UH Flux Tower Data

Sharon Zhong
116 Geography Building
East Lansing, Michigan, 48824-1117
(517) 432-4743 (Phone), (517) 432-1671 (Fax)
HYPERLINK "mailto:zhongs@msu.edu" zhongs@msu.edu

Craig Clements
312 S and R 1 Bldg.
University of Houston
4800 Calhoun Rd.
Houston, TX 77204-5007
(713) 743-0742 (Phone), (713)-748-7906 (Fax)

This data set contains 1-min average of 10 HZ samples from the University of Houston's flux tower during the T-REX field campaign. The time period covered by the data set is from March 4 through April 29 of 2006. The measurement site was at the Owens Valley Radio Observatory about 14 miles south of Bishop and close to the town of Big Pine. The exact position of the site is 37^{o}13'59.45" N and 118^{o}17'06.33"W , 3971 ft MSL.

The naming convention used for the data files is TREX_AVG_ddmmyy. The files are ascii data files. The data files contain raw data. No addition quality control and corrections have been applied.

Tower Configuration

Platform

3-m steel tripod.

Datalogger

Campbell Scientific, Inc. CR5000 S/N: 1521
Realtime data transfer via buried ethernet cable using CSI loggernet 3.1 software.

Net radiometer

CNR1 net radiometer height (AGL): 2.62 m
S/N: 040932
Sensitivity: 6.73 μV/W m^{-2}
Factor: 148.5884

Temperature and Relative Humidity

Vaisala HMP45C (AGL): 2.33 m

Wind Speed/Direction
R.M. Young 3001(AGL): 3.33 m

Sonic Anemometer
R.M. Young 81000/KH20: 2.62 m

Soil Heat Flux

H043053 HFT3 #1(below surface): 132 mm cal: 33.1 W m^{-2}

H043059 HFT3 #2(below surface): 124.2 mm cal: 33.2 W m^{-2}

Soil Temperature
CSI TCAV left (top-below surface): 84.8 mm
left (bottom-below surface): 168 mm

right(top): 79.5 mm
right(bottom): 170.0 mm

Soil Water Content Reflectometer
CSI CS616 (below surface): 114.5 mm

Variables and Units

1-min average data output labels

"TS", Time stamp
"RN", record number
"rhoW2_Avg", water vapor density (g m^{-3})
"U1_Avg", u-wind speed (+u from east) (m s^{-1})
"V1_Avg", v-wind speed (+v from north) (m s^{-1})
"W1_Avg", w-wind speed (m s^{-1})
"Ts1_Avg", sonic temperature (C)
"Qg_1_Avg", soil heat flux 1 (W m^{-2})
"Qg_2_Avg", soil heat flux 2 (W m^{-2})
"tc_soil_Avg", soil temperature (C)
"PA_uS_Avg", water content period (µsec)
"VW_Avg", soil water content (% water content)
"rs_up1_Avg", shortwave incoming (W m^{-2})
"rl_up1_Avg", longwave incoming (W m^{-2})
"rs_down1_Avg", shortwave outgoing (W m^{-2})
"rl_down1_Avg", longwave outgoing (W m^{-2})
"Rn_CNR1_Avg", net radiation (W m^{-2})

"Albedo_Avg", albedo
"tc_ref_Avg", data logger panel reference temperature (C)
"RH_Avg", relative humidity (%)
"Tair_Avg", air temperature (C)
"WS_ms_S_WVT", wind speed (m s^{-1})
"WindDir_D1_WVT", wind direction (degrees)
"batt_volt_Avg", batt voltage (Volts)

Std= Standard Deviation

"vKH2_Std", KH2O Voltage
"Vlog2_Std", KH20 log(V)
"rhoW2_Std", water vapor density (g m^{-3})
"U1_Std", u-wind speed (+u from east) (m s^{-1})
"V1_Std", v-wind speed (+v from north) (m s^{-1})
"W1_Std", w-wind speed (m s^{-1})
"Ts1_Std", sonic temperature (C)
"Qg_1_Std", soil heat flux 1 (W m^{-2})
"Qg_2_Std", soil heat flux 2 (W m^{-2})
"tc_soil_Std", soil temperature (C)
"tc_ref_Std", data logger panel reference temperature (C)
"RH_Std", relative humidity (%)
"Tair_Std", air temperature (C)
"Rn_CNR1_Std" net radiation (W m^{-2})