

Southern Africa 2018/19 summer crops

March 15, 2019

Highlights:

- The southernmost region of the African¹ continent started the 2018/19 summer cropping season with a nearly month of delayed rains.
- Limited rainfall following the delayed start, resulted in wilting and below average yield prospects for crops, especially maize in central Southern Africa, where dryness persisted during critical stages of development.
- The main dry pattern observed throughout the season across central and western areas of the region forecast to persist through the end of March.
- An intense tropical cyclone "Idai" rapidly developed throughout the week and made landfall in central Mozambique over the night of the 14th to 15th bringing torrential rains and wind. Rainfall spread as far west as Zimbabwe.

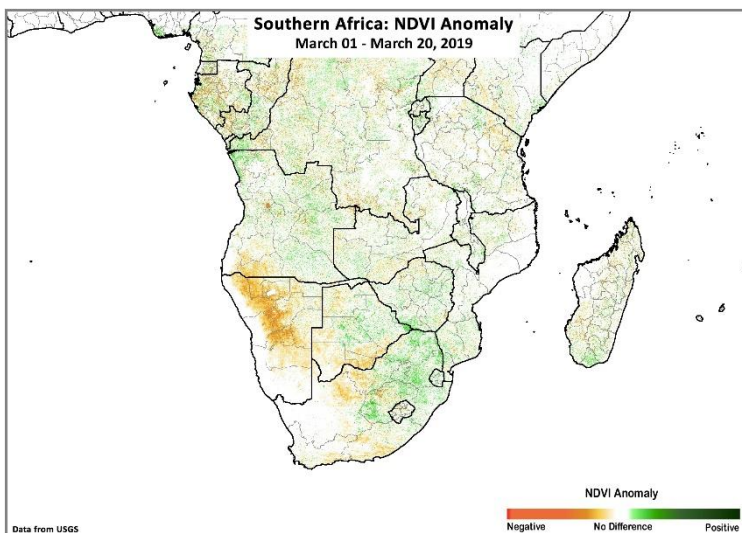


Figure 1. NDVI Anomaly for the March 01 – 10, 2019 period over Southern Africa. Source: USGS

Season Progress to date:

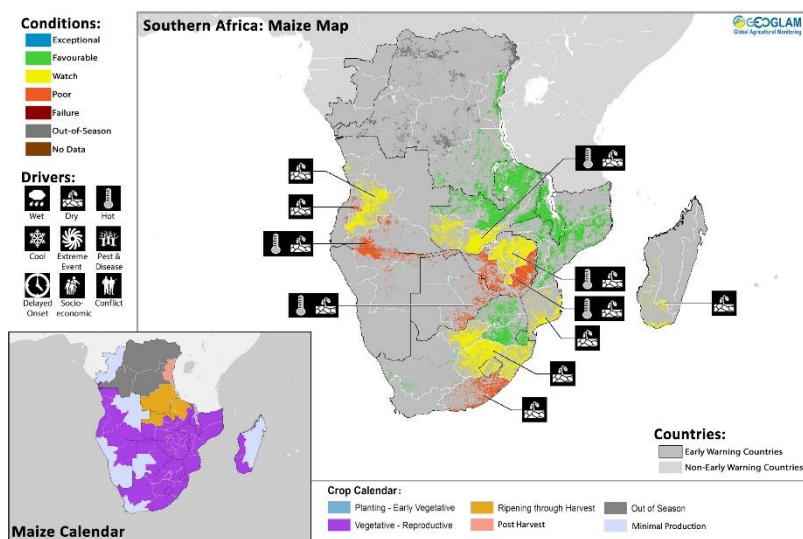


Figure 2. Maize crop conditions as of February 28th, 2019

Southern Africa started the 2018/2019 summer season with nearly a month delayed start to the rains. Limited rains in the East in early January, slightly improved conditions. However, this was followed by a continued dry spell from late January through early February across the central parts of the region resulting in reports of widespread wilting and below average yield prospects across the worst affected areas of Angola, Namibia, Botswana, Lesotho, Zimbabwe, southern parts of Zambia and Mozambique, as well as western South Africa. In some areas, localized rainfall totals have been thirty percent or more below average. In South

¹ South Africa, Lesotho, Swaziland, Namibia, Botswana, Zimbabwe, Mozambique, Madagascar, Malawi, Zambia, Angola, Congo and the DRC

Africa, dry conditions over the west during early summer resulted in reduced planted area. However, widespread rain in late January to mid-February and recent rainfall in the first two weeks of March have improved conditions and yields may be close to average.

