

Climate Station Maintenance in the Arctic Inventory and Monitoring Network

2026 Summary



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Photo

Ella Creek climate station 2026 in Bering Land Bridge National Preserve. NPS/Pam Sousanes

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Abstract

The mission of the Arctic Network Inventory and Monitoring Program (ARCN) is to collect, compile and synthesize scientific information about the Arctic Network of parks to manage park resources unimpaired for the enjoyment of future generations. The Inventory and Monitoring (I&M) Program is a major component of the National Park Service's (NPS) strategy to improve park management through greater reliance on scientific information.

To better understand climate variation as well as long-term changes in park ecosystems, seventeen I&M climate stations have been installed in the five ARCN parks. The objective of the climate monitoring program is to monitor and record weather conditions at representative locations throughout ARCN to identify long and short-term trends, provide reliable climate data to other researchers, and to participate in large scale climate monitoring and modeling efforts beyond park boundaries. Seventeen I&M stations and were maintained by NPS I&M Staff. The Kelly snow telemetry (SNOTEL) station was maintained by NRCS staff. Five additional fire RAWS were visited by the Alaska Fire Service in cooperation with NPS staff in Anchorage.

This report summarizes the 2026 field season and includes current sensor metadata. These annual operations reports are compiled each year along with other deliverables so that it is clear how the data were collected. For more information, including data access, weather summaries, and annual reports please visit the ARCN climate website at <https://www.nps.gov/im/arcn/climate.htm>.

List of Acronyms

Ah	Amp hour
AKDST	Alaska Daylight Savings Time
AKRO	Alaska Regional Office
ARCN	Arctic Network
AS350	A-star 350 Helicopter
AT	Air Temperature
AT-RH	Air Temperature- Relative Humidity
BELA	Bering Land Bridge National Preserve
C185	Cessna 185 airplane
C206	Cessna 206 airplane
CAKR	Cape Krusenstern National Monument
CS	Campbell Scientific
DCS	Data Collection System
DLP	Data Logger Program
FTS	Forest Technology Systems
GAAR	Gates of the Arctic National Park and Preserve
GOES	Geostationary Operational Environmental Satellite
GPS	Global Positioning System
I&M	Inventory and Monitoring
KOVA	Kobuk Valley National Park
LED	Light-Emitting Diode
NESDIS	National Environmental Satellite, Data, and Information Service
NIFC	National Interagency Fire Center
NOAT	Noatak National Park and Preserve

List of Acronyms (continued)

NPS	National Park Service
NRCS	Natural Resource Conservation Service
OAS	Office of Aviation Services
RAWS	Remote Automated Weather Station
RG-TB	Rain Gauge - Tipping Bucket
SD	Snow Depth
SDI	Serial Digital Interface
SNOTEL	Snow Telemetry
SR	Solar Radiation
ST	Soil Temperature
W	Watt
WEAR	Western Arctic National Parklands
WFMI	Wildland Fire Management Information
WRCC	Western Regional Climate Center
WS-WD	Wind Speed - Wind Direction
YUGA	Collective administrative unit for Yukon-Charley Rivers National Preserve and Gates of the Arctic National Park and Preserve

Climate Station Locations

For the 2026 field season, the Arctic Network (ARCN) continued its climate monitoring program by maintaining climate stations within the network (Figure 1, Table 1). The park units within ARCN include Gates of the Arctic National Park and Preserve (GAAR), Bering Land Bridge National Preserve (BELA), Cape Krusenstern National Monument (CAKR), Kobuk Valley National Park (KOVA), and Noatak National Preserve (NOAT). Maintenance includes downloading data, updating software and datalogger programs, replacing sensors, and troubleshooting problems. Maintenance is necessary to provide continuous, high-quality meteorological data. There are additional weather and climate stations in the parks that are operated by other state and federal agencies with specific objectives. Remote automated weather stations (RAWS) deployed as part of the NPS fire program record real-time weather data for fire management. NRCS snow telemetry (SNOTEL) stations record weather and snow information. It is in the best interest of the ARCN program to cooperate with these and other entities by assisting in station maintenance; a total of 24 sites are typically maintained annually, including 17 ARCN RAWS, 5 fire RAWS and 2 SNOTEL stations. The annual deliverables for the 2026 data year are available at:

<https://irma.nps.gov/DataStore/Reference/Profile/2319031>

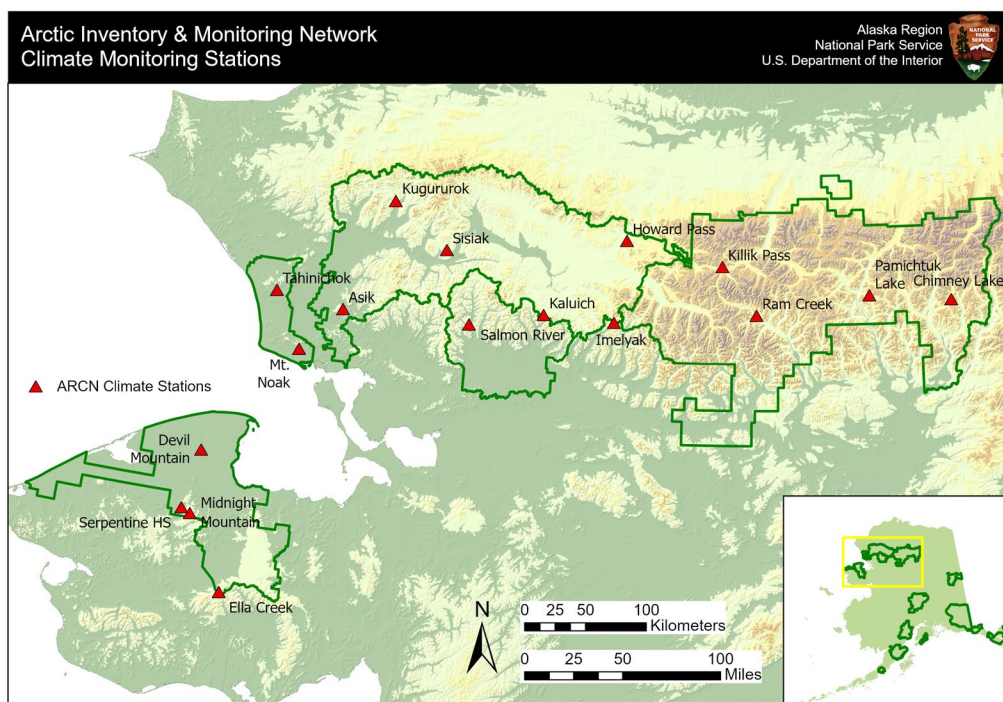


Figure 1. Locations of ARCN climate stations.

Table 1. Locations of ARCN climate stations maintained in 2026 field season.

Station Name	Station Type	Latitude (N)	Longitude (W)	Elevation (ft)	Park
Chimney Lake	ARCN RAWS	67° 42.853'	150° 35.100'	3780	GAAR
Killik Pass	ARCN RAWS	67° 59.007'	155° 00.782'	4355	GAAR
Pamichtuk Lake	ARCN RAWS	67° 45.977'	152° 09.854'	3294	GAAR
Ram Creek	ARCN RAWS	67° 37.458'	154° 20.678'	4110	GAAR
Asik	ARCN RAWS	67° 28.493'	162° 15.986'	1329	NOAT
Howard Pass	ARCN RAWS	68° 09.361'	156° 53.749'	2062	NOAT
Imelyak	ARCN RAWS	67°32.689'	157° 04.646'	3620	NOAT
Kaluich	ARCN RAWS	67° 34.403'	158° 25.903'	2486	NOAT
Kavet Creek RAWS	Fire RAWS	67° 08.317'	159° 02.617'	235	KOVA
Kelly RAWS	Fire RAWS	67° 55.778'	162° 17.775'	412	NOAT
Kelly SNOTEL	SNOTEL	67° 55.780'	162° 17.410'	310	NOAT
Kugururok	ARCN RAWS	68° 19.003'	161° 29.518'	908	NOAT
Noatak RAWS	Fire RAWS	68° 04.222'	158° 42.224'	1040	NOAT
Salmon River	ARCN RAWS	67° 27.594'	159° 50.475'	1262	KOVA
Sisiak	ARCN RAWS	67° 59.702'	160° 23.739'	1823	NOAT
Tahinichok	ARCN RAWS	67° 33.009'	163° 34.031'	966	CAKR
Mt. Noak	ARCN RAWS	67° 08.486'	162° 59.672'	809	CAKR
Devil Mountain	ARCN RAWS	66° 16.553'	164° 31.851'	285	BELA
Ella Creek	ARCN RAWS	65° 16.289'	163° 48.681'	2258	BELA
Hoodoo Hills RAWS	Fire RAWS	65° 35.711'	163° 24.671'	1550	BELA
Midnight Mountain*	ARCN RAWS	65° 49.220'	164° 32.565'	2267	BELA
Quartz Creek RAWS	Fire RAWS	65° 24.429'	164° 39.444'	276	BELA
Serpentine	ARCN RAWS	65° 51.138'	164° 42.469'	518	BELA

**No site visit in 2026 – weather related.*

Climate Station Maintenance Summaries

This section describes the maintenance details of seventeen climate stations in ARCN organized by site visit date. This work is being implemented based on the ARCN climate vital sign protocol implementation plan (Sousanes et al. 2017a) and updated standard operating procedures (Sousanes et al. 2017b). The 2026 protocol set including current SOPs are available at:

<https://irma.nps.gov/DataStore/Reference/Profile/2314011>.

