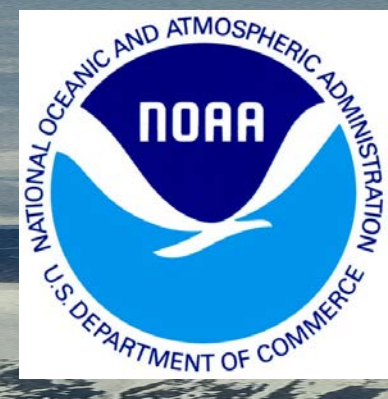


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Datagrams: Alert



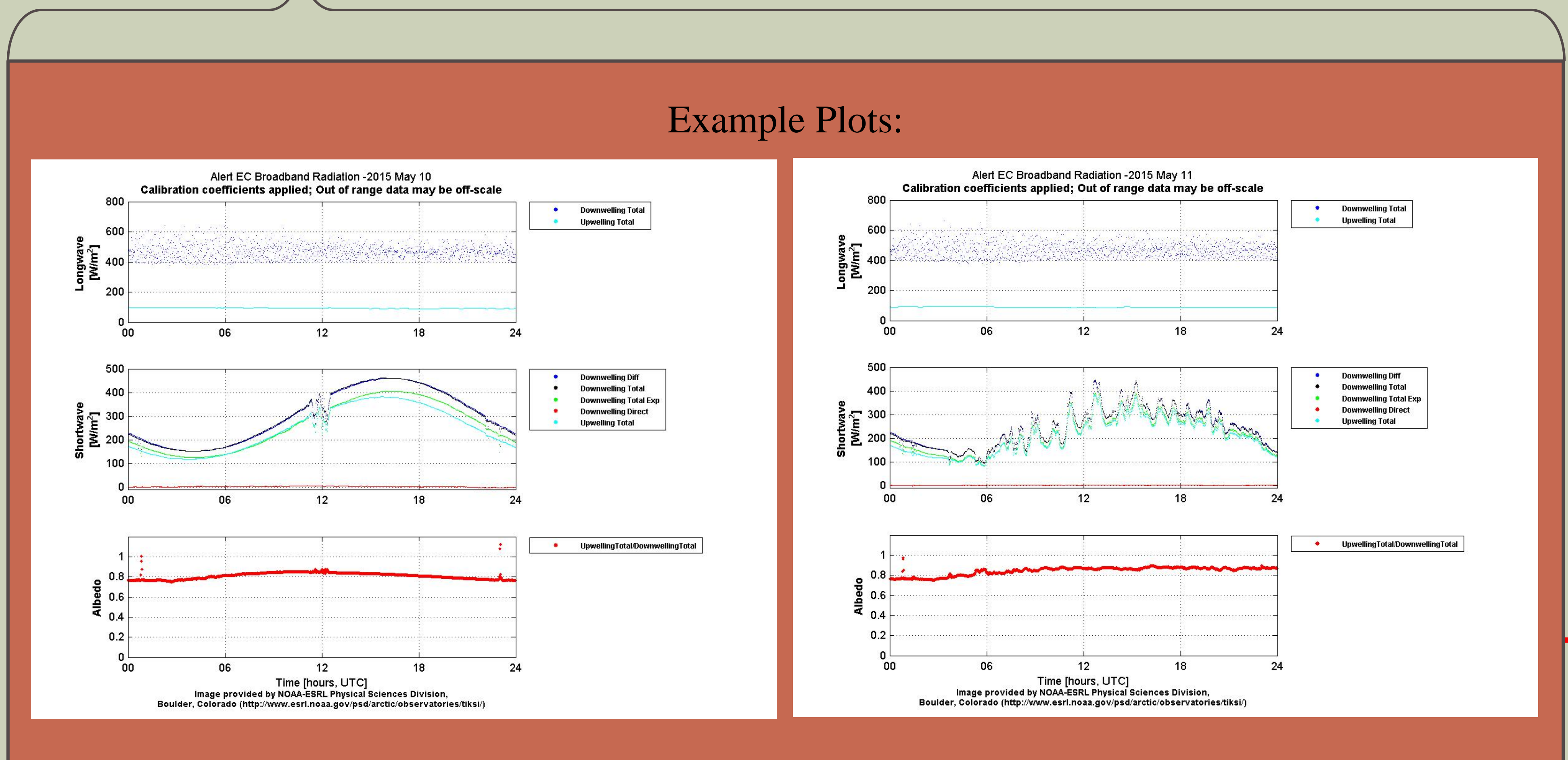
