Oklahoma Mesonet / ARS
Quality Assurance Report

February 2020

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

- Mesonet technicians completed scheduled rotations of 2 batteries, 2 aspirator fans, 2 rain gauges (RAIN/TIP2), 1 relative humidity sensor (RELH/TSLO), 1 pyranometer (SRAD), 1 PRT thermometer (TAIR/TA9M), 2 wind sentries (WS2M), and 2 wind monitor nose cones (WSPD).

Mesonet QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
TAIR				
RELH	**Resolved**	**ANT2**	**41744**	**Relative humidity reports over 103 percent when saturated. Current field max=106 percent. Replaced sensor.**
WSPD				
WDIR				
PRES				
SRAD	**Resolved**	**ANT2**	**41748**	**Solar radiation reports -99999. Replaced.**
	Resolved	**MANG**	**41697**	**Pyranometer dirty. Rain events mostly cleaned it off, but data are still about 10 percent low after multiple rain events. Replaced.**
RAIN	**Current**	**KIN2**	**41834**	**Cattle dislodged the alter shield causing damage to gauge. Please replace gauge.**
	Current	**KIN2**	**41838**	**Cattle dislodged the alter shield causing damage to gauge. Please replace gauge.**
TA9M				

WS2M	**Current**	**GOOD**	**41853**	**WS2M sometimes reports 0 when winds are > 3.5 m s. Suspect starting threshold problem. Please replace sensor.**
	Current	**PRYO**	**41851**	**WS2M data often lower than expected. Occasionally reports 0 for winds ~3 m s. Replace sensor.**
TB10	**Current**	**KENT**	**41715**	**More diurnal variation than neighbors. Suspect sensor too shallow. Problem traces to known animal damage.**
TS05	**Resolved**	**PUTN**	**41710**	**TS05 has more diurnal variation than expected. Suspect sensor is too shallow. Reburied.**
TS10				
TS25				
TS60				
TR05				
TRB10	**Resolved**	**KIN2**	**41706**	**10cm bare soil temperature and starting/final soil moisture temperature report -7999 or bad values. Replaced.**
TRS10	**Resolved**	**CENT**	**40865**	**10-cm under sod sensor does not heat properly. Starting and final temperature nearly the same. Replaced.**
	Resolved	**KIN2**	**41703**	**10cm sod soil temperature and starting/final soil moisture temperature report -7999 or bad values. Replaced.**
	Resolved	**MEDI**	**41720**	**Sensor heating cycles are often inconsistent between observations. Suspect failing heater. Please replace sensor. Replaced.**
TR25				
TR60	**Current**	**WIST**	**41733**	**60 cm final temperature is slightly less than expected, resulting in errantly high Fractional Water index. Please replace sensor.**

ARS QA Report for Standard Variables

Variable	Status	Site	Ticket	Remarks
RAIN				
VW05				
VW25				
VW45				
V05T				
V25T				
V45T				

FCARS QA Report for Standard Variables

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