



## WORLD WEATHER WATCH

Instruments and  
Methods of Observation ProgrammeCommission for Instruments and  
Methods of Observation***CIMO Newsletter***<http://www.wmo.int/web/www/CIMO/newsletters.html>

AUGUST 2006

*The CIMO Newsletter* is intended as a complementary means of keeping informed CIMO members and affiliates and getting them involved in the work of the Commission by reporting on its activities and other related organizational matters, meetings, publications, etc. Comments from the readers are welcome.

In order to keep the list of CIMO members in WMO Publication No.5 up-to-date we urge WMO Member countries to inform the Secretariat promptly of changes concerning the designation of their representatives to CIMO. Thank you.

**Highlights****EC-LVIII (Geneva, 20-30 June 2006)  
Major Outcomes with respect to the IMOP Programme and CIMO****EC-LVIII on CIMO and IMOP**

*The fifty-eighth session of the Executive Council* noted the continuous efforts of CIMO to sustain the implementation of the Instruments and Methods of Observation Programme (IMOP) and further develop it as a comprehensive and credible programme ensuring accuracy, worldwide data compatibility and long-term stability of the WMO Integrated Observing Systems. CIMO has been proactive in fostering its cooperation with other technical commissions, relevant international organizations and private instrument industry in standardization and compatibility of instruments and methods of observation of meteorological and related geophysical and other environmental variables. The Council emphasized that CIMO and IMOP standardization activities are vital for the WMO QMF. The Council also noted the significant progress made in transferring technology and building of capacities in developing countries in the field of instruments and methods of observation.

*The Council* reiterated the importance of CIMO being a cornerstone of WMO and noted the essential role of IMOP in addressing important tasks critical to other technical commissions and crosscutting programmes. Taking this into account, the Council felt that the structure of the Secretariat responsible for the support of CIMO/IMOP activities should be strengthened.

*The Executive Council:*

(a) *Reiterated* the importance of implementing urgently needed instrument intercomparisons, namely, the WMO Field Intercomparisons of Rainfall Intensity Gauges and the WMO Combined Intercomparison of Thermometer Screens/Shield in conjunction with Humidity Measuring Instruments. It urged CIMO to implement relevant future intercomparisons in the tropics and appreciated the offer of ACMAD to support intercomparisons that would be conducted in Africa;

(b) *Requested* the Secretary-General to continue implementing the CIMO training workshops on upper-air observations and training workshops on metrology and calibrations in all WMO Regions, particularly in those sub-regions that had not yet benefited from such workshops. It also recognized that more training, supported by HMEI, was needed for technicians on the maintenance and use of various individual instruments and Automated Weather Observing Systems (AWOSs) and on algorithms for use by AWOS;

(c) *Requested* CIMO to review the Terms of Reference of the Regional Instrument Centres (RICs) and Regional Radiation Centres (RRCs) and to develop a mechanism of their continuous evaluation to ensure quality of their services and to verify the traceability of the basic meteorological variables. The Council also requested strengthening the Quality Assurance of the RICs/RRCs;

(d) *Requested* CIMO to encourage the instrument manufacturers to develop more robust instruments with greater resilience to extreme weather condition and with increased measuring range;

(e) *Noted* accidents related to the use of hydrogen generators and requested CIMO to consider this issue, in collaboration with the HMEI, as regards the operational safety at the upper-air stations. It also recognized the environmental concerns of Members using mercury-based instruments and requested CIMO to investigate alternative solutions.

### **Dr Vilho Väisälä Awards**

The Selection Committee of the Executive Council recommended that Mr J. P. Pichamuthu (India) should receive the *twentieth Professor Dr Vilho Väisälä Award for an Outstanding Research Paper on Instruments and Methods of Observation*, for the paper entitled "*Directional variation of visual range due to anisotropic atmospheric brightness*" and published in *Applied Optics*, Volume 44, No. 8, 1464 - 1468, March 2005.

The Selection Committee also recommended that Messrs J. Nash, R. Smout, M. Smees (all from the United Kingdom) and C. Bower (USA) should receive the *first Professor Dr Vilho Väisälä Award for the Development and Implementation of the Instruments and Methods of Observation* for the paper entitled "*Dar-es-Salaam demonstration test of IMS 1600 Integrated Upper Air System, Dar-es-Salaam, 18-30 October 2004*" published under WMO/IMOP IOM Report No. 82, TD-1267, May 2005.

