

TITLE: CAMP\_Mongolia\_MGS\_20021001\_20030331.flx.txt

CONTACT(S):

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DATE OF THIS DOCUMENT

03 March 2004

1.0 DATA SET OVERVIEW:

1.1 Introduction or abstract

To develop and verify algorithms for satellite remote sensing of soil moisture by microwave radiometers "AMSR" and "AMSR-E", soil moisture conditions and related meteorological/hydrological factors are being monitored by automatic stations spread in the Mongolian Plateau, where high quality data are expected to be obtained because of relatively uniform ground-surface-conditions.

Intensive moving observations synchronized with satellite passing carried out after launching ADEOS-II and AQUA.

We also conduct fundamental studies focused on the time-space variation of water

and energy budgets in the subjected region, to confirm reliability of ground observation results and satellite remote sensing products.

This project is implemented under the framework of JAXA-JRA "Ground Truth for Evaluation of Soil Moisture and Geophysical/Vegetation parameters Related to Ground Surface Conditions with AMSR and GLI in the Mongolian Plateau"

(PI : Prof. I. Kaihotsu, Hiroshima Univ.) and is partnership with Institute of Meteorology and Hydrology, Ministry of Nature and Environment, Mongolia.

### 1.2 Time period covered by the data

The First half CEOP EOP-3 time period (01 October 2002 to 31 March 2003).

### 1.3 Physical location (including lat/lon/elev) of the measurement or platform

```
-----  
Station name | Lat.(deg.) | Long. (deg.) | Alt.(m) |Measurement interval|  
-----+-----+-----+-----+-----  
MGS          | 45.44'34.9"| 106.15'52.2"| 1393  | 30 minutes  
-----
```

### 1.4 Data source if applicable (e.g. for operational data include agency)

These data are obtained under the framework of JAXA-JRA "Ground Truth for Evaluation of Soil Moisture and Geophysical/Vegetation parameters Related to Ground Surface Conditions with AMSR and GLI in the Mongolian Plateau" (PI : Prof. I. Kaihotsu, Hiroshima Univ.) and is partnership with Institute of Meteorology and Hydrology, Ministry of Nature and Environment, Mongolia.

### 1.5 Any World Wide Web address references

<http://home.hiroshima-u.ac.jp/~ampex/hm/index-e.htm>

## 2.0 INSTRUMENTATION DESCRIPTION:

Table : AWS Type of Data.

```
=====
```

Parameter/Variable	Range	Units	Source
Soil heat flux	-	W/m2	Soil Heat Flux Plate

```
=====
```

## 3.0 DATA COLLECTION AND PROCESSING:

Point measurements at 5cm depth by using Soil Heat Flux Plate.  
Soil heat flux is averaged over the previous 30 minutes.

This format is described in detail as part of the CEOP Reference Site Data Set Procedures Report which is available at the following URL:

[http://www.eol.ucar.edu/projects/ceop/dm/documents/refdata\\_report/ceop\\_flux\\_format.html](http://www.eol.ucar.edu/projects/ceop/dm/documents/refdata_report/ceop_flux_format.html)

## 4.0 QUALITY CONTROL PROCEDURES

### 4.1 CAMP QC/QA Procedures

PI performed visual checks on this data set.

### 4.2 UCAR/JOSS QC/QA Procedures

Additionally, UCAR/JOSS conducted two primary quality assurance/control procedures on the reference site data. First the data has been evaluated by a detailed QA algorithm that verifies the format is correct, examines any QC flags, and conducts basic checks on data values. Second, JOSS conducts a manual inspection of time series plots of each parameter.

UCAR/JOSS did not change any QC flags applied by CAMP.

## 5.0 GAP FILLING PROCEDURES

Filled in gap by the Missing value "-999.99".

## 6.0 DATA REMARKS:

### 6.1 Missing data periods

## 7.0 REFERENCE REQUIREMENTS:

Original data were collected and provided within the framework of JAXA-JRA "Ground Truth for Evaluation of Soil Moisture and Geophysical/Vegetation parameters Related to Ground Surface Conditions with AMSR and GLI in the Mongolian Plateau" (PI : Prof. I. Kaihotsu, Hiroshima Univ.). This JRA has been actually carrying out as an international cooperational project with Institute of Meteorology and Hydrology of National Agency for Meteorology, hydrology and Environment Monitoring of Mongolia.

