



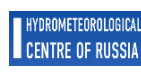
WORLD  
METEOROLOGICAL  
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# GLOBAL SEASONAL CLIMATE UPDATE

TARGET SEASON: October-November-December 2021

Issued: 24 September 2021



## Summary

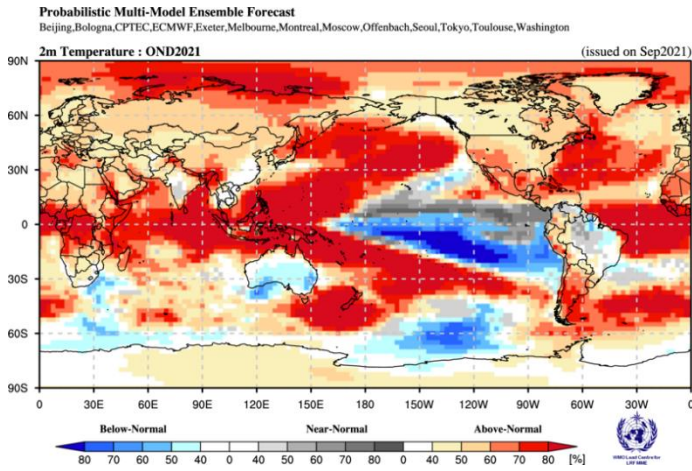
Observed sea surface temperatures (SSTs) in the central tropical Pacific continued in a neutral ENSO condition during June-August 2021. The Indian Ocean Dipole (IOD) also remained in a near-neutral condition and is predicted to continue being neutral. The near-normal sea-surface temperature anomalies in the Niño 3.4 and Niño 3 regions are predicted to evolve towards weak La Niña conditions in the October-December 2021 season. Farther west in the Niño 4 region, the sea surface temperature anomaly is also predicted to be below-normal. The October-December 2021 prediction, therefore, indicates an emergence of weak La Niña conditions in the central tropical Pacific.

Apart from the tropical eastern Pacific Ocean (where prediction for SSTs is for slightly below-average), sea-surface temperatures over most of the equatorial western Pacific, Indian, and Atlantic Oceans are expected to be near or above-average for October-December 2021. Sea surface temperatures between about 30° and 60°N in the Pacific and Atlantic Oceans are also expected to be above-average. The widespread warmer global sea-surface temperature anomalies are likely to contribute to the above-normal forecast of air temperatures for October-December 2021.

Air temperature anomalies over land in October-December 2021 are expected to be strongest in the Northern Hemisphere. Positive temperature anomalies are expected over almost the whole northern hemisphere and model consistency is high. The largest land air temperature anomalies are predicted over the Arctic, North Asia, North America, and eastern and northern Europe. There is also high consistency in the predictions of an anomalously warm October-December 2021 temperature anomalies over the Caribbean and Central America. In near-equatorial latitudes, positive temperature anomalies are predicted with high consistency over the Indonesian Archipelago and western Africa extending into central, eastern, and northern Africa. In the Southern Hemisphere, most of the land areas are predicted to have positive air temperature anomalies with strongest signals over New Zealand and below 30°S in South America. An exception in the tendency for the prediction of above normal-average temperature is Australia where below-average temperature anomalies are predicted but the model consistency is low. Below-normal temperatures are predicted over some areas over the oceans, including in the vicinity of the equatorial Pacific, to the south of Madagascar and western Australia.

The general weakness of predicted rainfall anomalies for October-December 2021 over land areas are typical of the absence of any strong sea-surface temperature anomalies in the tropical oceans. Nevertheless, over the oceans predicted rainfall anomaly is consistent with expected weak La Niña conditions - there are increased chances of unusually dry conditions in parts of the South Pacific and anomalously wet conditions to the western and south-western Pacific. Along the equator across most of the central Pacific Ocean, probabilities are highest for near-normal rainfall. Above-normal rainfall is also expected over the Indonesian Archipelago and Indian subcontinent, northeast South America, Australia, and northern regions of North America. Over the Caribbean there is a moderate to strong indication of below-normal rainfall. A band of above-normal rainfall along the equator is predicted in the Atlantic Ocean and is flanked by a band of below-normal rainfall farther north. Increased chances of below-normal precipitation are also indicated over southern regions of South America, over much of the eastern Mediterranean and extending into Arabian Peninsula and central Asia, over the southern regions of North America, and between 20°S-10°N in Africa. Other areas of weakly increased probabilities for above-normal rainfall include some scattered locations in high latitudes of the northern hemisphere.

## Surface Air Temperature, OND 2021



## Precipitation, OND 2021

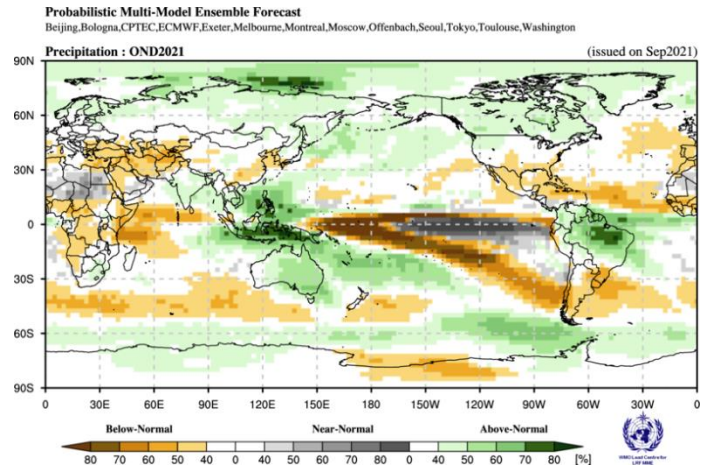


Figure 1. Probabilistic forecasts of surface air temperature and precipitation for the season October-November-December 2021. The tercile category with the highest forecast probability is indicated by shaded areas. The most likely category for below-normal, above-normal and near-normal is depicted in blue, red and grey shadings respectively for temperature, and orange, green and grey shadings respectively for precipitation. White areas indicate equal chances for all categories in both cases. The baseline period is 1993-2009.

