

Oklahoma Mesonet / ARS Quality Assurance Report

June 2020

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- Mesonet technicians completed scheduled rotations of 14 batteries, 12 aspirator fans, 6 barometers (PRES), 11 rain gauges (RAIN, TIP2), 6 relative humidity sensors (RELH/TSLO), 4 pyranometers (SRAD), 13 PRT thermometers (TAIR/TA9M), 7 wind directions (WDIR), 5 wind sentries (WS2M), 4 wind monitor nose cones (WSPD), and 6 current excitation modules.
- Lightning affected the Mt. Herman site (MTHE), resulting in a failed barometer and aspirator fan. Affected data have been flagged. Equipment was replaced on June 23.
- Another lightning strike impacted Broken Bow (BROK) this month. The datalogger stopped recording observations, resulting in data loss. The equipment was repaired on June 25.
- Site troubleshooting at Walters (WAL2), resulted in brief datalogger downtime.
- A wiring issue at F111 is preventing soil parameters from being measured properly. Affected data are flagged.

Mesonet QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
TAIR				
RELH				
WSPD				
WDIR				
PRES	Resolved	MTHE	42231	Reporting errant constant value. Replaced.
SRAD	Resolved	OKMU	42067	Solar radiation sometimes spikes down between 0 and expected value during clear conditions. Replaced.
	Current	WOOD	42300	Solar radiation sometimes reports values less than

				expected during sunny conditions. Replace sensor.
RAIN	Current	GRA2	42241	Primary gauge fails to record rain.
TA9M	Resolved	HECT	41938	9-m air temperature sometimes reports values much less than expected for a couple hours, then returns to normal. Replaced.
WS2M	Resolved	BUFF	42138	Technician reports sensor cup assembly is damaged. Please replace sensor. Replaced.
TB10				
TS05	Resolved	WATO	42050	Sod temperature at 5 cm has very large diurnal variation. Reburied sensor.
TS10				
TS25				
TS60				
TR05	Resolved	BROK	42131	5-cm sensor does not heat properly. Replaced.
	Resolved	HINT	42070	Soil moisture at 5 cm reports errant values during rainfall. Suspect exposed bare wire. Replaced.
TRB10	Resolved	BUTL	42100	Final temperature reports -7999. Replaced.
	Resolved	MTHE	42242	DTB10 TB10 reporting -7999. Replaced.
TRS10	Resolved	MTHE	42244	Heater barely heating. Replaced.
TR25	Current	FAIR	42248	Final temperature reports -7999, starting temperature reports errant values.
	Current	YUKO	42304	Sensor no longer heating, Soil temperature is fine.

TR60	Current	CENT	42160	60-cm soil moisture is excessively noisy. Replace sensor.
	Current	NEWK	42247	60-cm sensor doesn't heat as expected.

ARS QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
RAIN				
VW05	Current	A148	42196	Erroneously reports constant values near zero. Replace sensor.
VW25				
VW45				
V05T				
V25T				
V45T				

FCARS QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
RAIN				
VW05	Resolved	F113	42054	Sensor reporting errant zero values. Replaced.
VW25	Resolved	F111	42095	Soil moisture at 25cm reports near zero for voltages between 1-3. Replaced.
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