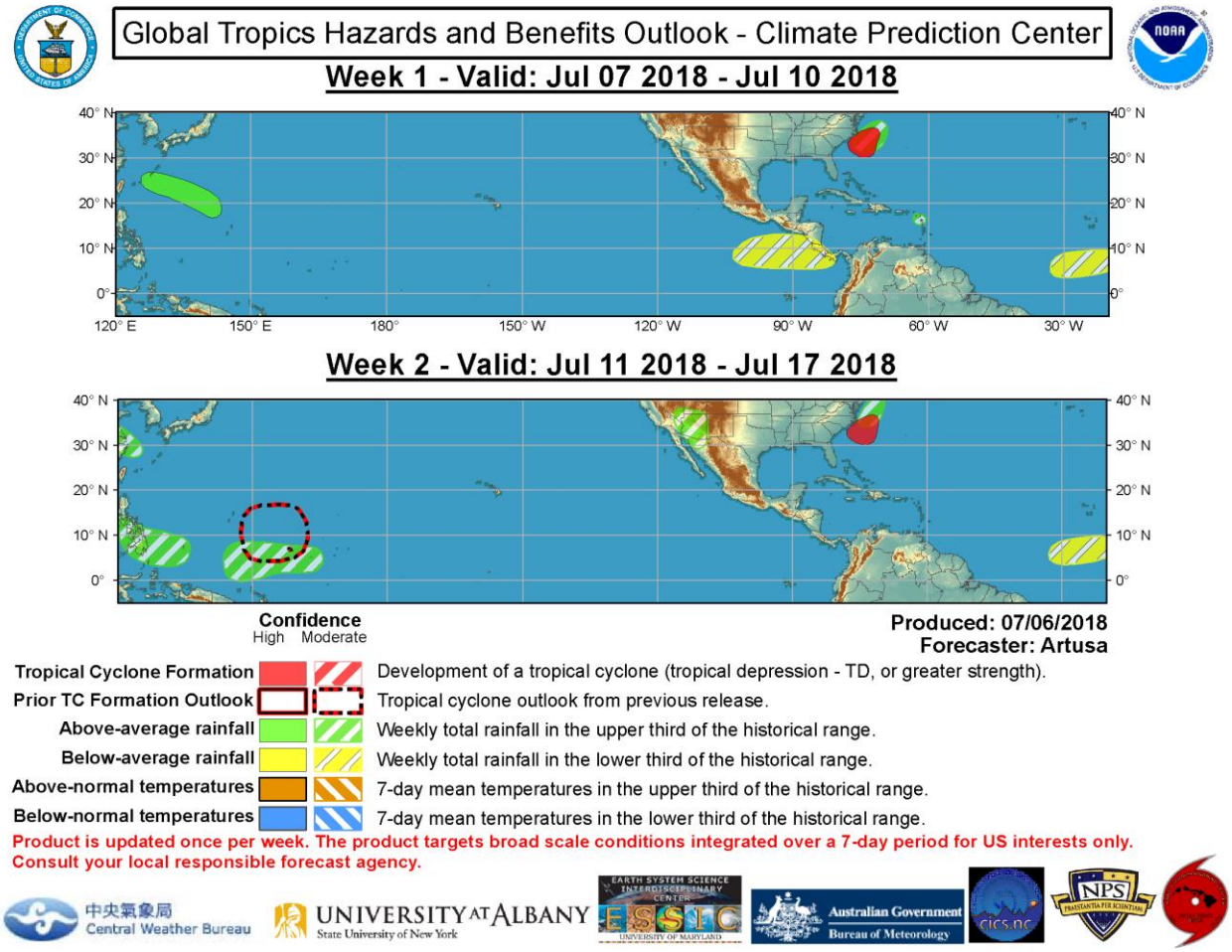

The Northern Hemisphere tropics remain active, with tropical cyclones (TCs) in progress over the western and eastern North Pacific basins, and the Atlantic basin. In the western North Pacific, Supertyphoon Maria (10W) recently passed over the Northern Marianas islands and is currently centered (6 July, 6z) near 16.5N/141.6E. According to the Joint Typhoon Warning Center (JTWC), Maria's peak sustained (one-minute average) winds are 135 knots, with gusts to 165 knots, as it moves slowly towards the northwest. Super Typhoon Maria is forecast to maintain this generally northwestward track during the next few days, perhaps reaching the southern Japanese islands of Okinawa by 10 July. By then, JWTC predicts the peak sustained winds of this typhoon to be about 100 knots, which is still more than capable of producing severe damage and flooding. Above average rainfall is predicted to accompany this system. By 11 July, typhoon Maria is projected to approach the Chinese mainland not far south of Shanghai, and the associated heavy rain threat will continue. Between 11-17 July, over and east of the Philippines, there are two areas of above average rainfall (moderate confidence) predicted by both the ECMWF and CFS models. These areas may be related to the expected emergence of an intensifying subseasonal signal in this general region (RMM phases 4/5).

In the eastern Pacific, what was Hurricane Fabio has now weakened into a remnant low, about 1300 miles west of the southern tip of Baja California. The National Hurricane Center (NHC) does not predict the development of any more TCs across the eastern Pacific for at least the next 5 days. A Kelvin wave now near the Date Line is predicted by the CFS model to reach the eastern Pacific during the Week-2 period, which certainly bears watching for potential tropical cyclogenesis. Over the very low latitudes of the eastern Pacific, there is a moderate risk for below average rainfall during both the abbreviated Week-1 period (7-10 July) and the original Week-2 period (11-17 July). The summer monsoon in northwestern Mexico and the southwestern contiguous U.S. is forecast to be fairly robust during the 11-17 July period, favoring enhanced chances of above average rainfall.

