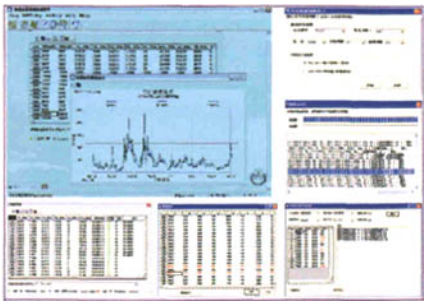
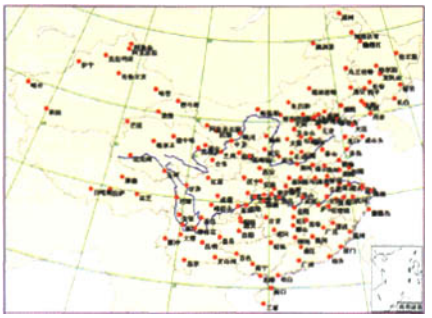
大气成分业务进展

2007年，大气成分中心以稳步推进大气成分、沙尘暴观测站网业务化为目标，在中国气象局的布署和安排下，不断加强和完善站网的监测、运行和保障能力，形成了覆盖我国关键和典型地区的大气成分、沙尘暴和酸雨观测网络，基本实现了长期、多区域、网络化观测。

为加强管理和规范大气成分观测仪器设备的操作，编制了大气成分观测业务运行管理办法(征求意见稿)，编制并通过监测司下发各类观测技术手册35册、质量控制方法等8册，建立了相关的业务技术流程。研发了大气成分、沙尘暴观测站网数据实时监视系统并投入运行，实现了对台站观测数据的实时监视、存贮与备份，具备了监视能力。研发了台站观测质量控制信息采集软件，并下发台站试行，实现了台站日志文件的每日上传，开发数据处理及质量控制软件，并实施对上传数据的检查和质控，及时将相关信息反馈到相关职能部门和相关的台站，在提高数据上传率和质量方面取得了有效进展。到目前为止，已有5项大气成分观测相关软件取得计算机软件著作权。年内还编制了全国大气成分观测站网运行状况月报12期。



大气成分观测数据质量控制系统
Quality-control system of atmospheric component observation data



中国气象局酸雨监测网
Acid rain monitoring network of CMA

通过标校能力建设，目前已具备了部分观测项目的标校能力，并对大气成分站、沙尘暴站的部分仪器设备实施标校，保证了观测数据的质量。年内还实现了大气成分站观测数据(除黑碳观测数据）通过国家气象信息中心向省级的广播，实现观测数据共享。随着数据质量控制工作的不断加强，初步实现了经质量控制后的部分大气成分观测数据向国家气象信息中心的反馈。

在沙尘暴国际合作项目建设中也发挥了重要作用。对于承担的蒙古和哈萨克斯坦沙尘暴联合观测站的援建任务，派出具有丰富经验的人员赴哈萨克斯坦共和国、蒙古共和国进行了有关站址的实地考察及相关建设技术细节交流，为援建项目后期实施打下了良好基础。

2007年全国省级酸雨观测站的数据实现了定时传输，承担了国家级和省级293个酸雨观测站网技术指导和支撑，并进行了酸雨样品的质量考核。在确保酸雨数据完整性的基础上，不仅完成正常的逐日酸雨业务值班和酸雨日报产品的制作与报送，还按时完成《全国酸雨监测月报》、《2006年中国区域酸雨年报》、《中国气象灾害年鉴2006》酸雨部分、《气象灾害防护指引——酸雨册》等的编写。对于省级气象局开展的酸雨业务与服务也给予大力支持和指导，如对各省酸雨监测评估月报内容和质量进行指导和把关，并提出改进建议等。

此外，还承担了国家气候观象台试点站大气成分观测系统建设任务。为确保试点站大气成分观测系统建设质量，多次对实施方案进行修订和完善，召开了观象台大气成分观测系统建设方案论证会，针对具体建设问题还召开了专家咨询和论证会，组织专家对5个试点站站址及周围环境进行了实地考察，并于8月底在锡林浩特观象台开始预试验观测。

多次组织具有经验的科研、业务人员讲课，对来自一线的观测技术人员、装备技术保障人员以及管理人员等进行了有关大气成分观测的基础知识、观测技术、维护维修技术等的培训，并制作了大量的课件和培训材料。据不完全统计，台站参加培训人员已超过1000人次，收到了较好的效果，台站人员初步具备了常规的操作、维护维修等能力。

大气成分观测与服务中心：张晓春

Advances in Operational Services of Atmospheric Component Observation

In 2007, the Center for Atmosphere Watch and Service (CAWAS) improved progressively the monitoring, operating, and supporting capability of the monitoring station networks, established preliminarily the observation networks of atmospheric components, dust storms, and acid rains covering the key and typical regions of China, and realized basically the long-term, multi-region, and networking observation.

