Overview and Current Status of Global Seasonal Climate Update (GSCU)

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What is GSCU?

- Building upon the success of the WMO El Niño/La Niña Updates for over a decade, WMO has taken up an initiative, endorsed by Cg-16 in 2011, to develop a much broader Global Seasonal Climate Update (GSCU) that includes outlooks for other large-scale climate features having important regional societal impacts.

- The objective of the GSCU is to assist NMHSs as well as RCCs and RCOFs by providing them with assessments of the ongoing and upcoming seasonal climate along with information on robustness of the available forecast signals.

What is GSCU (cont.)

- GSCU summarizes the current status (monitoring) and the expected future evolution (prediction) of the seasonal climate including general circulation features and large-scale oceanic anomalies around the globe (e.g., El Niño/Southern Oscillation, North Atlantic Oscillation, Indian Ocean Dipole, etc.) and their likely impacts on continental-scale surface temperature and precipitation patterns.
- GSCU is being designed to be used by RCCs, RCOFs and NMHSs in order to elaborate regional and national climate updates.
- GSCU is proposed to be regularly issued a few days ahead of each of the standard seasons (every three months).

Forecast Input for GSCU

- The forecast component of the GSCU is based on operational forecasts from WMO's Global Producing Centers (GPCs) for Long-Range Forecast (LRF)

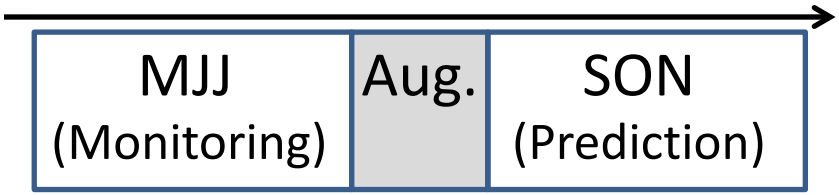
- There are 12 WMO recognized GPCs and provide seasonal forecasts to WMO Lead Centre for Long-Range Forecast Multi-Model Ensemble

Global Producing Centers for Long-Range Forecasts

https://www.wmolc.org/

Current Status of GSCU

- Currently in its trial phase
- In the August issue of GSCU, the current state of global climate (monitoring) for May-July 2015 average, and forecast information for September-November 2015 was included



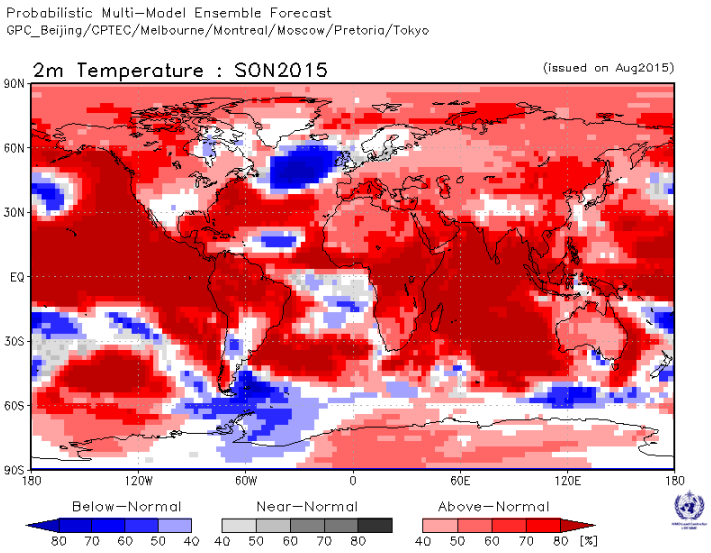
Components of GSCU

- Summary
- Observations (e.g., May – July 2015)
- Potential evolution of the state of the climate over the next three months (September-November 2015)
- How to use the Global Seasonal Climate Update