The Executive Council approved the proposals of the Selection Committee.

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## **PROGRAMME ACTIVITIES**

### **Intercomparisons completed**

#### **Rainfall Intensity Gauges**

The *WMO Laboratory Intercomparison of Rainfall Intensity Gauges* was carried out from 15 September 2004 to 15 September 2005, in three different locations: Trappes (France), Genova (Italy) and De Bilt (The Netherlands). The [final report](#) was posted on the CIMO/IMOP website shortly after completion of the fieldwork, in January 2006. The report had been peer reviewed by a second meeting of the ET/IOC-SBII, Geneva, December 2005. It will be published as IOM Report No. 84, WMO/TD No. 1304.

#### **Radiosonde Systems**

The *WMO Intercomparison of High Quality Radiosonde Systems* took place in Vacoas, Mauritius from 2 to 25 February 2005. The [final report](#) was placed on the WMO website in February 2006, after completion of the fieldwork. The report had been peer reviewed by a second meeting of the ET/IOC-UASI, Geneva, November 2005. It will be published as IOM Report No. 83, WMO/TD No. 1303.

#### **Pyrheliometer Comparison(s)**

The *Tenth International Pyrheliometer Comparison (IPC-X)* and the jointly planned *Regional Pyrheliometer Comparisons (RPCs)* were held at the World Radiation Centre in Davos, Switzerland, from 26 September to 14 October 2005. The [final report](#) was posted on the CIMO/IMOP website in May 2006, shortly after completion of the fieldwork. The report had been peer reviewed during the meeting of the ET-MR&ACM, Davos, Switzerland, February 2006. It will be published as IOM Report No. 91, WMO/TD No. 1320.

## Intercomparisons to come

### Rainfall Intensity Instruments

At the kind invitation of Italy, the *WMO Field Intercomparison of Rainfall Intensity Instruments* currently planned to be carried out from August 2007 to August 2008, will be held in the Centre of Meteorological Experimentation (*ReSMA - Reparto Sperimentazioni di Meteorologia Aeronautica*) of the Italian Meteorological Service, in Vigna di Valle. Twenty-four instruments of different measuring principles were selected by the ET/IOC-SBII for the intercomparison. See CIMO/IMOP [website](#) for details.

### Thermometer screens, Humidity

At the kind invitation of Algeria, The *WMO Field Intercomparison of Thermometer Screens/Shields in conjunction with Humidity Measuring Instruments*, currently planned to take place from January 2007 to January 2008, will be held in Ghardaïa, Algeria, situated in a desert region. Twenty-nine thermometer screens/shields and sixteen humidity-measuring devices were identified for the intercomparison. See CIMO/IMOP [website](#) for details.

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## OPEN PROGRAMME AREA GROUPS and CIMO-MG

### Third CIMO-MG session

The third session of the CIMO Management Group (MG-3) met in Geneva from 3 to 7 July 2006. MG-3 focused on finalizing arrangements for conducting TECO-2006 (4-6 Dec.) followed by the fourteenth session of the Commission (7-14 Dec. 2006). The meeting discussed the various aspects of the upcoming Commission meeting agreeing on the details regarding organization and documentation.

Each of the OPAG chairs presented a concise report of their respective OPAG's activities bringing to the attention of the Management Group the achievements, future work recommendations and presentations for consideration and approval. The MG-3 discussed the future working structure of the Commission and prepared proposals that will be submitted to CIMO-XIV for consideration. These reports contained a summary of each OPAG's crosscutting collaboration with internal and external programs and commissions.

Representatives of WMO Programs, i.e.: Natural Disaster Prevention and Mitigation, Global Climate Observation, Quality Management Framework; and of the private sector: the association of Hydrometeorological Manufacturers Equipment Industry (HMEI) made excellent presentations relevant to the proposed work of the OPAGs and that will later be submitted to CIMO-XIV. The Management Group also benefited from a detailed briefing on the WMO strategic planning process, made by the Secretary-General's Office.

<b>OPAG-Surface</b>	<b>Co-chairs:</b> Jitze VAN DER MEULEN (A1) <a href="mailto:jitze.van.der.meulen@knmi.nl">jitze.van.der.meulen@knmi.nl</a> Michel LEROY (A2) <a href="mailto:michel.leroy@meteo.fr">michel.leroy@meteo.fr</a> Klaus BEHRENS (A3) <a href="mailto:klaus.behrens@dwd.de">klaus.behrens@dwd.de</a>
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### ET-MR&ACM

The first session of the Expert Team on Meteorological Radiation and Atmospheric Composition Measurements was held in Davos, Switzerland from 6 to 10 February 2006.