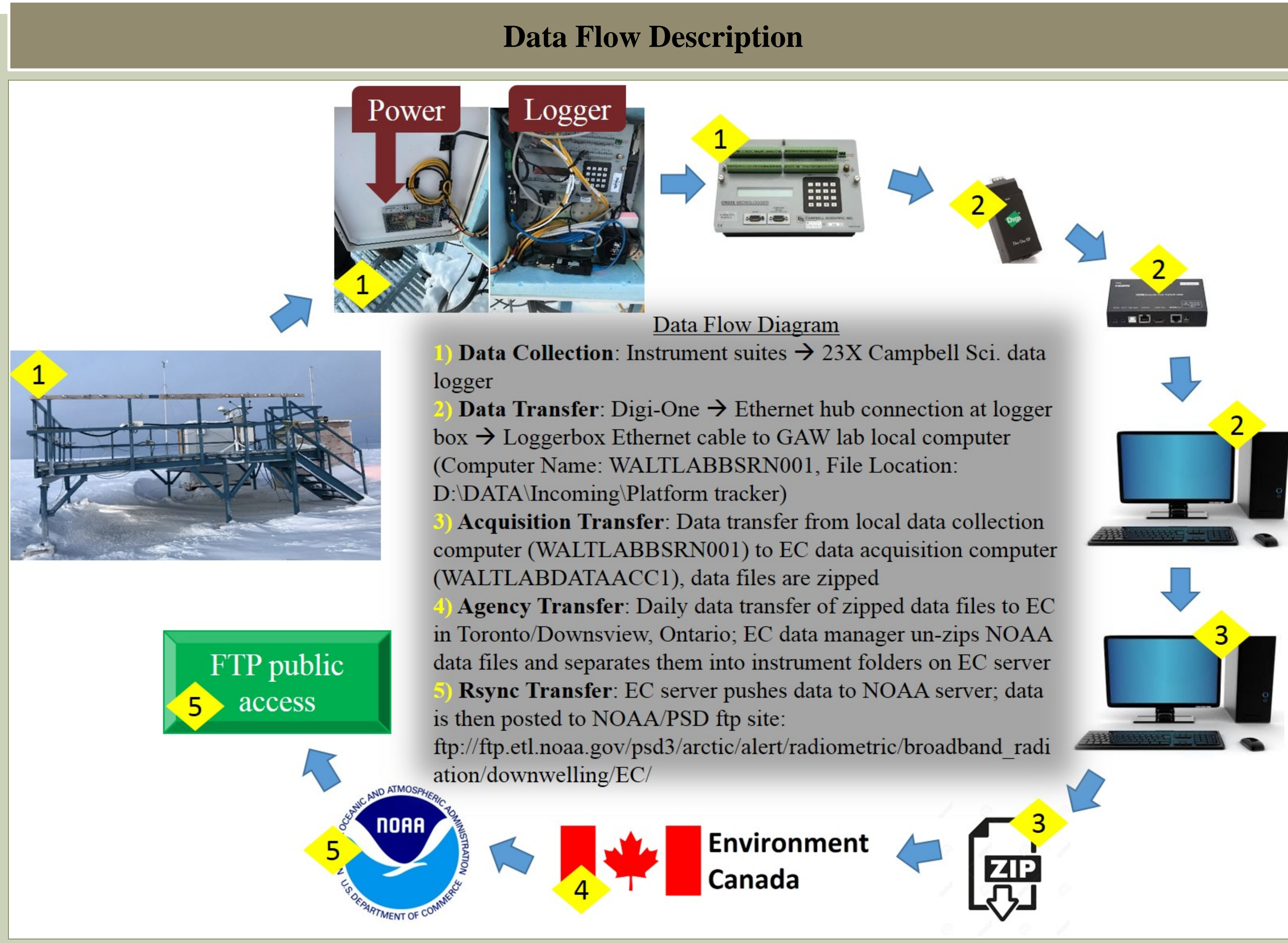
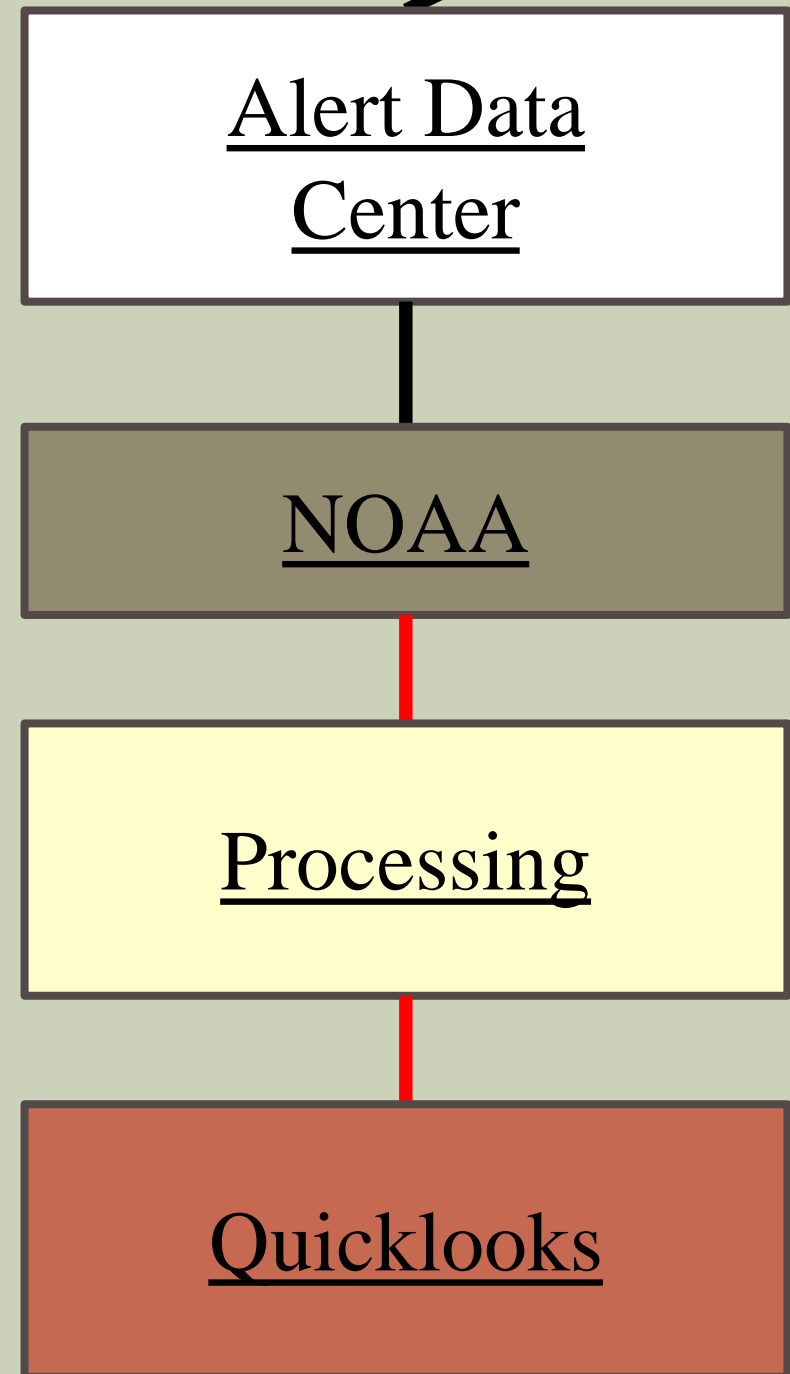
EC Broadband Radiation Downwelling

