TCC Recent Development and Activity

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Tokyo Climate Center (TCC)

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

Tokyo Climate Center (TCC)

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

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

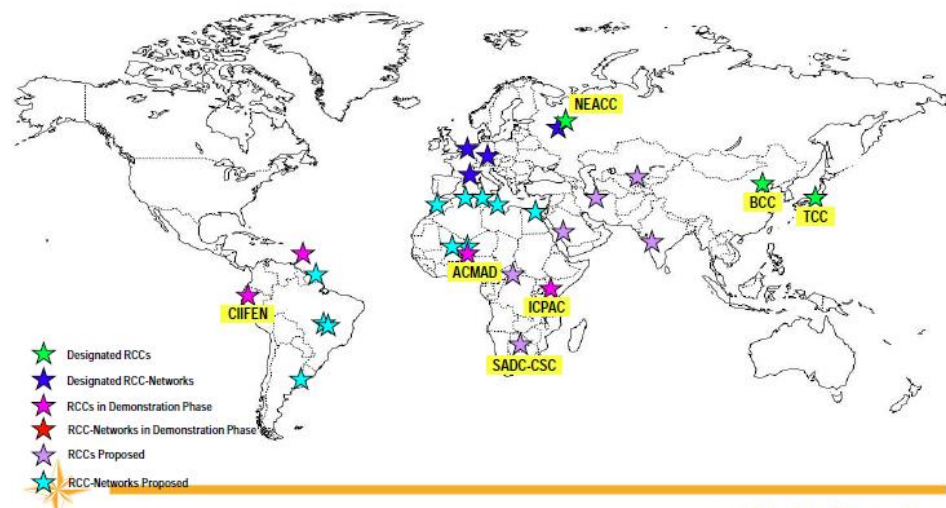● **Capacity Development**

- 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

★ Designated RCCs
★ Designated RCC-Networks
★ RCCs in Demonstration Phase
★ RCC-Networks in Demonstration Phase
★ RCCs Proposed
★ RCC-Networks Proposed

Current status of establishment of RCC
TCC and BCC were designated as RCCs in RA II in 2009.

1

TCC Website

http://ds.data.jma.go.jp/tcc/tcc/index.html

Outline of this presentation…

- ## Products launched in 2014

Forecast Products in Support of Early Warnings for Extreme Weather Events

Contribution to the Global Framework for Climate Services
– Climate Risk Management – launch of the dedicated website
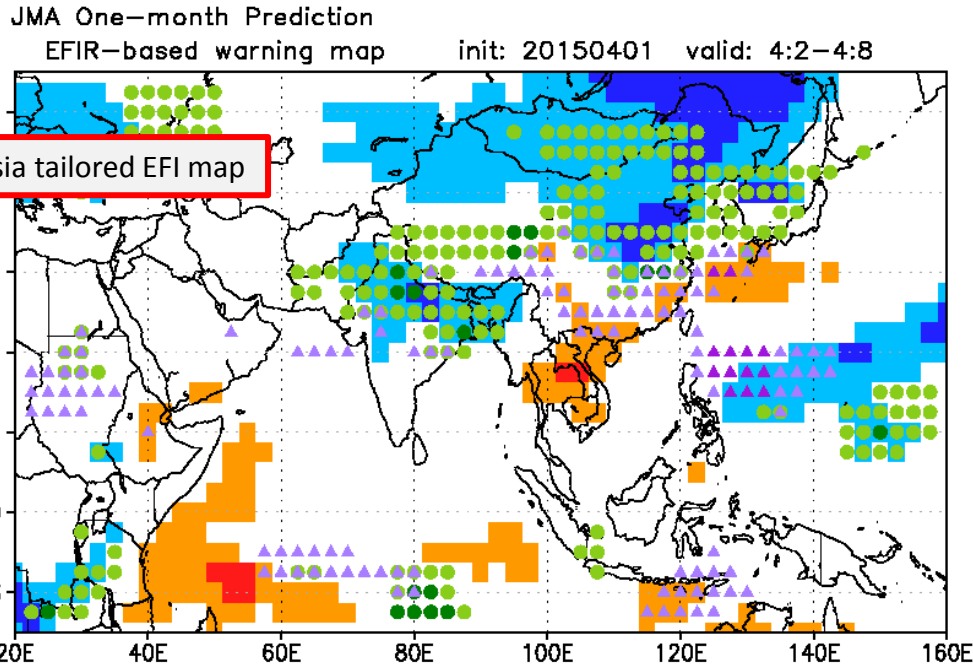
- ## Plans for 2015

