CAKN Weather & Climate Monitoring
Site Visit Worksheet
Version: 8 March 2017

CAKN Program Contact:
Pam Sousanes/Ken Hill
phone: (907) 455-0677/(907)-455-0678
email: pam_sousanes@nps.gov/kenneth_hill@nps.gov

Site name	Coal Creek	**DCS - Sat. TX Check**	**RAWS HelpDesk:**
Date of this visit	5/16/2019	phone: (757) 824-7450	phone: (208) 387-5475
Operators	KH, Sousanes	24/7 technical support	Hours: M-F, 6 AM-2:30 PM AST

Pre-Field Information

(Look up the station: www.nifc.blm.gov-->Login-->'Weather' -->'Select Station')

GOES Information:	
Latitude	65.304131
Longitude	143.157011
NESDIS ID	39605670
Tx Time (mm:ss)	0:33:20
Tx Channel	172
Antenna Azimuth (Deg Mag)	171
Antenna Elev. (Deg.)	16
Currently activated?	Y
Currently transmitting?	Y
NWS Site ID	CLCA2

Sensors	Swap? (Y/N)	Recent error events (list)?
Temp	N	
Temp/RH	Y (EE181)	
Solar Radiation	Y	
Wind Speed/Dir	N	
Snow Depth	N	
Soil Temp 1	N	
Soil Temp 2	N	
Soil Temp 3	N	
Precipitation	N	
Datalogger	N	
Transmitter	N	Check Firware/Get SN#
Battery	N	
Fence	N/A	

Record Site Conditions

Time visit begins:	09:00	Time visit ends:	1030
Station accessible? (Y/N)	Y	If no, comment:	
Cables intact? (Y/N)	Y	If no, comment:	
Power source ok? (Y/N)	Y	If no, comment:	
Batteries ok? (Y/N)	Y	If no, comment:	

Record Station Status Table Values

(WMD: PConnectCE-->Connect Button-->Measurements Tab-->'Select 'Status' from Table Drop-Down Box)
(Laptop: Device config utility-->Select DataLogger CR1000 -->Connect Button-->Data Monitor tab-->Status table)

	Before Maintenance:		After Maintenance:	
OSVersion	25		25	
ProgName	CoalCreek_2017		CoalCreek_2019	
StartTime	6/14/17 9:45		~~6/15/2018 ~9:15~~	9:54 5/16/2019
12 V Battery Voltage	13.3		13.3	
Panel Temperature	15.6		15.3	
Watchdog Errors	0	Reset if >0	0	Reset if >0
Lithium Batt Volt	3.4	Replace if <2.9	3.4	Replace if <2.9
Low 12V Batt Count	0	Reset if >0	0	Reset if >0
Skipped Scan	0	Reset if >0	0	Reset if >0
RNIN Cumulative	1.82			
SR50a height	72			

Maintenance Checklist

	Completed? (Y/N)	
Download Hourly Data	Y	
RNIN before program update	1.82	
SR50 height before	72	72 in. 2018
Upload new program	Y	Load Coal Creek_2019
Re-enter RNIN after	1.82	
Measure and re-enter SR50	72.3	
Clean Rain Gage	OK	
Clean Temp Shield	Y	
Level Solar sensor	Y	

Check transmitted values:

	Value	OK? (Y/N)
RNIN	1.82	
WSM	0.77	
WDD	145	
ATF	55.1	
FTF	NAN	
RHP	31.7	
BVV	13.3	
WDDP	145	
WSMPH	1.67	

OS Version updated?	N	SDI	0	
Replace Desiccant	Y	SRW	523	
Tighten Guy Wires	OK	STF	33.6	10cm
Clean Battery Terminals	N	STF2	31.3	50cm
Clean Snow Depth Area	Y (plywood)	STF3	31.3	90cm
Brush Station Vicinity	N	STF4		
Tighten elements on YAGI	Welded	ATF ~~HMP~~	55.1	EE181
Take Site Photos		ATF ThermX	55.2	

Record Sensor Configuration Changes

	Model # out	Serial# out	Model # in	Serial# in	Cable length (ft)	Height/depth (in)
Air Temperature 1						
Air Temperature 2						
Temp/RH	HMP45	X3410061	EE181	1831160000674F		
Solar Radiation	LI200X	PY60148	LI200X	90559		
Wind Speed/Dir						
Snow depth						
Soil Temp 1						
Soil Temp 2						
Soil Temp 3						
Precipitation						
Primary AT						
Datalogger						
Transmitter						

Comments

To do:

Install EE181 ✓ ; Swap LI200X ✓ ; Add interpretive sign to Enclosure Nope Check/update firmware on TX321, record TX serial

changed SR50a height from 72 to ~~72~~ 72.5 inches.

TX321 Firmware 11.05 2017-09-14
TX321 S/N 17414946 (from DevConfig)
S/N 1719 (sticker on transmitter)

WFMI Maintenance Narrative

(Fill out prior to submission of NAMS post-trip update. Update may contain several station visits.)

Image identifiers of photos taken

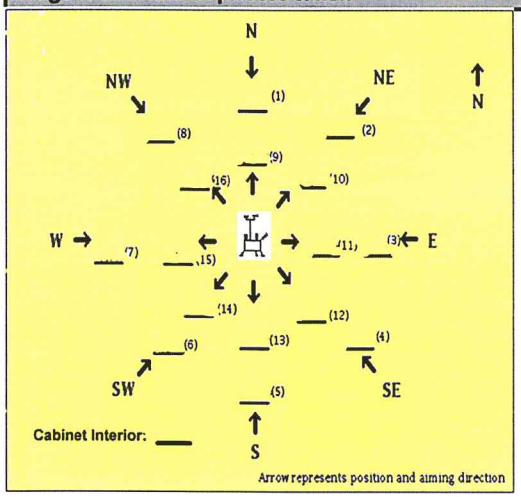

Photo Key	Image on camera #	Direction	On Computer
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2		NE Towards	
3		E Towards	
4		SE Towards	
5		South Towards	
6		SW Towards	
7		W Towards	
8		NW Towards	
9		North Away	
10		NE Away	
11		E Away	
12		SE Away	
13		S Away	
14		SW Away	
15		W Away	
16		NW Away	
17		Enclosure	

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CAKN Program Contact:
Pam Sousanes/Ken Hill
phone: (907) 455-0677/(907)-455-0678
email: pam_sousanes@nps.gov/kenneth_hill@nps.gov

Site name	Chicken Creek	**DCS - Sat. TX Check**	**RAWS HelpDesk:**
Date of this visit	6/20/19	phone: (757) 824-7450	phone: (208) 387-5475
Operators	SOUSANES KSWANSON	24/7 technical support	Hours: M-F, 6 AM-2:30 PM AST

Pre-Field Information

(Look up the station: www.nifc.blm.gov-->Login-->'Weather' -->'Select Station')

GOES Information:		Sensors	Swap? (Y/N)	Recent error events (list)?
Latitude	62.124019	Temp	N	
Longitude	141.847369	Temp/RH	Y (EE181)	
NESDIS ID	39603396	Solar Radiation	N	
Tx Time (mm:ss)	0:33:00	Wind Speed/Dir	N	
Tx Channel	172	Snow Depth	N	
Antenna Azimuth (Deg Mag)	172	Soil Temp 1	N	
Antenna Elev. (Deg.)	19	Soil Temp 2	N	
Currently activated?	Y	Soil Temp 3	N	
Currently transmitting?	Y	Soil Temp 4	Y	ST4 bad? replaced
NWS Site ID	CREA2	Precipitation	N	
		Datalogger	N	
		Transmitter	N	
		Battery	N	

Record Site Conditions

Time visit begins:	1:20pm	Time visit ends:	
Station accessible? (Y/N)	y	If no, comment:	
Cables intact? (Y/N)	y	If no, comment:	
Power source ok? (Y/N)	y	If no, comment:	
Batteries ok? (Y/N)	y	If no, comment:	

Record Station Status Table Values

(WMD: PConnectCE-->Connect Button-->Measurements Tab-->'Select 'Status' from Table Drop-Down Box)
(Laptop: Device config utility-->Select DataLogger CR1000 -->Connect Button-->Data Monitor tab-->Status table)

	Before Maintenance:		After Maintenance:	
OSVersion	26		26	
ProgName	Chicken_2018		Chicken_2018	
StartTime	7/12/18 13:50		7/12/18 13:50	
12 V Battery Voltage	13.3		13.7	
Panel Temperature	15.5		14.5	
Watchdog Errors	0	Reset if >0	0	Reset if >0
Lithium Batt Volt	3.4	Replace if <2.9	3.4	Replace if <2.9
Low 12V Batt Count	0	Reset if >0	0	Reset if >0
Skipped Scan	0	Reset if >0	0	Reset if >0

Maintenance Checklist

	Completed? (Y/N)		Check transmitted values:	Value	OK? (Y/N)
Download Hourly Data	y		RNIN	6.88	
RNIN before program update	y 6.88		WSM	8.32	
SR50 height before	85.5	85.5 in. 2018	WDD	91.5	
Upload new program	N		ATF	55.3	
Re-enter RNIN after	—		FTF	—	
Measure and re-enter SR50	—		RHP	49.2	
Clean Rain Gage	N		BVV	13.3	
Clean Temp Shield	N		WDDP	13.5	
Level Solar sensor	N		WSMPH	84	
OS Version updated?	N		SDI	0.2	
Replace Desiccant	y		SRW	292	
Tighten Guy Wires	y		STF	55.2	
Clean Battery Terminals	y N		STF2	52.2	

Clean Snow Depth Area	N	STF3	42.1	
Brush Station Vicinity	N	STF4	43.9 (just installed)	
Tighten elements on YAGI	old style	ATF_ThermX	54.3	
Take Site Photos	Y	EE181 ATF_~~HMP45~~	54.9	

Record Sensor Configuration Changes

	Model # out	Serial# out	Model # in	Serial# in	Cable length (ft)	Height/depth (in)
Air Temperature 1						
Air Temperature 2						
Temp/RH	~~HMP45~~ EE181	~~F4010022~~ 183116	EE181	171160000992A		
Solar Radiation	~~LI200X~~	60003747	~~LI200X~~			
Wind Speed/Dir						
Snow depth						
Soil Temp 1						
Soil Temp 2						
Soil Temp 3						
Precipitation						
Primary AT						
Datalogger						
Transmitter	~~TX320~~		~~TX321~~			

- TIGHTENED NORTH FACING GUY WIR

Comments

To do:

Swap EE181 ✓ Check/Replace? STF4 Installed at 80CM

Replace battery cable and conduit X RISK ASSESSMENT

BATTERY CONNECTION LOOKED FINE (PHOTO) DID NOT REPLACE.

