

Campbell CR10X Data
 Logger

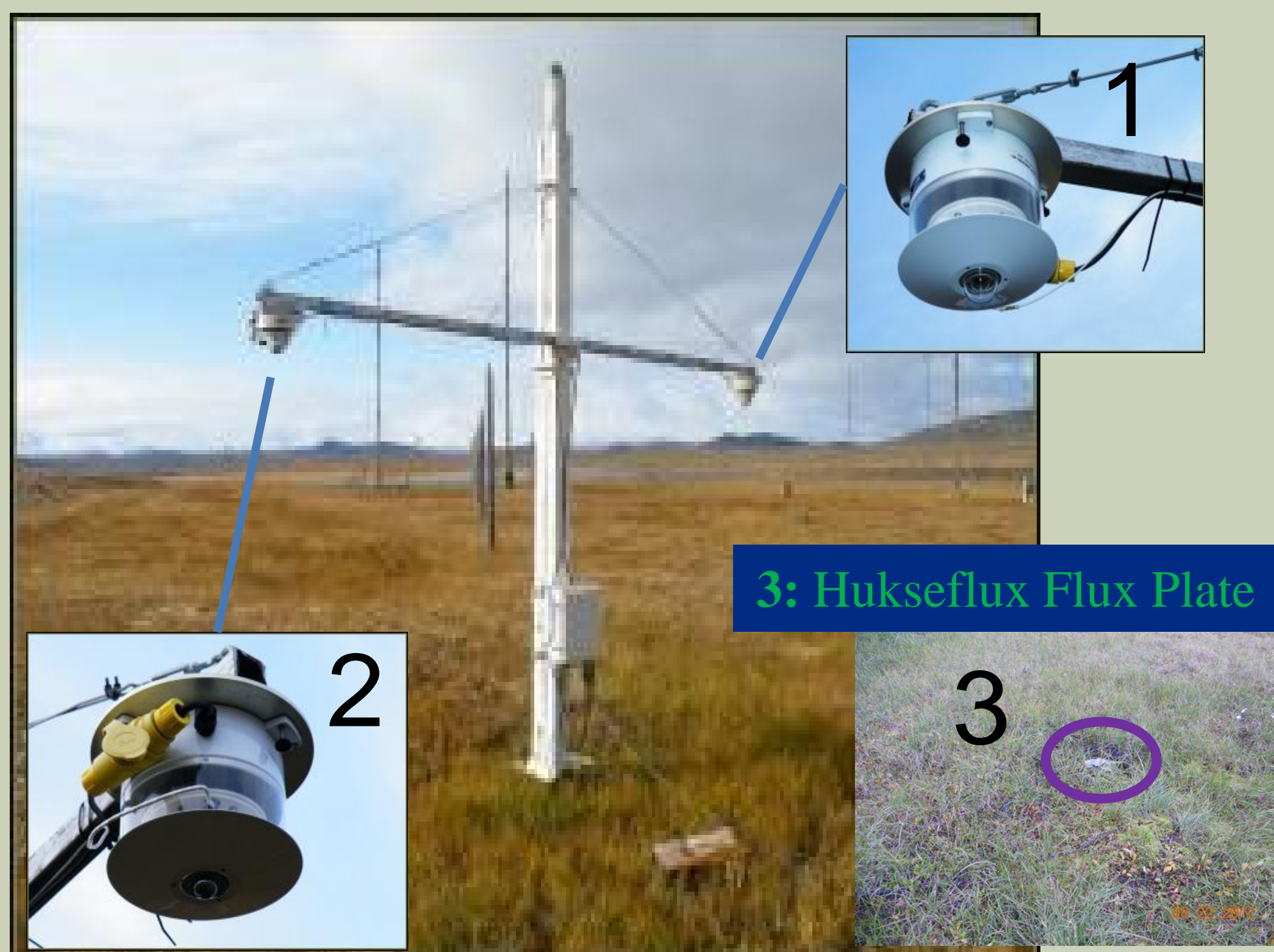
Location: Polyarka Wx Station: NOAA Office
 File name: tik_aYYYYMMDDHH.dat (as of 2/11/14)
 Former File Name: tikYYYYMMDDHH.dat
 File location in Tiksi: E:\rad2

Line ID	Year	Julian Day	Hour/Min [UTC]	Campbell Battery Voltage	Campbell CR10X temp [deg C]	LWtotalUpwelling [mV]	LWtotalUpwelling STD [mV]	LWtotal case [mV]	LWtotal dome [mV]	SWtotalUpwelling [mV]	SWtotalUpwelling STD [mV]	FluxPlate [mV]	FluxPlate STD [mV]
101	2012	339	1000	14.81	-34.8	0.07615	0.00096	188.13	194.44	-0.01245	0.00185	-0.53846	0.00015
101	2012	339	1001	14.81	-34.8	0.07541	0.0007	187.04	193.11	-0.01195	0.00228	-0.53841	0
101	2012	339	1002	14.81	-34.8	0.07523	0.00102	188.1	194.22	-0.01219	0.00236	-0.53843	0.00011