In order to enhance the management and to standardize the operation of atmospheric component observation instruments and equipments, CAWAS fulfilled the following tasks: compiled the "Management Measures for Operational Atmospheric Component Observation" (draft) and various related technical regulations; developed the real-time data monitoring system of atmospheric component and dust storm observing station networks and put into operation; realized the real-time monitoring, storage and backup of observation data; developed the information collection software for the quality control of data from observation stations, which can perform the quality check and control of uploading data, so to feedback the related information to the relevant administrative departments or stations and improve the transmitting speed and quality of data uploading; and compiled the monthly reports the operating state of the nationwide atmospheric component observation station network operation (12 issues in total).

Through improving our capability of calibration, we are able to calibrate some instruments of atmospheric component and dust storm stations. In 2007, we realized the data broadcasting and sharing of atmospheric component stations (except blackcarbon data) to provincial meteorological bureaus through the National Meteorological Information Center (NMIC), as well as the feedback of some quality-controlled observation data to NMIC.

CAWAS played an important role in the international cooperation project of dust storm observation. We undertook the construction-aid task of joint observation stations in Mongolia and Kazakhstan and sent out experienced staffs to Mongolia and Kazakhstan for on-site inspection and technical exchange, which set a good base for the further proceeding of the project.

In the aspect of acid rains, CAWAS realized the regular transmitting of acid rain data from provincial observation stations across China in 2007, provided technical guidance and support to 293 provincial stations, and conducted the quality check of acid rain samples. While ensuring the integrity of acid rain data, we fulfilled the routine tasks of acid rain observation operation and the compilation and delivery of various operational reports, including daily, monthly and annual reports, as well as some technical manuals and so on. We also provided technical guidance and support to provincial acid rain service, such as the guidance to all provinces for the content and quality of the monthly acid rain monitoring and assessing reports.

In the construction of the atmospheric component observing system of national pilot climate observatories, CAWAS revised and improved for several times the implementing scheme to ensure the quality, and organized the expert team to conduct the in-site inspection of five pilot stations and their environment for site selection. The Xilinhot observatory began to run experimentally at the end of August 2007.

CAWAS organized several workshops to train the front-line observation, equipment maintenance, technical support, and management personnel on basic knowledge, observing technology, instrument maintenance technology, etc. According to incomplete statistics, the participants are up to 1000 or more and received good results. Presently, the front-line staffs of our observation stations are preliminarily able to perform routine operation and equipment maintenance.

Center for Atmosphere Watch and Service: Zhang Xiaochun

人工影响天气业务建设项目进展

2007年人工影响天气业务建设项目“国家级人工影响天气业务建设”和“人工增雨作业效果检验业务建设”成果交流暨业务建设验收会2008年3月25日在中国气象科学研究院召开。验收会由预测减灾司副司长翟盘茂主持，由气科院、北京大学、中科院大气物理所、国家气象中心、有关省局人工影响天气办公室、局计划财务司、科技发展司等单位专家组成的验收专家组对上述两个项目进行了验收。

专家组认为：“国家级人工影响天气业务建设”项目完成了任务合同书规定的建设任务和绩效考核目标，为国家级人工影响天气业务打下了基础；编制完成的“人工增雨作业效果检验技术方法”，对地方人工增雨业务部门科学有效地开展人工增雨作业效果检验工作具有指导性意义。

“国家级人工影响天气业务建设”结合我国人工影响天气的发展需求，依托气象业务通信和计算机网络系统开发了国家级人工影响天气信息收集和产品加工服务平台，能够实现人工影响天气业务和技术产品的实时发布；改进了GRAPES模式和MM5高分辨率模式，实现了两个模式的准业务运行，可