

**NOTES FROM THE SIXTH FORMAL COORDINATED ENERGY AND WATER-CYCLE  
OBSERVATIONS PROJECT (CEOP) TELECONFERENCE ON ASIA-PACIFIC-AUSTRALIA  
REGIONAL HYDROCLIMATE PROJECTS AND REFERENCE SITE ISSUES HELD ON  
6 JULY 2010  
Final DRAFT, 14 October 2010**

## **1. INTRODUCTION**

The 6<sup>th</sup> Asia-Pacific-Australia RHP and Reference Sites Teleconference related to the Coordinated Energy and Water-Cycle Observations Project (CEOP) took place on Tuesday 6 July at 05:00 UTC.

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

- (i) The Pan-GEWEX Meeting in Seattle, 23 – 27 August 2010
- (ii) 10-Year Dataset Project (10-YDP)
- (iii) Outcomes of the HESS2 Conference in Tokyo, June
- (iv) Current status of the CEOP Reference Site Data Archive with focus on the sites located in the Asia-Pacific Australia (CEOP\_AP) region and the Individual Reference Site documentation
- (v) RHP/Reference Site data providers/managers reports – update on past activities and perspectives with respect to CEOP

### **Participants**

The participants were:

1. **Toshio Koike** (Japan, CEOP Co-Chair)
2. **Tetsu Ohta** (Japan, CEOP Asia Reference Site Data Manager)
3. **Katsunori Tamagawa** (Japan, CEOP Asia Reference Site Data Manager)
4. **Tsing-Chang (Mike) Chen** (Iowa, Northern South China Sea - Southern Japan site representative)
5. **Kenichi Ueno** (Japan, Tsukuba site representative)
6. **Wu Yueru** (China, Heihe River Basin site representatives)
7. **Zhang Zhihui** (China, Heihe River Basin site representatives)
8. **Jun-Ichi Hamada** (Japan, Western Indonesia, Central Indonesia, Eastern Indonesia, Northern Indonesia, Southern Indonesia sites representative)
9. **Hideyuki Kamimera** (Japan, Central Vietnam site and Western Indonesia sites representative)
10. **Hisayuki Kubota** (Japan, Western Pacific Ocean site representative)
11. **Gianni Tartari** (Italy, Himalayas, Karakorum and Italy site representative)
12. **Elisa Vuillermoz/ Roberta Toffolon** (Italy, Himalayas, Karakorum and Italy site representative)
13. **Wu Zhang** (China, Lanzhou site representative)
14. **Hirohiko Ishikawa** (Japan, Tibet site)
15. **Fadli Syamsudin** (Western Indonesia, Central Indonesia, Eastern Indonesia, Northern Indonesia, Southern Indonesia sites representative)
16. **Sam Benedict** (Japan, CEOP International Coordination Function)
17. **Petra Koudelova** (Japan, CEOP International Coordination Function)
18. **Akiko Goda** (Japan, CEOP Tokyo Office)

### **Could Not Participate**

1. **Steve Williams** (USA, Data WG Co-Chair)
2. **Feng Jianwu** (China, Tongyu site – on behalf of Liu Huizhi)
3. **Dawen Yang/Lei Huimin** (China, Downstream of the Yellow River site representative)
4. **Ichiro Kaihotsu** (Japan, Mongolia site representative)
5. **Jason Evans** (Australia, MDB Site Representative)
6. **Masatoshi Aoki** (Japan, Chao-Phraya River, North-East Thailand sites representative)
7. **Shigenori Hagino** (Japan, Tibet site representatives)

8. **Tetsuo Ohata** (Japan, Eastern Siberian Tundra, Eastern Siberian Taiga, Mongol Arvayheer, Mongol Nalaikh sites representative)
9. **Jun Matsumoto** (Japan, Northeast Bangladesh site and Central Vietnam site representative)
10. **Ming-Cheng Yen** (Taiwan, Northern South China Sea - Southern Japan site representative)
11. **Gombo Davaa** (Mongolia, Northern Mongolia site and Mongolia site representative)
12. **Ryuichi Shirooma** (Japan, Western Pacific Ocean site representative)
13. **Liu Huizhi** (China, Tongyu site representative)
14. **Toru Terao** (Japan, Northeast Bangladesh site)
15. **Jun Asanuma** (Japan, Northern Mongolia site representative)
16. **Masatoshi Aoki** (Japan, Chao-Phraya River, North-East Thailand sites representative)
17. **Hironori Yabuki** (Japan, Eastern Siberian Tundra, Eastern Siberian Taiga, Mongol Arvayheer, Mongol Nalaikh sites representative)