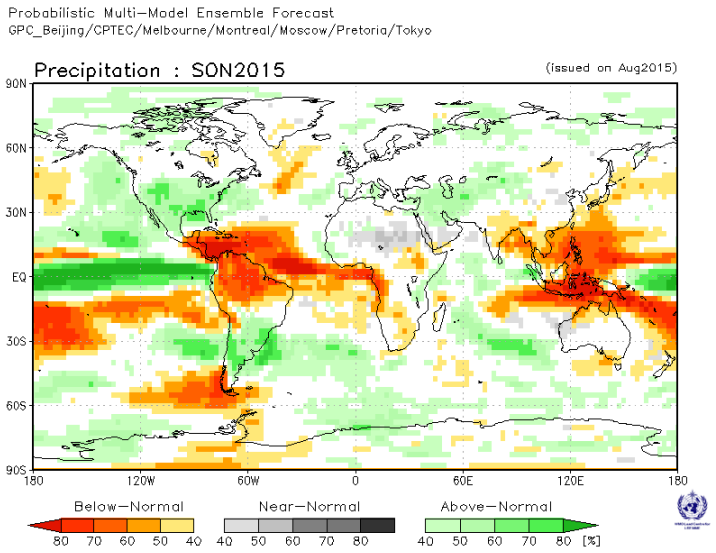
Components of GSCU: Summary

- A summary of the expected evolution of modes of climate variability, e.g., the current state of ENSO
- A summary of outlook for surface temperature and precipitation for the subsequent season

Air Temperature, SON 2015



Precipitation, SON 2015



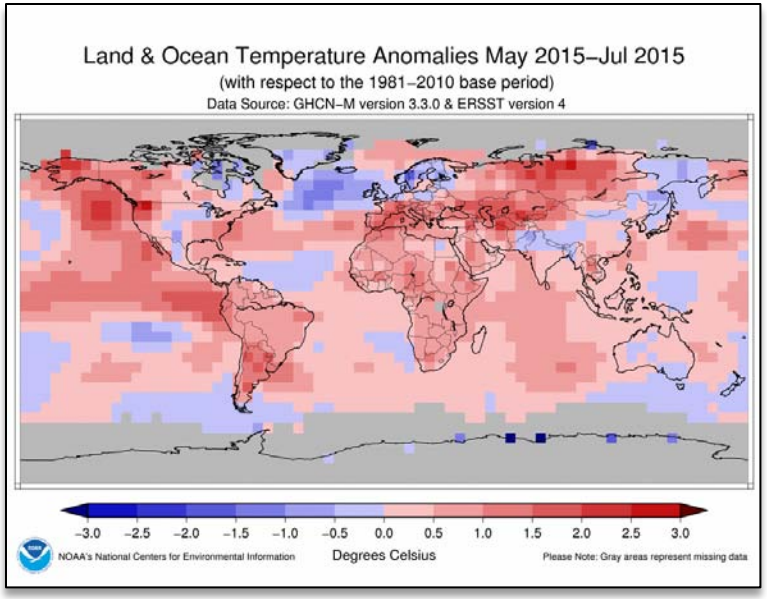
Components of GSCU: Observations

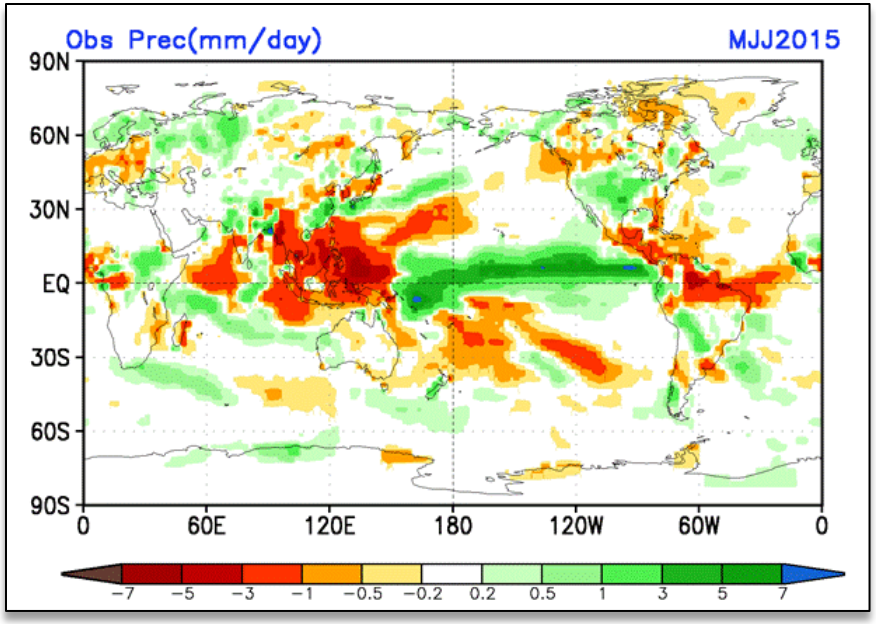
- Large-scale sea surface temperature indices (May-July 2015)

