

**NOTES FROM THE EIGHTH FORMAL GEWEX HYDROCLIMATOLOGY PANEL
TELECONFERENCE ON ASIA-PACIFIC-AUSTRALIA REGIONAL HYDROCLIMATE PROJECTS
AND REFERENCE SITE ISSUES HELD ON
22 FEBRUARY 2011
First DRAFT, 20 April 2011**

1. INTRODUCTION

The 8th Asia-Pacific-Australia RHP and Reference Sites Teleconference related to the GEWEX Hydroclimatology Panel (GHP, formerly CEOP) took place on Tuesday 22 February at 05:00 UTC.

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

- (i) CEOP – GHP transitions: Second Co-Chair; New RHP criteria; Development a new RHP in the North America
- (ii) Overview of all site data at CEOP Reference Site Data Archive;
- (iii) RHP/Reference Site data providers/managers reports;

Participants

The participants were:

1. **Steve Williams** (USA, Data WG 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. **Jason Evans** (Australia, MDB Site Representative)
6. **Kenichi Ueno** (Japan, Tsukuba site representative)
7. **Wu Yueru** (China, Heihe River Basin site representatives)
8. **Zhang Zhihui** (China, Heihe River Basin site representatives)
9. **Wu Zhang** (China, Lanzhou site representative)
10. **Gianni Tartari** (Italy, Himalayas, Karakorum and Italy site representative)
11. **Roberta Toffolon** (Italy, Himalayas, Karakorum and Italy site representative)
12. **Manabu D. Yamanaka** (Indonesia, Indonesia sites representative)
13. **Hisayuki Kubota** (Japan, Western Pacific Ocean site representative)
14. **Jun Matsumoto** (Japan, Northeast Bangladesh site and Central Vietnam site representative)
15. **Sam Benedict** (Japan, GHP International Coordination Function)
16. **Petra Koudelova** (Japan, GHP International Coordination Function)

Could Not Participate

1. **Toshio Koike** (Japan, former CEOP Co-Chair)
2. **Jun-Ichi Hamada** (Japan, Western Indonesia, Central Indonesia, Eastern Indonesia, Northern Indonesia, Southern Indonesia sites representative)
3. **Hironori Yabuki** (Japan, Eastern Siberian Tundra, Eastern Siberian Taiga, Mongol Arvayheer, Mongol Nalaikh sites representative)
4. **Hu Zeyong** (China, Tibet site representative)
5. **Shigenori Haginoya** (Japan, Tibet site representatives)
6. **Hirohiko Ishikawa** (Japan, Tibet site)
7. **Hideyuki Kamimera** (Japan, Central Vietnam site and Western Indonesia sites representative)
8. **Fadli Syamsudin** (Western Indonesia, Central Indonesia, Eastern Indonesia, Northern Indonesia, Southern Indonesia sites representative)
9. **Dawen Yang/Lei Huimin** (China, Downstream of the Yellow River site representative)
10. **Ichirou Kaihotsu** (Japan, Mongolia site representative)
11. **Masatoshi Aoki** (Japan, Chao-Phraya River, North-East Thailand sites representative)

12. **Tetsuo Ohata** (Japan, Eastern Siberian Tundra, Eastern Siberian Taiga, Mongol Arvayheer, Mongol Nalaikh sites representative)
13. **Ming-Cheng Yen** (Taiwan, Northern South China Sea - Southern Japan site representative)
14. **Gombo Davaa** (Mongolia, Northern Mongolia site and Mongolia site representative)
15. **Ryuichi Shiroyaka** (Japan, Western Pacific Ocean site representative)
16. **Liu Huizhi** (China, Tongyu site representative)
17. **Toru Terao** (Japan, Northeast Bangladesh site)
18. **Jun Asanuma** (Japan, Northern Mongolia site representative)

2. NEXT CONFERENCE CALL

The next, **9th CEOP Asia Pacific RHP and Reference Sites Teleconference** is proposed to take place on **Tuesday 21 June 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 WCRP and GEWEX related issues

