

# Daily summary, August 16

August 16  
Dan Rajewski (in Ames)

Summary: Stations 1-4 operational through 9:00 CDT, CWEX break down begins starting at Site 4 and moving from north to south  
Kurt, Rudy, Gene, and Dan participated in the bulk of the NCAR take down; Kris, Jimmy, and Arin worked on the ISU towers; Russ helped Matt and Mike with the CU take down of the wind cube equipment

NCAR and CU equipment removed from the field by 18:00, ISU equipment removal was completed by 12:00 on August 17  
Night: mostly cloudy with SE to ESE winds, morning: SE winds veering to S light sprinkles in the morning before crew arrival  
Gusty winds from a decaying thunderstorm complex from the SW until early afternoon, light SE winds by early evening

Vdsm: 13.4-13.7 V during day, down to 12.4 at night

P: ok, pressure mostly steady maybe rising 1mb through the entire take-down period

T.2m: stn 1 is 1.0 degrees C cooler than other sites from 21:00-0:30; close agreement rest of the night through morning

RH.2m: before midnight: stn1 & 4 about 5%RH higher than stns 2-3; after midnight stn 4 about 5%RH higher than other sites

H2O.2m: night: stn 4 about 0.5 g/m<sup>3</sup> greater vapor than other sites until the end of collection at stn 4

Wetness: slight dew formation from 21:30-22:00, sensor dry until 2:30, wet from 2:30-7:30, another brief shower from 9:30, sensor dry by 10:30

T.10m: ok, not as clear of separation of site 1 vs. other sites as in T.2m; good morning agreement

RH.10m: ok, stn 1 about 5-7%RH higher than other sites before midnight, then after midnight stn 2 about 5-7%RH lower than other other sites

H2O.10m ok, stn 2 about 0.7-1.0 g/m<sup>3</sup> drier than other sites much of the night and early morning; agreement with stn 1 by 13:00

Spd.10m: ok, all stns within 0.5 m/s of each other into the night and morning, peak wind speed of near 14 m/s recorded at Sites 1-3 around 10:40

Dir.10m: ok, from the SSE in late evening backing to ESE during before sunrise, then veering to south by the completion of the experiment at stn 4

T.10m - T.2m: night: stns temp differences within 10 to 2 m are within +/- 0.5 degrees C of each other

H2O.10m - H2O.2m: night: several periods where stns 2 & 4 are 0.5-0.7 g/m<sup>3</sup> drier at 10m vs. 2m than for stns 1 & 3; stn 2 is a bit drier at 10 m vs. 2m as compared to stn 1 in the early afternoon

spd.4.5m: ok, similar for Spd.10m

dir.4.5m: ok, see comments for Dir.10m, a bit more easterly flow during the late night hours as compared to the Dir.10m

w.4.5m: ok, night: least positive or largest negative velocity for stn 3 & 4 (-0.01 m/s), stns 1 least amount of fluctuation (around 0.01-0.02 m/s) stn 2 highest positive velocities (0.02-0.05 m/s)

tc.4.5m: ok, similar to T.2m, also stn 1 a bit warmer than other sites from 3:30-6:00

ldiag: ok, a few 100 missing samples at stns 2 & 4 around 19:00-20:00

kh2oV: ok, between 150-380 mV for night to day behavior

kh2o: night: stn 4 around about 2 g/m<sup>3</sup> wetter than stn 2 and about 4-6 g/m<sup>3</sup> more moist than stns 1 & 3 for the overnight and daytime;

h2o(licor): ok, stn 1 about 0.5 g/m<sup>3</sup> drier than stn 3 from much of the night; partial agreement by 10:00

ldiag (licor): ok, few spikes at both sites during light showers/sprinkles around 9:00

TKE.4.5m: ok, stn 1 lower TKE than other sites from 21:00-0:00 and from 6:30-8:00, close daytime agreement, peak value during wind burst of near 3.75 m<sup>2</sup>/s<sup>2</sup> at 10:45

w'w': ok, similar to TKE.4.5m, also seen in u'u' and v'v'

u\*: ok, nighttime: similar to TKE.4.5m, v'w' also similar more-so than u'w'

w'tc': ok, night: less negative flux at stn1 until 1:00, stn 2 less flux <0 from 3:00-5:00; close daytime agreement

tc'tc': ok, stn 1 lowest variance first part of night then from 1:00-2:30 stn 1 a bit higher than other sites

w'h2o': ok, night: all sites close most of night, (flux > 0) stn 3 most flux, stn 1 least flux for 1-2 hr periods

h2o'h2o' (licor): ok, close agreement for nighttime; stns 1-3 about 0.2 (g/m<sup>3</sup>)<sup>2</sup> greater variance than at stn 2 & 4 in the mid afternoon

kh2o'kh2o': night: stns 1 and 2 bit lower variance than stn 3-4 from 20:30-23:00

w'co2': ok, night: very short periods with one site a bit higher positive flux than the other but not a consistent pattern

co2'co2': ok, slightly higher variance at stn 1 vs. stn 3 for a few 2hr periods also 1hr periods with inverse pattern