## 2. NEXT CONFERENCE CALL

The next, **7<sup>th</sup> CEOP Asia Pacific RHP and Reference Sites Teleconference** is proposed to take place on **Tuesday 2 November 2010, 05:00 UTC**. **Koudelova/Benedict** have **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 participants on the call and appreciated the work that the Asia-Pacific RHP and reference site teams had undertaken in response to the action items from the last call.

(3.1b) **Koike** reiterated that a **10-Year Dataset** project had been initiated in response to the climate modeling community need of **a high quality observation data** of a sufficient length for evaluation of climate models under the CMIP5 project and quantification of model projections uncertainties. This activity was proposed by the WCRP Observation and Assimilation Panel (WOAP) and is compliant with the CEOP commitment taken at the 3<sup>rd</sup> Annual CEOP Meeting in Melbourne in August 2009 to develop the CEOP 10-year dataset as well as with the **GEWEX post 2013 Imperatives** ([http://www.gewex.org/2010pangewex/Draft\\_Imperatives.pdf](http://www.gewex.org/2010pangewex/Draft_Imperatives.pdf)). The WOAP suggested activity, coordinated by CEOP (T. Koike) and CMIP5 (Karl Taylor), is envisioned as a collaborative effort of a broader observation and climate modeling communities including GEWEX/CEOP, LandFlux-EVAL, GSWP, AsiaFlux, from the observation side. The targeted dataset will consist of **in-situ as well as satellite observations** from multiple providers including CEOP, FLUXNET, AsiaFlux, iLEAPS.

The 10-Year Dataset project was discussed with the LandFlux-EVAL, FLUXNET, AsiaFlux, and GSWP representatives at the occasion of the HESS2 Meeting in Tokyo in June and it was agreed that a Whitepaper would have been developed and submitted for discussion at the Pan-GEWEX meeting in August.

It was pointed out that the representatives of the sites that had been in operation since CEOP Phase 1 were asked for kind cooperation on this task.

(3.1c) **Benedict** reiterated that the 2<sup>nd</sup> Pan-GEWEX meeting would take place in **Seattle, USA, 23 – 27 August 2010** (<http://www.gewex.org/2010pangewex/home.html>). The Pan-GEWEX meeting will address how the GEWEX panels and their projects and working groups will continue to work over the next 2 years to achieve their short-term goals, and how they will evolve to accomplish post 2013 **Imperatives**. This process will include determining what enabling infrastructure is necessary and developing a strategy for dealing with the GEWEX and WCRP cross cutting or overarching themes.

According to the updated Pan-GEWEX agenda, each panel (including CEOP, GRP, and GMPP) will have one and a half day (Tuesday 24<sup>th</sup> and Wednesday 25<sup>th</sup> morning) of separate sessions dedicated to its own issues. A CEOP evening session on Thursday 26<sup>th</sup> August has been added on the CEOP request. In addition, a half day for panel interaction is scheduled on Wednesday 25<sup>th</sup> afternoon. Further information including logistics details can be found at the meeting website.

It was also noted that considering the outcomes the individual GEWEX Panels including CEOP are expected to deliver at the Pan-GEWEX meeting, the available time might not be sufficient

to also address all the necessary CEOP internal planning issues to the full extent. Accordingly, it has been decided that the Pan-GEWEX meeting CEOP sessions would not fully substitute the 4<sup>th</sup> CEOP Annual Meeting event and that would be considered to take place early in 2011.

(3.1d) **Koike** advised the group that he would meet the CMA (China Meteorological Administration) Administrator on 26<sup>th</sup> July and would discuss with him the permission for the Chinese reference sites to provide the data to CEOP.