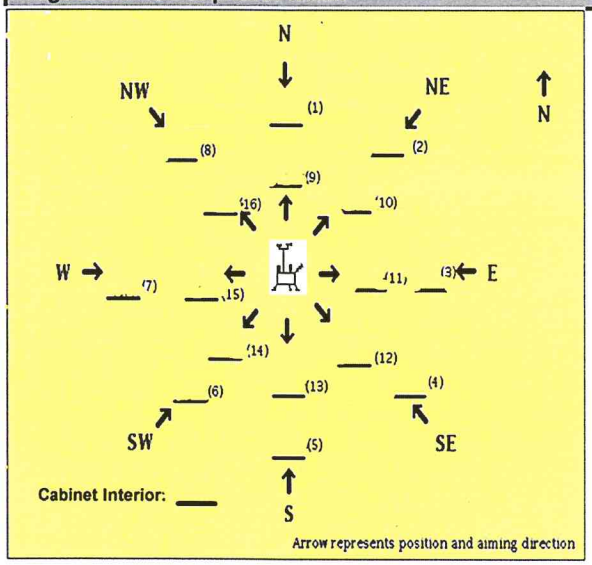
RAINING HARD, DID NOT TAKE NOTES ON SITE. REPLACED 4TH SOIL - GOT TO 80CM w/ soil pounder.

- SOILS ALL PULLED OUT A BIT. 3 SHALLOWEST SENSORS SEEMED OK, PULLED MORE FROM ENCLOSURE THAN SOIL B/C CABLE TIE AT BOTTOM WAS TIGHT. THE DEEP SENSOR HAD BEEN PULLED OUT BELOW BOTTOM OF MIPO LEG.

WFMI Maintenance Narrative

(Fill out prior to submission of NAMS post-trip update. Update may contain several station visits.)

Image identifiers of photos taken



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2		NE Towards	
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4		SE Towards	
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8		NW Towards	
9		North Away	
10		NE Away	
11		E Away	
12		SE Away	
13		S Away	
14		SW Away	
15		W Away	
16		NW Away	
17		Enclosure	

- SWANSON DID SOIL CHARACTERIZATION ON SITE + PLANT DESCRIPTIONS.

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CAKN Program Contact:
Pam Sousanes/Ken Hill
phone: (907) 455-0677/(907)-455-0678
email: pam_sousanes@nps.gov/kenneth_hill@nps.gov

Site name	Chititu	**DCS - Sat. TX Check**	**RAWS HelpDesk:**
Date of this visit	6/27/2019	phone: (757) 824-7450	phone: (208) 387-5475
Operators	SOUSANES + SWANSON	24/7 technical support	Hours: M-F, 6 AM-2:30 PM AST

Pre-Field Information

(Look up the station: www.nifc.blm.gov-->Login-->'Weather' -->'Select Station')

GOES Information:		Sensors	Swap? (Y/N)	Recent error events (list)?
Latitude	61.273589	Temp	N	?
Longitude	-142.6209	Temp/RH	Y (EE181)	?
NESDIS ID	396020E0	Solar Radiation	N	?
Tx Time (mm:ss)	0:32:50	Wind Speed/Dir	N	?
Tx Channel	172	Snow Depth	N	?
Antenna Azimuth (Deg Mag)	171	Soil Temp 1	N	?
Antenna Elev. (Deg.)	20	Soil Temp 2	N	?
Currently activated?	Y	Soil Temp 3	N	?
Currently transmitting?	N	Precipitation	N	?
NWS Site ID	CTUA2	Datalogger	N	?
		Transmitter	N	No TX after 1/1/19. Yagi?
		Battery	N	?
		Fence	N/A	

Record Site Conditions

Time visit begins:	2:46pm	Time visit ends:	
Station accessible? (Y/N)	Y	If no, comment:	
Cables intact? (Y/N)	Y	If no, comment:	
Power source ok? (Y/N)	Y	If no, comment:	
Batteries ok? (Y/N)	Y	If no, comment:	

Record Station Status Table Values

(WMD: PConnectCE-->Connect Button-->Measurements Tab-->'Select 'Status' from Table Drop-Down Box)
(Laptop: Device config utility-->Select DataLogger CR1000 -->Connect Button-->Data Monitor tab-->Status table)

	Before Maintenance:		After Maintenance:	
OSVersion	26			
ProgName	Chititu_2018			
StartTime	7/11/18 11:56			
12 V Battery Voltage	13.4			
Panel Temperature	17.2			
Watchdog Errors	0	Reset if >0		Reset if >0
Lithium Batt Volt	3.5	Replace if <2.9		Replace if <2.9
Low 12V Batt Count	0	Reset if >0		Reset if >0
Skipped Scan	0	Reset if >0		Reset if >0

Maintenance Checklist

	Completed? (Y/N)			Value	OK? (Y/N)
Download Hourly Data	Y		RNIN	4.51	
RNIN before program update	4.51		WSM	10.4	
SR50 height before	96.5	96.5 in 2017	WDD	351	
Upload new program	N		ATF	63.7	
Re-enter RNIN after	—		FTF		
Measure and re-enter SR50	—		RHP	28.9	
Clean Rain Gage	Y		BVV	13.3	
Clean Temp Shield	N		WDDP	308	
Level Solar sensor	N		WSMPH	11.2	
OS Version updated?	N		SDI	0	
Replace Desiccant	Y		SRW	725	

Tighten Guy Wires	N	STF	71.9	
Clean Battery Terminals	N	STF2	53.8	
Clean Snow Depth Area	Y	STF3	39.2	
Brush Station Vicinity	N	STF4	32.9	
Tighten elements on YAGI	Old Style	EE181 ATF ~~HMP~~	63.2	
Take Site Photos		ATF ThermX	63.5	

Record Sensor Configuration Changes

	Model # out	Serial# out	Model # in	Serial# in	(ft)	(in)
Air Temperature 1						
Air Temperature 2						
Temp/RH	~~HMP45~~ EE181	~~X3410042~~ 164816	EE181	183116000C	328F	
Solar Radiation	~~Li200x~~	D0004190				
Wind Speed/Dir	~~5103~~					
Snow depth						
Soil Temp 1						
Soil Temp 2						
Soil Temp 3						
Precipitation						
Primary AT						
Datalogger						
Transmitter	~~TX320~~		~~TX321~~			

Comments

To do:

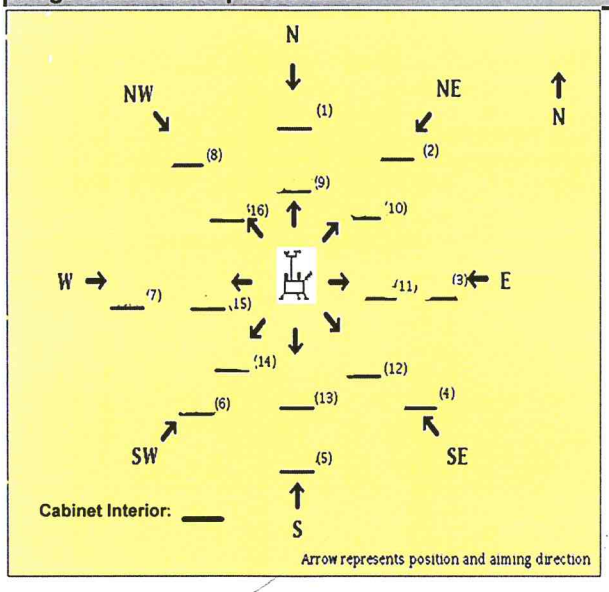
Swap EE181 ✓ Not transmitting since Jan 1 - condition unknown 12V wire loose in charging regulator. RISK ASSESSMENT _____

- STATION LOOKED GREAT ON ARRIVAL
- POWER FINE; DATA ALL THERE
- Removed regulator + moved so it had more room. GPS/DATA light came on after reconnection.

WFMI Maintenance Narrative

(Fill out prior to submission of NAMS post-trip update. Update may contain several station visits.)

Image identifiers of photos taken



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6		SW Towards	
7		W Towards	
8		NW Towards	
9		North Away	
10		NE Away	
11		E Away	
12		SE Away	
13		S Away	
14		SW Away	
15		W Away	
16		NW Away	
17		Enclosure	

- KEEP EYE OUT TX MAY BE BAD
- STATUS LED LIT UP BEFORE TX
- MANUAL SAID PUSH FAULT FOR 2 SECONDS, WAIT FOR LED. 2 FLASHES FAILSAFE TRIPPED. PRESSED FAULT FOR 10 SECONDS TO CLEAR.
- confirmed STF4 programming
- STF4 installed in 2018, in program.

Checked status on Dev. Config. Firmware 11.05 2017/09/14

watched tx + countdown on Dev. Config. Seems ok now.

