

## V. METEOROLOGICAL DATA

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Surface meteorological observations were carried out three times a day by the traverse party of JARE-14 along the oversnow traverse routes in 1973-1974 (see Fig. A). The periods and routes of the oversnow traverses are shown in Table 1; the items of observation and instruments used are shown in Table 2.

Table 1. The periods and routes of the oversnow traverses.

| Period of observation                | Route of traverse  | Observer     | Table No. |
|--------------------------------------|--|--------------|-----------|
| 15-27 January 1973                   | Syowa Station ↔ Mizuho Camp                              | S. Kobayashi | 3         |
| 1-30 April 1973                      | Syowa Station ↔ Mizuho Camp                              | S. Kobayashi | 4         |
| 10 August-13 October 1973            | Syowa Station ↔ Mizuho Camp                              | S. Kobayashi | 5         |
| 23-30 August 1973                    | Mizuho Camp → Syowa Station                              | R. Naruse    | 6         |
| 10 September<br>-14 October 1973     | Syowa Station → Mizuho Camp<br>→ Moraine → Syowa Station | R. Naruse    | 7         |
| 10 November 1973<br>-29 January 1974 | Syowa Station ↔ Mizuho Camp<br>↔ Yamato Mountains        | S. Kobayashi | 8         |

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Table 2. The items of observation and instruments.

| Item                 | Instrument                    |                                      |
|----------------------|-------------------------------|--------------------------------------|
|                      | during traverses              | at Mizuho Camp                       |
| Wind speed           | 1 portable cup-anemometer     | 1 windmill-type anemometer           |
| Wind direction       | 1 magnetic compass            | "                                    |
| Air temperature      | 1 sling thermometer           | 1 platinum-resistor-wire thermometer |
| Atmospheric pressure | 1 aneroid barometer (Thommen) | 1 aneroid barometer                  |

Methods and the accuracy of the instruments are almost the same as those described in JARE Data Reports, No. 17 (Ageta and Fukushima, 1972).

#### Notations in Tables

- L. T. : Local standard time at Syowa Station (69°00'S; 39°35'E):  
(L. T.) = (G. M. T. + 3 hours)
- St. No. : Station number (The position and elevation of station are tabulated in report II of this volume.)
- U : Wind speed at 1.5 m height
- D : Wind direction (north: 360°) in true
- p : Pressure at the surface of the ice sheet
- T : Air temperature
- N : Amount of cloud in tenths
- C<sub>L</sub>, C<sub>M</sub>, C<sub>H</sub>: Genus of cloud (WMO code)
- N<sub>c</sub> : Amount and genus of an individual cloud
- W : Present weather
- : Clear (☉: Without any clouds)

- ① : Fine
- ⊕ : Cloudy (High clouds are predominant.)
- ⊗ : Cloudy (Middle clouds are predominant.)
- ⊙ : Cloudy (Low clouds are predominant.)
- (  $\bar{\oplus}$  ,  $\bar{\otimes}$  ,  $\bar{\odot}$  : The clouds concerned cover the whole sky.)
- \* : Snow
- \*↗ : Snow storm
- ↗ : Blowing snow
- ↘ : Drifting snow
- ↔ : Ice needles (Ice prisms)
- ⇄ : Ice fog
- V : Visibility

### Reference

Ageta, Y. and Y. Fukushima (1972): Surface meteorological data of the Mizuho Plateau-West Enderby Land area, East Antarctica, 1969-1971. Glaciological Research Program in Mizuho Plateau-West Enderby Land, Part 1, 1969-1971. JARE Data Rep., 17 (Glaciology), 135-167.

Table 3. Surface meteorological data along route S-H-Z in 15-27 January 1973.

