



society, and the advance in the construction of the PRC-Japan joint observation system and the achievements have released to public in Japan, and internationally afterwards. *Bulletin of the American Meteorological Society* has published the design ideas and construction progress of the project.

Through the common endeavors of two parties, the construction project of the joint observation system has been completed: 24 sets of GPS water vapor stations, 4 sets of PBL observation tower systems, 1 set of water surface meteorological observation system, 2 sets of wind profilers, 5 sets of mobile GPS radiosondes, etc. These observation equipments have become a part of the national operational observation network of China. The atmospheric profiler network has been used in the quasi-operational experiment. In order to bridge the data gap over the sparsely populated areas of the plateau, seven new unmanned AWS were completed at Ritu, Zanda, Tsochen, Nang, etc., counties according to the plan of the JICA project and CMA operation development, and using these observation data, with data transmission speed reached the design requirements, these stations have put to operational use (all upgraded to national level-2 stations).

Obvious progresses are also obtained in both operational application and researches of the integrated observation system. The software of GPS water vapor data retrieval and operational application was successfully developed, and the real-time operational working procedures were established. The real-time query and display system of GPS water vapor observation data over the plateau and the surrounding areas was completed, and comparison between two kinds of software for retrieving total zenith delay and atmospheric precipitable water was conducted.

The project filled the gap of 3D sounding data over the Tibetan Plateau, especially the eastern plateau, and long-range meteorological data, so to promote the effective application of the integrated observation data from the upstream strong-signal area and the development of the numerical prediction model for the area. Remarkable progresses were achieved in the aspects of observation network management, data quality control, data processing, scientific research and operational application, etc., especially in the point-surface combining observation of satellite data and GPS water vapor observing system, land surface process model assimilation, and GPS water vapor observation data model assimilation. The 5th academic workshop and mid-phase evaluation meeting of the project convened at Huangshan, Anhui Province from 17 to 21 September 2007, and the Japanese expert team of mid-phase evaluation spoke highly of the project.

Researches indicate that using the new GPS water vapor data of the integrated observation system to conduct the experiment of model assimilation and numerical prediction can help improve the initial fields of numerical models for the plateau and the surrounding areas, as well as prediction and objective analysis ability. The trial use in the numerical prediction of heavy rainfall in the flooding season of 2007 over the lower reaches of the Changjiang River and the snowstorm in South China at the beginning of 2008 show that these observation data played an important role in improving the heavy rainfall prediction performance. The implementation of the project is of great significance to the improvement of the climate change monitoring of China, Asia, even the whole world, and the prediction and warning of disastrous weather.

CAMS JICA Implementation Office

## 中韩沙尘暴联合观测站二期建设任务圆满完成

根据中国气象局与韩国气象厅签订的中韩沙尘暴联合监测站合作协议，中韩双方联合在我国新建了5个沙尘暴监测站，分别是内蒙古赤峰和二连浩特、辽宁省丹东、山东省青岛和吉林省四平，开展了对能见度、气溶胶颗粒物PM<sub>10</sub>/PM<sub>25</sub>/PM<sub>1</sub>质量浓度的在线监测。该建设任务由气科院大气成分观测与服务分中心具体承担。经过充分的前期准备，2007年3月10~31日期间开展建站工作，4月1日进入试运行阶段，并顺利通过了现场验收。

建设过程中得到了中国气象局监测网络司的高度重视，也得到了国家气象信息中心、内蒙古、山东、辽宁和吉林省气象局的大力支持，确保了5个合作监测站在时间短、任务重的情况下，按时保质地完成相关基础设施建设和观测设备、业务软件安装与调试。观测数据每小时实时上传到各省局信息中心，并通过正式途径上传至国家气象信息中心。2007~2011年，每年1~5月的观测数据由国家气象信息中心传输给韩国气象厅。目前，中国气象局与韩国气象厅合作建立的沙尘暴观测站数量已达10个，其它5个站分别是内蒙古的朱日和、通辽、山东惠民、辽宁大连和山西榆社。

