

Summary of The fourth Meeting of Working Group I for Joint Research on Dust and Sand Storms

Beijing, 11-12 November 2011

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 Beijing, China, on 11-12 November 2011. Representatives from China, Korea and Japan participated in this meeting.
2. In Session One, Dr. LI Jianjun, Deputy Director of the Ambient Air Quality Monitoring Department of the China National Environmental Monitoring Center (CNEMC), announced the opening of this meeting. Ms. CUI Dandan, Deputy Division Director in the Department of International Cooperation of Ministry of Environmental Protection (MEP) delivered opening remarks. And Prof. FU Deqian, Deputy Director General of CNEMC gave a welcome speech to all the participants. They both highlighted the importance of the regional cooperation on DSS monitoring in northeast Asia.
3. In Session Two, Mr. WANG Wei, from CNEMC, introduced the DSS monitoring network and the DSS cases in 2009-2010 in China. From January to June 2010, DSS occurred seven times in North China. The major cities observed more DSS cases than those in 2009 in terms of frequency and impacted areas.

Mr. ZHANG Xiaochun of China Meteorological Administration (CMA) showed the audit activities in 2011 and PM10 monitoring results on DSS2009-01 at CMA-KMA Joint Sand and Dust Storm (SDS) Stations. He pointed out that audit is very helpful for keeping instruments in a good condition, and PM10 as well as visibility data is useful for the SDS forecast. Besides, more cooperation is needed in QA/QC research.

Ms. KIM Sumin of National Institute of Meteorological Research (NIMR), Korea, reported on the progress on the cooperative data

sharing of DSS2009. Mongolia data is looking forward to being shared soon. The shared data includes daily average PM10 (10 sites) from China; hourly average PM10 (36 sites), Lidar (2 sites for DSS2009-01) and visibility (6 sites for DSS2009-03) from Korea; and hourly average PM10 (36 sites), Lidar (11 sites) and visibility (76 sites) from Japan.

Dr. CHUN Youngsin from NIMR traced the evolution of the DSS2009-01 and DSS2009-03 monitoring, chemistry analysis and forecasting at KMA. Ms. KIM Sumin from NIMR presented the DSS2009-02 monitoring, chemistry analysis and forecasting at KMA. Dr. LEE Eun-Hee from NIMR showed the simulation results of ADAM for DSS2009-01, DSS2009-02, and DSS2009-03, and reported the development of ADAM2. She presented the simulation results of ADAM for DSS2008 as well.

4. In Session Three, Mr. MAKI Takashi of Meteorological Research Institute (MRI), Japan, presented the DSS modeling research activities, in which he introduced the improvement of MASINGAR and the development of data assimilation and inverse model techniques. The necessity of more observation data near dust source areas was also raised.

Dr. SUGIMOTO Nobuo of National Institute for Environmental Studies (NIES), Japan, presented the comparison between the LIDAR network data, surface measurements and CFORS simulation data for DSS2008 and DSS2009 cases. Dr. NISHIKAWA Masataka of NIES, Japan, presented the QA/QC activities for SPM monitoring and pointed out the technical problems in SPM monitoring.

Japan distributed the first publication of WG (I) with 85 pages, "Proceedings of Working Group I for Joint Research on Dust and Sandstorms in North-east Asia", which compiled the scientific papers of WG (I). The meeting agreed to distribute this at the Steering Committee.

Also, Dr. LEE Eun-Hee gave the presentation about the modeling research by MGLADAM between Korea and Mongolia, and Ms. KIM Sumin announced the perspective of APJAS special issues of DSS2008

and DSS2009. Research papers should be submitted by March 2012. APJAS special issue is expected to be published in 2013.

5. The review and discussion of future activities and plans of the Working Group were taken up in Session Four. Mr. YOSHIZAKI Hitoshi of Ministry of the Environment of Japan gave the presentation named draft Mid-term strategy until 2014 for the Working Group I for joint research on DSS.

The additional comments from Korea and China for this draft Mid-term strategy will be sent to Mr. YOSHIZAKI Hitoshi by the end of this year. After revision, the document will be distributed to the WG members for confirmation. And the final version will be presented at the sixth Steering Committee.

6. The meeting discussed the future plan and agreed to make further effort to continuously improve DSS data share. The meeting recommended each participating country to exchange the information on the links to the related websites which present DSS observational data of PM10 (or SPM) on a geographical map. The meeting further agreed to propose having mutual links between these websites to the Steering Committee.
7. The meeting confirmed the further improvement on DSS early warning system of each participating country. The meeting recommended each participating country to exchange the information on the links to these websites which present DSS model-forecasting results on a geographical map.
8. The meeting encouraged the related WG members to share the activities in each country regarding the quality assurance and quality control of observational data (e.g. PM, visibility and LIDAR), and identify any technical and other challenges required to be overcome for the improvement of data quality, which are very important in the further improvement of model forecasts.
9. The meeting proposed to establish the joint forum attended by the members of WG (I) and WG (II), to continue the discussion on the collaboration between the two. The meeting agreed to stimulate the

mutual communication and launch a new joint research if feasible.

10. The meeting encouraged WG (I) members to continue to submit the research papers to international scientific journals and develop proceedings on the research which consolidates these papers.
11. The meeting recommended expert exchange for DSS research and activities..
12. 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 2010 (DSS2010-01; 15-24 March 2010) and autumn 2010 (DSS2010-02; 4-16 November 2010), 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. Korean side recommended the deadline for data exchange should be June of 2012.
13. Before closing, it was announced that the fifth meeting of WG (I) will be held in Japan based on the decision of the TOR of the WG (I). The date and venue of the fifth meeting will be confirmed at a later date.