Consequently, the said meeting among Mr. ZHAO Datong, Deputy Director-General, Department of Integrated Observation, CMA and the CMA division leaders and Prof. Koike was held on 26th July in Beijing, China. Prof. Koike introduced the essence of the CEOP activities and the high value and merit of the unique CEOP dataset and explained the need for in-situ observation data from the Chinese sites and requested the CMA to grant the permission to the reference sites in question to provide their observation data to CEOP, while adhering to the CEOP Reference Site Data Policy.

This was the first time the CMA leaders were officially and in detail informed of the CEOP dataset specifics and merits and CEOP activities. They recognized its value and contributions to the energy and water cycle research and understood the need for the data from the Chinese reference sites. In this context, the CMA will internally discuss the matter and issue their decision in due course.

The CMA Administrator, Prof. ZHENG Guoguang, joined the meeting at the end after his commitment to the other one. He voiced that he was aware of the importance of the meteorological observation data sharing among international science communities as well as public in accord with spirit of the GEO principles and assured Prof. Koike that they would consider the CEOP's request accordingly and with regards to the upcoming GEO Ministerial Summit in Beijing in November 2010.

Prof. Koike agreed to communicate the matter with the managers of the reference sites in question. They will be asked to provide lists of observed parameters that are to be provided to CEOP. The parameters will be divided into two tables depicting (a) physical parameter and (b) chemical parameters. The CMA will consider individual parameters based on the provided lists.

(3.1e) The group was advised that the next edition of the Special CEOP Issue of GEWEX News would be published in August/September that would include two scientific articles related to the Asia-Pacific region, an article on the Extremes, updates on DIAS as well as recent CEOS activities, and other information.

### 3.2 Overall status of the CEOP reference site data archive and related issues

(3.2a) On behalf of Williams, **Koudelova** provided updated status of the sites that submit their data directly to the NCAR/EOL in the requested format and quality-checked without using services of the CEOP\_AP data center at Tokyo, Japan. These sites include: Himalayas, Pakistan, Tsukuba (Japan), Australian, and Italian sites. The update included:

- CEOP\_AP Himalayas - FLX - complete through 2007
- CEOP\_AP Himalayas - SFC - revised version through 2007 submitted and in our queue for checking
- CEOP\_AP Himalayas - STM - revised version through 2007 submitted and in our queue for checking.
  
- CEOP\_AP Pakistan Karakorum - SFC - complete through 2007.
  
- MDB Murrumbidgee - SFC and STM complete through 2007.
  
- MDB Tumbarumba - FLX, SFC and STM (2002-2009) data were checked back in April and issues were sent to Jason/Eva.

The overall status can be accessed on the Internet at:  
[http://data.eol.ucar.edu/master\\_list/?project=CEOP/EOP-3/4](http://data.eol.ucar.edu/master_list/?project=CEOP/EOP-3/4).

(3.2b) **Tamagawa** provided updated status of the CEOP\_AP data center in an email prior to the time of the call. The summary table is included in Attachment 1 below. He also reiterated that a revised

"Data Upload IF Users Guide" was available on-line at: <http://dias-d.tkl.iis.u-tokyo.ac.jp/CEOP/upload/>. It is felt that this user's guide will help the data uploading process.

In this context, **Ueno** pointed out that the Himalayan site Syangboche station and the Tsukuba site new NIFTS station were missing on the detailed list of Asia Pacific sites and their individual stations that is included in the referred Excel file showing the status of the CEOP\_AP data center. In addition, it was suggested that the site representative names be added to the table on relevant rows. **Tamagawa** has **action A2** to update the list and the table accordingly.

It was also suggested that with regards to the large number of the sites and individual stations in the Asia-Pacific region and the established process of submitting the data to the CEOP\_AP data center at the University of Tokyo first in case of most of the sites, the CEOP\_AP data management group led by Tamagawa request the site managers for interim reports in between the calls and inform the CEOP Data Management team at NCAR accordingly (**action A3**).

