

Oklahoma Mesonet/ARS Quality Assurance Report May 2021

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- Mesonet technicians completed scheduled rotations of 7 rain gauges (RAIN/TIP2), 12 batteries (BVAS/BATV), 2 aspirator fans (FANS), 3 barometers (PRES), 11 relative humidity sensors (RELH/TSLO), 8 pyranometers (SRAD), 7 PRT thermometers (TAIR/TA9M), 3 wind directions (WDIR), 3 wind sentries (WS2M), 3 wind monitor nose cones (WSPD), and 4 current excitation modules.
- An equipment failure at our Webbers Falls site (WEBR) is causing many sensors to report missing or errant values. This site is due to be moved to a new location in the coming weeks. The relevant equipment will be replaced at that time. Many values at the site already flagged due to nearby construction. Errant data are not displaying on our website.
- Suspected wiring problem is causing the groundwater sensor at the Tipton site (TIPT) to report -7999 for all values. Errant data are not displaying on our website.

Mesonet QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
TAIR				
RELH				
WSPD				
WDIR				
PRES				
SRAD				

RAIN	Resolved	NRMN	44088	Primary gauge cover damaged by hail. Please replace gauge top. Replaced gauge top.
	Resolved	NRMN	44089	Secondary gauge cover damaged by hail. Please replace gauge top. Replaced gauge top.
	Current	EUFA	44204	Please replace primary gauge cable.
	Current	EUFA	44203	Secondary gauge sometimes misses tips at start of rain events. Please replace rain gauge cable.
TA9M	Current	NRMN	44090	TA9M shelter damaged by hail.
WS2M				
TB10				
TS05				
TS10				
TS25				
TS60				
TR05	Resolved	EUFA	44058	Starting temperature reports -7999 and final temp reports otherwise errant values. Both soil moisture and temperature affected. Please replace sensor. Replaced.
	Resolved	SEIL	44042	Five- and ten-centimeter sod sensors do not compare as expected. Long standing issue - TS10 determined to likely be fine. Please replace 5cm sod sensor and confirm new sensor is at correct depth. SM sensor replaced as requested.
TRB10	Resolved	JAYX	44033	Sensor exhibits extreme diurnal variation

				compared to other depths and neighbors. Recent data suggest 10cm bare soil temperature now affected by tower shadow in the afternoon. Suspect sensor too shallow. Please rebury. Reburied sensor.
	Current	BRIS	44201	Suspect failed heater. Difference between starting and final temperatures is negligible. Soil temp unaffected. Please replace sensor.
TRS10	Current	CHER	44181	Starting and final temperature reporting errantly high values. Both soil moisture and temperature affected. Sensor installed May 2018, please check wires and cabling before replacing.
	Current	ERIC	44053	Both starting and final temperature report -7999 or otherwise errant values. Both soil moisture and temperature affected. Sensor just 1.5 years old, please check all wiring and ports for problems before replacing sensor.
	Current	PUTN	44151	Soil temperature reports errant values for several observations then returns to normal. Check sensor wiring from ports to sensor. If nothing found, please replace.
TR25	Current	PORT	44093	Suspect failed heater. Difference between starting and final temperature is negligible. Soil temperature fine. Please check sensor wiring for potential problems before replacing.
TR60	Resolved	APAC	44114	60 cm sensor reports errant values for starting, final, and average soil temperature. Wiring appeared very deteriorated maybe even chewed on. Damaged during recover. Unable to perform post removal testing. Replaced.

ARS QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
RAIN				
VW05				
VW25	Resolved	A250	44019	Reports -7999 for 1st voltage. Other values from this sensor look fine. Please check cabling connections before replacing. Rewiring solved issue.
VW45				
V05T				
V25T				
V45T				

FCARS QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
RAIN				
VW05				
VW25	Current	F214	44141	Suspect 25cm sensor wired into ports assigned to VW45. Please rewire sensor into correct ports.
VW45	Current	F214	44143	Suspect 45cm sensor wired into ports assigned to VW25. Please rewire into correct ports.
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