See Appendix A for detailed logistics. Appendices B and C provide sensor specifications and metadata.

Gates of the Arctic National Park and Preserve

Chimney Lake

Date/Time: 5/25/2026 12:15

Personnel: Ken Hill, Pam Sousanes

Logistics: A-star helicopter – Temsco – N31NS – Erik Steinbauer

Weather: low 40s

Damage: none

Sensors replaced:

Removed AT/RH EE181 #2307C; SR #43080

Installed AT/RH EE181 #011692; SR #43093

Other hardware replaced: None

Additional Comments: Site and fence looked great on arrival.

Potential Data Issues: none

To Do:



Figure 2. Chimney Lake climate station May 25, 2026.

Killik Pass

Date/Time: 5/24/2026 17:30

Personnel: Ken Hill, Pam Sousanes

Logistics: A-star helicopter – Temsco – N31NS – Erik Steinbauer

Weather: upper 30s

Damage: Major bear damage.

Sensors replaced:

Removed AT/RH EE181 #002DA, Li200X #63675, WS-WD RM Young #105730, TB
TE525 #9748-0224

Installed AT/RH EE181 #038123, SR Li200X #46239, WS-WD RM Young #174241, TB
TE525 #40197-906

Other hardware replaced: Solar panel cables.

Additional Comments: Severe damaged, soils, wind, rain, and solar sensors all had damaged cables.

Potential Data Issues:

- No data from 9/3/2025 through site visit on 5/26/2026 for damaged sensors.

To Do:

1. Install a bear fence.
2. Consider new location for soil sensors if/when there is another replacement. Current location may be under water during snowmelt/early summer.

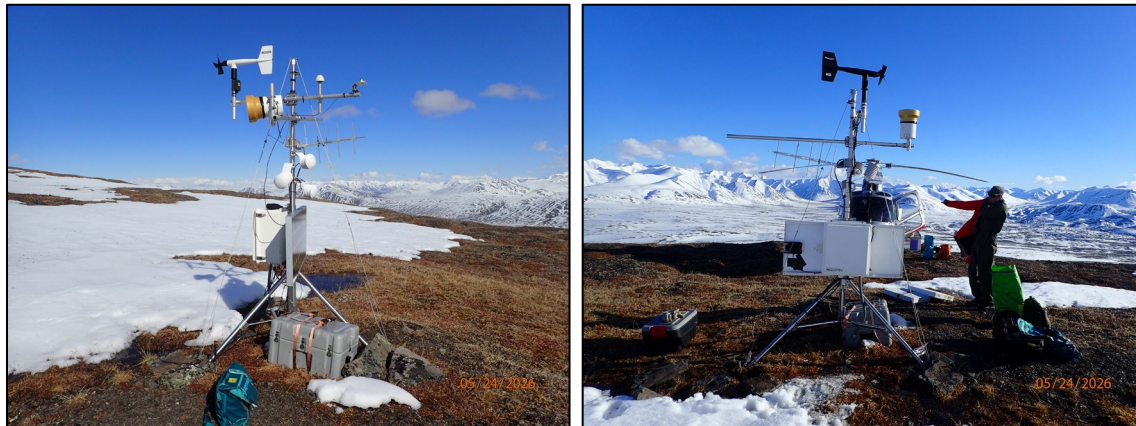


Figure 3. Killik Pass climate station May 24, 2026. Bear damage, cables pulled out, crossarm out of level (left) and after site visit (right).

Pamichtuk Lake

Date/Time: 5/25/2026 11:15

Personnel: Ken Hill, Pam Sousanes

Logistics: A-star helicopter – Temsco – N31NS – Erik Steinbauer

Weather: high 30s

Damage: None.

Sensors replaced:

Removed AT/RH EE181 #086CD

Installed AT/RH EE181 #03057

Other hardware replaced: SD memory card in CC5MPX camera replaced.

Additional Comments: Station looked good.

Potential Data Issues: none

To Do:

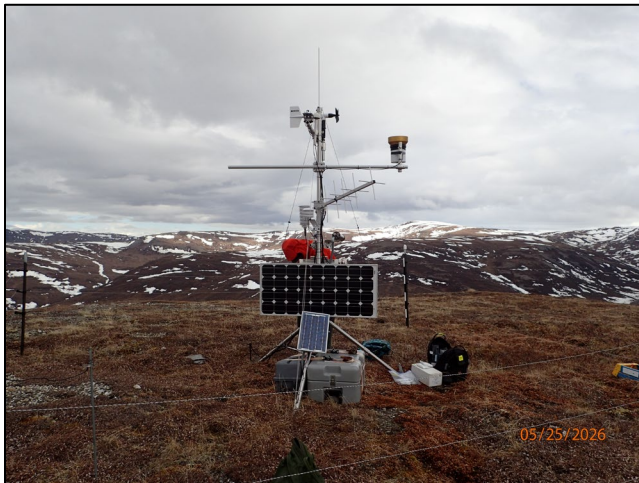


Figure 4. Pamichtuk Lake climate station May 25, 2026.

Ram Creek

Date/Time: 5/24/2026 21:00

Personnel: Ken Hill, Pam Sousanes

Logistics: A-star helicopter – Temsco – N31NS – Erik Steinbauer

Weather: upper 30s

Damage: Wind, precip, and 109_1 cable severed.

Sensors replaced:

Removed AT/RH EE181 #1501E3, Li200X #102541, WS-WD RM Young #90934, TB
TE525 #30959-702

Installed AT/RH EE181 #022892, SR Li200X #43089, WS-WD RM Young #174225, TB
TE525 #unknown

Other hardware replaced: Swapped snow depth sensor SR50a

Additional Comments: Repaired electric fence.

Potential Data Issues: Bad data, cables severed: WS-WD, ATF_109_1, and RN-IN 3/24/2026 – site visit.

To Do:

1. Edit program to log AT1H (hourly max) and AT1L (hourly min) on replicate sensors (109_2 and EE181. Currently max/min are only logged on 109_1 sensor. This is probably true for all CR1000x programs across sites.

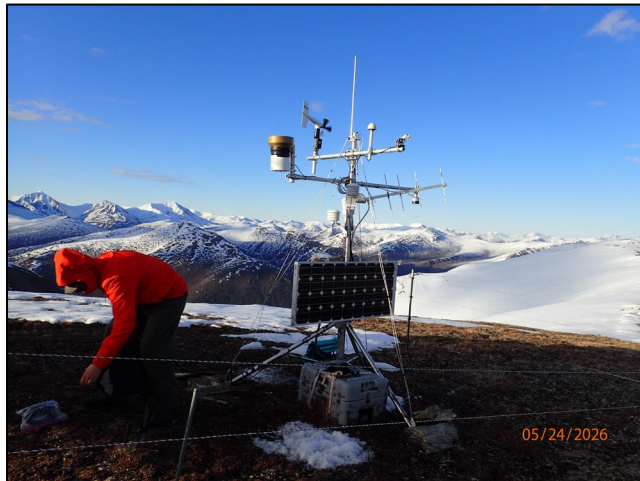


Figure 5. Ram Creek climate station May 24, 2026.

Noatak National Preserve

Asik

Date/Time: 5/21/2026 19:30

Personnel: Pam Sousanes, Ken Hill

Logistics: A-star helicopter – Temsco – N31NS – Noah Lieninger

Weather: upper 40s

Damage: None.

Sensors replaced:

Removed AT/RH EE181 #0342BC

Installed AT/RH EE181 # 3088D9

Other hardware replaced: Repaired electric fence, replaced a few insulators.

Additional Comments: Station looked good. Fence looked good, minor repairs.

Potential Data Issues:

None

To Do:

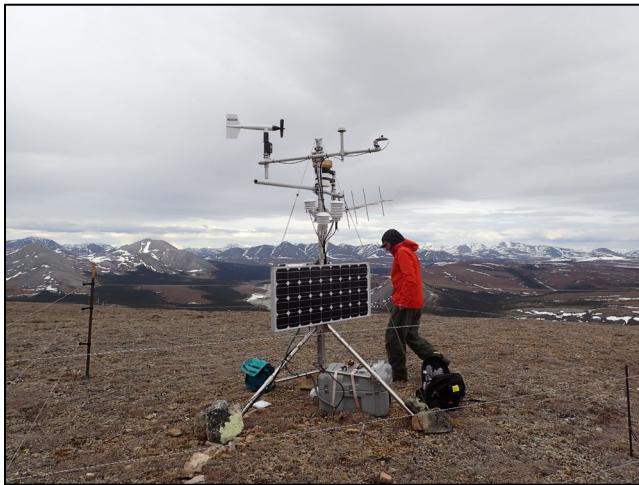


Figure 6. Asik climate station May 21, 2026.

Howard Pass

Date/Time: 5/24/2026 10:45

Personnel: Ken Hill, Pam Sousanes

Logistics: A-star helicopter – Temsco – N31NS – Erik Steinbauer

Weather: mid30s, 25 mph winds

Damage: Small 109 temperature shield missing some fins, left in place.