Contacts
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File name: (as of 1/11/17) Platform tracker 23X-YYYY-MM-DD.dat
 File location on ingest Server: /home/alert/Platform tracker/

lineID	Year	Julian Day	GMT/UTC Time [HHMM]	Logger Battery Voltage	Logger Temp [degC]	Downwelling Shortwave Direct [mV]	Downwelling Shortwave Direct std	Downwelling Shortwave Direct Case Temp [degC]	Downwelling Longwave Total [mV]	Downwelling Longwave Total std	Downwelling Longwave Total Case Temp [degC]	Downwelling Longwave Total Case Temp [repeated]	Downwelling Shortwave Diffuse [mV]	Downwelling Shortwave Diffuse std	Downwelling Shortwave Diffuse Case Temp [degC]	Downwelling Shortwave Total [mV]	Downwelling Shortwave Total std	Downwelling Shortwave Total Case Temp [degC]	Experimental Downwelling Shortwave Total std	
101	2014	174	41	13.18	11.44	-0.00101	0.00026	37.968	-0.0691	0.00052	10.138	10.138	0.8319	0.00947	30.533	0.86256	0.0097	30.673	0.79859	0.00962
101	2014	174	42	13.18	11.43	-0.00041	0.00024	37.724	-0.0705	0.00126	13.169	13.169	0.80281	0.01259	30.517	0.8326	0.01301	30.655	0.76927	0.01228

