ones previously described could occur.

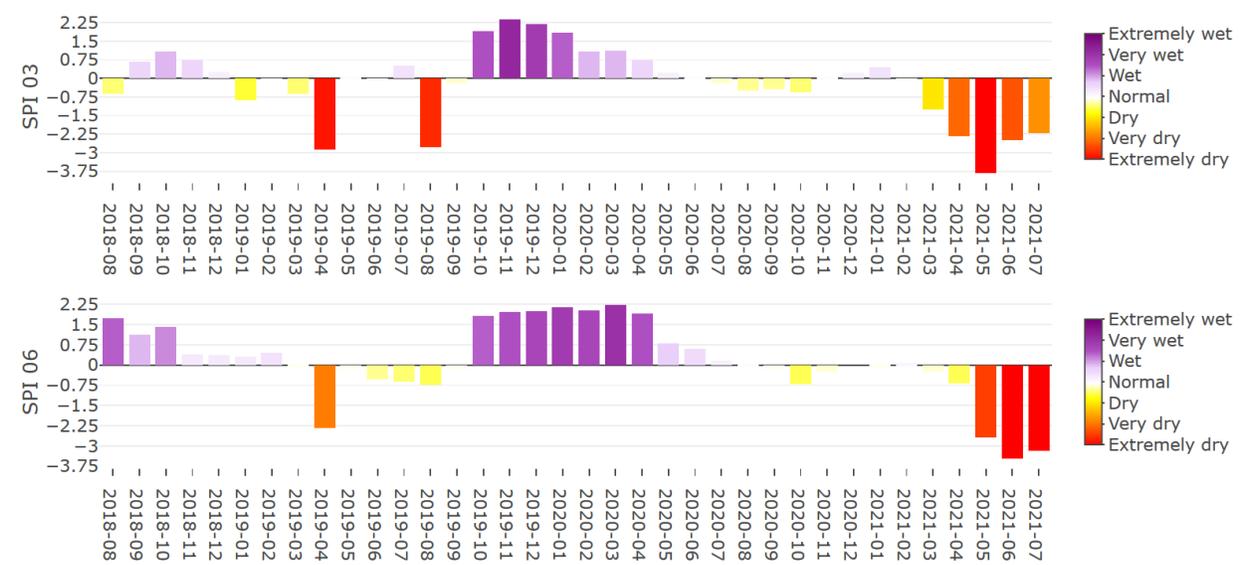


Figure 28: Standardized Precipitation Index (SPI-3, SPI-6) evolution over time – Kenya (coastal zone) from August 2018 to July 2021

Soil Moisture Anomaly analysis is regularly following the trend driven by a lack of precipitation. An increase of severity and extent of the dry areas is observed (Figure 29) for the coastal zone of Kenya. With no precipitation at all, March and May 2021 triggered this drought, and the small precipitation amounts of June and July 2021, far below the average, could not fully recover the soil moisture.

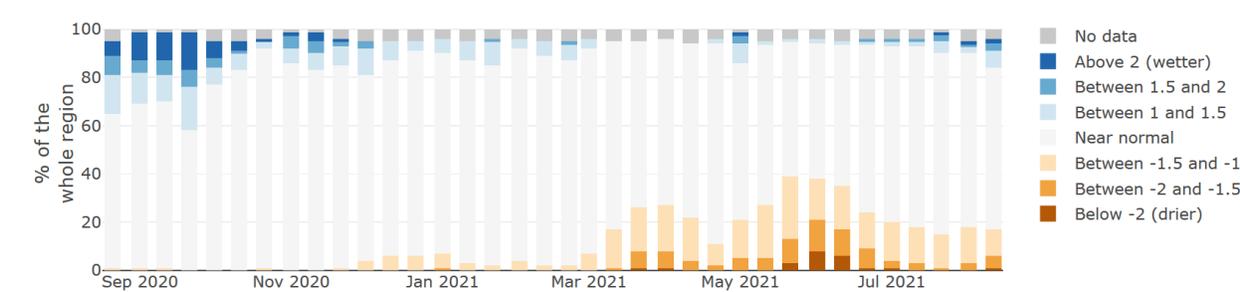


Figure 29: Soil Moisture Anomaly evolution over one year (August 2020 – August 2021) in Kenya (coastal zone) (each column in the histogram refers to a 10 days step for a 30 days moving window average).

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Relevant drier than normal conditions spread over the Kenyan and Southern Somalian coasts (Figure 30) and these regions have only partially recovered at present. But only at the beginning of the next wet season in October 2021, after the current dry period, it will be possible to understand the outcome of this potentially harmful drought.

