



United States
Department of
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Foreign
Agricultural
Service

September 12, 2019

Commodity Intelligence Report

Severe Drought Reduces 2019 Corn Production in Zambia and Zimbabwe

Zambia and Zimbabwe corn production for MY 2019/20 is estimated at 2.0 and 0.77 million metric tons (mmt), respectively, down 33 and 41 percent from the 5-year average due to a severe drought in both countries. The 2019 drought did not reduce production as much as the 1992 drought, when production reductions for Zambia and Zimbabwe were 66 and 80 percent below the 5-year average. In addition, corn production reductions during the 1992 and 2019 droughts were most severe in the Southern province of Zambia where outputs were 93 and 84 percent, below the 1992 and 2019 5-year averages (Figures 1-2).

The 2018/19 growing season drought was the driest rainy season (October through April) since 1981 and the 2019 mid-season drought from February 16 through March 15 was also the driest mid-season period since 1981 (Figures 3-4). The mid-season drought in southern Zambia significantly reduced corn production because it occurred during the critical pollination stage and ears of corn were not produced due to lack of soil moisture and high temperatures (Figure 5). Soil moisture reserves reached the permanent wilting point in early March and beneficial rains after March 15 could not possibly revive the crop or dried-out corn stalks found throughout the Southern Province of Zambia in mid-March (Figure 5).

The 2019 mid-season drought in southern Zambia caused many highly productive farmers and their families to stand in food aid lines for the first time in their lives because the April harvest yielded nothing. These same farmers also do not have cash to purchase seed and fertilizer inputs for the upcoming 2019/20 crop season because earnings from last year's harvest were spent on seed and fertilizer inputs for the 2018/19 season. The typical growing season for Zambia and Zimbabwe begins in October through December and ends April through June (Figure 6).

Current area and production estimates for grains and other agricultural commodities are available from:

[Production, Supply and Distribution Database \(PSD Online\)](#)

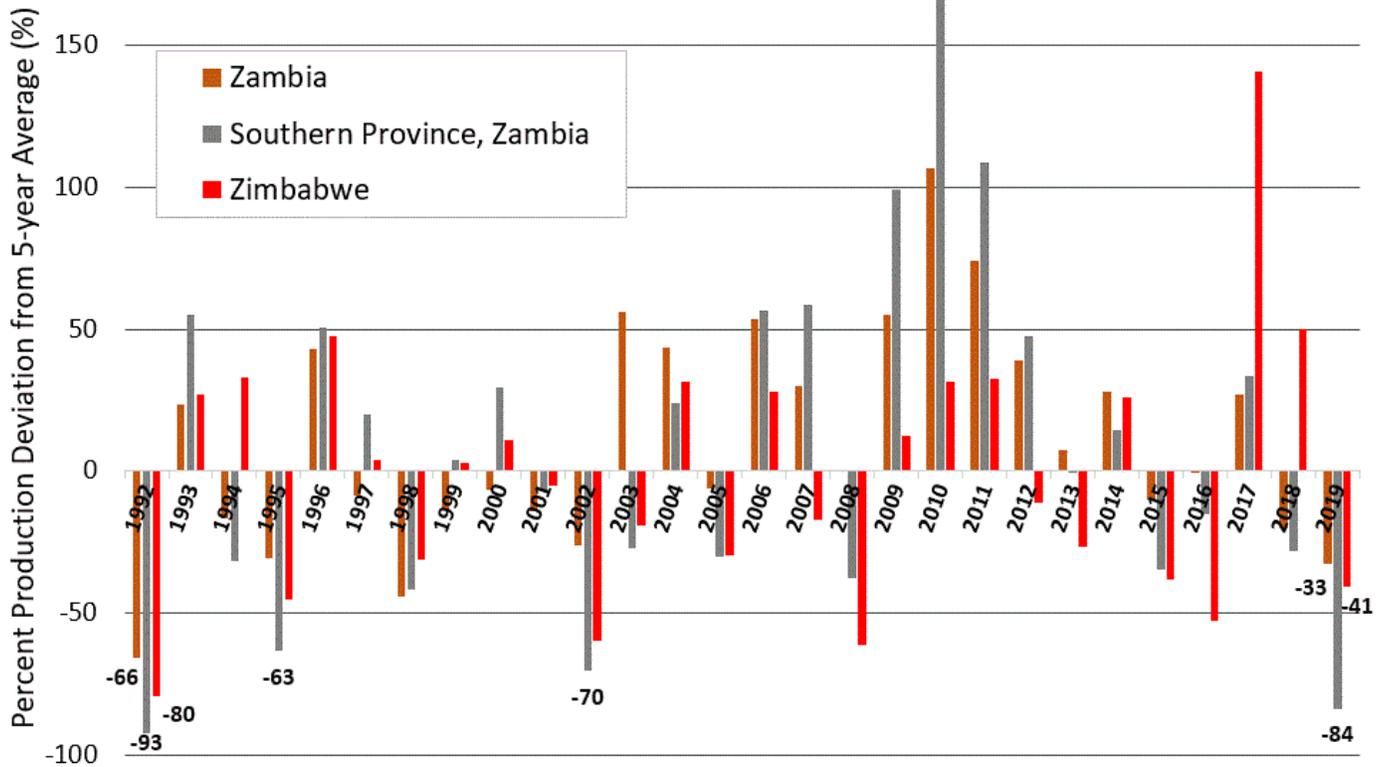
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U.S. Department of Agriculture
Foreign Agricultural Service; Office of Global Analysis
International Production Assessment Division
USDA South Building, Ag Box 1051
Washington, DC 20250-1051