(3.2c) The ongoing **action A4** was reiterated on updating the site documentation/metadata that all of the **Reference site Managers and RHP Representatives** were asked to undertake. Inputs from several sites are still missing and thus the **Reference site Managers and RHP Representatives**, who have not responded to the documentation update request yet, were asked for their kind attention to this action item. Namely, they should go on line to review all the documentation for their Reference sites that is available through the following web site: <http://www.eol.ucar.edu/projects/ceop/dm/insitu/sites/> and to verify that it is complete and accurate and report and necessary updates to Tamagawa and Williams.

In this context, **Tamagawa** reiterated that a new metadata input system was under construction and should be available in the near future, perhaps by the end of July. The participants will be informed of its services accordingly.

(3.2d) It was also reiterated that the discussion in the CEOP model community and the definition of the scientific foci for the new CEOP period has resulted in the interest in / request for **additional data from the CEOP in-situ reference sites**. This mainly covers three groups of parameters: **clouds, aerosol, and groundwater**. It would be desirable if the Reference Site Managers complete the survey and provide this information to the NCAR/EOL database. The on-line survey is located at: <https://survey.ucar.edu/s?s=3003> and can be found through the Data Management site at: <http://www.eol.ucar.edu/projects/ceop/dm/questionnaires/>. Accordingly, all the **Reference Site Managers**, who have not done so yet, were asked to undertake the **action A5** to visit the said website and fill out the questionnaire.

#### 4. RHP/REFERENCE SITE REPORTS

It was reiterated that in order to assure a more efficient organization and implementation of the call, **all members of this Group who were responsible for site management/operations should be prepared near the time of the next call to undertake action A6 to submit brief written status reports**.

The following reports include (i) inputs, which were sent in by persons who could not participate in the call, (ii) contributions, which were put together from the written and oral inputs provided by those who did participate in the call, and (iii) oral reports of those, who did participate in the call but did not provide the written input.

##### 4.1 MDB RHP and Reference Sites by J. Evans – written report

A review of the coupled land-atmosphere dynamics in the MDB has been accepted for publication in the International Journal of Climatology. A series of other reviews on related topics - focused on the MDB - are in the submission/review process at Water Resources Research.

Tumbarumba data update was submitted to NCAR who returned a series of queries from their quality control process. There is ongoing discussion with the data owner about these issues.

Instrumentation for the new Wellington site has begun. Currently groundwater is being monitored through a number of wells with others still being dug. The bulk of the surface and atmospheric instruments are due to arrive and be installed over the next ~6 months.

#### 4.2 Himalayas, Pakistan Karakorum, and Italian sites by the Ev-K2-CNR group (Tartari, Vuillermoz, Toffolon) – written and oral report

In June, the group submitted the 2007 Syangboche dataset to NCAR in order to finalize the validation process of 2007 dataset regarding all stations located in the Khumbu Valley. The Himalayas and Pakistan 2008 dataset will be submitted before the 2nd Pan-GEWEX meeting.

In the Khumbu Valley, the automatic weather stations are regularly checked by local staff. The Askole and Urdukas stations were checked in June, during a field campaign and in this occasion data from August 2009 to June 2010 were downloaded. The Himalayas and Pakistan AWSs are regularly functioning and maintenance operation and data downloading are regularly carried out. At present, all the sites are performing continuous measurements correctly.

**Tartari** advised the group that improvement of sensors of the observation network along the Khumbu valley was planned by spring 2011 that would also include installation of real-time control devices. It means that the data will then be transmitted to the data center in Italy on the real-time basis. Also, the value of data from these stations for advanced research of atmospheric physics was recognized and new collaborative activities exploiting these data have been discussed by the Ev-K2-CNR Committee.

**Koike** voiced that the snow data from the Pyramid and Syangboche stations had been successfully used for validation of a new snow scheme developed at the UT and acknowledged the CEOP-HE group for their excellent contribution to the CEOP data component.

#### 4.3 Mongolia site by Ichirow Kaihotsu – written report

All the AWS stations of CEOP in the Mongolian plateau were working well as of this May. The monitoring for CEOP will continue. The team is currently in Mongolia carrying out field observations.

#### 4.4 Tsukuba site by Ken'ichi Ueno – written and oral report

The Tsukuba site data is ready till 2008 except for flux and CO<sub>2</sub> data at the MASE station. The 2009 data are being uploaded and checked. The data from the newly added NIFTS station is also archived till 2009 and the metadata is now being generated.