Data Diagnostics Logger Info



Files separated into individual raw files by instrument (locations below):
 lineID 101: EC Broadband Radiation Downwelling 1 2 3 4 5
 ftp://ftp.etl.noaa.gov/psd3/arctic/alert/radiometric/broadband_radiation/downwelling/EC/raw/

Folder Name	File Name	FTP Location
Raw	Platform tracker 23X-YYYY-MM-DD.dat	ftp://ftp.etl.noaa.gov/psd3/arctic/alert/radiometric/broadband_radiation/downwelling/EC/raw/
Ingest	altradiationmet.a1.YYYYMMDD.hhmss.txt	ftp://ftp.etl.noaa.gov/psd3/arctic/alert/radiometric/broadband_radiation/downwelling/EC/ingest/
Products	altradiationecbsrn.b1.YYYYMMDD.hhmss.txt	ftp://ftp.etl.noaa.gov/psd3/arctic/alert/radiometric/broadband_radiation/products/quality_controlled/
Quicklooks	altradiationecbsrn.a1.YYYYMMDD.hhmss.jpg	ftp://ftp.etl.noaa.gov/psd3/arctic/alert/radiometric/broadband_radiation/quicklooks/

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

IASOA Portal

Product

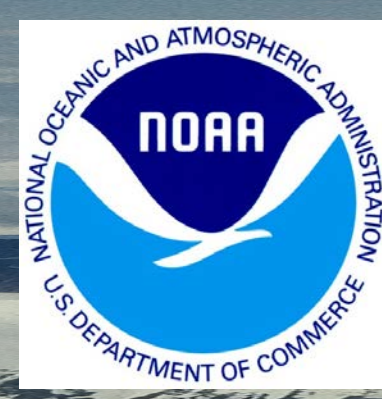
Example Product File:

DayFrac	Year	JulianDay	HourMin	SWDiffDownwelling [W/m2]	SWTotalDownwelling [W/m2]	SWDirDownwelling [W/m2]	LWTotalDownwelling [W/m2]	SWTotalDownwelling [W/m2]	SWTotalUpwelling [W/m2]	LWTotalUpwelling [W/m2]	Albedo	QualityControl
1	2015	1	0	-1.24508	-0.983069	0.154523	424.909	-2.52247	-0.712826	119.764	0.725103	0300043942440
1.00069	2015	1	1	-1.25055	-0.986243	0.130653	454.106	-2.55695	-0.68672	119.741	0.696298	0300043942440