(3.1a) **Benedict** reiterated the main outcomes of the 2nd Pan-GEWEX meeting that was held in Seattle, USA, in August 2010 (<http://www.gewex.org/2010pangewex/home.html>). These included a number of decisions, recommendations and actions specifically associated with former CEOP as well as a set of general (Pan-GEWEX) actions for all the Panels. The main changes that have taken place recently with respect to CEOP included:

1. The SSG accepted Prof Toshio Koike's decision to step down as Co-Chair of CEOP effective at the close of the PGM at Seattle. This action, followed Dr Ron Stewart's resignation, which was taken at the close of the SSG meeting at New Delhi India, 25-29 January 2010,
2. Dr Dennis Lettenmaier was named Co-Chair of CEOP to replace Dr Stewart, effective at the end of the SSG meeting at India (25-29 January 2010),
3. There was a search team being organized to find a Co-Chair to work with Dr Lettenmaier.
4. The SSG agreed to change the name of CEOP to the GEWEX Hydroclimatology Panel (GHP), effective immediately following the end of the PGM.

Also a new set of criteria for GEWEX RHPs was proposed at the meeting that were circulated prior to the last call and all RHPs were asked to review this set.

(3.1b) **Benedict** advised the group that consequently after the PGM, **Dr. Jan Polcher** – Laboratoire de Météorologie Dynamique, Centre National de la Recherche Scientifique (CNRS), Jussieu, Paris, France – had been nominated a new Co-Chair of GHP and had accepted this function. Dr. Polcher attended the GHP Europe-Africa Conference Call on 18 January and at that time introduced his interests in activities covered by GHP and stressed out in particular the importance of high quality long-term in-situ observations that are essential for WCRP/GEWEX science. He pointed out that individual sites on which RHPs are built up needed to be maintained and these difficult tasks should be supported by the GEWEX community. **Polcher** also emphasized that both (i) long term records and (ii) intensive, comprehensive short term observation campaigns are necessary and that crucial is rigorous data quality assurance with appropriate site instrumentation documentation. He voiced that establishing of a kind of a list of "good practices" for reference site observation would be desirable and also named the BSRN sites as a good example of such practices.

Polcher further advised the group that the new GHP panel members (see ATTACHMENT 1 below) will meet at the occasion of the EGU meeting in Vienna in April and they will discuss a new organization of the Panel that would be suitable for the new directions identified at the PGM. In addition, he mentioned that the first meeting of the new GHP was proposed be held in autumn in Europe.

In this context, **Benedict** reiterated that with regards to the changes resulting from the Pan-GEWEX meeting discussions, the data collecting and reporting scheme may need some restructuring, however the urgent need for a high quality data as a basis for scientific activities that are key for the GEWEX Imperatives was confirmed at the Pan GEWEX Meeting and the reference site data activities are supposed to continue in a certain manner. The in-situ data from the CEOP reference sites were acknowledged and studies based on these data were presented at the meeting.

(3.1c) After the call, at the beginning of March, **Williams** advised all the CEOP/GHP reference site groups by via email about the development of the situation at NCAR/EOL, where the CEOP reference site archive is hosted. With respect to the transition process from CEOP to GHP and envisioned GHP foci, the NOAA's Climate Projects Office (CPO), who has funded this CEOP activity since 2001, has directed **EOL to complete these activities by September 2011**. No additional funds have been allocated to EOL beyond October 2011 to provide any support to CEOP/GHP. Accordingly, the NCAR EOL team has decided to process and follow up on all the **reference site data that would be submitted to them by 31 March 2011** and a requested all the CEOP reference site data providers to consider this deadline to complete their submissions as much as possible. The copy of this note and request is attached below (Attachment 2).

(3.1d) **Benedict** further informed the group that a new RHP was being formed in the Northern American continent, involving the USA, Canada, and potentially Mexico. The proposed RHP, **Terrestrial Regional North American Hydro-Climate Experiment (TRACE)** (<http://www.trace-rhp.org/>), envisions an interdisciplinary, international, and interagency effort to make significant contributions to continental and finer scale hydro-climate science and solutions. The TRACE objective is to entrain, integrate, and coordinate the vast array of interdisciplinary observational and prediction resources available to significantly advance skill in predicting and managing changes in North American water resources, as an integral part of the global climate system. The TRACE mission is to measure and predict North American energy and water variations, trends, and extremes through improved observations and prediction, thereby providing the scientific underpinnings of future climate services. The initial discussion workshop will be held on 18 – 20 April 2011, at the Crowne Plaza Hotel in Silver Spring, Maryland, USA.