Upgrade of seasonal ensemble prediction system

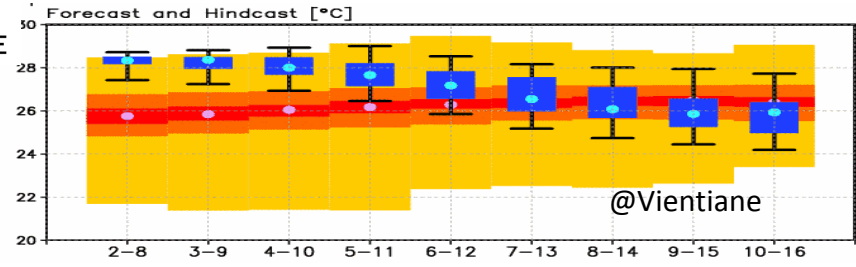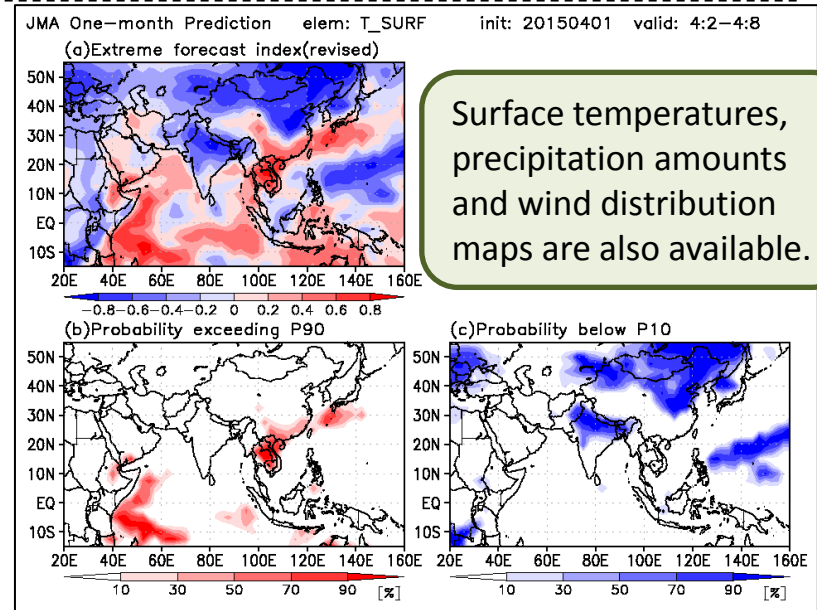Investigation of ENSO's impact on the global climate using the JRA-55

Upgrade of the Interactive Tool for Analysis of the Climate System (ITACS)

Forecast Products in Support of Early Warnings for Extreme Weather Events

To support the Asia-Pacific NMHSs in the provision of early warnings for extreme events, TCC developed a set of extreme weather warning products based on JMA's operational one-month ensemble prediction system.

Asia tailored EFI map

Surface temperatures, precipitation amounts and wind distribution maps are also available.

@Vientiane

Time-series representations of EFI and EPSgrams are also provided for selected major cities.

Updated Every Thursday

http://ds.data.jma.go.jp/tcc/tcc/gpv/EFI/index.php (password-protected)

4

Launch of the dedicated website on CRM

This new website includes information on the following to support CRM activities

- 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

Best practices following areas are available from this page

http://www.data.jma.go.jp/gmd/risk/en/index.html

Agricultural sector

To take countermeasures against climate variability by controlling water depth in their rice fields