- Swanson did soil / plant characterization

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CAKN Program Contact:
Pam Sousanes/Ken Hill
phone: (907) 455-0677/(907)-455-0678
email: pam_sousanes@nps.gov/kenneth_hill@nps.gov

Site name	Dunkle Hills
Date of this visit	8/8/19
Operators	SOUSANES/SWANSON

DCS - Sat. TX Check
phone: (757) 824-7450
24/7 technical support

RAWS HelpDesk:
phone: (208) 387-5475
Hours: M-F, 6 AM-2:30 PM AST

Pre-Field Information

(Look up the station: www.nifc.blm.gov-->Login-->'Weather' -->'Select Station')

GOES Information:	
Latitude	63.300322
Longitude	-149.541531
NESDIS ID	3960B582
Tx Time (mm:ss)	0:34:20
Tx Channel	172
Antenna Azimuth (Deg Mag)	141 (?)
Antenna Elev. (Deg.)	18 (?)
Currently activated?	Y
Currently transmitting?	Y
NWS Site ID	DKLA2
Camera	N
Fence	N

Sensors	Swap? (Y/N)	Recent error events (list)?
Temp	N	
Temp/RH	Y	Install EE181
Solar Radiation	Y	Li220X
Wind Speed/Dir	N	
Snow Depth	N	
Soil Temp 1	N	
Soil Temp 2	N	
Soil Temp 3	N	
Soil Temp 4	Y	Install ST4
Precipitation	N	
Datalogger		
Transmitter	Y	TX321 Upgrade
Battery	N	

Record Site Conditions

Time visit begins:	11:45am	Time visit ends:	
Station accessible? (Y/N)	Y	If no, comment:	
Cables intact? (Y/N)	Y	If no, comment:	
Power source ok? (Y/N)	Y	If no, comment:	
Batteries ok? (Y/N)	Y	If no, comment:	

Record Station Status Table Values

(WMD: PConnectCE-->Connect Button-->Measurements Tab-->'Select 'Status' from Table Drop-Down Box)
(Laptop: Device config utility-->Select DataLogger CR1000 -->Connect Button-->Data Monitor tab-->Status table)

	Before Maintenance:		After Maintenance:	
OSVersion	26		26	
ProgName	Dunkle2017		Dunkle2019	
StartTime	8/8/17 11:24		8/8/2019 1:17pm	
12 V Battery Voltage	13.4			
Panel Temperature	16.8			
Watchdog Errors	0	Reset if >0		Reset if >0
Lithium Batt Volt	3.4	Replace if <2.9		Replace if <2.9
Low 12V Batt Count	0	Reset if >0		Reset if >0
Skipped Scan	0	Reset if >0		Reset if >0
RNIN Cumulative	10.13			
SR50a height	104			

Maintenance Checklist

	Completed? (Y/N)	
Download Hourly Data	Y	
RNIN before program update	10.13	
SR50 height before	104	104 in. 2017
Upload new program	Y	
Re-enter RNIN after	Y	
Measure and re-enter SR50	Y	
Clean Rain Gage	N	
Clean Temp Shield	N	
Level Solar sensor	Y	
OS Version updated?	N	
Replace Desiccant	Y	
Tighten Guy Wires	Y	

Check transmitted values:

	Value	OK? (Y/N)	
RNIN	10.13		10.13
WSM	12.9		11.9
WDD	43.1		35.2
ATF	60.6		61.1
FTF	—		
RHP	46		43
BVV	13.4		13.5
WDDP	12.9		11.9
WSMPH	43		35
SDI	0		693
SRW	684		
STF	54.3		55.1

Clean Battery Terminals	N	STF2	57.3	
Clean Snow Depth Area	N	STF3	51.2	
Brush Station Vicinity	N	STF4	52.4	
Tighten elements on YAGI	NA	ATF HMP	61.1	
Take Site Photos		ATF ThermX	61.1	

Record Sensor Configuration Changes

	Model # out	Serial# out	Model # in	Serial# in	Cable length (ft)	Height/depth (in)
Air Temperature 1						
Air Temperature 2						
Temp/RH	HMP45	X3410043	EE181	18311600024988		
Solar Radiation	LI200X	100476	LI200X	PY63673		
Wind Speed/Dir						
Snow depth						
Soil Temp 1						
Soil Temp 2						
Soil Temp 3						
Precipitation						
Primary AT						
Datalogger						
Transmitter						

Comments

Install EE181 ✓ Install TX321 ✓ Swap LI200X ✓ Install ST4 ✓

SR READING 0 ON ARRIVAL; CABLES HAD BEEN PULLED OUT + CHEWED ON A BIT. SR CABLE SQUIRRELED UP TOP - BIRD?
INSTALLED STF4 AT 90CM.
SWAPPED LI200X, INSTALLED EE181 + CHANGED PROGRAMMING.
SWAPPED TX312 FOR TX321

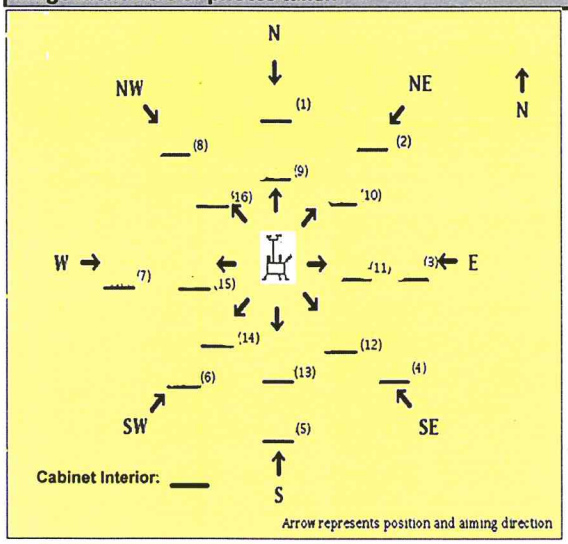
WFMI Maintenance Narrative

(Fill out prior to submission of NAMS post-trip update. Update may contain several station visits.)

(cont.)
Keep an eye on 20cm Soil Sensor. Erroneous Readings 10/20 - 11/14/18

DAVE SWANSON DID SOIL/VEG CHARACTERIZATION
- WHILE ATTEMPTING TO LOAD NEW PROGRAM DATALOGGER STOPPED WORKING, NOT SURE WHY. NO RESPONSE FROM KEYPAD EITHER. CYCLED THE POWER + TOOK OUT THE EXTRA TRANSMITTER CABLE AND IT POWERED BACK UP.

Image identifiers of photos taken



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CAKN Program Contact:
Pam Sousanes/Ken Hill
phone: (907) 455-0677/(907)-455-0678
email: pam_sousanes@nps.gov/kenneth_hill@nps.gov

Site name	Eielson VC	**DCS - Sat. TX Check**	**RAWS HelpDesk:**
Date of this visit	6/5/2019	phone: (757) 824-7450	phone: (208) 387-5475
Operators	KCW H.11	24/7 technical support	Hours: M-F, 6 AM-2:30 PM AST

Pre-Field Information

(Look up the station: www.nifc.blm.gov-->Login-->'Weather' -->'Select Station')

GOES Information:		Sensors	Swap? (Y/N)	Recent error events (list)?
Latitude	63.430911	Temp	N	
Longitude	-150.310761	Temp/RH	Y (EE181)	
NESDIS ID	39604506	Solar Radiation	Y	
Tx Time (mm:ss)	0:33:10	Wind Speed/Dir	N	
Tx Channel	172	Snow Depth	N	
Antenna Azimuth (Deg Mag)	141	Soil Temp 1	N/A	
Antenna Elev. (Deg.)	17	Soil Temp 2	N/A	
Currently activated?	Y	Soil Temp 3	N/A	
Currently transmitting?	Y	Precipitation	Y	Damaged October 2018
NWS Site ID	EVCA2	Datalogger	N	
		Transmitter	N	
		Battery	N	
		Fence	N/A	

Record Site Conditions

Time visit begins:	12:00	Time visit ends:	
Station accessible? (Y/N)	Y	If no, comment:	
Cables intact? (Y/N)	N	If no, comment:	Precip cable Damaged.
Power source ok? (Y/N)	Y	If no, comment:	
Batteries ok? (Y/N)	Y	If no, comment:	

Record Station Status Table Values

(WMD: PConnectCE-->Connect Button-->Measurements Tab-->'Select 'Status' from Table Drop-Down Box)
(Laptop: Device config utility-->Select DataLogger CR1000 -->Connect Button-->Data Monitor tab-->Status table)

	Before Maintenance:		After Maintenance:	
OSVersion	26		26	
ProgName	Eielson2017		Eielson-2019	
StartTime	8/16/17 10:23		6/5/2019	13:39
12 V Battery Voltage	13.4		13.6	
Panel Temperature	12.5		12.7	
Watchdog Errors	0	Reset if >0	0	Reset if >0
Lithium Batt Volt	3.5	Replace if <2.9	3.5	Replace if <2.9
Low 12V Batt Count	0	Reset if >0	0	Reset if >0
Skipped Scan	0	Reset if >0	0	Reset if >0
RNIN Cumulative	BAD			
SR50a height	87			

Maintenance Checklist

	Completed? (Y/N)		Check transmitted values:	Value	OK? (Y/N)
Download Hourly Data	Y		RNIN	0	
RNIN before program update	7100	(Reset)	WSM	10.9	
SR50 height before	87	87 in 2018	WDD	196	
Upload new program	Y		ATF	48.8	
Re-enter RNIN after	0		FTF	—	
Measure and re-enter SR50	87		RHP	59	
Clean Rain Gage	New		BVV	13.6	
Clean Temp Shield	N		WDDP	216	
Level Solar sensor	N		WSMPH	11.1	
OS Version updated?	N		SDI	0	
Replace Desiccant	Y		SRW	846	

Tighten Guy Wires	N	ATF ~~HMP~~ EE181	49.8	
Clean Battery Terminals	N	ATF ThermX	50.9	
Clean Snow Depth Area	N			
Brush Station Vicinity	N			
Tighten elements on YAGI	N			
Take Site Photos				

Record Sensor Configuration Changes

	Model # out	Serial# out	Model # in	Serial# in	Cable length (ft)	Height/depth (in)
Air Temperature 1						
Temp/RH	HMP45C	D3520097	EE181	183116000086CD		
Solar Radiation	Li 200 Rx	102544	Li200x	60144		
Wind Speed/Dir						
Snow depth						
Soil Temp 1						
Soil Temp 2						
Soil Temp 3						
Precipitation			TE-525	69247-616		
Primary AT						
Datalogger						
Transmitter						

Comments

Replace HMP45 with EE181 ✓

Swap solar radiation sensor ✓ old Sensor was Li 200 Rx.

Replace damaged Tipping Bucket ✓

Install new 4" NWS Coop rain gage ✓

To do next visit: Batteries (?)

WFMI Maintenance Narrative

(Fill out prior to submission of NAMS post-trip update. Update may contain several station visits.)