(3.1e) It was 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 3rd 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%20Imperatives.pdf)). The WOAP suggested activity 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 consists of **in-situ as well as satellite observations** from multiple providers including GHP (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 subsequently a White Paper was developed and submitted for discussion at the Pan-GEWEX meeting in August. The White Paper is now under consideration by WCRP (WOAP) and GEWEX communities. Further details should be known after the GHP Panel meeting in April.

3.2 CMA permission to provide Chinese site data to GHP/CEOP

(3.2a) It was reiterated that Prof. Koike met Prof. ZHENG Guoguang, CMA (China Meteorological Administration) Administrator and Dr. ZHAO Datong, Deputy Director-General, Department of Integrated Observation, CMA in Beijing on 26th July 2010 and also during the GEO Ministerial Summit in November and discussed with them the permission for the Chinese reference sites to provide the data to CEOP (GHP). 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 and would consider the CEOP's request accordingly and with regards to the GEO Ministerial Summit in Beijing in November 2010.

Dr. Zhao Datong has kindly agreed to play a key role of mediator between the responsible persons of CMA and the site managers, for finalizing the permission of the data submission to the GHP (CEOP). The managers are 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.

(3.2b) In this context, the site managers of the Chinese reference sites were asked at the last call to undertake the **action A2** to contact Dr. Zhao Datong in this matter as soon as possible. Nevertheless, there has been some misunderstanding and Chinese reference site representatives expected that they would be contacted by CMA in this matter. Therefore the matter has been clarified at the call and Chinese site representatives asked again to approach Dr. Zhao Datong at the following address.

ZHAO Datong
Deputy Director-General, Department of Integrated Observation
China Meteorological Administration
46 Zhong-Guan-Cun South Street
Beijing 100081,
China
Tel: +86-10-58995027
Fax: +86-10-62179786
Cell: +86-13681328116
email: zhaodt@cma.gov.cn

Koudelova has **action A2a** to assure with individual Chinese site representatives that they had properly understood the necessary procedure and acted accordingly.

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

(3.3a) **Williams** reported that work continued on data format and quality issues with the sites that submit their data directly to the NCAR/EOL without using services of the CEOP_AP data center at Tokyo, Japan, however no new datasets from the Asia-Pacific sites had been submitted since the last call. The overall status can be accessed on the Internet at:
http://data.eol.ucar.edu/master_list/?project=CEOP/EOP-3/4.

(3.3b) **Tamagawa** introduced the summary of data submission status to the CEOP_AP data center in Tokyo and the respective site representatives, who attended the call, confirmed the data status and provided further details as mentioned below. The updated status table has been circulated prior to the call and is included in ATTACHMENT 2 below.

Tamagawa further mentioned that per an action from the previous calls, the CEOP_AP data status table file had been updated and the Himalayan site Syangboche station and the Tsukuba site new NIFTS station had been added on the detailed list of Asia Pacific sites and their individual stations. The work on including names of individual site/station representatives in this table is progressing and **Tamagawa** will advise the group when it is completed (**action A3**).

(3.2c) A question was reiterated about availability of the MOLTS (model output) and satellite data for the reference site locations. These data is essential for comparison and evaluation studies at the sites and site representatives are interested where and when the data will be available. Per a report from the CEOP Model Output Archive team at MPI, it was mentioned that for the CEOP Phase 2 period, only JMA MOLTS data were currently available on-line, while data from ECMWF and NCEP were being processed and ingested in the MPI database. **Koudelova** and **Benedict** took **action A4** to check the updated status and near future expectations in terms of the MOLTS and satellite data with relevant archive representatives. At the same time, **Ueno**, who is mainly interested in these data,

accepted **action A4a** to draft a list of specific requirements of MOLTS and satellite data and provide it to Benedict, Williams, and Koudelova. Based on these requirements, further steps will be undertaken to progress with the CEOP model output and satellite data archive population. This may also include a special, focused call with key data providers and those who are interested in these data.