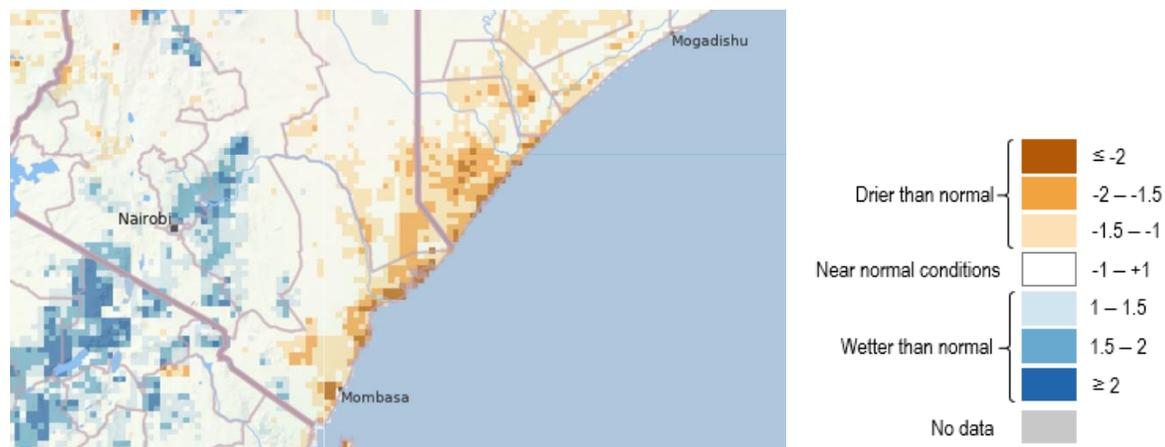


Figure 30: Soil Moisture Anomaly – 30 days up until the 20th of June 2021.

Vegetation response, in this case, is following approximately the same pattern as Soil Moisture Anomaly, with a general worsening from May 2021 to present time (Figure 31).

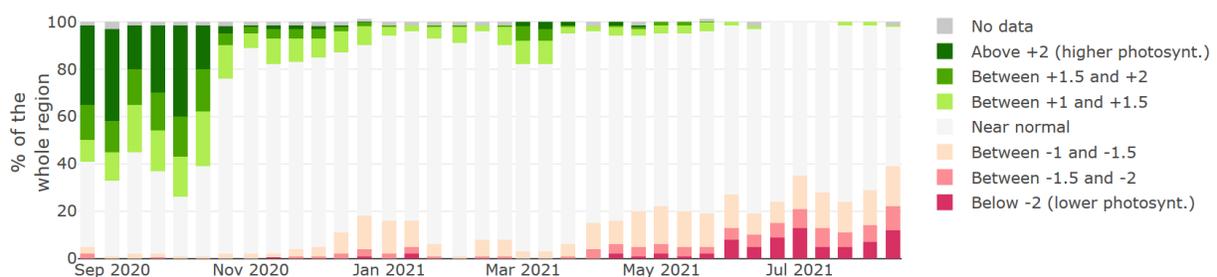


Figure 31: fAPAR Anomaly evolution over time in Kenya (coastal zone), from the 3rd 10-day period of August 2020 to the 2nd 10-day period of August 2021

At the second 10-day period of August 2021 vegetation is affected over the whole coastal area with the impact partially extending inland (Figure 32).

