

Daily summary, August 15

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Dan Rajewski (in Ames)

Summary: Stations 1-4 operational, no ISFS staff on site, mostly clear daytime, some high clouds
Nighttime winds veering from E to SE, afternoon from the SSE to SE by the early evening
Vdsm: 13.4-13.7 V during day, down to 12.4 at night
P: ok, pressure falling from 976 to 974 mb during the period
T.2m: stn 1 is 0.7-1.0 degrees C cooler than other sites from 2:00-6:30; close daytime agreement though slightly cooler at stns 1-2 vs. 3-4 in the late morning-early afternoon
RH.2m: stns 1-3 about 5-7%RH lower than stn 4 during the night; daytime: stn4 a few %RH higher than other sites
H2O.2m: night: stn 4 about 0.7-1.0 g/m³ greater vapor than stns 1-3 from 20:00-2:00 and stn 1 less than other sites by 0.7 g/m³ from 3:00-7:00; stn4 0.5 g/m³ more moist than other sites during the daytime hours
Wetness: dew formation from 21:30-0:00 and from 3:00-7:15, sensor dry by 8:30

T.10m: ok, not as clear of separation of site 1 vs. other sites as in T.2m; good daytime agreement
RH.10m: ok, stn 2 about 5-7%RH lower than stn1 and sites 3-4 are a few%RH lower than stn 1 from 3:00-7:30
H2O.10m ok, stn 2 about 0.7 g/m³ drier than other sites much of the night and early morning; stn 4 less vapor than the other sites for much of late morning to late afternoon
Spd.10m: ok, stns 1-2 about 0.7-1.0 m/s lower speed than other sites from 23:30-2:00, stn 2 higher than stn 1 from 3:00-5:00, stn 1 a bit lower than other sites from 6:00-7:30
Dir.10m: ok, from the ESE to SSE during the overnight, steady SSE to S through early afternoon, backing to SE by early evening

T.10m - T.2m: night: stns 2-3 about 0.5 degrees C warmer at 10 m vs. 2 m than for stns 1 & 4 from 2:30-7:30; daytime: stns 3-4 a bit warmer at 2m vs. 10m than other site in the late morning through mid afternoon
H2O.10m - H2O.2m: night: several periods where stns 2 & 4 are 0.7-1.0 g/m³ drier at 10m vs. 2m than for stns 1 & 3; daytime: stn 4 about 1.5 g/m³ drier at 2m v.s 10m from 9:30 to the end of the period
spd.4.5m: ok, similar for Spd.10m
dir.4.5m: ok, see comments for Dir.10m
w.4.5m: ok, night: least positive or largest negative velocity for stn 4, stns 1 & 3 have most upward velocity
tc.4.5m: ok, similar to T.2m
ldiag: ok

kh2oV: ok, between 150-400 mV for night to day behavior
kh2o: night: stn 4 around about 2 g/m³ wetter than stn 2 and about 4-6 g/m³ more moist than stns 1 & 3 for the overnight and daytime;
h2o(licor): ok, stn 1 about 0.5-1.0 g/m³ drier than stn 3 from much of the night; morning agreement by 9:30
lidiag (licor): ok
TKE.4.5m: ok, stn 2 a bit lower TKE than other sites from 22:00-2:30, stn1 about 0.15 units less TKE than other sites from 3:00 to 7:00; close daytime agreement, a bit greater peak TKE at stns 1-2 vs. Sites 3-4
w'w': ok, similar to TKE.4.5m, also seen in u'u' and v'v'
u*: ok, nighttime: similar to TKE.4.5m, v'w' also similar more-so than u'w'
w'tc': ok, night: less negative flux at stn2 until 1:00, stn 1 less flux <0 from 3:00-7:30; close daytime agreement
tc'tc': ok, similar to w'tc' with Stn 1 having highest variance from 21:30-2:30; daytime a bit lower peak variance at stn2 vs. other sites
w'h2o': ok, night: all sites close most of night, some less positive flux at stn 1 & 4 vs. other sites from 3:00-7:00; stns 2 & 4 lower positive flux by 0.04 g/m² /s during the late morning-early afternoon
h2o'h2o' (licor): ok, close agreement for nighttime; stns 1-3 about 0.2 (g/m³)² greater variance than at stn 2 & 4 in the mid afternoon
kh2o'kh2o': night: acceptable readings during the night; daytime less peak flux than those of licors
w'co2': ok, night: up through 2:00 slightly higher flux at stn 1 vs. stn 3 then from 3:00-7:00 slightly higher flux at stn 3 vs. stn 1; close daytime agreement
co2'co2': ok, less variance at stn 3 vs. stn 1 for most of the night from 23:00-6:30; similar daytime peak variance but slightly higher at stn 3 vs. stn 1