WEATHER   CLIMATE   WATER

WORLD
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GLOBAL SEASONAL CLIMATE UPDATE

Issued: 26 January 2022

Summary

Observed sea surface temperatures (SSTs) in the central tropical Pacific were in a weak La Niña condition during October-December 2021. The Indian Ocean Dipole (IOD) remained in a near-neutral condition and is predicted to continue being neutral. The below-normal sea-surface temperature anomalies in the Niño 3.4 and Niño 3 regions are predicted to remain in weak La Niña conditions in the February-April 2022 season. Farther west in the Niño 4 region, the sea surface temperature anomaly is predicted to be below but near-neutral conditions. The February-April 2022 prediction, therefore, indicates weak La Niña conditions in the central tropical Pacific.

Apart from the tropical central and eastern Pacific Ocean (where prediction for SSTs is for below-normal), sea-surface temperatures over most of the equatorial western Pacific, Indian, and Atlantic Oceans are expected to be near or above-normal for February-April 2022. Sea surface temperatures between about 30° and 60°N in the Pacific and Atlantic Oceans are expected to be above-normal. The widespread warmer global sea-surface temperature anomalies are likely to contribute to the above-normal forecast of air temperatures for the forecast period.

Air temperature anomalies over land in February-April 2022 are expected to be strongest in the Northern Hemisphere. Except for northwest North America where prediction is for below-average temperature, positive temperature anomalies are expected over almost the entire northern hemisphere with high model consistency. The largest positive land air temperature anomalies are predicted over the Arctic, northeast Asia, and southern and north-eastern North America. There is also high consistency in the predictions of anomalously warm 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 southern Africa. In the Southern Hemisphere, the strongest signals for positive air temperature anomalies are over New Zealand and below 30°S in South America. Over Australia, the predicted signal is not well defined and over the northern regions of South America the probability for near-normal temperature is enhanced. Below-normal temperatures are predicted over some areas over the oceans, including in the vicinity of the equatorial Pacific east of the Dateline and south of extreme northwest North America.

Predicted rainfall anomaly over the oceans 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 below-normal rainfall, and are flanked by above-normal rainfall immediately to the north. Above-normal rainfall is expected over the Indonesian Archipelago, southeast Asia, northwest South America, Australia, New Zealand, and over North Asia. Over the Caribbean and northern regions of Central America, there is a moderate to strong indication of below-normal rainfall. Increased chances of below-normal precipitation are also indicated over the southern regions of South America, over much of western and eastern Europe, and over the southern regions of North America.

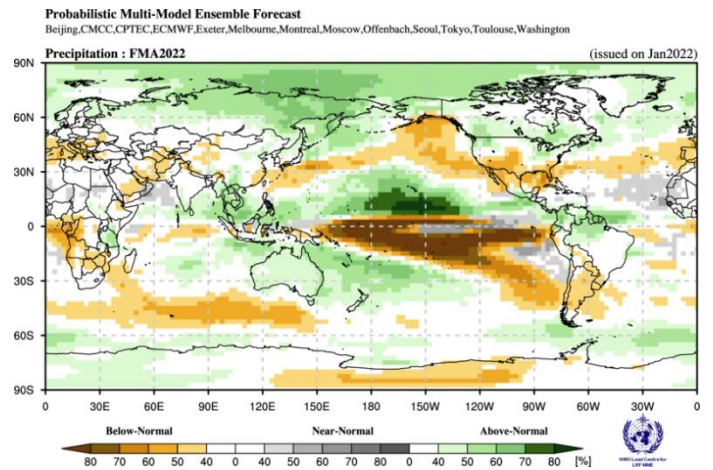## Surface Air Temperature, FMA 2022
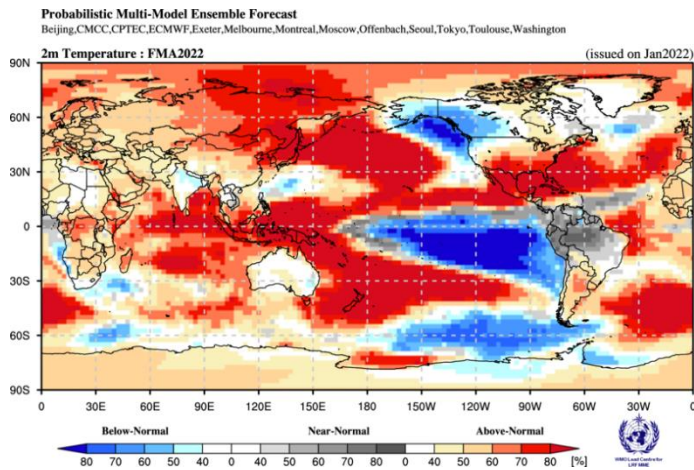
Precipitation, FMA 2022

