

# TCC Recent Development and Activity

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The Tokyo Climate Center (TCC) of the Japan Meteorological Agency (JMA), as a WMO Regional Climate Center, assists National Meteorological and Hydrological Services (NMHSs) in the Asia-Pacific region in the implementation of climate services through the provision of climate information, data and products, and capacity-development activities. In the presentation, recent TCC's development and activity will be introduced including the following topics.

## Forecast Products in Support of Early Warnings for Extreme Weather Events

In August 2014, JMA started new forecast products via the TCC website to support early warnings for extreme weather events. Early warnings for extreme events on a sub-seasonal time scale are of great benefit in socio-economic activities such as mitigating the effects of floods and heatwaves and ensuring appropriate food and water supplies. The products include maps of the Extreme Forecast Index (EFI), extreme weather warnings based on the EFI and probabilistic forecasts for extreme conditions together with the EPSgram covering the period up to two weeks ahead (<http://ds.data.jma.go.jp/tcc/tcc/gpv/EFI/index.php>). TCC developed a set of extreme weather warning products based on JMA's operational one-month ensemble prediction system (EPS) to support the provision of early warnings for extreme events. These products are intended to act as complementary information on weather conditions for decision-makers, and can be used in addition to historical and real-time information from climate monitoring.

## Contribution to the Global Framework for Climate Services – Climate Risk Management –

The Global Framework for Climate Services (GFCS) is intended to enable better management of climate related risk. At its 15th session held in Doha, Qatar in December 2012, the WMO Regional Association urged development of case studies demonstrating good practices in climate risk management (CRM) and, under these circumstances, JMA has developed a new website for CRM (<http://www.data.jma.go.jp/gmd/risk/en/index.html>), which is linked to the TCC website. The new website includes information on the following to support CRM activities in Japan:

- Clarification of the basic CRM concept and related processes
- Good practices in CRM conducted by JMA together with partner organizations in the agriculture and apparel/fashion industries.

## Plans for 2015

TCC plans to further enhance its services to contribute to assist to NMHSs for the provision of better climate services in RA II, particularly as follows: (i) To implement a major upgrade of its Seasonal Ensemble Prediction System for operational three-month and warm/cold season forecasting by the summer of 2015. (ii) To investigate of ENSO's impact on the global climate using the JRA-55 long-term reanalysis dataset. Teleconnection indices (e.g., the Arctic Oscillation Index) are also being developed using JRA-55 to enhance monitoring of atmospheric circulation. TCC plans to make the investigation results and the indices available online in 2015. (iii) To upgrade [the Interactive Tool for Analysis of the Climate System \(ITACS\)](#) to version 5.0 in 2015. The new version will have a renovated Graphical User Interface (GUI) to reduce network traffic and user burdens, and will feature a new function enabling the generation of one-month probabilistic forecasts at station points based on the Model Output Statistics (MOS) technique with 30-year (1981 – 2010) hindcasts.