

Oklahoma Mesonet/ARS Quality Assurance Report March 2022

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- Mesonet technicians completed scheduled rotations of 11 batteries (BATV/BVAS), 2 barometers (PRES), 12 relative humidity sensors (RELH/TSLO), 6 pyranometers (SRAD), 5 PRT thermometers (TAIR/TA9M), 5 rain gauges (RAIN/TIP2), 4 wind directions (WDIR), 4 wind sentries (WS2M), 5 wind monitor nose cones (WSPD), and 6 current excitation modules.

Mesonet QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
TAIR	Resolved	PRYO	45656	Suspect aspirated shelter damaged by fire. Replace. Replaced damaged shelter components.
RELH				
WSPD				
WDIR				
PRES	Current	EUFA	45574	Please replace external barometer tubing.
SRAD	Resolved	FAIR	45609	Sensor reporting values about 25 wpsm higher than neighbors and right side of the curve when plotted is fatter than the left, indicating the sensor might be unlevel towards the SW. Problem traces to most recent tech visit. Please level sensor using independent level. Relevelled.
	Resolved	HOBA	45607	Sensor occasionally reports extremely low,

				unrepresentative values during full sun for several observations before returning to normal. Please replace sensor. Replaced.
RAIN	Current	PRYO	45676	Special photos from tech visit reveal a large region of peeled paint on the inner part of the secondary gauge funnel. Tracing to fire in early February. Please replace gauge top with stock located on counter in lab.
TA9M				
WS2M	Resolved	ELRE	45646	WS2M reports lower than expected in nearly all conditions. Replace sensor. Replaced
	Resolved	PRYO	45655	Suspect WS2M damaged by fire. Replace. Replaced sensor.
TB10				
TS05				
TS10				
TS25	Current	MANG	45573	25cm sensor reports -7999 for starting, final, and average soil temperature.
TS60				
TR05				
TRB10	Resolved	ARD2	45647	Soil moisture data noisy and sometimes greatly exceeds expected moist end. Please replace sensor. Replaced.
	Current	BUTL	45678	Sensor returns -7999 or otherwise errant values. Both soil temperature and moisture

				affected. Please replace sensor.
	Current	STIL	45679	Sensor returns -7999 or otherwise errant values. Both soil moisture and temperature affected. Please replace sensor.
TRS10				
TR25	Resolved	PERK	45540	Failed heater, starting and final temperature are the same. Please replace. Replaced. Second one in 6 months. Also replaced current exciter.
TR60				

ARS QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
RAIN				
VW05	Current	A154	45681	Errant 1st through 3rd voltages result in errant soil moisture values, soil temp unaffected. Please replace sensor.
	Current	A262	45581	Raw voltages 1-3 unexpectedly stepped up mid-January and have not returned to normal. Please replace sensor.
VW25	Current	A152	45580	Raw voltages 1-3 report near 0. Please replace sensor.
VW45				
V05T				
V25T				
V45T				

FCARS QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
RAIN				
VW05				
VW25	Current	F101	45677	Voltages 1-4 report -7999, returning both missing soil temp and moisture. Please replace sensor.
VW45	Current	F106	45585	During scheduled battery rotation, 45 cm soil sensor began reporting -7999 values. Please check sensor wiring.
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