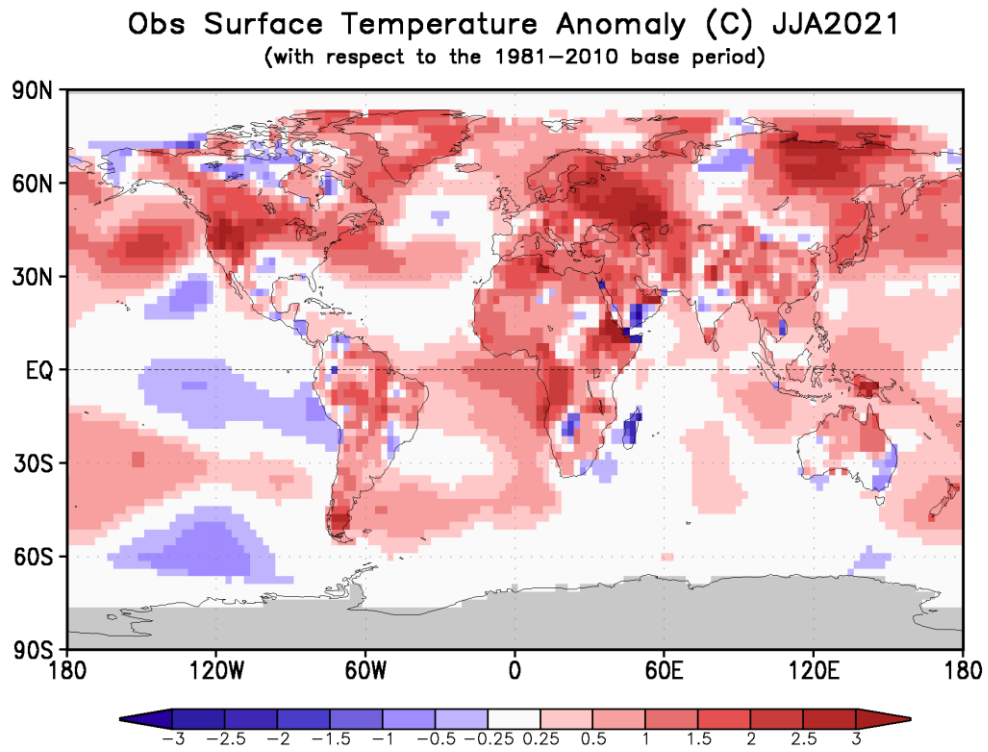


Figure 2. Observed June-July-August 2021 near-surface temperature anomalies relative to 1981-2010. (Source: U.S. [Climate Prediction Center](#)).

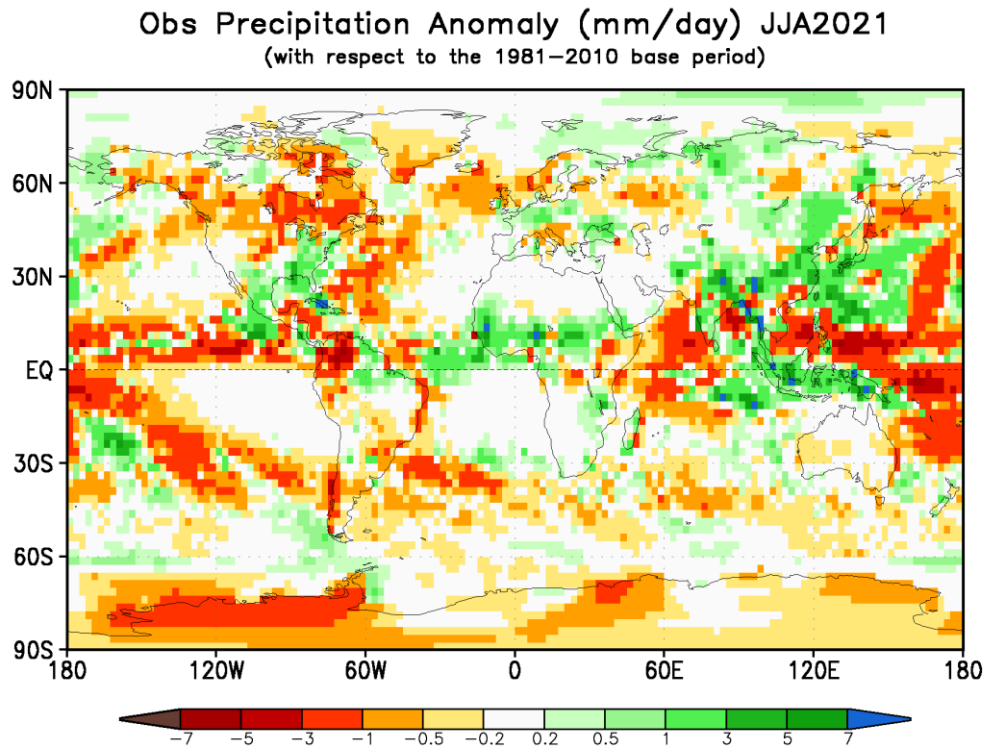


Figure 3. Observed June-July-August 2021 precipitation anomalies relative to 1981-2010 base period (top). (Source: U.S. [Climate Prediction Center](#)).