

OKLAHOMA MESONET/ARS QUALITY ASSURANCE REPORT

June 1999

Prepared by Chris Fiebrich
gamgr@mesonet.org

Lightning struck at WALT, OKEM, and A182 during June. All 3 sites suffered damage to their dataloggers, radios, and wiring panels. In addition, the pyranometer and RH sensor at OKEM were damaged, while the soil moisture sensors, rain gauge, and numerous soil temperature sensors were damaged at WALT. A182 also required a new pyranometer due to its strike.

After thorough Mesocomp performed by Ken Meyers in the ARS network, numerous T/RH sensors were replaced in late June and early July in anticipation of SGP99.

Mesonet QA Report for Standard Variables	
TAIR	Current: #2561 CLAY Awaiting installation after lightning damage Current: #2617 MAYR Sensor stuck at -7999.0 Resolved:
RELH	Current: #2151 RING Sensor sporadically reporting data spikes Current: #2295 PAWN Sensor damaged by storm Current: #2376 KING 2 C warm TDEW bias suspected Current: #2377 MAYR 1.5 C low TDEW bias suspected Current: #2394 BRIS Data sporadically drops to less than 10% RH Current: #2562 CLAY Awaiting installation since lightning damage Current: #2639 BREC Sensor sticking at -7999 for extended periods Resolved: #2486 ALV2 Replaced malfunctioning sensor Resolved: #2557 OKEM Replaced lightning-damaged sensor
WDIR	Current: Resolved: #2276 BBOV Replaced sensor sticking during low winds Resolved: #2533 ACME Replaced sensor damaged by vandalism
WSPD	Current: #2632 WEST Sensor sticking frequently at 0 m/s Current: #2670 DURA Sensor stuck at 0 m/s Resolved: #2437 ACME Replaced sensor damaged by vandalism
PRES	Current: #2620 SULP Sensor spiked, then dropped 40 mb on 6/17 Resolved: #2441 GUTH Removed dirt clump from barometer tube Resolved: #2487 OILT Removed insect pupal cases from baro tube Resolved: #2638 NORM Fixed broken power wire
SRAD	Current: #2534 OKEM Sensor damaged by lightning Current: #2560 CLAY Sensor damaged by lightning Current: #2618 MAYR Sensor reporting -2 at night due to open RH switch Current: #2669 WALT Sensor reporting -1 at night due to open RH switch Resolved: #2440 WALT Removed bird droppings covering pyranometer Resolved: #2501 CHIC Replaced suspicious pyranometer Resolved: #2625 FTCB Replaced sensor stuck at 0 W/m^2
RAIN	Current: #2640 ANTL Gauge appears to be double-tipping Current: #2655 OILT Gauge stuck at 0 during multiple rain events

	Resolved: #2626 WALT Replaced bad switch Resolved: #2635 WIST Tech found grass overgrown 2 feet above gauge; cut grass Resolved: #2641 KETC Re-leveled gauge found unlevel
TA9M	Current: Resolved:
WS2M	Current: #2536 STIG Sensor stuck at 0 m/s Current: #2671 DURA Sensor sticking at 0 m/s for extended periods Resolved:
TS10	Current: #2260 BOWL Sensor reporting data spikes and 5 C warm bias Current: #2633 COPA Observed data spike and 10 C warm bias Current: #2637 CHER Sensor stuck at -273.1 C Current: #2656 WALT Sensor biased 10 C cool Resolved: #2188 HINT Replaced sensor suspected of having slight cool bias Resolved: #2234 MINC Replaced sensor with 3 C warm bias
TB10	Current: #2636 CHER Sensor stuck at -273.1 C Resolved: #2213 GUTH Sensor found with holes and cuts near probe end causing warm bias Resolved: #2605 WALT Replaced lightning-damaged sensor Resolved: #2621 MANG Weeds found covering bare plot
TS05	Current: #2604 HOBA Sensor stuck at -273.1 C Resolved: #2187 HINT Replaced sensor suspected of cool bias
TB05	Current: #2538 CATO Sensor biased 5-10 C warm Current: #2619 ACME Sensor biased 5 C warm Resolved: #2622 MANG Weeds found covering bare plot
TS30	Current: #2274 SALL Sensor damaged by lightning Current: #2391 HOLL Reporting 15 C warm bias Resolved: #2184 FTCB Replaced sensor suspected of warm bias

ARS QA Report	
TAIR	Current: Resolved:
RELH	Current: #2539 A149 Monthly QA indicates 1.0 C low TDEW bias Resolved: #2649 A160 Sensor found to be 6% high; replaced Resolved: #2650 A159 Sensor found to be 6% high; replaced
SRAD	Current: Resolved:
RAIN	Current:

	Resolved: #2392 A159 Replaced bad switch Resolved: #2443 A135 Leaf found covering funnel hole
TS05	Current: #2606 A154 Sensor stuck at -273.1 C Resolved: #2438 A155 Sensor found to be 18 C warm; replaced
TS10	Current: #2634 A164 Sensor biased 6 C warm Resolved:
TS15	Current: Resolved: #2537 A159 Replaced suspect sensor
TS30	Current: #2603 A121 Sensor observed erratic jumps between 26 C and 35 C Resolved:

“Current” tickets are the unresolved tickets as of the last day of the month OR those tickets added based on the Monthly QA analysis.

“Resolved” tickets are the sensor problems that were fixed during the entire month.

Variable	Description
TAIR	Air temperature measured at 1.5 meters
RELH	Relative humidity measured at 1.5 meters
WDIR	Wind direction measured at 10 meters
WSPD	Wind speed measured at 10 meters
PRES	Pressure
SRAD	Incident solar radiation
RAIN	Rainfall
TA9M	Air temperature measured at 9 meters
WS2M	Wind speed measured at 2 meters
TS10	Soil temperature measured at 10 cm under native sod
TB10	Soil temperature measured at 10 cm under bare soil
TS05	Soil temperature measured at 5 cm under native sod
TB05	Soil temperature measured at 5 cm under bare soil
TS15	Soil temperature measured at 15 cm under native sod
TS30	Soil temperature measured at 30 cm under native sod