

## MIRAI MR02-K02 Cloud Ceiling

Last Modified: 2014-07-18

[ReadMe](#) [Observation Data](#) [Data Format](#)

Cruise ID: [MR02-K02](#)

Cloud Ceiling: Raw

Data Policy: [JAMSTEC](#)

Observation Items: Cloud base height

Science Keywords:

ATMOSPHERE > CLOUDS > CLOUD  
BASE

### For Using Data

#### Principal Investigator

Data Management Office

#### Use Constraints

See [Terms and Conditions](#) about constrain of use.

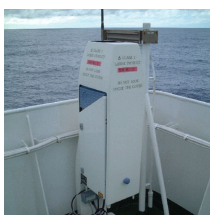
#### Data Citation

See [Terms and Conditions](#) about data citation.

### Instrument

Instrument:

Ceilometer (- MR12-05Leg3)



### 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
A2022400.DAT	20020224,042233			Format
A2022500.DAT	20020225,062932	A2022500.DAT	20020225,063132	DataLack
A2031200.DAT	20020312,002938			Format
A2032200.DAT	20020322,194542	A2032400.DAT	20020324,231243	DataLack
A2032800.DAT	20020328,154344			Format

### Related Information

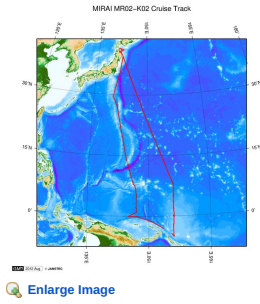
#### MR02-K02

Ship Name: MIRAI

Period: 2002-02-21 - 2002-03-30

Chief Scientist: Kentaro Ando (JAMSTEC)

Project Name: [Tropical Ocean Climate Study (TOCS)]



#### Update History

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

#### JAMSTEC

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6K Camera DEEP TOW

6K Sonar DEEP TOW

KM-ROV

POWER GRAB

SAMPLER (SHELL)

POWER GRAB

SAMPLER (CLOW)

BMS

#### Go to a Cruise Information

Cruise ID:

Go

#### Go to a Dive Information

Dive ID:

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Go

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**JAMSTEC**

国立研究開発法人  
海洋研究開発機構  
JAPAN AGENCY FOR MARINE-EARTH SCIENCE AND TECHNOLOGY

## MIRAI MR02-K02 Cloud Ceiling

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ReadMe Observation Data **Data Format**

Cruise ID: [MR02-K02](#)

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	Laser temperature shut-off(A)
	-	-	-	-	0	0	0	0	-	-	-	0	0	0	0	0	Laser failure(A)
	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0	Receiver failure(A)
	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	Voltage failure(A)
2	-	-	-	-	-	-	-	-	0	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	Spare(A)
3	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	Windows contaminated(W)
	-	-	-	-	0	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	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	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	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	0	Spare(W)
	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0	Spare(W)
	-	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	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	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	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	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	0	High background radiance
	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0	Manual blower control
	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	Spare

### Related Information

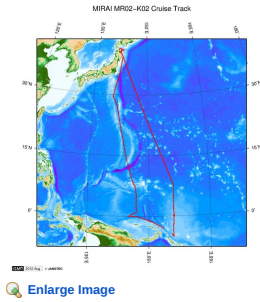
#### MR02-K02

Ship Name: MIRAI

Period: 2002-02-21 - 2002-03-30

Chief Scientist: Kentaro Ando (JAMSTEC)

Project Name: [Tropical Ocean Climate Study (TOCS)]



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BMS

#### Go to a Cruise Information

Cruise ID:

#### Go to a Dive Information

Dive ID:

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国立研究開発法人  
海洋研究開発機構

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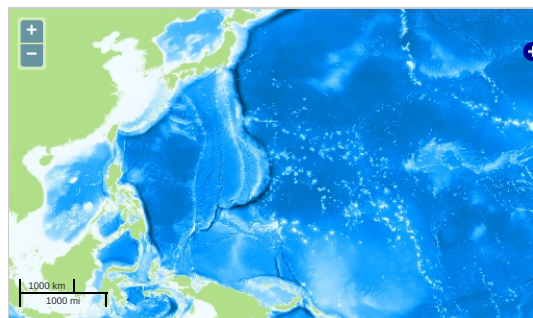
Data Policy: [JAMSTEC](#)

Observation Items: Cloud base height

Science Keywords:

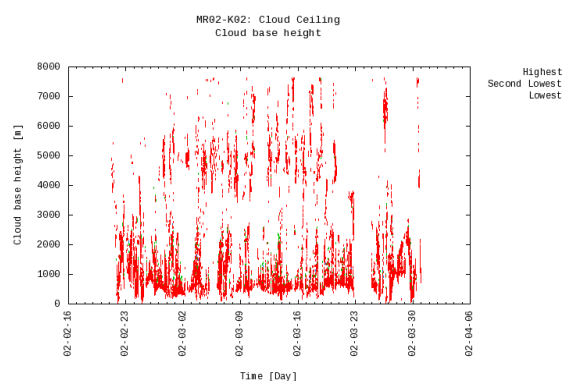
ATMOSPHERE > CLOUDS > CLOUD  
BASE

### Observation Map



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

### Figures



### Data List

[Add to Basket](#)

☐ File names

☐ A2022102.DAT

☐ A2022200.DAT

☐ A2022300.DAT

☐ A2022400.DAT

☐ A2022500.DAT

☐ A2022600.DAT

☐ A2022700.DAT

☐ A2022800.DAT

☐ A2030100.DAT

☐ A2030200.DAT

☐ A2030300.DAT

☐ A2030400.DAT

☐ A2030500.DAT

☐ A2030600.DAT

☐ A2030700.DAT

☐ A2030800.DAT

☐ A2030900.DAT

☐ A2031000.DAT

☐ A2031100.DAT

☐ A2031200.DAT

☐ A2031300.DAT

☐ A2031400.DAT

☐ A2031500.DAT

☐ A2031600.DAT

☐ A2031700.DAT

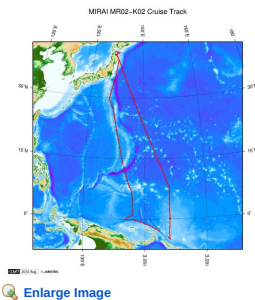
☐ A2031800.DAT

☐ A2031900.DAT

☐ A2032000.DAT

File names
A2032100.DAT
A2032200.DAT
A2032400.DAT
A2032500.DAT
A2032600.DAT
A2032700.DAT
A2032800.DAT
A2032900.DAT
A2033000.DAT

#### Related Information



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 Period: 2002-02-21 - 2002-03-30  
 Chief Scientist: Kentaro Ando (JAMSTEC)  
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