

# Introduction to the TCC Training Seminar on Seasonal Prediction Products

11-15 November 2013



# Tokyo Climate Center (TCC)

- TCC serves as a WMO Regional Climate Center in the RA II.
- TCC supports NMHSs through data/information provision and capacity development activities.

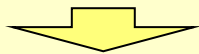
## Tokyo Climate Center (TCC)

### ● Provision of climate data and information via the Internet

- Seasonal forecasts
- Report on extreme events
- Climate system analysis
- Global warming
- Climate monitoring
- Reanalysis data

### ● Capacity Development

- Training seminar
- Expert visit

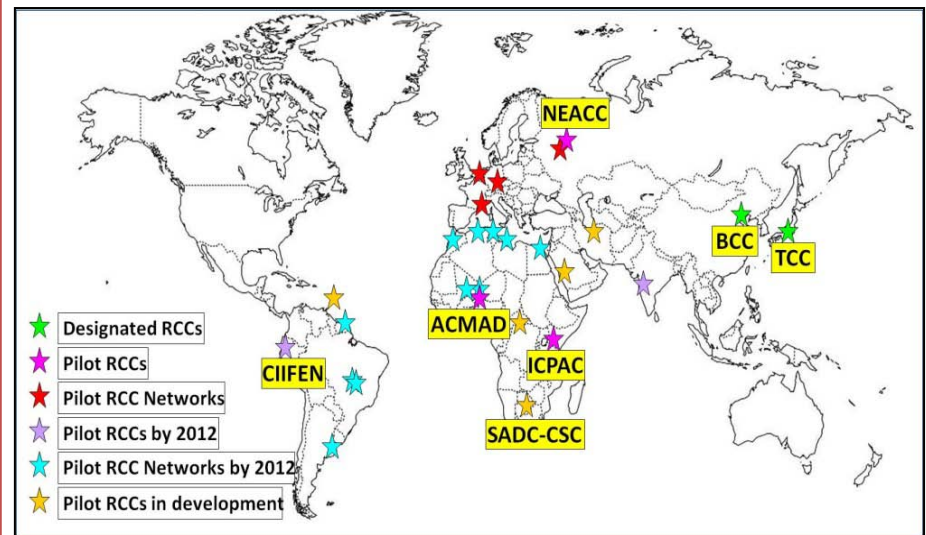


### NMHSs in Asia

- Provision of climate information using TCC data based on national requirements



- Natural disaster reduction
- Food security
- Water management



### Current status of establishment of RCC

TCC and BCC were designated as RCCs in RA II in 2009.

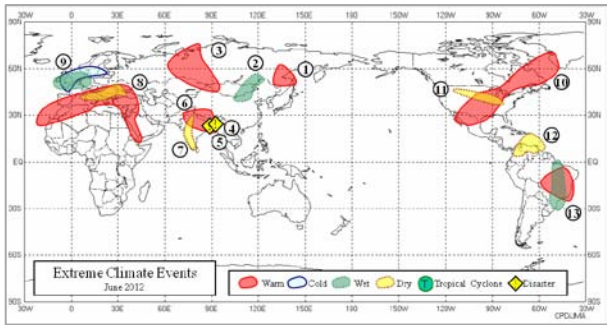
# TCC website

The screenshot shows the Tokyo Climate Center website with several callout boxes pointing to specific navigation and content areas:

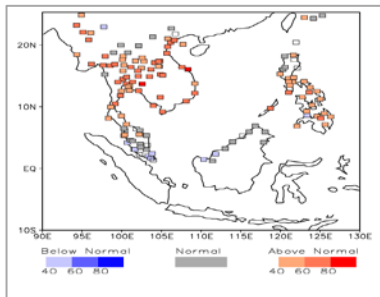
- World Climate**: Points to the 'World Climate' menu item.
- Climate System Monitoring**: Points to the 'Climate System Monitoring' menu item.
- El Niño Monitoring**: Points to the 'El Niño Monitoring' menu item.
- NWP Model Prediction**: Points to the 'NWP Model Prediction' menu item.
- Global Warming**: Points to the 'Global Warming' menu item.
- Climate in Japan**: Points to the 'Climate in Japan' menu item.
- Training Materials**: Points to the 'Training Module' menu item.