Sensors replaced:

Removed: AT/RH EE181 #, WS-WD 05108 #187771

Installed: AT/RH EE181 #01188D (installed and did not work, reinstalled old sensor #013910, WS-WD #160868

Other hardware replaced: None

Additional Comments: Station looked great. Fence was in good shape, no repairs necessary.

Potential Data Issues:

To Do:

1. Replace small 109 sensor shield
2. Monitor primary air temperature sensor 109_1. Many errors in winter 2025-2026.
Consider replacing 109_1 in 2026 and/or using 109_2 as primary data stream for WC_G.
3. Track/test AT/RH EE181 #01188D

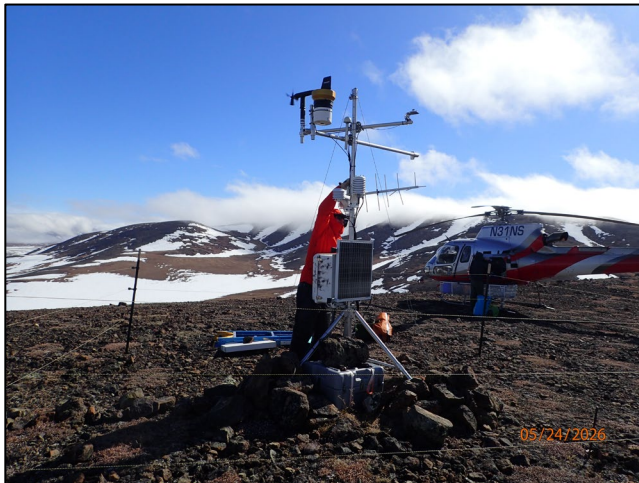


Figure 7. Howard Pass climate station May 24, 2026.

Imelyak

Date/Time: 5/24/2026 14:20

Personnel: Ken Hill and Pam Sousanes

Logistics: A-star helicopter – Temsco – N31NS – Erik Steinbauer

Weather: high 30s

Damage: Solar radiation cable severed, EE 181 AT/RH out of shield and hanging.

Sensors replaced:

Removed: AT/RH EE181 #029406, SR Li200X #52878,

Installed: AT/RH EE181 #0343e4, SR Li200X #68923

Other hardware replaced: Replaced EE181 cable. Replaced several Yagi elements. Replaced large solar panel with 10 W panel.

Additional Comments: Station listing to the north. Leveled SR/WS crossarm to compensate.

Potential Data Issues: AT/RH and SR check dates

To Do:

1. Replace Yagi antenna

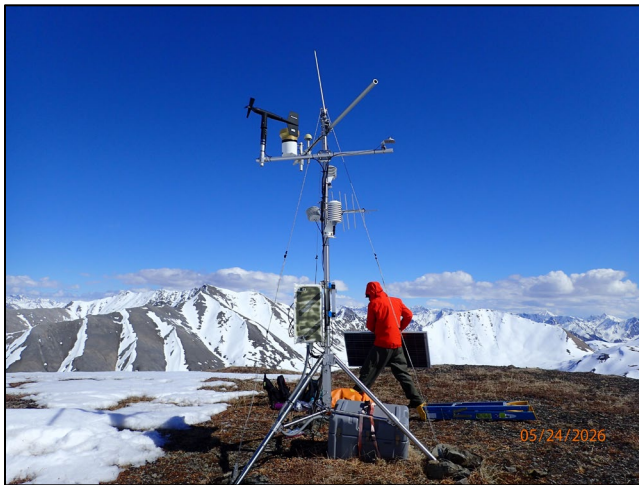


Figure 8. Imelyak climate station May 24, 2026.

Kaluich

Date/Time: 5/24/2026 1230

Personnel: Ken Hill, Pam Sousanes

Logistics: A-star helicopter – Temsco – N142AE – Erik Steinbauer

Weather: mid 30s

Damage:

Sensors replaced:

Removed: AT/RH EE181 #13975D, SR Li200X #60173, WS-WD RM Young #160367

Installed: AT/RH EE181 #1351AC, SR Li200X #64395, WS-WD RM Young #160988

Other hardware replaced: Replaced 1 Yagi element

Additional Comments: Repaired fence. Station looked good.

Potential Data Issues:

To Do:

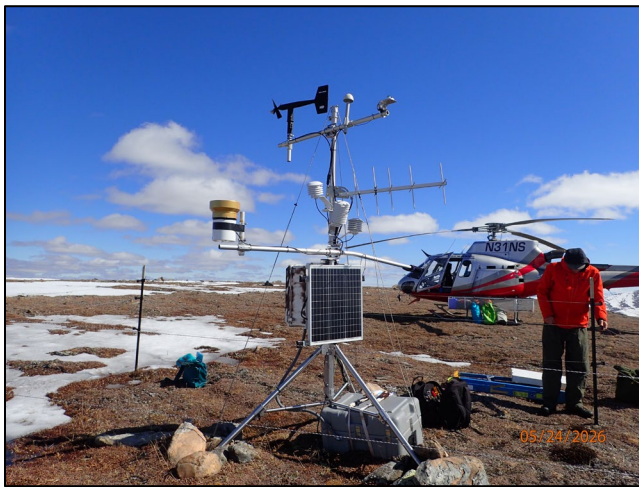


Figure 9. Kaluich station at end of site visit May 24, 2026.

Kugururok

Date/Time: 5/21/2026 14:00

Personnel: Pam Sousanes and Ken Hill

Logistics: A-star helicopter – Temsco – N31NS – Noah Lieninger

Weather: mid 50s

Damage: Fence solar charger glass is cracked.

Sensors replaced:

Removed AT/RH EE181 #207AA

Installed AT/RH EE181 #12734B

Other hardware replaced: none.

Additional Comments: Swapped SD memory card in CC5MPX camera. Station looked good. Fence was perfect.

Potential Data Issues:

To Do:

Bring spare RS-232 cable to leave at site

Replace fence solar charger

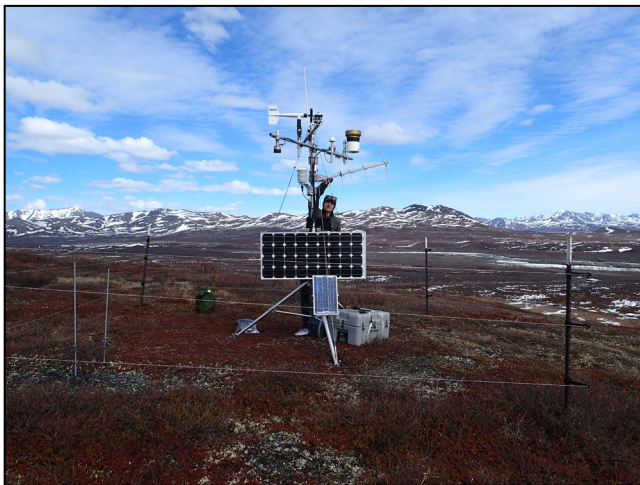


Figure 10. Kugururok climate station May 24, 2026.

Sisiak

Date/Time: 5/21/2026 15:20

Personnel: Ken Hill and Pam Sousanes

Logistics: A-star helicopter – Temsco – N31NS– Noah Lieninger

Weather: upper 40s

Damage: Bear or ice damage. Station twisted, SR and WS crossarm out of level

Sensors replaced:

Removed AT/RH EE181 #0480A2, SR Li200X #64395, CR1000 #20018, TX321 #1810, TB # unknown

Installed AT/RH EE181 #214139, SR Li200X #64359, CR1000X #62550, TX325 #300003097, TB #35958-505

Other hardware replaced: Replaced 75-watt solar panel with 10 W solar panel

Additional Comments: Fence poly wire was strung out on arrival – repaired. Station turned back in place and crossarm leveled. Had issue with tipping bucket wiring – kept accumulating on data logger with no tips. Swapped sensor issue persisted. Swapped data logger and it was resolved. Issue with CR1000 datalogger and the P2 port – unknown cause. Tightened guy wires. Many elements on Yagi were bent or taped.

Potential Data Issues: RNIN erroneous tips April 26-May 21, 2026. SR and WS-WD out of level upon arrival at site visit.

To Do:

1. Replace Yagi antenna.
2. Check solar panel charging over the winter – is a 10-W panel enough?

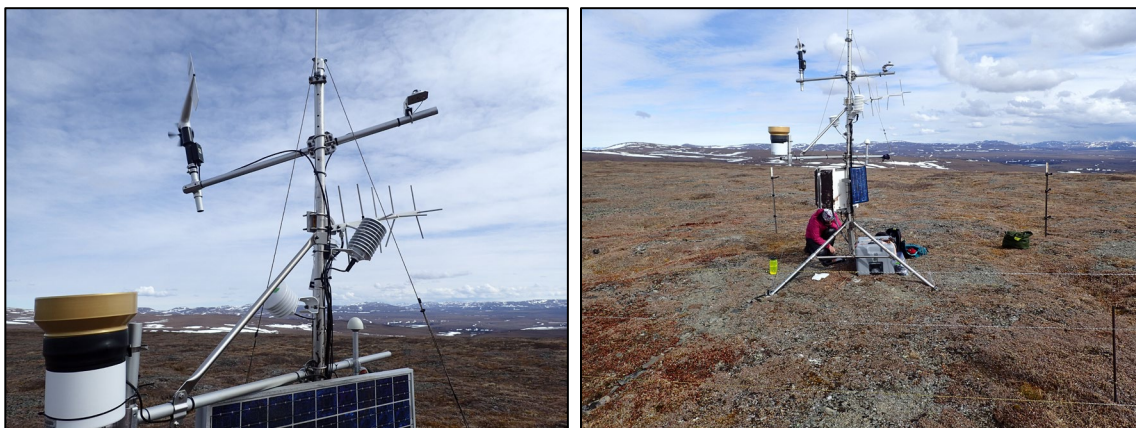


Figure 11. Sisiak climate station May 21, 2026. The upper crossarm was out of level (left). The station after site visit (right).