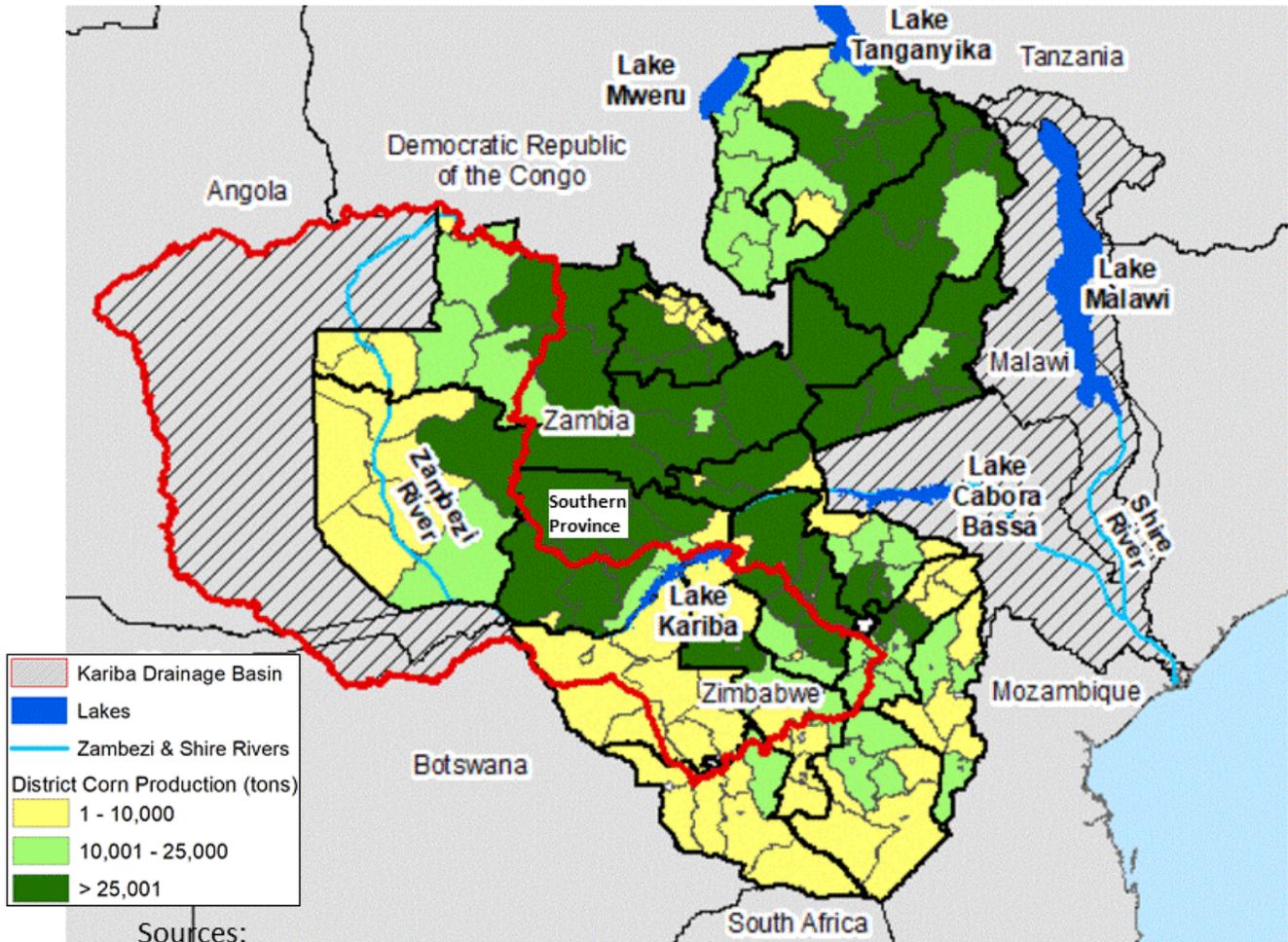
Corn Production Deviation from 5-year Average



