FILE NAME: Station Record AK009.doc

LAST UPDATED: 8/28/23

**SAGWON, ALASKA**

SITE 2, ACIDIC

### Station AK009 Record

**STATION:** AK009, SAGWON 2, MOIST ACIDIC UPLAND TUNDRA, FLUX STUDY SITE 95-4 (009). This station will monitor air temp and soil temperature at 14 soil depths. The station was installed to supplement the water content data collected by station AK006. The existing long term soil temperature monitoring Hobo probe system is old and was discontinued; this station will replace that system and continue long-term monitoring.

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| --- | --- | --- | --- |
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|  |  |  |  |

**LOCATION:** West of Haul Road (Dalton Hwy.) near Sagwon materials site.

GPS (08/12/05): 69° 24’ 9.0” N

148° 47’ 52.1” W

1080 ft elevation

GPS (08/14/06): 69° 24’ 9.0” N

148° 47’ 52.0” W

1081 ft elevation

GPS (08/08/07): 69° 24’ 08.9” N

148° 47’ 52.0” W

1080 ft elevation

GPS (08/14/08): 69° 24’ 09.0” N

148° 47’ 52.0” W

1082 ft elevation

GPS (08/14/09): 69° 24’ 09.0” N

148° 47’ 52.0” W

1086 ft elevation

GPS (08/13/10): 69° 24’ 08.9” N

148° 47’ 51.9” W

1086 ft elevation

GPS (08/12/12): 69° 24’ 08.8” N

148° 47’ 52.2” W

1084 ft elevation

**INSTRUMENTATION:**

Summary

| Quantity | Description | Comments |
| --- | --- | --- |
| 1 | Campbell CR-10X-2M datalogger SN: Wiring panel SN: | Installed 8/05 |
| 1 | Campbell SM4M storage module SN: | Installed 8/05 |
| 1 | Campbell 12-Ah battery | Installed 8/05 |
| 1 | Campbell PS12LA regulator | Installed 8/05 |
| 1 | Solar panel | Installed 8/05 |
| 1 | Campbell ENC 16/18 enclosure | Installed 8/05 |
| 2 | MRC soil temperature probes | Installed 8/05 |
| 1 | Campbell 107 air temperature sensor  With radiation shield | Installed 8/05 |
| 1 | Campbell CM6 Tripod | Installed 8/05  Provided by Fritz Nelson |

**HISTORY:**

August 12, 2005: Station initiated. Two MRC probes and one air temp (2 m) were installed and wired to a CR10X-2M data logger. The enclosure was mounted onto a tripod with station AK006. Clock was set to Alaska savings. The AM and PM are reversed and need to be corrected next time, and the data adjusted accordingly. MRC probe #1 was installed using a hand auger and ice pick bar. The second MRC probe was not installed, but was connected to the datalogger and put in MRC shipping container and taped to the tripod. Probe #2 was collecting data. It will be installed next time with an electric ice drill. All sensors were collecting data.

August 14, 2006: Arrived at about 2:20 PM. Installed MRC probe #2 into the ground. MRC #1 had 7 cm of air space around the top (surface opening from installation); repacked soil and moss around probe. Swapped storage modules. Station clock was 12 hrs behind; reset clock. Internal battery was 3.1 volts. Added two desiccant packs. Everything seemed to be working OK.

August 08, 2007: Swapped storage modules. MRC #1 was 2 above the ground. MRC #2 was 6 cm above the ground; repacked soil and moss around probe. Station clock was about 3 min ahead. Lithium battery was 3.15 volts. Added two desiccant packs. Everything seemed to be working OK.

August 14, 2008: Arrived at site about 4:30 PM. Swapped storage modules. Lithium battery was 3.17 volts. Station clock was 3.5 minutes ahead; reset the clock. Everything seems to be working okay. MRC #1 was out of the ground 9 cm and MRC #2 was out of the ground 3.5 cm (could not push them back in). Spray painted the enclosure with tundra color paint to reduce the visibility of the station. Bring white electrical tape for next time.

August 14, 2009: Arrived Swapped storage modules and downloaed data from datalogger. Lithium battery was 3.14 volts. Station clock was <1 minute ahead. Everything seems to be working okay. MRC #1 was out of the ground 12 cm and MRC #2 was out of the ground 3.5 cm (could not push them back in). Added one desiccant pack. Bring white electrical tape for next time.

August 13, 2010: Swapped storage modules and downloaded datalogger with RECON. Lithium battery was 3.22 volts; battery was 13.70 volts. Station clock was 1.5 minutes behind; reset the clock. Everything seems to be working okay. MRC #1 was out of the ground 15.5 cm and MRC #2 was out of the ground 2.5 cm (could not push them back in). Air temp was 15.4ºC with light winds.

August 12, 2012: Swapped storage modules and downloaded data to RECON. Lithium battery was 3.26 volts; battery was 13.68 volts. Station clock was 2 minutes ahead; reset the clock. Everything seems to be working okay. MRC #1 was out of the ground 18 cm and MRC #2 could not be found (could not push them back in). Air temp radiation shield was damaged. Sensor wire was severed and was lying on the ground. Repaired the cable and air temp was reading 12.4ºC. Bring 107 and radiation shield for next time. Re-tapped (with electrical tape) the cable insertion point on the enclosure (lost some duct seal putty).