Image identifiers of photos taken

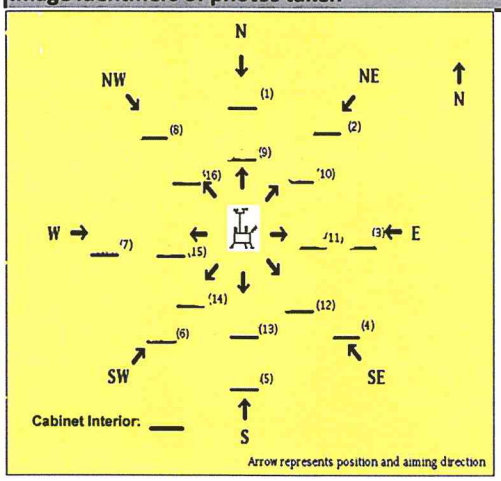

Photo Key	Image on camera #	Direction	On Computer
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CAKN Weather & Climate Monitoring
Site Visit Worksheet
Version: 8 March 2017

CAKN Program Contact:
Pam Sousanes/Ken Hill
phone: (907) 455-0677/(907)-455-0678
email: pam_sousanes@nps.gov/kenneth_hill@nps.gov

Site name	Gates Glacier	**DCS - Sat. TX Check**	**RAWS HelpDesk:**
Date of this visit	6/27/2019 Summary	phone: (757) 824-7450	phone: (208) 387-5475
Operators	SOUSANES + SWANSON +	24/7 technical support	Hours: M-F, 6 AM-2:30 PM AST

Pre-Field Information

(Look up the station: www.nifc.blm.gov-->Login-->'Weather' -->'Select Station')

GOES Information:		Sensors	Swap? (Y/N)	Recent error events (list)?
Latitude	61.602889	Temp	N	
Longitude	-143.013211	Temp/RH	Y (EE181)	RH out on 6/4
NESDIS ID	39608018	Solar Radiation	N	
Tx Time (mm:ss)	0:33:50	Wind Speed/Dir	N	
Tx Channel	172	Snow Depth	N	
Antenna Azimuth (Deg Mag)	171	Soil Temp 1	Y	All soils reading errors -99
Antenna Elev. (Deg.)	20	Soil Temp 2	Y	
Currently activated?	Y	Soil Temp 3	Y	ADD STF 4
Currently transmitting?	Y	Precipitation	N	
NWS Site ID	GGLA2	Datalogger	N	
		Transmitter	N	
Camera	Y	Battery	N	
		Fence	N/A	

Record Site Conditions

Time visit begins:	4:15	Time visit ends:	
Station accessible? (Y/N)	Y	If no, comment:	
Cables intact? (Y/N)	N	If no, comment:	
Power source ok? (Y/N)	Y	If no, comment:	
Batteries ok? (Y/N)	Y	If no, comment:	

Record Station Status Table Values

(WMD: PConnectCE-->Connect Button-->Measurements Tab-->'Select 'Status' from Table Drop-Down Box)
(Laptop: Device config utility-->Select DataLogger CR1000 -->Connect Button-->Data Monitor tab-->Status table)

	Before Maintenance:		After Maintenance:	
OSVersion	26			
ProgName	GatesGl_2018			
StartTime	7/11/18 16:54			
12 V Battery Voltage	13.1			
Panel Temperature	21.5			
Watchdog Errors	0	Reset if >0		Reset if >0
Lithium Batt Volt	3.5	Replace if <2.9		Replace if <2.9
Low 12V Batt Count	0	Reset if >0		Reset if >0
Skipped Scan	0	Reset if >0		Reset if >0

Maintenance Checklist

	Completed? (Y/N)			Value	OK? (Y/N)
Download Hourly Data	Y		RNIN	11.34	
RNIN before program update	11.34		WSM	8.2	
SR50 height before	103	103 in. 2017	WDD	307	
Upload new program	N		ATF	64.6	
Re-enter RNIN after	—		FTF	—	
Measure and re-enter SR50	—		RHP	28.8	
Clean Rain Gage	N		BVV	13.2	
Clean Temp Shield	Replaced AT/RH shield		WDDP	302	
Level Solar sensor	N		WSMPH	8.2	
OS Version updated?	N		SDI	6 plants - mod	
Replace Desiccant	Y		SRW	541	
Tighten Guy Wires	Y		STF	1	
Clean Battery Terminals	N		STF2	~~51~~ 54	
Clean Snow Depth Area	Y		STF3	~~53~~ 53	
Brush Station Vicinity	N		STF4	48	

Tighten elements on YAGI	No old style	181	ATF HMP	64.8	
Take Site Photos	1		ATF ThermX	64.3	

Record Sensor Configuration Changes

	Model # out	Serial# out	Model # in	Serial# in	(ft)	(in)
Air Temperature 1						
Air Temperature 2						
Temp/RH	EE181	17141600003057.00	EE181	18311800019850		
Solar Radiation						
Wind Speed/Dir						
Snow depth						
Soil Temp 1						
Soil Temp 2						
Soil Temp 3						
Precipitation						
Primary AT						
Datalogger						
Transmitter						

Comments

To do:

Swap EE181 ✓ Replace soil sensors, add ST4 ✓ Swap SD Card in Camera ✓

Assess condition of CC5MPX ✓ Assess condition of station, something happened on 6/4 ✓ RISK ASSESSMENT

Copy chicken_2018

- Bear damage - Soils pulled out / AT/RH cable pulled out, battery box for camera chewed, wood platform chewed up + moved, AT/RH radiation shield bent 90° to the North, snow/camera crossbar moved NW ~15°.
- Replaced 3 soils at 10, 20 + 50 cm. Replaced AT/RH shield, Swapped EE181.
- Swapped SD card, checked SD card on computer - needed to shutdown + restart. Adjusted camera angle, but did not have time to look at old image - we had to wing it.
- No time to add 4th soil sensor
- Swanson did soil/plant characterization

WFMI Maintenance Narrative

(Fill out prior to submission of NAMS post-trip update. Update may contain several station visits.)

Image identifiers of photos taken

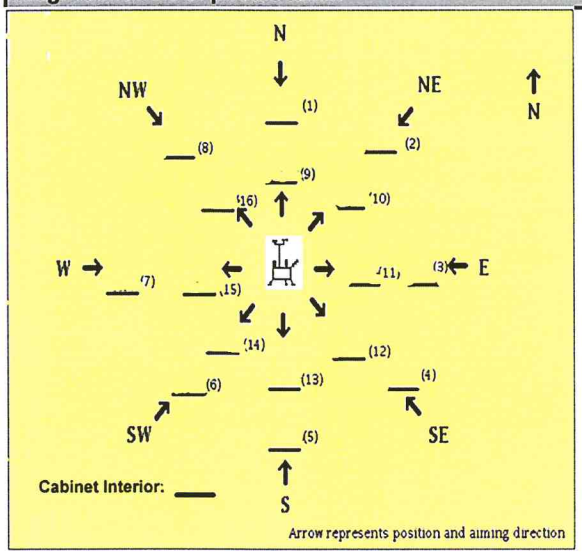

Photo Key	Image on camera #	Direction	On Computer
1		N Towards	
2		NE Towards	
3		E Towards	
4		SE Towards	
5		South Towards	
6		SW Towards	
7		W Towards	
8		NW Towards	
9		North Away	
10		NE Away	
11		E Away	
12		SE Away	
13		S Away	
14		SW Away	
15		W Away	
16		NW Away	
17		Enclosure	

CAKN Weather & Climate Monitoring
Site Visit Worksheet
Version: 8 March 2017

CAKN Program Contact:
Pam Sousanes/Ken Hill
phone: (907) 455-0677/(907)-455-0678
email: pam_sousanes@nps.gov/kenneth_hill@nps.gov

Site name	Ruth Glacier	**DCS - Sat. TX Check**	**RAWS HelpDesk:**
Date of this visit	6/26/2019	phone: (757) 824-7450	phone: (208) 387-5475
Operators	Ken Hill	24/7 technical support	Hours: M-F, 6 AM-2:30 PM AST

Pre-Field Information

(Look up the station: www.nifc.blm.gov-->Login-->'Weather' -->'Select Station')

GOES Information:		Sensors	Swap? (Y/N)	Recent error events (list)?
Latitude	62 42.583	Temp	N	
Longitude	150 32.383	Temp/RH	Y	Install EE181
NESDIS ID	3960157A	Solar Radiation	N	
Tx Time (mm:ss)	0:32:40	Wind Speed/Dir	N	
Tx Channel	172	Snow Depth	N	
Antenna Azimuth (Deg Mag)	143	Soil Temp 1	N	
Antenna Elev. (Deg.)	19	Soil Temp 2	N	
Currently activated?	Y	Soil Temp 3	N	Add STF4
Currently transmitting?	Y	Precipitation	N	
NWS Site ID	RUGA2	Datalogger	N	
		Transmitter	Y	Upgrade to TX321
		Battery	N	Voltage OK 2018-2019.
		Fence	Y	Bring fence parts

Record Site Conditions

Time visit begins:	10:50	Time visit ends:	13 30
Station accessible? (Y/N)	Y	If no, comment:	
Cables intact? (Y/N)	Y	If no, comment:	
Power source ok? (Y/N)	Y	If no, comment:	
Batteries ok? (Y/N)	Y	If no, comment:	

Record Station Status Table Values

(WMD: PConnectCE-->Connect Button-->Measurements Tab-->'Select 'Status' from Table Drop-Down Box)
(Laptop: Device config utility-->Select DataLogger CR1000 -->Connect Button-->Data Monitor tab-->Status table)

	Before Maintenance:		After Maintenance:	
OSVersion	26		26	
ProgName	Ruth2017		Ruth2019	
StartTime	1/11/18 15:25		6/26/2019 12:55	
12 V Battery Voltage	13.3		13.2	
Panel Temperature	16.2		16.9	
Watchdog Errors	2	Reset if >0 Reset	0	Reset if >0
Lithium Batt Volt	3.4	Replace if <2.9	3.4	Replace if <2.9
Low 12V Batt Count	119	Reset if >0 Reset	0	Reset if >0
Skipped Scan	0	Reset if >0	0	Reset if >0
RNIN Cumulative	14.20			
SR50a height	69			

Maintenance Checklist

	Completed? (Y/N)		Check transmitted values:	Value	OK? (Y/N)
Download Hourly Data	Y		RNIN	14.2	
RNIN before program update	14.20		WSM	3.3	
SR50 height before	69	69 in 2018	WDD	191	
Upload new program	Y		ATF	59.5	
Re-enter RNIN after	14.20		FTF	NAN	
Measure and re-enter SR50	69		RHP	13.13	
Clean Rain Gage	OK		BVV	73	
Clean Temp Shield	OK		WDDP	177	
Level Solar sensor	OK		WSMPH	6	
OS Version updated?	N		SDI	0.6	
Replace Desiccant	Y		SRW	760	
Tighten Guy Wires	NA		STF	63.7	

Clean Battery Terminals	N	STF2	57.3	
Clean Snow Depth Area	N	STF3	56.3	
Brush Station Vicinity	NA	STF4	47.3	
Tighten elements on YAGI	Y	ATF HMP	59.3	EE181
Take Site Photos	Y	ATF ThermX	60.2	

Record Sensor Configuration Changes

	Model # out	Serial# out	Model # in	Serial# in	Cable length (ft)	Height/depth (in)
Air Temperature 1						
Air Temperature 2						
Temp/RH	HMP45	D3620083	EE181	183116000	25188	
Solar Radiation						
Wind Speed/Dir						
Snow depth						
Soil Temp 1						
Soil Temp 2						
Soil Temp 3						
Precipitation						
Primary AT						
Datalogger						
Transmitter						

Comments

To do:

Swap HMP45 for EE181 ✓ Check/Repair Electric fence ✓ Replace Enclosure (if wx and time allow) ✓

Install TX321 ✓ Install STF4 90cm Load new program for EE181 & STF4 ✓

- Installed STF4 90cm
- Fence looked good. One connector replaced
Unsure what's caused low 12V counts and Watchdogs
- Need to drill hole in enclosure for power cable conduit.