## 8.0 REFERENCES:

Kaihotsu, I., Yamanaka, T., Oyunbaatar D., Ganbold, T., Davaa, G., and Koike, T., 2003: Long-term Monitoring by Water Cycle Stations in the Central Part of the Mongolian Plateau. Proceed. 1st Inter. Conf. APHW, 1, 117-120.

T. Koike, Y. Nakamura, I. Kaihotsu, G. Davaa, N. Matsuura, 2003: AMSR-E Soil Moisture Product validated at the CEOP Mongolia Reference Site. CEOP Newsletter, No.4, P5.

TITLE: CAMP\_Mongolia\_MGS\_20030401\_20030930.flx.txt

CONTACT(S):

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-----

DATE OF THIS DOCUMENT

24 January 2005

1.0 DATA SET OVERVIEW:

1.1 Introduction or abstract

To develop and verify algorithms for satellite remote sensing of soil moisture by microwave radiometers "AMSR" and "AMSR-E", soil moisture conditions and related meteorological/hydrological factors are being monitored by automatic stations spread in the Mongolian Plateau, where high quality data are expected to be obtained because of relatively uniform ground-surface-conditions.

Intensive moving observations synchronized with satellite passing carried out after launching ADEOS-II and AQUA.

We also conduct fundamental studies focused on the time-space variation of water

and energy budgets in the subjected region, to confirm reliability of ground observation results and satellite remote sensing products.

This project is implemented under the framework of JAXA-JRA "Ground Truth for Evaluation of Soil Moisture and Geophysical/Vegetation parameters Related to Ground Surface Conditions with AMSR and GLI in the Mongolian Plateau"

(PI : Prof. I. Kaihotsu, Hiroshima Univ.) and is partnership with Institute of Meteorology and Hydrology, Ministry of Nature and Environment, Mongolia.

## 1.2 Time period covered by the data

The Latter half CEOP EOP-3 time period (01 April 2003 to 30 September 2003).

## 1.3 Physical location (including lat/lon/elev) of the measurement or platform

```
-----  
Station name | Lat.(deg.) | Long. (deg.) | Alt.(m) |Measurement interval|  
-----+-----+-----+-----  
MGS         | 45.44'34.9" | 106.15'52.2" | 1393   | 30 minutes  
-----
```

## 1.4 Data source if applicable (e.g. for operational data include agency)

These data are obtained under the framework of JAXA-JRA "Ground Truth for Evaluation of Soil Moisture and Geophysical/Vegetation parameters Related to Ground Surface Conditions with AMSR and GLI in the Mongolian Plateau" (PI : Prof. I. Kaihotsu, Hiroshima Univ.) and is partnership with Institute of Meteorology and Hydrology, Ministry of Nature and Environment, Mongolia.

## 1.5 Any World Wide Web address references

<http://home.hiroshima-u.ac.jp/~ampex/hm/index-e.htm>

## 2.0 INSTRUMENTATION DESCRIPTION:

Table : AWS Type of Data.

```
=====
```

Parameter/Variable	Range	Units	Source
Soil heat flux	-	W/m2	Soil Heat Flux Plate

```
=====
```

## 3.0 DATA COLLECTION AND PROCESSING:

Point measurements at 5cm depth by using Soil Heat Flux Plate.  
Soil heat flux is averaged over the previous 30 minutes.

#### 4.0 QUALITY CONTROL PROCEDURES

For all parameters, the data has been visually checked, looking for extremely and unusual low/high values and/or periods with constant values.

The quality control flags follow the CEOP data flag definition document.

#### 5.0 GAP FILLING PROCEDURES

N/A

#### 6.0 DATA REMARKS:

##### 6.1 Missing data periods

#### 7.0 REFERENCE REQUIREMENTS:

Original data were collected and provided within the framework of JAXA-JRA "Ground Truth for Evaluation of Soil Moisture and Geophysical/Vegetation parameters Related to Ground Surface Conditions with AMSR and GLI in the Mongolian Plateau" (PI : Prof. I. Kaihotsu, Hiroshima Univ.). This JRA has been actually carrying out as an international cooperational project with Institute of Meteorology and Hydrology of National Agency for Meteorology, hydrology and Environment Monitoring of Mongolia.