The website header includes the Japan Meteorological Agency logo, the Tokyo Climate Center name, and the WMO Regional Climate Center in RA II (Asia) logo. The navigation bar contains links for Home, World Climate, Climate System Monitoring, El Niño Monitoring, NWP Model Prediction, Global Warming, Climate in Japan, Training Module, Press release, and Links. The main content area features a list of news items with dates and 'NEW' tags, and a sidebar with sections for Operational Activities, Main Products, and Regional Climate Centers.

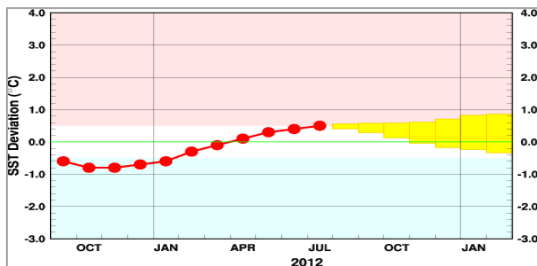
# Examples of climate information, data and products



## Monitoring of Extreme Climate Events



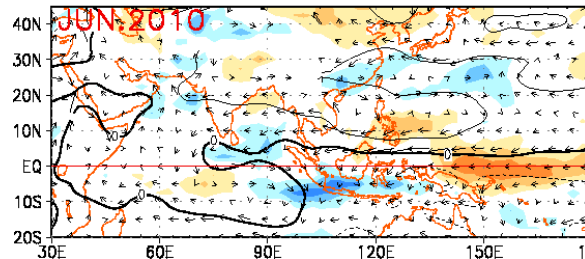
## One-month Probabilistic Forecast for Southeast Asia



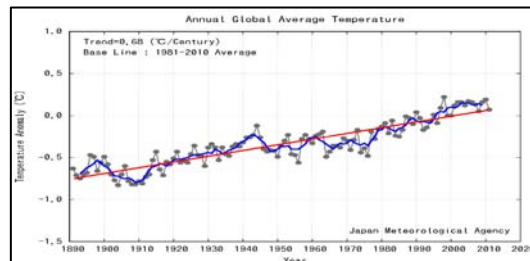
## El Niño outlook



## Climate database



## Asian Monsoon Monitoring



## Global Average Surface Temperature Anomalies

### Heavy rainfall over the Indochina Peninsula for June – September 2011

31 October 2011

Tokyo Climate Center, Japan Meteorological Agency

#### 1. Precipitation

In general, the Asian summer monsoon over the Indochina Peninsula lasts from around May to around October, and brings the rainy season. In 2011, precipitation over the Indochina Peninsula continued to be above normal from June to September, which caused floods over a wide area in the basins of the Chao Phraya River and the Mekong River. The flood has caused serious damage over the Indochina Peninsula especially in Thailand.

Four-month total precipitation from June to September 2011 was 120% – 180% of the normal for most meteorological observation stations over the Indochina Peninsula (Figure 1, center). Four-month total precipitation for the period amounts to 921mm (134% of the normal) at Chiang Mai in northern Thailand, 1251mm (140%) at Bangkok (the capital of Thailand), 1641mm (144%) at Vientiane (the capital of Laos) and 835mm (107%) at Phnom Penh (the capital of Cambodia). It is unusual that heavier-than-normal rainfall continued through the rainy season over the entire area of the basins (Figures 1 and 2).

The heavier-than-normal rainfall over the basin of the Chao Phraya River continued in the first half of October 2011.

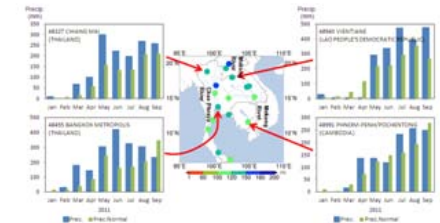


Figure 1 Spatial distribution of four-month precipitation ratio compared to normal (center) and the time series of monthly precipitation at Chiang Mai, Bangkok (Thailand), Vientiane (Laos), and Phnom Penh (Cambodia). The base period for the normal is 1981 – 2010. “X” in the figure for Vientiane represents that monthly data were not reported.