Apparel industry

- Control of goods in stock
- Arranging a sales plan
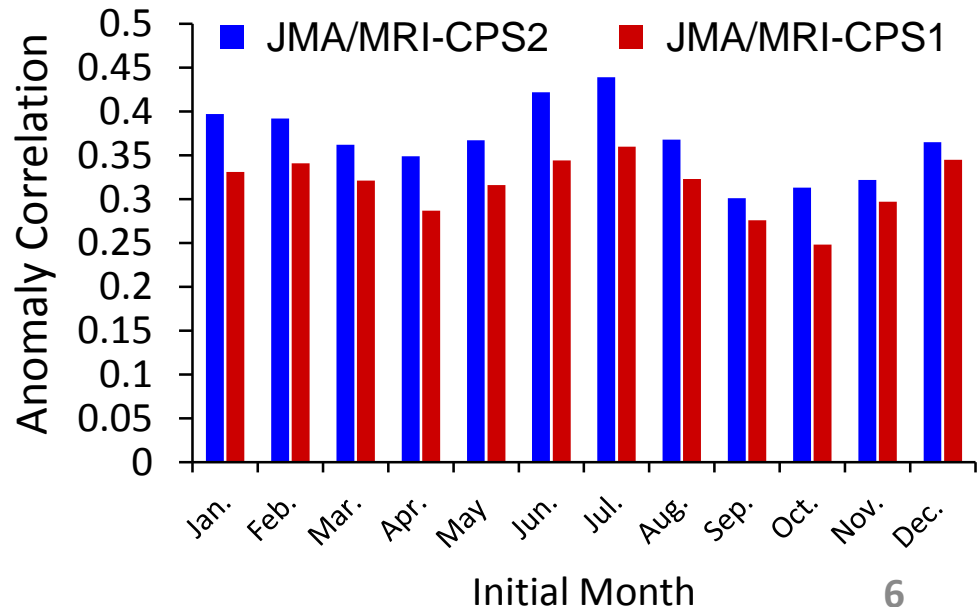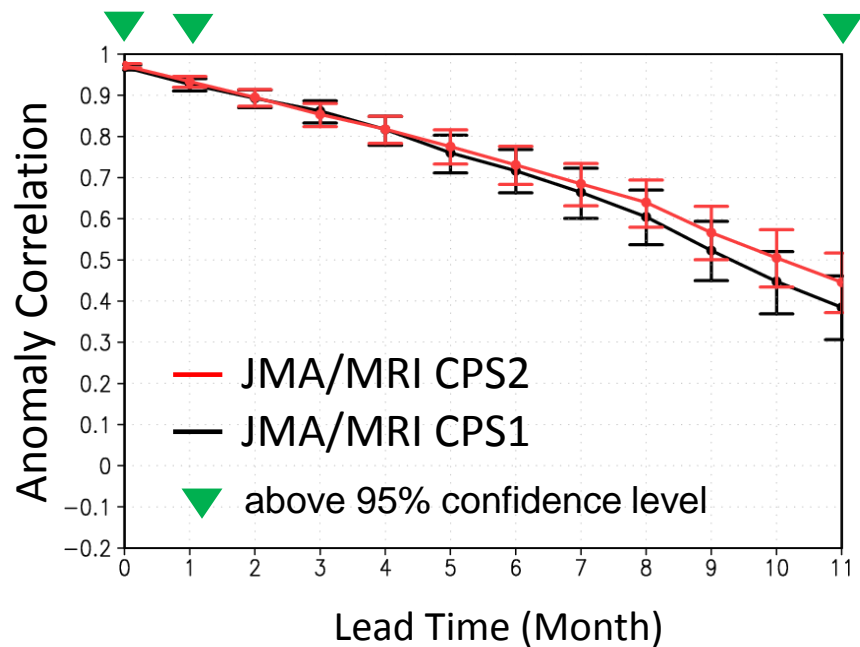
Drugstore company

In preparation

Upgrade of seasonal ensemble prediction system

- ✓ Improved physics
- ✓ Interactive sea ice model
- ✓ GHGs
- ✓ Increased resolution
- ✓ Land initialization
- ✓ Stochastic physics

