

People

Welcoming two new key people in the World Weather Research Programme!

The new WWRP Director, Dr. David Parsons, has taken up his duties on 1 March 2008. David has been a scientist and scientific manager at the National Center for Atmospheric Research (NCAR) in Boulder, Colorado, USA since 1985.

The Chair of the WWRP Joint Scientific Committee is Dr. Gilbert Brunet, who is currently the Director of the Meteorological Research Division at Environment Canada. Gilbert began his term as Chair in March 2007. [More](#).

Welcoming the Co-Chairs of the new African THORPEX Regional Committee!

The newly established African THORPEX Regional Committee elected Drs. Aïda Diongue-Niang (Senegal Met Service) and Andre Kamga Foamouhoue (African Centre for Meteorological Applications to Development, ACMAD) as Co-Chairs. We thank these talented researchers for producing an [African Regional Science Plan](#) and their work on developing an accompanying implementation plan that has an ambitious agenda for Africa that ranges from strengthening research and prediction of high impact weather to improving society's use of weather information.

Thank you, Dr. Lazo and A Welcome to Dr. Mills!

Due to pressing work commitments, Dr. Jeff Lazo had recently stepped down as founding Chair of the WWRP's [Working Group on Social and Economic Research Applications](#) (SERA). Dr. Lazo is Director of NCAR's Collaborative Program on the Societal and Economic Benefits of Weather Information, Boulder, Colorado, USA. During his tenure as Chair, he has done an absolutely outstanding job in providing leadership and direction to the working group and making contributions of the highest order. The WWRP is fortunate that Jeff has agreed to remain as a member of the committee.

The new SERA Chair will be Dr. Brian Mills of Environment Canada. Brian works with the Adaptation and Impacts Research Group and is based out of the University of Waterloo. His research is presently focused on understanding the sensitivity and adaptability of transportation to weather, climate and climate change and the value of weather information in decision-making.

Cross-cutting News

WMO reorganization creates new Research Department

As of January 2008 the new WMO Research Department includes the Atmospheric Research and Environment (ARE) branch with the World Weather Research Programme (WWRP) and the Global Atmosphere Programme (GAW), and the World Climate Research Programme's Joint Planning Staff. See [WMO organigram](#).

Online monitor of weather and climate extremes

The WMO Commission for Climatology has established a world weather/climate extremes archive, which provides the historical background for many geographical and historical inter-comparison studies. Read [more](#).

Epidemic meningitis in Africa and environmental risks

There is evidence that large dust plumes from the southern Sahara might be linked to meningitis outbreaks in the Sahel region, the 'meningitis belt'. The recently established [Meningitis Environmental Risk Information Technologies \(MERIT\)](#) project will investigate the correlation of meningitis and environmental factors, including dust by using combined dust model data and medical records. A MERIT Steering Committee meeting will be held in Geneva in June followed by a workshop for the community in Addis Ababa, Ethiopia, in November or December.

World Meteorological Day 2008

On 25 March, WMO and its 182 Members celebrated World Meteorological Day around the theme Observing our Planet for a Better Future. Read [press release](#).

WWRP Strategic Plan

The WWRP is embarking on the development of a strategic plan that will: i) describe critical forecast challenges, ii) select priority areas for research, iii) outline strategies and activities within the research and operational communities (e.g., test-beds, Research and Forecast Demonstration Projects (RDPs and FDPs, respectively), symposia, workshops, and reports), and iv) detail the level of support required of the WMO. [The WWRP web site](#) will contain periodic progress reports.

Plans, Progress and Activities

• Mesoscale Weather Forecasting Research

The website for the [WWRP Working Group on Mesoscale Weather Forecasting](#) has been updated featuring news, activities, membership and mission statement.

The [Sixth Workshop and Science Meeting](#) of the [Convective and Orographically-induced Precipitation Study \(COPS\)](#) was successfully held from 27-29 February 2008 at the University of Hohenheim, Stuttgart, Germany, where the first scientific results of the COPS campaign as well as the strategy for the exploitation of the wealth of data from this field experiment were discussed. COPS is an international field campaign initiated within the German 6-year Priority Programme and is a WWRP research and development project.