Month	Niño 1+2	Niño 3	Niño 4	Niño 3.4	IOD	NTA	STA
May 2015	2.43	1.19	1.09	1.03	0.5	-0.37	0.45
June 2015	2.54	1.66	1.09	1.32	0.6	-0.40	0.00
July 2015	2.87	2.17	1.00	1.60	0.3	-0.32	-0.15
May-July 2015	2.61	1.67	1.06	1.32	0.5	-0.36	0.10

Components of GSCU: Observations

- Global surface temperature and precipitation anomalies (May - July 2015)





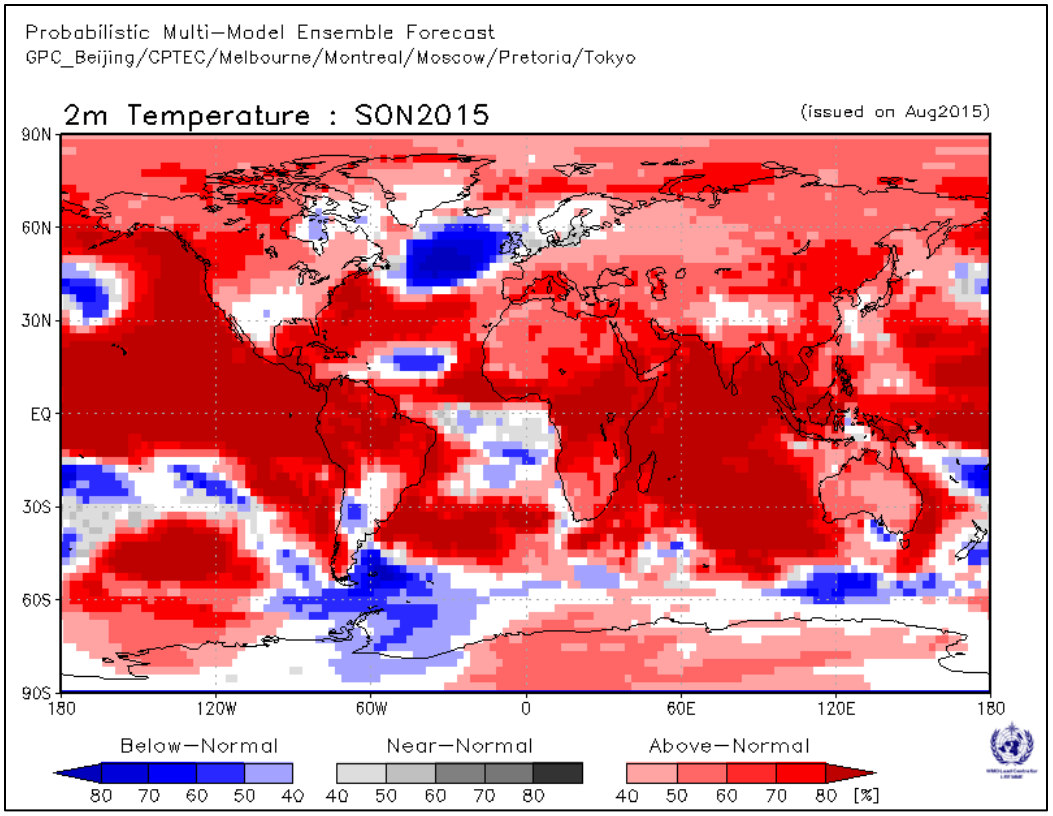
Components of GSCU: Potential Evolution

- Large-scale SST-based indices (September - November 2015)