WFMI Maintenance Narrative

(Fill out prior to submission of NAMS post-trip update. Update may contain several station visits.)

Image identifiers of photos taken

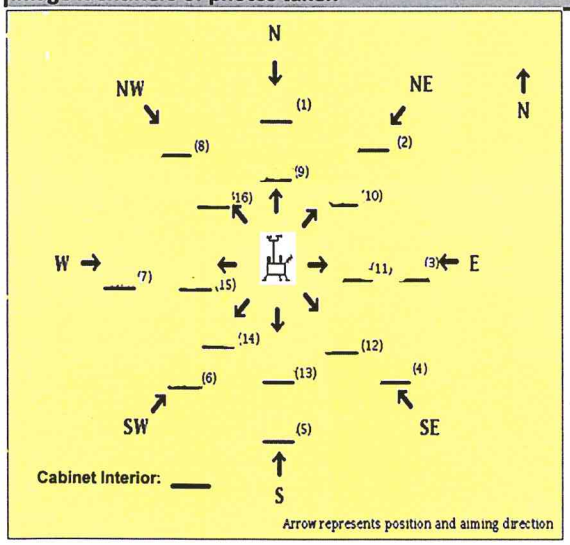

Photo Key	Image on camera #	Direction	On Computer
1		N Towards	
2		NE Towards	
3		E Towards	
4		SE Towards	
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6		SW Towards	
7		W Towards	
8		NW Towards	
9		North Away	
10		NE Away	
11		E Away	
12		SE Away	
13		S Away	
14		SW Away	
15		W Away	
16		NW Away	
17		Enclosure	

CAKN Weather & Climate Monitoring
Site Visit Worksheet
Version: 8 March 2017

CAKN Program Contact:
Pam Sousanes/Ken Hill
phone: (907) 455-0677/(907)-455-0678
email: pam_sousanes@nps.gov/kenneth_hill@nps.gov

Site name	Stampede	**DCS - Sat. TX Check**	**RAWS HelpDesk:**
Date of this visit	8/8/2019	phone: (757) 824-7450	phone: (208) 387-5475
Operators	SOUSANES + SWANSON	24/7 technical support	Hours: M-F, 6 AM-2:30 PM AST

Pre-Field Information

(Look up the station: www.nifc.blm.gov-->Login-->'Weather' -->'Select Station')

GOES Information:		Sensors	Swap? (Y/N)	Recent error events (list)?
Latitude	63.747781	Temp	N	
Longitude	-150.328053	Temp/RH	Y (HMP45)	
NESDIS ID	3960A6F4	Solar Radiation	Y (LI200X)	
Tx Time (mm:ss)	0:34:10	Wind Speed/Dir	N	
Tx Channel	172	Snow Depth	N	
Antenna Azimuth (Deg Mag)	141	Soil Temp 1	Y	Damaged on 7/27
Antenna Elev. (Deg.)	18	Soil Temp 2	N	Reinstall
Currently activated?	Y	Soil Temp 3	Y	Damaged on 7/27
Currently transmitting?	Y	Soil Temp 4	Y	Install ST4
NWS Site ID	SMPA2	Precipitation	?	Damaged on 7/27
		Datalogger	N	
Fence	N	Transmitter	Y (TX321)	
Camera	N	Battery	N	

Record Site Conditions

Time visit begins:	2:47pm	Time visit ends:	
Station accessible? (Y/N)	y	If no, comment:	
Cables intact? (Y/N)	y	If no, comment:	
Power source ok? (Y/N)	y	If no, comment:	
Batteries ok? (Y/N)	y	If no, comment:	

Record Station Status Table Values

(WMD: PConnectCE-->Connect Button-->Measurements Tab-->'Select 'Status' from Table Drop-Down Box)
(Laptop: Device config utility-->Select DataLogger CR1000 -->Connect Button-->Data Monitor tab-->Status table)

	Before Maintenance:		After Maintenance:	
OSVersion	27		27	
ProgName	Stampede2017		Stampede 2019	
StartTime	8/8/17 13:41		8/8/19 4:40pm	
12 V Battery Voltage	13.4		13.3	
Panel Temperature	22.7		24.8	
Watchdog Errors	0	Reset if >0	0	Reset if >0
Lithium Batt Volt	3.5	Replace if <2.9	3.5	Replace if <2.9
Low 12V Batt Count	0	Reset if >0	0	Reset if >0
Skipped Scan	0	Reset if >0	0	Reset if >0
RNIN Cumulative	7.72			
SR50a height	85.4			

Maintenance Checklist

	Completed? (Y/N)		Check transmitted values:	Value	OK? (Y/N)
Download Hourly Data	y		RNIN	7.72	
RNIN before program update	7.72		WSM	1.15	
SR50 height before	85.4	85.4 inches 2017	WDD	209	
Upload new program	y		ATF	69.9	
Re-enter RNIN after	y		FTF	—	
Measure and re-enter SR50	y		RHP	46.4	
Clean Rain Gage	y		BVV	13.3	
Clean Temp Shield	N		WDDP	8.42	
Level Solar sensor	N		WSMPH	1.26	
OS Version updated?	N		SDI	0	
Replace Desiccant	y		SRW	678	
Tighten Guy Wires	y N		STF	63.8	
Clean Battery Terminals			STF2	61.6	

Clean Snow Depth Area	N	STF3	60.6	
Brush Station Vicinity	N	STF4	53.7	
Tighten elements on YAGI	NA	ATF HMP	69.6	
Take Site Photos	4	ATF ThermX	70.3	

Record Sensor Configuration Changes

	Model # out	Serial# out	Model # in	Serial# in	Cable length (ft)	Height/depth (in)
Air Temperature 1						
Air Temperature 2						
Temp/RH	HMP45	B1240007	HMP45	X3410060		
Solar Radiation	LI200X	36882	LI200X	PY90553		
Wind Speed/Dir						
Snow depth						
Soil Temp 1						
Soil Temp 2						
Soil Temp 3						
Precipitation						
Primary AT						
Datalogger						
Transmitter						

Comments

Station Damaged on July 27: Damage to Precip, ST1, 3. Replace/Repair ✓ Swap HMP45 ✓ Swap LI200X ✓

Install TX321 ✓ Reinstall all soil probes; in Dave's soil pit? ✓ Clear Site of brush ____

Tipping bucket was hanging off post, evidence of minor bear disturbance. Sol cables disturbed, paw marks on enclosure. Happened on 7/27/19 between 5pm-6pm. Leveled + reattached TB. Next year bring B-Line clamps/small pipe to mount on tripod. Lots of debris in TB, cleaned out.

STF1 = 10 cm
STF2 = 20 cm
STF3 = 50cm

Swapped LI200X.

Installed 4 new soil sensors in Dave's soil hole. STF4 = 90cm. Loaded new program w/ 109 programming.

WFMI Maintenance Narrative

(Fill out prior to submission of NAMS post-trip update. Update may contain several station visits.)

Image identifiers of photos taken

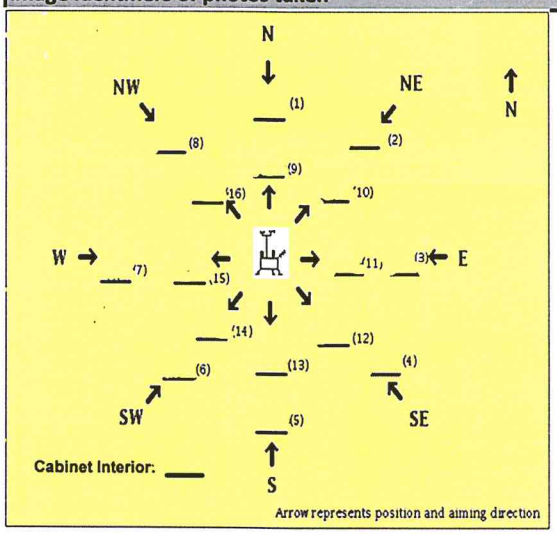

Photo Key	Image on camera #	Direction	On Computer
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9	393		
10	394		
11	395		
12	396		
13	397		
14	398		
15	399		
16	400		
17	401		

* Dave Swanson did soil characterization.

- Swapped TX312 for the TX321.

- Contact fire staff about brushing in 2020.

Side Note:
Tablet stopped working at site. Error message: "no operating system" Let it cool down + powered off + then it worked again.
Downloaded data on laptop just to be safe.

