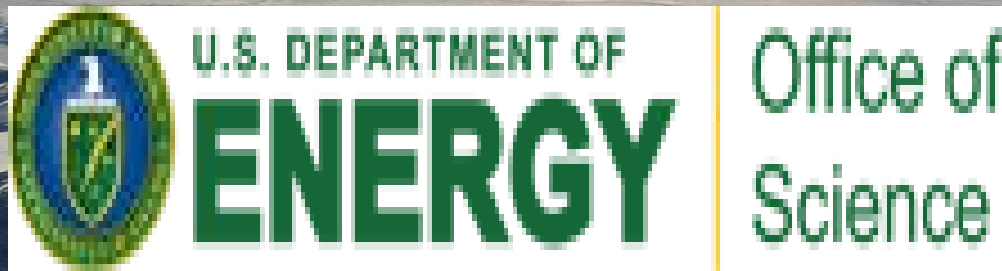


Contacts
Co-PI: Matthew Shupe
matthew.shupe@noaa.gov
Instrument Contact: Rich Coulter
rlcoulter@anl.gov



Datagrams:
Summit



Contacts
Principal Investigator: Dave Turner
dave.turner@noaa.gov
Data Support: Sara Crepinsek
sara.crepinsek@noaa.gov

MPL: Micropulse Lidar

File name: YYYYMMDDhhmm.mpl.gz
[This is a binary file that takes a special code to read, but the product is produced into netCDF format (dave.turner@noaa.gov).]

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

Summit Data
Center

NOAA

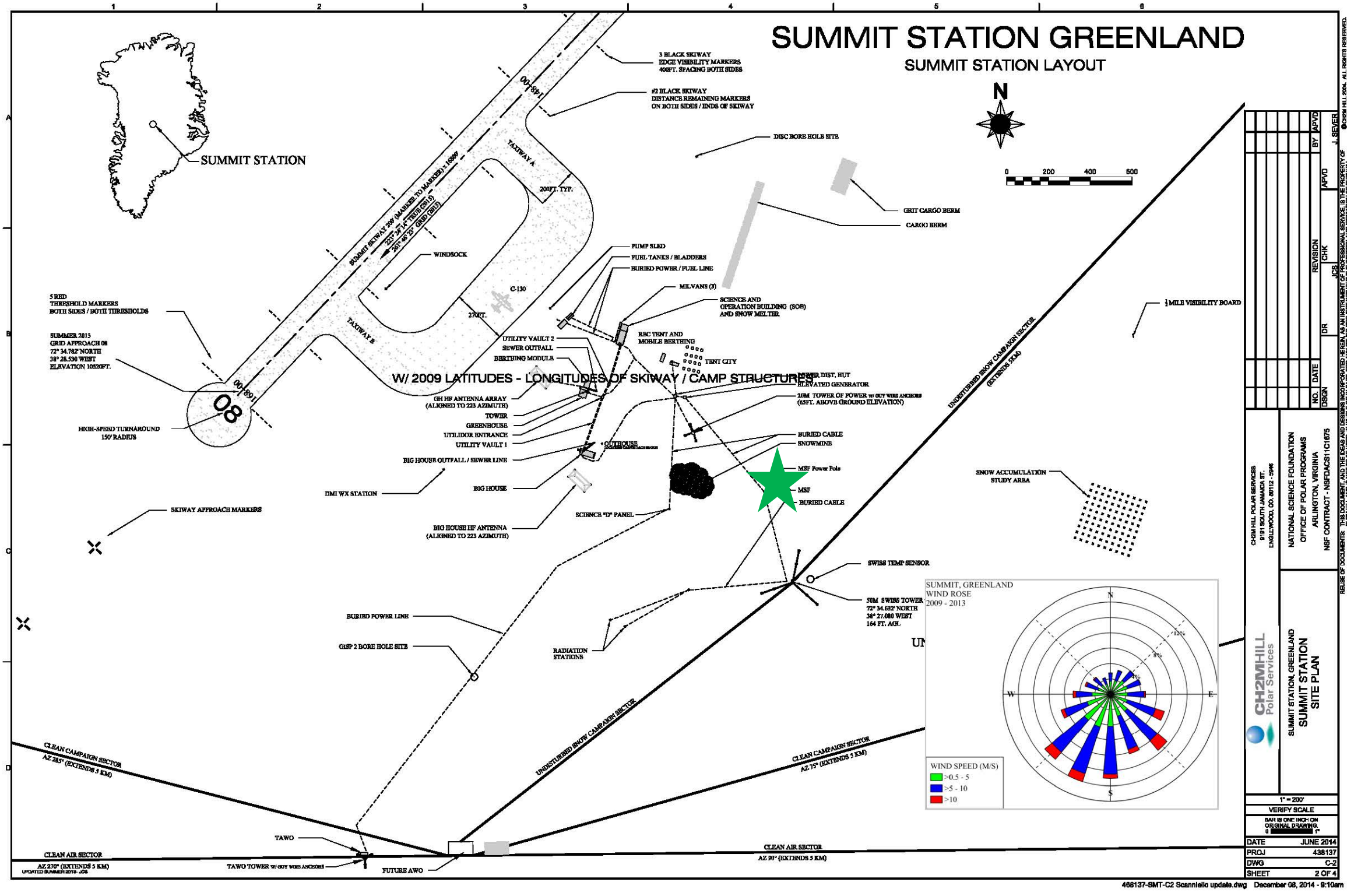
FTP File locations at NOAA:
From Summit Data Center to:
ftp://ftp.etl.noaa.gov/psd3/arctic/summit/mpl/

