



WORLD
METEOROLOGICAL
ORGANIZATION



GLOBAL SEASONAL CLIMATE UPDATE

TARGET SEASON: November-December-January 2022-23

Prepared: 26 October 2022



Summary

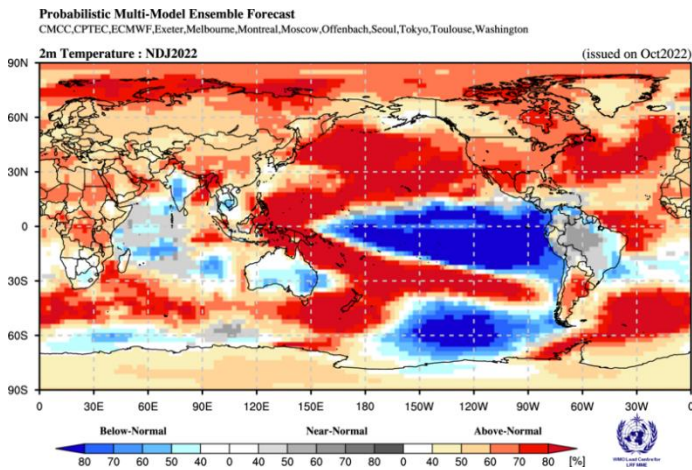
During July-September 2022, all four Pacific Niño sea-surface temperature (SST) indices in the central and eastern Pacific were below-normal. The observed SST conditions in the equatorial Pacific were characterized by a weak La Niña state. The Indian Ocean Dipole (IOD) over the observed period was in its negative phase. The North Tropical Atlantic (NTA) and the South Tropical Atlantic (STA) SST indices were weakly positive.

For the November-January 2022-23 season, below-normal SST anomalies in the Niño 3.4 and Niño 3 regions, with values approximately -0.8°C are predicted, indicating a tendency for weak La Niña conditions to continue. Starting from a negative value, the Indian Ocean Dipole index is predicted to return towards normal. SSTs over most of the equatorial western Pacific, eastern Indian, and western equatorial Atlantic Oceans are expected to be near or above-normal. SSTs between about 30°N and 60°N in the Pacific and Atlantic Oceans are expected to be much above-normal.

Although weak La Niña conditions are predicted in the equatorial central and eastern Pacific, a forecast for the likelihood for warmer-than-average ocean temperatures elsewhere dominates the forecast of air temperatures for November-January 2022-23. A likelihood for positive temperature anomalies is expected over most of the land areas in the Northern Hemisphere, with the exceptions being the Indian subcontinent and southeast Asia. The highest likelihood for above-normal land air-temperatures is expected over northern Asia, and southern and northeast regions of North America, where the models are also very consistent in predicting likelihood for anomalously warm conditions. In near-equatorial latitudes and the Southern Hemisphere, the likelihood for positive temperature anomalies is predicted with high consistency over a large area from the Maritime subcontinent extending into the South Pacific and over to New Zealand. Above 20°S in South America, the likelihood for normal or below-normal temperature is predicted. Likelihood for above-normal temperatures is enhanced for most of South America below 30°S . Areas with high consistency in the likelihood of predictions of below-normal temperatures are the central and eastern tropical Pacific, reflecting the presence of below-average SST conditions. Over most of Australia, the predicted signal is for an increased likelihood for below-normal temperature, but the model consistency is weak to moderate.

Because of below-average SST conditions associated with a weak La Niña that are predicted for November-January 2022-23, together with an enhanced east-west SST gradient in the equatorial Pacific, some of the predicted rainfall patterns are similar to the canonical rainfall impacts of La Niña. There are increased chances of unusually dry conditions along the equator centred near the dateline and extending towards the southern regions of South America. Anomalously wet conditions are predicted in much of the Maritime subcontinent extending into the southwestern Pacific. The areas of increased probability for wet conditions also extend over much of Australia. The other areas of likelihood for an increase in rainfall are the northern part of South America, the southernmost region of the Indian subcontinent, southeast Asia, and northern Asia. There is also a likelihood for above-normal rainfall over the northern regions of North America. There is moderate likelihood for below-normal rainfall in South America south of 20°S , between 30° - 50°N across Europe extending into western and central Asia, and south-eastern parts of North America. There is a likelihood for above-normal rainfall in southernmost regions of Africa, and a likelihood of below-normal rainfall in the coastal and interior regions of eastern Africa.

Surface Air Temperature, NDJ 2022-23



Precipitation, NDJ 2022-23

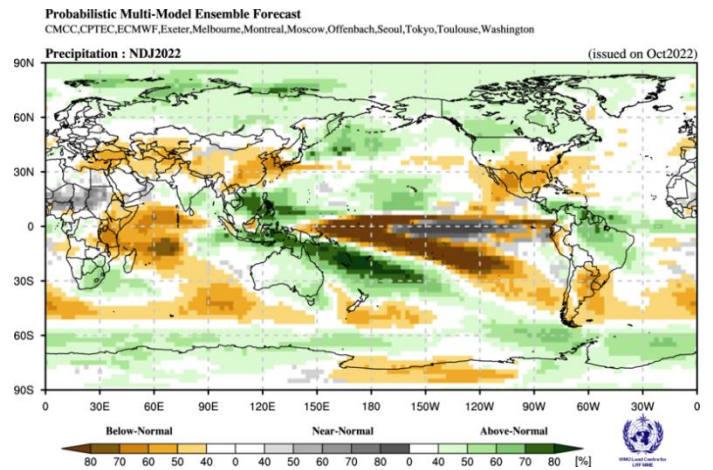


Figure 1. Probabilistic forecasts of surface air temperature and precipitation for the season November-January 2022-23. The tercile category with the highest forecast probability is indicated by shaded areas. The most likely category for below-normal, above-normal and near-normal is depicted in blue, 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.

