VAISALA

Boundary Layer View Software
BL-View

Vaisala BL-View is an application software for the data collection, analysis, and visualization of the planetary boundary layer. It provides an understanding of the current conditions to support faster and more reliable decision-making.

Improved decision-making with accurate boundary layer visualization

BL-View generates an online visual representation of the mixing layer height (MLH), which provides you with an immediate understanding of the local conditions. You can view and analyze logged data while continuing to display online data. BL-View helps to improve your air quality monitoring and forecasting.

Reliable data in all weather

Vaisala ceilometer measures the backscatter profile of the atmosphere and provides it for analysis in BL-View. The analysis uses an automatic algorithm for the online reporting of the boundary layer depth and additional residual structures. BL-View calculation is based on the combined gradient and idealized backscatter methods and enables reliable automatic reporting of the convective MLH.

To ensure reliable reporting in all weather conditions, BL-View uses an all-weather algorithm that takes into account precipitation and cloud events. The algorithm also uses the time of day and the location to improve automatic reporting in all conditions.

Manage your ceilometer network

BL-View provides a centralized view of the ceilometer data in the network, facilitating concentrated data analysis. The status information of the network is available in one place.

For a network with more than 10 ceilometers, Vaisala recommends using BL-View with Vaisala Observation Network Manager NM10.

Fast data analysis

The ceilometer messages are stored in the netCDF format on the computer hard drive for fast data analysis and easy sharing. The automatically analyzed boundary layer data can be easily transferred to other applications, for example, as inputs to numerical weather prediction models.

File Viewer enables a simple and convenient way to analyze any netCDF files logged with BL-View.

Flexible user interface

You can run simultaneous operator-specific analyses with user-set algorithm parameters for both logged and online data without disturbing online data analysis.

The ceilometer and communication status is displayed on the main screen enabling easy investigation of possible operational alerts. The warnings and alarms are stored automatically to log files for easy retrieval.

Technical data

Measurements and observations

Measured parameters	Cloud height data Backscatter intensity
Calculated parameters	Mixing layer height 1-hour average mixing layer height 2 ... 4 additional elevated layers Negative gradient profile Quality index
Cloud base height	3 height values
Update interval	1 minute
Measurement range	
MLH data, CL31, CL51 and CL61	Up to 4000 m (13 120 ft)
Profile data, CL31	Up to 7700 m (25 260 ft)
Profile data, CL51 and CL61	Up to 15 400 m (50 520 ft)

Inputs and outputs

Supported devices	CL31 CL51 CL61
Connection capacity	1 ... 10 Vaisala ceilometers
Connection options, ceilometer/ BL-View	Serial UDP TCP client TCP server
Input file format	netCDF DAT (Vaisala proprietary)
Output file format	netCDF HIS (Vaisala proprietary) PNG

Minimum system requirements

Computer connection options	Ethernet port Serial port USB serial converter
Operating system	Microsoft® Windows® 10
Memory	2 GB RAM
Hard disk space [1]	
For BL-View installation	600 MB
For BL-View data files	40 GB / year / ceilometer (typically)

[1] Required total hard disk space depends on the number of ceilometers.

User interface features

File viewer for shared netCDF files
Zooming of plots
Scheduled snapshot
Selectable algorithm (gradient, profile fit, merged gradient and profile fit)
User-selectable algorithm parameters
Import (DAT files)
Alerts view
Device-specific configuration
Management of your ceilometer network
User-selectable units (meters/feet)

User interface languages:
• English
• Chinese

Algorithm performance verified by radiosondes

VAISALA

www.vaisala.com