Month	Niño 1+2	Niño 3	Niño 4	Niño3.4	IOD	NTA	STA
September 2015	1.78±0.56	2.75±0.75	1.46±0.54	2.58±0.73	0.47±0.38	0.02±0.20	-0.18±0.18
October 2015	1.78±0.76	2.75±0.90	1.69±0.68	2.65±0.84	0.43±0.28	0.08±0.21	-0.01±0.17
November 2015	1.70±0.74	2.71±0.93	1.70±0.77	2.63±0.91	0.25±0.14	0.09±0.18	0.11±0.19
September-November 2015	1.75±0.67	2.73±0.86	1.67±0.66	2.62±0.82	0.38±0.24	0.06±0.20	-0.03±0.17

Components of GSCU: Potential Evolution

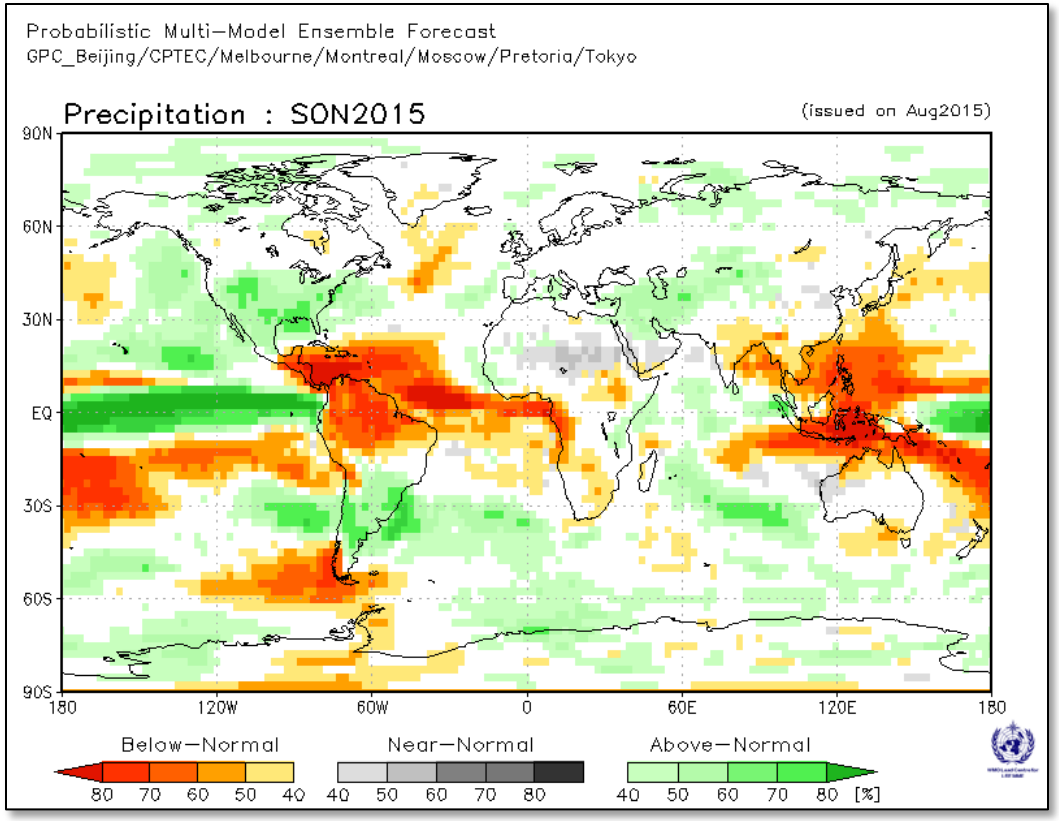
- Surface temperature outlook (September-November 2015)



RA I (Africa): A strongly enhanced probability for above-normal temperature is predicted in most of Africa, and especially in the tropics. This tendency towards above-normal temperature is slightly less strong in northwest Africa and in southern Africa. Enhanced probabilities for above-normal temperature are consistent across individual models in most of the continent, with the exception of northwest Africa. The strong forecast tendency for above-normal over much of Africa is consistent with the observations for May-July.