Kelly SNOTEL

The Kelly SNOTEL was maintained on 5/22/2026 by Daniel Fisher (NRCS). Ken Hill assisted Daniel and Fleur Nicklen. Fleur and Ken installed 8 dendrometers near the Kelly RAWS site. Pam traveled with helicopter to do Tahinichok maintenance and then returned to Kelly. The Snotel site was repaired, and sensors were replaced as needed according to the SNOTEL network protocols (National Engineering Handbook 2015). The precipitation gages were flushed, and 10 gallons of fresh antifreeze liquid added for the winter. The electric fence was repaired. Ken assisted with installations of soil moisture sensors, due to a hasty retreat due to incoming weather the programming was not complete and sensors are not collecting data.

Fire RAWS stations: Noatak RAWS and Kelly RAWS

Annual maintenance was completed at the Noatak (5/30/2026) and Kelly (5/8/2026) RAWS by the Alaska Fire Service according to WFMI records. Details are available on WFMI.

To Do:

For 2027: Contact Alaska Fire Service staff early in the spring before their maintenance run to ensure they have the necessary sensors and to request downloaded data files.

Kobuk Valley National Park

Salmon River

Date/Time: 5/23/2026

Personnel: Pam Sousanes and Ken Hill

Logistics: A-star helicopter – Temsco – N31NS– Erik Steinbauer

Weather: mid 40s

Damage: Yagi antenna pointing at ground on arrival. Fence charger fell off post, but still working

Sensors replaced:

Removed: AT/RH EE181 #22892; SR Li200X #90546

Installed: AT/RH EE181 #11910A, SR Li200x #14047

Other hardware replaced: Replaced Yagi antenna. Replaced the 2nd 12 V battery that was moved to charge camera in 2025.

Additional Comments: Secured solar fence charger to post – polywire and rest of fence looked OK. Swapped SD camera card.

Potential Data Issues:

To Do:

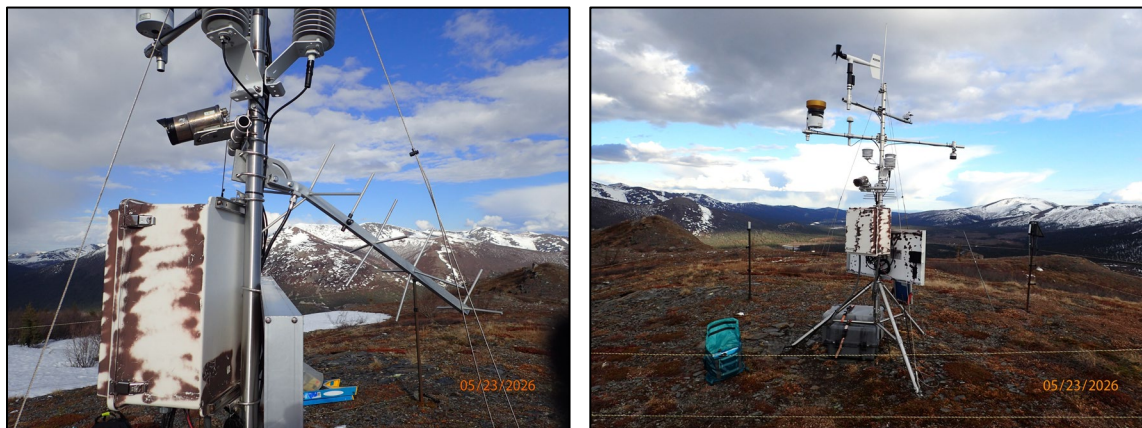


Figure 12. Salmon River climate station on May 23, 2026. Yagi antenna pointing at ground (left). Photo after site visit (right).

Fire RAWS stations: Kavet Creek

Annual maintenance was completed at the Kavet Creek fire RAWS by the Alaska Fire Service on 5/15/2026 according to WFMI records. Details are available at WX-Weather. All soil temperature sensors working as of 6/22/2026. Contact Alaska Fire Service in early spring to request station download.

Cape Krusenstern National Monument

Mt. Noak

Date/Time 5/23/2026 18:05

Personnel: Pam Sousanes and Ken Hill

Logistics: A-star helicopter – Temsco – N31NS – Erik Steinbauer

Weather: upper 40s

Damage: Water, condensation in camera lens cover.

Sensors replaced:

Removed AT/RH EE181 #270904

Installed AT/RH EE181 #0119D3

Other hardware replaced:

Additional Comments: SD memory card on CC5MPX camera swapped. Condensation in camera lens cover - removed and dried and desiccant was added. Station looked good. Station still has a slight tilt to the southwest – not much worse than last year. Fence polywire was strung out on arrival and repaired. Overall, station looked great.

Potential Data Issues: None

To Do:

1. Monitor station tilt.
2. Bring more camera desiccant - replace every year at this site.
3. Consider reinstalling snow depth sensor. 2015-2020 data do show some variability in accumulation between years.

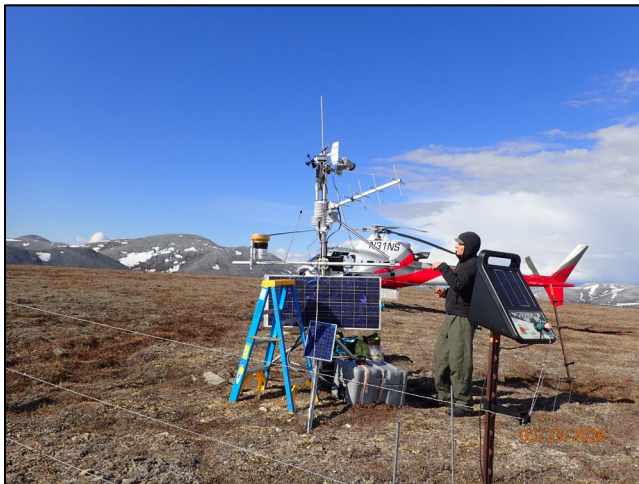


Figure 13. Mt. Noak climate station May 23, 2026.

Tahinichok

Date/Time: 5/22/2026 13:45

Personnel: Pam Sousanes

Logistics: A-star helicopter – Temsco – N31NS – Erik Steinbauer

Weather: low 40s

Damage: Tipping bucket off crossarm and cable severed. Yagi antenna azimuth off by a few degrees

Sensors replaced:

Removed AT/RH EE181 #05354F, TB#97948-0224

Installed AT/RH EE181 #073117, TB# unknown

Other hardware replaced: None.

Additional Comments: Enclosure and solar panel had shifted – moved back into place. Realigned Yagi to 13° azimuth. Fence posts had heaved and were put back in place – should replace 2 posts. Tightened guy wires Station is still listing to the south.

Potential Data Issues: RNIN 8/25/2025-5/22/2026.

To Do:

1. Monitor station tilt – adjust or move legs if necessary; bring Geoblock for tripod legs.
2. Replace 2 fence T-posts
3. Replace large solar panel with smaller one.



Figure 14. Tahinichok climate station with missing rain gauge (left) and after site visit (right) on May 22, 2026.

Bering Land Bridge National Preserve

Devil Mountain

Date/Time: 5/20/2026 10:45

Personnel: Pam Sousanes and Ken Hill

Logistics: A-star helicopter – Temsco – N31NS – Noah Lieninger

Weather: low 40s

Damage: Wind sensor out of plumb by a few degrees.

Sensors replaced:

Removed AT/RH EE181 #0047DE

Installed AT/RH EE181 #08956F

Other hardware replaced: None

Additional Comments: Station looked good. Plumbed wind sensor that was slightly out of level.

Opted not to install soil sensors, since the site is not representative of the area.

Potential Data Issues: None

To Do:

1. Bring RS-232 cable to leave on site for easy connection to keypad.

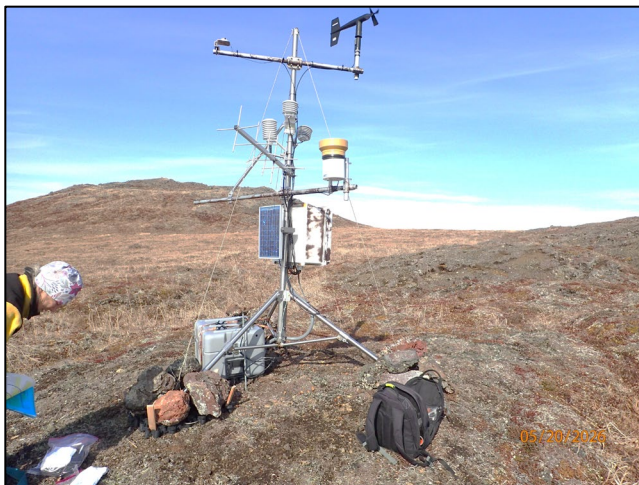


Figure 15. Devil Mountain climate station May 20, 2026.

