
WHAT'S HOT: LA NIÑA IS BACK ON THE RADAR – WATCH OUT FOR AGRICULTURAL COMMODITIES?

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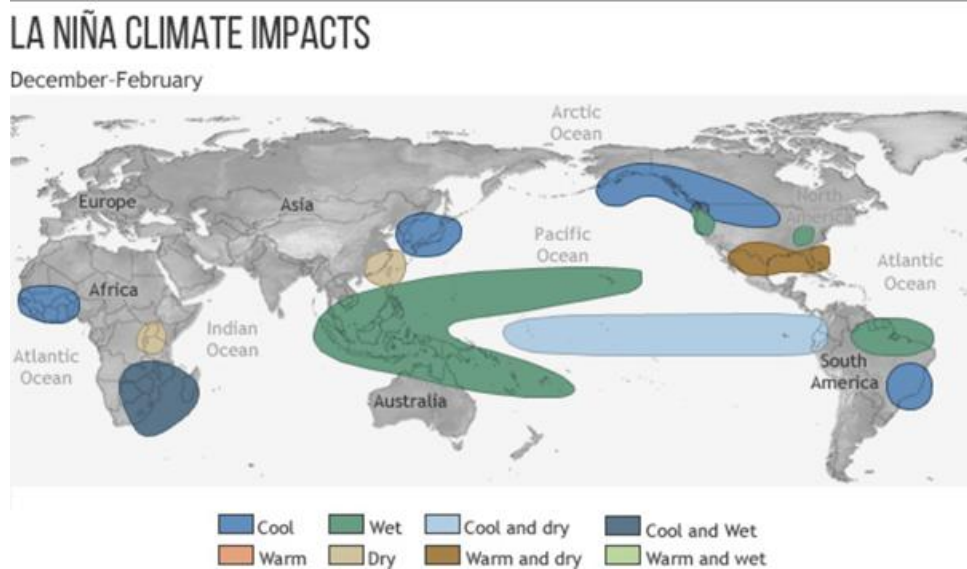
Meteorologists at the National Oceanic and Atmospheric Administration (NOAA) and the International Research Institute for Climate and Society at Columbia University's Earth Institute place a 70-80% chance of La Niña during the Northern Hemisphere winter 2021-22¹. Weather disruptions resulting from this phenomenon could provide a price boost for several agricultural commodities, including wheat, corn and soy.

What is the La Niña phenomenon?

The La Niña climate pattern is a naturally occurring phenomenon due to fluctuating ocean temperatures in the central and eastern equatorial Pacific, which change trade wind patterns and thus effects global weather. La Niñas are the cold phase of the El Niño Southern Oscillation, where ocean temperatures in the region of the equatorial Pacific fall by more than 0.5°C from normal. But this doesn't mean that world temperatures are also cooler everywhere. Indeed, a La Niña can make some places cooler and wetter than normal and other places drier and warmer than normal. The key thing is that these climate patterns change the weather from what is normally expected. This has implications for commodities that are climate dependent, like agricultural commodities.

La Niña climate impacts

The typical change in weather over the winter months are summarised in the graphic below. You can see that even within a single country like the US, the direction of change in weather isn't the same in all parts. While the Northwest of the US is likely to be cooler than normal, the South is warmer and drier than normal.



Source: National Oceanic and Atmospheric Administration (Climate.gov)

La Niña crop impacts

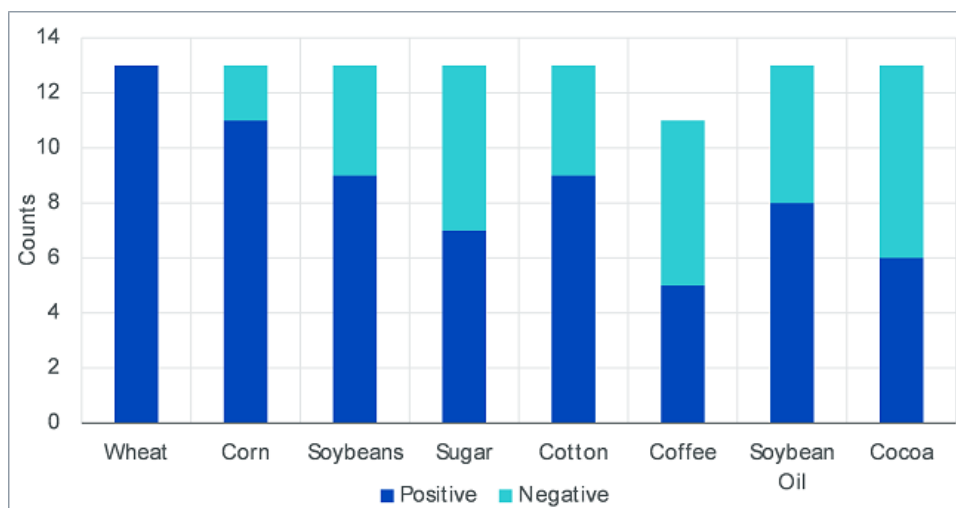
Studies have demonstrated that La Niña has an impact on crop yields, including wheat, soybean and corn². Typically, regions where wheat, soybean and corn crop yields decline (such as North, Central and South America) outweigh the regions where La Niña boosts yields (like West Africa). However, we should note that the La Niña impact on crops tends to be less pronounced than El Niño crop impacts.

We should also note that each La Niña episode will be somewhat different to the past. At any point in time, many weather patterns compete with each other, and therefore it is hard to isolate the effects of one particular weather pattern.

La Niña price impacts

We have analysed prices of agricultural commodities in the past 13 episodes of La Niña's that we have seen since 1950, including the La Niña that started in 2020 and finished in 2021. In all 13 cases, wheat prices traded higher six months after the La Niña event started. In 10 out of the 13 episodes, corn traded higher. In 9 out of the 13 episodes, soybean and cotton traded higher six months after the event started. For most other commodities, the results were somewhat mixed.

Figure 2: Where agricultural prices trade 6 months after a La Niña event



Source: National Oceanic and Atmospheric Organization, Bloomberg, WisdomTree, Data from January 1950 to September 2021. Based on 13 La Niña episodes since 1950 for all commodities except coffee where we use data from 1972 covering 11 La Niña episodes.

Historical performance is not an indication of future performance, and any investments may go down in value

Lower stocks could make agricultural commodity prices more sensitive to weather events

While La Niña event is not guaranteed (it has less than a hundred percent probability) and meteorologists are currently expecting it to be a relatively weak event, as it comes on the heels of considerable weather disruptions earlier in 2021. Inventories of many crops remain below previous years, so the ability to absorb a production shock is thinner. According to USDA data, in September 2021, all wheat stocks are down 18%, corn stocks are down 36%, and soybean stocks are down 51% from September 2020³. La Niña could therefore provide an upside price boost for these agricultural commodities.

Sources

¹ https://iri.columbia.edu/our-expertise/climate/forecasts/enso/current/?enso_tab=enso-cpc_update

² For example, see Impacts of El Niño Southern Oscillation on the global yields of major crops, by Toshichika Iizumi, Jing-Jia Luo, Andrew J. Challinor, Gen Sakurai, Masayuki Yokozawa, Hirofumi Sakuma, Molly E. Brown & Toshio Yamagata, May 2014.

³ <https://downloads.usda.library.cornell.edu/usda-esmis/files/xg94hp534/cz30qs59p/nk323d258/grst0921.pdf>

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