Figure 1. Probabilistic forecasts of surface air temperature and precipitation for the season February-April 2022. 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.
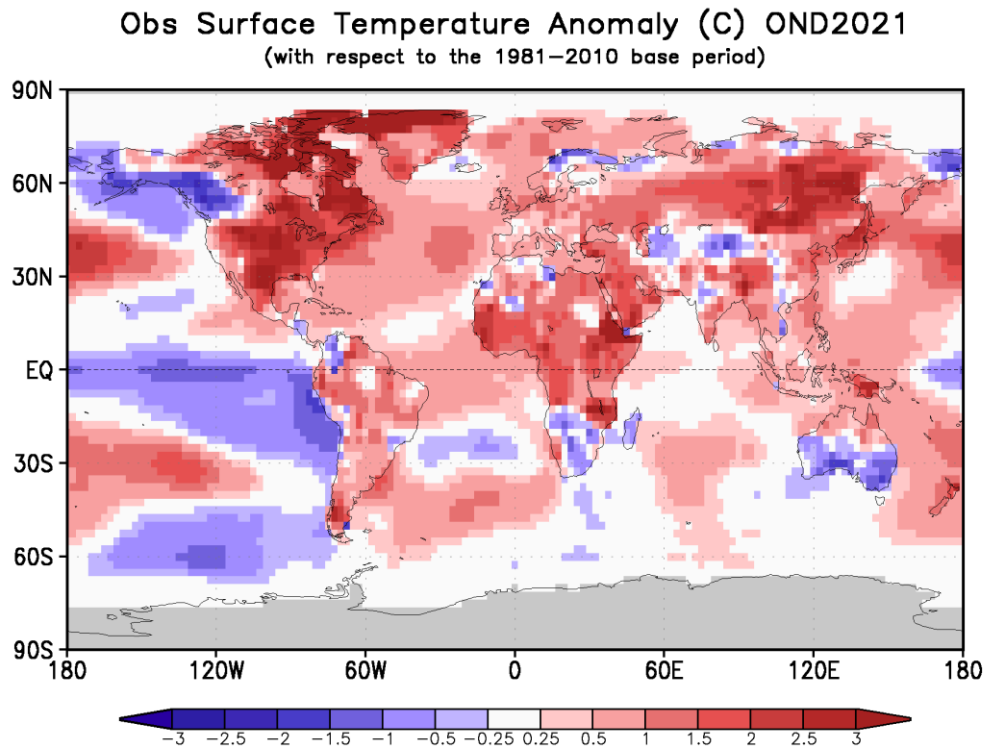
Figure 2. Observed October-December 2021 near-surface temperature anomalies relative to 1981–2010. (*Source:* U.S. Climate Prediction Center).
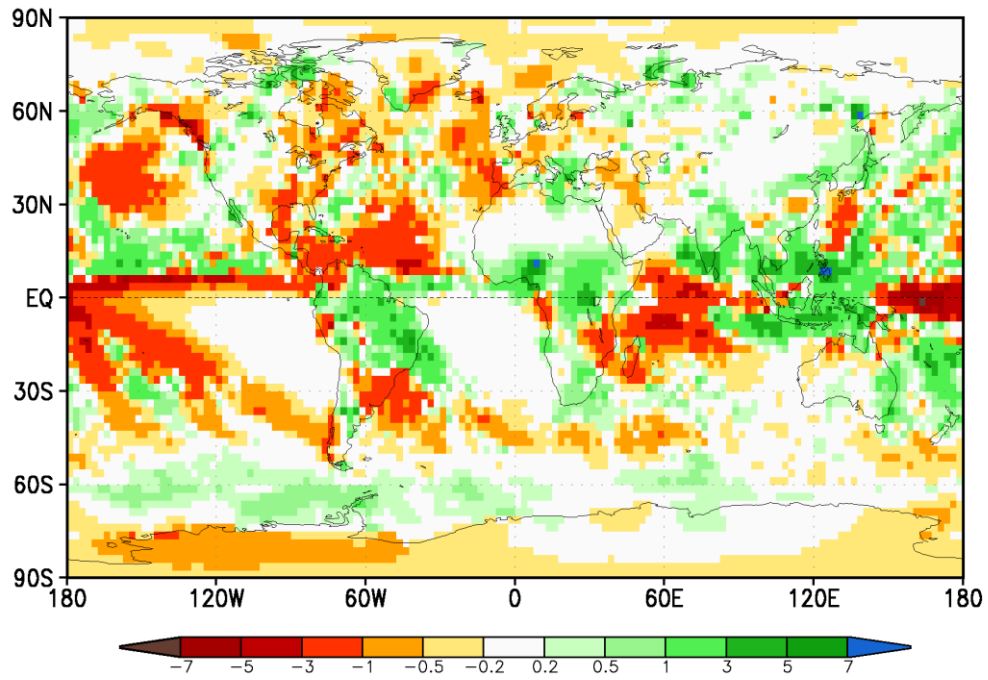
Figure 3. Observed October-December 2021 precipitation anomalies relative to 1981–2010 base period (top). (*Source:* U.S. Climate Prediction Center).