

# Daily summary, July 3,4

July 3-4, 15:25 CDT

Dan Rajewski (in Ames)

Summary: Stations 1-4 operational, no ISFS staff on site

krypton hygrometer and possibly sonic at stn4 need replacement; harmonic noise still evident during night  
light winds from the NE to SE; under the influence of a sfc high pressure

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

P: ok, separation of pressure in certain night periods (possible effect of multiple wakes reaching stns 3 & 4?)

T.2m: ok, all stns in agreement

RH.2m: 85-90% nighttime stns 1-3 few %RH less than stn 2-4

75[60]% day on July 3 [4]; stns 1-3 lower than stn 4

H2O.2m: night: stns 1-2 are  $\sim 1.0 \text{ g/m}^3$  less than stns 3-4

day (July 3): stns 1-3 are  $\sim 0.5 \text{ g/m}^3$  less than stn 4

(July 4): stns 1-2 are  $1.0\text{-}1.5 \text{ g/m}^3$  less than stns 3 & 4

Wetness: light showers occurred from 15:00-16:00 July 3, possible dew event from 1:00-6:00, sensor dry by 8:00 CDT

T.10m: ok,

RH.10m: ok, 80-90% stn 4 nighttime RH few% less than stns 1-3;

afternoon RH  $\sim 70\%$  on July 3;  $\sim 50\%$  for July 4

H2O.10m: ok,

Spd.10m: ok, all stns have similar magnitudes of speed

Dir.10m: ok

T.10m - T.2m: ok, similar at all sites

3-4 degrees warmer at 10 m from 1:00-7:00 July 3, 23:00 July 3 to 3:00 July 4

H2O.10m - H2O.2m: ok, similar at all stns;

nighttime only  $\sim 1 \text{ g/m}^3$  less at 10 m than at 2m

with comments from T.10m - T.2m was a fog event occurring? (check ISU flux tower data in a few days)

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

dir.4.5m: ok,

w.4.5m: ok, all stns have  $w < 0$  when wind is nearly easterly, site 2  $w > 0$  (afternoon of July 3 [4], ESE [SE] wind)

stns 3-4  $w < 0$  for aforementioned periods

tc.4.5m: ok,

ldiag: ok, a few flags recorded around 15:00-16:00 (light showers occurring July 3)

vh2ov: ok, above 100 mV at stn 2, below 100 mV night July 2-early morning July 4

kh2o: ok, nighttime stn 4 greater than stn 2 ( $0.5 \text{ g/m}^3$ , July 3), ( $\sim 1 \text{ g/m}^3$ , July 4)

h2o(licor): ok, btwn  $13\text{-}18 \text{ g/m}^3$  for night to day behavior

ldiag (licor): ok

TKE.4.5m: ok, possible influence of intersecting wakes, but unclear differences btwn stns

w'w': ok

w'h2o': ok, low vapor flux on July 3 ( $\sim 0.05 \text{ g/m}^2/\text{s}$ ), near  $0.20 \text{ g/m}^2/\text{s}$  on July 4

h2o'h2o': ok

kh2o'kh2o': not ok; anomalous variance continuing daytime and nighttime of July 3, daytime of July 4

w'co2': ok, stn 1 & 3 are in close agreement most of night and in daytime

co2'co2': ok, large variance and change of concentration in nighttime (moderate to strong sfc stability?)