Official Data Submission to an Archive — Data Cable — rsync — NOAA server —

Contacts

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Datagrams:
Alert

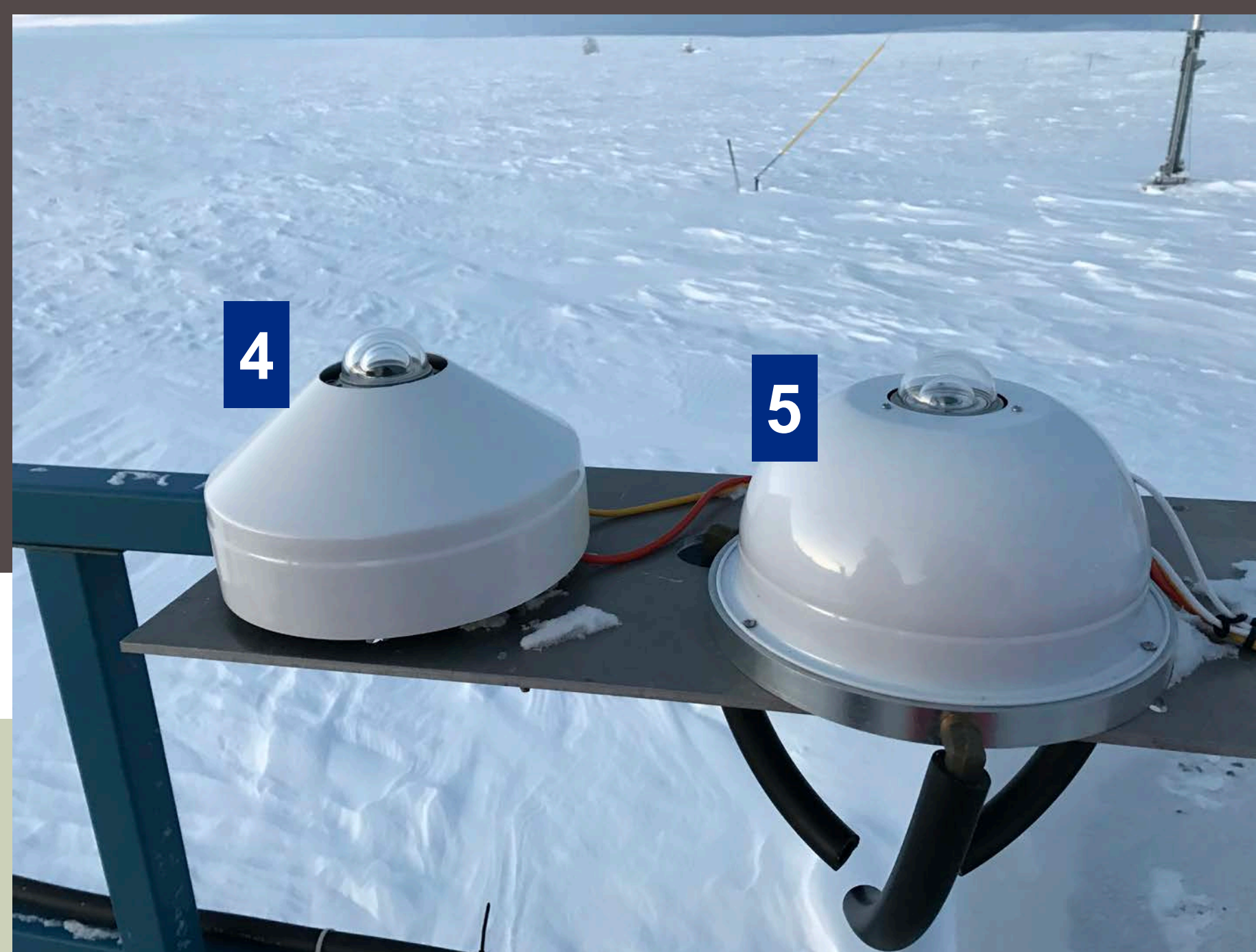


EC Broadband Radiation Downwelling

Contacts

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 sara.crepinsek@noaa.gov

Instrument Specifications



Processing

Calibration Values:

- Downwelling Longwave Total (K&Z CGR4)
 11.66 $\mu\text{V}/\text{W}/\text{m}^2$??? – present
- Downwelling Shortwave Diffuse (K&Z CMP22)
 9.14 $\mu\text{V}/\text{W}/\text{m}^2$ 06/01/2014 – present
 9.23 $\mu\text{V}/\text{W}/\text{m}^2$ 09/30/2013 – 03/12/2014
- Downwelling Shortwave Direct (K&Z CHP1)
 7.96 $\mu\text{V}/\text{W}/\text{m}^2$ 02/06/2009 – present
- Downwelling Shortwave Total (K&Z CMP22)
 9.45 $\mu\text{V}/\text{W}/\text{m}^2$ 06/01/2014 – present
 9.48 $\mu\text{V}/\text{W}/\text{m}^2$ 09/30/2013 – 03/12/2014
- Downwelling Shortwave Total (Eppley PSP)
 9.57 $\mu\text{V}/\text{W}/\text{m}^2$ 05/29/2006 – present
 9.51 $\mu\text{V}/\text{W}/\text{m}^2$ 01/27/2001 – 05/30/2006
 9.96 $\mu\text{V}/\text{W}/\text{m}^2$ 01/10/1998 – 01/26/2001
 9.81 $\mu\text{V}/\text{W}/\text{m}^2$ 01/17/1996 – 01/09/1998
 9.91 $\mu\text{V}/\text{W}/\text{m}^2$ 05/01/1995 – 01/16/1996
 9.98 $\mu\text{V}/\text{W}/\text{m}^2$ 01/01/1995 – 04/30/1995