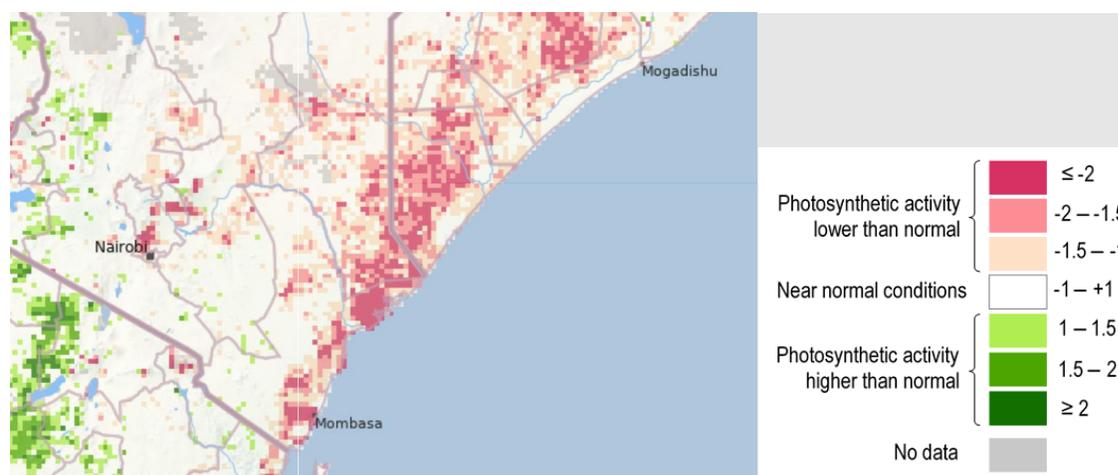


Figure 32: fAPAR Anomaly – 2nd 10-day period of August 2021.

Zambia

The last presented case in this report is climatically characterised by only one intense rainy season, lasting approximately from October to April. What it is happening appears similar (with different timing) to the Nigerian case described above, but at present with a smaller intensity and a wider extent.

From March 2021 RDri-Agri is widespread at low level in the considered regions, with some spots showing “medium” risk values. (Figure 33).

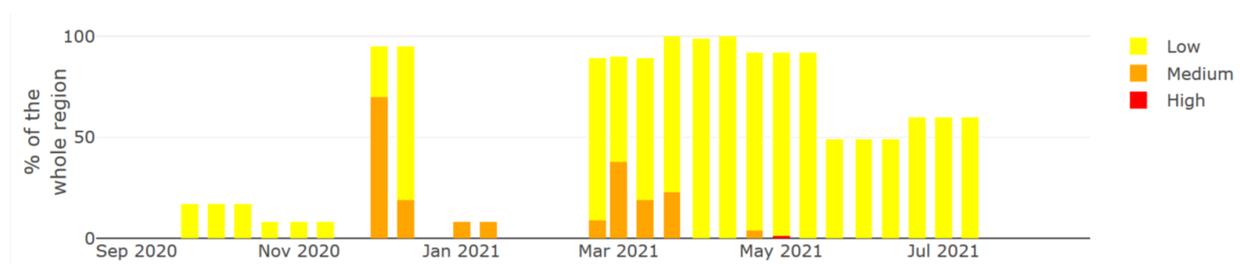


Figure 33: Risk of Drought Impact for Agriculture (RDri-Agri) - evolution over time for Zambia (northwestern) from the 3rd 10-day period of August 2020 to the 2nd 10-day period of August 2021

Even if RDri-Agri values do not currently highlight an emergency, looking at the SPI-9 map (Figure 4) the magnitude and the spatial extent of the precipitation deficit is clear.

Precipitation from 2016 to 2020 are just slightly below the average and the cumulated deficit is not relevant, but the latest rainy season (from October 2020 to April 2021) has been characterized

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by low (sparse) precipitation, less than half of the average, producing a severe precipitation deficit with no immediate recovery possibility, as now the region is in the dry season (Figure 34).

