NOTES FROM THE FIRST FORMAL COORDINATED ENERGY AND WATER-CYCLE OBSERVATIONS PROJECT (CEOP) TELECONFERENCE ON EUROPE-NEESPI-AFRICA REGIONAL HYDROCLIMATE PROJECTS AND REFERENCE SITE ISSUES HELD ON 26 FEBRUARY 2009
Final DRAFT, 27 April 2009

1. INTRODUCTION

The 1st Europe-NEESPI-Africa RHP and Reference Sites Teleconference related to the Coordinated Energy and Water-Cycle Observations Project (CEOP) took place on Thursday 26 February 2009 at 14:00 UTC.

The issues that were discussed on the subject conference call included:

(i) CEOP Strategic Implementation Plan (SIP) and reference site data requirements related to the CEOP Science Strategy;
(ii) CEOP and CEOP Data element coordination strategy – conference call scheme;
(iii) Outcomes of the Second CEOP Annual Meeting in Geneva and the planning of the Third Annual Meeting in Melbourne, Australia, 19 – 21 August 2009;
(iv) Current status of the CEOP Reference Site Data Archive with focus on the sites located in Europe and Africa;
(v) BALTEX RHP status and issues;
(vi) Europe Reference Sites status and issues: Phase 1 missing data and current phase submission plans;

Participants
The participants were:

Toshio Koike	Tokyo, Japan, CEOP Co-Chair & representing JMA
Sam Benedict	San Diego, California, USA; CEOP International Coordination Function
Petra Koudelova	Tokyo, Japan; CEOP International Coordination Function
Steve Williams	Boulder, Colorado, USA; Representing CEOP Data Management
Fred Bosveld	The Netherlands, BALTEX Cabauw site representative
Frank Beyrich	Lindenberg, Germany, BALTEX Lindenberg site representative
Charles Wrench	UK, Chilbolton site representative
Marcus Reckermann	Geesthacht, Germany, BALTEX RHP representative
Esko Kyrö	Finland; FMI representative
Beng Tammelin	Helsinky, Finland; FMI representative
Rigel Kivi	Sodankylä, Finland ; Sodankylä site manager

Drs Hans-Joerg Isemer (Representing BALTEX RHP and CEOP Data Management), Pasha Groisman (Representing NEESPI RHP), and Gaye Amadou (Representing AMMA RHP) responded to the announcement but were not available for the call.

2. NEXT CONFERENCE CALL

The next, **2nd CEOP Europe-NEESPI-Africa RHP and Reference Sites Teleconference** is proposed to take place on **Tuesday 16 June 2009, at 13:00 UTC**. **Koudelova/Benedict** have the **action (A1)** to inform the group of the details of the next call nearer to the time of the call and to coordinate the origination of the call **(action A1a)**.

3. CEOP AND CEOP DATA GROUP GENERAL ISSUES

3.1 Opening

(3.1a) **Benedict** welcomed everyone on the call and introduced the agenda, reference material that was circulated prior to the call, and background comments meant to setup the framework for reinitializing this series of important calls. Most of those on the call had already known about the merger of the Coordinated Enhanced Observing Period with the GEWEX Hydrometeorology Panel (GHP) that resulted in the formation of the Coordinated Energy and Water-cycle Observations Project (CEOP). However, for those who still had questions about that matter it was noted that they could bring up any thoughts or issues related to the

merger at any time during the call. In this context, **participants were asked in advance of the call, to reference the latest version of the CEOP Strategic Implementation Plan (SIP)** available through the CEOP Home Page at:
http://monsoon.t.u-tokyo.ac.jp/ceop2/implementationplan.html. It was pointed out that the current version was an updated one dated on 1 December 2008 that reflected and responded to the comments from GEWEX SSG earlier this year.

(3.1b) As part of the initial discussion item the Co-Chair of the new CEOP initiative **Koike** reiterated that agreement had been reached to designate **1 January 2007 as the start date for the resumption of the CEOP Reference Site Data generation process. The five-year period from 1 January 2007 to 31 January 2011 was the formal investigative element of the Project.** Backfilling for 2005-2006 data is desirable if technical, financial and manpower resources of respective providers allow executing of this extension of the formal commitment.

(3.1c) In addition it was pointed out that it was highly desirable to submit **missing data for Phase 1** (September 2002 – December 2004) and the site representatives were asked for their kind attention to this matter.