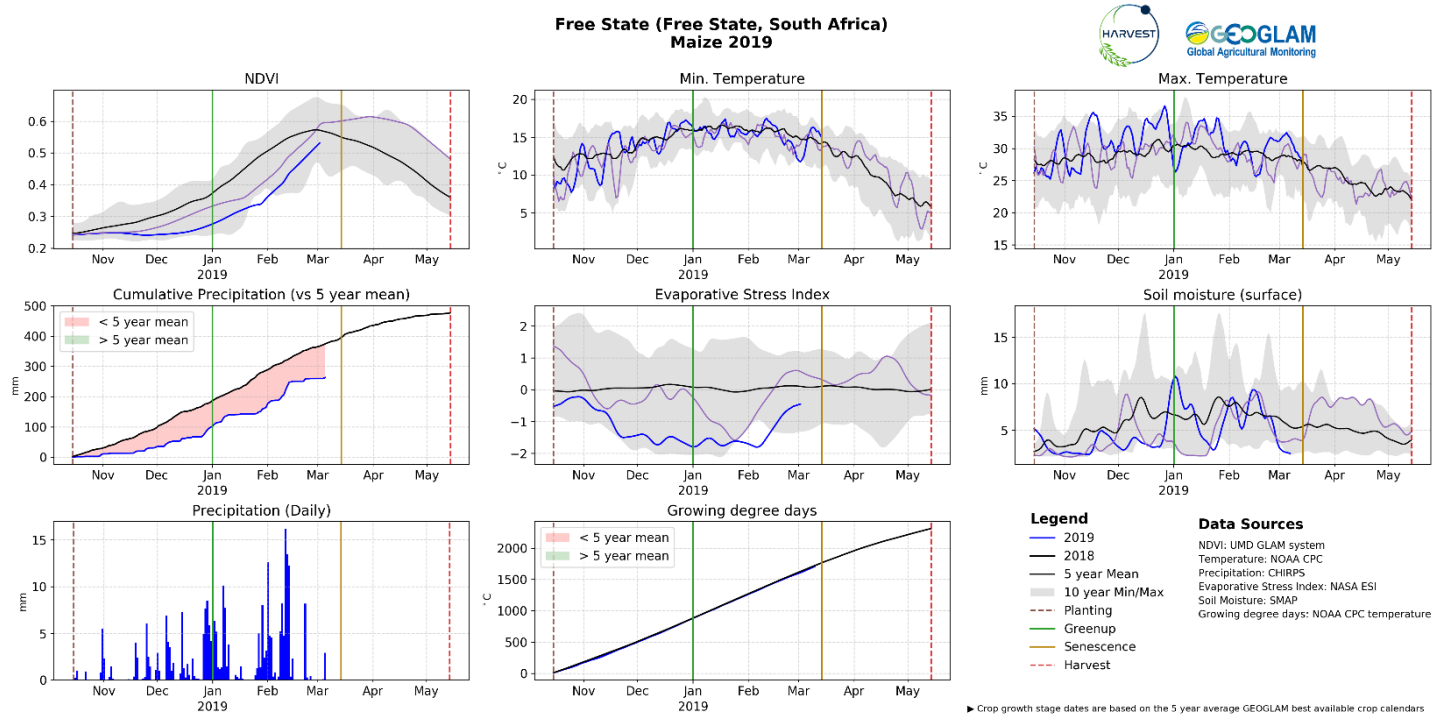


Figure 3. Agro-climatic indicators over maize regions in Free State, South Africa during the current 2019 season. Drier than average conditions early in the season followed by rain events in early January and early to mid-February, which have helped to spur crop development.

The impact of reduced planted area is clearly visible on January/February high resolution satellite imagery (Sentinel 2) for some of the main cereal producing regions in South Africa including Free State and North West. In Figure 4 and 5, red color indicates active vegetation, whereas light green indicates bare soil or sparsely vegetated soil. Crop areas in 2019 show significantly less active vegetation than at the same time in 2018 and it can be assumed that most of the areas in bright green have not been planted in the 2018/2019 season.



Figure 4. Sentinel-2 Imagery (composite 22/01-19/02) showing crop areas in Free State, close to Wesselsbron, in 2019 (left) and in 2018 (right). Source: JRC - ASAP



Figure 5. Sentinel-2 Imagery (composite 22/01-19/02 showing crop areas in North West, close to the border with Free State, in 2019 (left). Source: JRC - ASAP

Forecast and Climate Drivers:

An intense tropical cyclone "Idai" rapidly developed throughout the week and made landfall in central Mozambique over the night of the 14th to 15th bringing torrential rains and wind. Rainfall spread as far west as Zimbabwe. Earlier this week flooding already occurred in southern Malawi and central Mozambique. Official reports confirmed the loss of lives and the floods are likely to have resulted in crop losses and will likely reduce yields. The full extent of the damage is unknown and further monitoring is necessary. Rains are expected as far west as Zimbabwe.

Besides precipitation associated with the tropical cyclone, the next two week’s forecasts show periodic above average rainfall in parts of eastern South Africa. Already in the first two weeks of March, areas in southeastern South Africa surrounding Lesotho have seen above average rainfall over previously dry areas. While the above average rainfall forecast in the coming weeks may only affect limited areas, this could have a positive impact on previously dry cropping areas.

Based on recent rainfall, next two-week forecasts and longer-term outlooks, the main dry pattern observed throughout the season across the central and western areas of the region is likely to persist.

