TITLE

CAMP_Himalayas_Syangboche_20060101_20061231.sfc

DATASET CONTACT

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1. 0 DATASET OVERVIEW

1.1 Introduction

Intensive meteorological observations in the Khumbu Valley, Nepal Himalayas, have been conducted since the middle 90's (Ueno et al., 1996; Bertolani et al., 2000; Ueno et al., 2001; Bollasina et al., 2002; Ueno and Pokhrel, 2002) in order to provide long-term monitoring of the monsoon at high altitude. This area, being located on the windward side of the Range with respect to the Indian monsoon, is well exposed to the summer winds. The studies conducted have demonstrated that the region is a significant point of observation both of local climate and large-scale circulation. The Syangboche AWS was established on October 21, 1994, at Syangboche village, Solu-Khumbu district, at an altitude of 3833 m a.s.l., with the cooperation between His Majesty's Government, Department of Hydrology and Meteorology (Nepal) and the Glaciological Expedition in Nepal Project (Japan), and has been kept as one of the GAME/AAN project AWS network. The AWS provides data for basin scale scientific process studies of meteorology, hydrology, glaciology and engineering disaster prevention, and also contributes to monitor 10 years scale climate change as representative station at mid-latitude alpine region.

1.2 Time period covered by the data

Start: January 1, 2006, 00:20

End: December 31, 2006, 23:50

1.3 Temporal characteristics of the data

All parameters are recoded every 30 minutes and are recorded every 20 and 50 minutes.

1.4 Physical location of the measurement

Latitude: 27° 48' 36" N
Longitude: 86° 43' 12" E
Elevation: 3833 m a.s.l.

1.5 Data source

Original data provided by the GAME/AAN Committee.

1.6 WWW address references

http://aan.suiri.tsukuba.ac.jp/aanstation/syangboche.html

2.0 INSTRUMENTATION DESCRIPTION

2.1 Platform

The sensors are mounted on a 3-m mast.

2.2 Description of the instrumentation

Parameter	Model	Manifacturer
Air Temperature	2812	Aandera (Norway)
Precipitation	RT-1 (Tipping bucket type)	Ogasawara (Japan)
Relative Humidity	2820	Aandera (Norway)
Atmospheric Pressure	2810	Aandera (Norway)
Wind Speed	2740	Aandera (Norway)
Wind Direction	2750	Aandera (Norway)
Downward Shortwave Radiation	2770	Aandera (Norway)
Upward Shortwave Radiation	2770	Aandera (Norway)

2.3 Instrumentation specification

Parameter	Sensor Type	Height of sensor (m)	Accuracy	Resolution
Air Temperature	Platinum Resistor	3.1	0.1%	0.1°C
Precipitation	Tipping Bucket	1	0.5 mm	0.5 mm
Relative Humidity	Hygrophiber	3.1	2%	1%
Atmospheric Pressure	Silicon Chip	3.1	0.2 hPa	0.1 hPa
Wind Speed	3-cup anemometer	3.1	2%	0.1m/s
Wind Direction	Potentiometer	3.1	5°	0.1°
Downward Shortwave Radiation	Thermistor Bridge	3.1	20 W/m^2	0.1W/m^2
Upward Shortwave Radiation	Thermistor Bridge	3.1	20 W/m^2	0.1W/m^2

3.0 DATA COLLECTION AND PROCESSING

3.1 Description of data collection

Original N-value data are saved in the Data Storage Unit (DSU). DSU is collected from the AWS twice every year, in spring and autumn.

3.2 Description of derived parameters and processing techniques used

The N-value is converted to a meteorological value by using experimental coefficients defined for each sensor. Sensor calibration is conducted every two or three years for radiation, humidity, and pressure. Wind speed and direction sensors has been changed several times due to damages. All values are instantaneous. Precipitation is accumulated on the previous 20 minutes.

4.0 QUALITY CONTROL PROCEDURES

Nocturnal shortwave radiation data has been checked for non-zero values; wind speed for above-normal values (data above 9.5 m/s were set to undefined); relative humidity reached sometimes values above 100% (these values were corrected to 100%); winter precipitation (that is, during the cold season) was recorded as 0 even when snowfall occurred, because the rain gauge is not heated (all the values were considered dubious). The consistency of downward and upward shortwave radiation was also verified calculating the albedo (at high sun elevations).
The quality control flags follow the CEOP data flag definition document.

5.0 GAP FILLING PROCEDURES

No gap filling procedure was applied.

6.0 DATA REMARKS

6.1 PI's assessment of the data

6.1.1 Instruments problems

Rain gauge sensor has shown a malfunctioning (Missing data)

6.1.2 Quality issues

Overestimate of radiation data is reported in comparison to the Ev-K^2-CNR Namche AWS. The rain gauge is not able to measure solid precipitation, as the instrument is not heated.

6.2 Missing data periods

Precipitation data are missed

7.0 REFERENCE REQUIREMENTS

The data was collected under the GEWEX/GAME project funded by Ministry of Education, Science, Sports and Culture and Asian Pacific Network, and special research foundation of the University of Shiga prefecture.

8.0 REFERENCES

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