4. RHP/REFERENCE SITE 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

Evans reported that construction of the new tower site – the Wellington site in the middle of the Murray-Darling Basin – had been advancing and more than half of planned instrumentation had been already installed and begun to collect data. The site should be complete within several months.

Evans further mentioned that the MDB team will anticipate the results of the April GHP Panel meeting and then will discuss possible ways of contribution to the new GHP.

Evans also noted that the recent extreme rainfall in the northern part of the Murray-Darling Basin had been actually beneficial for these areas affected by previous drought, e.g. certain reservoirs had been only filled up to 25% before the rain and thus no floods had happened.

4.2 MAHASRI RHP by J. Matsumoto

Matsumoto reported that MAHASRI continues in the scheduled observation campaigns in cooperation with the AMY efforts and it is also involved in the AMY reanalysis. The data has not been made available yet but cooperation has been agreed with the University of Tokyo for using the CEOP data systems and the work will begin in the near future.

Matsumoto further reiterated that a JMSJ Special Issue on MAHASRI had just been published. A number of foreign editors were invited to this issue's editorial board members from AMY community. In total 25 papers has been included with approx. 350p total volume.

4.3 Himalayas, Pakistan Karakorum, and Italian sites by the Ev-K2-CNR group (Toffolon)

Toffolon reported that the Himalayas and Pakistan AWSs continue to regularly function and maintenance operation and data downloading were regularly carried out also thanks to a very competent local team. The next expedition to check the sensors and download 2010 data from the station that are not equipped with the real time transmission devices is scheduled in April 2011. In addition, it was reiterated that new data loggers were being installed at the Khumbu valley station to improve data recording and enable transmission in real time. This upgrade should be completed in spring 2011.

Toffolon further noted that the Himalayas 2009 datasets have been submitted to NCAR and the Pakistan Karakorum 2008 data would be sent there soon.

It was also reiterated that the value of data from the Khumbu valley (Himalayas) 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. Also the data from the Pakistan stations have been evaluated and a report issued at the end of October.

4.4 Tsukuba site by Ken'ichi Ueno

Ueno reported that the Tsukuba site data up to 2009 had been corrected according to the NCAR comments and checked and can be uploaded to the NCAR archive. Consequently after the call, the data has been made available through the NCAR gateway. The 2010 data are available in the Tsukuba site archive and are being checked for quality.

Ueno further reported that by the end of 2010, their team had completed 4-year effort of archiving data from the Tsukuba stations and the funding for this effort had ended. The observation sites will continue to operate but without new funding, central archiving effort cannot be restarted and the team would now focus on analyses using the archived data.

4.5 Indonesian sites by M. Yamanaka (oral report) and Jun'ichi Hamada (written report)

Yamanaka reported that since the last year, he had been working in Jakarta, Indonesia, where efforts were ongoing to establish international facilities for further, long-term observations. Japanese support is planned till the year 2014 and then the Indonesian government will take over the responsibilities for these facilities.

Hamada reported in writing that they had already collected AWS data in 2008/2009 from the all sites (Western/Central/Southern/Eastern/Northern Indonesia) and have been checking the data quality and converting the data format before putting the data into the QC system of UT. He added that the observation in Northern Indonesia site was started in January 2009.

4.6 Heihe river basin site by Wu Yueru and Zhi Zhihui – written report

All of the stations are running well, and data are collected and disposed well too. However, due to the policy, we have no right to upload the data, and this matter is still under discussion. The representatives took **action (see A2 above)** to contact Dr. Zhao Datong at CMA in the matter of permission to provide data to GEOP/GHP as mentioned in Section 3.2 above.

4.7 Northern South China Sea - Southern Japan site by Mike Chen

Chen reiterated 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 were almost finished. He also mentioned that the site continued to operate well.

In addition, **Chen** reiterated that due to a certain political issues, a special experiment focused on the monsoon activity that was on schedule this year and consisted of two components: (i) winter monsoon and (ii) summer monsoon, could not be conducted. The team is now focusing on analysis of available observation and should complete the studies by the end of the year.