From 16-19 May 2008, the [2nd scientific meeting of D-PHASE, Demonstration of Probabilistic Hydrological and Atmospheric Simulation of flood Events in the Alpine region](#), was held in Bologna, Italy in conjunction with a midterm meeting of COST action 731 (Uncertainty Propagation in Meteo-Hydrological Forecasting Systems). D-PHASE is a WWRP Forecast Demonstration Project (FDP) to demonstrate the advances that were made in forecasting heavy precipitation events and related flash floods in the Alps as a result of the Mesoscale Alpine Programme (MAP). During the D-PHASE Operations Period from June to November 2007 more than 30 high-resolution probabilistic and deterministic atmospheric and hydrological forecast models were operated together with nowcasting tools to serve the needs of more than 60 end users.

Progress continues on a research development project for the Beijing 2008 Olympic Games on mesoscale ensemble prediction designed to contribute to the better understanding and forecasting of high impact weather events, mainly rainfall and wind, during the summer season in Beijing. The effort includes a component aimed at demonstrating the societal and economic benefits of prediction systems. Read [more](#).

• Nowcasting Research

An updated version of the [WWRP Working Group on Nowcasting Research website](#) has been made available to include membership information, mission statement, news and activities.

The Meteorological Service of Canada hosted the WWRP Preliminary Coordination Group Meeting for the Vancouver 2010 Research Demonstration Project (RDP) in Whistler, British Columbia, Canada, from 26-28 March 2008. Organized by the Working Group on Nowcasting Research, the meeting explored the potential of a winter nowcasting RDP linked with the 2010 Winter Olympics in Vancouver.

A Forecast Demonstration Project (FDP) for nowcasting time scales will take place during the Beijing 2008 Olympic Games. Weather prediction for the games has received significant attention in the world press. The TimesOnline, for example, calls forecasting the 'toughest event at Beijing Olympics' (read [article](#)). The official website of the Beijing 2008 Games states that 'research on new (forecasting) technologies shall ensure the success of the Games' ([more](#)).

• THORPEX programme

A more detailed summary of the accomplishments and news of the [THORPEX programme](#) can be found in the annual [THORPEX progress report](#). One organizational note from this progress report is that THORPEX has simplified its organizational structure. More recent news and highlights of the THORPEX programme appear in this newsletter.

THORPEX will have two major upcoming scientific meetings this fall: The 2nd Meeting of the THORPEX Working Groups. Mini workshops and parallel meetings will be held at the WMO Headquarters, Geneva, 22-26 September 2008. One of the themes of this year's Annual Meeting of the European Meteorological Society (EMS) will be *Forecasting the weather at all time scales – THORPEX studies, developments in*

NWP, applications and societal impact ([more](#)). The [EMS Annual Meeting](#) will be held during 29 September-3 October 2008.

-- Progress towards a Global Interactive Forecast System (GIFS) --

TIGGE, the THORPEX Interactive Grand Global Ensemble, is now operational for research users. The primary TIGGE data sets are model and diagnostic variables from all the members of the ensembles of ten major global forecast systems. The data was recently made available from the three archive centres in a common format including access routines and a growing set of analysis tools. Read [more on TIGGE](#).

TIGGE is now in Phase I during which over 4 GB of data is moved each day from the participating operational centres to each of the three archive facilities. In Phase II, TIGGE aims for a distributed archive system to minimize these data transfers.

A [TIGGE User's Group Forum](#) has been established. This forum is community-wide email service and a web interface for sharing questions, solutions, and ideas concerning research with the TIGGE data set. This open platform is provided complimentary by Unidata, a UCAR Program Office, and frequent collaborator with NCAR on TIGGE issues.

-- THORPEX campaigns and projects --

THORPEX is making a major contribution to the International Polar Year (IPY) with a cluster of ten programmes covering the Arctic and Antarctic. Read [more](#).

The field phase of T-PARC, the [THORPEX Pacific Asian Regional Campaign](#) will begin on 1 August 2008 in an effort to advance knowledge and improve prediction of high impact weather over eastern Asia and the downstream effects of these systems through their interactions with the Asian wave guides. This phase will concentrate on tropical cyclones and their transition into extratropical systems as they move northward and interact with the middle latitude westerlies.