Data Sources: Zambia's corn production data from Zambia's Annual Crop Forecast Survey (CFS) and Zimbabwe's corn production data from Zimbabwe's Annual Second Round Crop Assessment Reports

Figure 1. Corn Production Deviation from 5-year Average

District Corn Production for Zambia and Zimbabwe

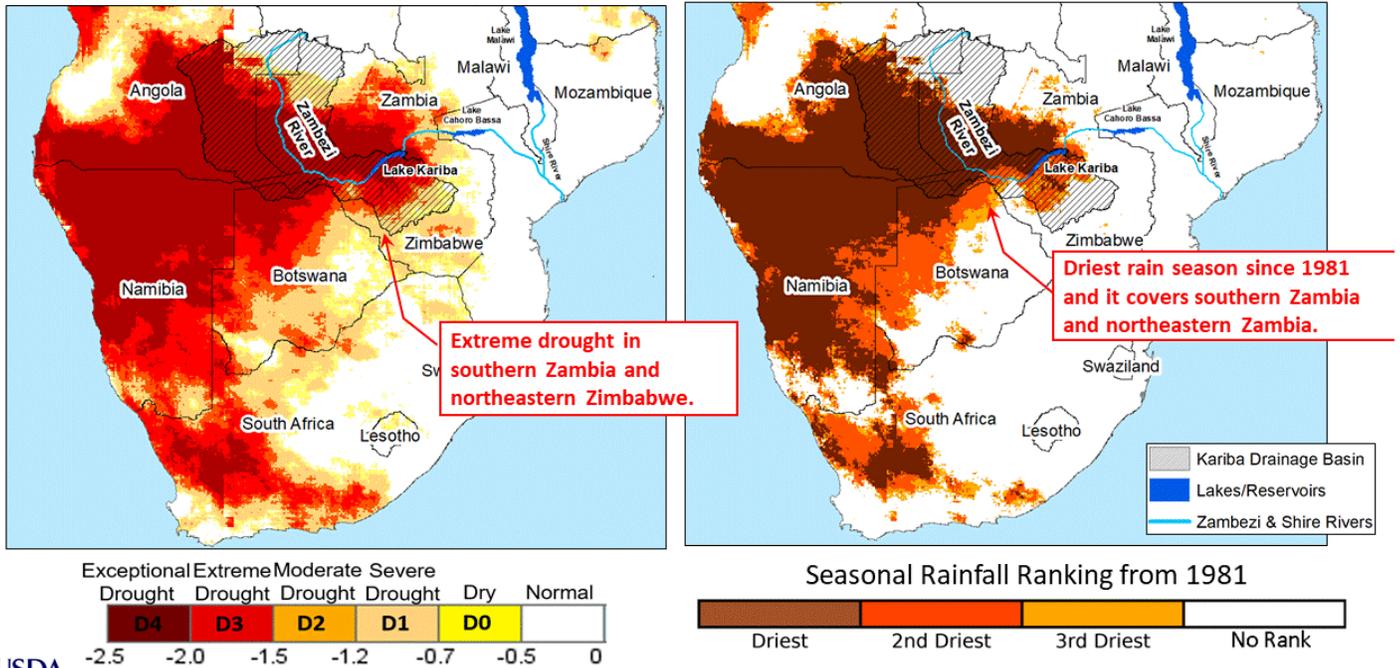


Sources: District production data from Zambia's Annual Crop Forecast Survey (CFS), 2012-2017 and from Zimbabwe's Annual Second Round Crop Assessment Report, 2019.

