WORLD METEOROLOGICAL ORGANIZATION

REGIONAL CLIMATE CENTRE TOKYO

The range of the WMO Regional Climate Centre Tokyo (RCC Tokyo) extends beyond the WMO Region II (Asia) to cover the Asia-Pacific region. The RCC is coordinated by the Tokyo Climate Centre (TCC), operated by the Japan Meteorological Agency (JMA).

Linkage with WMO Regional Climate Centres

RCC Tokyo collaborates with the Regional Climate Centre Beijing, the Regional Climate Centre Pune, and the South-East Asia Regional Climate Centre Network.

Linkage with WMO Regional Climate Outlook Fora

In collaboration with the World Meteorological Centre Tokyo, RCC Tokyo dispatches experts to and provides forecast products for various Regional Climate Outlook Forums:

- The Forum on Regional Climate Monitoring, Assessment and Prediction for WMO Regional Association II (Asia, FOCRAII)
- The South Asian Climate Outlook Forum (SASCOF)
- The Association of Southeast Asian Nations Climate Outlook Forum (ASEANCOF)
- The North Eurasian Climate Outlook Forum (NEACOF)
- The East Asia winter Climate Outlook Forum (EASCOF).

RCC Tokyo organizes the EASCOF on a rotating basis with National Meteorological and Hydrological Services (NMHSs) of China, Mongolia and Republic of Korea and maintains the EASCOF website.

Mandatory functions

All WMO RCCs fulfill a set of mandatory functions related to seasonal prediction, climate monitoring, data services and training. Listed below are those performed by RCC Tokyo.

Seasonal prediction

- One-month and seasonal prediction maps of key parameters – surface air temperature, precipitation, geopotential height, sea-level pressure, etc.)
- Monthly discussion on seasonal climate outlooks
- Warm and cold seasonal prediction maps
- El Niño Southern Oscillation (ENSO) outlook
- Gridded numerical prediction data
- Verification of deterministic and probabilistic predictions

RCC Tokyo operates the JMA One-month Guidance Tool that allows users to obtain guidance forecasts for a given station in the region by submit the station's observational data and set parameters, that is to say the date of initial conditions, forecast period, etc.

OVERVIEW

Domain of responsibility: Asia-Pacific

Language: English

Status:

- Demonstration phase initiated: April 2002
- Designation by WMO: June 2009

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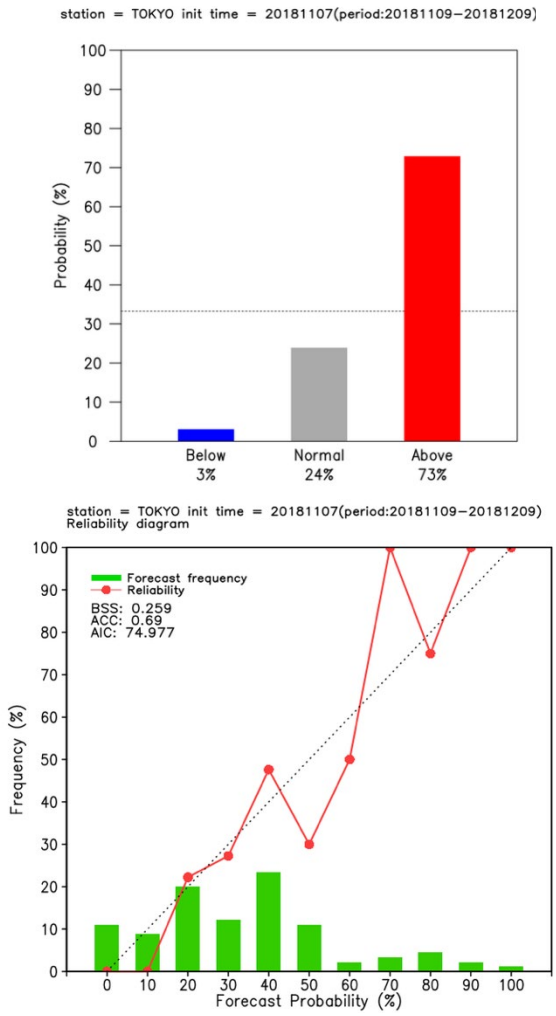
Climate features

The Asia-Pacific region climate is diversified. The main driver of the precipitation in the region is the Asian-Australian monsoon. The Third Pole, which encompasses the Tibetan Plateau, the Himalayas, the Hindu Kush, the Pamirs and the Tien Shan Mountains, is a high altitude cryospheric region that is highly sensitive to climate change.

