

Oklahoma Mesonet/ARS Quality Assurance Report March 2021

Prepared by Trey Bell and Ethan Becker

qamgr@mesonet.org

- Mesonet technicians completed scheduled rotations of 3 batteries (BVAS/BATV), 6 barometers (PRES), 6 rain gauges (RAIN/TIP2), 8 relative humidity sensors (RELH/TSLO), 2 pyranometers (SRAD), 6 PRT thermometers (TAIR/TA9M), 3 wind sentries (WS2M), 1 wind monitor nose cone (WSPD), and 6 current excitation modules.
- 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	Resolved	PAWN	44017	Relative humidity sensor reports -7999. Sensor and cable replaced due to animal damage.
WSPD				
WDIR				
PRES				
SRAD	Current	LAHO	44031	Solar radiation reports lower than expected values during sunny skies. Suspect dirty sensor. Please thoroughly clean sensor.

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 to be consistent with primary gauge. Cable replaced as requested
	Current	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.
TA9M				
WS2M	Resolved	HECT	43459	Mice nest found inside enclosure. Technician confirmed damage to WS2M cable. Damage patched with electrical tape. No problems found in data at this time. Replace sensor. Will increase priority if data become affected. Sensor replaced through standard rotation.
	Resolved	WEST	43935	2m wind sensor frequently reports zero when WSPD > 3m/s, significantly less than expected otherwise. Issue began during mid-February winter storm. A cup from the top of the instrument was broken. Replaced.
TB10				
TS05				
TS10				
TS25				

TS60				
TR05				
TRB10	Resolved	TALI	43911	Values continue to climb well above allowed error. Suspect failing heater, difference between starting and final temperature continues to shrink despite absence of substantial moisture. Please replace. Replaced.
	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				
TR25	Current	PAWN	44025	Both soil temperature and soil moisture return -7999. Please replace sensor.
TR60				

ARS QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
RAIN				
VW05				
VW25	Current	A250	44019	Reports -7999 for 1st voltage. Other values from this sensor look fine. Please check cabling connections before replacing.
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