

# TCC Activity Report for 2018

In 2018, the Tokyo Climate Center (TCC) continued to support the climate services of National Meteorological and Hydrological Services (NMHSs) in Asia-Pacific countries by providing and enhancing data and products, holding training seminars, dispatching experts and hosting visitors.

## 1. Enhancement of data/products/tools on the TCC website

### 1.1 Issuance of special reports on extreme events

In a mandate role as a WMO Regional Climate Center (RCC) in Regional Association II (RAII), TCC monitors world climate conditions with focus on Asia and its surrounding area. The Center issues reports on extreme climate events and summaries of the Asian summer/winter monsoon on its website (<https://ds.data.jma.go.jp/tcc/tcc/products/clisys/reports/index.html>).

From December 2017 to February 2018, a series of extreme cold spells hit Japan and its surrounding areas, and cold air consequently prevailed nationwide. Against this background, TCC issued a press release on primary factors causing the severe winter conditions affecting the nation. A total of three reports were issued in English and made available on the TCC website ([https://ds.data.jma.go.jp/tcc/tcc/news/press\\_20180205.pdf](https://ds.data.jma.go.jp/tcc/tcc/news/press_20180205.pdf), [https://ds.data.jma.go.jp/tcc/tcc/news/press\\_20180223.pdf](https://ds.data.jma.go.jp/tcc/tcc/news/press_20180223.pdf), [https://ds.data.jma.go.jp/tcc/tcc/news/press\\_20180320.pdf](https://ds.data.jma.go.jp/tcc/tcc/news/press_20180320.pdf)).

In early July, Japan experienced significant rainfall particularly from western Japan to the Tokai region mainly (The Heavy Rain Event of July 2018), which caused widespread havoc nationwide. It was followed by heat wave that persisted over most of Japan in setting the highest temperature on record in late July. In this context, the Japan Meteorological Agency (with the help of the Tokyo Climate Center Advisory Panel on Extreme Climatic Events (see [TCC News No. 28](#))) investigated atmospheric and oceanic conditions considered to have contributed to such climate extremes and summarized related primary factors. A comprehensive report is available on the website ([https://ds.data.jma.go.jp/tcc/tcc/news/press\\_20180822.pdf](https://ds.data.jma.go.jp/tcc/tcc/news/press_20180822.pdf)).

### 1.2 Questionnaire Survey regarding the Monthly Discussion on Seasonal Climate Outlook

TCC's Monthly Discussion on Seasonal Climate Outlook bulletin is mainly intended to assist NMHSs in the Asia-Pacific region in interpreting and assessing the World Meteorological Center Tokyo's products for three-month prediction and warm/cold season prediction and in understanding the current conditions of the climate system. As around four years have passed since the product's launch, TCC has conducted a questionnaire survey for improvement based on feedback from NMHS staff. Aggregate results will be made available once processing is complete for reflection toward enhancement of the bulletin.

## 2. Capacity development

TCC holds annual training seminars as part of capacity-development activities related to its role as an RCC in RA II. In addition to running annual training seminars, it also arranges expert visits to and hosts visitors from NMHSs to support exchanges of views on climate services and the effective transfer of technology.

### 2.1 Training seminar

TCC holds a training seminar in each of its fiscal years (from April to March), and also held a seminar on one-month forecasts in November 2018. Details of the events are reported in [TCC News No. 54](#).

## **2.2 Expert visits and other follow-up activities**

TCC experts visited the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) in July, to hold a “TCC follow-up training seminar on Seasonal Forecasts and on the basic operation of TCC’s Interactive Tool for Analysis of the Climate System (iTacs)”. Discussions on future cooperation with PAGASA were also held ([TCC News No. 53](#)).

Other follow-up to previous TCC training seminars included hosting visiting experts at TCC and conducting teleconferences to provide technical support.

## **3. International meetings**

### **3.1 Regional Climate Outlook Forums**

RCCs are expected to actively contribute to and lead profound discussions in Regional Climate Outlook Forums (RCOFs). In 2018, TCC experts participated in the following RCOFs in Asia:

- Fourteenth session of the Forum on Regional Climate Monitoring, Assessment and Prediction for Regional Association II (FOCRA II-14) held in Nanning, China, from 24 to 26 April
- Twelfth session of the South Asian Climate Outlook Forum (SASCOF-12) held in Pune, India, from 18 to 20 April
- Thirteenth session of the South Asian Climate Outlook Forum (SASCOF-13) held in Colombo, Sri Lanka, from 26 to 28 September
- Sixth session of the East Asia winter Climate Outlook Forum (EASCOF-6) held in Seoul, the Republic of Korea, from 7 to 9 November

TCC attendees gave presentations on seasonal predictions based on JMA’s numerical model and participated in discussions toward the formulation of a consensus statement on regional forecasts.

