

## KAIMEI KM17-04 Cloud Ceiling

Last Modified: 2017-11-10

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

Cruise ID: **KM17-04**

Cloud Ceiling: Raw

Data Policy: **JAMSTEC**

Observation Items: Cloud base height

Science Keywords:

ATMOSPHERE > CLOUDS > CLOUD  
BASE

### **i** 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.

### Period (UTC)

2017-05-04 04:15 – 2017-05-10 00:00

### Instrument

Instrument:

Ceiliometer



### Overview

Ceiliometer 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: CL51  
Serial number: L1220347  
Measurement range: up to 15000m (Backscatter measurement)  
up to 13000m (Cloud detection)  
Resolution: 10m  
Sampling rate: 10-120 seconds available (36sec as default)  
Accuracy: greater of +-1% or +-5m  
Location: Compass (17 meters high from sea surface)  
Recording software: CL-VIEW Ver2.00

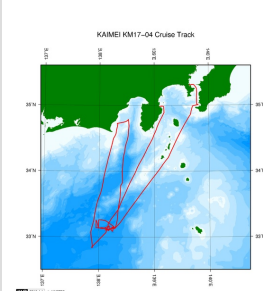
### Note

(1) File naming rule for AYMDDHH.DAT(CL-VIEW Ver2.00).

A : Fixed as '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.

### Related Information



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#### KM17-04

Ship Name: KAIMEI  
Period: 2017-05-04 - 2017-05-10  
Chief Scientist: Katsuhisa Maeno (JAMSTEC)

### Update History

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POWER GRAB  
SAMPLER (SHELL)  
POWER GRAB  
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Cruise ID:

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Dive ID:



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### Ceiling Raw

The record length of the data file is 56 bytes.

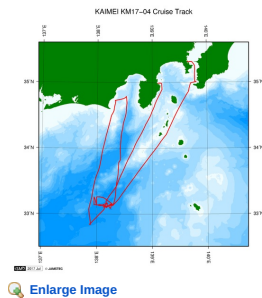
| No. | Column  | Content  | Format   | Remarks   |
|-----|---------|--|----------|---|
| 1   | 1 - 8   | Date   | i4,i2,i2 | YYYYMMDD (UTC)  |
| 2   | 10 - 15 | Time   | i2,i2,i2 | hhmmss (UTC)  |
| 3   | 17 - 19 | Operating software   | a3       | 'CT0' : CT-VIEW<br>'CL0' : CL-VIEW  |
| 4   | 20 - 21 | Software version   | i2       | Version of operating software   |
| 5   | 22      | Data status  | i1       | 1: Cloud base height/vertical visibility data<br>2: Cloud base height/vertical visibility, backscatter signal<br>6: Cloud base height/vertical visibility, cloud amount/height of cloud layer<br>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<br>1: One cloud base detected<br>2: Two cloud bases detected<br>3: Three cloud bases detected<br>4: Full obscuration determined but no cloud base detected<br>5: Some obscuration detected but determined to transparent   |
| 8   | 26      | Warning and alarm information                              | a1       | 0: Self-check OK<br>W: At least one warning active, no alarms<br>A: At least one alarm active<br>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<br>In the case of detection status is 4: Calculation of vertical visibility<br>In the case of detection status is 0 or 5: /////<br>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<br>In the case of detection status is 4: Maximum height that a signal was detected<br>In the case of detection status is 0,1 or 5: /////<br>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<br>In the case of detection status is 0,1,2,4,5: /////<br>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 | 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 | 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



**KM17-04**  
 Ship Name: KAIMEI  
 Period: 2017-05-04 - 2017-05-10  
 Chief Scientist: Katsuhisa Maeno (JAMSTEC)

#### Update History

|            |                                     |
|------------|-------------------------------------|
| 2017-11-10 | An observation data was registered. |
|------------|-------------------------------------|

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Cruise ID:

#### Go to a Dive Information

Dive ID:

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**JAMSTEC** 国立研究開発法人  
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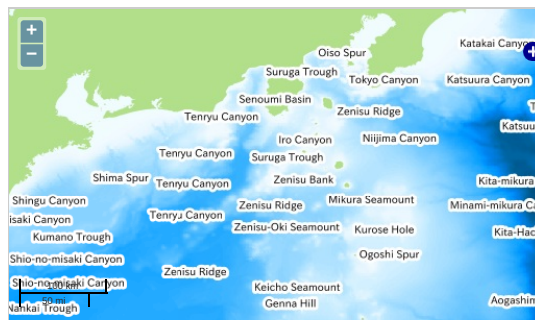
Data Policy: **JAMSTEC**

Observation Items: Cloud base height

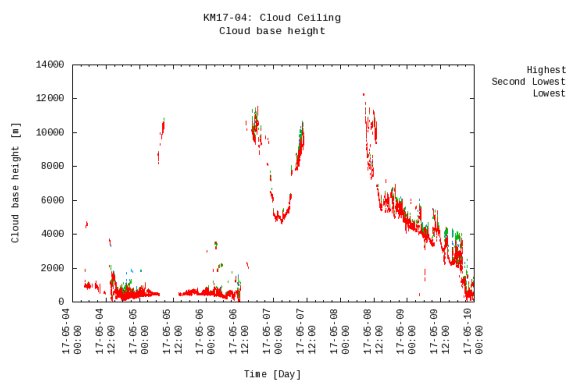
Science Keywords:

ATMOSPHERE > CLOUDS > CLOUD  
BASE

### Observation Map



### Figures



### Data List

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☐ File names

☐ A7050400.DAT

☐ A7050500.DAT

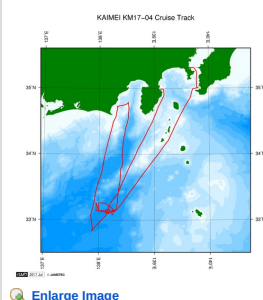
☐ A7050600.DAT

☐ A7050700.DAT

☐ A7050800.DAT

☐ A7050900.DAT

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