

Oklahoma Mesonet / ARS Quality Assurance Report

December 2019

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- Mesonet technicians completed scheduled rotations of 3 rain gauges (RAIN/TIP2), 4 batteries, 3 aspirator fans, 2 barometers (PRES), 3 relative humidity sensors (RELH/TSLO), 4 pyranometers (SRAD), 3 PRT thermometers (TAIR/TA9M), 3 wind monitor nose cones (WSPD), and 1 current excitation module.

Mesonet QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
TAIR				
RELH				
WSPD				
WDIR				
PRES	Resolved	FREE	40854	PRES sometimes reports errant value. Suspect a loose connection. Please rewire sensor. Rewired.
	Resolved	OKCE	40818	PRES sometimes reports bad values. Please rewire sensor. Rewired.
SRAD				
RAIN	Resolved	RING	40453	Confirm serial number for cover and base of rain gauge. Confirmed.
TA9M				

WS2M	Resolved	HECT	40840	WS2M sometimes reports 0 when winds are > 3.5 m/s. Suspect starting threshold problem. Please replace sensor. Replaced.
TB10	Resolved	LAHO	40180	10cm bare soil temperature reports errant values. Replaced.
	Resolved	SLAP	39314	10cm bare sensor reports errant values. Replaced.
TS05	Resolved	GOOD	39317	5cm sod sensor does not heat properly. Replaced.
TS10				
TS25				
TS60				
TR05				
TRB10	Resolved	BUFF	40594	10cm bare soil moisture does not heat properly. Replaced.
	Resolved	HOLD	40842	10cm under bare soil sometimes reports errantly high values for starting temperature. Replaced.
	Resolved	PUTN	40789	10cm bare soil sensor reports errant values. Replaced.
TRS10	Resolved	ERIC	40498	10-cm sod sensor often has inconsistent heating cycles. Replaced.
	Current	CENT	40865	10-cm under sod sensor does not heat properly.
TR25				

TR60	Resolved	BUFF	40327	60 cm starting and final temperatures oscillate between 10-50 deg C throughout the day. Soil moisture final temperature is always less than starting temperature. Wiring corrected.
	Current	FTCB	40205	Sensor not heating. Final temperature same as starting temperature.

ARS QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
RAIN				
VW05	Resolved	A148	40576	5cm soil sensor reports values near zero for voltages 1-3. Completely unwire/rewire sensor to see if it resolves the problem. Rewired.
	Resolved	A154	40357	5cm soil sensor reports values near zero for voltages 1-3. Completely unwire/rewire sensor to see if it resolves problem. Rewiring did not fix issue. Replaced.
VW25	Resolved	A124	40361	25cm soil sensor reports values near zero for voltages 1-3. Completely unwire/rewire sensor to see if it resolves problem. Rewired sensor.
	Resolved	A133	40363	25cm soil sensor reports erratic values for voltages 1-3. Completely unwire/rewire sensor to see if it resolves problem. Replaced.
VW45	Resolved	A262	40279	Errantly low 45cm soil moisture. Voltages 1-3 report values near zero. Soil temperature voltage is fine. Completely unwire/rewire sensor. Replaced.
V05T				

V25T	
V45T	

FCARS QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
RAIN	Resolved	F111	40826	Gauge records much less than neighbors or misses rainfall completely. Drip tested fine. Cleaned and leveled.
VW05	Resolved	F113	40353	5cm soil sensor reports values near zero for voltages 1-3. Completely unwire/rewire sensor to see if it resolves problem. Rewired sensor.
VW25	Resolved	F102	40778	25-cm sensor reports -7999 for V251. The rest of the voltage readings look fine. Unwire rewire sensor before replacing to see if problem resolves. Replaced.
	Resolved	F105	40282	25cm soil moisture is errantly high. Rewired sensor.
VW45				
V05T				
V25T				
V45T				

'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 at 1.5 meters
RELH	Relative humidity at 1.5 meters
WDIR	Wind direction at 10 meters
WSPD	Wind speed at 10 meters
PRES	Air pressure
SRAD	Incident solar radiation
RAIN	Rainfall
TA9M	Air temperature at 9 meters
WS2M	Wind speed at 2 meters
TB10	Soil temperature at 10 cm under bare soil
TS05	Soil temperature at 5 cm under native sod
TS10	Soil temperature at 10 cm under native sod
TS25	Soil temperature at 25 cm under native sod
TS60	Soil temperature at 60 cm under native sod
TR05	Soil moisture: Calibrated DeltaT at 5 cm under native sod
TRB10	Soil moisture: Calibrated DeltaT at 10 cm under bare soil
TRS10	Soil moisture: Calibrated DeltaT at 10 cm under native sod
TR25	Soil moisture: Calibrated DeltaT at 25 cm under native sod
TR60	Soil moisture: Calibrated DeltaT at 60 cm under native sod
VW05	Soil moisture: Volumetric water content at 5 cm under native sod
VW25	Soil moisture: Volumetric water content at 25 cm under native sod
VW45	Soil moisture: Volumetric water content at 45 cm under native sod
V05T	Soil temperature at 5 cm under native sod
V25T	Soil temperature at 25 cm under native sod
V45T	Soil temperature at 45 cm under native sod