

MIRAI MR02-K05 Leg1 Cloud Ceiling

Last Modified: 2014-07-18

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[Observation
Data](#)

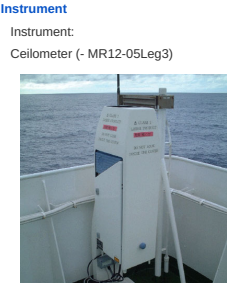
[Data Format](#)

Cruise ID: [MR02-K05 Leg1](#)
Cloud Ceiling: Raw
Data Policy: [JAMSTEC](#)
Observation Items: Cloud base height
Science Keywords:

ATMOSPHERE > CLOUDS > CLOUD
BASE

Cruise Report
http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR02-K05_leg1_all.pdf

For Using Data
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Data Management Office
Use Constraints
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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.

System
Manufacturer: Vaisala Inc.
Type: CT25K Ver2.01
Serial number: T18102
Measurement range: up to 7500m
Resolution: 15m
Sampling rate: 15-120 seconds available (60sec as default)
Accuracy: +2% or +1/2 * Resolution
Location: Compass deck bow side (18 meters high from sea surface)
Recording software: CT-VIEW Ver1.05 (before MR01-K04)
CT-VIEW Ver2.10 (MR01-K05 or later)

Note
(1) File naming rule for CYMMDDHH.DAT(Ver1.05) and AYMMDDHH.DAT(Ver2.10).
C or A : Fixed as 'C' or 'A'
Y : Year in 1 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.
(3) Invalid data information : Ceilometer data files include the invalid data in this cruise as follows.
Date/Time : Date,Time data is invalid
Format : Format error data
DataLack : Lack of data
Start Stop
File name Date,Time File name Date,Time Remarks

A2082600.DAT	20020826,125122-A2082800.DAT	20020828,062521	DataLack	
A2082800.DAT	20020828,191721-A2082900.DAT	20020829,003720	DataLack	
A2082900.DAT	20020829,041021-A2082900.DAT	20020829,041221	DataLack	
A2082900.DAT	20020829,105122		Format	
A2090400.DAT	20020904,074920		Format	
A2092200.DAT	20020922,233113		Format	
A2092300.DAT	20020923,185513		Format	
A2092400.DAT	20020924,202112		Format	
A2092600.DAT	20020926,042412		Format	
A2092800.DAT	20020928,011712		Format	
A2093000.DAT	20020930,103710		Format	
A2093000.DAT	20020930,114509-A2093000.DAT	20020930,114710	DataLack	
A2100100.DAT	20021001,190909-A2100100.DAT	20021001,203710	DataLack	
A2100100.DAT	20021001,235808-A2100200.DAT	20021002,000008	DataLack	
A2100200.DAT	20021002,005007		Format	
A2100200.DAT	20021002,015608-A2100200.DAT	20021002,020008	DataLack	
A2100200.DAT	20021002,020008-A2100200.DAT	20021002,020208	DataLack	
A2100600.DAT	20021006,070505		Format	

Related Information

MIRAI MR02-K05 Leg1 Cruise Track



[Enlarge Image](#)

MR02-K05 Leg1

Ship Name: MIRAI

Period: 2002-08-24 - 2002-10-10

Chief Scientist: Akihiko Murata (JAMSTEC)/Koji Shimada (JAMSTEC)

Project Name: [Arctic Ocean Climate System Reaserch]

Update History

2014-07-18	An observation data was registerd.
2012-12-25	An observation data was registerd.

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Cruise ID: [MR02-K05 Leg1](#)

Cloud Ceiling: Raw

Data Policy: [JAMSTEC](#)

Ceiling Raw

The record length of the data file is 56 bytes.

No.	Column	Content	Format	Remarks
1	1 - 8	Date	i4,i2,i2	YYYYMMDD (UTC)
2	10 - 15	Time	i2,i2,i2	hhmmss (UTC)
3	17 - 19	Operating software	a3	'CT0' : CT-VIEW 'CL0' : CL-VIEW
4	20 - 21	Software version	i2	Version of operating software
5	22	Data status	i1	1: Cloud base height/vertical visibility data 2: Cloud base height/vertical visibility, backscatter signal 6: Cloud base height/vertical visibility, cloud amount/height of cloud layer 7: Cloud base height/vertical visibility, backscatter signal, cloud amount/height of cloud layer
6	23	Spare character	a1	
7	25	Detection status	i1	0: Clear 1: One cloud base detected 2: Two cloud bases detected 3: Three cloud bases detected 4: Full obscuration determined but no cloud base detected 5: Some obscuration detected but determined to transparent
8	26	Warning and alarm information	a1	0: Self-check OK W: At least one warning active, no alarms A: At least one alarm active See No.12:observation information
9	28 - 32	Lowest cloud base height or vertical visibility	i5	In the case of detection status is 1,2 or 3: Lowest cloud base height In the case of detection status is 4: Calculation of vertical visibility In the case of detection status is 0 or 5: ///// Unit: See No.12:observation information
10	34 - 38	Second lowest cloud base height or highest signal detected	i5	In the case of detection status is 2 or 3: Second lowest cloud base height In the case of detection status is 4: Maximum height that a signal was detected In the case of detection status is 0,1 or 5: ///// Unit: See No.12:observation information
11	40 - 44	Highest cloud base height	i5	In the case of detection status is 3: Highest cloud base height In the case of detection status is 0,1,2,4,5: ///// Unit: See No.12:observation information
12	46 - 53	Observation information	a8	*1
13	55 - 56	Terminator	a2	CR+LF