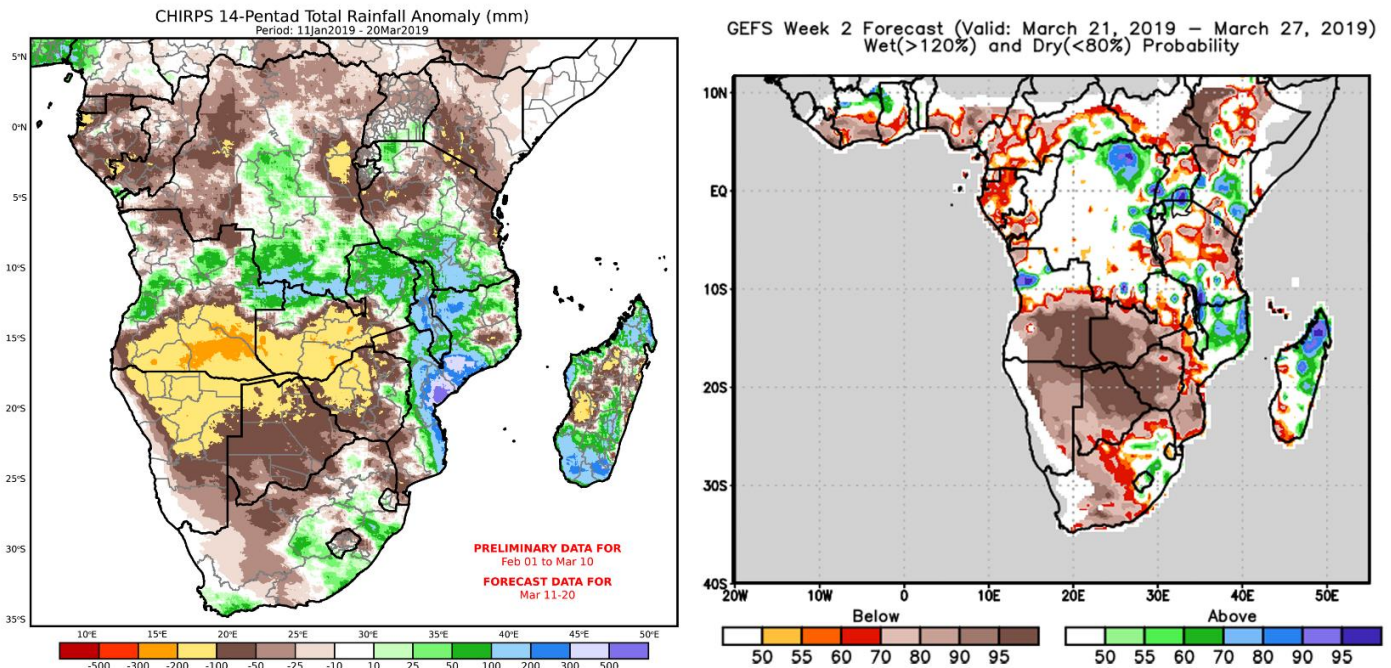


Figure 6. On the left, an estimate for 2019 rainfall totals (the difference from average) including the rain forecast for the upcoming week. On the right, the forecast probability of above or below average rainfall for the week after. Source: UCSB Climate Hazards Center CHIRPS data and NOAA/CPC GEFS forecast. For more information about how these sources are combined: *Blending CHIRPS Data and GEFS Forecasts for an Enhanced Rainfall Forecast Product*, <http://blog.chg.ucsb.edu/?p=443>.

Potential Outcomes:

Based on recent rainfall, the two-week forecast and longer-term outlooks, the dry pattern present throughout the season across the central and western areas of southern Africa is likely to persist through to the end of March. This marks the end of key crop development stages and without further rainfall received, significant improvement from current conditions is unlikely.

In South Africa, dry conditions over the west during early summer resulted in reduced planted area. Widespread rain in late January to mid-February and recent rainfall in the first two weeks of March have improved previously dry conditions. According to the latest forecasts (February 27) from the [Department of Agriculture, Forestry and Fisheries of the Republic of South Africa](#), the commercial maize output is estimated at 10.5 million tonnes, 19 percent lower than previous season. The planted area of the current season is 2,3 million hectares, around 1 percent lower than the 2,318 million hectares planted last season and below early-seasonal expectations. South Africa accounts for approximately 50 percent of the maize production of the Southern Africa region and it is an important supplier of the region. While production prospects are below the previous year, recent rainfall improvements over previously dry areas are expected to improve final yields. This may in turn support regional food availability.

Despite significant rainfall, from tropical storm "Idai", it is expected this will not overcome the severe wilting that has already taken place in the south of Zimbabwe over Mataberland and Masvingo due to extreme moisture deficits during the season. However, in the north of Zimbabwe and southern Mozambique where drought damage has been less severe, rainfall may have a more significant positive impact and further monitoring is needed.

The GEOGLAM Crop Monitor team is monitoring the situation. Further information will be provided in the next Crop Monitor for Early Warning and Crop Monitor for AMIS reports, to be released April 4th.

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