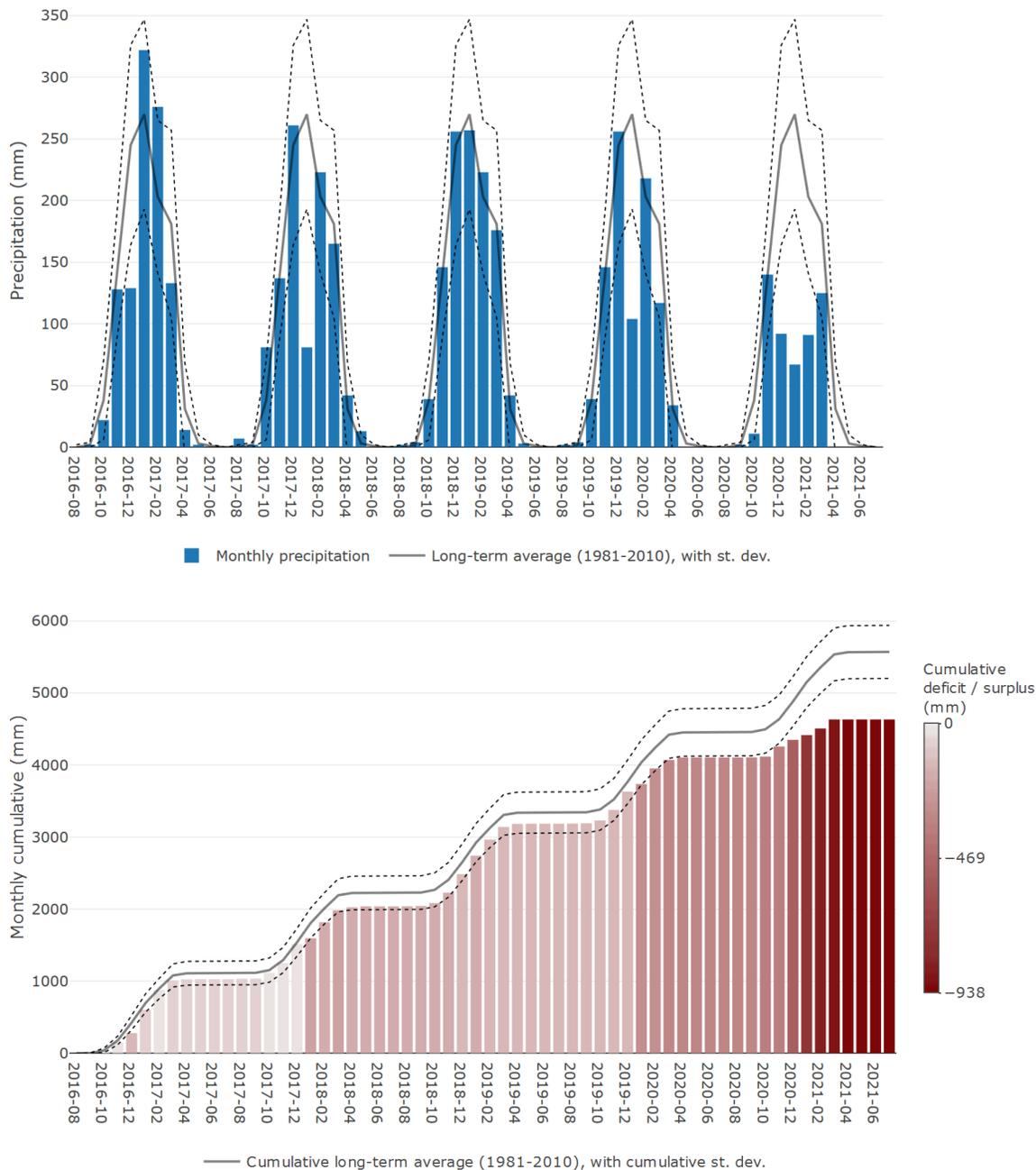


Figure 34: Monthly total (upper) and cumulative (lower) precipitation - evolution over time – Zambia (north Western) (-13.9N, 26.2E) from August 2019 to July 2021

Standardized Precipitation Index analysis over the last 20 years (Figure 35) for different accumulation periods (3, 6 and 12 months) confirm that in the last year the region is experiencing extremely dry conditions. The main cause is the nearly complete failure of the latest rainy season, with an exceptional dryness magnitude compared to the historical data. Such a precipitation deficit will require a larger than normal precipitation recharge to guarantee a proper recovery in the next rainy season, or otherwise risk carrying over the current drought to future seasons, as is currently also observed in the Madagascar and Angola cases.

