

# Daily summary, July 22

July 22, 15:30 CDT

Dan Rajewski (in Ames)

Summary: Stations 1-4 operational, Russ and Dan visited the NCAR stns and Kris serviced the other flux tower sites.

\*\*2 m T/RH fans are operating at stns, 1, 3-4. No fan sound from site 2

\*\* Stn 1 licor? making a continuous clicking noise, but there is no such noise at stn 3

Vdsm: 13.5-14 V during day, down to 12.5 at night

P: ok, stn 1 & 2 pressure slightly higher than at sites 3 & 4)

T.2m: stn 2 warmer than others during the day (fan??), about comparable to other sites during the night (0.5 degree warmer at stns 1 & 2 vs. 3 & 4)

few hrs before sunrise stn 4 about 0.5 degree cooler than other sites

RH.2m: stn 4 high during day; stn 2 lowest during late morning and afternoon

H2O.2m: stn 4 high during day and night (0.7-1.0 g/m<sup>3</sup> moister than other sites), stn 1 slightly lower than stns 2 & 3

Wetness: sensor wet from previous late afternoon rain showers, rain overnight at 2:30-4:00 and from 6:30-7:00; sensor dry by 10:30

T.10m: stn1 warmer than others during the day, also stns 1 & 2 are sometimes warmer than sites 3 & 4 for a few night-time periods

RH.10m: ok, mostly in agreement, daytime stn 1 few%RH lower than at other sites

H2O.10m: ok, mostly in agreement all sites within 0.3 g/m<sup>3</sup> of each other

Spd.10m: ok, stn 1 is 0.5 m/s higher than stns 2 & 4 and stn 3 is about 1.0 m/s less than stn 1 from 23:00 (July 21) to 0:30

Dir.10m: ok, East wind before midnight, with veering to SW and eventual W by 9:00, Southerly winds after that.

T.10m - T.2m: stn 2 most negative during day; see T.2m, stn 3 & 4 less negative than stn 4, stn 1 least negative during day

H2O.10m - H2O.2m: stn 4 most negative during night/day; see H2O.2m, other stations in close agreement for night and day

spd.4.5m: ok, see comments for Spd.10m

dir.4.5m: ok

w.4.5m: ok, interpretation muddled with several rainy periods

tc.4.5m: ok, night: few periods where stn 1 is about 0.7-1.0 degrees warmer; all sites agree within +/- 0.5 degC much of daytime

ldiag: ok

kh2oV: some improvement to voltage (50 mV) after cleaning the sensors, very low voltage ~0 at night because of the rainfall in the evening and overnight periods

kh2o: anomalous increase at 2 & 4 during night, somewhat higher than stns 1 & 3 before cleaning the sensors; afterwards readings from 2 & 4 are about 2.0 g/m<sup>3</sup> and 1.0 g/m<sup>3</sup> drier, respectively

h2o(licor): ok, sensors good after the last morning rain fall

ldiag (licor): spikes at both 3 and 1

TKE.4.5m: ok, mostly in agreement except from 22:30-0:00, stn 1 slightly more TKE than at stn 2 and about 0.3 units more than stns 3 & 4

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

u\*: ok, not as clear separation of the sites for the aforementioned period in the TKE.45m

w'tc': ok

tc'tc': ok

w'h2o': ok, stn 2 significantly low during day, stn 1 & 3 about the same, stn 4 between stn 2 and stns 1 & 3; night: stns 2 & 4 do not give much transpiration, stn 1 & 3 slightly positive

h2o'h2o' (licor): ok, spikes during rain fall events

kh2o'kh2o': stns 4 & 2 (somewhat) anomalous high reading at night, stn 4 close to stns 1 & 3 daytime value, stn 2 a bit lower; some improvement after cleaning the krypton sensors

w'co2': ok, stn 1 somewhat slightly higher flux than stn 3 for several periods of the night; close daytime agreement

co2'co2': ok, variances similar in day/night except during rainfall occurrences