

**Summary of
The Third Meeting of Working Group I
for Joint Research on Dust and Sand Storms
Seogwipo, 8-10 November 2010**

1. The Working Group I (WG I) for Joint Research on Dust and Sand Storms (DSS) under the Tripartite Environment Ministers Meeting (TEMM) was held in Seogwipo, Republic of Korea, from 8 to 10 November 2010. Representatives from Mongolia, China, Korea, and Japan participated in this meeting.

2. In Session One, Dr. CHUN Youngsin, Director of the Asian Dust Research Division, National Institute of Meteorological Research (NIMR)/Korea Meteorological Administration (KMA), delivered the opening remarks on behalf of Dr. KWON Won-Tae, Director General of NIMR. Prof. PARK Soon-Ung, Chair of the World Meteorological Organization (WMO) Sand and Dust Storm Warning and Assessment System (SDS-WAS) Asia Node Steering Committee outlined the regional collaboration toward the establishment of an Asian-region DSS monitoring network.

3. Session Two reviewed activities of the Working Group since the previous meeting. Mr. SHI Feng of the China National Environmental Monitoring Center discussed capacity building efforts for DSS monitoring in China. Mr. FUJII Shintaro of the Ministry of the Environment, Japan, summarized the outcomes of the second WG(I) and TEMM 12 meetings and the progress made on the arrangements, including the participation of the China Meteorological Administration (CMA) and the publication of SOLA Special Issue for the nominated 2007 DSS case. Ms. KIM Sumin of the National Institute of Meteorological Research, Korea, reported on the status of the cooperative data sharing on the designated 2008 DSS case (May 2008).

[Provision of Data Sets]

Period of DSS Case: 24 May to 4 June 2008 (12 days)

Country Data:

- . Mongolia: Hourly average PM10/PM2.5 (2 sites); lidar (2 sites), daily meteorological data (wind speed, visibility, max./min./mean temperature, precipitation for 120 sites, 2 days)
- . China: Daily average PM10 (10 sites; pending approval from MEP)
- . Korea: Hourly average PM10 (36 sites), PM2.5 (2 sites), lidar (2 sites), visibility (1 site)
- . Japan: Hourly average of SPM (21 sites) and PM10 (11 sites), PM2.5 (2 sites), lidar (11 sites), visibility (85 sites)

The Chinese delegation announced that the data from China would be made available as soon as approval from MEP (Ministry of Environmental Protection, China) was received. The participants noted the agreement reached by the fourth meeting of the Steering Committee (SCM) regarding the exchange of hourly average PM10, and arranged to conduct future data sharing in accordance with these guidelines, subject to data availability.

4. Session Three traced the evolution of the designated 2008 DSS case, and evaluated the

monitoring, analysis and forecasting results based on presentations by Dr. DULAM Jugder of the Institute of Meteorology and Hydrology, Mongolia, Mr. ZHENG Haohao of the China National Environmental Monitoring Center, and Dr. CHUN Youngsin of NIMR. Dr. SUGIMOTO Nobuo of the National Institute for Environmental Studies (NIES), Japan, discussed the designated 2007 case in addition to the 2008 case.

5. In Session Four, Dr. KIM Seungbum of NIMR, Dr. LEE Eun-Hee of NIMR and Mr. MAKI Takashi of the Meteorological Research Institute of Japan assessed the performance of different models—ADAM and CFORS—or versions thereof—ADAM 1 vs. ADAM 2 (which factors in higher-resolution source region information) and MASINGAR—using different data sets or data assimilation techniques. All three presentations emphasized the importance of enhancing the quantity as well as the quality of the data sets that serve as input and validation to the various models.

6. In Session Five, chemical analyses for the designated DSS cases were discussed by Dr. NISHIKAWA Masataka (NIES, Japan) and Dr. LEE Meehye (Korea University, Korea). These discussions were followed by Dr. ZHANG Xiaochun's (China Meteorological Administration) overview of DSS monitoring and related activities conducted by CMA, including a preliminary analysis of the 2008 DSS case and an introduction of the WMO SDS-WAS Asia/Central Pacific Center, and by Dr. MUNKHTSETSEG Erdenbayar's (Institute of Meteorology and Hydrology, Mongolia) discussion of soil moisture effects on dust emission in Mongolia.

7. This year, the review and discussion of future activities and plans of the Working Group were taken up in a separate session. The participants acknowledged the possible benefits of cooperation with international organizations such as WMO, including the submission and provision of data (observations as well as model outputs) using the high-capacity WMO SDS-WAS system, and noted the differences in the needs and specifications for data sharing between WMO and the Working Group. The meeting decided to bring the proposal to the attention of the SCM for consideration and to recommend to add a link to the DSS forecast website of each participating country to the TEMM website in order to facilitate to share DSS forecast information.

8. The meeting also discussed future modeling activities, noting the presentations made during Session Four on the joint intercomparison of DSS models conducted by Japan and Korea. Mongolia's report on the performance of the recently installed MGLADAM will be presented at the next meeting. China, Korea and Japan will consider conducting joint intercomparison of DSS models.

9. China and Korea reported on the joint QA/QC activities recently conducted by CMA and KMA. The meeting approved Japan's proposal to discuss the QA/QC practices of each country regarding PM10 measurements at the next Working Group (I) meeting and exchanged views on QA/QC practices regarding lidar and visibility measurements as a study item following PM10.

10. Regarding the suggestion made by the SCM regarding the cooperation with Working Group (II), the Group discussed collaboration options, including sharing with WG(II) source region information (specific locations of estimated DSS sites, meteorological conditions, soil

conditions, extent of desertification, etc.) based on modeling results, and sought guidance from WG(II) as to the specific data requirements.

11. The discussion was followed by deliberation on the DSS cases for the next joint study. The Group decided to study the DSS episodes of spring 2009 (12-25 March 2009), autumn 2009 (13-26 October 2009) and winter 2009 (15-28 December 2009) in the coming year and to share the relevant data subject to approval by the competent authorities, and post the results of research on these DSS episodes to an academic journal in 2011. Details of the posting will be announced by Korea.

12. Finally, the participants decided to adopt DSSYYYY-## (Dust and Sand Storms; Year; Case No.) as the official term for referring to the dust phenomena within the Working Group

13. Before closing, it was announced that the fourth meeting of WG I will be held in China based on the decision of the TOR of the WG I. The date and venue of the fourth meeting will be confirmed at a later date.