

# Weather Demonstration Project for the Beijing 2008 Olympic Games

## Description

Establishing strong and effective connection and collaboration between research, operational use, and end users is of particular importance for the success of GEOSS. By bringing together major advanced numerical weather prediction systems, observations and end users, the project including two components, a Forecasting Demonstration Project (B08FDP) and a Research Development Project (B08RDP). In addition, a Real Time Forecast Verification (RTFV) System, developed by the WWRP/WGNE Working Group on Forecast Verification will be tested in the demonstration. Together with the demonstration, capacity building as well as outreach activities will be organized. Major deliverables are as bellow:

- Development of fully operational use nowcasting systems and pre-operational use mesoscale data assimilation and ensemble prediction systems.
- Training workshops for capacity building.
- GEO outreach activities organized during Beijing 2008 Olympic Game.

## Added Value

- Contribution to GEOSS implementation already an indication that GEO is working as a process, this project will demonstrate how the advanced nowcasting and mesoscale ensemble prediction systems can provide an improved weather service to benefit society, show the value of technology transfer and facilitate GEO capacity building as well as communication outreach.
- Credit to be given to countries and organizations that initiated & conducted the Projects.
- Major future opportunities for GEO Members to benefit from Beijing Olympics Projects experience and lessons learned re. nowcasting & EPS capability transfer.

## Relevance to GEO

This activity is GEO Task WE-07-02. It has general relevance to GEO SBAs in areas that will benefit from nowcasting to advanced mesoscale data assimilation and ensemble prediction systems and the derived products, especially in areas related to risk management, disaster mitigation etc.

## Participants

B08FDP: Seven participating systems

- Australia: STEPS and TIFS from Australian Bureau of Meteorology
- Canada: CARDS from Environment Canada, MAPLE/ARMOR from McGill University (co-partner with WDT company, US)
- China: Beijing-ANC from BMB, GRAPES from CAMS, and SWIRLS from HK
- US: NIWOT from NCAR, MAPLE/ARMOR from WDT company (co-partner with McGill University, Canada)

B08RDP Seven participating systems

- Canada: EC's regional EP system
- China and US: BMB, NCAR and NMC's joint 3-hour rapid update cycle data assimilation and short-term forecasting system.
- US: NCEP's new version SREF (based on the WRF model with both NMM and ARW dynamic cores)
- Japan: JMA's NHM meso-scale EP system
- China: NMC's WRF based meso-scale EP system and CAMS' GRAPES based Meso-scale EP system
- Austria and France: ZAMG and Météo-France's joint regional EP system (Austrian weather service ZAMG and Météo-France will be acting as one single partner in the project)
- ECMWF(new):



*B08 FDP/RDP participants during second workshop*

### Current Status and Next Steps

- Initial B08FDP/RDP system trials in August 2006. The 2nd trials in July-August 2007. The second and third B08FDP/RDP workshop was held in Beijing and Qingdao in China after trials. (Fig 1)
- Societal and Economics Impact Assessment: Street survey was conducted in July 2005 for residents and two workshops were held for media and business sectors to broadly identify end users of B08FDP. (Fig.2 A women for street survey, right photo). In Summer of 2007, the survey for B0COG "Good Luck Beijing" Sport events), forecasters, business sectors, general public were undertaken
- The first training workshop of B08FDP was held in April 2007. Forecasters of BMB/CMA were taught to operate the systems, to learn the major functions and product generation in the systems. (Fig.3, right photo). The first training workshop of B08RDP was held in September 10-14 for forecasters on how to use ensemble prediction products
- Major future opportunities, such as 2010 Canada Winter Olympic Games FDP projects and 2010 Shanghai World Fair Weather Project, for GEO Members to benefit from Beijing Olympics Projects experience and lessons learned re. nowcasting & EPS capability transfer.
- Methods of societal benefit access are to be further developed with inputs of end user requirements.



*A women for street survey*