Components of GSCU: Potential Evolution

- Precipitation outlook (September-November 2015)



RA V (South-west Pacific): A strongly enhanced probability for below-normal precipitation is predicted in Indonesia and some of the South Pacific islands, with very good model consistency. By contrast, much of Papua New Guinea has no forecast signal, and the northwest part of maritime Southeast Asia has a tendency towards above-normal. Below-normal precipitation was observed in most of Indonesia during May-July. Although no signal is forecast over most of Australia, a slightly enhanced chance for below-normal is forecast for much of the northern coast and part of the southern coast, where the observations during May-July also showed below-normal.

Components of GSCU: How to use?

- Seasonal outlooks for any region or nation should be obtained from the relevant Regional Climate Centre (RCCs – see below for contact details) or National Meteorological and Hydrological Services (NMHSs). The GSCU is intended as guidance for RCCs, RCOFs and NMHSs. It does not constitute an official forecast for any region or nation.

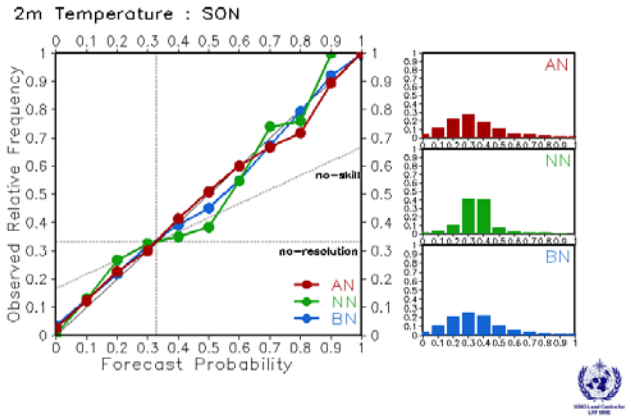
- Seasonal forecasts are probabilistic in nature. Although the text and figures used in the GSCU highlight the tercile categories with highest predicted probability, it is important to recognise that the other tercile categories may also have substantial (though lower) probability.

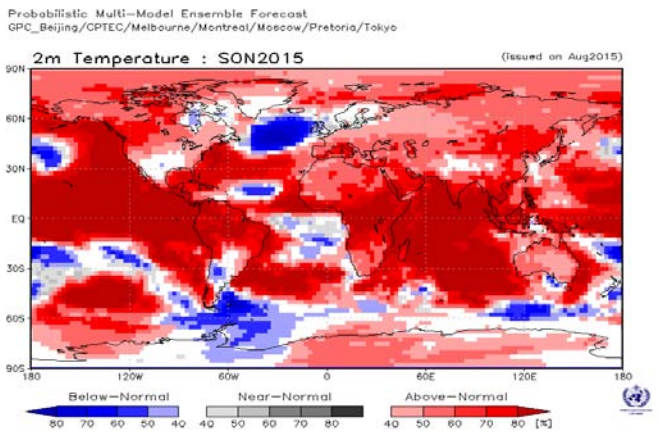
- The geographical areas occupied by the forecast signals should not be considered precise. Similarly, signals with small spatial extent may be unreliable.

- The skill of seasonal forecasts is substantially lower than that of shorter range and skill may vary considerably with region and season. It is important to view the forecast maps together with the skill maps provided in the supplementary appendices.

Components of GSCU: Supplementary Information

- Observed values of large scale circulation indices (PNA, NAO, …)
- Forecast anomalies for individual GPCs
- Assessment of consistency among forecasts from different GPCs
- Forecast anomalies in various formats (deterministic; probabilistic)
- Historical verifications (Anomaly correlation; ROC; Reliability)





Thanks!