Processing

Quicklooks

Handbook of system available: http://www.arm.gov/publications/tech_reports/handbooks/mpl_handbook.pdf

ARM instrument description: <http://www.arm.gov/instruments/mpl>

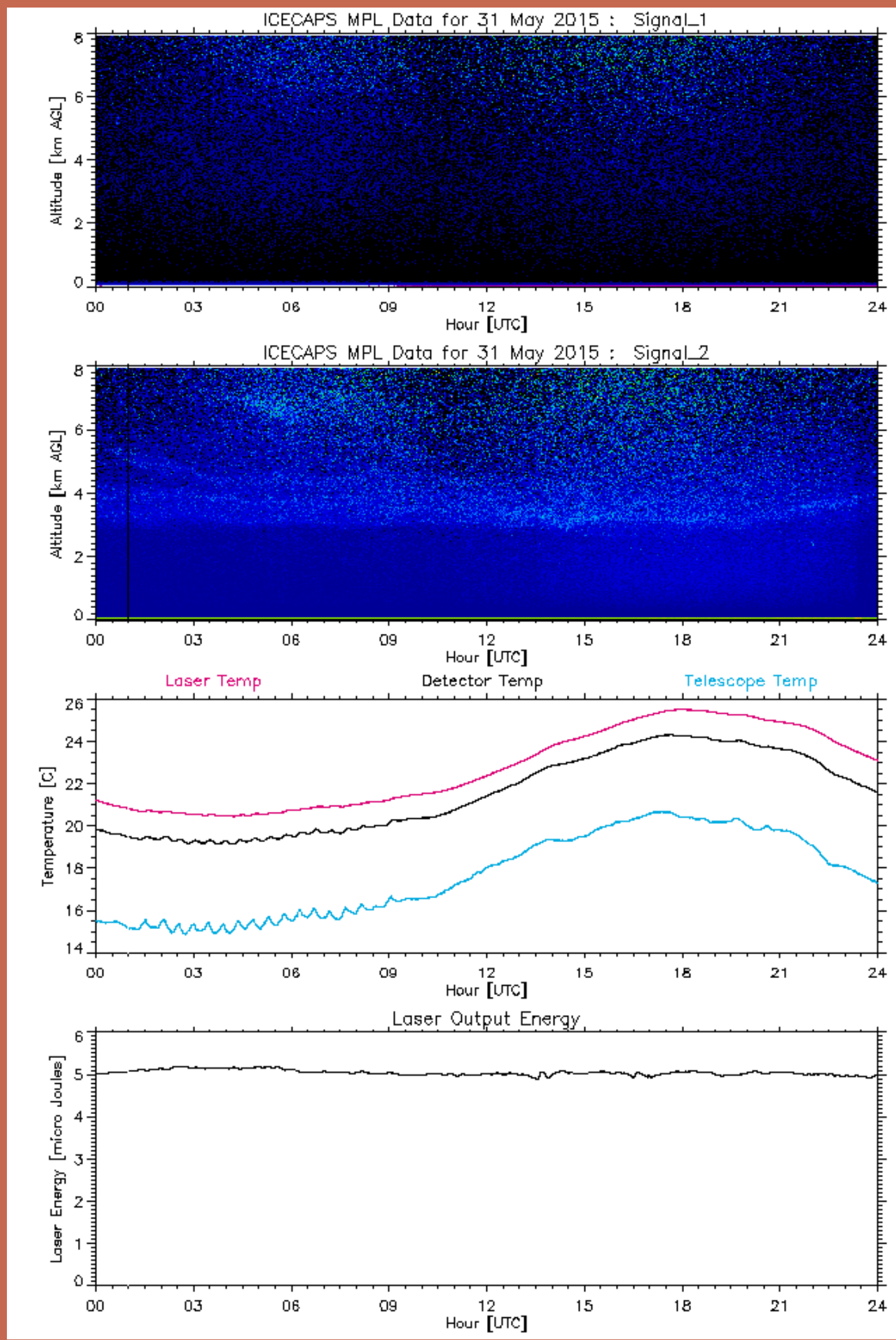


★ Indicates current location of instrument

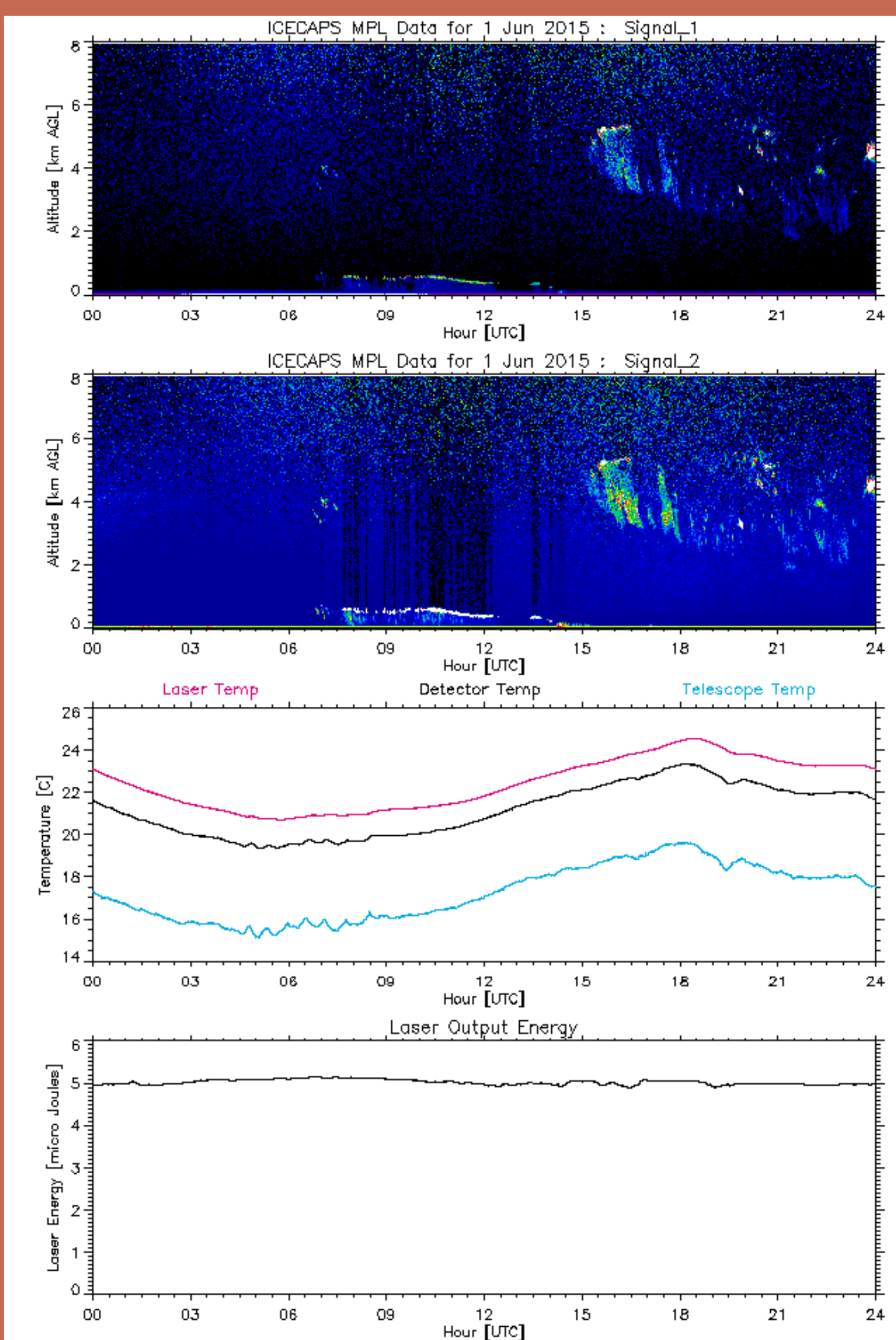


Instrument Details

Specifications	1
Measurement	Micropulse Lidar
Serial #	
Instrument Manufacturer	Sigma Space Corporation
Type	V4
Location	Inside MSF and observes through window in ceiling
Calibration factors	“Apply corrections for the afterpulse, overlap, and system efficiency. These values change with time, and we make periodic measurements first. The overlap and system efficiency values are much harder to derive, so we approximate them. The MPLs polarization seems to be drifting, so we also apply a correction that account for this too.” ~ Dave Turner
Additional Corrections Applied (y/n/explain)	There have been two different MPLs at Summit: one from June 2010 – August 2012, the other from August 2012 - present