Figure 2. District Corn Production for Zambia and Zimbabwe

2018/19 Drought Severity (Rainy Season: October 1, 2018 - April 30, 2019)

Seasonal 2018/19 Rainfall Ranking from 1981 (Rainy Season: October 1, 2018 - April 30, 2019)

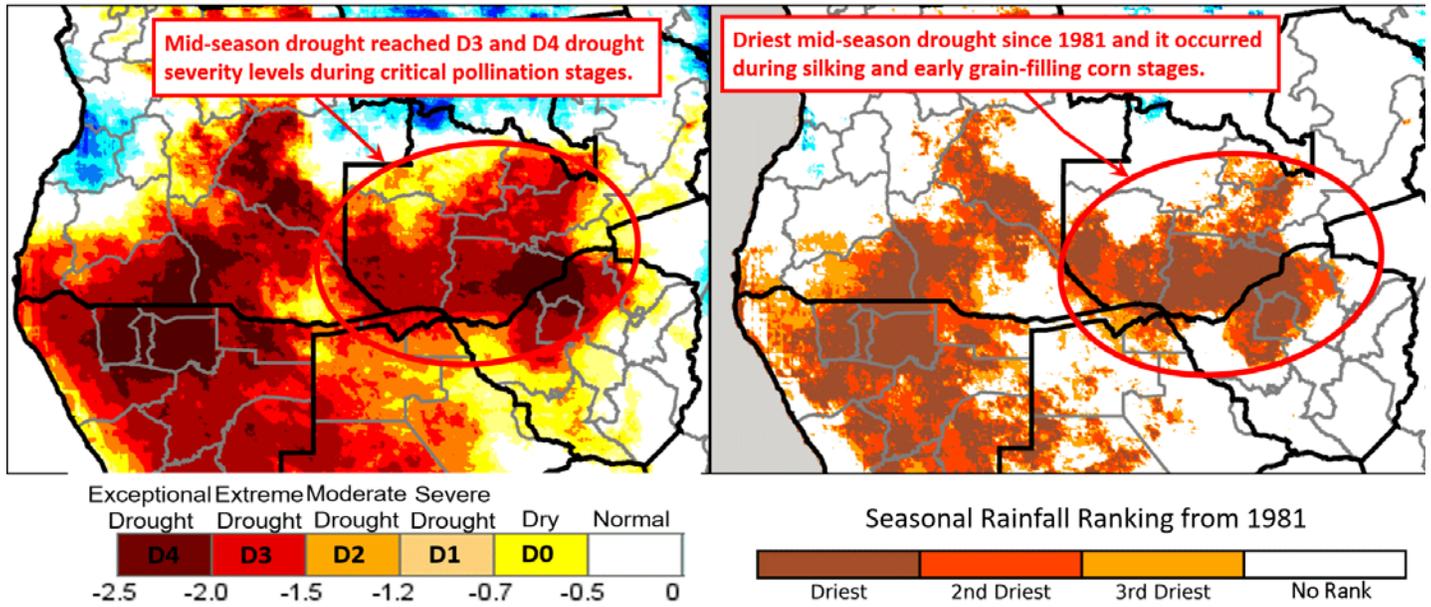


Source: SPI-CHIRPS and CHIRPS Seasonal Rainfall Rankings from the University of California-Santa Barbara

Figure 3. 2019 Drought Severity and Seasonal Rainfall Ranking

2019 Mid-Season Drought Severity (February 16 - March 15, 2019)

2019 Mid-Season Rainfall Ranking (February 16 - March 15, 2019)



USDA Source: SPI-CHIRPS and Rainfall Rankings from University of California-Santa Barbara (UCSB)

Figure 4. 2019 Mid-Season Drought Severity and Rainfall Ranking

Dried-out Corn Stalks at Kalomo, Southern Province, Zambia, March 18, 2019

Mid-season crop failures left highly-productive farmers in southern Zambia without a harvest or cash to purchase seeds and fertilizers for planting during the upcoming 2019/20 crop season.