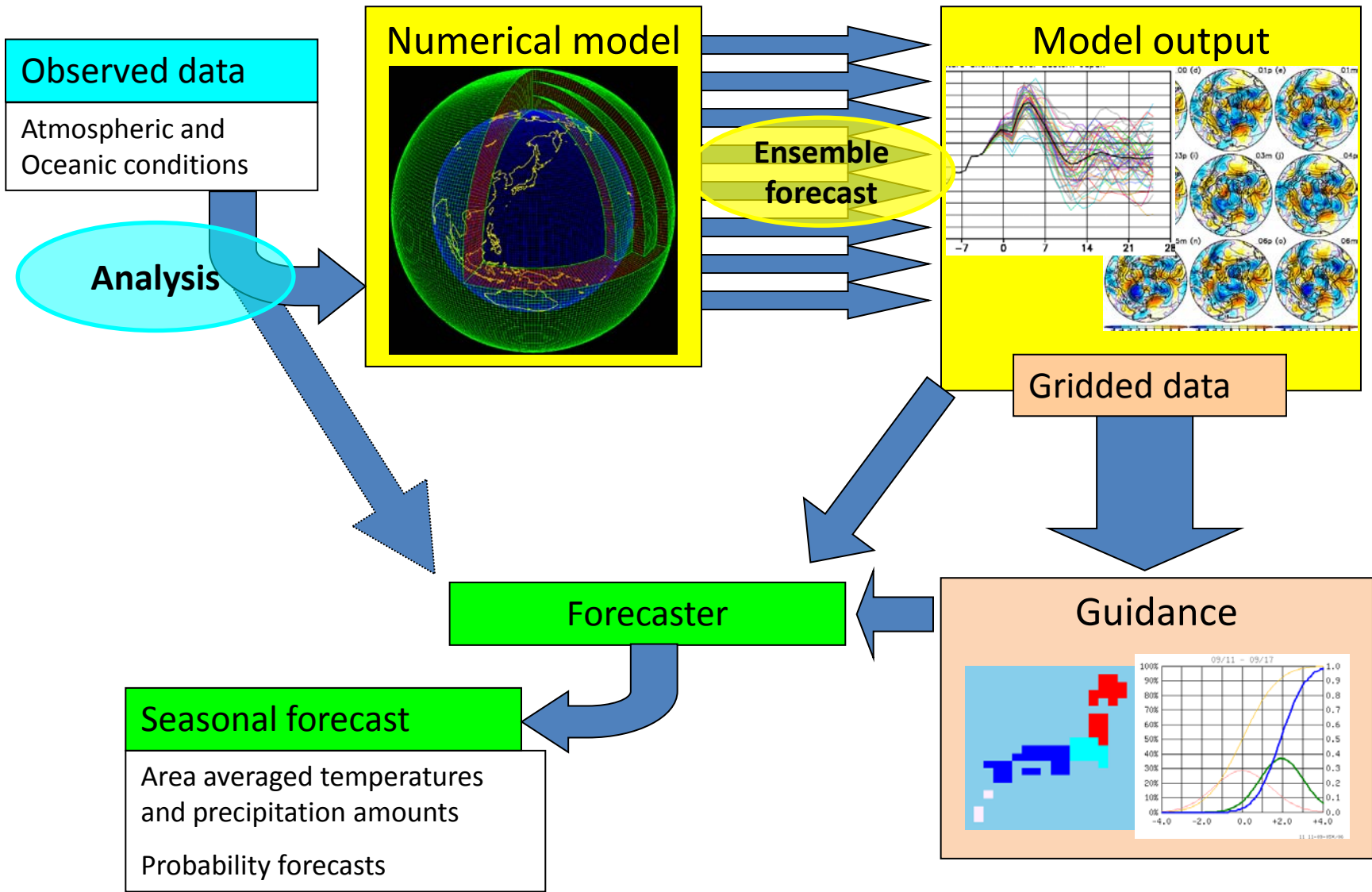
## Report on extreme climate event (Heavy rainfall over the Indochina Peninsula in 2011)



# Purposes of the Training Seminar on Seasonal Prediction Products

- To familiarize the participants with outputs of JMA's numerical prediction model
- To assist them in improving skills in generating seasonal prediction products using statistical downscaling methods





From Mr Umeda's presentation

# Day 1

- Introduction to Climatology
- Introduction of JRA-55 ( The Japanese 55-year Reanalysis)
- Introduction of ITACS (Interactive Tool for Analysis of the Climate System) and basic operation



# Day 2

- JMA's seasonal ensemble prediction system
- "Exercise: Use of gridded forecast data (how to download gridded forecast data and indices from the TCC website)"
- Seasonal Forecasting
- Introduction of seasonal forecast guidance