Data Diagnostics Logger Info

Platform: Albedo Rack

Location: East North East of Polyarka Wx Station



3: Hukseflux Flux Plate

Tiksi Data Center

BSRN Archive

NOAA

Quicklooks

Processing

FTP File locations at NOAA:
 From Tiksi Data Center to:
ftp://ftp.etl.noaa.gov/psd3/arctic/tiksi/radiometric/broadband_radiation/upwelling/raw/YYYY/
 then transferred to:
ftp://ftp.etl.noaa.gov/psd3/arctic/tiksi/radiometric/broadband_radiation/upwelling/products/YYYY/

Calibration Values:

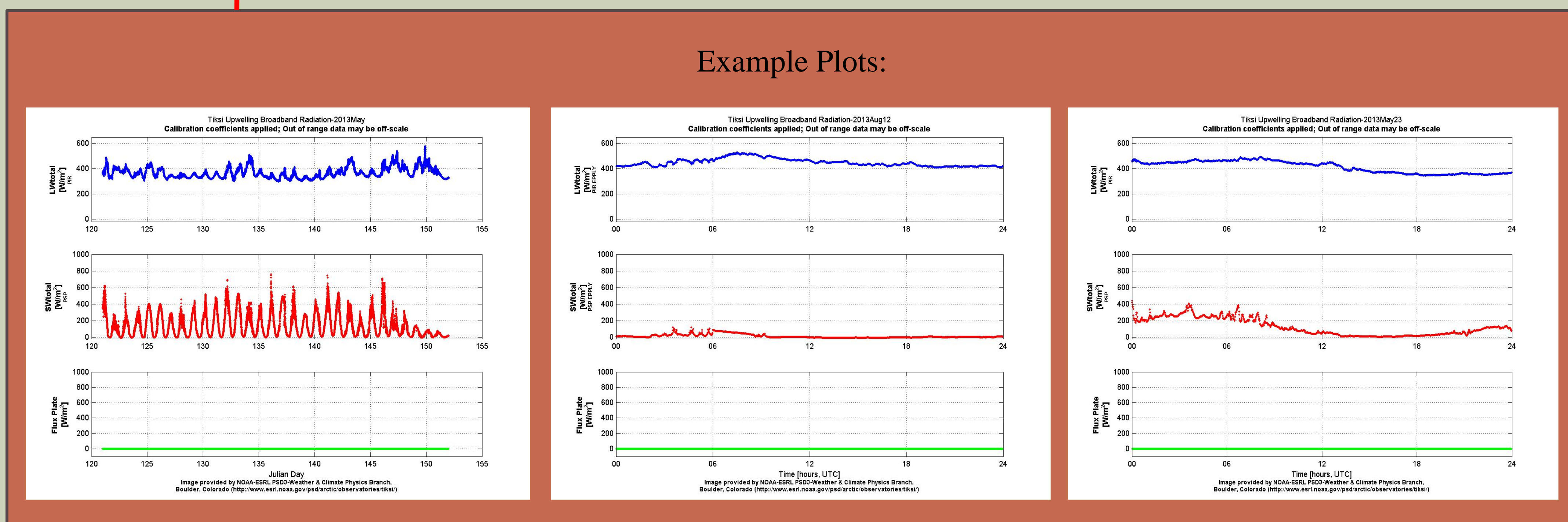
- Upwelling Shortwave Total (Eppley PSP)
 7.96 $\mu\text{V}/\text{W}/\text{m}^2$ 6/1/2010 - present
- Upwelling Longwave Total (Eppley PIR)
 268.420 $\text{W}/\text{mV}/\text{m}^2$, Dome = 3.80 6/11/2009 - present

* **Esen plate A** = $63.1 \cdot 10^{-6} \text{ V} \cdot \text{m}^2/\text{W}$

Calculations:

- DCF** = Dome Correction Factor (for PIR instruments)
 $\text{Sigma} = 5.6704 \cdot 10^{-8}$
- E** = efficiency = 1
- TCR** = Case Temp in mV (For Rad2: **data Column 9**)
- TDR** = Dome Temp in mV (For Rad2: **data Column 10**)
- TC** = PIR Temp[degK]
 $\text{Conversion} = 1 / ((0.0010295 + 0.0002391 \cdot \log(\text{TCR} \cdot 1000)) + 0.0000001568 \cdot \log(\text{TCR} \cdot 1000)^3)$
- TD** = PIR Dome[degK]
 $\text{Conversion} = 1 / ((0.0010295 + 0.0002391 \cdot \log(\text{TDR} \cdot 1000)) + 0.0000001568 \cdot \log(\text{TDR} \cdot 1000)^3)$
- V [mV]**: PIR = data Column 7, PSP = data Column 11
- SF**: PIR = $268.42 \text{ W}/\text{mV}/\text{m}^2$, PSP = $7.96 \mu\text{V}/\text{W}/\text{m}^2$
- PSP thermopile** (W/m^2) = $1000 \cdot \text{V}/\text{SF}$
- PIR thermopile** (W/m^2) = $\text{SF} \cdot \text{V} + \text{SIGMA} \cdot (\text{E} \cdot \text{TC} \cdot 4 + \text{DCF} \cdot (\text{TC} \cdot 4 \cdot \text{TD} \cdot 4))$
- Vsen plate A [mV]** = FluxA (**data Column 13**)
- Flux Plate A [W/m²]** = (Vsen plate A / Esen plate A) / 1000

Instrument Details			
Specifications	1	2	3
Measurement	Upwelling Shortwave Total	Upwelling Longwave Total	Conductive Flux
Serial #	35829	35765	2778
Instrument Manufacturer	Eppley PSP	Eppley PIR	Hukseflux
Type	Pyranometer (PSP)	Pyrgometer (PIR)	HFP01
Fan Included (y/n)	Yes; AC	Yes; AC	n/a
If Yes, specify AC/DC fan			
Case and Dome temps both measured (no/both/case/dome)	no	Yes	n/a
Dome Correction Factor? (value/Not Applicable)	n/a	3.8	n/a
Additional ventilation? (y/n/explain)	no	no	n/a
Heated/Aspirated? (y/n/both)	Aspirated	Aspirated	n/a
Is dome facing upward or downward?	Downward	Downward	n/a
Radiation measurement upwelling or downwelling?	Upwelling	Upwelling	n/a
Calibration factors	$7.96 \mu\text{V}/\text{W}/\text{m}^2$	$268.42 \text{ W}/\text{mV}/\text{m}^2$	$63.1 \mu\text{V}/\text{W}/\text{m}^2$
Additional Corrections Applied (y/n/explain)	no	Yes; multiply incoming mV value by (-1) because wires measuring voltage across thermopile are swapped	no



Ingest

Folder Name	File Name	FTP Location
Raw	tik_aYYYYMMDDhh.dat	ftp://ftp.etl.noaa.gov/psd3/arctic/tiksi/radiometric/broadband_radiation/upwelling/raw/YYYY/
Ingest	tik.bsrn2.daily.cow0.c2.YYYYYMDD.txt	ftp://ftp.etl.noaa.gov/psd3/arctic/tiksi/radiometric/broadband_radiation/upwelling/ingest/YYYY/
Products	tik.radiation.daily.cow0.c3.YYYYYMDD.txt	ftp://ftp.etl.noaa.gov/psd3/arctic/tiksi/radiometric/broadband_radiation/downwelling/products/YYYY/
Quicklooks	tik.bsrn2.daily.cow0.c2.YYYYYMDD.jpg	ftp://ftp.etl.noaa.gov/psd3/arctic/tiksi/radiometric/broadband_radiation/upwelling/quicklooks/YYYY/
Example:	tik.bsrn2.daily.cow0.c2.20120327.txt	ftp://ftp.etl.noaa.gov/psd3/arctic/tiksi/radiometric/broadband_radiation/upwelling/products/YYYY/

Product

IASOA Portal

Standardized Data Format:
 Definitions:
 sss - site identifier (e.g., tik)
 inst - base instrument abbreviation
 Fn - facility abbreviation (e.g., caf[0:1], cow[0:1], twr[0:1])
 data qualifier - daily or monthly
 data processing level - raw=c1, ingest=c2, products=c3

Example Product File:

DayFrac	Year	DOY	HourMin	SW1totalDownwellingBroadband [W/m ²]	SWdiffuseDownwellingBroadband [W/m ²]	SW2totalDownwellingBroadband [W/m ²]	SWdirectDownwellingBroadband [W/m ²]	LWtotalDownwellingBroadband [W/m ²]	SWtotalUpwellingBroadband [W/m ²]	LWtotalUpwellingBroadband [W/m ²]
7	2014	7	0	-0.706621	0.059633	-0.37766	0.781523	190.598	-1.21482	230.277
7.00069	2014	7	1	-0.674658	0.0573394	-0.351064	0.635456	190.479	-1.19849	230.926
7.00139	2014	7	2	-0.765982	0.0137615	-0.364894	0.549313	189.247	-1.22739	232.014

Home:
<http://www.esrl.noaa.gov/psd/iasoa/>
Data:
<http://www.esrl.noaa.gov/psd/iasoa/dataataglance>