Ella Creek

Date/Time: 5/21/2026

Personnel: Pam Sousanes and Ken Hill

Logistics: A-star helicopter – Temsco – N31NS – Noah Lieninger

Weather: upper 30s

Damage:

Sensors replaced: None

Other hardware replaced:

Additional Comments: Station looked great. Drained 1” of standing water in battery box.

To Do:

1. Bring drill for battery box drainage holes.



Figure 16. Ella Creek climate station May 21, 2026.

Midnight Mountain

Date/Time: No site visit in 2026 – bad weather

Personnel:

Logistics:

Weather:

Damage:

Sensors replaced:

Other hardware replaced:

Additional Comments:

Potential Data Issues:

To Do:

1. If/when possible, remove 75 W solar panel from site.
2. Replace solar panel wires.
3. Bring small spare battery in case of battery failure (no backup power source/ no transmissions).

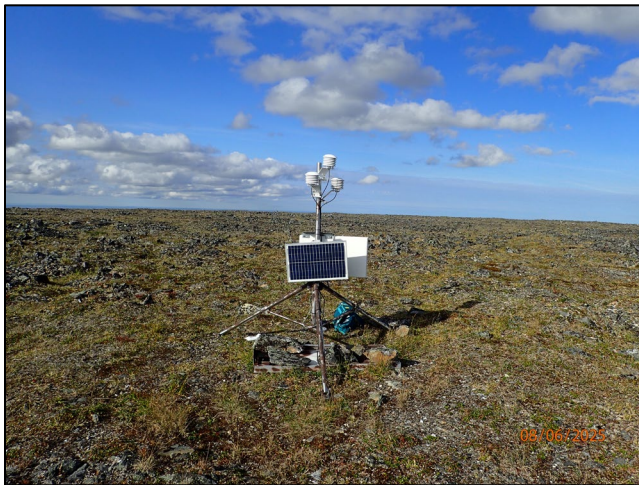


Figure 17. Last summer's photo of Midnight Mountain climate station August 6, 2025.

Serpentine Hot Springs

Date/Time: 5/20/2026

Personnel: Pam Sousanes & Ken Hill

Logistics: A-star helicopter – Temsco – N31NS – Noah Lieninger

Weather: mid 40s

Damage: STF and STF 4 soil sensor cables severed.

Sensors replaced:

Removed AT/RH EE181 #10094F, Li200x #89115, STF4 109 75 cm, 75 W solar panel

Installed AT EE181 #10237, Li200x #60144, STF1 at 10 cm, 10 W solar panel

Other hardware replaced:

Additional Comments: STF4 at 75 cm was not reinstalled (could not get deep enough with slide hammer). The 75 W solar panel was removed and replaced with a small 10 W panel. The SD memory card in the camera was swapped. There was some moisture in the CC5MPX camera. Condensation in camera lens cover was addressed and the desiccant was replaced.

Potential Data Issues:

STF and STF4 reading NAN 01-26-2026 0900 through site visit.

To Do:

1. Monitor battery voltage over winter (smaller solar panel). Consider a mid-range 50-W panel.
2. Try again to install STF4 at 75 cm?
3. Replace desiccant in CC5MPX each year due to ongoing condensation. Consider replacing the camera if fuzzy images continue up to 2027 field visit.

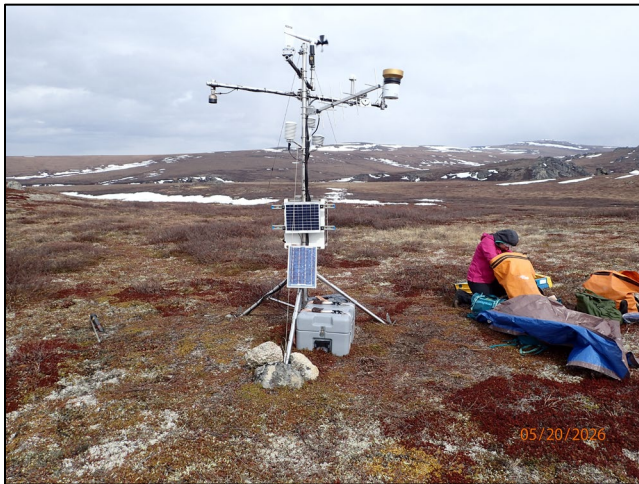


Figure 18. Serpentine climate station on May 20, 2026.

Fire RAWS stations: Hoodoo Hills and Quartz Creek

Annual maintenance was completed at the Hoodoo Hills fire RAWS on 05/21/2026 by the legacy Alaska Fire Service/Wildland Fire Service according to WFMI records. Major bear damage. Details are available on WFMI. Note: Hoodoo Hills is not transmitting as of 6/22/2026. Annual maintenance was completed at the Quartz Creek fire RAWS on 5/21/2026 by the legacy Alaska Fire Service/Wildland Fire Service according to WFMI records.

Literature Cited

National Engineering Handbook. 2015. United States Department of Agriculture Natural Resources Conservation Service. Part 622, Snow Survey and Water Supply Forecasting. Chapter 5, Maintenance and Calibration.

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Sousanes, P. J., K. Hill, M. Bower, W. F. Johnson, and S. D. Miller. 2017b. Standard operating procedure updates 2017: Central Alaska Network (CAKN) climate monitoring protocol. Natural Resource Report NPS/CAKN/NRR—2017/1504. National Park Service, Fort Collins, Colorado.

Appendix A. Logistics Summary

Nome, Kotzebue, Dahl Creek, Bettles Logistics May 19 – May 25, 2026

Personnel: Ken Hill and Pam Sousanes (ARCN physical scientists)

Pilot: Noah Lieninger (relief pilot) and Erik Steinbauer

Aircraft: N31NS. Temsco A-star on exclusive use contract with NPS eastern area fire program.

Fuel: Fairbanks (AFS Helibase), Galena (AFS), Nome (Crowley), Kotzebue (Crowley), Dahl Creek (NPS Jet A Tank), Bettles (Bettles Lodge). Confirm contact information, fuel quantity and key locks/codes before departure.

Helicopter Parking: Nome (transient aircraft parking near FAA/NWS building), Kotzebue (FWS hangar), Dahl Creek (main airport apron), Bettles (main airport apron).

Housing: Nome NPS Bunkhouse, Kotzebue NPS housing, Dahl Creek NPS - camped on airstrip (cabin occupied), Bettles NPS housing (did not use, stayed at Dahl Creek two nights). Confirm all housing arrangements well in advance of trip with local contacts.

Vehicles: NPS vehicles were used in Nome and Kotzebue. Arranged with local staff prior to trip.

Equipment staging: none

Narrative:

The ARCN sites in BELA, NOAT, CAKR, KOVA, and GAAR were maintained during one field trip. Another early season trip. Less snow coverage than 2025 and warmer, calmer conditions. Decent weather overall. The snow had melted out around the stations.

5/19: Hill, Sousanes, and Leininger depart Fairbanks LADD, fueled at Galena. Jet A from AFS – Hill/Nolan arranged in advance. Arrived in Nome midafternoon, GOV was left for our use by Koko Radford (BELA seasonal), fueled with Crowley truck that afternoon (907-304-2626). Aircraft parked at transient aircraft parking area.

5/20: Maintenance at Devil Mountain and Serpentine. Weather prevented us from getting to the Midnight Mountain site. Returned to Nome and fueled with Crowley.

5/21: Maintenance at Ella Creek then continued to Kotzebue. Fueled with Crowley fuel truck (907-412-0775). Continued maintenance at Kuguruok, Sisaik, and Asik. Returned to Kotzebue, aircraft at NPS/FWS hangar. Crew stayed at NPS bunkhouse. Erik Steinbauer, pilot, arrived on the evening jet with Daniel Fisher and Fleur Nicklen. Daniel stayed at hotel.

5/22: Noah Lieninger (relief pilot) flew out on the morning jet. Jet A from Crowley truck. First flight of day was Ken and Fleur to Kelly. Pilot returned to Kotzebue, transported Pam and Daniel and 5 jugs of antifreeze to Kelly. Dropped Daniel, then Pam continued with pilot to Tahinichok. Returned to Kelly to pick up crew. Weather moved in and crew needed to depart sooner than anticipated; Daniel could not finish final maintenance tasks including programming newly installed soil moisture sensors, however most of the work was completed. Fleur installed dendrometers near the Kelly RAWS site. All four crew on flight back from Kelly to Kotzebue. All stayed in Kotzebue for the evening.

5/23: Delayed in Kotzebue most of the day due to local fog. Departed Kotzebue at 17:45 for maintenance at Mt. Noak and Salmon River. Landed at Dahl Creek at 22:20. Camped at Dahl Creek on airstrip, a pilot from 40 Mile Air was using the bunkhouse and it was late and he was asleep. Long day. Both scheduled flights out of Kotzebue were canceled on 5/23 and Daniel and Fleur had to spend an extra night in Kotzebue.