The main objective of the ET meeting was to discuss and approve the results of the Tenth International Pyrheliometer Comparison (IPC-X) and the conjointly organized Regional Pyrheliometer Comparisons (RPCs), Davos, Switzerland, 26 September to 14 October 2005.

Due to favourable weather measurements were taken on a total of 11 days, resulting in over 1000 data points for PMO<sub>2</sub>, Angström, and HF-type pyrheliometers. All member instruments of the World Standard Group (WSG) of absolute pyrheliometer were used to transfer the World Radiometric Reference (WRR) from IPC-IX (2000) to IPC-X (2005). WSG member instruments were performing well within the long-term stability of 0.2% of the measured value as required by the CIMO guide.

The ET evaluated status of the World Infrared Radiometer Calibration Centre (IRC), established at the PMOD/WRC in January 2004 following the Recommendation 1 (CIMO-XIII). There is still some work to be done to ensure that the Absolute Spectral Radiometer (ASR) is an appropriate reference point for far infrared (3 - 50  $\mu$ M) measurements.

The meeting believed that the World Infrared Standard Group (WISG) would provide a very useful interim reference for pyrgeometer far infrared measurements until a long-term absolute reference can be established. To assist in assuring the stability of the WISG the meeting suggested that carefully selected pyrgeometers outside the WISG are periodically compared to the WISG. The ET provided recommendation for future operational practice and also suggested that the World Infrared Radiometer Calibration Centre be renamed to the WRC Infrared Radiometry Section (WRC-IRS) as a component of the World Radiation Centre.

#### **OPAG-Upper-air**

##### **Co-chairs:**

Rainer DOMBROWSKY (B1) [Rainer.Dombrowsky@noaa.gov](mailto:Rainer.Dombrowsky@noaa.gov)

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*Note: No meetings of the Expert Teams of the OPAG on Upper-air were held during the period covering this Newsletter.*

#### **OPAG-Capacity Building**

##### **Co-chairs:**

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#### **ET-RICs**

The reduced session of the Expert Team on Regional Instrument Centres, Quality Management systems and Commercial Instrument Initiatives was held in Geneva, Switzerland from 4 to 7 April 2006.

The main objective of the ET meeting was to discuss options for improving the functionality of Regional Instrument Centres, revise their Terms of Reference and to prepare proposals for strengthening the services of RICs for the consideration by CIMO-XIV. Details could be found in the [final report](#) posted on the CIMO/IMOP website. The ET also discussed in detail the update of the Guide to Meteorological Instruments and Methods of Observation, WMO-NO. 8, Part III, Chapter 3 "Quality Management" with regard to the international standards.

#### **RA I Metrology Workshop (English)**

The Training Workshop on Metrology for RA I English speaking countries was carried out in Cairo, Egypt from 22 to 26 April 2006. Twenty-two participants from 21 countries that participated at the workshop showed a great deal of dedication, enthusiasm and will to learn and to know more about the basic metrology principles, calibration practices and traceability of measurements to the International System of units for the benefit of their own country, the Region and the whole meteorological community. Classroom theoretical lessons were followed with practical lessons; conducted in the laboratories of the RIC Egypt. Météo-France, Australian Bureau of Meteorology and the Environmental Agency of Slovenia provided each one lecturer for the workshop complemented by the trainers from the RIC and Regional Meteorological Training Centre (RMTC) Cairo.

#### **RA III Upper-Air Workshop**

The Training Workshop on Upper-air Observations for RA III (South America) was hosted by the National Meteorological Service of Argentina in Buenos Aires from 8 to 12 May 2006. Thirteen trainees from 10 countries participated in the Workshop. The training was aimed at improving the knowledge and skills of senior operational personnel in-charge of the national upper-air networks. It had both theoretical and practical lessons. The theory was conducted in the training premises and the practical lessons at the upper-air stations located at the Regional Instrument Centre.