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Kaihotsu, I., Yamanaka, T., Oyunbaatar D., Ganbold, T., Davaa, G., and Koike, T., 2003: Long-term Monitoring by Water Cycle Stations in the Central Part of the Mongolian Plateau. Proceed. 1st Inter. Conf. APHW, 1, 117-120.

T. Koike, Y. Nakamura, I. Kaihotsu, G. Davaa, N. Matsuura, 2003: AMSR-E Soil Moisture Product validated at the CEOP Mongolia Reference Site. CEOP Newsletter, No.4, P5.

TITLE: CAMP\_Mongolia\_MGS\_20031001\_20040331.flx.txt

CONTACT(S):

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DATE OF THIS DOCUMENT

05 June 2006

1.0 DATA SET OVERVIEW:

1.1 Introduction or abstract

To develop and verify algorithms for satellite remote sensing of soil moisture by microwave radiometers "AMSR" and "AMSR-E", soil moisture conditions and related meteorological/hydrological factors are being monitored by automatic stations spread in the Mongolian Plateau, where high quality data are expected to be obtained because of relatively uniform ground-surface-conditions.

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1.2 Time period covered by the data

The First half CEOP EOP-4 time period (01 October 2003 to 31 March 2004).

1.3 Physical location (including lat/lon/elev) of the measurement or platform

```

-----
Station name | Lat.(deg.) | Long. (deg.) | Alt.(m) |Measurement interval|
-----+-----+-----+-----
MGS         | 45.44'34.9" | 106.15'52.2" | 1393    | 30 minutes
-----

```

1.4 Data source if applicable (e.g. for operational data include agency)

These data are obtained under the framework of JAXA-JRA "Ground Truth for Evaluation of Soil Moisture and Geophysical/Vegetation parameters Related to Ground Surface Conditions with AMSR and GLI in the Mongolian Plateau" (PI : Prof. I. Kaihotsu, Hiroshima Univ.) and is partnership with Institute of Meteorology and Hydrology, Ministry of Nature and Environment, Mongolia.

1.5 Any World Wide Web address references

<http://home.hiroshima-u.ac.jp/~ampex/hm/index-e.htm>

2.0 INSTRUMENTATION DESCRIPTION:

Table : AWS Type of Data.

```

=====
=====
Parameter/Variable | Range | Units | Source
Description        |      |      |
-----+-----+-----+-----
Soil heat flux     | -    | W/m2  | Soil Heat Flux Plate
=====
=====

```

3.0 DATA COLLECTION AND PROCESSING:

Point measurements at 5cm depth by using Soil Heat Flux Plate. Soil heat flux is averaged over the previous 30 minutes.

#### 4.0 QUALITY CONTROL PROCEDURES

For all parameters, the data has been visually checked, looking for extremely and unusual low/high values and/or periods with constant values.

The quality control flags follow the CEOP data flag definition document.

#### 5.0 GAP FILLING PROCEDURES

N/A

#### 6.0 DATA REMARKS:

#### 7.0 REFERENCE REQUIREMENTS:

Original data were collected and provided within the framework of JAXA-JRA "Ground Truth for Evaluation of Soil Moisture and Geophysical/Vegetation parameters Related to Ground Surface Conditions with AMSR and GLI in the Mongolian Plateau" (PI : Prof. I. Kaihotsu, Hiroshima Univ.). This JRA has been actually carrying out as an international cooperational project with Institute of Meteorology and Hydrology of National Agency for Meteorology, hydrology and Environment Monitoring of Mongolia.

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Kaihotsu, I., Yamanaka, T., Oyunbaatar D., Ganbold, T., Davaa, G., and Koike, T., 2003: Long-term Monitoring by Water Cycle Stations in the Central Part of the Mongolian Plateau. Proceed. 1st Inter. Conf. APHW, 1, 117-120.

T. Koike, Y. Nakamura, I. Kaihotsu, G. Davaa, N. Matsuura, 2003: AMSR-E Soil Moisture Product validated at the CEOP Mongolia Reference Site. CEOP Newsletter, No.4, P5.