# Day 3-4-5

- Exercise: Seasonal Forecast
  - Producing guidance and verification
  - Producing forecasts of winter 2013/14
  - Preparation of presentation
- Presentation by participants



# Operational Seasonal Forecast

Seasonal Forecast has predictability limit.  
(Coupled model is not magic tool)



Information about reliability  
(Verification)

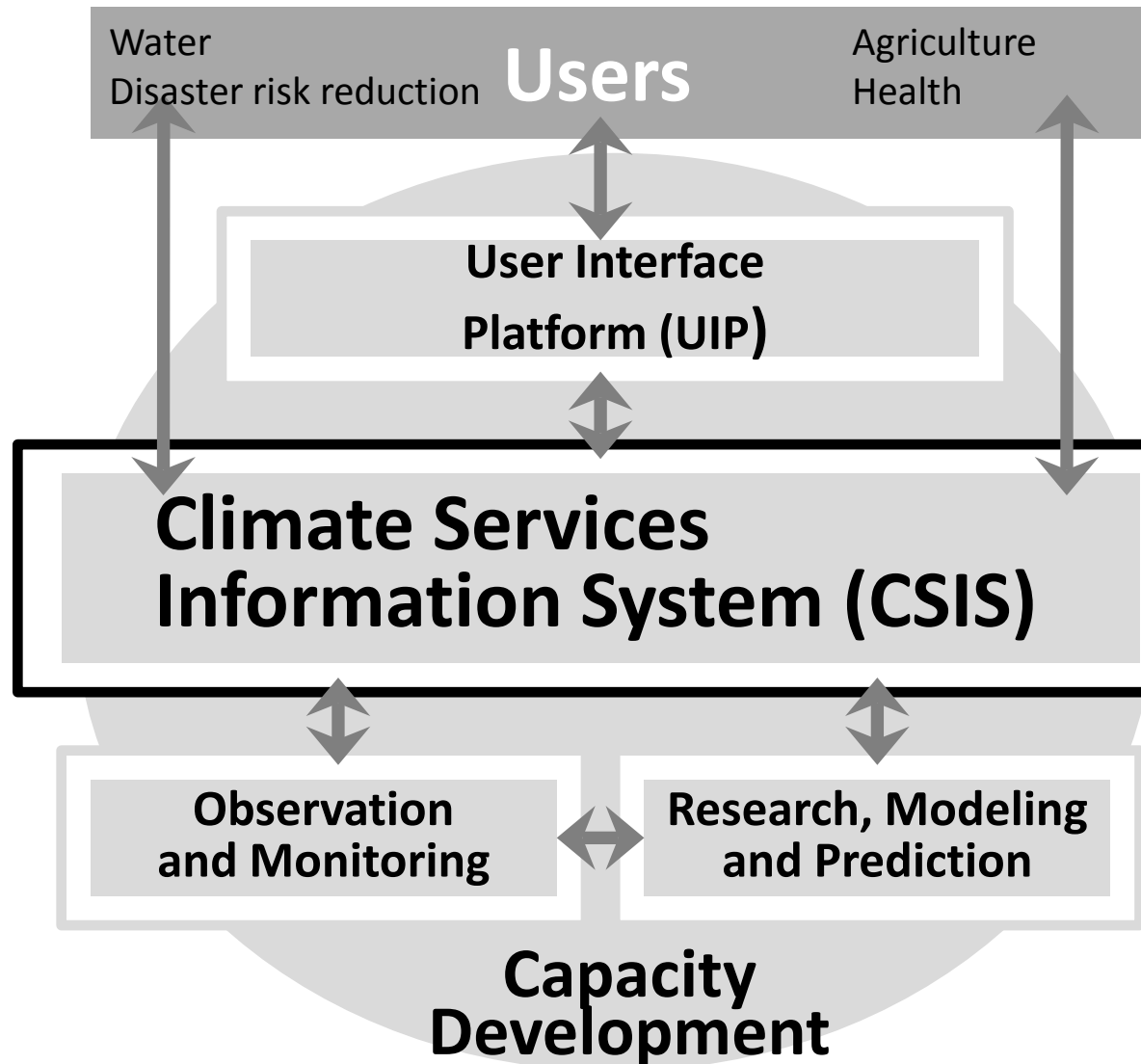
Probability Forecast

+

Explanation and Dialogue with users  
(User Interface Platform)



# Global Framework for Climate Services



*GFCS five pillars and their links to users*

# Global- Regional-National Levels