CAKN Weather & Climate Monitoring
Site Visit Worksheet
Version: 8 March 2017

CAKN Program Contact:
Pam Sousanes/Ken Hill
phone: (907) 455-0677/(907)-455-0678
email: pam_sousanes@nps.gov/kenneth_hill@nps.gov

Site name	Tana Knob	**DCS - Sat. TX Check**	**RAWS HelpDesk:**
Date of this visit	6/27/2019	phone: (757) 824-7450	phone: (208) 387-5475
Operators	SOUSANES + SWANSON	24/7 technical support	Hours: M-F, 6 AM-2:30 PM AST

Pre-Field Information

(Look up the station: www.nifc.blm.gov-->Login-->'Weather' -->'Select Station')

GOES Information:	
Latitude	60.908
Longitude	142.901311
NESDIS ID	3960709C
Tx Time (mm:ss)	0:33:40
Tx Channel	172
Antenna Azimuth (Deg Mag)	171
Antenna Elev. (Deg.)	21
Currently activated?	Y
Currently transmitting?	Y
NWS Site ID	TANA2
Camera	N

Sensors	Swap? (Y/N)	Recent error events (list)?
Temp	N	
Temp/RH	Y	EE181
Solar Radiation	N	
Wind Speed/Dir	Y	
Snow Depth	N	
Soil Temp 1	N	
Soil Temp 2	N	
Soil Temp 3	N	~~Install STF4~~ ADD STF 4
Precipitation	N	
Datalogger	N	
Transmitter	N	
Battery	N	
Fence	Y	

Record Site Conditions

Time visit begins:	1231pm	Time visit ends:	
Station accessible? (Y/N)	Y	If no, comment:	
Cables intact? (Y/N)	Y	If no, comment:	
Power source ok? (Y/N)	Y	If no, comment:	
Batteries ok? (Y/N)	Y	If no, comment:	

Record Station Status Table Values

(WMD: PConnectCE-->Connect Button-->Measurements Tab-->'Select 'Status' from Table Drop-Down Box)
(Laptop: Device config utility-->Select DataLogger CR1000 -->Connect Button-->Data Monitor tab-->Status table)

	Before Maintenance:		After Maintenance:	
OSVersion	26		26	
ProgName	TANA_2018		TANA_2018	
StartTime	7/11/2018	1:49pm		
12 V Battery Voltage	13.4		13.5	
Panel Temperature	21.6		22.3	
Watchdog Errors	0	Reset if >0	0	Reset if >0
Lithium Batt Volt	3.5	Replace if <2.9	0	Replace if <2.9
Low 12V Batt Count	442	Reset if >0 ?	3.5	Reset if >0
Skipped Scan	0	Reset if >0	0	Reset if >0

Maintenance Checklist

	Completed? (Y/N)	
Download Hourly Data	Y	
RNIN before program update	11.68	
SR50 height before	100.0	103.5 in. 2017
Upload new program	N - Uploaded 2018	
Re-enter RNIN after	Y	
Measure and re-enter SR50	Y	
Clean Rain Gage	Y	
Clean Temp Shield	N	
Level Solar sensor	N	
OS Version updated?	N	
Replace Desiccant	Y	
Tighten Guy Wires	N	
Clean Battery Terminals	N	
Clean Snow Depth Area	N	
Brush Station Vicinity	N	

Check transmitted values:

	Value	OK? (Y/N)
RNIN	11.7	
WSM	5.9	
WDD	17.0	
ATF	67.4	
FTF	—	
RHP	34.4	
BVV	13.4	
WDDP	142	
WSMPH	6.9	
SDI	0	
SRW	823	
STF	72.7	
STF2	55.9	
STF3	49.4	
STF4		

Tighten elements on YAGI	old style	EE181 ATF ~~HMP~~	66.7	
Take Site Photos	y	ATF ThermX	66.1	

Record Sensor Configuration Changes

	Model # out	Serial# out	Model # in	Serial# in	Cable length (ft)	Height/depth (in)
Air Temperature 1						
Air Temperature 2						
Temp/RH	EE181	171216000044AB	EE181	183116000002DA		
Solar Radiation						
Wind Speed/Dir	05103	53415	05103	105730		
Snow depth						
Soil Temp 1						
Soil Temp 2						
Soil Temp 3						
Precipitation						
Primary AT						
Datalogger						
Transmitter						

Comments

To do:

Swap EE181 ✓ Swap WS/WD ✓ Check/Repair Fence ✓ Install STF4 NO

Update program for STF4 ✗ NO RISK ASSESSMENT

- Replaced 109 radiation shield; bent over 90°
- Swapped AT/RH, WS/WD.
- rewired ground wire from station to enclosure
- fixed fence . Offset correction -5.0 inches.
- Swanson did soil/plant characterization
- enclosure very fiberglassy
- Reset Low 12V count; left over from last year ? Batt. Second fine.
- Checked SD height w/test program

WFMI Maintenance Narrative

Adjust SDI Sensor Height Next Year

(Fill out prior to submission of NAMS post-trip update. Update may contain several station visits.)

Image identifiers of photos taken

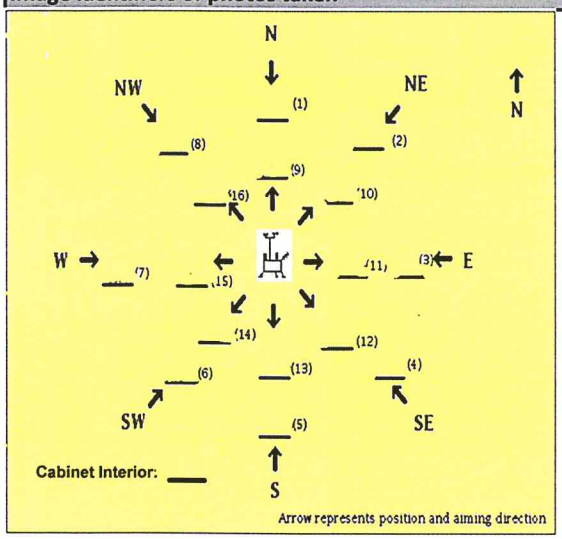

Photo Key	Image on camera #	Direction	On Computer
1		N Towards	
2		NE Towards	
3		E Towards	
4		SE Towards	
5		South Towards	
6		SW Towards	
7		W Towards	
8		NW Towards	
9		North Away	
10		NE Away	
11		E Away	
12		SE Away	
13		S Away	
14		SW Away	
15		W Away	
16		NW Away	
17		Enclosure	

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Site Visit Worksheet
Version: 8 March 2017

CAKN Program Contact:
Pam Sousanes/Ken Hill
phone: (907) 455-0677/(907)-455-0678
email: pam_sousanes@nps.gov/kenneth_hill@nps.gov

Site name	Tebay	**DCS - Sat. TX Check**	**RAWS HelpDesk:**
Date of this visit	6/27/19	phone: (757) 824-7450	phone: (208) 387-5475
Operators	SOUSANES + SWANSON	24/7 technical support	Hours: M-F, 6 AM-2:30 PM AST

Pre-Field Information

(Look up the station: www.nifc.blm.gov-->Login-->'Weather' -->'Select Station')

GOES Information:		Sensors	Swap? (Y/N)	Recent error events (list)?
Latitude	61.18095	Temp	N	
Longitude	-144.3392	Temp/RH	Y (EE181)	
NESDIS ID	3960936E	Solar Radiation	Y	
Tx Time (mm:ss)	0:34:00	Wind Speed/Dir	N	
Tx Channel	172	Snow Depth	Y	No values all year :(
Antenna Azimuth (Deg Mag)	169	Soil Temp 1	N	
Antenna Elev. (Deg.)	20	Soil Temp 2	N	
Currently activated?	Y	Soil Temp 3	N	~~Install STF4~~ ADD STF4
Currently transmitting?	Y	Precipitation	N ?	Low ? Check
NWS Site ID	TEBA2	Datalogger	N	
		Transmitter	?	? Check no TX jan-Feb
Camera	N	Battery	N	
		Fence	Y	

Record Site Conditions

Time visit begins:	9:50am	Time visit ends:	
Station accessible? (Y/N)	Y	If no, comment:	
Cables intact? (Y/N)	Y	If no, comment:	
Power source ok? (Y/N)	Y	If no, comment:	
Batteries ok? (Y/N)	Y	If no, comment:	

Record Station Status Table Values

(WMD: PConnectCE-->Connect Button-->Measurements Tab-->'Select 'Status' from Table Drop-Down Box)
(Laptop: Device config utility-->Select DataLogger CR1000 -->Connect Button-->Data Monitor tab-->Status table)

	Before Maintenance:		After Maintenance:	
OSVersion	26		26	
ProgName	Tebay_2018		Tebay_2018	
StartTime	7/10/18 15:22		6/27/2019 10:49am	
12 V Battery Voltage	13.1		13.1	
Panel Temperature	25.9		25.7	
Watchdog Errors	0	Reset if >0	0	Reset if >0
Lithium Batt Volt	3.5	Replace if <2.9	3.5	Replace if <2.9
Low 12V Batt Count	0	Reset if >0	0	Reset if >0
Skipped Scan	0	Reset if >0	0	Reset if >0

Maintenance Checklist

	Completed? (Y/N)		Check transmitted values:	Value	OK? (Y/N)
Download Hourly Data	Y		RNIN	15.8	
RNIN before program update	15.8		WSM	1.6	
SR50 height before	92.5	93.6 in 2018	WDD	28.3	
Upload new program	N		ATF	72.5	
Re-enter RNIN after	Y		FTF	~~76~~	
Measure and re-enter SR50	Y		RHP	39	
Clean Rain Gage	Y		BVV	13.2	
Clean Temp Shield	N		WDDP	15.3	
Level Solar sensor	Y		WSMPH	2.1	
OS Version updated?	N		SDI	2.699	
Replace Desiccant	Y		SRW	0.2	
Tighten Guy Wires	N	None	STF	59.8	

Clean Battery Terminals	N	STF2	55.4	
Clean Snow Depth Area	Y	STF3	53.8	
Brush Station Vicinity	N	STF4	—	
Tighten elements on YAGI	Old Style	08/18/ ATF HMP	72.7	
Take Site Photos		ATF ThermX	72	

Record Sensor Configuration Changes

	Model # out	Serial# out	Model # in	Serial# in	(ft)	(in)
Air Temperature 1						
Air Temperature 2						
Temp/RH	EE181	17101600004379	EE181	18311600002307C		
Solar Radiation	LI200X	102541	LI200X	43206		
Wind Speed/Dir						
Snow depth						
Soil Temp 1						
Soil Temp 2						
Soil Temp 3						
Precipitation						
Primary AT						
Datalogger						
Transmitter						

Comments

To do:

Swap EE181 ✓ Swap Snow ✓ Swap LI200X ✓ Add STF4 NO

Change program for STF4 X Check YAGI/Coax _____ Check Precip (Low?) looks ok

RISK ASSESSMENT _____

Swapped AT/RH, snow, solar

only sensor head, not cable for snow

Cleaned tipping bucket, minor debris in funnel

- fixed fence
- checked SD w/ test program
- Swanson did soil/plant characterization

WFMI Maintenance Narrative

(Fill out prior to submission of NAMS post-trip update. Update may contain several station visits.)