大气成分观测与服务分中心：张晓春



## Second-Phase Construction of China-ROK Joint Dust-Storm Monitoring Stations Completed Successfully

According to the agreement between China Meteorological Administration (CMA) and Meteorological Office, ROK, on the joint monitoring of dust storms, the two parties established jointly five new dust storm monitoring stations: Chifeng of Inner Mongolia, Danton of Liaoning, Qingdao of Shandong, and Siping of Jilin, at which the online monitoring of visibility and the mass concentrations of aerosol particles (PM10/PM25/PM1) is conducted. The construction is undertaken by the Center for Atmosphere Watch and Service, CAMS, started in March 2007. The stations put into operation on 1 April 2007 and passed the on-site acceptance check successfully.

During the construction of the stations, under the powerful supports from the National Information Center and the provincial meteorological bureaus of Inner Mongolia, Shandong, Liaoning, and Jilin provinces, we completed on schedule the infrastructure construction and the installation and adjustment of related observation instruments and software. The observation data can be uploaded to the provincial information centers in real time and then to the National Information Center through a special approach. The observation data will be transmitted to the Meteorological Office, ROK, from January to May every year from 2007 to 2011. At present, the joint project has completed 10 dust storm monitoring stations completed (the other five stations are Zhurihe and Tongliao of Inner Mongolia, Huimin of Shandong, Dalian of Liaoning, Yushe of Shanxi).

Center for Atmosphere Watch and Service: Zhang Xiaochun

## 国际沙尘暴预警和评估系统(WMO SDSWAS)亚洲/太平洋区域中心落户大气成分中心

WMO/GEO国际沙尘暴预警系统专家会议于2007年11月7~9日在西班牙巴塞罗那举行, 本次会议由WMO/GEO, WMO SDS RDP项目主办, 西班牙国家气象研究所、巴塞罗那超级计算中心承办。共有来自欧美、亚洲和非洲的近100名专家和代表参加此次会议。大会明确了在WMO SDSWAS(WMO Sand and Dust Storm Warning and Assessment System; WMO国际沙尘暴预警与评估系统)框架下建立几大区域中心的具体内容和组建思路。区域中心将主要协调区域内沙尘暴相关的科学研究以及沙尘暴数值预报产品和观测数据的交换和共享, 发挥沙尘暴预报预警评估的区域指导作用。经过激烈讨论, 会议决定将亚洲/太平洋区域中心放在中国气象局气科院大气成分中心, 并联合卫星气象中心和气象中心共同完成亚洲区域中心的任务。北非/欧洲中心由西班牙国家气象研究所, 联合巴塞罗那超级计算中心和地球科学研究所共同承担。未来WMO SDSWAS还将建立北美和澳洲两个区域中心。

中方沙尘暴数值预报系统(CUACE/Dust)是国际上真正实际运行的业务系统, 各项指标先进, 且带有使用FY卫星和亚洲地面观测资料的数值同化系统, 预报效果明显好于各种科研性质的模式。

大气成分观测与服务: 周春红

## Asia/Pacific Regional Center of WMO SDSWAS Settled in CAWAS

The expert meeting on the WMO/GEO international dust storm warning system was held from 7 to 9 November 2007 at Barcelona, Spain, sponsored by WMO SDS RDP, Spain National Institute of Meteorology, and Barcelona Supercomputing Center, with about 100 participants from Europe, USA, Asia and Africa. The meeting decided the concrete contents and construction scheme of regional centers under the framework of WMO SDSWAS (WMO Sand and Dust Storm Warning and Assessment System). The regional centers will be responsible for the coordination of the duststorm-related scientific researches, the data exchange and sharing of dust storm numerical products and observation within a region, and the guidance in dust storm prediction, warning and assessment. Through a heated discussion, the meeting decided to put the Asia/Pacific Regional Center of WMO SDSWAS at the Center for Atmosphere Watch and Service (CAWAS), CAMS, cooperated by the National Satellite Meteorological Center and the National Meteorological Center of China, and put the North Africa/Europe Regional Center at the Spain National Institute of Meteorology,