

Oklahoma Mesonet / ARS Quality Assurance Report

April 2020

Prepared by Ethan Becker and Trey Bell
qamgr@mesonet.org

- Mesonet technicians completed scheduled rotations of 9 batteries, 11 aspirator fans, 2 barometers (PRES), 4 rain gauges (RAIN/TIP2), 12 relative humidity sensors (RELH/TSLO), 5 pyranometers (SRAD), 5 PRT thermometers (TAIR/TA9M), 6 wind sentries (WS2M), 4 wind monitor nose cones (WSPD), and 6 current excitation modules.
- A power system problem at Kenton (KENT) sometimes causes a few missed data records.

Mesonet QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
TAIR				
RELH				
WSPD				
WDIR				
PRES				
SRAD				
RAIN	Resolved	BEAV	41904	Primary rain gauge does not record tips during rainfall. Suspect problem is related to wildfire damage. Large obstruction removed.
	Resolved	BEAV	41909	Secondary rain gauge does not record tips during rainfall. Suspect problem is related to wildfire damage. Large obstruction removed.
	Resolved	IDAB	41942	Primary gauge sometimes misses start of precipitation. Cables for RAIN and TIP2 replaced.
	Resolved	TAHL	41914	Primary gauge sometimes misses tips during start of

				rainfall. Cable replaced.
	Resolved	EUFA	41924	TIP2 sometimes misses tips during rainfall. Replaced.
	Current	JAYX	42006	Primary gauge sometimes misses start of precipitation. If station has older version rain gauge cables, first replace cables with new version.
TA9M	Current	HECT	41938	9m air temperature sometimes reports values much less than expected for a couple hours, then returns to normal.
WS2M	Current	GOOD	41853	WS2M sometimes reports 0 when winds are > 3.5 m s. Suspect starting threshold problem. Please replace sensor.
TB10	Resolved	MEDI	41988	10cm bare soil temperature reports errantly high values during peak heating hours. Replaced.
	Current	KENT	41715	More diurnal variation than neighbors. Suspect sensor too shallow. Problem traces to known animal damage.
TS05				
TS10				
TS25				
TS60				
TR05				
TRB10	Current	PRYO	41921	10 cm bare soil temperature and starting final soil moisture temperatures consistently reporting errant values.
TRS10	Resolved	BEAV	41867	10-cm sod sensor stopped heating. Replaced.
TR25				
TR60				

ARS QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
RAIN				
VW05				
VW25	Resolved	A250	41917	25-cm soil sensor errantly reports values near 0 for all readings. Replaced.
VW45				
V05T				
V25T				
V45T				

FCARS QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
RAIN				
VW05				
VW25				
VW45	Resolved	F101	41753	45-cm sensor errantly reports values near zero for voltages 1-3. Replaced.
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