Contacts
Research Coordinator: James Drummond
james.drummond@dal.ca
CANDAC Data Manager: Yan Tsehtik
yan.tsehtik@candac.ca
NOAA Data Manager, Logistics, Technician:
Sara Crepinsek
sara.crepinsek@noaa.gov

Datagrams: Eureka
NOAA Broadband Radiation Upwelling

Contacts
Project Lead: Taneil Uttal
taneil.uttal@noaa.gov
Site Manager: Pierre Fogal
pierre.fogal@utoronto.ca
Scientist, Technician: Christopher Cox
Christopher.j.cox@noaa.gov

File name: (as of 4/2/14) ALBEDO_YYYYMMDD_hhmm.dat

Line ID	Year	Julian Day	GMT/UTC Hour/Min	Campbell Battery Voltage	Campbell Internal Temp [degC]	Upwelling Longwave Total [mV]	Upwelling Longwave Total STD [mV]	Upwellling Longwave Total Case Temp [kohms]	Upwelling Longwave Total Dome Temp [kohms]	Upwelling Shortwave Total [mV]	Upwelling Shortwave Total [mV]
101	2014	304	151	14.49	-29.5	-0.0817	0.00038	0.59063	0.59078	-99999	0
101	2014	304	152	14.49	-29.5	-0.08191	0.00036	0.59092	0.59097	-99999	0
101	2014	304	153	14.49	-29.5	-0.08136	0.0033	0.59121	0.59123	-99999	0

Data | Diagnostics | Logger Info

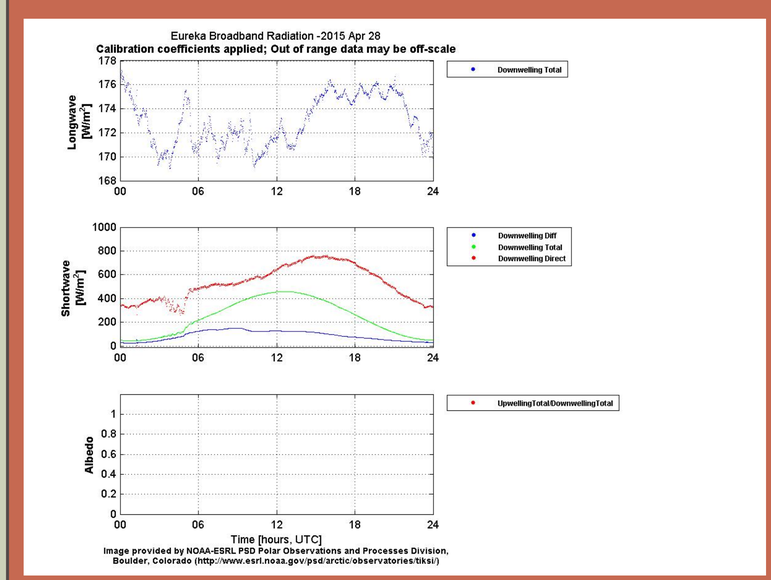
Eureka Data Center

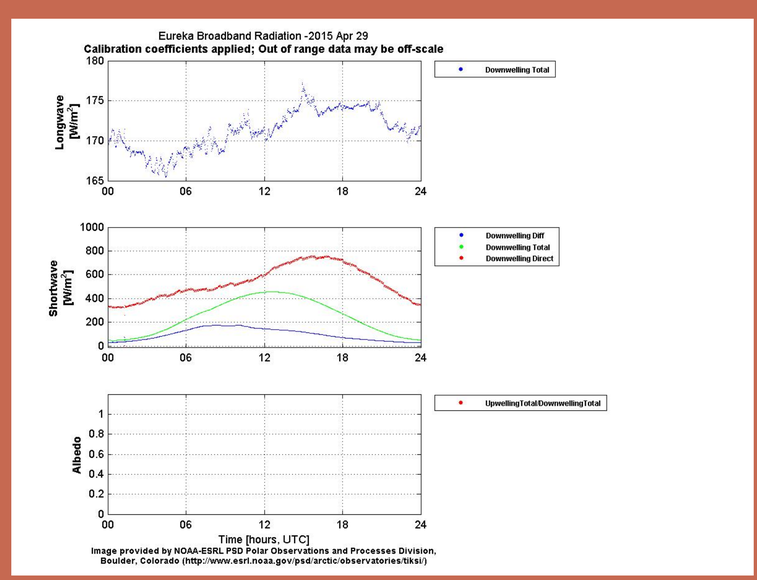
NOAA

Processing

Quicklooks

Example Plots:





Ingest

Folder Name	File Name	FTP Location
Raw	ALBEDO_YYYYMMDD_hhmm.dat	ftp://ftp.etl.noaa.gov/psd3/arctic/eureka/radiometric/broadband_radiation/upwelling/raw/
Ingest	eurradiationrack.a1.YYYYMMDD.hhmmss.txt	ftp://ftp.etl.noaa.gov/psd3/arctic/eureka/radiometric/broadband_radiation/upwelling/ingest/
Products	eurradiationbsrn.b1.YYYYMMDD.hhmmss.txt	ftp://ftp.etl.noaa.gov/psd3/arctic/eureka/radiometric/broadband_radiation/products/quality_controlled/
Quicklooks	eurradiationbsrn.a1.YYYYMMDD.hhmmss.jpg	ftp://ftp.etl.noaa.gov/psd3/arctic/eureka/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	SWTotalDownwelling [W/m2]	SWDiffDownwelling [W/m2]	SWDirDownwelling [W/m2]	LWTotalDownwelling [W/m2]	SWTotalUpwelling [W/m2]	LWTotalUpwelling [W/m2]	Albedo	DiffCorr [W/m2]	GlobalCorr [W/m2]	QualityControlled
152.001	2015	152	1	177.41	40.1155	478.421	228.83	-9999	195.197	-9999	00090300903 44433300		
152.001	2015	152	2	177.366	40.1359	469.917	228.66	-9999	191.923	-9999	00090100903 44433300		

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

Contacts
Research Coordinator: James Drummond
james.drummond@dal.ca
CANDAC Data Manager: Yan Tsehtik
yan.tsehtik@candac.ca
NOAA Data Manager, Logistics, Technician:
Sara Crepinsek
sara.crepinsek@noaa.gov

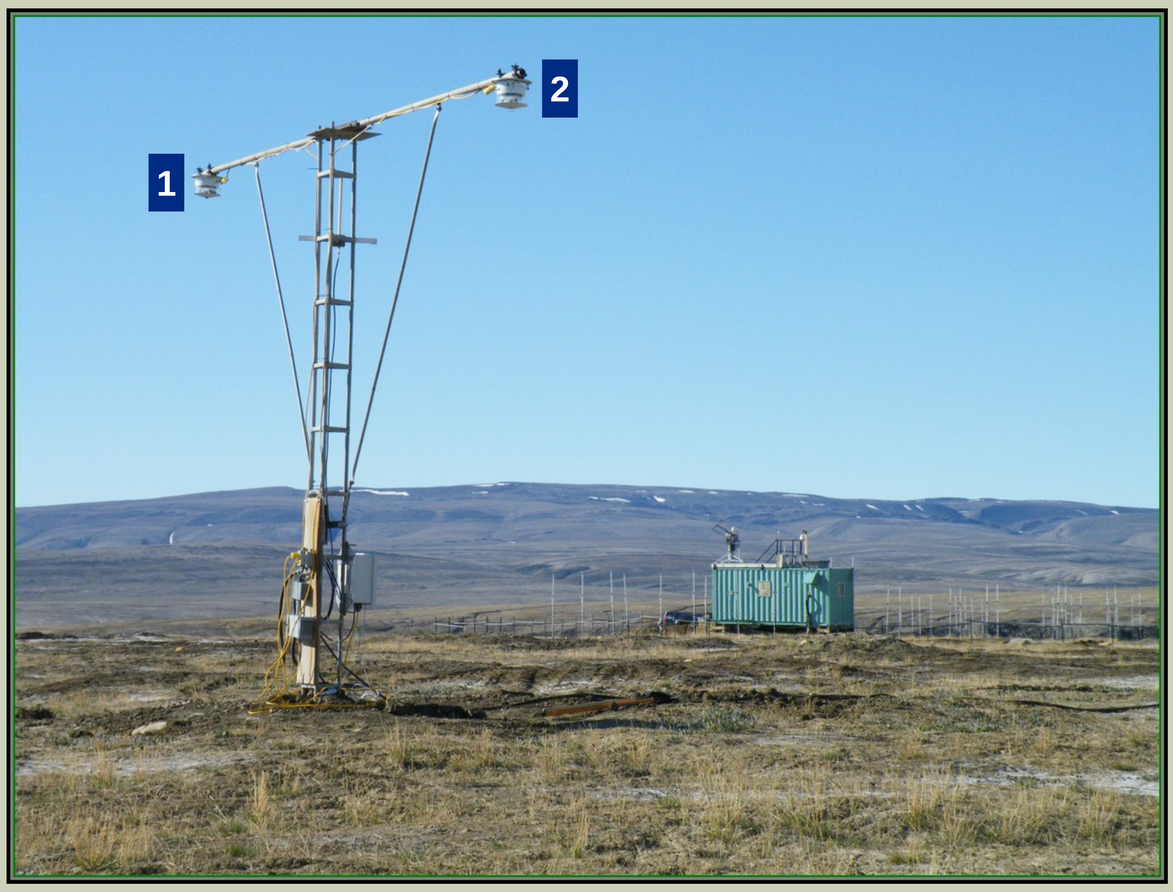
Datagrams:

Eureka

NOAA Broadband Radiation Downwelling

Contacts
Project Lead: Taneil Uttal
taneil.uttal@noaa.gov
Site Manager: Pierre Fogal
pierre.fogal@utoronto.ca
Scientist, Technician: Christopher Cox
Christopher.j.cox@noaa.gov

Instrument Specifications



Instrument Details		
Specifications	**1**	**2**
Measurement	Upwelling Longwave Total	Upwelling Shortwave Total
Serial #	36797F3	36761F3
Instrument Manufacturer	Eppley PIR	Eppley PSP
Type	Pyrgeometer (PIR)	Pyranometer (PSP)
Special Notes		
Height	4m	4m
Fan Included (y/n) If Yes, specify AC/DC fan	Yes, AC	Yes, AC
Case and Dome temps both measured (no/both/case/dome)	yes	no
Dome Correction Factor? (value/Not Applicable)	4.21	n/a
Additional ventilation? (y/n/explain)	no	no
Heated/Aspirated? (y/n/both)	Aspirated	Aspirated
Is dome facing upward or downward?	Downward	Downward
Radiation measurement upwelling or downwelling?	Upwelling	Upwelling
Measured Unit		
Calibration factors	298.686 W/mV/m^2 (Dome = 4.21)	8.55 μV/W/m^2
Unit after Applied Calibration or Conversion		
Additional Corrections Applied (y/n/explain)	no	no

Processing

Calibration Values:

1. Upwelling Longwave Total (Eppley PIR)
   298.686 W/mV/m^2, Dome = 4.21 07/01/2011 – present
   3.45 μV/W/m^2 04/05/2011 (original cal)
2. Upwelling Shortwave Total (Eppley PSP)
   8.55 μV/W/m^2 04/04/2011 (original cal)

Processing Conversions:

Shortwave Radiation (#2)

DESCRIPTION:

SW = 1000 * Recorded value / calibration coefficient

UNITS:

W/m^2 = 1000 * mV / μV/W/m^2

Longwave Radiation (#1)

DESCRIPTION:

Sigma = 5.6704e-8, Emissivity = 1, DCF = dome correction factor, 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_dome = 1/(A+B*ln(T_dome*1000)+C*ln(T_dome*1000)^3)

LW = SF*Recorded value+Sigma(E(LW_case^4)+DCF((LW_case^4)-(LW_dome^4))

UNITS:

LW_case_mV = 1/(A+B*ln(mV*1000)+C*ln(mV*1000)^3)

LW_dome_mV = 1/(A+B*ln(mV*1000)+C*ln(mV*1000)^3)

W/m^2 = (mV/W/m^2)*mV+Sigma(E(LW_case_mV^4)+DCF ((LW_case_mV^4)-(LW_dome_mV^4))

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.

***Arctic Quality Control Techniques: contact information**
Chuck Long (chuck.long@noaa.gov)
Chris Cox (Christopher.j.cox@noaa.gov)