Image identifiers of photos taken

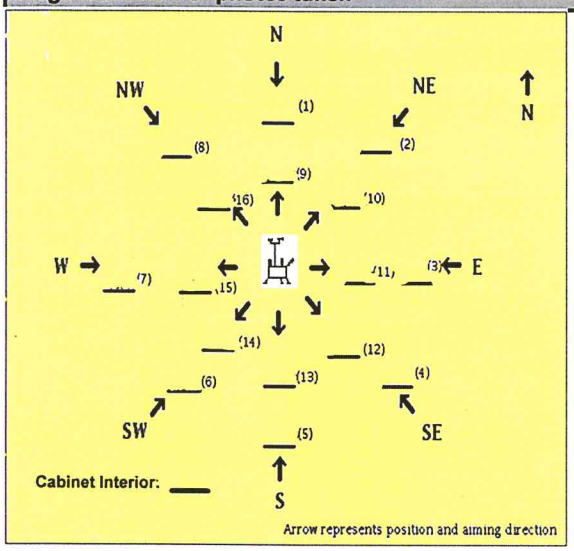

Photo Key	Image on camera #	Direction	On Computer
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6		SW Towards	
7		W Towards	
8		NW Towards	
9		North Away	
10		NE Away	
11		E Away	
12		SE Away	
13		S Away	
14		SW Away	
15		W Away	
16		NW Away	
17		Enclosure	

CAKN Weather & Climate Monitoring
Site Visit Worksheet
Version: 8 March 2017

CAKN Program Contact:
Pam Sousanes/Ken Hill
phone: (907) 455-0677/(907)-455-0678
email: pam_sousanes@nps.gov/kenneth_hill@nps.gov

Site name	Toklat	**DCS - Sat. TX Check**	**RAWS HelpDesk:**
Date of this visit	6/5/2019	phone: (757) 824-7450	phone: (208) 387-5475
Operators	Ken Hill	24/7 technical support	Hours: M-F, 6 AM-2:30 PM AST

Pre-Field Information

(Look up the station: www.nifc.blm.gov-->Login-->'Weather' -->'Select Station')

GOES Information:		Sensors	Swap? (Y/N)	Recent error events (list)?
Latitude	63.5255	Temp	N	
Longitude	-150.046481	Temp/RH	Y (EE181)	
NESDIS ID	396063EA	Solar Radiation	N	
Tx Time (mm:ss)	0:33:30	Wind Speed/Dir	N	
Tx Channel	172	Snow Depth	N	
Antenna Azimuth (Deg Mag)	141	Soil Temp 1	N	
Antenna Elev. (Deg.)	17	Soil Temp 2	N	
Currently activated?	Y	Soil Temp 3	N	
Currently transmitting?	Y	Precipitation	N	
NWS Site ID	TKLA2	Datalogger	N	
		Transmitter	N	
		Battery	YES?	
		Fence	N/A	

Record Site Conditions

Time visit begins:	15:06	Time visit ends:	16:30
Station accessible? (Y/N)	Y	If no, comment:	
Cables intact? (Y/N)	Y	If no, comment:	
Power source ok? (Y/N)	Y	If no, comment:	
Batteries ok? (Y/N)	Y/Notes	If no, comment:	Batteries beginning to weaken

Record Station Status Table Values

(WMD: PConnectCE-->Connect Button-->Measurements Tab-->'Select 'Status' from Table Drop-Down Box)
(Laptop: Device config utility-->Select DataLogger CR1000 -->Connect Button-->Data Monitor tab-->Status table)

	Before Maintenance:		After Maintenance:	
OSVersion	27		27	
ProgName	Toklat2017		toklat.2019	
StartTime	8/14/17 15:28		6/5/2019	16:11
12 V Battery Voltage	12.9		12.6	
Panel Temperature	16.0		16.1	
Watchdog Errors	0	Reset if >0	0	Reset if >0
Lithium Batt Volt	3.5	Replace if <2.9	3.4	Replace if <2.9
Low 12V Batt Count	0	Reset if >0	0	Reset if >0
Skipped Scan	0	Reset if >0	0	Reset if >0
RNIN Cumulative	4.95			
SR50a height	81.9			

Maintenance Checklist

	Completed? (Y/N)		Check transmitted values:	Value	OK? (Y/N)
Download Hourly Data	Y		RNIN	4.95	
RNIN before program update	4.95		WSM	1.0	
SR50 height before	81.9	81.9 in. 2018	WDD	146	
Upload new program	Y		ATF	56.1	
Re-enter RNIN after	Y		FTF	—	
Measure and re-enter SR50	81.9		RHP	42	
Clean Rain Gage	OK		BVV	12.6	
Clean Temp Shield	OK		WDDP	296	
Level Solar sensor	N		WSMPH	9.2	
OS Version updated?	N		SDI	0	
Replace Desiccant	Y		SRW	390	
Tighten Guy Wires	N		STF	61.5	

Clean Battery Terminals		STF2	56.8		
Clean Snow Depth Area		STF3	51.8		
Brush Station Vicinity		STF4	—		
Tighten elements on YAGI		EE181 ATF HMP	55.9		
Take Site Photos		ATF ThermX	56.0		

Record Sensor Configuration Changes

	Model # out	Serial# out	Model # in	Serial# in	Cable length (ft)	Height/depth (in)
Air Temperature 1						
Air Temperature 2						
Temp/RH	HMP45	X3410044	HMP45	183116000009FA		
Solar Radiation						
Wind Speed/Dir						
Snow depth						
Soil Temp 1						
Soil Temp 2						
Soil Temp 3						
Precipitation						
Primary AT						
Datalogger						
Transmitter						

Comments

Replace HMP45 with EE181 ✓

Swap Batteries ✓

Verify Soil Probe Depths N Looked Secure. Did not disturb

- Replaced battery cable

Next visit:
- Verify batteries are charging
- check Batteries and confirm tight connection

WFMI Maintenance Narrative

(Fill out prior to submission of NAMS post-trip update. Update may contain several station visits.)

Image identifiers of photos taken

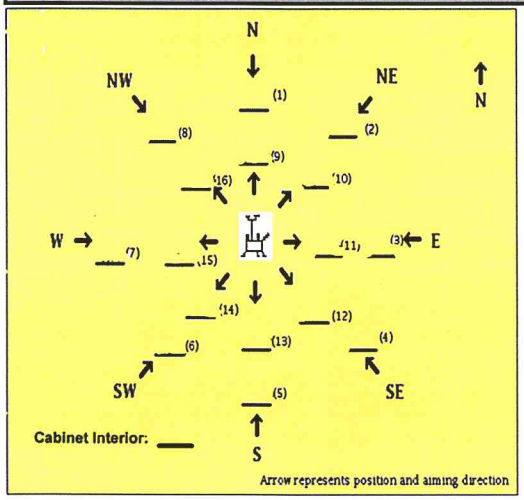

Photo Key	Image on camera #	Direction	On Computer
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CAKN Weather & Climate Monitoring
Site Visit Worksheet
Version: 8 March 2017

CAKN Program Contact:
Pam Sousanes/Ken Hill
phone: (907) 455-0677/(907)-455-0678
email: pam_sousanes@nps.gov/kenneth_hill@nps.gov

Site name	Upper Charley	**DCS - Sat. TX Check**	**RAWS HelpDesk:**
Date of this visit	5/14/2019	phone: (757) 824-7450	phone: (208) 387-5475
Operators	SOUSANES + HILL	24/7 technical support	Hours: M-F, 6 AM-2:30 PM AST

Pre-Field Information

(Look up the station: www.nifc.blm.gov-->Login-->'Weather' -->'Select Station')

GOES Information:		Sensors	Swap? (Y/N)	Recent error events (list)?
Latitude	64.516919	Temp	N	
Longitude	-143.202381	Temp/RH	Y (EE181)	
NESDIS ID	3960D064	Solar Radiation	N	
Tx Time (mm:ss)	0:38:10	Wind Speed/Dir	?	0 mph between mid Nov-mid Feb
Tx Channel	152	Snow Depth	?	80 between mid Dec-late Feb
Antenna Azimuth (Deg Mag)	171	Soil Temp 1	N	
Antenna Elev. (Deg.)	17	Soil Temp 2	N	
Currently activated?	Y	Soil Temp 3	Y	Add 4th STF at 100cm, uncomment ✓
Currently transmitting?	Y	Precipitation	N	
NWS Site ID	UPRA2	Datalogger	N	
		Transmitter	N	Check Firmware/ger SN#
Camera	Y	Battery	N	
		Fence	Y	Condition unknown

Record Site Conditions

Time visit begins:	3:15	Time visit ends:	4:45
Station accessible? (Y/N)	Y	If no, comment:	
Cables intact? (Y/N)	Y	If no, comment:	
Power source ok? (Y/N)	Y	If no, comment:	
Batteries ok? (Y/N)	Y	If no, comment:	

Record Station Status Table Values

(WMD: PConnectCE-->Connect Button-->Measurements Tab-->'Select 'Status' from Table Drop-Down Box)
(Laptop: Device config utility-->Select DataLogger CR1000 -->Connect Button-->Data Monitor tab-->Status table)

	Before Maintenance:		After Maintenance:	
OSVersion	25		25	
ProgName	Ucharley_2017		UCharley2019	
StartTime	6/13/17 15:46		5/14/2019 4:25pM	
12 V Battery Voltage	13.4		13.4	
Panel Temperature	14.7		13.9	
Watchdog Errors	0	Reset if >0	0	Reset if >0
Lithium Batt Volt	3.5	Replace if <2.9	3.5	Replace if <2.9
Low 12V Batt Count	0	Reset if >0	0	Reset if >0
Skipped Scan	0	Reset if >0	0	Reset if >0
RNIN Cumulative	0.3			
SR50a height		80 in 2017		