3.2 CEOP and CEOP Data Element Coordination

(3.2a) The former GEWEX Continental Scale Experiments (CSEs) and associated reference site group was very active and well coordinated during CEOP Phase 1 but some momentum was lost during the transition period in 2007. In addition, number of CEOP elements and also reference sites increased and thus effective ways of coordination were sought. A new, expanded scheme of conference calls was proposed that reflects the wide range of CEOP activities. Currently, the scheme includes Model Output calls, Satellite Data Calls and RHP + reference site calls. Regarding the RHP and reference site groups, it was suggested that the calls be organized in a regional manner. This means that three parallel series of such calls will be implemented and each series would include representatives from certain region. The regions were proposed as follows:

1. Americas
2. Europe + Africa + NEESPI
3. Asia + Australia + Pacific region

The main reason for this distributed approach is that a number of CEOP Phase 2 reference sites are not associated with any of the GEWEX/CEOP RHP and thus individual reference site representatives need to participate in addition to the RHP representatives. This approach assures that issues related to the reference sites and data provision are communicated directly with respective reference site representatives, which will expedite the whole process. Accordingly, a too large group for these calls would be formed if all of the CEOP sites and RHPs were involved. The regional division makes the calls "smaller" and thus better manageable. In order to assure coordination on the "global" level, the outputs of the individual calls will be communicated through the call Notes within the broader CEOP group and possible ad hoc calls among all RHP representatives and other element leaders may be scheduled if necessary.

(3.2b) The RHP and reference site data calls will mainly discuss RHP activities progress, reference site data submission and issues, and will inform of the CEOP general issues including updates from other elements. The calls will be held on a regular 3-monthly basis.

3.3 2nd CEOP Annual Meeting in Geneva, 15 – 17 September 2008

(3.3a) **Benedict** reported on the outcomes of the 2nd CEOP Annual Meeting that took place in Geneva in September 2008. The meeting was planned and undertaken to move ahead with the implementation of CEOP in accordance with the strategy outlined in the Strategic Implementation Plan. All of the presentation material provided by the participants at the meeting, including abstracts of talks and posters is available on the Internet through the CEOP Home Page at: http://monsoon.t.u-tokyo.ac.jp/ceop2/meetings.html. A brief summary report on the meeting has been published in the November issue of the GEWEX News (http://gewex.org/Nov2008.pdf) and subsequently the **full meeting report** has also been completed and posted on the said CEOP Meetings page.

(3.3b) It was also pointed out that the next, **3rd CEOP Annual Meeting** would be held in Melbourne, Australia, 19 – 21 August 2009, i.e. the event will precede the GEWEX and iLEAPS science conferences. The venue for the CEOP meeting will be the Bureau of Meteorology (BoM). Further details and the meeting

website will be released in due course. The participants on the call were asked to consider their participation in this important event and also possible contribution to the ensuing GEWEX/iLEAPS conferences that will take place in Melbourne, Australia, 24 – 28 August 2009. The conference website is available at: http://www.gewex.org/2009gewex_ileaps_conf.html. Abstracts for all sessions are currently being accepted and can be submitted on-line through the meeting website (http://www.gewex.org/2009gewex_ileaps_conf_abstracts.html). The deadline for abstract submission is **31 March 2009.**

It was highlighted that the CEOP meeting would focus on the CEOP strategic planning issues and the scientific and technical contributions were expected to be submitted to the ensuing GEWEX/iLEAPS science conferences.

(3.3c) In this context, the group was advised that a special poster session on High Elevations would be organized as a part of the GEWEX science conference in Melbourne and the participants were invited to consider their contribution to this session. More information is available through the High Elevation element website at: http://www.ceop-he.org/cms/. The due date for submission abstracts to the special High Elevations poster session is also **31 March 2009** and should be done through the GEWEX on-line submission site:
http://www.gewex.org/2009gewex_ileaps_conf_abstracts.html.

3.4 GEWEX Legacy Document and SSG Meeting outcomes

(3.4a) The group was also informed that the GEWEX Legacy document had been prepared to which CEOP provided a contribution. The Legacy Document is also perceived as part of preparation for the transition of the WCRP projects in 2013 and thus includes (1) GEWEX accomplishments of Phase 2 and (2) the legacy for future based on what has been done and what is felt to be important to be continued.

(3.4b) **Benedict** reported that the CEOP summary presentations at the GEWEX SSG meeting in Irvine, January 2009, were well received. The participants were asked to reference the SSG rapporteurs report that had been circulated before the call. The report emphasizes the importance of CEOP Reference Site data and other observation and modeling data and anticipates continuous effort of CEOP in this area.

