TCC Activity Report for 2010

The Tokyo Climate Center (TCC) of the Japan Meteorological Agency (JMA) has prepared the *Activity Report of the Tokyo Climate Center for 2010*, covering climate-related activities by TCC in 2010 and its plans for 2011.

1. New Content on the TCC Website

TCC operates a website that provides climate-related operational data and products as well as presentation materials used in meetings and training events (http://ds.data.jma.go.jp/tcc/tcc/index.htm).

The Center makes annual and monthly mean global average temperature data available through its website, and the provision of seasonal mean global average temperatures (i.e., for winter, spring, summer and autumn in the Northern Hemisphere) was commenced in September 2010.

A useful web-based tool for climate diagnosis referred to as ITACS (Interactive Tool for Analysis of the Climate System) enables users not only to monitor the current climate status but also to analyze the complex systems that lie behind climatic conditions. In July 2010, an ITACS tutorial was made available on the ITACS web page (http://jra.kishou.go.jp/itacs-info/tcc/itacsinfo.html). As of the end of 2010, a number of NMHSs in the Asia-Pacific region (Indonesia, Thailand, Sri Lanka, Laos, Mongolia, Bangladesh, Philippines, Vietnam, Malaysia and China) were registered as ITACS users.

2. Improvements to JMA's Ensemble Prediction System for Long-range Forecasting

JMA improved its ensemble prediction system for long-range forecasting in February 2010. The main updates were: (1) introduction of a coupled ocean-atmosphere general circulation model to replace the atmospheric general circulation model; (2) a change in ensemble techniques and EPS operation; and (3) provision of new grid point value products. In conjunction with these updates, relevant data and products (including monthly GPV data from individual ensemble members in addition to ensemble mean data and hindcast data) were also made available on the TCC web page (for registered NMHSs only). Please refer to TCC News No. 19 for details (http://ds.data.jma.go.jp/tcc/tcc/news/tccnews19.pdf).

3. Training Activities

JMA has conducted training courses in meteorology for experts from NMHSs since 1973 on an annual basis as one of the training initiatives provided by the Japan International Cooperation Agency (JICA). The 2010 course was held from September to December with an emphasis on the operational use of numerical weather prediction, satellite meteorology and climate information. In the climate information session, staff members from the Climate Prediction Division gave lectures on climate system monitoring, long-range forecasting, the El Niño outlook and global warming projection to four participants from Bhutan, Cambodia, Iran and Malaysia.

4. International Cooperation

In March 2010, a JMA expert visited the National Centre for Hydro-Meteorological Forecasting (NCHMF) of the Vietnamese National Hydro-Meteorological Service to discuss and exchange views for further improvement of the climate services provided by NCHMF and TCC.

In December 2010, at the request of the Indonesia Meteorological, Climatological and Geophysical Agency (BMKG), TCC hosted two experts from BMKG for three days. They learned about JMA's operational climate prediction and ocean wave models as well as their utilization.

TCC experts participated in a number of international meetings, including the sixth session of the Forum on Regional Climate Monitoring, Assessment and Prediction for Regional Association II (FOCRAII) held at the Beijing Climate Center in April, the first session of the South Asian Climate Outlook Forum (SASCOF) held in

Pune, India in April, and the 11th Joint Meeting for the Seasonal Prediction of the East Asian Winter Monsoon in Seoul in November, organized by the Korea Meteorological Administration. These experts gave presentations on recent TCC activities, introduced the data and products available on the TCC website, and participated in discussions on the seasonal outlook for the coming season.

5. Future Plans

TCC will update its web page (http://ds.data.jma.go.jp/tcc/tcc/index.html) in March. The updated page will provide links to data and products in line with RCC mandatory functions ((1) operational activities for LRF, (2) operational activities for climate monitoring, (3) operational data services to support operational LRF and climate monitoring, and (4) training in the use of operational RCC products and services).

In February 2011, hindcast data for three-month and warm/cold season prediction (maps and charts) will be made available on the TCC website.

In March 2011, JMA will update its one-month forecasting model. Accordingly, relevant hindcast data will be made available on the TCC web page in advance (for registered NMHSs only).

As to improvements in JMA's ensemble prediction system for long-range forecasting, TCC will consider providing 1.25° x 1.25° grid GPV data for the Asian region in 2012.

In order to facilitate the utilization of seasonal forecast data, TCC will hold a training seminar on the application of seasonal forecast GPV data to seasonal forecast products in January. It will also hold another training seminar on seasonal prediction this autumn focusing on one-month forecasts.

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