| Date    | L. T. | St. No. | U<br>(m/s) | D    | P<br>(mb) | T<br>(°C) | N              | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | N <sub>C</sub>    | W  | V<br>(km) |
|---------|-------|---------|------------|------|-----------|-----------|----------------|----------------|----------------|----------------|-------------------|----|-----------|
| 1973    |       |         |            |      |           |           |                |                |                |                |                   |    |           |
| Jan. 15 | 15    | S 16    | <1         | calm |           | - 0.5     | 0 <sup>+</sup> | 0              | 0              | 0              | 0 <sup>+</sup> Ci | ○  | 70        |
|         | 19    | "       | 3          | 135° | 992.5     | - 1.8     | 0              | 0              | 0              | 0              |                   | ○  | 70        |
|         | 23    | "       | 11         | 105  | 992.5     | - 6.5     | 0              | 0              | 0              | 0              |                   | ○→ | 70        |
| 16      | 7     | "       | 11         | 105  |           | - 2.8     | 1              | 0              | 0              | 1              | 1Ci               | ○→ | 70        |
|         | 9     | S 21    | 8.5        | 90   |           | - 1.7     | 1              | 0              | 0              | 1              | 1Ci               | ○→ | 70        |
|         | 12    | H 30    | 9          | 105  | 973.8     | - 1.4     | 2              | 0              | 0              | 5              | 1Ci, 1Cs          | ○→ | 70        |
|         | 15    | 95      | 8.5        | 105  | 949.2     | - 5.0     | 3              | 0              | 0              | 5              | 1Ci, 2Cs          | ①  | 70        |
|         | 19    | 165     | 10         | 95   | 920       | - 8.5     | 1              | 0              | 0              | 1              | 1Ci               | ○  | 70        |
|         | 21    | 185     | 10.5       | 90   | 911.1     | -11.5     | 1              | 0              | 0              | 1              | 1Ci               | ○→ | 70        |
| 17      | 7     | "       | 10         | 135  | 912       | -14.3     | 1              | 0              | 0              | 1              | 1Ci               | ○  | 60        |
|         | 9     | 200     | 10.5       | 75   | 910       | -11.0     | 1              | 0              | 0              | 1              | 1Ci               | ○  | 70        |
|         | 12    | 255     | 10         | 60   | 895       | - 9.6     | 2              | 0              | 0              | 2              | 2Ci               | ○→ | 60        |
|         | 15    | 297     | 10         | 60   | 880       | - 9.5     | 2              | 0              | 0              | 2              | 2Ci               | ○→ | 60        |
|         | 19    | Z 25    | 7.5        | 60   | 863       | -13.7     | 4              | 0              | 0              | 5              | 1Ci, 3Cs          | ①→ | 50        |
| 18      | 9     | 31      | 11         | 60   | 860       | -17.0     | 4              | 0              | 0              | 5              | 1Ci, 3Cs          | ①→ | 1         |
|         | 12    | 65      | 10         | 60   | 854       | -15.2     | 4              | 0              | 0              | 4              | 4Ci               | ①→ | 10        |
|         | 15    | 89      | 9.5        | 75   | 850       | -14.0     | 3              | 0              | 0              | 5              | 1Ci, 2Cs          | ①→ | 20        |
|         | 19    | Mizuho  |            |      |           |           |                |                |                |                |                   |    |           |
| 23      | 16    | "       |            |      |           |           |                |                |                |                |                   |    |           |
|         | 21    | Z 79    | 6          | 75   | 853       | -14.2     | 6              | 0              | 0              | 9              | 6Cc               | ①→ | 10        |
| 24      | 9     | "       | 9.5        | 105  | 853       | -17.5     | 1              | 0              | 0              | 1              | 1Ci               | ○  | 50        |
|         | 15    | 30      | 10         | 105  | 864       | -12.5     | 3              | 0              | 0              | 2              | 3Ci               | ①→ | 10        |
|         | 21    | S 122   | 5.5        | 105  | 880       | -16.2     | 1              | 0              | 0              | 1              | 1Ci               | ○  | 40        |

| Date    | L. T. | St. No. | U<br>(m/s) | D    | P<br>(mb) | T<br>(°C) | N  | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | N <sub>C</sub> | W   | V<br>(km) |
|---------|-------|---------|------------|------|-----------|-----------|----|----------------|----------------|----------------|----------------|-----|-----------|
| 1973    |       |         |            |      |           |           |    |                |                |                |                |     |           |
| Jan. 25 | 9     | S 122   | 10         | 105° | 885       | -13.0     | 10 | 0              | 2              | ẋ             | 10As           | ⊙ ↔ | 0.5       |
|         | 15    | H 256   | 5          | 60   | 904       | - 8.5     | 9  | 0              | 2              | 3              | 8As, 1Ci       | ⊙   | 5         |
|         | 21    | 222     | 4          | 75   | 915       | -11.0     | 8  | 0              | 2              | x              | 8As            | ⊙   | 10        |
| 26      | 9     | 200     | 6          | 75   | 922       | -12.0     | 1  | 0              | 0              | 1              | 1Ci            | ○   | 40        |
|         | 15    | 128     | 4          | 75   | 945       | - 7.2     | 1  | 0              | 0              | 1              | 1Ci            | ○   | 40        |
|         | 21    | 79      | 2          | 90   | 962       | -12.7     | 1  | 0              | 0              | 1              | 1Ci            | ○   | 30        |
| 27      | 9     | "       | 5.5        | 75   | 973       | -12.4     | 2  | 0              | 0              | 1              | 2Ci            | ○   | 40        |
|         | 16    | S 30    | 6          | 60   |           | - 7.5     | 1  | 0              | 0              | 1              | 1Ci            | ○   | 40        |