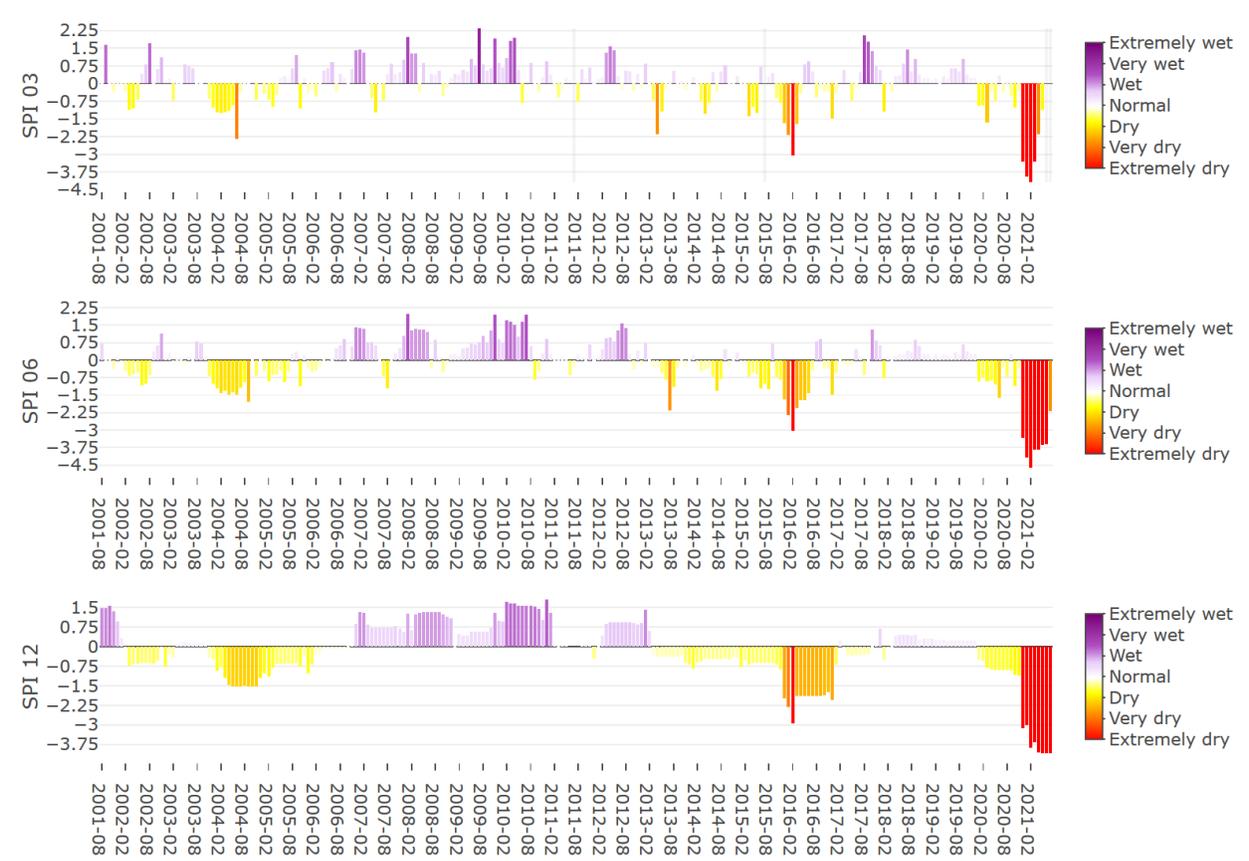


Figure 35: Standardized Precipitation Index (SPI-3, SPI-6, SPI-12) evolution over time – Zambia (north Western) from August 2001 to July 2021

Soil Moisture Anomaly is still not featuring critically dry conditions and the scant precipitation amounts appeared enough to keep soil around the normal conditions (Figure 36).

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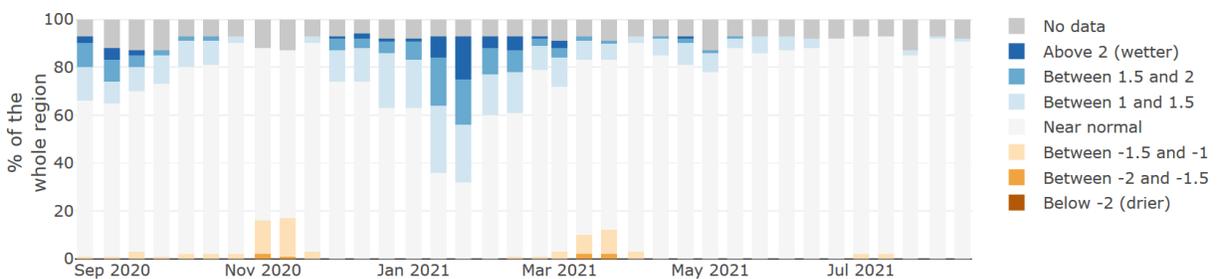


Figure 36: Soil Moisture Anomaly evolution over one year (August 2020 – August 2021) in Zambia (northwestern) (each column in the histogram refers to a 10-day step for a 30-day moving window average).

Vegetation response is monitored by fAPAR Anomaly. Here the worst phase is from December 2020 to April 2021. Afterwards, the reduction of negative values in favor of positive ones are most likely related to an anticipated vegetation growth and development. Vegetation response seems neutral to this initial drought phase (Figure 37).

