

OKLAHOMA MESONET/ARS QUALITY ASSURANCE REPORT

December 2004

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A lightning strike at HUGO on December 7 resulted in damage to several instruments including the pyranometer, radio, modem, voltage regulator, 25 cm soil moisture, and two soil temperature sensors.

The Mesonet Technicians completed Fall Pass 2004 in December.

Initial installations of 60 cm soil moisture sensors were performed at the Inola and Grandfield sites. The 75 cm soil moisture sensor at Mangum stopped heating and was decommissioned.

Mesonet QA Report for Standard Variables	
TAIR	Current: #10720 TAHL Sensor has developed a 0.5 to 0.7°C low bias Resolved: #10497 WAUR Replaced sensor that had reported erratic data Resolved: #10652 ERIC Removed large tumbleweeds that had caught on base of tower and 1.5 m boom that had caused the FastTherm to report unusually high temperatures
RELH	Current: #10698 LAHO Sensor exceeding 103% humidity Current: #10710 OKMU Sensor reporting -7999 Resolved: #10518 NINN Replaced sensor that had reported values down to 0% Resolved: #10589 OKEM Tightened loose wires on sensor reporting erratic data
WDIR	Current: Resolved: #10580 BIXB Tightened wiring to resolve bias in wind direction
WSPD	Current: #10713 CLAY Sensor has starting threshold problems Resolved:
PRES	Current: Resolved:
SRAD	Current: Resolved: #10651 BURB Sensor replaced after exhibiting a low bias
RAIN	Current: Resolved: #10638 ERIC Removed tumbleweeds that were blocking funnel Resolved: #10653 OILT Cleaned terminals and replaced reed switch after gauge reported phantom tips
TA9M	Current: #10644 NOWA Sensor reporting erratic data Current: #10717 ERIC Data dipping -6° to -12°C compared to nearby sites Resolved: #10591 MANG Sensor replaced after reporting unreasonable temperatures

WS2M	Current: #10654 HOOK Sensor has starting threshold problems Current: #10718 WEAT Sensor has starting threshold problems Resolved:
TS10	Current: Resolved:
TB10	Current: #10581 FAIR Sensor has developed a 3° to 5° C low bias Resolved: #10611 BLAC Sensor replaced that had developed a 2° C low bias Resolved: #10519 BYAR Sensor replaced that had developed a 3° C low bias Resolved: #10612 CHAN Sensor replaced that had developed a high bias Resolved: #10500 MANG Sensor replaced that had reported out-of-range values
TS05	Current: #10685 SPEN Sensor has developed a 2° to 3° C high bias Resolved: #10531 INOL Replaced sensor that had been damaged by rodents
TB05	Current: #10723 HOOK Sensor has developed a 3 to 6° C high bias Resolved: #10590 PAWN Replacement of mux solved data problems with soil temperature and moisture sensors Resolved: #10578 BIXB Sensor replaced that had reported erratic data
TS30	Current: Resolved: #10473 TISH Replaced sensor that had reported erratic data
TR05	Current: #10679 KING Sporadic spikes in data at all four depths Current: #10709 FORA Sporadic spikes and dips in data at all four depths Resolved: #10592 PAWN Replacement of mux solved data problems with soil moisture and temperature sensors
TR25	Current: #10660 GRA2 Sensor not heating Resolved: #10584 BRIS Replaced sensor that had reported -7999
TR60	Current: #10686 MANG Sensor not heating Resolved:
TR75	Current: Resolved:

ARS QA Report	
TAIR	Current: Resolved:
RELH	Current: Resolved:

WDIR	Current: Resolved:
SRAD	Current: Resolved: #10608 A163 Replacement of logger solved problem with pyranometer reporting 1 W/m² at night
RAIN	Current: Resolved:
TS05	Current: Resolved:
TS10	Current: Resolved:
TS15	Current: Resolved:
TS30	Current: #10587 A161 Sensor reporting temperatures down to -80 °C Resolved:

“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 measured at 1.5 meters
RELH	Relative humidity measured at 1.5 meters
WDIR	Wind direction measured at 10 meters
WSPD	Wind speed measured at 10 meters
PRES	Pressure
SRAD	Incident solar radiation
RAIN	Rainfall
TA9M	Air temperature measured at 9 meters
WS2M	Wind speed measured at 2 meters
TS10	Soil temperature measured at 10 cm under native sod
TB10	Soil temperature measured at 10 cm under bare soil
TS05	Soil temperature measured at 5 cm under native sod
TB05	Soil temperature measured at 5 cm under bare soil
TS15	Soil temperature measured at 15 cm under native sod
TS30	Soil temperature measured at 30 cm under native sod
TR05	Soil moisture: Calibrated DeltaT measured at 5 cm under native sod
TR25	Soil moisture: Calibrated DeltaT measured at 25 cm under native sod
TR60	Soil moisture: Calibrated DeltaT measured at 60 cm under native sod
TR75	Soil moisture: Calibrated DeltaT measured at 75 cm under native sod