

NOAA Contacts

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Datagrams: Tiksi Ceilometer

Location: Clean Air Facility Central Room
 File name: tiksi_ceilo_YYYY-MM-DD.dat,
 YYYYMMDD_tiksi_ct25k.nc

Creation of files:

tiksi_ceilo_YYYY-MM-DD.dat

YYYYMMDD_tiksi_ct25k.nc

YYYYMMDD_tiksi_ct25k.png

netCDF Metadata on following page

Instrument:

Vaisala 905-nm CT25K lidar ceilometer



Tiksi Data Center

NOAA

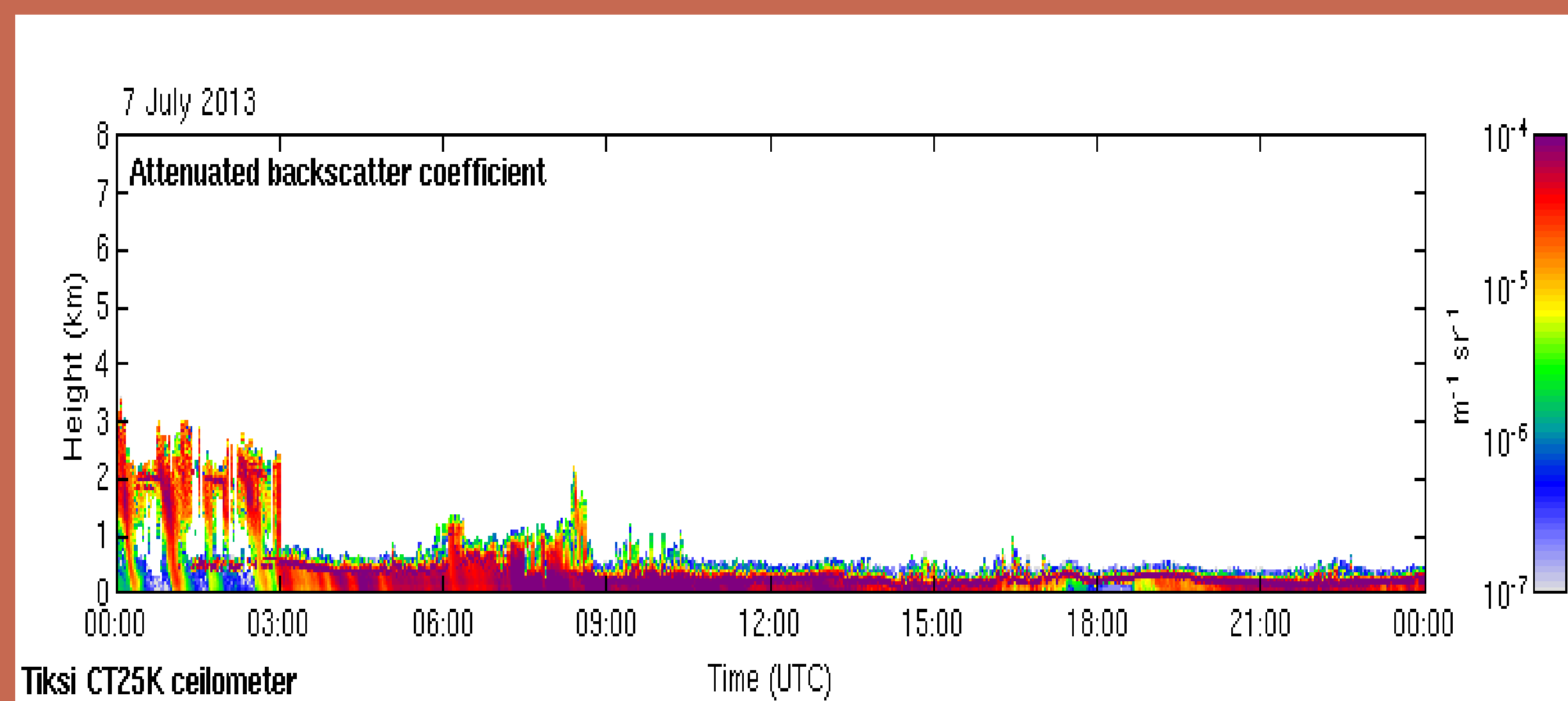
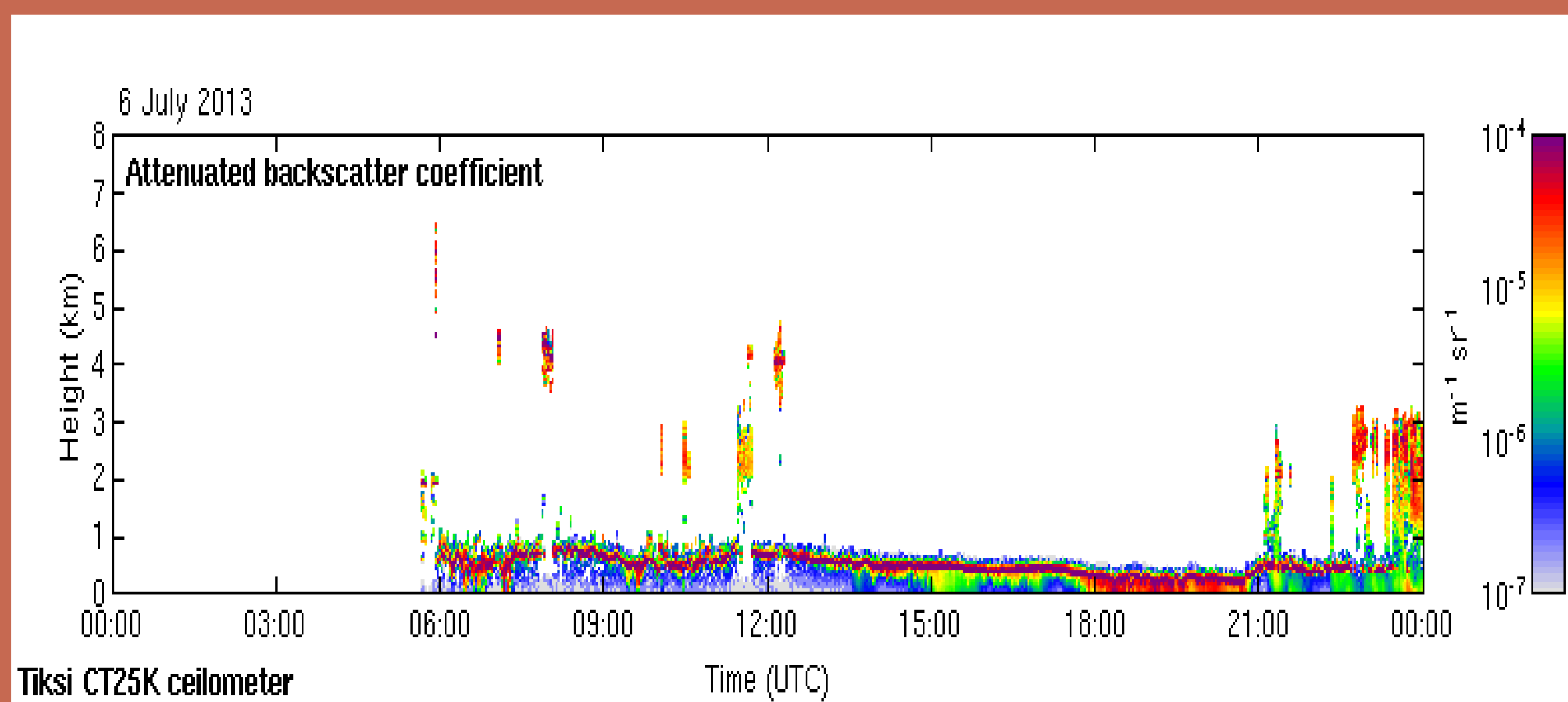
Quicklooks

Processing

FTP File locations at NOAA:

From Tiksi Data Center to:
<ftp://home/aari/ceilometer/Incoming/raw/ct25k/>
 then transferred to:
[storage.arctic.tiksi/cloud_properties/ceilometer/raw/YYYY/](ftp://storage.arctic.tiksi/cloud_properties/ceilometer/raw/YYYY/)
 From Tiksi Data Center to:
[home/aari/ceilometer/Incoming/insalibrated/ct25k/YYYY/](ftp://home/aari/ceilometer/Incoming/insalibrated/ct25k/YYYY/)
 then transferred to:
[storage.arctic.tiksi/cloud_properties/ceilometer/ingest/YYYY/](ftp://storage.arctic.tiksi/cloud_properties/ceilometer/ingest/YYYY/)

