

Oklahoma Mesonet / ARS Quality Assurance Report April 2021

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- Mesonet technicians completed scheduled rotations of 5 rain gauges (RAIN/TIP2), 11 batteries (BVAS/BATV), 1 aspirator fan (FANS), 1 barometer (PRES), 5 relative humidity sensors (RELH/TSLO), 3 pyranometers (SRAD), 1 PRT thermometer (TAIR/TA9M), 2 wind directions (WDIR), 5 wind sentries (WS2M), 3 wind monitor nose cones (WSPD), and 1 current excitation module.
- Suspected wiring problem is causing the groundwater sensor at the Tipton site (TIPT) to report -7999 for all values. Errant data is not displaying on our website.

Mesonet QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
TAIR				
RELH				
WSPD				
WDIR				
PRES				
SRAD	Resolved	LAHO	44031	Solar radiation reports lower than expected values during sunny skies. Suspect dirty sensor. Please thoroughly clean sensor. Exceptionally dirty sensor. Cleaned as requested.

RAIN	Resolved	CHER	44020	Primary gauge sometimes misses tips throughout rain events. Please replace rain gauge cable. Cable replaced as requested.
	Resolved	CHER	44022	Please replace secondary gauge cable. Cable replaced as requested.
	Resolved	NRMN	44088	RTIP cover damaged by hail. Please replace gauge top with R12990_17 located on counter in lab. Replaced RAIN Top with R12990_17.
	Resolved	NRMN	44089	TIP2 cover damaged by hail. Please replace gauge top with MK8140_16 located on counter in lab. Replaced TIP2 Top with MK8140_16.
	Resolved	NEWP	44018	Secondary gauge again misses rain tips at onset of precipitation. Cables have already been replaced. Please double check wiring is solid between logger and gauge. Do not replace the rain gauge unless it fails a drip test (by producing 32 or fewer tips) after troubleshooting. Top found not entirely secured to base. Made adjustments. Wiring reseated as well.
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.
	Current	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.
TRB10	Current	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.
TRS10	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.
TR25	Resolved	PAWN	44025	Both soil temperature and soil moisture return - 7999. Please replace sensor. Old sensor partially recovered. Sensor cable shows signs of animal chewing.
	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	Current	APAC	44114	60 cm sensor reports errant values for starting, final, and average soil temperature.

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				
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