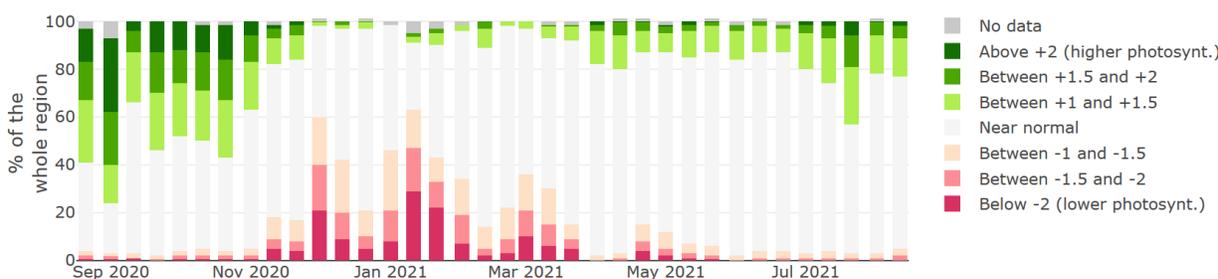


Figure 37: fAPAR Anomaly evolution over time in Zambia (north Western), from the 3rd 10-day period of August 2020 to the 2nd 10-day period of August 2021.

Indicator for forecasting unusually wet and dry conditions

According to the modeled Indicator for forecasting unusually wet and dry conditions (Figure 38), different forecasts are expected for the months from August to October 2021. In particular a long belt from Ivory Coast to the northern part of the Guinea Gulf and then to Kenya across the Congo basin is going to be under unusually wet conditions as well as Zimbabwe and part of Zambia.

The eastern coast, including Southern Somalia, Kenya and Tanzania is expected to have unusually dry conditions.

Analysing forecasts more in detail for the five areas presented in this report, in Southern Madagascar, Angola and Zambia the foreseen normal or even wetter conditions are not so meaningful for recovery, because these regions are in a normally dry season for the time interval

covered by forecasts. Therefore, the relative positive anomaly could be not enough in absolute terms to fill the accumulated deficits. Kenya and Somalia are in a quite dry period of the year: the dry forecast is an important signal to keep the region under close monitoring in the coming months, because of the high vulnerability and food security issues. Critical dry conditions expected for the last trimester of 2021 are confirmed by IGAD ICPAC, as depicted in their rainfall forecast.³ Finally, only in Nigeria the wetter forecast in a normally wet season could lead to a partial recovery from the drought at its initial stage, even if the severity of the wetter condition forecasted could also increase flood risk for that area.

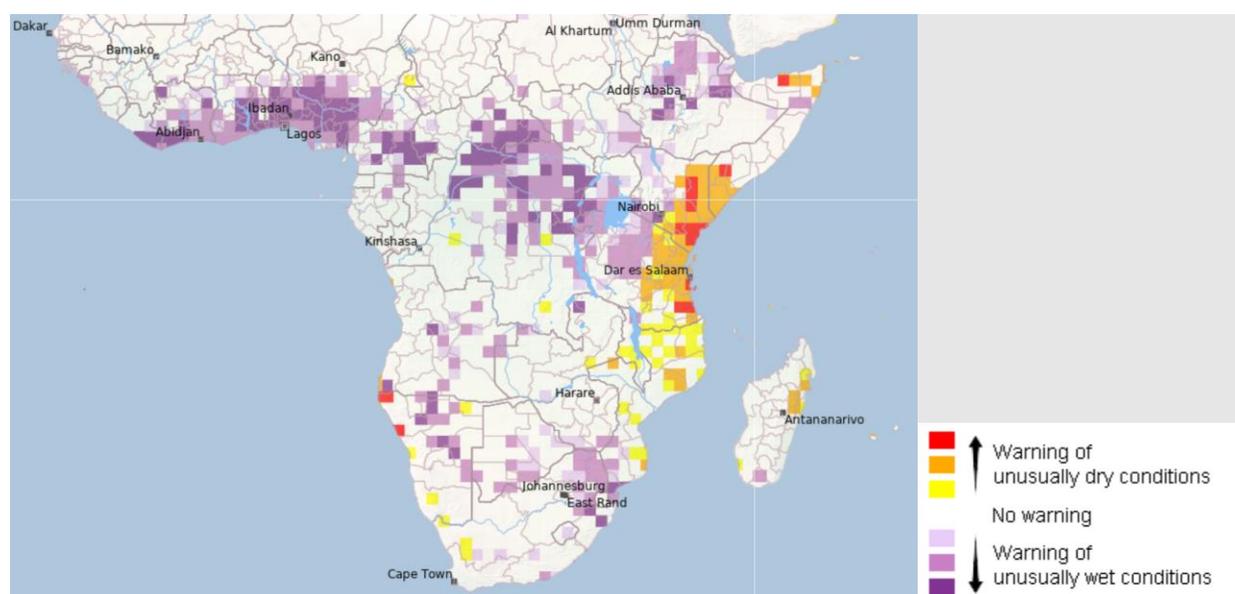


Figure 38: Indicator for forecasting unusually wet and dry conditions for 3 months, August to October 2021.