#### 9.0 Missing Data Periods:

-----  
File Name : CAMP\_Mongolia\_MGS\_20031001\_20040331.flx  
Data Period : 2003/10/01 00:00 - 2004/03/31 23:30  
-----

Sensible Heat Flux (-0.05m)

2003/10/01 00:00 - 2004/03/31 23:30 (ALL)

Latent Heat Flux (-0.05m)

2003/10/01 00:00 - 2004/03/31 23:30 (ALL)

CO2 Flux (-0.05m)

2003/10/01 00:00 - 2004/03/31 23:30 (ALL)

Soil Heat Flux (-0.05m)

No missing data.

TITLE: CAMP\_Mongolia\_MGS\_20040401\_20041231.flx.txt

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-----

DATE OF THIS DOCUMENT

30 June 2006

1.0 DATA SET OVERVIEW:

1.1 Introduction or abstract

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1.2 Time period covered by the data

The Second half CEOP EOP-4 time period (01 April 2004 to 31 December 2004).

1.3 Physical location (including lat/lon/elev) of the measurement or platform

```

-----
Station name | Lat.(deg.) | Long. (deg.) | Alt.(m) |Measurement interval|
-----+-----+-----+-----
MGS         | 45.44'34.9" | 106.15'52.2" | 1393   | 30 minutes
-----

```

1.4 Data source if applicable (e.g. for operational data include agency)

These data are obtained under the framework of JAXA-JRA "Ground Truth for Evaluation of Soil Moisture and Geophysical/Vegetation parameters Related to Ground Surface Conditions with AMSR and GLI in the Mongolian Plateau" (PI : Prof. I. Kaihotsu, Hiroshima Univ.) and is partnership with Institute of Meteorology and Hydrology, Ministry of Nature and Environment, Mongolia.

1.5 Any World Wide Web address references

<http://home.hiroshima-u.ac.jp/~ampex/hm/index-e.htm>

2.0 INSTRUMENTATION DESCRIPTION:

Table : AWS Type of Data.

```

=====
=====
Parameter/Variable | Range | Units | Source
Description        |      |      |
-----+-----+-----+-----
Soil heat flux     | -    | W/m2 | Soil Heat Flux Plate
=====
=====

```

3.0 DATA COLLECTION AND PROCESSING:

Point measurements at 5cm depth by using Soil Heat Flux Plate. Soil heat flux is averaged over the previous 30 minutes.

#### 4.0 QUALITY CONTROL PROCEDURES

For all parameters, the data has been visually checked, looking for extremely and unusual low/high values and/or periods with constant values.

The quality control flags follow the CEOP data flag definition document.

#### 5.0 GAP FILLING PROCEDURES

N/A

#### 6.0 DATA REMARKS:

#### 7.0 REFERENCE REQUIREMENTS:

Original data were collected and provided within the framework of JAXA-JRA "Ground Truth for Evaluation of Soil Moisture and Geophysical/Vegetation parameters Related to Ground Surface Conditions with AMSR and GLI in the Mongolian Plateau" (PI : Prof. I. Kaihotsu, Hiroshima Univ.). This JRA has been actually carrying out as an international cooperational project with Institute of Meteorology and Hydrology of National Agency for Meteorology, hydrology and Environment Monitoring of Mongolia.

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Kaihotsu, I., Yamanaka, T., Oyunbaatar D., Ganbold, T., Davaa, G., and Koike, T., 2003: Long-term Monitoring by Water Cycle Stations in the Central Part of the Mongolian Plateau. Proceed. 1st Inter. Conf. APHW, 1, 117-120.

T. Koike, Y. Nakamura, I. Kaihotsu, G. Davaa, N. Matsuura, 2003: AMSR-E Soil Moisture Product validated at the CEOP Mongolia Reference Site. CEOP Newsletter, No.4, P5.

#### 9.0 Missing Data Periods:

-----  
File Name : CAMP\_Mongolia\_MGS\_20040401\_20041231.flx  
Data Period : 2004/04/01 00:00 - 2004/12/31 23:30  
-----

Sensible Heat Flux (-0.05m)

2004/04/01 00:00 - 2004/12/31 23:30 (ALL)

Latent Heat Flux (-0.05m)

2004/04/01 00:00 - 2004/12/31 23:30 (ALL)

CO2 Flux (-0.05m)

2004/04/01 00:00 - 2004/12/31 23:30 (ALL)

Soil Heat Flux (-0.05m)

2004/06/02 01:00

2004/10/01 08:00