E 26° 42' 07.38"
S 16° 53' 04.18" Elevation: 1300 m 03/18/2019
Photo Direction: E 105° 3:06:48 PM



E 26° 43' 06.20"
S 16° 53' 08.67" Elevation: 1323 m 03/18/2019
Photo Direction: SE 113° 2:15:18 P



Source: Photos taken by USDA/FAS personnel during a crop assessment survey in southern Zambia, March 18, 2019.

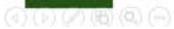
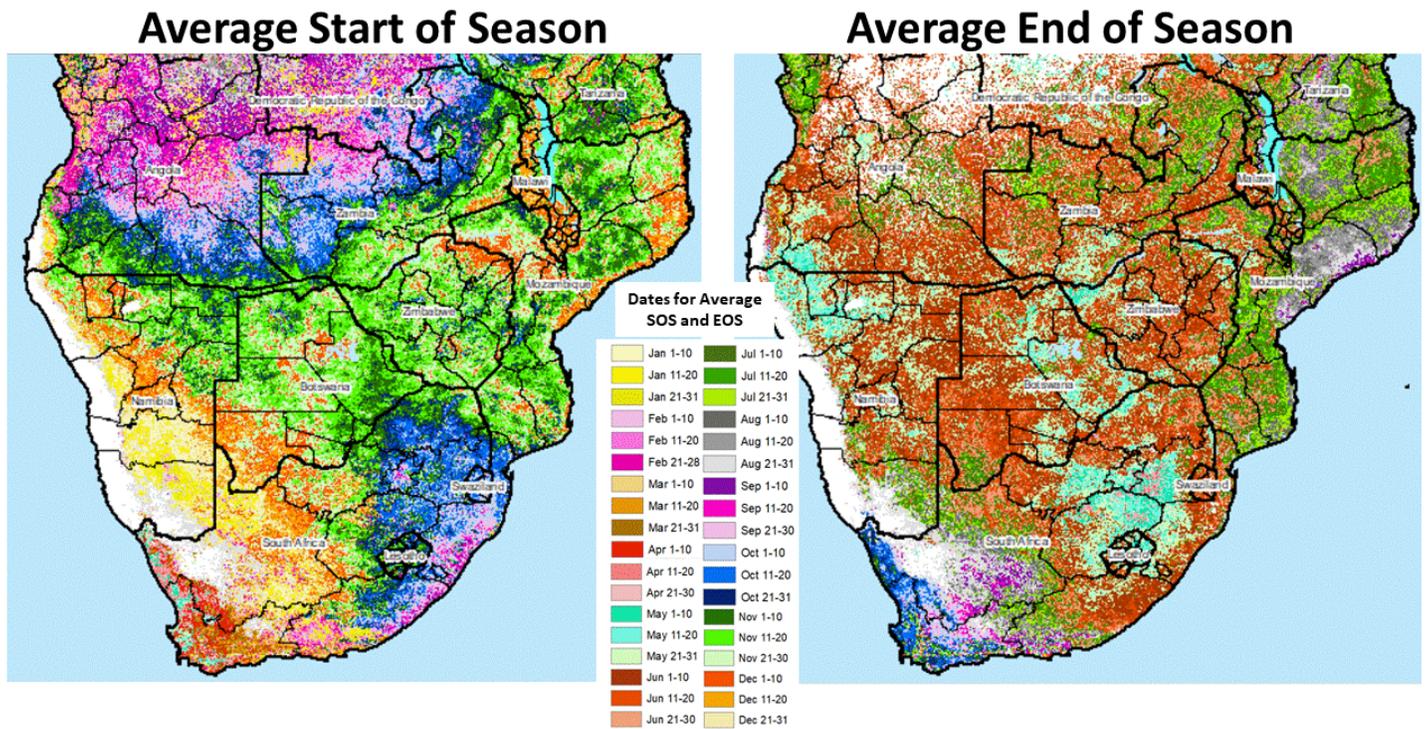


Figure 5. Crop Failure at Kalomo, Southern Province, Zambia, March 18, 2019



Source: Reference phenology data from ASAP Early Warning project by EC/JRC/MARS. SPIRITS software processed the Start of Season (NDVI range >25%) and End of Season (NDVI range <35%) products. (<https://mars.jrc.ec.europa.eu/asap/download.php>)

Figure 6. Average Start of Season (planting) and End of Season (maturity) derived from NDVI satellite imagery from 2003-2016.