

OKLAHOMA MESONET/ARS QUALITY ASSURANCE REPORT May 2005

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- The Mesonet Technicians were very busy in the month of May resolving 180 trouble tickets! In addition to the work detailed in the tables below, they performed installations of new Mesonet and ARS sites, routine site maintenance, and scheduled rotations.
 - The Fittstown site (FITT) was commissioned on May 12th. FITT became the 117th Mesonet site and the 3rd site in Pontotoc County.
 - At the ARS Fort Cobb Watershed, 5 sites were installed (F102, F105, F108, F113, and F115).
 - An initial installation of a 60 cm soil moisture sensor was performed at the Freedom site. At Hectorville and Fairview, the 75 cm soil moisture sensors were decommissioned.
 - HMP-45C Temp/RelH sensors were installed at 19 additional Mesonet sites.
 - Failed krypton hygrometers were removed from 2 Mesonet super sites.
 - Additional work included 13 PROM upgrades and one logger enclosure upgrade, as well as scheduled rotations of 5 prop anemometers, 4 air temperature sensors, and 7 wind sentries.

- Lightning strikes occurred at two Mesonet sites and one repeater. At Hectorville (May 8) and Ketchum Ranch (May 13), the pyranometers as well as most of the subsurface sensors were damaged. At the Talihina repeater (May 14), the radio and RFmodem had to be replaced.

Mesonet QA Report for Standard Variables

Variable	Status	Ticket	Site	Remarks
TAIR	Current	11392	ARD2	Temperature is varying quickly to changes in solar radiation
	Current	11479	WYNO	Temperature is varying quickly to changes in solar radiation
	Resolved	11353	ERIC	Tightened wires on sensor that had developed a 7°C high bias
RELH	Resolved	11313	PAWN	Replaced MAD cow-damaged sensor that had reported negative humidity values
WDIR	N/A			
WSPD	N/A			
PRES	Current	11455	RETR	Sensor has developed an occasional 60 mb low bias
	Resolved	11389	CHEY	Replaced sensor that had reported anomalous pressure spikes

	Resolved	11436	PAWN	Cleaned vent tube that had been clogged by a bug
	Resolved	11437	REDR	Cleaned vent tube that had been clogged by a bug
SRAD	Current	11349	SLAP	Sensor has developed a 50 W/m ⁻² low bias
	Current	11548	SPEN	Sensor has developed a 50 W/m ⁻² low bias
	Resolved	11348	BUFF	Cleaned bird droppings off sensor that had developed a 30 W/m ⁻² low bias
	Resolved	11414	HECT	Replaced sensor that had been damaged by lightning
RAIN	Current	11470	SEIL	Gauge continues to miss rain events compared to nearby Mesonet and USGS gauges
	Resolved	11452	WEBB	Removed obstruction from funnel that had caused gauge to miss a few small rain events
TA9M	Current	11391	ARD2	Temperature is varying quickly to changes in solar radiation
	Resolved	11406	ERIC	Tightened wires on sensor that had developed a 7°C high bias
	Resolved	11335	TAHL	Cleaned mud daubber nest off sensor that had caused spikes and dips in data
WS2M	N/A			
TS10	Current	11549	CENT	Sensor has developed a 3°C low bias
TB10	Current	11428	KETC	Lightning strike
	Current	11405	SPEN	Sensor spiking 1° to 2°C at times
	Resolved	11467	HECT	Rewired sensor that had reported out-of-range data
	Resolved	11403	MIAM	Replaced sensor that had developed a high bias
TS05	Current	11249	SLAP	Sensor has developed a high bias
	Current	11429	KETC	Lightning strike
	Current	11461	HOBA	Sensor consistently warmer than TB05 during the day and significantly warmer than surrounding sites
TB05	Current	11427	KETC	Lightning strike
TS30	Current	11505	BLAC	Data began spiking and dipping and is now reporting out-of-range values
	Current	11468	HOLL	Sensor has developed a 3 °C low bias
	Current	11430	KETC	Lightning strike
	Resolved	11418	HECT	Replaced sensor that was damaged by lightning
TR05	Current	11421	KETC	Lightning strike
	Current	11466	MAYR	Noise has developed in sensors at all levels

TR25	Current	11422	KETC	Lightning strike
TR60	Current	11423	KETC	Lightning strike
TR75	Current	11424	KETC	Lightning strike

ARS QA Report for Standard Variables

Variable	Status	Ticket	Site	Remarks
TAIR	N/A			
RELH	N/A			
SRAD	N/A			
RAIN	Current	11462	A156	Gauge reported no tips during rain event
TS10	N/A			
TB10	N/A			
TS05	N/A			
TB05	N/A			
TS30	N/A			

“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
TR05	Soil moisture: Calibrated DeltaT measured at 5 cm under native sod
TR25	Soil moisture: Calibrated DeltaT measured at 25 cm under native sod
TR60	Soil moisture: Calibrated DeltaT measured at 60 cm under native sod
TR75	Soil moisture: Calibrated DeltaT measured at 75 cm under native sod