

# Daily summary, July 5

July 5, 21:54 CDT  
Dan Rajewski (in Ames)

Summary: Stations 1-4 operational, ISU staff (Kris and Dan) serviced Station #4 to repair the krypton hygrometer. Steve Oncley determined that the spare krypton was sufficient to remove the noise signature from the 20 Hz data continuation of light winds from ESE to SW;  
scattered cloudiness from remnant thunderstorm complexes (morning and evening of July 5);  
light rain from 18:30-20:00

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

T.2m: ok, stn 1 about 1 degree cooler at night than sites 2-4;  
all stns in agreement afternoon/evening

RH.2m: 85-90% nighttime; 75% day, stns 1-3 few %RH lower than stn 4  
H2O.2m: night: stn 1 is  $\sim 1.0 \text{ g/m}^3$  less than stns 2-4  
day stns 1-2 are  $\sim 0.5 \text{ g/m}^3$  less than stn 3

Wetness: rainfall in evening, sensor dry by 20:30 CDT

T.10m: ok, stns 2-4 about 1 degree warmer than stn 1  
RH.10m: ok, 85% night; 75% day

H2O.10m: ok  
Spd.10m: ok, slightly less speed at stn 1 than at sites 2-4 in a few night and day periods  
Dir.10m: ok

T.10m - T.2m: ok, similar at all sites  
3-4 degrees warmer at 10 m from 21:00 July 4 to 3:00 July 5

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

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

w.4.5m: ok, stn 2 slight  $w > 0$  in overnight with stn 1  $w \sim 0$  and stns 3-4  $w < 0$  (see comments for TKE)  
spurious reading at stn 4 during the mast lowering and replacement of the krypton hygrometer

tc.4.5m: ok, for nighttime stn 1 about 0.5 to 1.0 degrees cooler than stns 2-4  
ldiag: ok, a few flags recorded at site 4 during the krypton replacement around 15:00-16:00  
vh2ov: ok, above 100 mV at stn 2 for most of period;  
site 4 below 100 mV much of night and morning; above 80 mV after sensor replacement  
kh2o: ok, stn 4 greater than stn 2 ( $0.5 \text{ g/m}^3$ ) until sensor replacement, then stn 4 < stn 2 h2o concentration  
h2o(licor): ok, btwn 15-17  $\text{g/m}^3$  for night to day behavior  
ldiag (licor): ok

TKE.4.5m: ok, stn 1 < stns 2-4 possible influence of wake during 1:00-5:00 CDT  
w'w': ok, see comments for TKE.4.5m, and w.4.5m

w'h2o': ok, daytime vapor flux ( $0.07 \text{ g/m}^2/\text{s}$ ),  
h2o'h2o': ok  
kh2o'kh2o': ok; after replacing the krypton at Stn 4

w'co2': ok, stn 1 & 3 are in close agreement most of daytime;  
slight separation in overnight (1:00-5:30 CDT)  
co2'co2': ok, large variance and change of concentration in nighttime (moderate to strong sfc stability?)