WEATHER CLIMATE WATER

WORLD METEOROLOGICAL ORGANIZATION

GLOBAL SEASONAL CLIMATE UPDATE

TARGET SEASON: July-August-September 2021

Issued: 24 June 2021

Summary

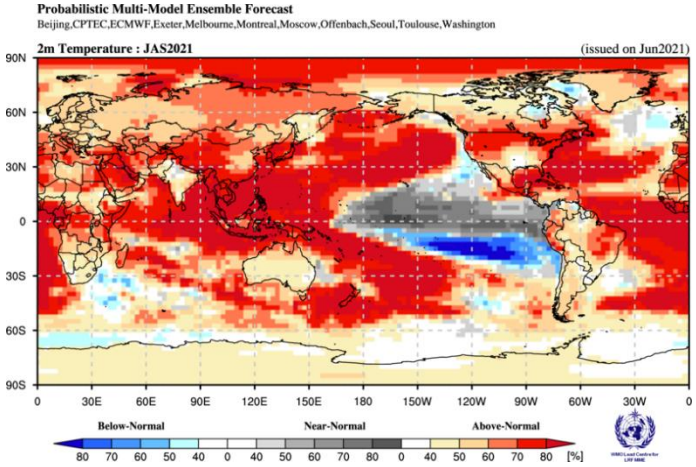
Observed sea surface temperatures (SSTs) in the central tropical Pacific were in a neutral ENSO condition during March-May 2021. The Indian Ocean Dipole (IOD) remained in a near-neutral condition and is predicted to continue being neutral. The near-normal sea-surface temperature anomalies in the Niño 3.4 and Niño 3 regions are predicted to remain in normal conditions in the July-August 2021 season. Farther west in the Niño 4 region, the sea surface temperature anomaly is also predicted to be near-zero. The July-September 2021 prediction, therefore, indicates a return to near-normal conditions in the central tropical Pacific.

Apart from a large area of the tropical eastern Pacific Ocean, sea-surface temperatures over most of the Pacific, Indian, and Atlantic Oceans are expected to be near or above-average for July-September 2021. Sea surface temperatures between about 30° and 60°N in the Pacific and Atlantic Oceans are also expected to be normal to above-normal. The impacts of the 2020/21 La Niña are expected to diminish as La Niña returned to neutral, and the widespread warmer global sea-surface temperature anomalies more generally are predicted to contribute to the above-normal forecast of air temperatures for July-September 2021.

Air temperature anomalies over land are expected to be strongest in the Northern Hemisphere. Positive temperature anomalies are expected over almost the whole hemisphere. The largest land air temperature anomalies are expected over the central part of North America, and the far northern part of Asia, and model consistency is high. There is also high consistency in the predictions of an anomalously warm July-September over the Caribbean, the Arabian Peninsula, part of central Asia, far eastern and southeast Asia. In near-equatorial latitudes, positive temperature anomalies are predicted with high consistency in the Maritime subcontinent, along the south coast of West Africa, extending into central and eastern Africa and over the eastern parts of South America. In the Southern Hemisphere, most of the land areas are predicted to have weak positive air temperature anomalies. With the notable exceptions of some of regions in the Indian Ocean, South Pacific islands and New Zealand, elsewhere model consistency is only moderate. Below-normal temperatures are predicted only for areas over the sea, including in the vicinity of the equatorial Pacific, over the North Sea, and to the south of Madagascar.

The general weakness of predicted rainfall anomalies for July-September 2021 are typical of the absence of any strong sea-surface temperature anomalies in the tropical oceans. Nevertheless, there are increased chances of unusually dry conditions in parts of the South Pacific and anomalously wet conditions to the west and south-west. Along the equator across most of the Pacific Ocean, probabilities are highest for near-normal rainfall. Above-normal rainfall is also expected over the Maritime and Indian subcontinent, and Australia. Over the Caribbean there is a moderate to strong indication of below-normal rainfall, and a band of above-normal rainfall immediately to the south and just to the north of the equator. Increased chances of below-normal precipitation are also indicated over many parts of South America south of the equator, over much of the northern Mediterranean and surrounding areas, western Europe, over parts of central and western North America, over parts of Central Africa, and over much of the east coast of 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, JAS 2021



Precipitation, JAS 2021

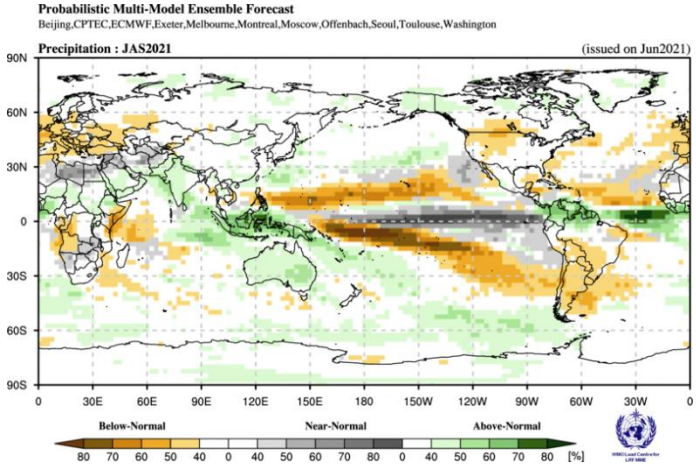


Figure 1. Probabilistic forecasts of surface air temperature and precipitation for the season July-August-September 2021. The tercile category with the highest forecast probability is indicated by shaded areas. The most likely category for below-normal, above-normal and near-normal is depicted in blue, 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.

