Daily status Aug14

AHATS status 8/14/08

Staff: Chenning, Militzer, Nguyen, Verstraete with ISS.

Temps: 104F/65F yesterday, for period 8/13 8:00 - 8/14 8:00

Activity highlights:
- array4.
- See profile note on 11th: diamond board problem, but staying up. crontab reset notes past 2 days
  were erroneous because the command lacked complete path to script. Interrupts still occuring.
  but adam was staying up. Some short looking files around the normal '12' hour restarts.
  Will adjust Crontab to avoid extra restarts at 0:15,12:15.
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- https://wiki.ucar.edu/display/ahatslogbook

Good wind direction:
array#4 (aug 9 20:00 - Aug14 08:00PDT) has 25.5 hours (6 unstable, 19.5 stable).

Local data storage:

Filesystem 1K-blocks Used Available Use% Mounted on
upwind:/dev/sda1 57685532 5122360 52563172 9% /var/tmp/usbdisk
downwind1:/dev/sda1 57685532 13454468 44231064 23% /var/tmp/usbdisk
downwind2:/dev/sda1 57685532 14443516 43242016 25% /var/tmp/usbdisk
profile:/dev/sda1 57685532 9705720 47979812 17% /var/tmp/usbdisk
pressure1:/dev/sda1 3940812 1212932 2727880 31% /var/tmp/usbdisk
pressure2:/dev/sda1 3940812 1217320 2723492 31% /var/tmp/usbdisk

aster:/dev/sdb1 721075720 477200804 243874916 67% /media/isff2
isff: /dev/sdb1 1922890480 656609548 1168603728 36% /media/isff15

Pressure:

(+/- = ~1 std deviation among variables at the same height)

'p.ref' is measuring AHATS ref p with the 202BG connected between the
AHATS and CHATS references.
P.bedard now is the portable Paroscientific standard with reasonable resolution, but
low sampling rate connected to the Bedard pressure port now installed on boom 13b.

Profile: [,select.p]

[Need to swap new 8P board with an old version 8M, but none available.]

Heights of sensors are the same as array3.
Intended to move trh sensors, but tower/collars didn't work well for exact placement

T: ok.
RH: sensor that is at 5.8m is still up to 2% off.

h2o: normal, 2 g/m^3 offset from dat("Q"), except in afternoon.
w'h2o': ok, 0.020 m/s g/m^3 at midday, spiking to .04 in afternoon
co2: ok, 14-20 mmol/m^3
w'co2': ok, min. -0.012 m/s mmo/m^3 at middayProfile

Sonics:
Profile
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diag: ok, spike on 8m at 13
samples.sonic: ok. Seeing 'spikes' as expected with cron restart. Large spread between sensors during startup; from 2-25, or mor\
e missing on 8m
spd: ok.
dir: ok
w: ok. 8m seems maybe tilted up a bit
tc: ok
w'w': ok
u*: ok, some imaginary values with light winds
sigma_w/u*:
w'tc': ok (lowest near the ground?)
tc'tc': ok

Upwind [,select.u]
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diag: ok, again, 6u has lots of spiking in daytime, up to .06, ok at night....
samples.sonic: ok?
spd: ok, low winds yesterday
dir: ok, needs new angles
w: ok, +20/-0 cm/s, appears tilted down perhaps
tc: ok, +/- 0.2-6 deg, biases somewhat larger, 3u,4u again highest
w'w': ok, +/- 0.01 m^2/s^2 in day (30 min avg for second moments)
u*: ok, +/- 10 cm/s, some imaginary
sigma_w/u*:
w'tc': ok, +/- 0.01 m/s degC
tc'tc': ok, +/- 0.05 degC^2

Downwind Lower [,select.b]

Relatively large differences with east winds.

diag: ok, 6b spike in daytime ~13:00 occassionally (Birds, spiders?)
samples.sonic: ok
spd: ok, +/- 5 cm/s, with 12b,13b up to .5m higher, and 2b next in daytime with SWearly winds
dir: ok, new boom angles improved things at ~19z last night, but 1b, 10b still appear out.
w: ok, +/- .2 m/s, pitch looks better for some reason
tc: ok, +/- 0.3 deg, biases up to 1, some curious shift .3-.4 up/down from ~2-3:00 in 1b,2b,3b,4b
w'w': ok, +/- 0.01 m^2/s^2 (30 min avg for second moments)
u*: ok, +/- .1 m/s, some imaginary
sigma_w/u*:
w'tc': ok, +/- 0.01 m/s degC
tc'tc': ok, +/- 0.05 degC^2

Downwind Upper [,select.t]
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diag: ok, .002-.01 spikes occassionally
samples.sonic: ok
spd: ok, again low winds, highest <1.5ms 1-3am
dir: ok, +/- 2 deg, need boom angles
w: ok, +/- 10 cm/s
tc: ok, +/- 0.4 degC, offsets up to 1 degC, again shift as on 'b' for 3t,4t,5t when winds slightly higher
w'w': ok, up to +.15-0.2 m^2/s^2 in day (30 min avg for second moments)
u*: ok, +/- 2 cm/s, some imaginary
sigma_w/u*:
w'tc': ok, +/- 0.01 m/s degC
tc'tc': ok, +/- 0.05 degC^2
