

Daily summary, July 24-25

July 24-25, [July 26 9:05 CDT]

Dan Rajewski (in Ames)

Summary: Stations 1-4 operational, Steve O. , Russ, and Dan serviced the towers morning and afternoon of July 25 slightly cooler air on July 24, north of very warm air, light wind speed, northerly on July 24, variable directions on July 25

**replaced the fan for the 2m temp/RH at stn 2, cleaned the fan for the 2m temp/RH at stn 1, replaced the fan for the 10 m temp/RH at stn 1 (see Steve O. blog entries on the station visits)

Vdsm: 13.5-13.8 V during day, down to 12.5 at night

P: ok, pressure mostly steady on July 24, dropping 5mb the morning/afternoon of July 25

T.2m: stn 2 reading 0.5-1.0 degrees C warmer than other before the fan repair on July 25

RH.2m: stn 4 highest during day and night; before fan repair: stn 2 lowest during late morning and afternoon, stns 1-3 few%RH within each other
H2O.2m: stn 4 high during day and night (0.7-1.0 g/m³ moister than other sites), stn 1 slightly lower than stns 2 & 3 both day and night

Wetness: slight shower at 6:00 and 11:00 on July 24, dew accumulation from 0:30-6:30 [July 25] sensor dry by 8:30

T.10m: before fan repair: stn1 slightly warmer than others during the daytime, at stn 1 fan quit (blown fuse) around 5:00 [July 25], after repair fields are ok

RH.10m: before fan repair: stn 1 few%RH drier than other sites for afternoon of July 24, sites close in agreement after the repair

H2O.10m: ok, night: stn 2 about 0.5 g/m³ moister than stn 4, stn 1 & 3 close together, day: stns about 0.3 g/m³ of each other; not much change after fan repair

Spd.10m: ok, post midnight hours of July 25, stn 2 lower than other sites by 0.5 m/s, stn 4 also a bit lower than other stns during late morning-mid afternoon

Dir.10m: ok, winds from all directions on July 24, mostly Easterly the after midnight on July 25, Southerly by late morning

T.10m - T.2m: before fan repair: stn 2 most negative during day; stn 1 somewhat more positive at 10m vs. 2 m.; after fan repairs little difference in vertical gradient among all sites

H2O.10m - H2O.2m: before and after repair: 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, less variability among sites for afternoon of July 25

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

w.4.5m: ok, stn 4 slight w>0 for afternoon/evening of July 24 (northerly winds?)

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

ldiag: ok

kh2oV: stn2 2 & 4 about 50-150 mV for day/night behavior before the kryptons were replaced; after switching sensors about 220 to 150 mV

kh2o: before sensor krypton replacement: stns 2 & 4 about 2-3 g/m³ lower than stns 1 & 3; after sensor swap water content within 0.5-0.7 g/m³ of stns 1 & 3

h2o(licor): ok

lidiag (licor): spike during late morning rain shower on July 24, high moisture spike also at stn 3 before midnight

TKE.4.5m: ok, stn 2 has slightly more TKE than other sites around midnight of July 24, but less TKE than other stns from 2:00-5:00 on July 25

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

u*: ok, similar to TKE.4.5m, also in v'w' and u'w' for July 25 event

w'tc': ok, stn 3 slightly higher daytime heat flux than other sites for July 25

tc'tc': ok

w'h2o': ok, stn 2 significantly low during day before replacement, after repair: better agreement for stn 2 & 4 with the other sites, stn 3 slightly higher daytime flux than other sites on July 25

h2o'h2o' (licor): ok

kh2o'kh2o': before replacement: stn 4 close to stns 1 & 3 daytime value, stn 2 a bit lower, after sensor swap stn 2 closer to stn 4, both about 0.2 units less variable than sites 1 & 3

w'co2': ok, close day and night agreement, slightly more flux <0 at stn 1 for early afternoon of July 24

co2'co2': ok