The North Atlantic basin has seen an unexpected increase in TC activity during the past few days. A well-defined low pressure system has formed off the coast of North Carolina, and NHC has an 80% chance (high risk) of becoming a tropical depression (TD) during the next several days, as it meanders near the coast of the Carolinas. An associated area of above average rainfall is forecast to accompany this system as it develops, though at the present time most of this rain is expected to remain offshore. During the Week-2 period (11-17 July), this area of rain is anticipated to shift north-northeastward towards Cape Cod. At this time, it is unclear as to how much of this rain may stay just offshore of Cape Cod, and how much may move inland. Elsewhere in the Atlantic basin, there is Hurricane Beryl which formed rather rapidly and with short lead-time over the Main Development Region (MDR; 10N-20N/20W-80W). As of 11am AST today (Friday, 6 July) the center of Beryl is located near 10.7N/46.5W, with maximum sustained winds near 80 mph. Beryl is forecast by NHC to maintain hurricane intensity as it approaches the Lesser Antilles on Sunday, 8 July. Beyond then, Hurricane Beryl is forecast to weaken to a tropical storm as it tracks across the northeastern Caribbean, possibly reaching Haiti by Tuesday (10 July). Below average rainfall is predicted for the eastern low-latitude Atlantic during the entire forecast period. This is related to colder-than-normal sea surface temperatures (SSTs), and higher vertical wind shear associated with the low-frequency footprint of a developing El Nino.

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There is a weak MJO signal apparent in both the RMM-based and CPC velocity potential-based indices, with the enhanced (suppressed) phase over Africa and the Indian Ocean (Pacific). The presence of an intraseasonal signal is more apparent in the wind field than the convective anomalies. During the past 1-2 weeks, westward moving modes of variability, such as tropical cyclones (TCs) and equatorial Rossby waves (ERWs), have interfered with eastward moving modes such as the MJO and Kelvin waves. At present, Kelvin waves are over the west-central Pacific and near 60W over the Atlantic. Uncertainty is high among the dynamical model RMM-index forecasts. The GEFS predicts a weak subseasonal signal, well within the unit circle during Week-1, with possible strengthening of the signal during Week-2 as it emerges over the eastern Indian Ocean/western Maritime Continent region and then propagates across

phase 4 and into phase 5. The CFSv2 predicts a weak signal that remains within the western half of the unit circle (phases 1, 8 and 7) during the two-week forecast period. The Canadian and ECMF RMM-based index forecasts, like the GEFS, depicts a weak intraseasonal signal within the unit circle during Week-1; with an emerging, amplifying signal somewhere between phases 3 (Canadian) and 5 (ECMF) during Week-2, with subsequent eastward propagation. Based on these index projections, there appears to be a reasonable consensus for a gradually intensifying subseasonal signal that emerges from the unit circle in the general vicinity of the Maritime Continent region.

TC activity recently ramped up over the Northern Hemisphere. Category-1 Typhoon Prapiroon (also known as Florita) moved over the southern Japanese islands of Okinawa, and is approaching the Sea of Japan. The Joint Typhoon Warning Center (JTWC) based in Pearl Harbor predicts Typhoon Prapiroon will gradually curve more to the northeast as it moves across the Sea of Japan and Hokkaido and weakens. A tropical depression (10W) formed in just the past 24 hours over the western North Pacific about 200 nautical miles south-southeast of Guam. This system is predicted by JTWC to track northwestward across the Marianas, with a slight shift to the north possible after departing the island chain. 10W is forecast to steadily intensify, with maximum sustained winds possibly reaching 100 knots near 22N/140E by 8 July. Over the East Pacific basin in late June, Tropical Storm Emilia formed from a tropical wave that crossed over Costa Rica. It reached its peak intensity of 60 mph approximately 600 miles southwest of Manzanillo, Mexico. Tropical Storm Emilia eventually succumbed to strong vertical wind shear on 2 July. The next system to develop, Hurricane Fabio, is currently (8am PDT, 3 July) about 650 miles southwest of the southern tip of Baja California. Peak sustained winds are near 105 mph, and additional strengthening is possible today. For Week-2, JTWC is indicating potential tropical cyclogenesis in the western North Pacific, slightly to the east of where TD 10W formed. Another area that needs to be watched is the East Pacific later in the Week-2 period, as the Kelvin wave currently over the west-central Pacific reaches that area.

In the absence of robust MJO-related convective anomalies in recent observations, the forecasts for enhanced or suppressed rainfall rely primarily on a consensus of dynamical model forecasts and anticipated TC activity. Early in Week-1, Typhoon Prapiroon is expected to bring above-average rainfall to Japan as it passes nearby. Tropical Depression 10W is forecast to bring above-average rainfall to the Mariana Islands and elsewhere along its projected northwesterly track. Over the East Pacific, Hurricane Fabio is expected to be accompanied by heavy rain as it tracks towards the northwest. Two areas of below-average rainfall are indicated by the CFS and ECMWF precipitation forecasts for Week-1; the far eastern portions of both the tropical East Pacific and tropical eastern Atlantic. During Week-2, the best chances for above-average rainfall associated with the intraseasonal signal lie within a broad region encompassing the Bay of Bengal, Maritime Continent, and far western Pacific. This general area is where the RMM-based index forecasts predicted the potential emergence of an amplifying MJO signal during Week-2, and these forecast areas are also common to both CFS and ECMWF precipitation predictions. Above-average rainfall is also anticipated in the American Southwest and adjacent portions of

northwestern Mexico, associated with the early stages of the summer monsoon. Precipitation forecasts also favor an area of below-average rainfall over the eastern tropical Pacific.

Forecasts over Africa are made in consultation with the CPC international desk, and can represent local-scale conditions in addition to global-scale variability.