Fire Danger Forecast⁴

With the only exception of Nigeria, most of the regions analysed in the present report are affected by severe levels of fire danger (Figure 39), contributing to worsen the impact risk related to drought.

³ <https://www.icpac.net/seasonal-forecast/>

⁴ Source: JRC Global Wildfire Information System - https://gwis.jrc.ec.europa.eu/apps/gwis_current_situation/

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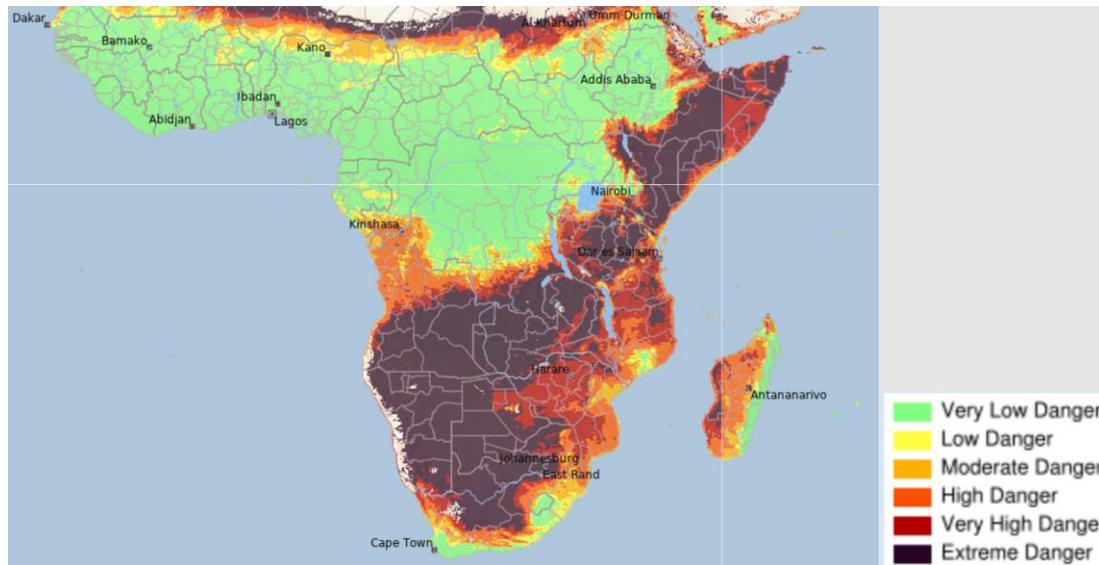


Figure 39: Fire danger forecast for 1st of September 2021 expressed by the Fire Weather Index issued on 25th of August 2021. Source: Global Wildfire Information System, GWIS.

Reported impacts

Considering the initial status of the drought for the areas of Nigeria, Kenya and Southern Somalia (coast) and Zambia, their impact analysis is postponed to a possible follow-up report according to the actual development of the drought.

It is worth remarking the major concerns for Nigeria, where the conflict-affected areas of the northeast of the country are already in famine Emergency Phase (IPC Phase 4), according to FEWSNET (Famine Early Warning System Network)^{5,6}. In Kenya, conditions of acute food insecurity are already reported⁷.

Below are outlined the impacts overview for the two ongoing droughts in Southern Madagascar and Angola.

Madagascar

⁵ <https://fews.net/west-africa/nigeria>

⁶ <https://reliefweb.int/report/nigeria/nigeria-key-message-update-emergency-ipc-phase-4-outcomes-persist-worst-conflict>

⁷ http://www.xinhuanet.com/english/africa/2021-08/17/c_1310132786.htm

Drought impacts in Southern Madagascar are widespread and severe, with 1,31 million persons targeted by humanitarian aid and agricultural losses up to 60% in the most populated provinces of the Grand South (Amboasary, Ambovombe et Ampanihy).

The UN Resident Coordinator in Madagascar visited the southern provinces during summer 2021 and reported food insecurity⁸, due to this long-lasting drought and the consequent crop failure, exacerbated by locusts and pests (army worms) outbreaks, sandstorms which silted up fields, rising of food prices, and COVID-19 pandemic, as stated by FAO (“southern regions of the Republic of Madagascar are currently facing a severe food insecurity and malnutrition crisis due to multiple shocks”) and IPC (Integrated Food Security Phase Classification⁹, registering “high levels of acute food insecurity (IPC Phase 3 or above) due to insufficient rainfall, rising food prices and sandstorms”) ¹⁰.