5/24: Long day. Fueled at Dahl Creek and then departed for maintenance at Howard Pass, Kaluich, Imelyak, and Killik Pass, and Ram Creek. Finished up at 10:30 pm and spent another night at Dahl Creek. Dahl Creek Fuel: The Jet A tank filters had not been changed since 2025. The pilot did not want to use the fuel that was in the hose (that had been there over the winter) and we could not get the lock on the top of the tank off to cycle that fuel back into the tank, so we used an empty 55-gallon drum to purge the fuel out of the Jet A hose. The drum was labeled appropriately. Fuel tested clear and bright via visual inspection.

5/25: Fueled at Dahl Creek. Maintenance at Pamichtuk and Chimney Lake. Fueled in Bettles at Bettles Lodge. Returned to Fairbanks.

Appendix B. ARCN RAWS Station Specifications

Table B1. Sensor specifications.

Measurements	Model/Manufacturer/Item#	Purchased from:
Air Temperature 1/Relative Humidity	HMP-45C/HMP155/EE181 Temperature and Relative Humidity Probe	Campbell Scientific
Air Temperature 2	109 Temperature Probe (primary beginning summer 2016)	Campbell Scientific
Air Temperature 3	109 Temperature Probe (replaced ThermX in 2022)	Campbell Scientific
Wind Speed and direction	RM Young 05103/05103-45 (alpine version); or 05108 HD Alpine version	Campbell Scientific
Precipitation (summer rainfall)	Texas Electronics TE525WS Rain Gage	Campbell Scientific
Solar Radiation (incoming)	LI-COR LI200X / LI200RX	Campbell Scientific
Snow Depth	SR50A sonic ranging sensor	Campbell Scientific
Soil Temperature	107 Temperature Probe (3)	Campbell Scientific

Table B2. Datalogger specifications.

Datalogger	Purchased from:
CR1000-XT Measurement and Control System	Campbell Scientific
CR1000X-XT Measurement and Control System (started replacing CR1000s in 2023)	Campbell Scientific

Table B3. Satellite communication specifications.

Satellite Communication	Model/Item #	Purchased From:
GOES Satellite transmitter	TX321/TX325 GOES Transmitter	Campbell Scientific
GPS Antenna	GPS Antenna 3.3 V 17992	Campbell Scientific
GPS Cable	Antenna Cable 18017	Campbell Scientific
GOES Antenna	GOES 11 dBi YAGI RHCP Antenna 25316	Campbell Scientific
Coaxial Cable	Antenna Cable RG8 COAXNTN	Campbell Scientific

Table B4. Power specifications.

Power	Model	Purchased From:
Batteries	Concorde Sun Extender PV 1040 T 12 Volt 100 Amp hour (2)	ABS Alaskan
Solar Panel	60-75 watt	Varies
Battery Box	Pelican Hardigg Single Lid Case	AllCases
Charging Regulator	CH100/200 12V Charging Regulator	Campbell Scientific

Table B5. Hardware specifications.

Station Hardware - Item	Type/Model	Purchased from:
Tripod	CM110 10 ft. stainless-steel tripod w/grounding kit	Campbell Scientific
Guyline Kit	Guy Kit for Tripod 19239	Campbell Scientific
Crossarm – 4 ft.	CM204 Sensor crossarm with mounting hardware – 4ft	Campbell Scientific
Crossarm – 6 ft.	CM206 Sensor crossarm with mounting hardware – 6ft	Campbell Scientific
Enclosure with (2) 1.5" diameter holes and mounting hardware for tripod	Weather Resistant 16" x 18" enclosure ENC 16/18 – DC -MM	Campbell Scientific

Table B6. Electric fence specifications.

Electric Fence Parts	Type/Model	Purchased from:
Metal fence posts	6 ft. T-Posts	Various local vendors
T-Post Insulators	5-inch extender insulators	Various local vendors
Poly wire	200 ft. Poly-wire	Various local vendors
Solar fence charger	10-mile low impedance fence charger – various models	Various local vendors

Appendix C. ARCN RAWS Components by Climate Station

Table C1. Metadata for Asik climate station.

Station Name	Item	Model	Start Date
Asik	Antenna	25316 YAGI	6/4/2023
Asik	AT	109	6/8/2022
Asik	AT (2)	109	6/8/2022
Asik	AT-RH	EE181	5/21/2026
Asik	Battery	100 AH (x2)	7/13/2012
Asik	Cross arm	CM204	7/13/2012
Asik	Cross arm	CM206	7/13/2012
Asik	Datalogger	CR1000	7/13/2012
Asik	DLP	Asik2022	6/8/2022
Asik	GPS	17992 GPS	7/13/2012
Asik	RG-TB	TE525	7/13/2012
Asik	SD	SR50a	Out 2021
Asik	Solar Panel	75 W	7/13/2012
Asik	SR	Li200x	5/30/2025
Asik	ST -10 cm	107	7/13/2021
Asik	ST -20 cm	107	8/5/2019
Asik	ST -50 cm	107	7/13/2012
Asik	Tripod	CM106	7/13/2012
Asik	TX321	NESDIS ID 3961A40E	7/13/2021
Asik	WS/WD	5103	5/30/2025

Table C2. Metadata for Chimney Lake climate station.

Station Name	Item	Model	Start Date
Chimney Lake	Antenna	25316 YAGI	8/7/2012
Chimney Lake	AT	109	7/25/2016
Chimney Lake	AT (2)	109 (2)	6/6/2022
Chimney Lake	AT-RH	EE181	5/25/2026
Chimney Lake	Battery	100 AH (x2)	8/7/2012
Chimney Lake	Cross arm	CM204	8/7/2012
Chimney Lake	Cross arm	CM206	8/7/2012
Chimney Lake	Datalogger	CR1000X	5/29/2024
Chimney Lake	DLP	CHMA_2024	5/29/2024
Chimney Lake	Electric Fence	T-post, poly-wire solar charger	5/27/2013
Chimney Lake	GPS	17992 GPS	8/7/2012
Chimney Lake	RG-TB	TE525	8/7/2012
Chimney Lake	SD	SR50a	Out 2021
Chimney Lake	Solar Panel	75 W	8/7/2012
Chimney Lake	SR	Li200x	5/25/2026
Chimney Lake	ST -10 cm	107	8/7/2012
Chimney Lake	ST -20 cm	107	8/7/2012
Chimney Lake	ST -50 cm	107	8/7/2012
Chimney Lake	ST -75 cm	107	5/27/2013
Chimney Lake	Tripod	CM106	8/7/2012
Chimney Lake	TX-325	NESDIS ID 3961F472	5/29/2024
Chimney Lake	WS/WD	5103	5/29/2024

Table C3. Metadata for Devil Mountain climate station.

Station Name	Item	Model	Start Date
Devil Mountain	Antenna	25316 YAGI	5/23/2023
Devil Mountain	AT	109	6/1/2016
Devil Mountain	AT (2)	109 (2)	6/11/2022
Devil Mountain	AT-RH	EE181	5/20/2026
Devil Mountain	Battery	100 AH (x1)	6/11/2022
Devil Mountain	Cross arm	CM204	8/18/2011
Devil Mountain	Cross arm	CM206	8/6/2013
Devil Mountain	Datalogger	CR10000X	6/1/2024
Devil Mountain	DLP	DVLA_2024	6/1/2024
Devil Mountain	Electric Fence	T-post, poly-wire solar charger	Out 2019
Devil Mountain	Enclosure	ENC 16/18	8/18/2011
Devil Mountain	GPS	17992 GPS	8/18/2011
Devil Mountain	RG-TB	TE525	8/7/2025
Devil Mountain	SD	SR50a	Removed
Devil Mountain	Solar Panel	10 W	8/7/2025
Devil Mountain	SR	Li200x	8/7/2025
Devil Mountain	ST -10 cm	107	Removed
Devil Mountain	ST -20 cm	107	Removed
Devil Mountain	ST -50 cm	107	Removed
Devil Mountain	Tripod	CM106	8/18/2011
Devil Mountain	TX325	NESDIS ID 3961221A	6/1/2024
Devil Mountain	WS/WD	05108	8/7/2025

Table C4. Metadata for Ella Creek climate station.

Station Name	Item	Model	Start Date
Ella Creek	Antenna	25316 YAGI	Removed 2023
Ella Creek	AT	109	6/2/2016
Ella Creek	AT	109_2	5/22/2023
Ella Creek	AT-RH	HMP45	Removed 2023
Ella Creek	Battery	100 AH (x2)	9/18/2012
Ella Creek	Cross arm	CM204	Removed 2023
Ella Creek	Cross arm	CM206	Removed 2023
Ella Creek	Datalogger	CR1000	9/18/2012
Ella Creek	DLP	Ella_2025	8/7/2025
Ella Creek	Enclosure	ENC 16/18	9/18/2012
Ella Creek	GPS	17992 GPS	Removed 2023
Ella Creek	RG-TB	TE525	Removed 2023
Ella Creek	SD	SR50a	Removed 2023
Ella Creek	Solar Panel	20 W	5/22/2023
Ella Creek	SR	Li200x	Removed 2023
Ella Creek	ST -10 cm	107	Removed 2025
Ella Creek	ST -20 cm	107	Removed 2025
Ella Creek	ST -50 cm	107	Removed 2025
Ella Creek	Tripod	CM106	9/18/2012
Ella Creek	TX321	396182E2	Removed 2023
Ella Creek	WS/WD	5108-Alpine-HD	Removed 2023

Table C5. Metadata for Howard Pass climate station.

