The 4th East ASian winter Climate Outlook Forum (EASCOF) Ulaanbaatar, Mongolia 8-9 November 2016

1. Introduction

In the agreement at the Thirteenth Session of the Joint Meeting for Seasonal Prediction of the East Asian Winter Monsoon (EAWM), the East Asia winter Climate Outlook Forum (EASCOF) was established as a WMO sub-regional COF. The EASCOF has been run since 2013, hosted alternately by NAMEM, JMA and KMA. The 4th session of EASCOF was held in Ulaanbaatar of Mongolia from 8 to 9 November 2016. More than 35 researchers and experts from China, Japan, Republic of Korea and Mongolia attended EASCOF this year.

The 4th session of EASCOF covered the seasonal hot topics including Overview of Recent climate over the East Asia and the East Asian winter Monsoon variability, ENSO outlook and seasonal outlooks for 2016/2017 winter using statistical and dynamical models. About 18 talks were presented and discussed at the 4th session EASCOF.

2. Climate review of 2016 summer

Summary: During the 2016 summer, mean temperature was above normal over East Asia, with unusual warm August. Rainfall was near normal over China and Mongolia with spatial variability, below normal over Korea and significantly above normal over northern Japan.

CMA:

In the summer of 2016, the average temperature of China is 21.8 ℃, which is 0.9℃ higher than normal, while the average precipitation is 343.4 mm, 5.6% more than normal. During this summer, two rainfall belts were observed over eastern China, located over Yangtze River valley (YRV) and North China, respectively. From June to July, YRV is the main region of precipitation. However the distribution of precipitation reverses in August. Except for South China, precipitation was below normal in most part of eastern China.

KMA:

South Korea experienced above-normal temperature and below-normal rainfall in 2016 summer. The summer-mean temperature over South Korea was 24.8^{o}C, which was +1.2 ^{o}C above than normal (1981~2010 average). In particular, the extreme events of daily maximum temperature above the 90th percentile (top 10 percent of all occurrences) were observed during the period from late-July through mid-August. The summer-mean rainfall (445.7mm) ratio to normal (723.2mm) over South Korea was 62%, which was recorded as the 5th lowest rainfall amount since 1973. The June, July, and August rainfall ratios were 41%, 105%, and 28%, respectively. It is interesting to note that the rainfall amount during July 1st through 6th was 222.6mm corresponding to almost 70% of July normal rainfall (289.7mm). 2016 Changma started on June 18 and ended on July 30 and its rainfall was slightly below normal (332.1mm, normal: 356.1mm). The rainfall in August was extremely less than normal due to the influence of long-lasted anomalous anticyclone over northeastern China. In addition, South Korea had no influence from typhoons in August.

JMA:

Seasonal mean temperatures were above normal in northern, eastern and western Japan, and the highest on record since 1946 in Okinawa/Amami. Seasonal precipitation amount was significantly above normal in northern Japan.

NAMEM:

Mongolia experienced above normal temperature and normal precipitation in 2016 summer. The summer mean temperature over Mongolia was 18.6^{o}C, which was the above normal (1981-2010 average), especially western and eastern part of Mongolia. The June, July and August temperature anomalies were 0.0^{o}C, 2.1^{o}C and 1.7^{o}C, respectively. The summer total precipitation was 144 mm, which was near normal, with low rainfall

August.

3. Monitoring and Outlook on ENSO

Summary: Weak La-Nina is expected during winter 2016/2017.

CMA: At present, La Niña conditions are in the equatorial Pacific. A weak La Niña event is expected to possibly during the winter 2016/17.

KMA: Weak La-Nina is expected during winter 2016/2017.

JMA: La-Nina condition will continue with 60% chance during the winter 2016/2017.

4. Outlook of 2016/2017 Winter Monsoon

Summary: East Asian winter monsoon is likely to be stronger than normal.

CMA: stronger than normal EAWM

JMA: EAWM will be stronger mainly over western and southern Japan.

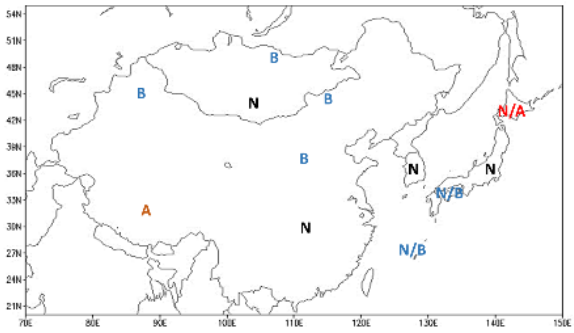
KMA: near normal and a little stronger than normal winter monsoon

NAMEM: near normal and a little stronger than normal winter monsoon

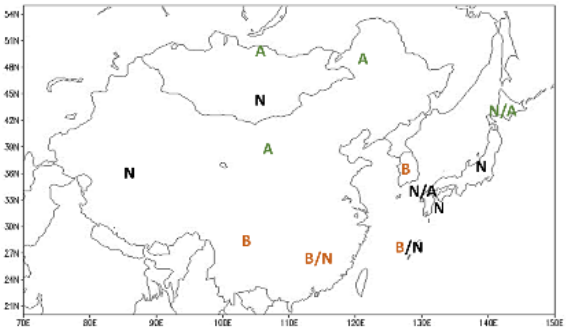
5. Remarks on seasonal forecasts

Summary: 2016/2017 Winter temperature is expected to below normal over northern part of East Asia and south eastern Japan. Over northen Japan and south east China, the temperature is expected to be above normal. Precipitation is expected to be above normal over north western part of East Asia and below normal over southern China, Korea and far southern Japan.

a) Temperature



b) Precipitation



6. Other issues

6.1 All EASCOF-4 materials such as presentations, summary and participants list are availa ble on the dedicated website.

6.2. As a WMO sub-regional COF, this EASCOF-4 activity will be reported to the WMO by the NAMEM as soon as possible after circulation to all participants.

6.3. Date and place of the EASCOF-5: The session was pleased to note that Japan would ho

st the EASCOF-5 in October or November 2017. The time and venue will be determined later on.