It was reiterated that regarding the reference site documentation, soil types differ depending on the station and land cover. The land cover map is on the Tsukuba RS web site. It is very difficult to mention the overall soil condition at the Tsukuba site as mentioned at the Lindenberg site. Point information at each station can be gathered but it may require certain time for the manager to complete this task.

#### 4.5 Indonesian sites by Jun'ichi Hamada and Fadli Syamsudin – written and oral report

The 2007 data quality control had been finished for the Western Indonesia site (Kototabang & MIA stations) by the last call. The team is preparing the document (metadata information) and the NCAR format dataset (Kototabang data has been already converted to the proper format) and the data will be provided to NCAR soon.

As for the 2008 data, the team has already collected the data from the Western, Central, Southern, and Eastern Indonesia sites (except for the Northern Indonesia - observation at this site started in January 2009) and has been preparing the data for uploading them into the QC system of UT.

**Syamsudin** also mentioned that the weather radar operation continued well and another radar would be installed in the near future.

#### 4.6 Northern Mongolia site by Jun Asanuma – written report

Observations at Northern Mongolia reference site continue well. Recently, it has been found that precipitation at the grassland site had anomalous values particularly when the wind was extremely strong. These values are currently assumed to be caused by vibration of the rain gauge mount

caused by strong wind larger than 12 m/s. The plans are to compare the observation with the observations at a near-by operational station to filter-out anomalous values.

#### 4.7 Tibet site by Hirohiko Ishikawa – oral report

**Ishikawa** reported that the latest available datasets from the Tibet site were being checked by their own system and would be submitted to the UT data center in the near future. In addition, the team will go to Tibet at the end of July and will download new data that will be processed in due course. Data status is summarized in the Table from Tamagawa in Attachment 1.

#### 4.8 Lanzhou site by Zhang Wu – oral report

**Wu** reported that the Lanzhou site observation continued smoothly, the data had been transferred to the QC system of UT, and the team was working on metadata. He pointed out that they had reach agreement with AMY group to share the data with them, however, to fully open them to public through the CEOP archive is subject to permission from CMA.

**Wu** also mentioned that they had completed a 2-month intensive observation experiment.

#### 4.9 Heihe river basin site by Wu Yueru and Zhi Zhihui – written and oral report

The data up to the end of 2008 have been uploaded to the CEOP\_AP data center at UT and the quality check was underway. Due to the research group policy, the data for the rest of 2009 and 2010 cannot be uploaded now but this will be possible in future. In addition, the Yeniugou station and the Linze station have been installed and are operated by different research group and thus negotiation with this group is needed to get the data. The Heihe river basin team will try to reach an agreement in this matter and receive the data of both the Yeniugou and Linze stations. All the other stations including Arou, Yingke, Binggou, and Dayekou are working well for these months.

Regarding the Heihe river basin reference site documentation, **Wu and Zhi** sent a document with relevant information to Williams in April but apparently such communication has been lost. **Wu/Zhi** were asked to take **action A7** to send the documentation to Williams again and **Koudelova** has **action A7a** to assist in this process and assure Williams is aware of this matter. Consequently, this action has been completed and the Heihe river basin reference site documentation updated on the CEOP Data Management Page and confirmed by the Heihe river basin team.

#### 4.10 Northern South China Sea - Southern Japan site by Mike Chen – oral report

**Chen** reported that the data from the beginning of 2005 through the end of 2008 had been uploaded to the CEOP\_AP data center at UT and the quality check and metadata generation might be completed by the end of July.

In addition, **Chen** reiterated that a special experiment focused on the monsoon activity was on schedule this year that consisted of two components: (i) winter monsoon and (ii) summer monsoon. Unfortunately, this year winter was unusually dry and thus the envisioned experiment could not be carried out to its full extent. The summer experiment began as scheduled and the results will be presented at a workshop dedicated to summer and winter monsoon in December.

#### 4.11 Central Vietnam and Western Indonesia sites by H. Kamimera – oral report

**Kamimera** reiterated that the Da Nang station of the Central Vietnam site has been in operation since October 2008 and automated data transfer to remote servers both at Hanoi and Japan was installed in March 2009.

