

Daily status, July 2

Staff: Maclean, Horst, Khoung, Brown; Chenning left this morning

Summary: Gordon found low voltages in the adams, so has been improving the battery charging over the past few days. These changes have improved the power in the adams and have reduced the number of outages we have been having.

We have been measuring the array dimensions and still need to measure the sonic azimuths.

We are essentially starting ops at 13:00 on July 1, because of the change in sonic heights in the upwind array and the late completion of the pressure array. Chenning and I have agreed on the following tentative schedule for configuration changes.

Configuration 1 (height = 3m, spacing = 4m): July 1-10 (10 days)
Configuration 2 (height = 3m, spacing = 1.29m): July 13-20 (8 days)
Configuration 3 (height = 7m, spacing = 1.29 m): July 22-29 (8 days)
Configuration 4 (height = 7m, spacing = 0.43 m): August 1-9 (9 days)

For more details, see the ahats logbook at <https://wiki.ucar.edu/display/ahatslogbook>

Good wind direction: For the period 7/1 13:00 through 7/2 13:00, we have 13.67 hours of data periods of length 20 minutes or longer with wind directions from 195-355 degrees. This includes 3 periods of length greater than one hour and equates to good periods 57% of the time.

Profiles:

spd: ok
dir: ok
w: ok
tc: ok
sigma_w/u*: ok (1.3 at night)
u*: ok
w'tc': ok
diag: ok
samples.sonic: undersampled sonic data 16:00-17:00, July 1
T: ok
RH: 4m may be low by less than 1% RH
P: okay

(+/- = ~1 std deviation)

Upwind (hts=3.5):

spd: ok, +/- 15 cm/s
dir: ok, +/- 5 deg
w: ok, +/- 5 cm/s
tc: ok, +/- 0.2 deg
w'w': ok, +/- 0.01 m²/s² (30 min avg for second moments)
u*: ok, +/- 0.04 m/s
sigma_w/u*: ok (1.3 at night)
tc'tc': ok, +/- 0.1 degC²
u*: ok, +/- 0.04 m/s
w'tc': ok, +/- 0.015 m/s degC
diag: ok
samples.sonic: undersampled sonic data 16:00-17:00, July 1

Lower (hts=3):

spd: ok, +/- 20 cm/s
dir: ok, +/- 5 deg
w: ok, +/- 6 cm/s
tc: ok, +/- 0.25 deg
w'w': ok, +/- 0.01 m²/s² (30 min avg for second moments)
u*: ok, +/- 0.04 m/s
sigma_w/u*: ok (1.3 at night)
tc'tc': ok, +/- 0.1 degC²
w'tc': ok, +/- 0.02 m/s degC
diag: ok
samples.sonic: undersampled sonic data 16:00-17:00, July 1

Upper (hts=4):

spd: ok, +/- 15 cm/s
dir: ok, +/- 5 deg; 6t is about 6.5 degrees off from profile sonic
w: ok, +/- 6 cm/s
tc: ok, +/- 0.25 deg
w'w': ok, +/- 0.01 m²/s² (30 min avg for second moments)
u*: ok, +/- 0.04 m/s
sigma_w/u*: ok (1.3 at night)
tc'tc': ok, +/- 0.1 degC²
u*: ok, +/- 0.05 m/s
w'tc': ok, +/- 0.02 m/s degC
diag: ok
samples.sonic: undersampled sonic data 16:00-17:00, July 1