4.8 Central Vietnam sites by Hideyuki Kamimera – written report

The "first-step" quality check of minutely raw data for about 2 years (from March 2009 to January 2011) obtained from Da Nang AWS is still ongoing. The data can be checked at this website: <http://www.jamstec.go.jp/iorgc/harimau/kamimera/tmp/dan/>

In this first-step quality check, the experimental AWS data must be compared with operational meteorological data by Vietnam National Hydro-Meteorological Service. After doing this, all of the elements will be uploaded onto the QC system to do the "second-step" quality check.

4.9 Western Pacific Ocean site by Hisayuki Kubota

Kubota reported that he had visited the site in January and data up to then had been collected. The 2007 data has been submitted to the Tokyo center and quality checked, the 2008 data would be uploaded in the near future and other data will follow afterwards.

4.10 Lanzhou site by Wu Zhang

Wu reported that the site was operating well and the team was preparing a new proposal for supporting the site. The previous funding ended in 2010 and now the site is supported from the University funds.

ATTACHMENT 1 List of GHP Panel Members

| Last Name | First Name | Affiliation | Country | Gender | Age | Expertise |
|------------------|-------------------|--|----------------|---------------|------------|--|
| Berbery | Hugo | Research in the Dept. of Atmospheric and Oceanic Science of the University of Maryland (UMD) | US | Male | ? | - Diagnostic and modeling studies of regional climate variability focused on the American monsoon systems and the hydrologic cycle - Role of surface conditions on land surface-atmosphere interactions and their relation to the water and energy cycles |
| Ek | Michael | National Centers for Environmental Prediction/Environmental Modeling Center (NCEP/EMC), NOAA | US | Male | ? | - Land hydrology, - Boundary-layer physics - Land-atmosphere interaction - Associated modeling and observational data analysis |
| Harding | Richard | Director of the Biogeochemistry programme at the NERC Centre for Ecology and Hydrology (CEH) | UK | Male | ? | - Arctic hydrology, including mass and energy balances of snow and ice surface; - Large-scale hydrological modelling; - Global climate modelling; - Land surface/atmosphere interactions (measuring and modeling fluxes of water and CO ₂ from land surfaces) |
| Kanae | Shinjiro | Tokyo Institute of Technology | Japan | Male | 39 | - Global water cycle, - Water resources, - Sustainability, - Flood and drought, - Climate change, - Asian monsoon hydrology |
| Levizanni | Vincenzo | Director of Research at the Istituto di Scienze dell' Atmosfera e del Clima (ISAC) of CNR | Italy | Male | 53 | - Satellite multispectral studies of cloud top structure; - Cloud physics studies of severe storms using radar and satellite techniques; - Satellite rainfall estimations using combined VIS/IR and MW techniques; - Earth radiation budget definition using satellite and ground-based instruments; - Development of mesoscale analysis techniques including remote sensing data; - Studies of long-distance aerosol transport using satellite instruments |

| | | | | | | |
|--------|----------|---|-----------|--------|----------------------|---|
| Nunes | Ana | Professor, Dept. of Meteorology, Institute of Geosciences, Federal University of Rio de Janeiro | Brazil | Female | Received PhD in 2002 | <ul style="list-style-type: none"> - Precipitation - Recent projects include: “The SIO Regional Spectral Model Contribution to the North American Regional Climate Change Assessment Program,” “Evaluating the Role of Snow Cover on Seasonal to Inter-annual Predictability of Temperature and Precipitation” (NASA), NASA Energy and Water cycle Studies (NEWS) Project “Global Water and Energy Budgets” |
| Walker | Jeff | Prof. in the Department of Civil Engineering, Monash University | Australia | Male | Received PhD in 1999 | <ul style="list-style-type: none"> - Environmental sensing; - Earth system modeling; - Optimal convergence of model predictions with observations through data assimilation |
| Zeng | Xiaodong | International Center for Climate and Environmental Sciences (ICCES), Institute of Atmospheric Physics (IAP), Chinese Academy of Sciences | China | Male | Received PhD in 1998 | <ul style="list-style-type: none"> - Spatial and temporal response of vegetation distribution to global climate change, and the impact of vegetation on global energy, water, and carbon balances |