August 14, 2014: Swapped storage modules.

August 16, 2015: AEK & FEN at about 3:45 pm. Swapped storage modules. Air temperature module appears cut??? MRC #1 is out of ground--Min 20 cm, max 22, also 20 and 21 cm. Solid, no hole. Added flag to help locate next year. Could not locate MRC #2.

August 15, 2016: Swapped storage modules.

August 15, 2017: Swapped storage modules. Replaced the air temperature sensor and shield.

August 16, 2018: Swapped storage modules.

August 13, 2019: Swapped storage modules. MRC probe #1 height: 20 cm, 20 cm, 21 cm, 22 cm - probe was solid in ground.

August 13, 2021: Swapped storage modules at 14:12 AST. MRC probe #1 height: 20 cm and 21 cm above ground. MRC was solidly in ground.

August 18, 2022: Swapped storage modules at 1352. The MRC was 21, 20 cm high and was firmly in the ground.  The top box was still moldy.

August 13, 2023: Swapped storage modules at 1225 AST. The MRC was 22 cm above ground and was firmly in the ground.

**DATA:**

DATALOGGER OUTPUT:

| COL | OUTPUT | UNITS | LOCATION | SENSOR | COMMENTS |
| --- | --- | --- | --- | --- | --- |
| 1 | Station ID | N/A | N/A | Campbell CR10X | 009 |
| 2 | Year | N/A | N/A | Campbell CR10X |  |
| 3 | Day | N/A | N/A | Campbell CR10X |  |
| 4 | Time | N/A | N/A | Campbell CR10X | AK savings time |
| 5 | Battery | Volts | Enclosure | Campbell CR10X |  |
| 6 | Int Battery | Volts | Datalogger | Campbell CR10X |  |
| 7 | Int Temp | °C | Datalogger | Campbell CR10X |  |
| 8 | Air Temp | °C | 2 m | Campbell 107 |  |
| 9 | Soil Temp | °C | Soil 0 cm | MRC probe #1 |  |
| 10 | Soil Temp | °C | Soil 5 cm | MRC probe #1 |  |
| 11 | Soil Temp | °C | Soil 10 cm | MRC probe #1 |  |
| 12 | Soil Temp | °C | Soil 15 cm | MRC probe #1 |  |
| 13 | Soil Temp | °C | Soil 20 cm | MRC probe #1 |  |
| 14 | Soil Temp | °C | Soil 25 cm | MRC probe #1 |  |
| 15 | Soil Temp | °C | Soil 30 cm | MRC probe #1 |  |
| 16 | Soil Temp | °C | Soil 40 cm | MRC probe #1 |  |
| 17 | Soil Temp | °C | Soil 50 cm | MRC probe #1 |  |
| 18 | Soil Temp | °C | Soil 60 cm | MRC probe #1 |  |
| 19 | Soil Temp | °C | Soil 70 cm | MRC probe #1 |  |
| 20 | Soil Temp | °C | Soil 80 cm | MRC probe #1 |  |
| 21 | Soil Temp | °C | Soil 95 cm | MRC probe #1 |  |
| 22 | Soil Temp | °C | Soil 120 cm | MRC probe #1 |  |
| 23 | Soil Temp | °C | Reference | MRC probe #1 |  |
| 24 | Soil Temp | °C | Soil 0 cm | MRC probe #2 | Installed 2006 |
| 25 | Soil Temp | °C | Soil 5 cm | MRC probe #2 | Installed 2006 |
| 26 | Soil Temp | °C | Soil 10 cm | MRC probe #2 | Installed 2006 |
| 27 | Soil Temp | °C | Soil 15 cm | MRC probe #2 | Installed 2006 |
| 28 | Soil Temp | °C | Soil 20 cm | MRC probe #2 | Installed 2006 |
| 29 | Soil Temp | °C | Soil 25 cm | MRC probe #2 | Installed 2006 |
| 30 | Soil Temp | °C | Soil 30 cm | MRC probe #2 | Installed 2006 |
| 31 | Soil Temp | °C | Soil 40 cm | MRC probe #2 | Installed 2006 |
| 32 | Soil Temp | °C | Soil 50 cm | MRC probe #2 | Installed 2006 |
| 33 | Soil Temp | °C | Soil 60 cm | MRC probe #2 | Installed 2006 |
| 34 | Soil Temp | °C | Soil 70 cm | MRC probe #2 | Installed 2006 |
| 35 | Soil Temp | °C | Soil 80 cm | MRC probe #2 | Installed 2006 |
| 36 | Soil Temp | °C | Soil 95 cm | MRC probe #2 | Installed 2006 |
| 37 | Soil Temp | °C | Soil 120 cm | MRC probe #2 | Installed 2006 |
| 38 | Soil Temp | °C | Reference | MRC probe #2 | Installed 2006 |

DATA PROCESSING ALGORITHMS:

DATA STORAGE AND ACCESS:

**SOILS:**

CLASSIFICATION:

**LANDSCAPE:**

SLOPE:

ASPECT:

ELEVATION:

**VEGETATION:**  Moss, grass, and small annual flowers.

GROUND COVER:

CANOPY COVER:

**COMMENTS:**

**NOTES FOR NEXT STATION VISIT:** Routine maintenance.