*1: Observation information

The information is presented using 8 bytes characters. Each character, indicated in hexadecimal character, shows the following meanings;

Byte	Hexadecimal character (0:on, -:off)																Message(A:alarm, W:warning)
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
1	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	Laser temperature shut-off(A)
	-	-	-	0	0	0	0	-	-	-	0	0	0	0	0	0	Laser failure(A)
	-	0	0	-	0	0	0	-	0	0	-	0	0	-	0	0	Receiver failure(A)
	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0	Voltage failure(A)
2	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	Spare(A)
	-	-	-	0	0	0	0	-	-	0	0	0	0	0	0	0	Spare(A)
	-	0	0	-	0	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	0	Windows contaminated(W)
	-	-	-	0	0	0	0	-	-	-	0	0	0	0	0	0	Battery low(W)
	-	0	0	-	0	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	0	Internal temperature high or low(W)
	-	-	-	0	0	0	0	-	-	-	0	0	0	0	0	0	Voltage high or low(W)
	-	0	0	-	0	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	0	Blower suspect(W)
	-	-	-	0	0	0	0	-	-	0	0	0	0	0	0	0	Spare(W)
	-	0	0	-	0	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	0	Blower is ON
	-	-	-	0	0	0	0	-	-	-	0	0	0	0	0	0	Blower heater is ON
	-	0	0	-	0	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	0	Polling mode is ON
	-	-	-	0	0	0	0	-	-	0	0	0	0	0	0	0	Working from battery
	-	0	0	-	0	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	0	Tilt angle is > 45 degrees
	-	-	-	0	0	0	0	-	-	-	0	0	0	0	0	0	High background radiance
	-	0	0	-	0	0	0	-	0	0	-	0	0	-	0	0	Manual blower control
	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0	Spare

Related Information

MIRAI MR02-K05 Leg1 Cruise Track



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MR02-K05 Leg1

Ship Name: MIRAI

Period: 2002-08-24 - 2002-10-10

Chief Scientist: Akihiko Murata (JAMSTEC)/Koji Shimada (JAMSTEC)

Project Name: [Arctic Ocean Climate System Reaserch]

Update History

2014-07-18	An observation data was registerd.
2012-12-25	An observation data was registerd.

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Cloud Ceiling: Raw

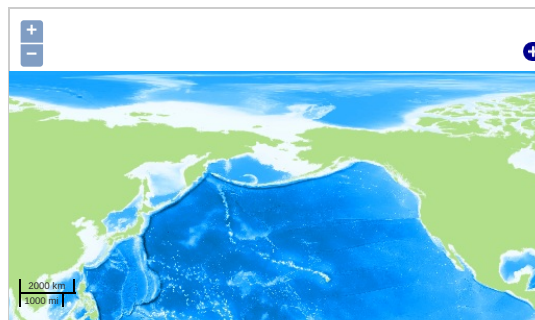
Data Policy: [JAMSTEC](#)

Observation Items: Cloud base height

Science Keywords:

ATMOSPHERE > CLOUDS > CLOUD
BASE

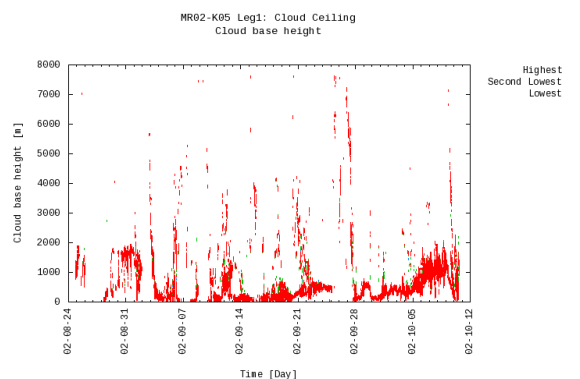
Observation Map



— ... Observation Line — ... Navigation ● ... Observation, Dive Point, Hole

Imagery reproduced from ...

Figures



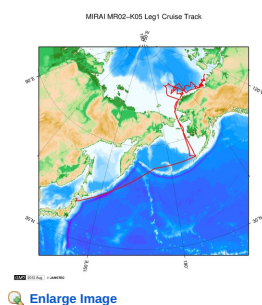
Data List

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