

OKLAHOMA MESONET/ARS QUALITY ASSURANCE REPORT

April 2006

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- Spring pass began in April. Along with conducting routine maintenance at sites, the technicians cleared over 130 trouble tickets. Their non-sensor problem tasks were:
 - Scheduled rotations of 8 wind sentries, 8 thermometers, and 2 barometers
 - Logger upgrades were performed at Bowlegs (BOWL), Buffalo (BUFF), Chickasha (CHIC), Vanoss (VANO), and Webbers Falls (WEBB)
 - The enclosure at Antlers (ANTL) was upgraded
 - PROM upgraded at the Uncas repeater
 - Power upgrades at F103 and F112
- SDM-SIO4s were installed at 7 Mesonet sites: Bowlegs (BOWL), Buffalo (BUFF), Fittstown (FITT), Medford (MEDF), Sulphur (SULP), Vanoss (VANO), and Webbers Falls (WEBB). These new pieces of equipment will allow more sophisticated sensor to be added to the Mesonet
- Infra red thermometers were installed at 9 ARS Little Washita sites: A133, A134, A136, A144, A146, A149, A154, A159, and A162. Skin temperature measurements will now be available from these sites
- Door switches were added to more ARS sites, including A121, A124, A131, A135, A148, A182, and F103
- The 60 and 75 cm soil moisture sensors were decommissioned at Antlers (ANTL)
- The Emet repeater was decommissioned
- A door switch failure occurred at A124 and A148, causing intermittent data loss from 16 to 19 April 2006
- The door switch at Ketchum Ranch (KETC) failed. Data loss was minor from 7 through 13 April 2006

Mesonet QA Report for Standard Variables

| Variable | Status | Ticket | Site | Remarks |
|----------|----------|--------|------|--|
| TAIR | N/A | | | |
| RELH | Resolved | 13045 | VINI | Repaired sensor that was damaged by cows |
| | Resolved | 13059 | OKMU | Repaired sensor that was damaged by cows |

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|-------------|----------|-------|------|---|
| | | | | |
| WDIR | N/A | | | |
| | | | | |
| WSPD | N/A | | | |
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| PRES | N/A | | | |
| | | | | |
| SRAD | Resolved | 13137 | INOL | Cleaned sensor that was reporting a low bias |
| | | | | |
| RAIN | Resolved | 13014 | HOLL | Cleaned gauge that missed the last few rain events |
| | Resolved | 13134 | TAHL | Cleaned gauge that had missed rain events |
| | | | | |
| TA9M | Current | 13195 | BIXB | Sensor has failed; suspect lightning |
| | | | | |
| WS2M | Resolved | 13044 | KETC | Replaced sensor that had developed a starting threshold problem |
| | Resolved | 13062 | REDR | Replaced sensor that had developed a starting threshold problem |
| | Resolved | 13119 | BEAV | Replaced sensor that had damaged cups |
| | | | | |
| TS10 | Resolved | 13108 | VANO | Replaced sensor that had developed a low bias |
| | Resolved | 13109 | MARE | Replaced sensor that had developed a low bias |
| | Resolved | 13133 | LAHO | Replaced sensor that had developed a low bias |
| | | | | |
| TB10 | Current | 13192 | BIXB | Sensor has developed a low bias; suspect lightning |
| | Resolved | 13020 | BOIS | Repaired wires that were damaged by animals |
| | Resolved | 13041 | LAHO | Corrected sensor that was cross-wired with TS10 |
| | Resolved | 13063 | REDR | Replaced sensor that had developed a low bias |
| | Resolved | 13064 | PAWN | Replaced sensor that had developed a low bias |
| | Resolved | 13066 | CAMA | Reinstalled sensor that was too shallow |
| | | | | |
| TS05 | N/A | | | |
| | | | | |
| TB05 | Current | 13065 | GUTH | Sensor has developed a low bias |
| | Current | 13212 | GRA2 | Sensor has developed a high bias |

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|-------------|----------|-------|------|--|
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| TS30 | Current | 13148 | NRMN | Data appears to be offset (suspect bias) |
| | Current | 13191 | MIAM | Data appears to be offset (suspect bias) |
| | | | | |
| TR05 | Current | 13150 | TISH | Sensor has failed |
| | Current | 13190 | CENT | Noise has developed in soil moisture data |
| | Resolved | 13040 | FITT | Replaced sensor that was not responding to rain |
| | | | | |
| TR25 | Current | 13193 | BIXB | Sensor has failed |
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| TR60 | N/A | | | |
| | | | | |
| TR75 | Current | 12673 | HASK | Preferential flow, sensor will be decommissioned |
| | Current | 12708 | NOWA | Preferential flow, sensor will be decommissioned |
| | Current | 13122 | HINT | Sensor has failed and will be decommissioned |
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ARS Little Washita Watershed QA Report

| Variable | Status | Ticket | Site | Remarks |
|-------------|----------|--------|------|--|
| TAIR | N/A | | | |
| | | | | |
| RELH | N/A | | | |
| | | | | |
| SRAD | N/A | | | |
| | | | | |
| RAIN | Resolved | 13161 | A156 | Cleaned gauge that had under-reported rain |
| | | | | |
| TS10 | N/A | | | |
| | | | | |
| TB10 | N/A | | | |
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| TS05 | Resolved | 13057 | A150 | Suspected low bias but sensor was fine |
| | Resolved | 13056 | A133 | Suspected low bias but sensor was fine |

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| TB05 | N/A |
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| TS30 | N/A |
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ARS Ft. Cobb Watershed QA Report

| Variable | Status | Ticket | Site | Remarks |
|-----------------|---------------|---------------|-------------|----------------|
| | | | | |
| TAIR | N/A | | | |
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| RELH | N/A | | | |
| | | | | |
| SRAD | N/A | | | |
| | | | | |
| RAIN | N/A | | | |
| | | | | |
| TS05 | N/A | | | |
| | | | | |
| TS10 | N/A | | | |
| | | | | |
| TS15 | N/A | | | |
| | | | | |
| TS30 | N/A | | | |
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| VW05 | N/A | | | |
| | | | | |
| VW25 | N/A | | | |
| | | | | |
| VW45 | N/A | | | |

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 |
| VW05 | Soil moisture: Volumetric water content measured at 5 cm under native sod |
| VW25 | Soil moisture: Volumetric water content measured at 25 cm under native sod |
| VW45 | Soil moisture: Volumetric water content measured at 45 cm under native sod |