Datagrams: Summit Ceilometer

Contacts
Project Lead: Matthew Shupe
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Contacts
Data Support: Sara Crepinsek
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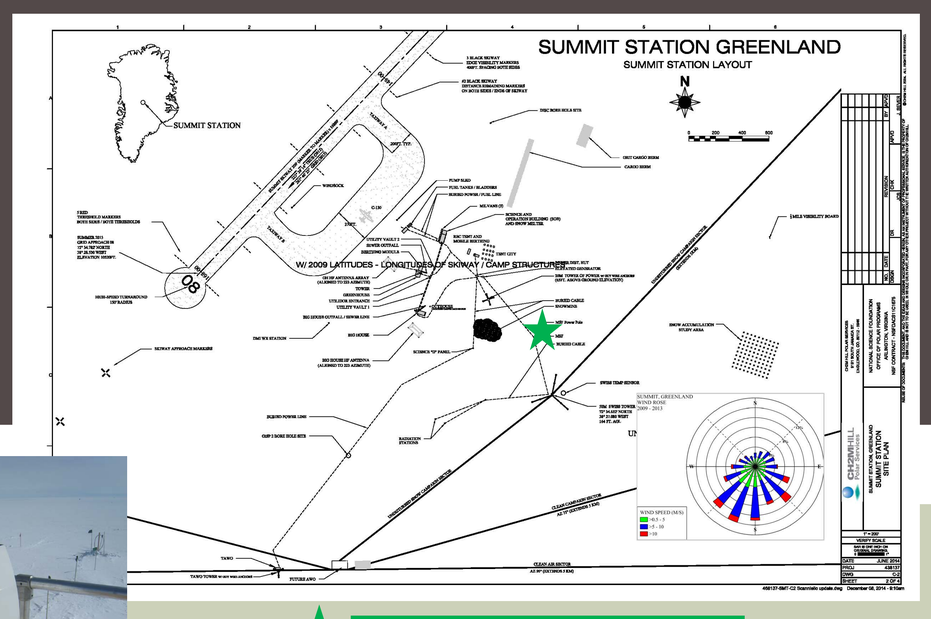


Indicates current location of instrument

Instrument Details	
Specifications	**1**
Measurement	Cloud Base and Backscatter Profile
Serial #	R0850003
Instrument Manufacturer	Vaisala
Type	CT25K
Location	On top of MSF
Calibration factors	No specific calibration factors that are independent of the system
Additional Corrections Applied (y/n/explain)	

File name: YYMMDDhh.DAT

****This system is borrowed from the DOE Atmospheric Radiation Measurement Program****

Summit Data Center

NOAA

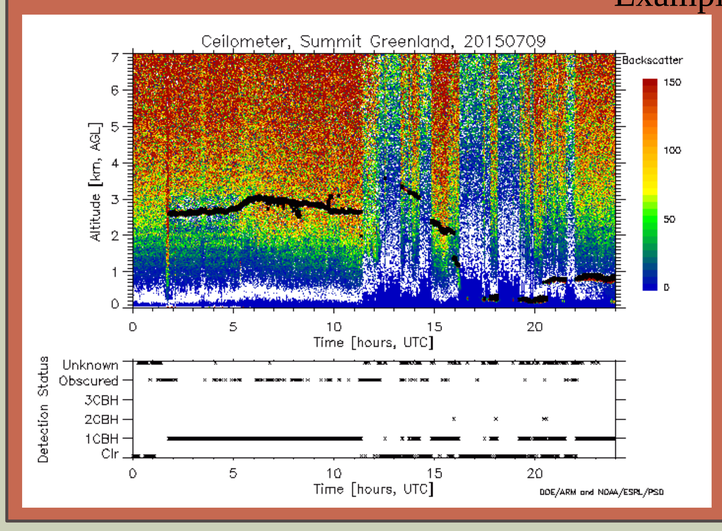
FTP File locations at NOAA:
From Summit Data Center to:
ftp://ftp.etl.noaa.gov/psd3/arctic/summit/ceilometer/raw/