A TCC expert also gave an online presentation of the Center’s climate outlook at the 11th session of the ASEAN Climate Outlook Forum (ASEANCOF-11).

### **3.2 WMO international Workshop on Global Review of RCC Operations**

In autumn 2018, TCC dispatched its RCC operations expert Akihiko Shimpo to the WMO International Workshop on Global Review of RCC Operations, held from 12 to 14 November 2018 in Pune, India. Mr. Shimpo attended the workshop and contributed to discussions on various aspects of RCC operations from regional and global-center viewpoints.

### **3.3 WMO RA II Working Group on Climate Services (WGCS)**

In December, TCC head Yasushi Takatsuki and TCC expert Yasushi Mochizuki attended a meeting of the WMO RA II Working Group on Climate Services (WGCS) in Beijing, China, and engaged in discussions on the work of the WGCS with special focus on implementation of the Climate Services Information System (CSIS) on a regional level in RA II.

### **3.4 Other meetings**

TCC expert Atsushi Minami attended the second WMO Workshop on Operational Climate Prediction held in Barcelona, Spain, from late May to early June. Mr. Minami presented TCC's various contributions in its mandated role as an RCC supporting the operational climate prediction work of NMHSs.

Mr. Takatsuki and Mr. Mochizuki attended the sixth session of the Management Committee of the Intergovernmental Board on Climate Services held in Rome, Italy, in October to contribute to the implementation and management of GFCS.

In March 2018, former TCC head Kiyotoshi Takahashi attended the Scoping Meeting on the Implementation of Third Pole Regional Climate Centre Network (TPRCC-N) in Geneva, Switzerland, to consider needs and capabilities relating to RCC operations in the Third Pole region. In December 2018, TCC head Yasushi Takatsuki attended an implementation planning meeting of the TPRCC-N in Beijing, China, to help develop a detailed implementation plan for the establishment of the network.

#### **4. Publications**

TCC has published its newsletter (TCC News) on a quarterly basis since 2005. The publication is intended to enhance communication and provide information to NMHSs and related communities about recent TCC developments, events and activities as well as details of the Center's reports on the state of the climate, monitoring results and outlooks. In 2018, TCC News No. 51 – 54 were issued and made available on the TCC website.

The Japan Meteorological Agency's annual [Climate Change Monitoring Report](#) is also available on the TCC website for 2017.

#### **5. Staff changes**

Kiyotoshi Takahashi, who served as the head of TCC in 2016, transferred to work as the director of the Narita Aviation Weather Service Center on 1st April 2018. He was succeeded by Yasushi Takatsuki, who previously worked on the coordination of activities regarding climate change and global warming.

#### **6. Plans for 2019**

##### **- Contribution to the Global Framework for Climate Services (GFCS)**

RCCs are expected to play a major role in the implementation of the GFCS. TCC plans to further strengthen its activities and lead RA II's contribution to the Framework. Such activities include the provision of further assistance to NMHSs for better climate services, as well as maintenance of the portal site for Information Sharing on Climate Services in RA II.

##### **- New/upgraded data, products and tool development**

A new web-based app designed to support the generation of one-month forecast guidance information will be launched in the first half of 2019. This handy resource was trialed at the previously reported training seminar in 2018, and the valuable feedback received from trainees was considered for further improvement ahead of its release. TCC also plans the imminent provision of new information and products based on the Standardized Precipitation Index (SPI) for better monitoring of droughts worldwide.

Further related efforts include investigation of teleconnection indices (e.g., the Arctic Oscillation Index) to enhance monitoring of atmospheric circulation with the use of the JRA-55 long-term

reanalysis dataset. TCC plans to publish the investigation results and the indices on its website as soon as material is ready.

**- Capacity development**

In the last quarter of the year, TCC will hold its annual training seminar with a dozen invited experts as attendees. The Center will also continue to dispatch experts to NMHSs as necessary and host visitors from NMHSs upon request.