Obs Surface Temperature Anomaly (C) JAS2022
(with respect to the 1991–2020 base period)

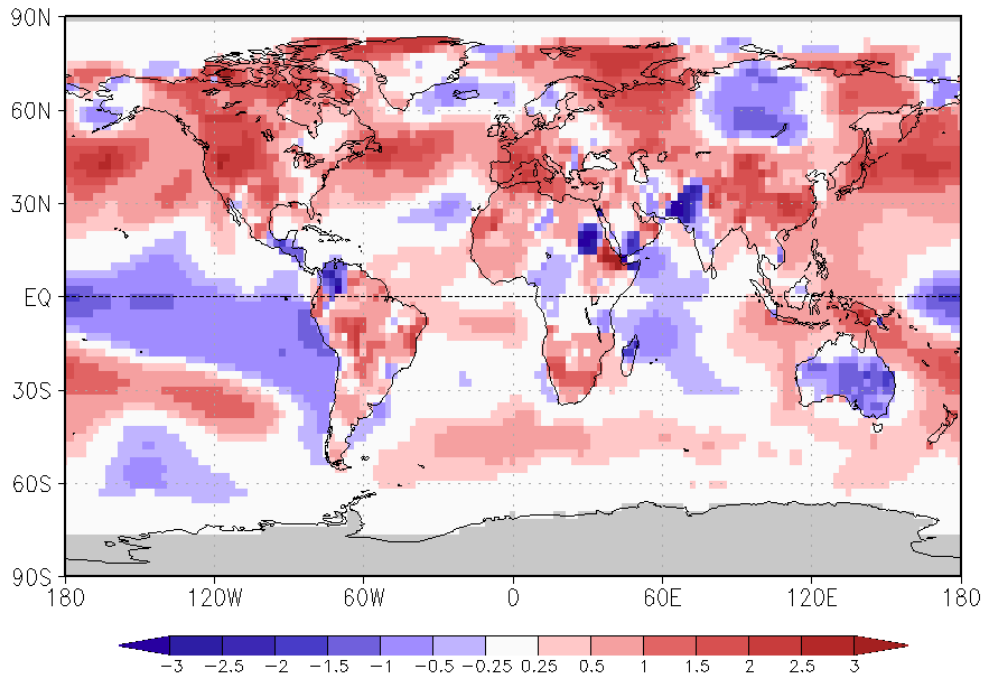


Figure 2. Observed July-September 2022 near-surface temperature anomalies relative to 1981-2010. (Source: U.S. [Climate Prediction Center](#)).

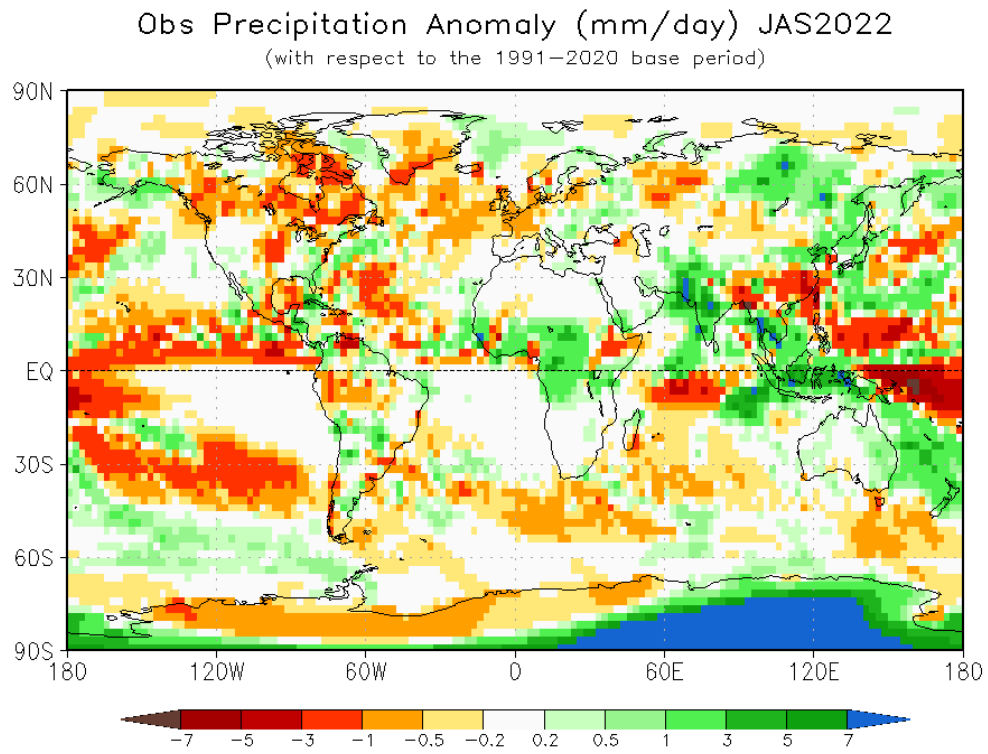


Figure 3. Observed July-September 2022 precipitation anomalies relative to 1981-2010 base period (top). (Source: U.S. [Climate Prediction Center](#)).