He mentioned that the data were observed with the time step of 1 minute and thus they needed to convert it to the 30-minute interval data (averaged and accumulated values). Also, they have been carrying out their own quality control including cross-checking of the available data with the local operator, NMHS. This process has been almost finished and the data may be uploaded to the UT CEOP\_AP data center in the near future. The site documentation update had been submitted to Tamagawa prior to the last call.

#### 4.12 West Pacific ocean by H. Kubota – oral report

**Kubota** reported that the observation continued smoothly and the data were available up to June 2010. The QC procedure is underway and the update of the site documentation will be done shortly.

### ATTACHMENT 1: Status of the CEOP AP data center status

CEOP\_AP Data management status

YY/MM/DD Completed ongoing

	Reference Site Name	# of Sta.	Basic Info. <sup>1)</sup> Complete	Data Upload			Quality Control		Site Info. <sup>2)</sup> Complete	Dataset documentation Complete	Convert CEOP Format	Submit to NCAR	Remarks
				Ready	Complete	Data Period	Ready	Complete					
1	Eastern Siberian Tundra	1	O	08/12/03	09/07/30	2007/01/01 - 2007/12/31	09/08/05	09/08/14	△	ongoing	09/09/29		*2) instrument info available
2	Eastern Siberian Taiga	1	O	08/12/03	09/07/31	2007/01/01 - 2007/12/31	09/08/05	09/08/14	△	ongoing	09/09/29		*2) instrument info available
3	Mongolia	16	O	09/01/23					△				*2) instrument info available
4	Tongyu	2	O	09/01/23					△				*2) instrument info available
5	Tibet	22	O	08/12/03		2007/06/15 - 2008/11/25	09/02/19	ongoing	△				*2) instrument info available
6	Himalayas	5	O	Data managing by own system									
7	Northern South China Sea - Southern Japan	25	O	09/01/23	09/08/13	2005/01/01 - 2008/12/31	09/08/20	91%	△				*2) instrument info available
8	Chao-Phraya River	1	O	09/01/23	ongoing				△				*2) instrument info available
9	North-East Thailand	1	O	09/01/23					△				*2) instrument info available
10	Western Pacific Ocean	1	O	08/12/03	09/07/08	2007/01/01 - 2007/12/31	09/08/11	09/11/10	△	ongoing	09/11/11		*2) instrument info available
11	Mongolia Arvayheer	1	O	08/12/03									
12	Mongolia Nalaikh	1	O	08/12/03									
13	Northern Mongolia	2	O	09/01/23					△				*2) instrument info available
14	Lower Yellow River	1	O	09/01/23	10/02/02		10/04/07	6%	O				
15	Central Vietnam	1	O	08/12/03					△				*2) instrument info available
16	Northeast Bangladesh	1	O	09/06/25									
17	Pakistan Karakorum	2	O	Data managing by own system									
18	Tsukuba	7	O	Data managing by own system									
19	Lanzhou	1	O	09/01/23	10/04/08	2007/01/01 - 2007/12/31	10/06/08	ongoing					QC is available from AMY site
20	Heihe River Basin	6	O	09/01/23	09/10/19	2007/01/01 - 2008/12/31							
21	Western Indonesia	2	O	08/12/03	09/06/23	2007/01/01 - 2007/12/31	09/08/02	10/04/07	△	10/07/06, ongoing	10/06/30, ongoing		*2) instrument info available Kototabang Station is completed
22	Central Indonesia	1	O	08/12/03									
23	Eastern Indonesia	1	O	08/12/03									
24	Northern Indonesia	1	O	08/12/03									
25	Southern Indonesia	1	O	08/12/03									
26	Australian site			Data managing by own system									

<sup>1)</sup> Basic info. (station location and site, data manager's info.) is completed.

<sup>2)</sup> Requested by CDA (NCAR). Please check [http://www.eol.ucar.edu/projects/ceop/dm/insitu/sites/ceop\\_ap/](http://www.eol.ucar.edu/projects/ceop/dm/insitu/sites/ceop_ap/)

<sup>3)</sup> Document Metadata Registration System is preparing now.