Example Plots:



Ingest

Folder Name	File Name	FTP Location
Raw	YYYYMMDD_tiksi_ct25k.nc	ftp://ftp.etl.noaa.gov/psd3/arctic/tiksi/cloud_properties/ceilometer/raw/YYYY/
Ingest	tiksi_ceilo_YYYY_MM_DD.dat	ftp.etl.noaa.gov/psd3/arctic/tiksi/cloud_properties/ceilometer/ingest/YYYY
Products		ftp.etl.noaa.gov/psd3/arctic/tiksi/cloud_properties/ceilometer/products/YYYY
Quicklooks	YYYYMMDD_tiksi_ct25k.png	ftp.etl.noaa.gov/psd3/arctic/tiksi/cloud_properties/ceilometer/quicklooks/YYYY

Standardized Data Format:

Definitions:
 sss - site identifier (e.g., tik)
 inst - base instrument abbreviation
 Fn - facility abbreviation (e.g., caf[0:1],
 cow[0:1], twr[0:1])
 data qualifier - daily or monthly
 data processing level - raw=c1, ingest=c2,
 products=c3

Modify Data Format:

1. Include header information
2. Include Day-Fraction (time)
3. Standardize file naming convention

Product

Example Product File:

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

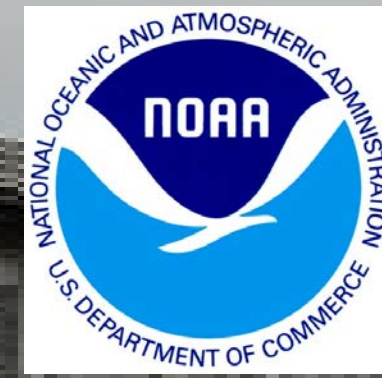
IASOA Portal

FMI Data Server

Home:
<http://en.ilmatieteenlaitos.fi/>
Data:
<ftp://ftp.fmi.fi/>

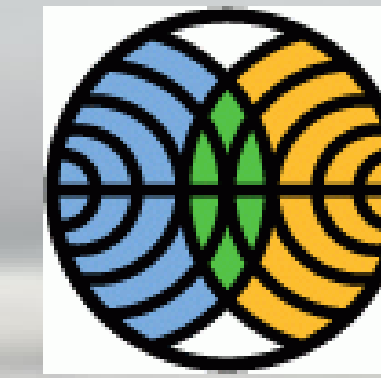
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Datagrams: Tiksi Ceilometer