A [winter component of T-PARC](#) is also planned for January to March 2009. Winter T-PARC is focussed on the science theme of advancing knowledge of the evolution of perturbations from the tropics, Asia and the polar front as they travel through the waveguide(s) and subsequently initiate high-impact weather over the Arctic and North America. The experiment will conduct adaptive measurements and data impact studies aimed at making recommendations on the future of the global observation system.

-- THORPEX and GEO --

Three THORPEX activities appear within the GEO framework: THORPEX Africa, TIGGE and Seamless Weather and Climate Prediction. The latter effort is a major collaboration between WWRP-THORPEX and the [World Climate Research Programme](#). Under Seamless Prediction, a paper entitled The Socio-economic Benefits of a Revolution in Weather, Climate and Earth System Prediction was presented at the GEO Plenary IV in Cape Town (download [Full Picture](#) book, PDF, 17.5 MB). Two journal articles are being prepared to lay the foundation for collaborations between the WWRP and WCRP: The [first article](#) is intended to inform policy makers, national academies of science, users and providers of weather, climate and environmental information of the necessity for establishing a *Weather, Climate and Earth-System Observations and Prediction Initiative*. The [second article](#) outlines areas of scientific and operational collaboration between the weather and climate community.

Two important activities associated with Seamless Prediction are currently underway: (i) the Year of Tropical Convection (YOTC), a grand challenge jointly initiated by WCRP and WWRP-THORPEX beginning this summer with the aim of conducting a year of coordinated observing, modelling and forecasting of organized tropical convection and its influence on predictability; (ii) a [World Modelling Summit for Climate Prediction](#) (including aspects of weather prediction) which was held 6-9 May 2008, Reading, UK.

-- Other THORPEX-related research highlights --

A proposed set of priority research topics on global to regional circulations associated with high-impact weather has been proposed by the THORPEX Working Group on Predictability and Dynamical Processes. These topics, derived with community input through their email-based discussion groups, are described in a paper submitted for publication (see [draft submitted to BAMS](#)).

Several other recent publications of interest to the THORPEX community are posted on the [THORPEX website](#).

- **Sand and Dust Storm Project**

The WMO/GEO Expert Meeting on an International Sand and Dust Storm Warning and Assessment System (SDS-WAS) was held 7-9 November 2007 in Barcelona, Spain. About one hundred participants from different countries attended the meeting to discuss how to develop a global routine warning system for sand and dust storms to reduce risks to health and public safety. See [meeting presentations](#).

SDS-WAS will integrate numerical dust predictions and relevant observations through establishing effective cooperation between researchers, data producers and user communities. Two WMO Regional SDS-WAS Centres have been established, for North Africa/Middle East/Europe in Spain, and for Asia/Central Pacific in China (<http://www.sds.cma.gov.cn/>). These centres coordinate regional activities to ensure successful operations and further developments of integrated regional SDS monitoring and forecasting systems. The data sets include both long-term reanalysis products and forecasts.

- **Societal and Economic Research and Applications**

[The Societal and Economic Research and Applications \(SERA\) Working Group](#) is in transition from a group devoted to THORPEX issues to one that has the responsibility for the entire range of time-scales and research issues associated with the WWRP. The new Chair of the SERA Working Group, Dr. Brian Mills, will attend the WWRP Joint Scientific Committee in July to begin this transition.

- **Tropical Meteorology Research**

The [Sixth International Workshop on Tropical Cyclones recommended](#) that all seasonal predictions of tropical cyclone activity should be validated with a common set of metrics and reported on a central website hosted by WMO. An article by [Camargo et al. in the WMO Bulletin](#) described the progress in seasonal predictions and outlined the verification techniques. An expert team has been formed by the [Working Group on Tropical Meteorology Research's](#) Tropical Cyclone Panel to develop a common set of metrics for statistical and dynamical seasonal forecasts and establish the policy and procedures for inclusion of forecasts on the WMO website. The expert team met 24-25 April 2008 in Boulder, Colorado, USA to design and initiate this project.