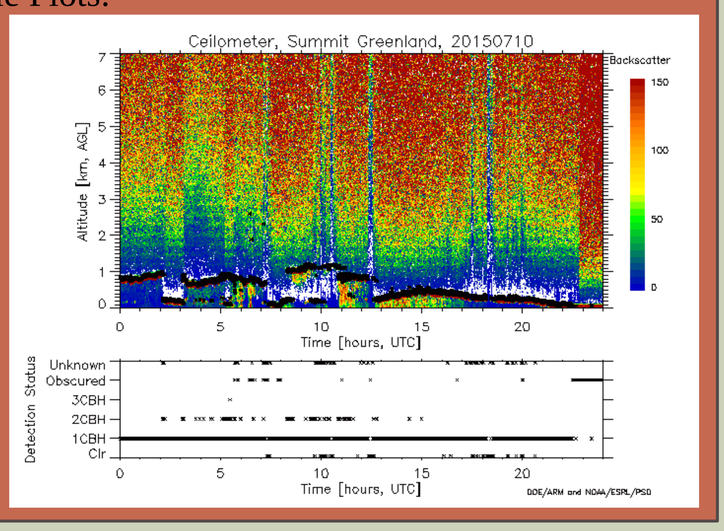
Processing

"Raw" ASCII files are ingested into daily netCDF files

Quicklooks

Example Plots:





netCDF metadata

File name: smtvceil25kX1.b1.20150712.000007.cdf	Path: summit\ceilometer\processed\	
Attributes		
Name	Value	
'date_created'	'Mon Jul 13 04:10:44 2015'	
'product_name'	'vceil25kX1.b1'	
'proc_level'	'b1'	
'version'	'$Id: ct25k_to_netcdf_summit.pro,v 1.2 2012/09/28 21:38:16 mshupe Exp mshupe $'	
'number_input_data_streams'	'1'	
'input_data_stream_01'	'hourly raw Vaisala files (i.e.,15071200.DAT)'	
'description'	'Vaisala CT25K ceilometer raw measurement data set converted from raw ASCII files'	
'PI_names'	'Matthew Shupe, David Turner'	
'contact'	'matthew.shupe@noaa.gov, dave.turner@noaa.gov'	
'project_name'	'ICECAPS: Integrated Characterization of Energy, Clouds, Atmospheric state, and Precipitation at Summit'	
'references'	'Shupe,M.D., D.D.Turner, V.P.Walden, R.Bennartz, and Coauthors, 2012:High and Dry:New observations of tropospheric and cloud properties above the Greenland ice Sheet. Bulletin of the American Meteorological Society.'	
'site_id'	'smt'	
'facility_id'	'Summit Station, Greenland'	
'instrument'	'DOE ARM Climate Research Facility CT25k ceilometer'	
'support'	'The DOE ARM Climate Research Facility has provided this instrument for the NSF-funded ICECAPS project.'	
Dimensions		
Name	Length	
'time'	5767	
'range'	256	
'string_len'	8	
Variables		
Name	Long name	Units
'base_time'	Base Time in Epoch	seconds since 1970-1-1 0:00:00 0:00
'time_offset'	Time offset from base_time	seconds since 2015-03-18 11:00:00 0:00
'time'	Time	Decimal hours
'range'	'Distance to center of range bin'	'm, AGL'
'detection_status'	'Detection status'	'unitless'
'status_flag'	'Ceilometer status indicator'	'unitless'
'first_cbh'	'Lowest cloud base height detected.'	'm'
'vertical_visibility'	Vertical visibility'	'm'
'second_cbh'	'Second lowest cloud base height'	'm'
'alt_highest_signal'	'Altitude of highest signal'	'm'
'third_cbh'	'Third lowest cloud base height'	'm'
'laser_pulse_energy'	'Laser pulse energy'	'%'
'laser_temperature'	'Laser temperature'	'C'
'receiver_sensitivity'	'Receiver sensitivity'	'%'
'window_contamination'	'Window contamination'	'mV'
'tilt_angle'	'Tilt angle'	'deg'
'background_light'	'Background light'	'mV'
'sum_backscatter'	'SUM of detected an dnormalized backscatter'	'1/srad'
'backscatter'	'Backscatter'	'1/(srad km)'
'measurement_parameters'	'6 character string describing instrument measurement parameters'	'unitless'
'status_string'	'Warning and alarm status bits'	'unitless'
'lat'	north latitude'	'degrees'
'lon'	'east longitude'	'degrees'
'alt'	'altitude'	'meters above Mean Sea Level'

Product

Product File:

File Names	File Location NOAA ftp
smtvceil25kX1.b1.YYYYMMDD.hhmmss.cdf	ftp://ftp.etl.noaa.gov/psd3/arctic/summit/ceilometer/processed/
smtvceil25kX1.b1.YYYYMMDD.hhmmss.png	ftp://ftp.etl.noaa.gov/psd3/arctic/summit/ceilometer/quicklooks/
Archived files located at ARM.gov	http://www.archive.arm.gov/armlogin/login.jsp

Home:
www.archive.arm.gov
Data:
smtvceil25kX1* files submitted

ARM Archive

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

IASOA Portal