netCDF metadata

File name: 20150719_tiksi_ct25k.nc		Path: tiksi\cloud_properties\ceilometer\raw	
Attributes			
Name	Value		
'Conventions'	'CF-1.0'		
'location'	'Tiksi'		
'system'	'CT25K'		
'title'	'Tiksi Vaisala 905-nm CT25K lidar ceilometer'		
'source'	1x136 char		
'references'	'Information on the data is available at http://www.met.rdg.ac.uk/radar/doc/ct75k.html '		
'day'	19		
'month'	7		
'year'	2015		
'history'	'Mon Jul 20 00:15:00 2015 - NetCDF generated from original data by tiksi on tikspc' ''/home/MeasProgs/ceilo/bin/ceil2nc -prefix /home/data/ceilo/uncalibrated/ct25k/2015 -date 20150719 -site Tiksi tiksi_ceilo_2015-0...' <Preview truncated at 128 characters>'		
'command_line'			
'software_version'	'1.3.6'		
'comment'	1x215 char		
Dimensions			
Name	Length		
'time'	1440		
'range'	256		
Variables			
Name	Long name	Units	
'wavelength'	'Lidar wavelength'	'nm'	
'latitude'	'Latitude of lidar'	'degrees_north'	
'longitude'	'Longitude of lidar'	'degrees_east'	
'altitude'	'Height of instrument above mean sea level (Ordnance Survey Great Britain)'	'm'	
'time'	'Decimal hours UTC since midnight'	'hours since 2015-07-19 00:00:00 00:00'	axis: 'T'
'range'	'Range from lidar'	'km'	axis: 'Z'
'elev'	'Elevation above horizon'	'degrees'	'The instrument measures elevation in one direction only, with a precision of 1 degree.'
'bases'	'Number of cloud bases'		'The Vaisala algorithm for retrieving cloud base heights is proprietary and details of it are not available.'
'base1'	'Range of the first cloud base from the lidar'	'km'	
'base2'	'Range of the second cloud base from the lidar'	'km'	
'base3'	'Range of the third cloud base from the lidar'	'km'	
'stdn'	'Standard deviation of the backscatter coefficient background noise'	'm-1 sr-1'	'This variable should be multiplied by the value in the scale_factor attribute.'
'scale'	'Measurement scale - should be 100%'	'%	
'flags'	'Instrument flags'	'1'	'This is a bitfield of 6 bits that tracks several instrument modes and parameters, with 1 being the least significant bit: bit 1 - Measurement mode (0 = normal, 1 = close range) bit 2 - Sampling rate (0 = 10 MHz, 1 = 20 MHz) bit 3 - Bandwidth (0 = narrow, 1 = wide) bit 4 - Gain level (0 = high, 1 = low) bit 5 - Pulse length (0 = long, 1 = short) bit 6 - Code check (0 = code understood, 1 = not understood).'
'laser_energy'	'Laser pulse energy'	'%	'Percentage of normal (100%).'
'laser_temp'	'Laser temperature'	'degrees C'	
'receiver_sens'	'Receiver sensitivity'	'%	'Percentage of nominal factory setting (100%).'
'window'	'Window contamination'	'mV'	'This variable gives an indication of the laser reflection from the window of the instrument (measured by a photodiode).'
'background'	'Background light'	'mV'	'This variable gives an indication of background light levels (noise).'
'pulses_per_profile'	'Number of laser pulses averaged per profile'	'1'	
'beta'	'Attenuated backscatter coefficient'	'm-1 sr-1'	'This variable should be multiplied by the value in the scale_factor attribute. Speckle noise has been removed, but note that when speckle noise is strong its removal reduces the effective sensitivity of the instrument.'
'beta_raw'	'Raw attenuated backscatter coefficient'	'm-1 sr-1'	'This variable should be multiplied by the value in the scale_factor attribute. The data can be affected by speckle noise in cloud-free regions.'

Data units/column header information

Data	Diagnostics	Logger Info
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Raw attenuated backscatter coefficients are multiplied by 2.45 to calibrate them
 NetCDF generated from original data

Data Message 2 (out of range=////)										
tiksi_ceilo_YYYY-MM-DD.dat										
1 st line	Ceilometer's identification string (always CT)	Unit number(0...9, A...Z)	Software level id (00...99)	Message number	Spare character					
	CT	0	20	2	3					
2 nd line	Detection status*	Warnings and Alarms**								
	3									
3 rd line	Parameter Scale (100%=normal)	Measurement mode (N=normal)	Laser pulse energy (% of nominal factory setting)	Laser temperature degrees (C)	Receiver sensitivity (% of nominal factory setting)	Window contamination (mV)	Tilt angle (degrees from vertical)	Background light (mV)	Measurement parameters*	Sum of detected and normalized backscatter
	100	N	97	+17	88	201	+0	221	LF7HN1	132
4 th - 19 th line	Backscatter profile, sensitivity and range normalized, at 100ft=30m resolution, units=(10000*srad*km)-1									
	Start distance (height) 100ft=30m=2000ns	Four character data items, 100ft=30m=200ns
	016	0001	FFF4	000F	0024	EF00	13FF	F700		
20 th line	End of Text and CRLF									

Data Message 1 (out of range=////)					
YYYYMMDD_tiksi_ct25k.nc					
1 st line	Ceilometer's identification string (always CT)	Unit number(0...9, A...Z)	Software level id (00...99)	Message number	Spare character
	CT	0	20	1	0
2 nd line	Detection status*	Warnings and Alarms**			
	3				