The theory covered topics, such as basic introduction to radiosonde soundings and all preparatory activities prior to the launching of radiosondes. The practical work dealt with all activities during and after the radiosonde launch. A number of individual or twin radiosondes flights was launched during the demonstrations. Review of the presently used technology was complemented by information on possible future systems, such as wind profilers, RASS, GPS total water vapour, and radiometers. The Workshop also addressed the operational problems experienced in RA III through country reports presented by the participants. Representatives of the Hydro-Meteorological Industry Association (HMEI) made suggestions on how to solve pertinent problems and on how to best optimize the equipment performance under the particular conditions of the countries concerned.

The host country provided the necessary infrastructure for the successful outcome of the workshops complemented by additional ground upper-air systems, radiosondes and other consumables for the practical training from the UK Met Office, the Inter Met System (USA), Modem (France) and Vaisala Oyj (Finland).

Experts from the UK Met Office prepared master training lecture notes for the workshops. They were further complemented by lectures from USA NWS, National Meteorological Service of Argentina, and by the representatives of the HMEI. The UK Met Office provided three and the USA NWS one lecturer for the workshop. Lecturers from host country complemented the WMO lecturing team, especially in practical training. A set of the guidance and training material was provided to participants on a CD to assist them in the follow-up training at national level and is available in the WMO Secretariat on request.

#### **RA VI Metrology Workshops**

The Training Workshop on Metrology for RA VI South Eastern part of Europe was conducted in Ljubljana, Slovenia, 10-11 April 2006 and the Training Workshop on Metrology for RA VI Central and Eastern part of Europe in Bratislava, Slovakia, 12-13 April 2006. Twenty-two participants from 18 countries participated at the two workshops.

The aim of the workshops was the same as previous workshops, to provide operational field staff instrument maintenance and calibration training. The training also covered basic metrology principles and explored current client services. Participants presented papers and participated in open dialogue on issues enhancing the exchange of information and promoting the traceability of measurements to SI standards. Météo-France, the Environmental Agency of Slovenia and the Slovak Hydrometeorological Institute provided lecturers for the workshop complemented by trainers from the National Metrology Institutes of Slovakia and Slovenia.

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### **CIMO-XIV and TECO-2006**

The fourteenth session of CIMO will be held in Geneva, 7-14 December 2006, preceded by the Technical Conference on Meteorological and Environmental Instruments and Methods of Observation (4-6 December).

The International Programme Committee, chaired by the president of CIMO, selected the submissions for oral and poster presentations and approved the provisional Programme of TECO-2006. The authors should submit the *camera-ready* papers of accepted abstracts by 30 September 2006 to the WMO Secretariat.

The call for nominations of experts for CIMO expert teams and rapporteurs has been sent to the Permanent representatives of WMO Members on 26 July 2006. A completed nomination form for each expert proposed to be considered for nomination as a member of the expert teams or as a rapporteur at CIMO-XIV should be returned to the WMO Secretariat before 1 October 2006.

For more details, please consult the CIMO/IMOP website:

<http://www.wmo.int/web/www/CIMO/cimo-teco-meteorex.html>

Also, please note that a METEOREX event is not planned on this occasion, as a similar exhibit will be held in conjunction with Cg-XV in May 2007.

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## Meetings and Reports on the Web

For upcoming meetings: <http://www.wmo.int/web/www/IMOP/meetings.html>  
For the final reports: <http://www.wmo.int/web/www/IMOP/reports.html>  
CIMO/IMOP website: <http://www.wmo.int/web/www/IMOP/IMOP-home.html>

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## Schedule of Meetings

DATES IN 2006	PLACE	EVENT
4-6 Dec	Geneva	WMO Technical Conference on Meteorological and Environmental Instruments and Methods of Observation. <a href="#">TECO-2006</a>
7-14 Dec	Geneva	Fourteenth session of the Commission for Instruments and Methods of Observation. <a href="#">CIMO-XIV</a>

## Contact us

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## Newsletter Note

*The CIMO Newsletter* is issued at least twice a year and is distributed by e-mail to CIMO members and affiliates, including the Hydro-Meteorological Equipment Industry Association (HMEI), the International Bureau of Weights and Measures (BIPM) and other international organizations, provided that the e-mail addresses are known to the Secretariat.

**The contents** of this Newsletter may be forwarded to other persons interested in contributing to the work of CIMO, or interested in receiving information on its activities.

**Information** on the implementation of the Instruments and Methods of Observation Programme as well as on the work of the Commission for Instruments and Methods of Observation, is regularly posted on the WWW website, under the heading CIMO home, at:

<http://www.wmo.int/web/www/www.html>