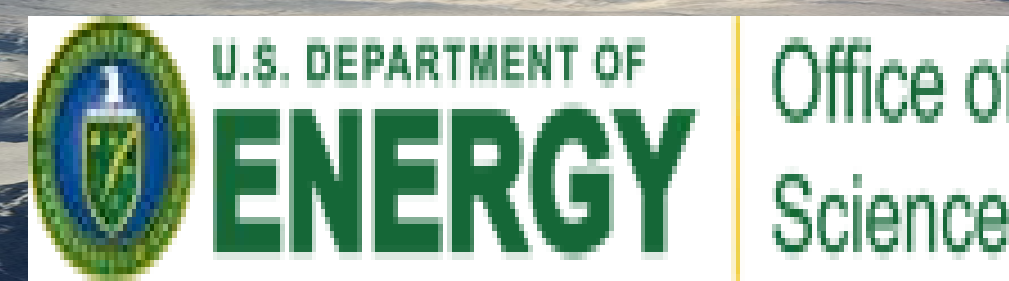


Contacts  
 Co-PI: Matthew Shupe  
 matthew.shupe@noaa.gov  
 Instrument Contact: Rich Coulter  
 rlcoulter@anl.gov



Datagrams:  
 Summit

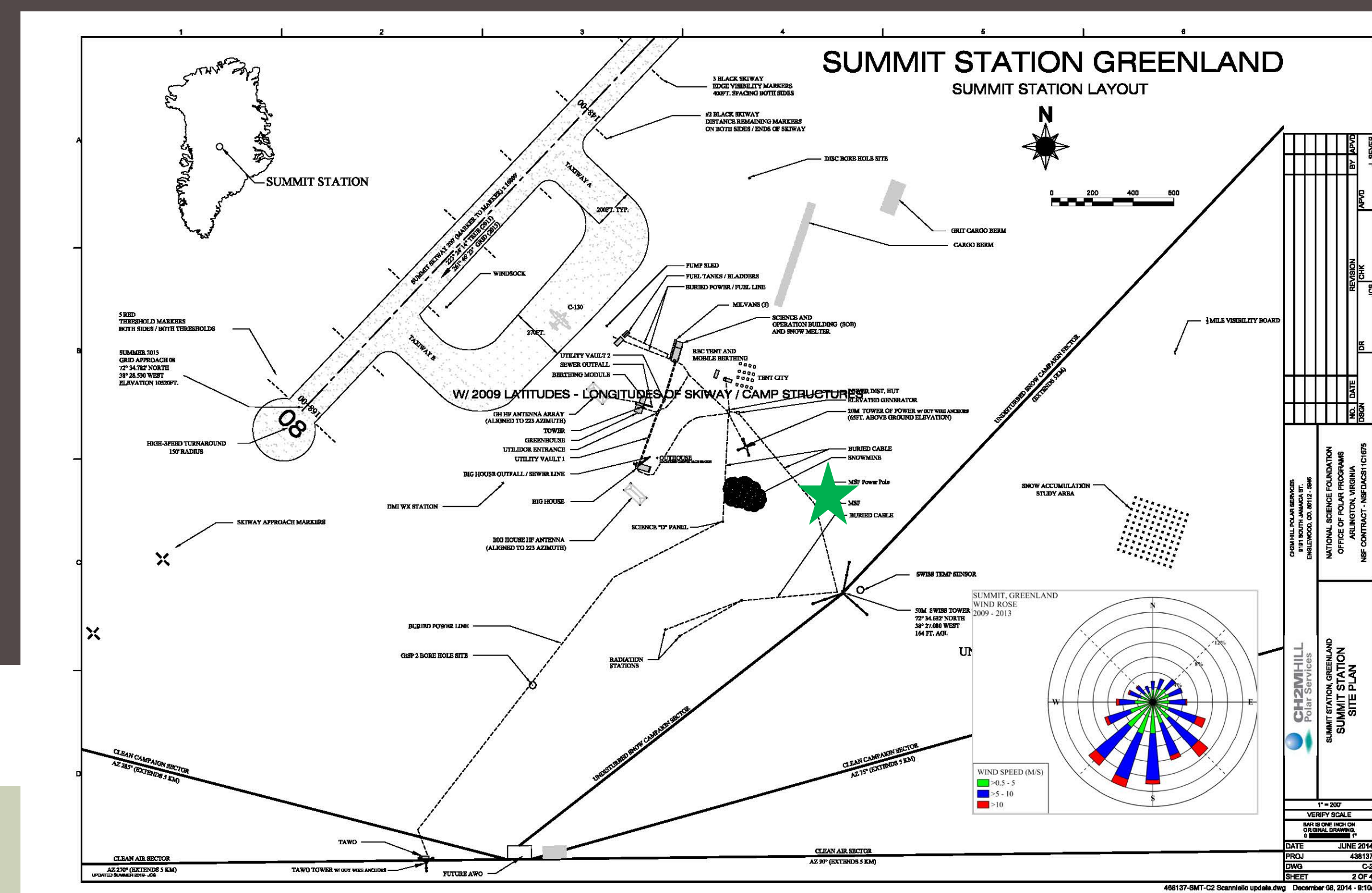


MPL: Micropulse Lidar

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

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\*\***



★ Indicates current location of instrument

Summit Data Center

NOAA

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

Processing

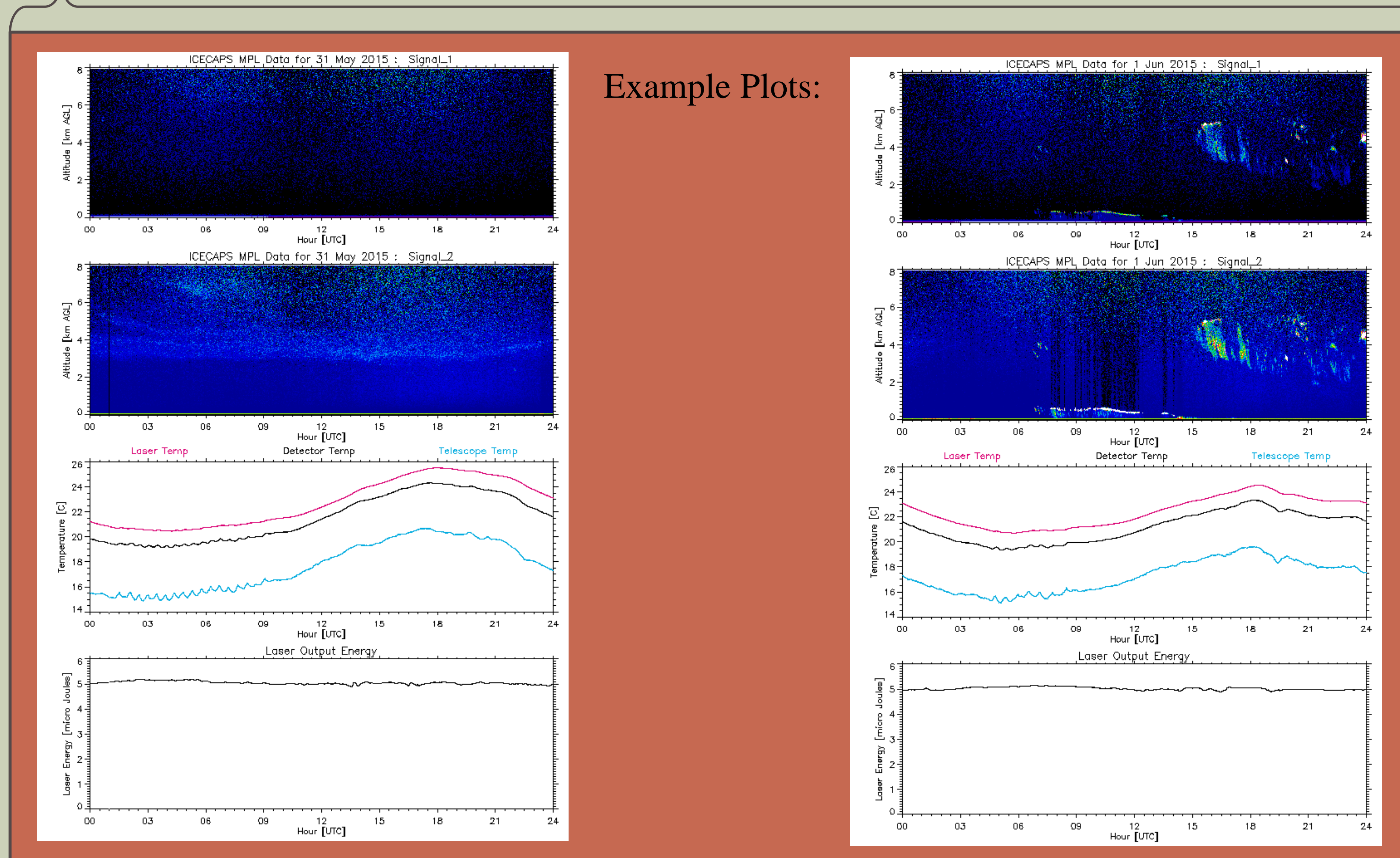
Handbook of system available: [http://www.arm.gov/publications/tech\\_reports/handbooks/mpl\\_handbook.pdf](http://www.arm.gov/publications/tech_reports/handbooks/mpl_handbook.pdf)  
 ARM instrument description: <http://www.arm.gov/instruments/mpl>

Quicklooks



Instrument Details

Specifications	
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



Home:

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

Data:

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

Home:

[www.archive.arm.gov](http://www.archive.arm.gov)

ARM Archive

IASOA Portal

Product

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

Attributes	Value	
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 dtturner 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'