Instrument Details

Specifications	1	2	3	4	5
Measurement	Downwelling Longwave Total	Downwelling Shortwave Diffuse	Downwelling Shortwave Direct	Downwelling Shortwave Total	Downwelling Shortwave Total (experimental)
Serial #	080015	080053	090061	090057	12266-F3
Instrument Manufacturer	Kipp&Zonen CGR4	Kipp&Zonen CMP22	Kipp&Zonen CHP1	Kipp&Zonen CMP22	Eppley PSP
Type	Pyrgometer (PIR)	Pyranometer (PSP)	Pyrheliometer (PSP-NIP)	Pyranometer (PSP)	Pyranometer (PSP)
Special Notes	- October 19, 2016: Moved off of tracker to side railing due to interference (possibly from other instruments fan) issues while on the tracker; this is now an UNSHADED PIR	- Re-calibrated with swapped internal/external components in June 2014 - Internal/external components swapped with NOAA K&Z pyranometer model CM22 (SN030084) in March 2014 due to connector issue		- Re-calibrated with swapped internal/external components in June 2014 - Internal/external components swapped with NOAA K&Z pyranometer model CM22 (SN030085) in March 2014 due to connector issue	- October 19, 2016 instrument was removed and sent back to NOAA for calibration - Previously located at Barrow Station
Height	2m	2m	2m	2m	2m
Fan Included (y/n) If Yes, specify AC/DC fan	Yes; DC	Yes; DC	Yes; DC	Yes; DC	Yes; AC
Case and Dome temps both measured (no/both/case/dome)	Case	Case	Case	Case	no
Dome Correction Factor? (value/Not Applicable)	no	no	no	no	no
Additional ventilation? (y/n/explain)	no	no	no	no	no
Heated/Aspirated? (y/n/both)	Heated, Aspirated	Heated, Aspirated	Heated, Aspirated	Heated, Aspirated	Aspirated
Is dome facing upward or downward?	Upward	Upward	Upward	Upward	Upward
Radiation measurement upwelling or downwelling?	Downwelling	Downwelling	Downwelling	Downwelling	Downwelling
Measurement Unit	mV	mV	mV	mV	mV
Calibration factors	11.66 $\mu\text{V}/\text{W}/\text{m}^2$	9.14 $\mu\text{V}/\text{W}/\text{m}^2$	7.96 $\mu\text{V}/\text{W}/\text{m}^2$	9.45 $\mu\text{V}/\text{W}/\text{m}^2$	9.57 $\mu\text{V}/\text{W}/\text{m}^2$
Unit after Applied Calibration or Conversion	W/m ²	W/m ²	W/m ²	W/m ²	W/m ²
Additional Corrections Applied (y/n/explain)					

Processing Conversions:

Shortwave Radiation (#2, #3, #4, #5)
DESCRIPTION:
 SW = 1000 * Recorded value / calibration coefficient

UNITS:
 W/m² = 1000 * mV / $\mu\text{V}/\text{W}/\text{m}^2$

Longwave Radiation (#1)
DESCRIPTION:
 Sigma = 5.6704e-8, Emissivity = 1, SF = calibration coefficient
 A = 0.0010295
 B = 0.0002391
 C = 0.0000001568
 LW_case = 1/(A+B*ln(T_case*1000)+C*ln(T_case*1000)³)
 LW = SF*Recorded value+Sigma(E(LW_case⁴)*(LW_case⁴))

UNITS:
 LW_case_mV = 1/(A+B*ln(mV*1000)+C*ln(mV*1000)³)
 W/m² = (mV/W/m²)*mV+Sigma(E(LW_case_mV⁴)*(LW_case_mV⁴))

Processing Quality Control Techniques:

Historical Quality Control Techniques:
 Long, C. N., & Shi, Y. (2008). *An Automated Quality Assessment and Control Algorithm for Surface Radiation Measurements*. OASJ, 2, 23-37. doi: 10.2174/1874282300802010023

Younkin, K., & Long, C. N. (2004). *Improved Correction of IR Loss in Diffuse Shortwave Measurements: An ARM Value Added Product*.

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