

**For Using Data**

Data Policy	JAMSTEC
Principal Investigator	Data Management Office
Use Constraints	See Terms and Conditions about constrain of use.
Data Citation	See Terms and Conditions about data citation.

**Quality**

Raw

**Instrument**

Ceilometer (MR13-02B - )

**Overview**

Ceilometer is the system that measures cloud base height by laser pulse emitted vertically.

Up to three levels of cloud base can be detected by measuring the change of strength of backscatter signal. And the cloud base height is calculated from the elapsed time from laser pulse emission to backscatter detection.

In case the cloud base is obscured, it measures the vertical visibility.

**Measurement System**

Manufacturer :	Vaisala Inc.
Type :	CL51
Serial No. :	J0510004
Measurement range :	up to 15000 m (Backscatter measurement) up to 13000 m (Cloud detection)
Resolution :	10 [m]
Accuracy :	greater of +/-1% or +/-5 m
Sampling rate :	6 - 120 seconds available (36 seconds as default)
Recording software :	CL-VIEW Ver. 2.00 (MR13-02B Leg1 - )
Location :	Compass deck starboard side (18 m high from sea surface)

**Note**

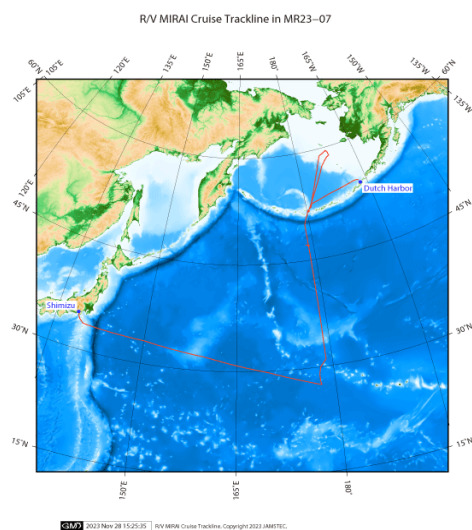
1) File naming rule for YYMMDDHH.DAT (CL-VIEW Ver. 2.00).

YY :	Year in 2 digit
MM :	Recording start month (UTC)
DD :	Recording start day (UTC)
HH :	Recording start time (UTC)

2) Adjustment for the height : No sea surface level adjustment is applied to the raw data.

## Related Information

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### MR23-07

Ship Name:	MIRAI
Period:	2023/10/06 - 2023/11/08
Chief Scientist:	Katsuro Katsumata (JAMSTEC)
Proposal:	Quantitative observation experiment in the North Pacific subarctic gyre — GO-SHIP Observation P14
	Organic alkalinity
	Float Deployments with GO-BGC
	Biology Observation with GO-SHIP
	Distribution of Iodine and Iodites in the North Pacific Ocean
	Biogeography of Plankton in the North Pacific Ocean
	Vertical mixing and transport of heat and material in the North Pacific Ocean and Bering Sea
	Float Deployments to Capture Environmental Changes in the North Pacific Ocean
	Polycyclic Aromatic Hydrocarbons, Radium, Cesium
	Multifaceted Observation of Cloud and Rain System in the North Pacific
	Speciation of Iodine, Ammonia, Nitrite in the North Pacific Ocean
	Deployment of EM-APEX floats as part of US Partnership Project
	Experiment on DFMC SBASS from QZSS



2	- - - - - - - - 0 0 0 0 0 0 0	Spare(A)
	- - - - 0 0 0 0 - - - 0 0 - 0 0 0	Spare(A)
	- - 0 0 - - 0 0 - - 0 0 - - 0 0	Spare(A)
	- 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0	Spare(A)
3	- - - - - - - - 0 0 0 0 0 0 0 0	Windows contaminated(W)
	- - - - 0 0 0 0 - - - - 0 0 0 0	Battery low(W)
	- - 0 0 - - 0 0 - - 0 0 - - 0 0	Laser power low(W)
	- 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0	Laser temperature high or low(W)
4	- - - - - - - - 0 0 0 0 0 0 0 0	Internal temperature high or low(W)
	- - - - 0 0 0 0 - - - - 0 0 0 0	Voltage high or low(W)
	- - 0 0 - - 0 0 - - 0 0 - - 0 0	Relative Humidity is > 85%(W)
	- 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0	Receiver cross-talk compensation poor(W)
5	- - - - - - - - 0 0 0 0 0 0 0 0	Blower suspect(W)
	- - - - 0 0 0 0 - - - - 0 0 0 0	Spare(W)
	- - 0 0 - - 0 0 - - 0 0 - - 0 0	Spare(W)
	- 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0	Spare(W)
6	- - - - - - - - 0 0 0 0 0 0 0 0	Blower is ON
	- - - - 0 0 0 0 - - - - 0 0 0 0	Blower heater is ON
	- - 0 0 - - 0 0 - - 0 0 - - 0 0	Internal heater is ON
	- 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0	Units are METERS if ON , else FEET
7	- - - - - - - - 0 0 0 0 0 0 0 0	Polling mode is ON
	- - - - 0 0 0 0 - - - - 0 0 0 0	Working from battery
	- - 0 0 - - 0 0 - - 0 0 - - 0 0	Single sequence mode is ON
	- 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0	Manual settings are effective
8	- - - - - - - - 0 0 0 0 0 0 0 0	Tilt angle is > 45 degrees
	- - - - 0 0 0 0 - - - - 0 0 0 0	High background radiance
	- - 0 0 - - 0 0 - - 0 0 - - 0 0	Manual blower control
	- 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0	Spare