

Daily summary, July 8

July 8, 18:16 CDT
Dan Rajewski (in Ames)

Summary: Stations 1-4 operational, Kris and Dan serviced sites 2,4 to clean krypton sensors;

after the lens cleaning vh_{2ov} above 100 mV for stn 2,4;

means and variances of kh_{2o} also reasonable;

mostly clear skies in overnight, visibility reduced to 1-2 mi for 1.5 hours before/during sunrise, daytime cumulus;

winds from ENE to WSW during night, westerly mid morning, variable direction much of afternoon

V_{dsm} : 13.5-13.8 V during day, down to 12.5 at night
(why are there sharp drops (to 13.0 V) at stn 3 around 16:50 and 17:50?)

P: ok

T.2m: ok, stn1 about 1.0 degree warmer than stns 2-4 5:30 to 6:30 (also sensor has moisture spike around this time but not at other sites)

RH.2m: 85-100% nighttime; 55-65% day

much of overnight stn 2 and 4 agree about 2-3% RH higher than stn 1 and 3, mid morning stn 1 few% RH lower than other sites

$H_{2O.2m}$: ok

Wetness: sensor response to dew around local midnight
wetness accumulation through 7:00; sensor dry by 9:30 CDT

T.10m: ok, stn 2 and 4 similar nighttime temp (0.5 degree cooler than stn 1 and 3) between 5:00-6:30

RH.10m: ok, stn 2 about few%RH higher than other sites from 2:00 to 5:00

$H_{2O.10m}$: ok see comments with RH.10m

Spd.10m: ok, is there a weak jet influencing the sfc from 2:30-5:30?

Dir.10m: ok, ENE to WSW winds in night-mid morning, back to N to NE in late afternoon/evening

T.10m - T.2m: ok, similar at all sites in most of daytime

$H_{2O.10m}$ - $H_{2O.2m}$: ok, stns 2 and 4 1-2% higher vapor concentration (drier at 10m vs. 2m) than sites 1,3 from 0:00-2:00 CDT

spd.4.5m: ok, stn 1 about 0.5 m/s higher than other sites during 4:30-5:30 and also 8:15-8:45

dir.4.5m: ok, larger nighttime variations noted at 4.5 vs. 10 m from 3:00-7:00 CDT

w.4.5m: ok, stn 3-4 more $w < 0$ from 1:00-2:00 than other sites (during time of more easterly turbine wakes at stns 1-2)

tc.4.5m: ok, stn 2 about 0.5-0.75 degree cooler than stns 1,3-4 from 1:30-5:30

Idiag: ok

vh_{2ov} : ok, after cleaning sensor lenses

stn 2 went from about 120 mV to 230 mV after cleaning

stn 4 went from about 10 mV to 175 mV after cleaning

kh_{2o} : ok, after cleaning

stn 4 back within levels of other sites

$h_{2o}(licor)$: ok, btwn 15-19 g/m³ for night to day behavior

Idiag (licor): ok, some warnings at stn3 from 5:00-6:30

TKE.4.5m: ok,

w'w': ok,

u^* : ok

w'T' : ok, stn4 less positive heat flux in much of daytime (corn stage more mature than at stns,1-2, more LE?)

stn 4 max of 0.09 C m/s, stn 3 max of 0.14 C m/s, stns 1,2 ~0.10-0.12 C m/s

w'h_{2o}': ok after cleaning sensor at sites 2,4

$h_{2o}'h_{2o}'$: ok, stns 1,3 mostly in agreement

$kh_{2o}'kh_{2o}'$: ok after cleaning the sensors; high variance in morning during dew/fog

w'co₂': ok, stn 1 & 3 are in close agreement most of the diurnal period

co₂'co₂': ok