

**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)

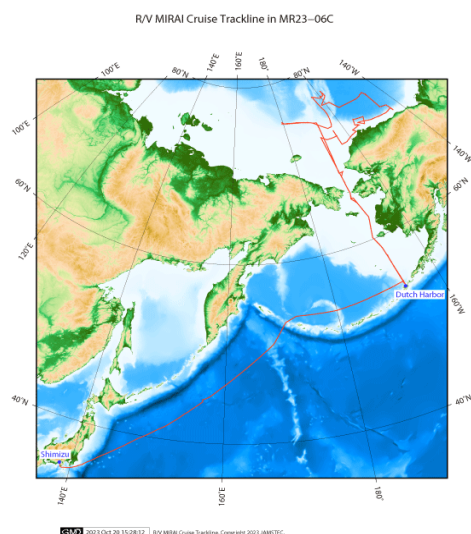
**Note**

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



### MR23-06C

Ship Name:

MIRAI

Period:

2023/08/25 - 2023/10/04

Chief Scientist:

Amane Fujiwara (JAMSTEC)

Proposal:

Arctic Expedition for Environmental Studies  
Observational study of the Arctic environmental changes: Pacific-Arctic interaction, biogeochemical transport, mixing and marine ecosystem

Quantification of the microplastic inventory in the waters of the western Arctic Ocean and microplastic influx from the Pacific Ocean

Changes in clouds and aerosols over the ice-free Arctic Ocean

Possibility of the expanding distribution in plankton and fishes associated with sea ice reduction in the Pacific sector of the Arctic Ocean

Observation of air-sea-wave-ice interaction over the Pacific Arctic region

Investigating the physical and ecophysiological basis of fall phytoplankton blooms in the Chukchi and Beaufort seas

Nitrogen Fixation in a Changing Arctic Ocean An Overlooked Source of Nitrogen

Exploring microplankton interactions and their functional roles in a changing Arctic

Determining the contribution of siphonophores to mesopelagic backscatter in the Arctic

Better understanding of climate-driven changes of biogeochemical dynamics in the western Arctic Ocean via R/V Mirai 2023 Cruise A perspective of stable carbon isotope

Temporal variations of the carbonate chemical components the Arctic Ocean within summertime

Observation of water vapor isotopic ratios  
Observation of atmospheric greenhouse gases and related species in the North Pacific region



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