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| **WORLD METEOROLOGICAL ORGANIZATION**  **COMMISSION FOR BASIC SYSTEMS OPAG on DPFS**  **MEETING THE REGIONAL SUBPROJECT MANAGEMENT TEAM (RSMT) OF THE SEVERE WEATHER FORECASTING DEMONSTRATION PROJECT (SWFDP) IN SOUTHEAST ASIA**  Ha Noi, Viet Nam, 11-14 August 2015 |  | DPFS/RAII/SeA-SWFDP-RSMT /Doc. 5.1(2)  (10.VII.2015)  \_\_\_\_\_\_\_  Agenda item : 5.1  ENGLISH ONLY |

**Contributions of the Republic of Korea to SWFDP in Southeast Asia**

*(Submitted by Hyun-Cheol Shin, KMA, the Republic of Korea)*

**Summary and purpose of document**

This document describes the current and planned activities of KMA and its contribution to Severe Weather Forecasting Demonstration Project in Southeast Asia (SWFDP-SeA).

**Action Proposed**

The meeting is invited to review the current and planned activities of KMA and discuss its role in and synergies between these activities and SWFDP-SeA.

**KMA (Republic of Korea)**

The performance of KMA’s global NWP system has been gradually improved since the introduction of the Unified Model (UM) system from the UK Met Office in 2010. In 2011, the global model resolution was upgraded from 40km to 25km in the horizontal, and 50 to 70 levels in the vertical, providing more reliable NWP products to forecasters. In 2013, a global hybrid data assimilation system - combining 4DVAR with the ensemble forecast system - was launched operationally. The hybrid system makes use of ensemble forecast data to better represent the structure of “Errors of the Day”, and gives improvements across a wide range of forecast scores, particularly over Asia.

In 2013, a dedicated web site was established to manage KMA’s international NWP cooperation activities more effectively: http://www.kma.go.kr/ema/nema03. This site consists of 3 sections: 'SWFDP', 'RAII' and 'Africa'. 'SWFDP', which is KMA’s contribution to the WMO SWFDP-SeA project, provides NWP output for 71 cities in 4 South East Asian countries. 'RAII', which is KMA’s contribution to the WMO RAII Project on city-specific NWP forecasts, supports 20 Asian countries (287 cities) with a range of NWP forecast products. Positive comments on the usefulness of this site have been received from several Asian countries.

The Philippines became a member of SWFDP in May 2012, but SWFDP products for the Philippines are not yet available. Instead, KMA is providing NWP output for 27 cities in the Philippines through the RAII Project on City-specific NWP forecasts. KMA will complete the work to support the Philippines as a part of SWFDP shortly.

KMA’s 4th supercomputer system (Cray), which has a total capacity of 5.8PF (Peta Flops), will be introduced in 2016. This will enable KMA to introduce a new global model with more stable dynamics, and upgrade the horizontal resolution from 25km to 17km. This improved global model, supported by a higher-performance computer, will help KMA play a better role as a global center of SWFDP-SeA.

In 2011, KMA established KIAPS (Korea Institute of Atmospheric Prediction System) to develop KMA's next generation global model. KIAPS has a plan to finish its mission by 2019. After the KIAPS model has been developed, its performance will be compared with the current global model based on the UM, and its suitability for operational use will be evaluated.