As an example, in the town of Amboasary Atsimo the majority of the population is facing severe hunger, with nearly 14,000 people in catastrophic conditions (IPC Phase 5), “affected by extreme lack of food and basic services, even with full employment of coping strategies”. Social impacts driven by this humanitarian crisis also occur: increasing school dropouts, a rise in gender-based violence and child abuse, and internal migrations from rural to urban areas with the hope of having access to water and basic services¹¹. Episodes of cattle rustle are also reported, as well as extreme survival food surrogates like locusts, raw cactus fruits or wild leaves¹². Many initiatives of humanitarian aid are in place by several international bodies, to face malnutrition, health issues, inextinguishable debts, access to clean water, purchase of seeds for plantation.

Due to the long duration of the drought and the incoming lean season, the population will face growing food insecurity, with no relief from the humanitarian crisis. A Flash Appeal by OCHA was revised to collect new funds¹³.

Angola

In Angola, the persistent drought aggravated the conditions of population further. Millions of Angolans are food insecure, with an estimated 3.81 million people without sufficient food

⁸ <https://www.maravipost.com/climate-change-and-hunger-in-madagascar-a-un-resident-coordinator-blog/>

⁹ <http://www.ipcinfo.org/ipcinfo-website/ipc-overview-and-classification-system/en/>

¹⁰ <https://www.thewhig.com/opinion/columnists/climate-and-covid-causing-food-insecurity-in-madagascar>

¹¹

https://reliefweb.int/sites/reliefweb.int/files/resources/Madagascar_20210827_GrandSud_HumanitarianSnapshot%20%281%29.pdf

¹² <https://www.businesslive.co.za/bd/world/africa/2021-08-23-scores-face-starvation-in-madagascar-amid-worst-drought-since-1981/>

¹³ <https://reliefweb.int/report/madagascar/madagascar-grand-sud-flash-appeal-january-2021-may-2022-revised-june-2021>

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consumption since January 2021, in the six southern provinces of the country (Cunene, Huíla, Namibe, Huambo, Benguela and Cuanza Sul)^{14 15}. The figure increased by 138 per cent compared to 1.6 million people who faced food insecurity in 2020.

Provincial education authorities in June 2021 suggest that 8.3% of students in Namibe, 20.1% of students in Huíla, and 69.1% of students in Cunene have experienced reduced access to schools due to the drought, specifically because of the lack of food and access to water made it difficult for many children to attend.

Water quality is unsafe in many areas. People have to walk long distances to find water and food, for which they have to compete with wildlife¹⁶. Risk of starvation is reported from Malanje province too, where governmental sources reportedly flagged as much as 70% of crops affected by drought. As a consequence, food prices soared. The coping capacity of the poorest communities is negligible¹⁷. As food and water grow increasingly scarce, thousands have fled their homes and sought refuge in neighboring Namibia. The drought has torn through traditional communities who had been struggling to survive since they were dispossessed of vast swathes of grazing land years ago¹⁸.

Angola's government recently started building three water projects in the provinces of Cunene and Huíla to contrast future droughts, as well as support from international organization is being provided to build resilience against natural hazard, including drought¹⁹.

Data source: GDO indicators are available for download at <https://edo.jrc.ec.europa.eu/download> (details on versions of indicators included).

Distribution:

¹⁴ <https://reliefweb.int/report/angola/unicef-angola-humanitarian-situation-report-no1-period-1-january-30-june-2021>

¹⁵ <https://www.dw.com/pt-002/cuando-cubango-mais-de-200-casos-de-desnutri%C3%A7%C3%A3o-grave-gera-alerta/a-57826785>

¹⁶ <https://www.africanews.com/2021/07/25/drought-stricken-southern-angola-battles-food-water-shortages/>

¹⁷ <https://www.dw.com/pt-002/angola-estiagem-gera-alerta-para-fome-na-prov%C3%ADncia-de-malanje/a-58955913>

¹⁸ <https://reliefweb.int/report/angola/end-cattle-s-paradise-severe-drought-and-food-insecurity-southern-angola>

¹⁹ <https://farmersreviewafrica.com/us-150m-granted-for-family-farming-in-angola/>

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For use by the ERCC and related partners, and publicly available for download at GDO website:
<https://edo.jrc.ec.europa.eu/reports>

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