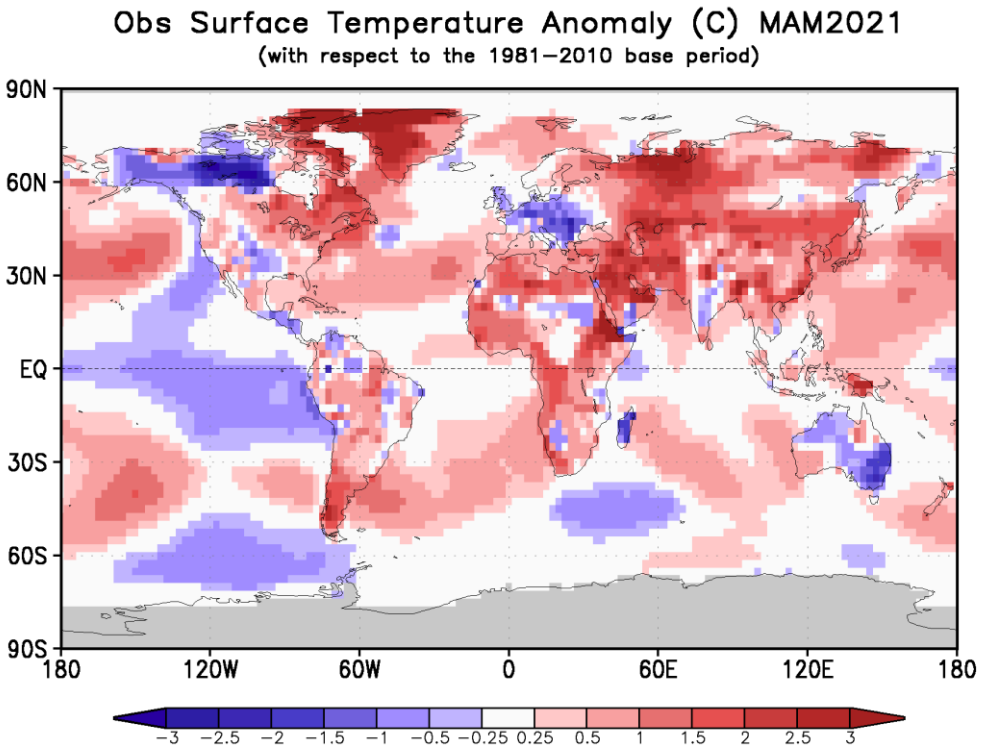


Figure 2. Observed March-April-May 2021 near-surface temperature anomalies relative to 1981–2010. (*Source:* U.S. Climate Prediction Center).

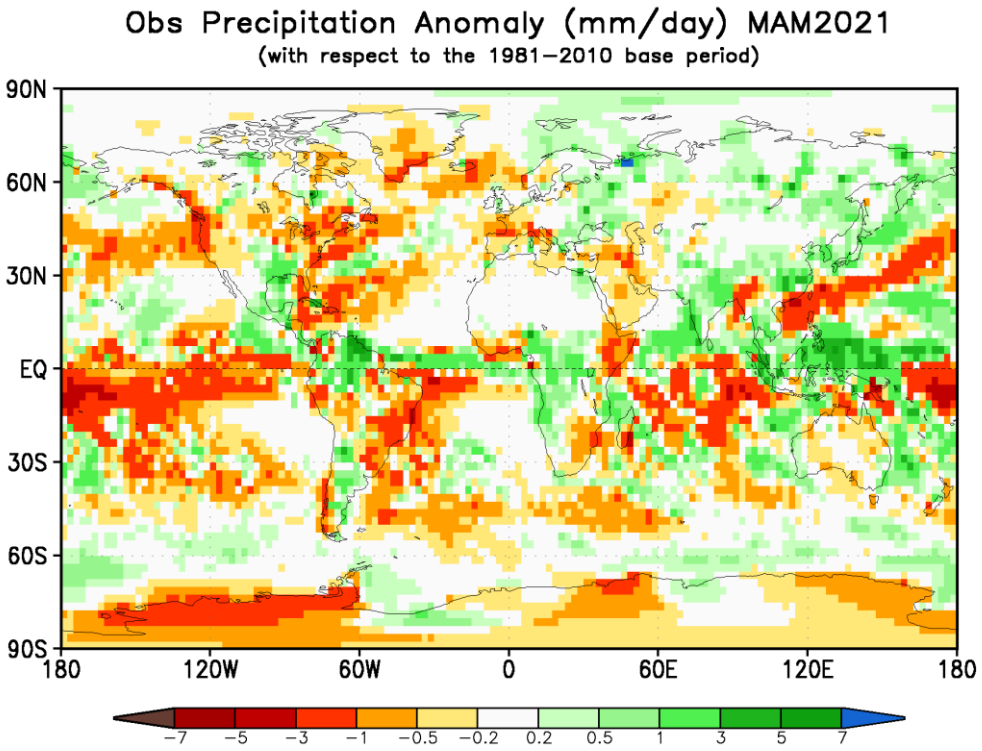


Figure 3. Observed March-April-May 2021 precipitation anomalies relative to 1981–2010 base period (top). (*Source:* U.S. Climate Prediction Center).