(3.4c) In this context **Koike** pointed out that the satellite data and model output groups had been making efforts and progressing the work on producing and processing data they had committed to provide to CEOP. Both these groups have been very active and utilized similar conference calls to coordinate their activities and report on their progress. Also, both groups are much interested in the reference site data to validate their products.

3.5 Japan Data Integration and Analysis System (DIAS)

Koike introduced Data Integration and Analysis System (DIAS) that was launched in 2006 as part of the Earth Observation and Ocean Exploration System, which is one of five National Key Technologies defined by the 3rd Basic Program for Science and Technology of Japan. This system has been build up based on experiences gained through the CEOP Phase 1 Data Management and is designed to enable archiving, disseminating, integration and analyzing multidisciplinary earth observation data. The system includes components supporting data and metadata provision and data quality control procedure. These components that were used by the CEOP Asian reference site providers during Phase 1 have been upgraded and are now also opened to other interested data providers. Persons interested in these services should contact **Mr. Katsunori Tamagawa** (tamagawa@hydra.t.u-tokyo.ac.jp) at the University of Tokyo.

4. RHP and Reference Site Reports

4.1 BALTEX RHP report by Marcus Reckermann

(4.1a) **Reckermann** introduced the latest developments of the BALTEX RHP that included:
(i) A 10-year precipitation BALTEX Radar Network (BALTRAD) dataset is available at the BATEX Radar Data Center (BRDC) (http://produkter.smhi.se/brdc/).
(ii) New EU project within BALTRAD has been launched to support radar infrastructure development in eastern European countries.
(iii) A new project is being developed to bring together regional climate modeling and ecosystem communities.

(iv) The 6th Study Conference on BALTEX will be held in Poland, June 2010 and the preparations for this event have just begun.

(4.1b) A question was raised if BALTRAD also provided solid precipitation observation. **Marcus** accepted the **action A2** to clarify this point and advise the group. The solid precipitation information is important for CliC activities.

4.2 Summary status of the reference site archive at NCAR/EOL

(4.2a) **Williams** introduced the current status of the CEOP reference site data archive referring to the document summarizing the status of the sites located in the Europe-NEESPI-Africa region that was distributed prior to the call (see Attachment 1). **Benedict** pointed out three main issues that need to be considered including (i) missing data for the Phase 1 period (October 2002 – December 2004) – this applies for sites that participated in Phase 1; (ii) submissions for the transition period January 2005 – December 2006; and (iii) submissions for the current phase of CEOP, i.e. January 2007 – December 2011. It was mentioned that it would be highly desirable to complete data submissions for all three periods in order to obtain a long data series that are critical for many CEOP and other energy and water cycle related studies and the site representatives were asked to consider such commitment. Nevertheless, extension of the formal commitment to provide data for the transition period 2005 – 2006 depend on technical, financial and manpower resources of respective providers as mentioned in Section 3.1 above.

(4.2b) It was also pointed out that in addition to the measurements collected during Phase 1, **data related to clouds, carbon, and other scientific issues** would be welcomed and appreciated if such observations exist at the sites. These items would not be included in the current common format files but additional files would be created. Based on the availability of such data, the Data Management group will propose an adequate format.

(4.2c) **Williams** advised the group that a questionnaire on aerosol observation would be sent to the CEOP reference site representatives in the near future.

4.3 BALTEX: Cabauw by Frank Bosveld

Bosveld voiced that he would investigate the SFC/TWR data issue that was reported by the Data Management team (see the summary report in Attachment 1) and re-send the corrected data. The issue is perhaps associated with sensor problems and the data need to be properly flagged. Further data including the 2007 year dataset will be prepared and sent to the NCAR center in the near future.

4.4 BALTEX: Lindenberg by Frank Beyrich

(4.4a) **Beyrich** informed the group that they will resubmit PAR and longwave radiation data for 2005-2006 because of a certain calibration issue. Also tower wind direction data have been found questionable and will be resubmitted within a month. The data for 2007 are being processed and will be submitted by the end of March 2009.

(4.4b) **Beyrich** further voiced that the Norunda site would not participate in the new CEOP phase due to limited resources for data processing.

4.5 BALTEX: Sodankylä by Bengt Tammelin, Esko Kyro, and Rigel Kivi

(4.5a) **Tammelin and Kyro** informed the group that the Finnish Meteorological Institute (FMI) was willing to continue cooperation with CEOP. The Sodankylä observatory has been working well and would continue the observations. A new project is being established on cooperation with CEOP that would assure the data are properly and timely formatted, quality checked and sent to the NCAR center. A new person responsible for this process at the Sodankylä observatory will be nominated by May 2009 and then will begin the work on 2005-2006 data and further.

