

# Daily summary, July 26

July 26, 16:15 CDT

Dan Rajewski (in Ames)

Summary: Stations 1-4 operational, Steve O., Gene, Dan, and REU students visited stn 2 from 14:30-14:45

very light wind speed SSE to S, partly cloudy skies with hot and humid conditions

\*\*\*anomalous ldiag readings much of overnight and morning at stns 2 & 4 (dew effects?), continuing in afternoon at stn 2

Vdsm: 13.5-13.8 V during day, down to 12.4 at night

P: ok, pressure mostly steady overnight but dropping in the afternoon; nighttime: stn 3 & 4 slightly lower pressure than at stns 1-2

T.2m: night: few periods where stn 1, 2 or 3 are about 1 degree C warmer than other sites; good daytime agreement

RH.2m: stn 4 highest during day and night; stns 1 & 3 few%RH lower than stn 2, 5%RH lower than stn 4

H2O.2m: ok, similar nighttime pattern to T.2m, daytime: stn 4 highest vapor content stns 2 & 3 are close, stn 1 about 1.0-1.5 g/m<sup>3</sup> less than stn 4

Wetness: dew event from 20:30 to 7:30, sensor dry by 10:00

T.10m: ok, few periods at night when some stations are 0.5-0.7 degrees C lower/higher than the others; good daytime agreement

RH.10m: ok, night: similar to T.10m, day: stn 4 slightly lower vapor concentration than other sites

H2O.10m: ok, night:

Spd.10m: stn 4 has no wind recorded from 11:30 to 14:30, but other sites are ~ 2m/s, was there a bird on the sensor; some missing data; or more likely lack of wind at that site?

Dir.10m: ok, variable directions: WSW to S around midnight, back to W around late morning then back to SSE by mid afternoon

T.10m - T.2m: all stns with similar temp gradients, some separation during overnight hours

H2O.10m - H2O.2m: stn 4 most negative during night/day; stns 2 & 3 slightly more vapor at 10m vs. 2 m than for other sites

spd.4.5m: ok, no clear differences among sites

dir.4.5m: ok, see comments for Dir.10m

w.4.5m: ok, stns 2 and 3 greater variability than other sites for nighttime

tc.4.5m: ok, night: stn 2 is about 0.7-1.0 degrees C cooler than other sites; day: all sites agree within +/- 0.5 degrees C

ldiag: several spikes at stn 4 during midnight to before-sunrise hours; stn 4 has spikes from 2:00-to present

kh2oV: stns 2 & 4 about 50-150 mV for night/day behavior

kh2o: stn 2 & 4 very high during night (dew effects) but stns 1 & 3 vapor decline during the night, daytime close agreement

h2o(licor): ok

ldiag (licor): few spikes in sample during 1:00-2:00

TKE.4.5m: ok, most night periods with stn 3 & 4 slightly lower TKE than other sites

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

u\*: ok, not as clear as in TKE4.5m

w'tc': ok, stn 3 slightly higher afternoon heat flux than other sites

tc'tc': ok, slightly higher variances at stn 1 & 2 for nighttime; daytime similar to w'tc'

w'h2o': ok, stns 1 & 3 slightly higher afternoon flux than other sites by 0.06-0.08 g/m<sup>2</sup>/s

h2o'h2o' (licor): ok, similar agreement but stn 1 variance slightly lower than at stn 3 from 4:00-6:00, and for mid afternoon hours

kh2o'kh2o': stn 2 & 4 high nighttime anomalous readings, close agreement during daytime generally 1.0 (g/m<sup>3</sup>)<sup>2</sup> less than other sites

w'co2': ok, somewhat larger flux>0 at stn 1 vs. stn 3 at night; daytime: stations in close agreement except from mid-morning to early afternoon

co2'co2': ok