Maintenance Checklist

	Completed? (Y/N)		Check transmitted values:	Value	OK? (Y/N)
Download Hourly Data	Y		RNIN	0	Reset to 0" due to tipping bucket 90° off placement on arrival
RNIN before program update	0.3		WSM	7.3	
SR50 height before	80	80 in 2018	WDD	136	
Upload new program	Y	Load UCharley2019	ATF	54.1	
Re-enter RNIN after	0		FTF	—	
Measure and re-enter SR50	80		RHP	24.3	
Clean Rain Gage	yes		BVV	13.5	
Clean Temp Shield	ND		WDDP	10.1	
Level Solar sensor	ND		WSMPH	148	
OS Version updated?	ND		SDI	0.5	
Replace Desiccant	Y		SRW	811.5	

Tighten Guy Wires	NO	STF	40.6	
Clean Battery Terminals	NO	STF2	32.9	
Clean Snow Depth Area	NA	STF3	31.7	
Brush Station Vicinity	NA	STF4	32.3	
Tighten elements on YAGI	NA old style	181 ATF ~~HMP~~	54.1	
Take Site Photos		ATF ThermX	54.5	

Record Sensor Configuration Changes

	Model # out	Serial# out	Model # in	Serial# in	Cable length (ft)	Height/depth (in)
Air Temperature 1						
Air Temperature 2						
Temp/RH	HMP45	FY010029	EE181	783116000047DE		
Solar Radiation						
Wind Speed/Dir						
Snow depth						
Soil Temp 1						
Soil Temp 2						
Soil Temp 3						
Precipitation						
Datalogger						
Transmitter			321	17414846		

← INSTALLED IN 2018

Comments

To do:

Install EE181 ✓; Check WS/WD OK; Check SR50 OK; Add 4th soil sensor 75 CM; Uncomment STF4 in UChalrey2019 program if

Repair Fence ✓ Swap SD Card in Camera ✓ Assess condition of camera GOOD

Wind and snow look OK after mid Feb, check sensors. Check/update firmware on TX321, record TX serial # 17414846

- TIPPING BUCKET NAIL LOOSE, BUCKET 90° OFF W/FUNNEL ON GROUND. RIGHTED + TIGHTENED
- CHECKED FIRMWARE VERSION ON TX321 11.05 2017/09/14
- SWAPPED HMP45 FOR EE181
- INSTALLED STF4 AT 75CM W/DAVE'S SOIL POINDER INSTALLER
- FENCE POLYWIRE REPAIRED BY MATT KAMPF
- LOADED NEW PROGRAM W/181 + STF4. - SWAPPED SD CARD ON CAMERA

WFMI Maintenance Narrative

(Fill out prior to submission of NAMS post-trip update. Update may contain several station visits.)

Image identifiers of photos taken

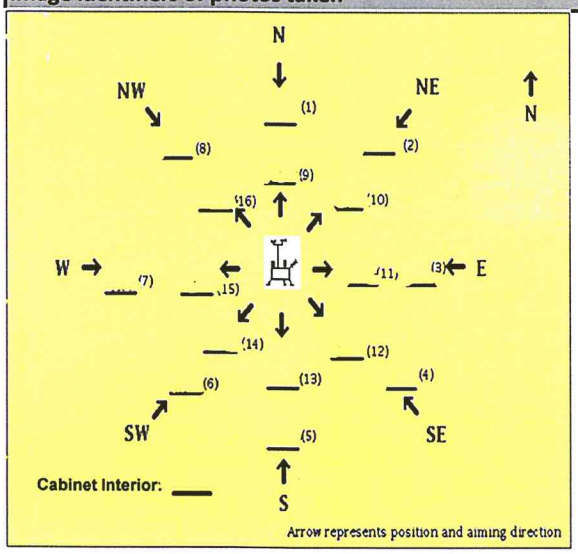

Photo Key	Image on camera #	Direction	On Computer
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4		SW Towards	
5		South Towards	
6		SE Towards	
7		E Towards	
8		NE Towards	
9		North Away	
10		NW Away	
11		W Away	
12		SW Away	
13		S Away	
14		SE Away	
15		E Away	
16		NE Away	
17		Enclosure	

Append 181 log

CAKN Weather & Climate Monitoring
Site Visit Worksheet
Version: 8 March 2017

CAKN Program Contact:
Pam Sousanes/Ken Hill
phone: (907) 455-0677/(907)-455-0678
email: pam_sousanes@nps.gov/kenneth_hill@nps.gov

Site name	Wigand	**DCS - Sat. TX Check**	**RAWS HelpDesk:**
Date of this visit	8/8/2019	phone: (757) 824-7450	phone: (208) 387-5475
Operators	SOUSAMS/SWANSON	24/7 technical support	Hours: M-F, 6 AM-2:30 PM AST

Pre-Field Information

(Look up the station: www.nifc.blm.gov-->Login-->'Weather' -->'Select Station')

GOES Information:		Sensors	Swap? (Y/N)	Recent error events (list)?
Latitude	63.812081	Temp	N	
Longitude	-150.049769	Temp/RH	Y	~~Install EE181~~ HM045
NESDIS ID	3960060C	Solar Radiation	Y (LI200X)	
Tx Time (mm:ss)	0:32:30	Wind Speed/Dir	Y(05103)	30' cable
Tx Channel	172	Snow Depth	N	
Antenna Azimuth (Deg Mag)	141 (?)	Soil Temp 1	N	
Antenna Elev. (Deg.)	18 (?)	Soil Temp 2	N	
Currently activated?	Y	Soil Temp 3	N	
Currently transmitting?	Y	Soil Temp 4	Y	Install ST4
NWS Site ID	WIGA2	Precipitation	N	
		Datalogger	N	
Fence	Y	Transmitter	Y	Install TX321
		Battery	N	

Record Site Conditions

Time visit begins:	5:15	Time visit ends:	
Station accessible? (Y/N)	Y	If no, comment:	
Cables intact? (Y/N)	Y	If no, comment:	
Power source ok? (Y/N)	Y	If no, comment:	
Batteries ok? (Y/N)	Y	If no, comment:	

Record Station Status Table Values

(WMD: PConnectCE-->Connect Button-->Measurements Tab-->'Select 'Status' from Table Drop-Down Box)
(Laptop: Device config utility-->Select DataLogger CR1000 -->Connect Button-->Data Monitor tab-->Status table)

	Before Maintenance:		After Maintenance:	
OSVersion	26		26	
ProgName	Wigand2017		Wigand2017	
StartTime	8/8/17 15:06		8/8/17 15:06	
12 V Battery Voltage	13.2		13.2	
Panel Temperature	20.7		19.5	
Watchdog Errors	0	Reset if >0	0	Reset if >0
Lithium Batt Volt	3.5	Replace if <2.9	3.5	Replace if <2.9
Low 12V Batt Count	0	Reset if >0	0	Reset if >0
Skipped Scan	0	Reset if >0	0	Reset if >0
RNIN Cumulative	9.95			
SR50a height	77.4			

Maintenance Checklist

	Completed? (Y/N)		Check transmitted values:	Value	OK? (Y/N)
Download Hourly Data	Y		RNIN	9.97	
RNIN before program update	9.95		WSM	4.3	
SR50 height before	77.4	77.4 in. 2017	WDD	251	
Upload new program	N		ATF	64.4	
Re-enter RNIN after	—		FTF	—	
Measure and re-enter SR50	—		RHP	44.8	
Clean Rain Gage	N		BVV	13.2	
Clean Temp Shield	N		WDDP	04.6	
Level Solar sensor	Y		WSMPH	01.7	
OS Version updated?	N		SDI	2.5	Vegetation clamps
Replace Desiccant	Y		SRW	167	
Tighten Guy Wires	Y		STF	44.6	

Clean Battery Terminals	N		STF2	67.2	
Clean Snow Depth Area	N		STF3	39.1	
Brush Station Vicinity	N		STF4		
Tighten elements on YAGI	Y		ATF HMP	64.8	
Take Site Photos	Y		ATF ThermX	64.5	

Record Sensor Configuration Changes

	Model # out	Serial# out	Model # in	Serial# in	Cable length (ft)	Height/depth (in)
Air Temperature 1						
Air Temperature 2						
Temp/RH	HMP45	E3010021	HMP45	X3410054		
Solar Radiation	LI200X	46238	LI200X	52878		
Wind Speed/Dir	O5103 - 30'	85175	O5103 - 30'	159361		
Snow depth						
Soil Temp 1						
Soil Temp 2						
Soil Temp 3						
Precipitation						
Primary AT						
Datalogger						
Transmitter						

Comments

~~Install EE181~~ ✓ Swap WS 30' cable ✓ Install TX321 ✓ Swap LI200X ✓ Install STF4 — Did not have time :(Swap HMP45

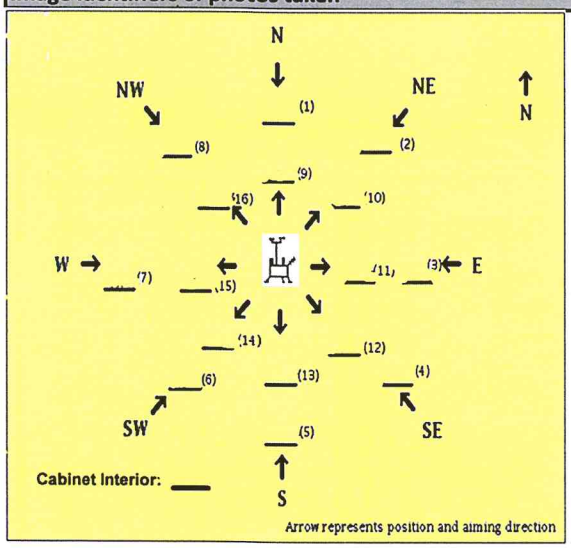
Did not install EE181, Swapped HMP45, Swapped 30' wind-getting more tricky b/c tripod legs are sinking making it difficult to undo guy wires. Also metal clip used to lower mast is bent-took brute force to get it undone. Consider replacing tripod w/ lunar lander tripod. Swapped LI200X, Did not change program. Swapped TX321 for TX312.

To Lower Mast: Disconnect Guy wires, loosens soil temp cables, left the enclosure and mast, lower mast, rest mast on actionapacker, watch wires when raising back up. Dave did soil characterization - hole immediately filled w/ water.

WFMI Maintenance Narrative

(Fill out prior to submission of NAMS post-trip update. Update may contain several station visits.)

Image identifiers of photos taken



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