Example Plots:



Home:

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

Data:

<http://www.esrl.noaa.gov/psd/iasoa/dataataglace>

Home:

www.archive.arm.gov

ARM Archive

IASOA Portal

Product

Archived files located at ARM.gov
(<http://www.archive.arm.gov/armlogin/login.jsp>)

File name: smtmplpolX1.a1.20150614.000000.cdf	Path: summit\mpl\processed	
Attributes		
Name	Value	
'Date_created'	'Tue Jun 23 12:52:33 2015 CDT'	
'Ingest_version'	'\$Id: dave_mpl.polarization.c,v 1.4 2010/10/05 14:12:49 dturner Exp \$'	
'comment'	'DOE Atmospheric Radiation Measurement (ARM) Micropulse Lidar (MPL) deployed to Summit, Greenland, as part of the NSF-funded ICECAPS project'	
'Author'	'Dave Turner, NOAA National Severe Storms Laboratory, dave.turner@noaa.gov'	
'instrument_serial_number'	'107'	
'instrument_version'	'412'	
'backscatter_comment'	'See Flynn et al. 2007 Optics Express paper for details on how to interpret the two backscatter profiles'	
Dimensions		
Name	Length	
'time'	17280	
'height'	1200	
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'
'hour'	'Hour of the day'	'UTC'
'height'	'height'	'km AGL'
'nshots'	'number of laser shots'	'unitless'
'rep_rate'	'laser pulse repetition frequency'	'Hz'
'energy'	'laser energy'	'microJoules'
'temp_detector'	'detector temperature'	'C'
'temp_telescope'	'telescope temperature'	'C'
'temp_laser'	'laser temperature'	'C'
'mn_background_1'	'mean background in channel 1'	'counts / microsecond'
'sd_background_1'	'standard deviation of the background in channel 1'	'counts / microsecond'
'mn_background_2'	'mean background in channel 2'	'counts / microsecond'
'sd_background_2'	'standard deviation of the background in channel 2'	'counts / microsecond'
'initial_cbh'	'initial cloud base height from MPL software'	'km AGL'
'backscatter_1'	'attenuated backscatter in channel 1'	'counts / microsecond'
'backscatter_2'	'attenuated backscatter in channel 2'	'counts / microsecond'
'lat'	'north latitude'	'deg'
'lon'	'east longitude'	'deg'
'alt'	'altitude'	'm MSL'

Official Data Submission to an Archive

Data Cable

rsync

NOAA server