

SEASONAL OUTLOOK OF THE EAST ASIAN WINTER MONSOON IN 2013/14

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ABSTRACT

1. Oceanic conditions

Tropical oceanic condition is the most important signal for the winter outlook in view of its predictability and effects on variability of jet streams.

In September 2013, conditions in the northern hemisphere summer, which were similar to those observed during the past La Niña events, became unclear, and ENSO neutral conditions continued in the equatorial Pacific. The JMA's CGCM predicts that the NINO.3 SST will be near normal during next winter. It is likely that ENSO neutral conditions will continue in the northern hemisphere autumn and winter. On the other hand, the area-averaged SST in the tropical western Pacific (NINO.WEST) region was above normal in September. The model predicts that this condition will continue until the coming winter. This anomaly is the key point of the coming winter outlook.

2. Outlook for East Asian winter monsoon

In association with the SST anomaly patterns, convective activity is predicted to be stronger than normal in the western tropical Pacific. In the upper troposphere, anti-cyclonic circulation anomalies are predicted from the southeastern part of Asian Continent to the East China Sea, representing that the subtropical jet stream shifts northward there and shifts southward east of Japan. In association with the southward meandering of the jet stream, the Aleutian low is predicted to be stronger and shift more westward than normal, suggesting stronger-than-normal winter monsoon in East Asia. There is almost no signal showing that the Arctic Oscillation (AO) and Eurasian teleconnection pattern (EU) will prevail, and the model does not have sufficient capability to predict the AO and EU accurately. Thus, the tendency of the AO and EU are

not taken into consideration in this forecast. As a result, the East Asian winter monsoon will be normal or stronger than normal in the coming winter

3. Summary of the winter outlook for Japan

JMA issued the winter outlook on 25th September. It says that mean temperatures are expected to be near normal or below normal, both with a 40% probability, in northern, eastern and western Japan. Total precipitation amounts are expected to be near normal or above normal, both with a 40% probability, on the Sea of Japan side in northern and eastern Japan, and to be near normal or below normal, and both with a 40% probability, on the Pacific side in eastern and western Japan. Total snowfall amounts are expected to be near normal or above normal, both with a 40% probability, on the Sea of Japan side in northern, eastern and western Japan.