

Are extreme weather events in the Northern Hemisphere highlighting a growing climate risk to global food production?

Global agriculture faces numerous challenges. The most recent one that requires close monitoring is the heat-wave in various countries in the Northern Hemisphere. Over the past weeks and months, the US, parts of Europe, and China have all reported cases of heatwaves.¹ There are growing concerns that the heat could negatively impact the summer grains which are still in the early growing stages in these regions. The livestock industry is equally anxious that the extreme heat could lead to increasing animal deaths. For example, in June 2022, over 2 000 cattle died of heat stress in southwestern Kansas.² Countries such as Italy and Spain are currently feeling the impact of drought and heatwaves on crops and livestock as farmers struggle to sustain their business operations.³

These challenging weather events come at a time when the world is in a food crisis and needs to improve agricultural output. Just last week, the Heads of the Food and Agriculture Organization (FAO), International Monetary Fund (IMF), World Bank Group (WBG), World Food Programme (WFP), and World Trade Organization (WTO) released a joint statement expressing concerns about the growing hunger and called for increased government support to boost agricultural production globally. The statement noted that “the number of acute food insecure people – whose access to food in the short term has been restricted to the point that their lives and livelihoods are at risk – increased to 345 million in 82 countries”.⁴

For now, the United States Department of Agriculture (USDA), in its monthly update of the World Agricultural Supply and Demand Estimates report released this past week, has maintained an optimistic view about global grains production. The USDA believes that output in the 2022/23 season might not fall significantly. However, the estimates may not have fully accounted for these heatwaves as there are ongoing events, and it would be interesting to see if these projections change in the coming monthly updates the USDA will release. In the July release, for example, the USDA forecasts 2022/23 global maize production at 1,18 billion tonnes, only down 3% year-on-year (y/y). This is mainly because of an expected annual decline in the US and China’s maize harvest, amongst others. Similarly, the 2022/23 global wheat production is set to fall by just 1% y/y to 771 million tonnes.

The expected lower harvest in various parts of Europe and Argentina is the cause of the expected decline in the overall world wheat harvest. This decline in production will weigh on stocks and could keep prices at relatively elevated levels for longer. Still, despite all these events unfolding, agricultural commodity prices have softened over the past couple of weeks from the levels we witnessed in the days and weeks following Russia’s invasion of Ukraine and the disruptions this caused to global agricultural commodity markets. Positively, the global rice and soybean production is large, well above the previous season. This will help keep prices of these commodities at softer levels than what we saw at the start of this year.

¹ The Guardian, “[Dangerous heatwaves engulf parts of China, US and Europe](#)”, July 12, 2022.

² PBS, “[Heat stress blamed for thousands of cattle deaths in Kansas](#)”, June 17, 2022.

³ Financial Times, “[Farmers feel heat as northern Italy suffers worst drought in decades](#)”, July 8, 2022.

⁴ The statement is available [here](#).

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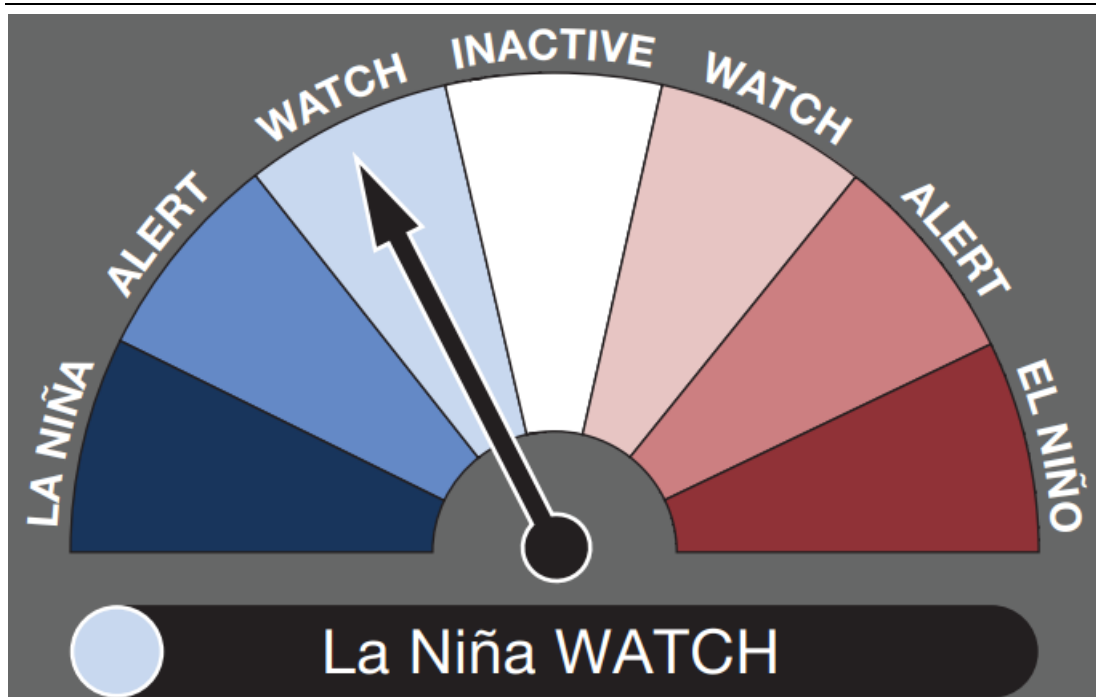
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The extreme weather events in the Northern Hemisphere are a warning signal for farmers across the rest of the world. We believe that one important signal for the Southern Hemisphere is that it could also face weather events that are more extreme. This region will start its 2022/23 summer crop planting in October 2022. The current weather forecast suggests that we are still in the La Niña phase. The Australian Bureau of Meteorology estimates that "there is a 50% chance of La Niña forming later in 2022. This is approximately double the normal likelihood." For the Southern Africa region, this implies that we will likely have another rainy season.

Meanwhile, the East Africa region and South America could experience dryness. Given that South America is a major producer of grains and oilseeds, the possible dryness is a major risk to monitor. Brazil and Argentina, for instance, collectively account for 14% and 50% of global maize and soybean production, respectively. Depending on the intensity of the expected La Niña, the relatively optimistic estimates of the USDA could change, which would have implications for prices. The risk in the future, which is worth monitoring, is the possibility of intense dryness in South America and East Africa and excessive rains in the Southern Africa region. Such weather events would add pressure on global food production and could lead to prolonged higher levels of hunger in the world, especially the developing regions.

For South African farmers, we are two months away from the new summer crop planting season. The challenge of heavy rains in the 2021/22 season could be a reality again in the new season if the unpredictability of events in the world is anything to go by. Therefore, farmers should be on alert for such weather events and use any planting strategies they applied in the 2021/22 season, which allowed South Africa to have a large harvest despite the heavy rains. The same goes for the fruits, wine-grapes and vegetable industries. For the livestock industry, the possible heavy rains typically bring a range of diseases that veterinarians should be on alert for.

Exhibit 1: La Niña WATCH



Source: Australia's Bureau of Meteorology

Source: South African Agricultural Machinery Association and Agbiz Research