ATTACHMENT 2: Status of the CEOP AP data center status

CEOP_AP Data management status

YY/MM/DD Completed YY/MM/DD ongoing

| | Reference Site Name | Responsible Person | # of Sta. | Basic Info. ⁽¹⁾ | Data Upload | | | Quality Control | | Dataset documentation Complete | Convert CEOP Format | Submit to NCAR | Status | Remarks |
|----|---|---|-----------|----------------------------|--|----------|-------------------------|-----------------|----------|--------------------------------|----------------------|----------------------|-------------------|--|
| | | | | | Complete | Ready | Complete | Data Period | Ready | | | | | |
| 1 | Eastern Siberian Tundra | Tetsuo Ohata Hironori Yabuki | 1 | O | 08/12/03 | 09/07/30 | 2007/01/01 - 2007/12/31 | 09/08/05 | 09/08/14 | ongoing | 09/09/29 | 10/08/13 | Available online | |
| 2 | Eastern Siberian Taiga | Tetsuo Ohata Hironori Yabuki | 1 | O | 08/12/03 | 09/07/31 | 2007/01/01 - 2007/12/31 | 09/08/05 | 09/08/14 | ongoing | 09/09/29 | 10/08/13 | Available online | |
| 3 | Mongolia | Gombo Davaa Ichiro Kaihotsu | 16 | O | 09/01/23 | | | | | | | | | |
| 4 | Tongyu | | 2 | O | 09/01/23 | | | | | | | | | |
| 5 | Tibet | Hu Zeyong Hirohiko Ishikawa Shigenori Haginoya | 22 | O | 08/12/03 | | 2007/06/15 - 2008/11/25 | 09/02/19 | ongoing | | | | | |
| 6 | Himalayas | Gianni Tartari Elisa Vuillermoz Roberta Toffolon | 5 | O | Data managing by own system (available online : SFC by 2004, STM by 2007, FLX by 2008) | | | | | | | | | |
| 7 | Northern South China Sea - Southern Japan | Tsing Chang (Mike) Chen Masatoshi Aoki | 25 | O | 09/01/23 | 09/08/13 | 2005/01/01 - 2008/12/31 | 09/08/20 | 91% | | | | | |
| 8 | Chao-Phraya River | Masatoshi Aoki | 1 | O | 09/01/23 | ongoing | | | | | | | | |
| 9 | North-East Thailand | Masatoshi Aoki | 1 | O | 09/01/23 | | | | | | | | | |
| 10 | Western Pacific Ocean | Hisayuki Kubota Ryuichi Shiroyaka | 1 | O | 08/12/03 | 09/07/08 | 2007/01/01 - 2007/12/31 | 09/08/11 | 09/11/10 | 10/09/03 11/02/07 | 09/11/11 | 10/08/13 11/02/07 | | |
| 11 | Mongolia Arvayheer | Gombo Davaa Hironori Yabuki | 1 | O | 08/12/03 | | | | | | | | | |
| 12 | Mongolia Nalaikh | Gombo Davaa Hironori Yabuki | 1 | O | 08/12/03 | | | | | | | | | |
| 13 | Northern Mongolia | Gombo Davaa Jun Asanuma | 2 | O | 09/01/23 | | | | | | | | | |
| 14 | Lower Yellow River | Dawen Yang Lei Huimin | 1 | O | 09/01/23 | 10/02/02 | 2007/01/01 - 2007/12/31 | 10/04/07 | 10/08/15 | | | | | |
| 15 | Central Vietnam | Jun Matsumoto | 1 | O | 08/12/03 | | | | | | | | | |
| 16 | Northeast Bangladesh | Jun Matsumoto Toru Terao | 1 | O | 09/06/25 | | | | | | | | | |
| 17 | Pakistan Karakorum | Gianni Tartari Elisa Vuillermoz Roberta Toffolon | 2 | O | Data managing by own system (available online : SFC by 2007) | | | | | | | | | |
| 18 | Tsukuba | Ken-ichi Ueno | 7 | O | Data managing by own system | | | | | | | | | |
| 19 | Lanzhou | Wu Zhang | 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 | Xin Li Wu Yueru Zhang Zhihui Wang Weizhen | 6 | O | 09/01/23 | 09/10/19 | 2007/01/01 - 2008/12/31 | | | | | | | |
| 21 | Western Indonesia | Manabu D. Yamanaka Fadli Syamsudin Jun-Ichi Hamada Hideyuki Kamimera | 2 | O | 08/12/03 | 09/06/23 | 2007/01/01 - 2007/12/31 | 09/08/02 | 10/04/07 | 10/07/06, 10/08/24 | 10/06/30, ongoing | 10/08/13 | Kotaban is online | *2) instrument info at Kototabang Station is completed |
| 22 | Central Indonesia | Manabu D. Yamanaka Fadli Syamsudin Jun-Ichi Hamada | 1 | O | 08/12/03 | | | | | | | | | |
| 23 | Eastern Indonesia | Manabu D. Yamanaka Fadli Syamsudin Jun-Ichi Hamada | 1 | O | 08/12/03 | | | | | | | | | |
| 24 | Northern Indonesia | Manabu D. Yamanaka Fadli Syamsudin Jun-Ichi Hamada | 1 | O | 08/12/03 | | | | | | | | | |
| 25 | Southern Indonesia | Manabu D. Yamanaka Fadli Syamsudin Jun-Ichi Hamada | 1 | O | 08/12/03 | | | | | | | | | |
| 26 | Murrumbidgee | Jason Evans | | | Data managing by own system (available online : SFC by 2007, STM by 2007) | | | | | | | | | |