Station Name	Item	Model	Start Date
Howard Pass	Antenna	25316 YAGI	7/23/2018
Howard Pass	AT	109	5/24/2026
Howard Pass	AT	109_2	5/20/2023
Howard Pass	AT-RH	EE181	5/24/2026
Howard Pass	Battery	100 AH (x2)	7/7/2011
Howard Pass	Cross arm	CM204	7/7/2011
Howard Pass	Cross arm	CM206	7/7/2011
Howard Pass	Datalogger	CR1000	7/23/2018
Howard Pass	DLP	Howard2021	7/14/2021
Howard Pass	Electric Fence	T-post, poly-wire solar charger	8/5/2020
Howard Pass	Enclosure	ENC 16/18	7/7/2011
Howard Pass	GPS	17992 GPS	7/7/2011
Howard Pass	RG-TB	TE525	7/7/2011
Howard Pass	SD	SR50a	Removed
Howard Pass	Solar Panel	75 W	5/20/2023
Howard Pass	SR	Li200x	5/31/2025
Howard Pass	ST -10 cm	107	7/14/2021
Howard Pass	ST -20 cm	107	5/20/2023
Howard Pass	ST -50 cm	107	7/26/2016
Howard Pass	Tripod	CM106	7/7/2011
Howard Pass	TX321	NESDIS ID 39617266	8/5/2020
Howard Pass	WS/WD	5108-Alpine-HD	5/24/2026

Table C6. Metadata for Imelyak climate station.

Station Name	Item	Model	Start Date
Imelyak	Antenna	25316 YAGI	6/11/2019
Imelyak	AT	109	7/26/2016
Imelyak	AT (2)	109 (2)	6/8/2022
Imelyak	AT-RH	EE181	5/24/2026
Imelyak	Battery	100 AH (x2)	7/6/2011
Imelyak	Cross arm	CM204	7/6/2011
Imelyak	Cross arm	CM206	7/6/2011
Imelyak	Datalogger	CR1000	7/20/2012
Imelyak	DLP	Imelyak2022	6/8/2022
Imelyak	Enclosure	ENC 16/18	7/6/2011
Imelyak	GPS	17992 GPS	7/6/2011
Imelyak	RG-TB	TE525	8/5/2020
Imelyak	SD	SR50a	Removed
Imelyak	Solar Panel	75 W	7/6/2011
Imelyak	SR	Li200x	5/24/2026
Imelyak	ST -10 cm	107	7/6/2011
Imelyak	ST -20 cm	107	7/6/2011
Imelyak	ST -50 cm	107	7/6/2011
Imelyak	Tripod	CM106	7/6/2011
Imelyak	TX321	NESDIS ID 3961316C	8/5/2020
Imelyak	WS/WD	5108 Alpine HD	5/30/2024

Table C7. Metadata for Kaluich climate station.

Station Name	Item	Model	Start Date
Kaluich	Antenna	25316 YAGI	6/12/2019
Kaluich	AT	109	7/27/2016
Kaluich	AT (2)	109 (2)	6/8/2022
Kaluich	AT-RH	EE181	5/24/2026
Kaluich	Battery	100 AH (x2)	7/20/2012
Kaluich	Cross arm	CM204	7/20/2012
Kaluich	Cross arm	CM206	7/20/2012
Kaluich	Datalogger	CR1000	7/20/2012
Kaluich	DLP	Kaluich2022	6/8/2022
Kaluich	Electric Fence	T-post, poly-wire solar charger	8/4/2020
Kaluich	Enclosure	ENC 16/18	7/20/2012
Kaluich	GPS	17992 GPS	7/20/2012
Kaluich	RG-TB	TE525	5/30/2024
Kaluich	SD	SR50a	Out 2020
Kaluich	Solar Panel	75 W	5/21/2023
Kaluich	SR	Li200x	5/24/2026
Kaluich	ST -10 cm	107	7/20/2012
Kaluich	ST -20 cm	107	7/20/2012
Kaluich	ST -50 cm	107	7/20/2012
Kaluich	Tripod	CM106	7/20/2012
Kaluich	TX321	NESDIS ID 39617266	8/4/2020
Kaluich	WS/WD	5108 Alpine HD	5/24/2026

Table C8. Metadata for Killik Pass climate station.

Station Name	Item	Model	Start Date
Killik Pass	Antenna	25316 YAGI	6/1/2025
Killik Pass	AT	109	6/1/2025
Killik Pass	AT (2)	109 (2)	6/7/2022
Killik Pass	AT-RH	EE181	5/24/2026
Killik Pass	Battery	100 AH (x2)	8/8/2012
Killik Pass	Cross arm	CM204	8/8/2012
Killik Pass	Cross arm	CM206	8/8/2012
Killik Pass	Datalogger	CR1000X	5/30/2024
Killik Pass	DLP	KLIA_2024	5/30/2024
Killik Pass	Enclosure	ENC 16/18	8/8/2012
Killik Pass	GPS	17992 GPS	8/8/2012
Killik Pass	RG-TB	TE525	6/1/2025
Killik Pass	SD	SR50a	6/27/2018
Killik Pass	Solar Panel	75 W	8/8/2012
Killik Pass	SR	Li200x	5/24/2026
Killik Pass	ST -10 cm	107	6/1/2025
Killik Pass	ST -20 cm	107	8/8/2012
Killik Pass	ST -50 cm	107	8/8/2012
Killik Pass	Tripod	CM106	8/8/2012
Killik Pass	TX325	NESDIS ID 3961C1E8	5/30/2024
Killik Pass	WS/WD	5103	5/24/2026

Table C9. Metadata for Kugururok climate station.

Station Name	Item	Model	Start Date
Kugururok	Antenna	25316 YAGI	7/18/2014
Kugururok	AT	109	7/12/2016
Kugururok	AT (2)	109 (2)	6/9/2022
Kugururok	AT-RH	EE181	5/21/2026
Kugururok	Battery	100 AH (x2)	7/18/2014
Kugururok	Camera	CC5MPX	6/5/2015
Kugururok	Camera battery/solar panel	12 V - 100 AH/10 W solar panel	6/5/2015
Kugururok	Cross arm	CM204	7/18/2014
Kugururok	Cross arm	CM206	7/18/2014
Kugururok	Datalogger	CR1000X	6/2/2024
Kugururok	DLP	KUGA_2024	6/2/2024
Kugururok	Electric Fence	T-post, poly-wire solar charger	7/21/2018
Kugururok	GPS	17992 GPS	7/18/2014
Kugururok	RG-TB	TE525	7/18/2014
Kugururok	SD	SR50a	7/18/2014
Kugururok	Solar Panel	75 W	7/18/2014
Kugururok	SR	Li200x	5/30/2025
Kugururok	ST -10 cm	107	7/18/2014
Kugururok	ST -20 cm	107	7/18/2014
Kugururok	ST -50 cm	107	7/18/2014
Kugururok	ST -80 cm	107	7/13/2021
Kugururok	Tripod	CM106	7/18/2014
Kugururok	TX322	NESDIS ID 396203F8	6/2/2024
Kugururok	WS/WD	5103	5/30/2025

Table C10. Metadata for Midnight Mountain climate station.

Station Name	Item	Model	Start Date
Midnight Mountain	AT_1	109	6/1/2024
Midnight Mountain	AT_2	109	6/1/2024
Midnight Mountain	AT_3	109	6/1/2024
Midnight Mountain	Battery	12 V	9/3/2014
Midnight Mountain	Datalogger	CR1000	8/6/2013
Midnight Mountain	DLP	MTIA_2024	6/1/2024
Midnight Mountain	Enclosure	Small	7/8/2011
Midnight Mountain	Solar Panel	20 W	8/1/2019
Midnight Mountain	Tripod	CM106	7/8/2011

Table C11. Metadata for Mt. Noak climate station.

Station Name	Item	Model	Start Date
Mt. Noak	Antenna	25316 YAGI	7/22/2018
Mt. Noak	AT	109	7/14/2016
Mt. Noak	AT (2)	109 (2)	6/9/2022
Mt. Noak	AT-RH	EE181	5/23/2026
Mt. Noak	Battery	100 AH (x2)	7/11/2011
Mt. Noak	Camera	CC5MPX	7/27/2017
Mt. Noak	Camera battery/solar panel	12 V - 100 AH/10 W solar panel	Out 2017
Mt. Noak	Cross arm	CM204	7/11/2011
Mt. Noak	Cross arm	CM206	7/11/2011
Mt. Noak	Datalogger	CR1000	7/11/2011
Mt. Noak	DLP	Noak2022	6/9/2022
Mt. Noak	Electric Fence	T-post, poly-wire solar charger	7/22/2018
Mt. Noak	GPS	17992 GPS	7/11/2011
Mt. Noak	RG-TB	TE525	7/12/2021
Mt. Noak	SD	SR50a	Out 2021
Mt. Noak	Solar Panel	75 W	7/11/2011
Mt. Noak	SR	Li200x	5/29/2025
Mt. Noak	ST -10 cm	107	7/11/2011
Mt. Noak	ST -20 cm	107	7/11/2011
Mt. Noak	ST -50 cm	107	6/29/2013
Mt. Noak	ST -75 cm	107	6/29/2013
Mt. Noak	Tripod	CM106	7/11/2011
Mt. Noak	TX321	NESDIS ID 39616110	7/12/2021
Mt. Noak	WS/WD	5103	6/4/2024

Table C12. Metadata for Pamichtuk climate station.