Modes of variability

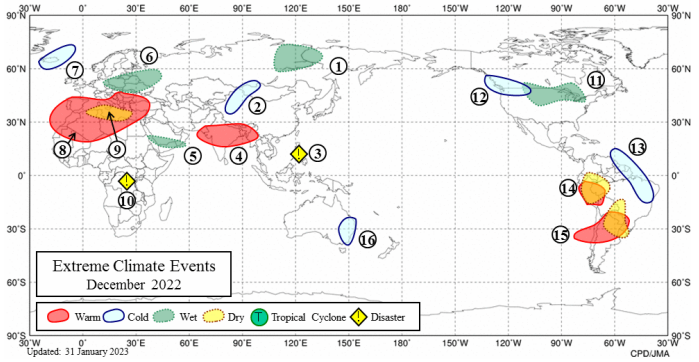
The climate of the Asia-Pacific region is affected by ENSO, the Indian Ocean Dipole, the Arctic Oscillation, the Madden-Julian Oscillation (MJO), continental snow cover, sea ice in the Arctic Ocean, etc.



JMA One-month Guidance Tool (open to registered NMHSs): Examples of forecast products for the Tokyo station

Climate monitoring

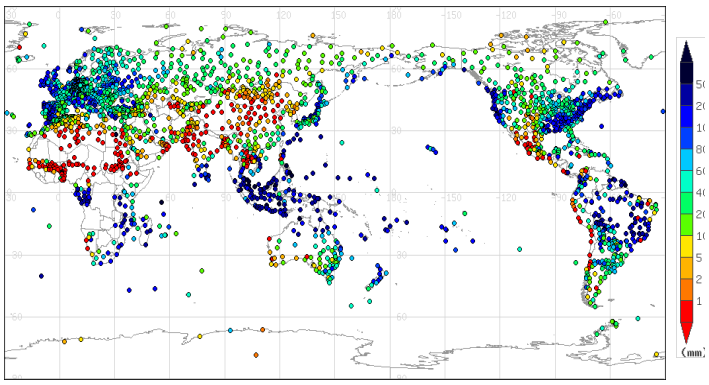
- Monthly and seasonal bulletins on the climate system
- Weekly, monthly, seasonal and annual reports on extreme events
- 5-day, 10-day, monthly and seasonal climate diagnostics
- Monitoring products for the Asian monsoon, stratospheric conditions, ENSO and MJO conditions
- Climatological normals of monthly surface air temperature and precipitation



Global extreme climate events for December 2022

RCC Toyko also hosts two powerful climate tools:

- ClimatView – allows users to visualize and download monthly temperature and precipitation data as well as Standardized Precipitation Index for some 600 stations in the world.
- iTacs (Interactive Tool for Analysis of the Climate System) – enables NMHSs to produce information on extreme climate events and to monitor the state of the climate.



Precipitation amount for December 2022 from ClimatView

Data services – RCC Tokyo provides one-month and seasonal prediction data as well as 30-year hindcasts (1991–2020).

Training – RCC Tokyo has been conducting training seminars (TCC Training Seminar) since 2008 on topics ranging from one-month and seasonal predictions to long-term climate change projections to improve the capacity of NMHSs in the region to produce climate information. Almost every year, RCC Tokyo dispatches experts to build capacity in NMHSs.

Recommended functions fulfilled

WMO RCCs are recommended to perform certain functions. Listed below are those performed by RCC Tokyo.

Climate prediction and climate projection - extreme weather warning maps for the upcoming week are issued daily. The warnings are based on the Extreme Forecast Index for the surface temperature, the 850 hectopascal (hPa) wind and precipitation.