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

ATTACHMENT 3 Message from Steve Williams, CEOP Data Management Co-Chair and the in-situ archive Chair, on the completion of the CEOP in-situ data activity at NCAR EOL. (March 2011)

All,

NCAR's Earth Observing Laboratory (EOL) has been supporting CEOP in a number of areas including the planning and coordination of CEOP Data Management activities through meetings, teleconferences, and documents. Primary support provided by EOL has been the collection, processing, Quality Assurance (QA), archival, and dissemination of CEOP Reference Site data/metadata, and EOL currently integrates and hosts this long-term archive for the scientific community. NOAA's Climate Projects Office (CPO) has funded this activity since 2001, and with the recent transition from CEOP to GHP, CPO has directed EOL to complete these CEOP activities by September 2011. No additional funds have been allocated to EOL beyond October 2011 to provide any support to CEOP/GHP.

In review of the existing budget and estimating the level of effort to complete these activities, EOL plans to collect available CEOP Reference Site data through March 2011. At that time, EOL will complete the processing and QA of all "in-house" holdings and add these data to the final archive. EOL will continue to maintain the CEOP data management web pages through September 2011 and provide access to the Reference Site data and metadata. During this period, EOL will also continue to work closely with the other CEOP Data Centers (satellite and model output) as well as individual Reference Sites. It is expected that based on the CEOP data policy, processed data (through 2009) will be added from as many contributing Reference Sites as possible. So, it is important that you submit your processed quality assured Reference Site data through 2009 to EOL prior to 31 March 2011 so that these data can be reviewed and included in the final archive.

A lot of effort has gone into the planning, design, and development of the Reference Site database over the past 10 years, and it has provided a high quality resource and long-term legacy to the climate community. The ability to utilize these climatologically diverse Reference Site data (surface, soils, tower, and flux) all in a common format with uniform QA and user friendly interface for data access, has greatly enhanced scientific research as evidenced by data download metrics, publications, and personal correspondence. So, on behalf of CEOP, I thank you very much for all your contributions and participation over the years in these efforts. It is important to recognize the need to continue contribution of data to networks as appropriate, which allow open access for the broader scientific community (such as Fluxnet). Coordination of data within these networks may be undertaken in support of GEWEX Imperatives, through GHP in due course.

It is possible that there may be a few additional teleconferences beyond March to work out any remaining details related to the archive completion. Feel free to contact me should you have any questions.

Regards,
Steve