



## Cold and Arid Regions Science Data Center

WATER: Dataset of automatic meteorological observations  
at the A'rou freeze/thaw observation station

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## Abstract

The dataset of automatic meteorological observations was obtained at the A'rou freeze/thaw observation station from Jul. 25, 2008 to Dec. 31, 2009, in Wawangtan pasture (E100° 28' /N38° 03', 3032.8), Daban, A'rou. The experimental area, situated in the valley highland of south Babaohe river, an upper stream branch of Heihe river, with a flat and open terrain slightly sloping from southeast to southeast and hills and mountains stretching for 3km is ideal for a horizontal homogeneous underlying surface.

Observation items included multilayer (2m and 10m) of the wind speed, the air temperature and air humidity, the air pressure, precipitation, four components of radiation, the multilayer soil temperature (10cm, 20cm, 40cm, 80cm, 120cm and 160cm), soil moisture (10cm, 20cm, 40cm, 80cm, 120cm and 160cm), and soil heat flux (5cm & 15cm).

The raw data were level0 and the data after basic processes were level1, in which ambiguous ones were marked; the data after strict quality control were defined as Level2. The data files were named as follows: station+datalevel+AMS+datadate. Level2 or above were strongly recommended to domestic users. As for detailed information, please refer to Meteorological and Hydrological Flux Data Guide.

## Keywords

Theme: air humidity, air pressure, precipitation, the total radiation, reflected radiation, meteorology and hydrology, upward longwave radiation, the surface radiative temperature, the soil temperature, soil water content, soil heat flux, downward longwave radiation, the meteorological observation, the wind speed, the wind direction, the air temperature,

Place: the Heihe River Basin, the cold region hydrology experimental area, A'rou foci experimental area, A'rou freeze/thaw observation station,

Temporal: 2008-07-25,

Discipline:

Statrum:

## ISO 19115 Category

Category: climatologyMeteorologyAtmosphere

## Detail

Project: +proj=longlat +datum=WGS84 +no\_defs

Data Volume(MB): 45.8

Data Format:

## Position and Thumbnail

N:38.04  
W:100.46  
S:38.04



## Temporal Range

Start: 2007-07-25

End: 2009-12-31

## Citation

Hu Zeyong, Ma Mingguo, Jin Rui, Wang Weizhen, Huang Guanghui, Zhang Zhihui, Tan Junlei. WATER: Dataset of automatic meteorological observations at the A'rou freeze/thaw observation station. Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences. 2008.  
doi:10.3972/water973.0279.db

## Recommended Publications

1. Liu SM, Xu ZW, Wang WZ, Bai J, Jia Z, Zhu M, Wang JM. A comparison of eddy-covariance and large aperture scintillometer measurements with respect to the energy balance closure problem. Hydrology and Earth System Sciences, 2011, 15(4): 1291-1306. doi:10.5194/hess-15-1291-2011.
2. Xu T, Liu S, Xu L, Chen Y, Jia Z, Xu Z, Nielson J. Temporal Upscaling and Reconstruction of Thermal Remotely Sensed Instantaneous Evapotranspiration. Remote Sensing. 2015, 7(3):3400-3425.  
doi:10.3390/rs70303400

## DOI

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## Funding

1. The CAS (Chinese Academy of Sciences) Action Plan for West Development Project : Watershed Airborne Telemetry Experimental Research (WATER)(No: KZCX2-XB2-09)
2. National Program on Key Basic Research Project (973 Program) : Theory and method for a synthetic retrieval of terrestrial ecological variables from both active and passive remote sensing approaches(No: 2007CB714400)

## Limitation

1. The dataset is generated from the "Watershed Airborne Telemetry Experimental Research (WATER) ", the user must have a clear statement in the article of the original data source and adopt the reference style providing by the metadata in the References section.

## Online Resources

1. WATER data report <http://westdc.westgis.ac.cn/doc/数据总体报告v1.pdf>
2. WATER Website <http://water.westgis.ac.cn>
3. metadata link <http://westdc.westgis.ac.cn/data/50a8fe84-deeb-49b0-b8d8-8f784bc27a89>
4. Environmental and Ecological Science Data Center for West China <http://westdc.westgis.ac.cn>

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### 3. Publisher

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