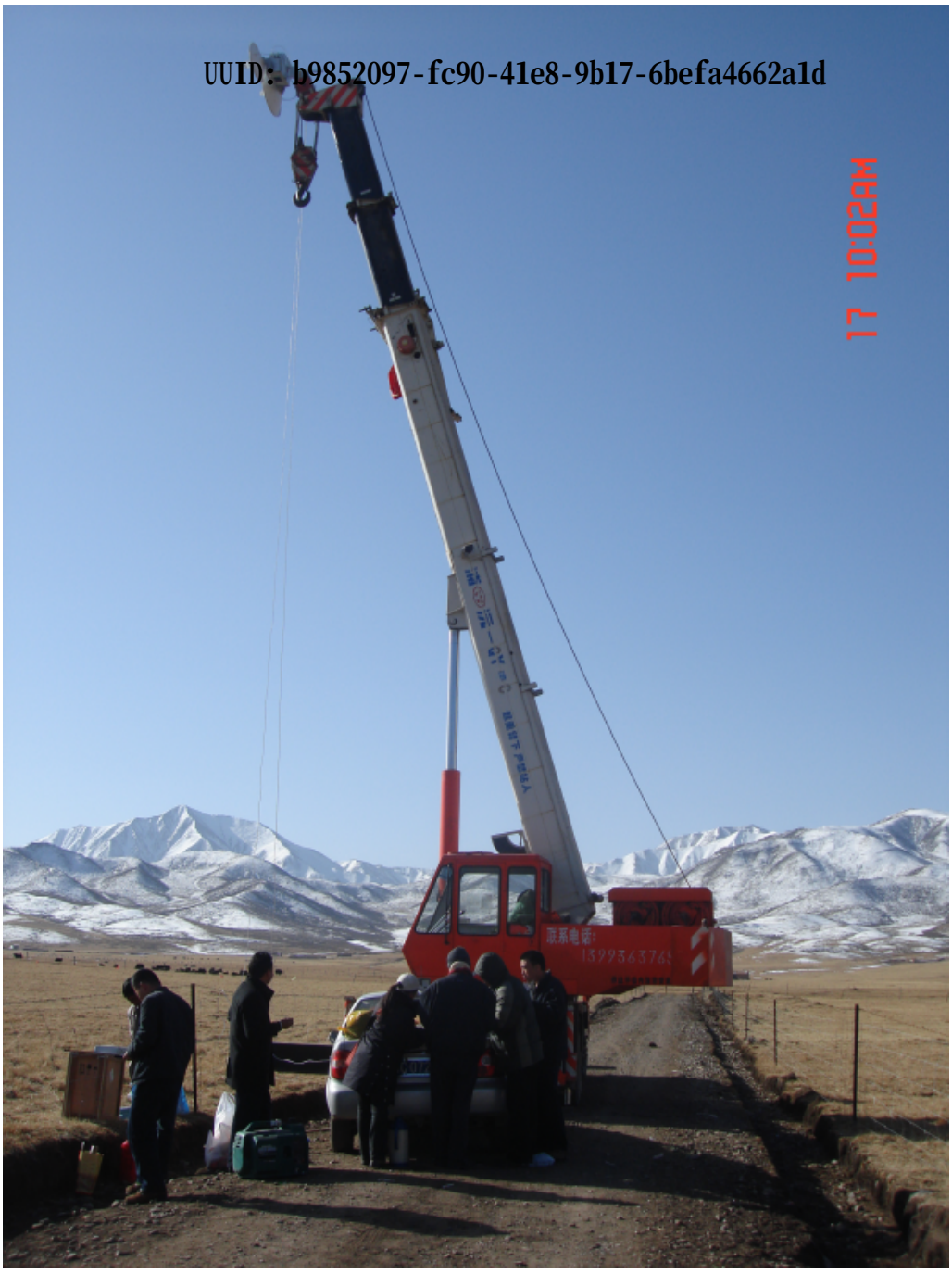
Cold and Arid Regions Science Data Center

WATER: Dataset of ground-based microwave scatterometer and ground truth observations for soil freeze/thaw cycle in the A'rou foci experimental area



WATER: Dataset of ground-based microwave scatterometer and ground truth observations for soil freeze/thaw cycle in the A'rou foci experimental area

Abstract

The dataset of ground-based microwave scatterometer and ground truth observations for soil freeze/thaw cycle was obtained in No. 3 quadrate of the A'rou foci experimental area from 22:33 on Mar. 16 to 15:00 on 17, 2008.

Observation items included the mean soil temperature from 0-5cm by the probe thermometer, the soil temperature at 5cm and 10cm by the glass geothermometer, the soil temperature, soil volumetric moisture, the loss tangent, soil conductivity, and the real part and the imaginary part of soil complex permittivity by the POGO soil sensor, and soil gravimetric moisture, volumetric moisture, and soil bulk density after drying by the cutting ring (100cm^3). Those provide reliable ground data for retrieval and validation of soil moisture and freeze/thaw status from active remote sensing approaches.

Two files were included, the microwave scatterometer and ground truth observations; both were archived in Excel format.

Keywords

Theme: the dielectric constant, soil electrical conductivity, soil bulk density, the ground-based microwave scatterometer, the cutting ring, the probe thermometer, POGO portable soil sensor, the backscattering coefficient, soil freezing and thaw, soil water content, the soil temperature,
Place: the Heihe River Basin, the cold region hydrology experimental area, A'rou foci experimental area,
Temporal: 2008-03-16, 2008-03-17,
Discipline:
Statrum:

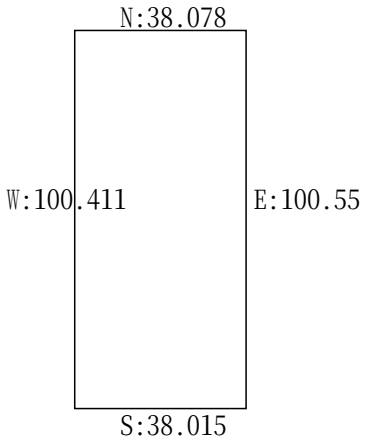
ISO 19115 Category

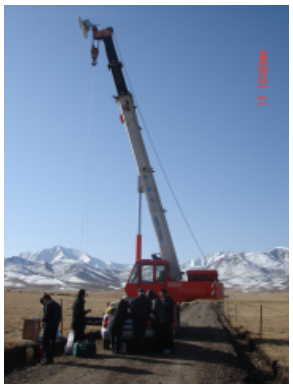
Category: geoscientificInformation

Detail

Project: +proj=longlat +datum=WGS84 +no_defs
Data Volume(MB): 184.8
Data Format:

Position and Thumbnail





Temporal Range

Start: 2008-03-16
End: 2008-03-17

Citation

Chen Yan, Liu Zengcan, Qin Wei, Jin Rui, Ma Mingguo, Cao Yongpan, Han Xujun. WATER: Dataset of ground-based microwave scatterometer and ground truth observations for soil freeze/thaw cycle in the A'rou foci experimental area. University of Electronic Science and Technology of China; Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences. 2008. doi:10.3972/water973.0018.db

Recommended Publications

DOI

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2. The CAS (Chinese Academy of Sciences) Action Plan for West Development Project：Watershed Airborne Telemetry Experimental Research (WATER)(No: KZCX2-XB2-09)

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. Environmental and Ecological Science Data Center for West China http://westdc.westgis.ac.cn
4. metadata link http://westdc.westgis.ac.cn/data/b9852097-fc90-41e8-9b17-6befa4662a1d

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