> ➤ Improved ENSO prediction skills (NINO3, NINO3.4 SST)
> ➤ Improved 3-month and warm/cold season prediction skills
> (in particular for surface temperature over land)
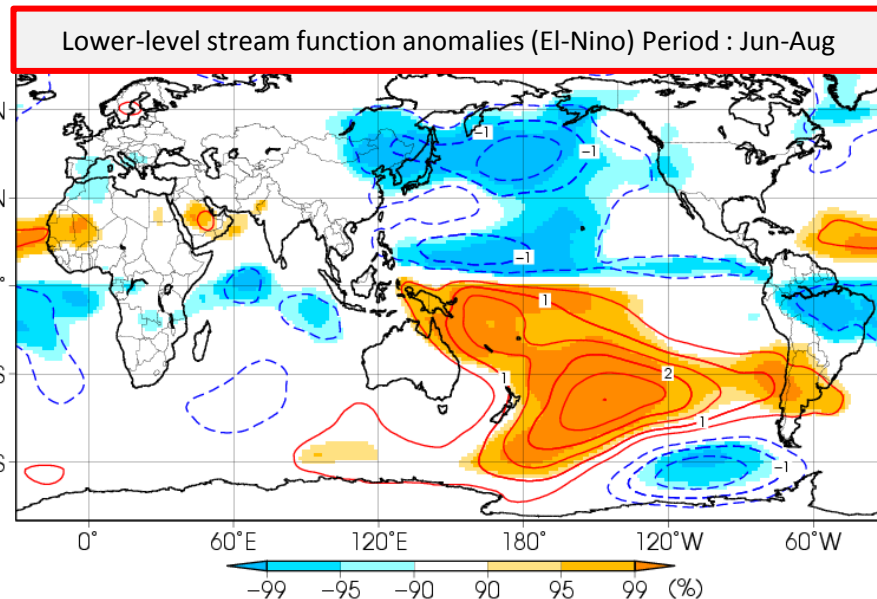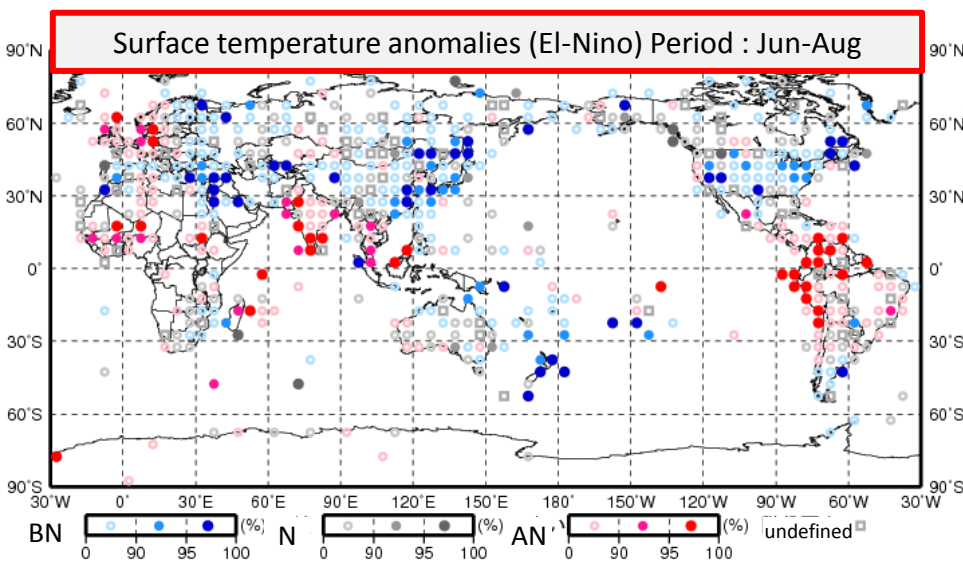
ACCs of NINO3 SST (all months, 10 members)

ACCs of surface temperature averaged in NH
(3-month prediction, 1-month lead time)

— JMA/MRI CPS2
— JMA/MRI CPS1
▼ above 95% confidence level

Anomaly Correlation

Lead Time (Month)

JMA/MRI-CPS2   JMA/MRI-CPS1

Anomaly Correlation

Initial Month

6

Investigation of ENSO's impact on the global climate using the JRA-55 (1958-2012)

In order to promote the understanding of the influence of ENSO on global climate system, TCC is currently producing new statistical products using the second Japanese global reanalysis data (JRA-55), <u>which covers the period starting from 1958</u>, and plans to update the web contents of the ENSO statistics.

Surface temperature anomalies (El-Nino) Period : Jun-Aug

Lower-level stream function anomalies (El-Nino) Period : Jun-Aug

Some preliminary results will be introduced by Mr Takekawa at this forum (session 3.2)

Upgrade of the Interactive Tool for Analysis of the Climate System (iTacs)

> ➢ <u>Renovated Graphical User Interface</u> to reduce network traffic and user burdens
> ➢ <u>Generation of one-month probabilistic forecasts at station points</u> based on the Model Output Statistics (MOS) technique

Thank you for your attention.

The JMA mascot
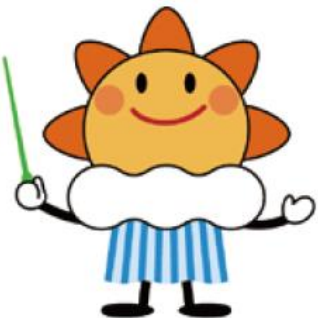
JMA's mascot is named Harerun (from hare – the Japanese word for "fine weather"), and incorporates elements of sun, cloud and rainfall. Harerun holds a green baton representing hopes for a peaceful and disaster-free world. The mascot helps to raise public awareness of meteorological services as well as natural disasters and global environmental issues at various events.

Harerun