

# Extensive Energy Balance data provided by the University of Utah measured at the East Slope ES5 site

SEB-ES5

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## 1.0 Data Set Overview

Note that this dataset is part of ES5 tower dataset.

### 1.1 Time period covered by the data

Approximately September - October 2012 and May 2013. For specific times please refer to individual file names.

### 1.2 Physical location (latitude, longitude, elevation)

40.09585479, -113.2527544, 1395.385545

### 1.3 Instrument type

Extensive Energy Balance

### 1.4 Data provider

University of Utah

### 1.5 Web address references

<http://www3.nd.edu/~dynamics/materhorn/>

[https://www.eol.ucar.edu/field\\_projects/materhorn-x](https://www.eol.ucar.edu/field_projects/materhorn-x)

## 2.0 Instrument Description

Soil Moisture sensors, CS650 Net radiometer CNR1 mounted at 2m, Soil Heat Flux Plate HFP 01SC,



## 2.1 Instrument website

<http://www.alumatower.com/>, (Aluminum Tower)

<https://www.campbellsci.com/cr3000>, (CR3000 Datalogger)

<https://s.campbellsci.com/documents/us/manuals/loggernet.pdf>

TOA5 file format description (Appendix B, pages: B-4, B-3)

<https://www.campbellsci.com/cnr1-l> (Net Radiometer CNR1-L)

<https://www.campbellsci.com/cs650> (30 cm Soil Water Content Reflectometer)

<https://www.campbellsci.com/hfp01sc-l> (Soil Heat Flux Plate HFP01SC-L)

## 2.2 Table of specifications

Accuracy	Range	Frequency	Resolution
See individual instrument websites	See individual instrument websites	See individual instrument websites	See individual instrument websites

## 3.0 Data Collection and Processing

### 3.1 Description of data collection

### 3.2 Description of derived parameters and processing techniques used

Original data files are provided.

### 3.3 Description of quality assurance and control procedures

This dataset was not subject to any quality control or processing it has been provided in its original form.

### 3.4 Data intercomparisons

## 4.0 Data Format

### 4.1 Data file structure

TOA5, (ASCII csv with header)

## **4.2 File naming convention**

dataProvider\_instrument[\_identifier]\_tableNumber\_rate\_instrumentType\_startDateAndTime\_endDateAndTime.extension

## **4.3 Data format**

comma delimited ASCII

## **4.4 Data layout**

Each file has four header lines. First header line contains information on the logger and the consecutive three lines provides the column headers (variables, units and measurement types) for all subsequent rows of data contained within the file.

## **4.5 List of parameters with units, sampling intervals, frequency, range**

Variable names usually contain the variable type and the height of the measurement in meters. 05 refers to a measurement taken at 0.5m. As an example u16 means "u" wind component measured at 16 m.

## **4.6 Data version number and date**

raw, v1.0, October 2016

## **4.7 Description of flags, codes used in the data, and definitions**

## **4.8 Data sample**

The data sample is provided in the Filtered\_Headers.txt. Please look for the file name in the Filtered\_Headers.txt for the corresponding data sample.

## **5.0 Data Remarks**

### **5.1 PI's assessment of the data**

### **5.2 Missing data periods**

### **5.3 Software compatibility**

## 6.0 References

- [1] Fernando, H. J. S., E. R. Pardyjak, S. Di Sabatino, F. K. Chow, S. F. J. DeWekker, S. W. Hoch, J. Hacker, J. C. Pace, T. Pratt, Z. Pu, J. W. Steenburgh, C. D. Whiteman, Y. Wang, D. Zajic, B. Balsley, R. Dimitrova, G. D. Emmitt, C. W. Higgins, J. C. R. Hunt, J. G. Kniewel, D. Lawrence, Y. Liu, D. F. Nadeau, E. Kit, B. W. Blomquist, P. Conry, R. S. Coppersmith, E. Cregan, M. Felton, A. Grachev, N. Gunawardena, C. Hang, C. M. Hocut, G. Huynh, M. E. Jeglum, D. Jensen, V. Kulandaivelu, M. Lehner, L. S. Leo, D. Liberzon, J. D. Massey, K. McEnerney, S. Pal, T. Price, M. Sghiatti, Z. Silver, M. Thompson, H. Zhang, T. Zsedrovits, 2015: The MATERHORN – Unraveling the Intricacies of Mountain Weather, BAMS, doi: <http://dx.doi.org/10.1175/BAMS-D-13-00131.1>.