The [Fourth International Workshop on Monsoons \(IWM-IV\)](#) and the WWRP-Tropical Meteorology Research Monsoon Panel meeting is scheduled for 20-25 October 2008 in Beijing, China. This workshop will review recent progress in the research of severe monsoon weather and the climate impacts on monsoon weather. The latter topic will be held jointly with the [Second Pan-WCRP Monsoon Workshop](#). The invited reviews will cover all scales and geographic regions of the global monsoon and will form the basis of a forthcoming WMO report in book format.

In conjunction with the [Fourth International Workshop on Monsoons \(IWM-IV\)](#), the Workshop on Operational Monsoon Research and Forecast Issues will be organized by the WWRP-TMR Monsoon Panel in cooperation with the [WMO Education and Training Department](#). This workshop will include short courses for NMHS forecasters on the use of radar for monsoon rainfall research, heavy rainfall forecasting, and intraseasonal oscillation forecasts. Discussion sessions on seasonal monsoon prediction will be in cooperation with the East Asian Monsoon Activity Center in Beijing and the Asia-Pacific Economic Forum Climate Center in Busan, Korea.

The TMR Tropical Cyclone Panel and Monsoon Panel are cooperating with the Year of the Tropical Convection (YOTC, [YOTC Science Plan](#)) to acquire special high-resolution data sets from the ECMWF and other operational prediction centers. Arrangements are being made with ECMWF for special analyses and forecasts to be archived during the Tropical Cyclone Structure (TCS08) field experiment during August-September 2008, which will investigate the formation and structure change, including intensity change, in cooperation with the THORPEX Pacific Asian Regional Campaign, T-PARC. As many as three aircraft will be involved in these studies, and special satellite, surface and sounding observations will also be collected. In situ measurements with a reconnaissance aircraft of structure and intensity will be gathered over the NW Pacific for the first time since 1987 to provide validation data for geostationary and polar-orbiter techniques. Extensive numerical modelling research studies and evaluations of operational models are planned.

- **Verification Research**

The March issue of [Meteorological Applications](#) gives an overview on recent progress in the science of verification. The special issue features papers presented by the members of the [WWRP/WGNE Joint Working Group on Forecast Verification Research](#) at the [Third International Workshop on Verification Methods](#) (Reading, UK, 29 January - 2 February 2007).

The Joint Working Group on Verification has contributed to the design of several of the projects discussed earlier including T-PARC, MAP-D and Beijing 08. Their future activities were discussed at the last meeting of this group in Boulder on 21-22 April 2008. A report of this meeting is being prepared.

- **Weather Modification Research**

Following the 2007 WMO Congress decision, the WMO Weather Modification Research Trust Fund has been established and announced during the 9th WMO Scientific Conference on Weather Modification. In addition, the updated [WMO Statement on Weather Modification](#) including an Executive Summary and Guidelines on Weather Modification were presented. More on the [Expert Team on Weather Modification Research website](#).

Calendar Highlights

- WMO Executive Council Sixtieth Session (WMO headquarters, Geneva, 18-27 June 2008)
- African THORPEX Regional Committee (Pretoria, South Africa, 30 June-2 July 2008)
- Meeting of the Working Group on Nowcasting Research (Helsinki, Finland, 30 June – 4 July 2008)
- 2nd Meeting of the WWRP JSC (WMO headquarters, Geneva, 23-25 July 2008)
- THORPEX Working Groups – Mini Workshops and Parallel Meetings (WMO, Headquarters, Geneva, 22-26 September 2008)
- European Meteorological Society Annual Meeting (Amsterdam, The Netherlands, 29 September-3 October 2008)
- WMO/CAS 4th International Workshop on Monsoons (Beijing, China, 20-25 October 2008)
- Workshop on Operational Monsoon Research and Forecast Issues (Beijing, China, 24-25 October 2008)
- WWRP/THORPEX Workshop on 4D-VAR and Ensemble Kalman Filter Inter-comparisons (Buenos Aires, Argentina, 10-13 November 2008)
- 7th Meeting of the THORPEX ICSC (WMO Headquarters, Geneva, 18-20 November 2008)
- 3rd Meeting of the Working Group on Mesoscale Weather Forecasting Research (Shanghai, China, 20-21 November 2008)
- World Climate Conference-3 (Geneva, Switzerland, 12-16 October 2009)