

# Daily summary, July 23

July 23, 14:30 CDT

Dan Rajewski (in Ames)

Summary: Stations 1-4 operational, no ISFS staff on site  
partly to mostly cloudy skies with late evening showers and early afternoon showers; within storm track north of stationary front (very warm and humid air to south)

\*\*2m Temp stn 2 remains warmer in daytime, stn 4 cooler at nighttime

Vdsm: 13.5-13.8 V during day, down to 12.5 at night  
P: ok, stn 1 & 2 pressure slightly higher than at sites 3 & 4, rising from 970 to 973 mb

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 -3 vs. 4)

RH.2m: stn 4 high during day; 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/m<sup>3</sup> moister than other sites), stn 1 slightly lower than stns 2 & 3 both day and night

Wetness: slight wet from shower at 20:30, dry by 21:30, wet again with shower at 10:00 and again early afternoon

T.10m: stn1 slightly warmer than others during the late morning before rain showers; night all stns within 0.5 degree C of each other  
RH.10m: ok, mostly in agreement, night; stns 1 & 3 close together, stns 2 & 4 about few%RH drier; daytime stn 1 5%RH lower than stn 2 & 3, few%RH lower than stn 4  
H2O.10m: ok, night: stn 2 about 0.5 g/m<sup>3</sup> moister than stn 4, stn 1 & 3 close together, day: stns about 0.3 g/m<sup>3</sup> of each other

Spd.10m: ok, no long period of one site a few 0.5 m/s different than the other sites  
Dir.10m: ok, Easterly wind before sunrise, SE to SSE by 13:00 before contamination from afternoon thunderstorms

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; close agreement at night  
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, see comments for Dir.10m  
w.4.5m: ok, all sites have larger w<0 as night and morning progresses, stns 1 & 2 least negative in daytime, 3 & 4 more negative  
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: stn 4 has anomalous readings much of overnight 19:30-3:30

kh2oV: anomalous increase at stn 2 & 4 night, daytime about 60 mV  
kh2o: stns 2 & 4 about 2-3 g/m<sup>3</sup> lower than stns 1 & 3 during night, poor readings during rain showers  
h2o(licor): ok, stn 1 & 3 in very good agreement except during rainfall  
lidiag (licor): overnight spike at stn 3 also during morning/ early afternoon showers

TKE.4.5m: ok, mostly in agreement (clouds and rain with some wind keep turbulence uniform night/day?)  
w'w': ok, similar to TKE.4.5m and v'v'; slightly more u'u' at stn 1 & 3 from 3:00-5:00,  
u\*: ok, similar to TKE.4.5m, also in v'w'; u'w' similar to v'v'

w'tc': ok  
tc'tc': ok

w'h2o': ok, stn 2 significantly low during day, stn 1-4 about the same night: all sites flux low and > 0  
h2o'h2o' (licor): ok, spikes during rain fall events  
kh2o'kh2o': stn 4 close to stns 1 & 3 daytime value, stn 2 a bit lower, spikes also during rainy periods  
w'co2': ok, close day and night agreement, slightly more flux <0 at stn 3 during mid morning-early afternoon before rain  
co2'co2': ok, expected spikes during periods of rainfall