Station Name	Item	Model	Start Date
Pamichtuk	Antenna	25316 YAGI	8/6/2012
Pamichtuk	AT	109	7/25/2016
Pamichtuk	AT (2)	109 (2)	6/7/2022
Pamichtuk	AT-RH	EE181	5/25/2026
Pamichtuk	Battery	100 AH (x2)	8/6/2012
Pamichtuk	Camera	CC5MPX	5/28/2013
Pamichtuk	Camera battery/solar panel	12V-100 AH/10 W solar panel	6/22/2015
Pamichtuk	Cross arm	CM204	8/6/2012
Pamichtuk	Cross arm	CM206	8/6/2012
Pamichtuk	Datalogger	CR1000X	5/30/2024
Pamichtuk	DLP	PAMA_2024	5/30/2024
Pamichtuk	Electric Fence	T-post, poly-wire solar charger	5/28/2013
Pamichtuk	Enclosure	ENC 16/18	8/6/2012
Pamichtuk	GPS	17992 GPS	8/6/2012
Pamichtuk	RG-TB	TE525	8/6/2012
Pamichtuk	SD	SR50a	Out 2021
Pamichtuk	Solar Panel	75 W	8/6/2012
Pamichtuk	SR	Li200x	6/1/2025
Pamichtuk	ST -10 cm	107	8/6/2012
Pamichtuk	ST -20 cm	107	8/6/2012
Pamichtuk	ST -50 cm	107	8/6/2012
Pamichtuk	Tripod	CM106	8/6/2012
Pamichtuk	TX325	NESDIS ID 3961E704	5/30/2024
Pamichtuk	WS/WD	5103	6/1/2025

Table C13. Metadata for Ram Creek climate station.

Station Name	Item	Model	Start Date
Ram Creek	Antenna	25316 YAGI	8/7/2012
Ram Creek	AT	109	5/24/2026
Ram Creek	AT (2)	109 (2)	6/7/2022
Ram Creek	AT-RH	EE181	5/24/2026
Ram Creek	Battery	100 AH (x2)	8/7/2012
Ram Creek	Cross arm	CM204	8/7/2012
Ram Creek	Cross arm	CM206	8/7/2012
Ram Creek	Datalogger	CR1000	8/7/2012
Ram Creek	DLP	RAMA_2025	6/7/2022
Ram Creek	Electric Fence	T-post, poly-wire solar charger	6/10/2014
Ram Creek	Enclosure	ENC 16/18	8/7/2012
Ram Creek	GPS	17992 GPS	8/7/2012
Ram Creek	RG-TB	TE525	5/24/2026
Ram Creek	SD	SR50a	7/15/2021
Ram Creek	Solar Panel	75 W	8/7/2012
Ram Creek	SR	Li200x	5/24/2026
Ram Creek	ST -10 cm	107	6/27/2018
Ram Creek	ST -20 cm	107	6/27/2018
Ram Creek	ST -50 cm	107	6/27/2018
Ram Creek	Tripod	CM106	8/7/2012
Ram Creek	TX325	NESDIS ID 3961D29E	6/1/2025
Ram Creek	WS/WD	5103	5/24/2026

Table C14. Metadata for Salmon River climate station.

Station Name	Item	Model	Start Date
Salmon River	Antenna	25316 YAGI	7/17/2013
Salmon River	AT	109	7/27/2016
Salmon River	AT (2)	109 (2)	6/8/2022
Salmon River	AT-RH	EE181	5/23/2026
Salmon River	Battery	100 AH (x2)	5/23/2026 (one)
Salmon River	Camera	CC5MPX	2020 (moved from main station in 2025)
Salmon River	Camera battery/solar panel	12 V - 100 AH/10 W solar panel	2020 (one batt)
Salmon River	Cross arm	CM204	7/8/2011
Salmon River	Cross arm	CM206	7/8/2011
Salmon River	Datalogger	CR1000	7/17/2013
Salmon River	DLP	Salmon2022	6/8/2022
Salmon River	Electric Fence	T-post, poly-wire solar charger	7/17/2013
Salmon River	Enclosure	ENC 16/18	7/8/2011
Salmon River	GPS	17992 GPS	7/17/2013
Salmon River	RG-TB	TE525	7/17/2013
Salmon River	SD	SR50a	5/31/2025
Salmon River	SR	Li200x	5/23/2026
Salmon River	ST -10 cm	107	5/31/2025
Salmon River	ST -20 cm	107	5/31/2025
Salmon River	ST -50 cm	107	5/31/2025
Salmon River	Tripod	CM106	7/17/2013
Salmon River	TX321	NESDIS ID 3960F688	7/14/2021
Salmon River	WS/WD	5103	5/31/2025

Table C15. Metadata for Serpentine climate station.

Station Name	Item	Model	Start Date
Serpentine	Antenna	25316 YAGI	7/25/2018
Serpentine	AT	109	6/1/2016
Serpentine	AT (2)	109 (2)	6/11/2022
Serpentine	AT-RH	EE181	5/20/2026
Serpentine	Battery	100 AH (x2)	8/18/2011
Serpentine	Camera	CC5MPX	5/23/2023
Serpentine	Camera battery/solar panel	12 V - 100 AH/10 W solar panel	6/2/2015
Serpentine	Cross arm	CM204	8/18/2011
Serpentine	Cross arm	CM206	8/18/2011
Serpentine	Datalogger	CR1000	8/18/2011
Serpentine	DLP	Serpentine_2024	6/1/2024
Serpentine	Enclosure	ENC 16/18	8/18/2011
Serpentine	GPS	17992 GPS	8/18/2011
Serpentine	RG-TB	TE525	8/18/2011
Serpentine	SD	SR50a	6/4/2021
Serpentine	Solar Panel	75 W	8/18/2011
Serpentine	SR	Li200x	5/20/2026
Serpentine	ST -10 cm	107	6/11/2022
Serpentine	ST -20 cm	107	8/18/2011
Serpentine	ST -50 cm	107	6/1/2024
Serpentine	ST-75 cm	109	8/7/2024
Serpentine	Tripod	CM106	8/18/2011
Serpentine	TX321	NESDIS ID 3961C1E8	9/22/2019
Serpentine	WS/WD	5103	6/1/2024

Table C16. Metadata for Sisiak climate station.

Station Name	Item	Model	Start Date
Sisiak	Antenna	25316 YAGI	7/26/2017
Sisiak	AT	109	7/13/2016
Sisiak	AT (2)	109 (2)	6/10/2022
Sisiak	AT-RH	EE181	5/21/2026
Sisiak	Battery	100 AH (x2)	7/13/2011
Sisiak	Cross arm	CM204	7/13/2011
Sisiak	Cross arm	CM206	7/13/2011
Sisiak	Datalogger	CR1000	7/13/2011
Sisiak	DLP	Sisiak2022	6/11/2022
Sisiak	Enclosure	ENC 16/18	7/13/2011
Sisiak	GPS	17992 GPS	7/13/2011
Sisiak	RG-TB	TE525	7/13/2021
Sisiak	SD	SR50a	Removed
Sisiak	Solar Panel	75 W	5/21/2026
Sisiak	SR	Li200x	5/31/2025
Sisiak	ST -10 cm	107	7/26/2017
Sisiak	ST -20 cm	107	7/13/2011
Sisiak	ST -50 cm	107	6/12/2019
Sisiak	ST -75 cm	107	7/13/2021
Sisiak	Tripod	CM106	7/13/2011
Sisiak	TX321	NESDIS ID 3961548A	7/13/2021
Sisiak	WS/WD	5103	6/2/2024

Table C17. Metadata for Tahinichok climate station.

Station Name	Item	Model	Start Date
Tahinichok	Antenna	25316 YAGI	7/27/2017
Tahinichok	AT	109	7/13/2016
Tahinichok	AT (2)	109 (2)	6/10/2022
Tahinichok	AT-RH	EE181	5/22/2026
Tahinichok	Battery	100 AH (x2)	7/10/2011
Tahinichok	Cross arm	CM204	7/10/2011
Tahinichok	Cross arm	CM206	7/10/2011
Tahinichok	Datalogger	CR1000	7/10/2011
Tahinichok	DLP	Tahinichok2022	6/11/2022
Tahinichok	Electric Fence	T-post, poly-wire solar charger	7/18/2015
Tahinichok	Enclosure	ENC 16/18	7/10/2011
Tahinichok	GPS	17992 GPS	7/10/2011
Tahinichok	RG-TB	TE525	5/22/2026
Tahinichok	SD	SR50a	Out 2021
Tahinichok	Solar Panel	75 W	7/10/2011
Tahinichok	SR	Li200x	5/30/2025
Tahinichok	ST -10 cm	107	7/10/2011
Tahinichok	ST -20 cm	107	7/10/2011
Tahinichok	ST -50 cm	107	7/10/2011
Tahinichok	ST -75 cm	107	6/30/2013
Tahinichok	Tripod	CM106	7/10/2011
Tahinichok	TX312	NESDIS ID 3961548A	7/10/2011
Tahinichok	WS/WD	5103	6/3/2024