(4.5b) **Tammelin** further voiced that there was another observation station close to the Sodankylä observatory and asked if CEOP would also be interested in these data. **Williams** mentioned that if the other site had some specifics compare to the main Sodankylä tower site and thus the data is scientifically interesting, it would be worth to include data from this site in the CEOP database. **Kyro** accepted **action A3** to send this additional site description to Williams.

4.6 Others: Chilbolton by Charles Wrench

(4.6a) **Wrench** reported that a long record of the Chilbolton site observation was available in the NetCDF format and the CEOP community could be given an access to their archive. Nevertheless, the site management group has a limited budget and the data format conversion for CEOP may not be viable. **Williams** voiced that the NCAR Data Management group could assist with this task if a data format conversion tool is available. **Wrench** have **action A4** to provide a sample of the Chilbolton data in the NetCDF format to Williams, who will investigate the possibilities of the format conversion (**action A4a**).

(4.6b) In addition, **Wrench** was asked to undertake **action A4b** to provide Williams the site description and metadata.

4.7 AMMA: discussion

Koike informed the group that the main issue with the AMMA sites data provision was due to the different AMMA and CEOP data policy. At present, AMMA cannot not provide their data to the CEOP archive for further distribution. **Koike** will attend the Third AMMA Conference in Ouagadougou, Burkina Faso, in July 2009 (see paragraph 5.1d below) and will discuss possible future cooperation between AMMA and CEOP in terms of reference site data with the AMMA representatives.

5. OTHER ISSUES

5.1 Meetings

(5.1a) The next **3rd CEOP Annual Meeting** will be held in **Melbourne, Australia, from 19 through 21 August 2009** in conjunction with the GEWEX/iLEAPS science conferences that will take place in Melbourne, 24 – 28 August 2009 (http://www.gewex.org/2009gewex_ileaps_conf.html). Participants were asked to consider their participation in this important event. Further details of the CEOP meeting will be provided in due course.

(5.1b) The 2nd Lund Regional-scale Climate Modeling Workshop will be held in **Lund, Sweden** from **4 – 8 May 2009** (see the GEWEX calendar page: http://www.gewex.org/gewex_meetings.html for more information).

(5.1c) The International Conference "**Mountains: energy, water and food for life. The SHARE project: understanding the impacts of climate change**" will be held in **Milan, Italy**, from **27 – 28 May 2009** (see the CEOP website for further information: http://monsoon.t.u-tokyo.ac.jp/ceop2/meetings.html).

(5.1d) The 3rd International **AMMA Conference** will be held in **Ouagadougou, Burkina Faso**, from **20 – 24 July 2009** (conference webpage: http://www.amma-international.org/rubrique.php3?id_rubrique=1).

5.2 CEOP Home Page and Satellite Data Gateway

(5.2a) It was reiterated that the CEOP Home Page had been released and was available at: http://www.ceop.net or directly at http://monsoon.t.u-tokyo.ac.jp/ceop2/.

(5.2b) It was also mentioned that the CEOP Satellite Data Gateway had been opened for public. It is available at: http://monsoon.t.u-tokyo.ac.jp/ceop2/satellite/. **Williams** voiced that the link to the Gateway was posted on the Data Management website.

6. CLOSING

Koike acknowledged the participants for attending the call and providing their valuable contributions, comments and suggestions. The call was adjourned at 15:25 UTC.

ATTACHMENT 1 CEOP Europe-NEESPI-Africa Region Reference Site Data Status Report
(updated through 23 February 2009)

BALTEX

Cabauw – STM, FLX and SONDE complete through 2006. SFC and TWR complete through 2004. 2005-2006 SFC and TWR data were submitted September 2008.
SFC/TWR Issue – High RH values (up to 123%) flagged good starting in the latter half of 2005 at some heights.

Lindenberg – All data complete through 2006.
SFC Issue – In November 2008 Frank notified us that the PAR data have significant issues. Replacement PAR data for 2003-2004 to be submitted. 2005-2006 PAR data to be removed from data set.

Norunda – Data set completed. No longer a reference site.

Sodankyla – All data complete through 2004. No data submitted for later periods.

AMMA

Hourly precipitation data for 55 stations in the Upper Valley of Oueme for 2001-2003.
Hourly streamflow data for 3 stations in the Upper Valley of Oueme for 2001-2002.

NEESPI

No data yet.