Table 4. Surface meteorological data along route S-H-Z in 1-30 April 1973.

| Date   | L. T. | St. No. | U<br>(m/s) | D   | P<br>(mb) | T<br>(°C) | N  | CL | CM | CH | NC                 | W   | V<br>(km) |
|--------|-------|---------|------------|-----|-----------|-----------|----|----|----|----|--------------------|-----|-----------|
| 1973   |       |         |            |     |           |           |    |    |    |    |                    |     |           |
| Apr. 1 | 13    | S 16    | 12         |     |           | -13       |    |    |    |    |                    | ↗   |           |
|        | 21    | 17      | 21         | 90° | 900       | - 9.5     |    |    |    |    |                    | * ↗ |           |
| 2      | 9     | "       | 20         | 120 | 898       | - 8.5     | 9  |    | 2  |    | 3Ac, 7As           | * ↗ | 0.03      |
|        | 15    | "       | 24         | 150 | 902       | - 9.0     | x  | x  | x  | x  |                    | * ↗ | 0.01      |
|        | 21    | "       | 25         | 120 | 900       | -10       |    |    |    |    |                    | * ↗ |           |
| 3      | 14    | "       | 25         | 60  | 905       | - 7.5     | x  | x  | x  | x  |                    | * ↗ | 0.005     |
|        | 4     | "       | 21         | 60  | 903       | - 6.5     | x  | x  | x  | x  |                    | * ↗ | 0.01      |
| 5      | 22    | "       | 16         | 45  | 910       | - 4.5     |    |    |    |    |                    | * ↗ |           |
|        | 12    | "       | 20         | 60  | 910       | - 7.5     | x  | x  | x  | x  |                    | * ↗ | 0.01      |
|        | 18    | "       | 16         | 75  | 908       | - 7.5     | x  | x  | x  | x  |                    | * ↗ | 0.05      |
| 6      | 12    | "       | 22         | 90  | 917       | -10       | 3  | 0  | 3  | 0  | 2Ac, 1As           | ⊙ ↗ | 0.03      |
|        | 18    | "       | 20         | 75  | 920       | -12       | 2  | 0  | 3  | 8  | 1Ac, 1Cs           | ⊙ ↗ | 0.05      |
| 7      | 9     | "       | 18         | 75  | 922       | -14.5     | 3  | 0  | 0  | 5  | 1Ci, 1Cc, 1Cs      | ⊙ ↗ | 0.1       |
|        | 15    | "       | 25         | 90  | 915       | -12.5     | x  | x  | x  | x  |                    | * ↗ | 0.01      |
|        | 18    | "       | 30         | 90  | 915       | - 9       | x  | x  | x  | x  |                    | * ↗ | 0.005     |
| 8      | 12    | "       | 30         | 90  | 904       | - 9       | x  | x  | x  | x  |                    | * ↗ | 0.002     |
|        | 9     | "       | 21         | 75  | 904       | - 9.5     | 10 | 4  | x  | x  | 10Sc               | ⊙   | 20        |
| 9      | 15    | "       | 23         | 90  | 901       | -10       | 10 | 4  | x  | x  | 10Sc               | ⊙ ↗ | 1         |
|        | 23    | "       | 25         | 90  | 900       | -11       |    |    |    |    |                    | ⊙ ↗ |           |
|        | 9     | "       | 20         | 60  | 906       | -13       | x  | x  | x  | x  |                    | ↗   | 0.005     |
| 10     | 15    | S 25    | 13         | 90  | 874       | -17       | 6  |    | 4  | 5  | 3Ac, 1Cs, 1Ci      | ⊙ ↗ | 1         |
|        | 21    | H 30    | 10         | 90  | 850       | -17       |    |    |    |    |                    | ⊙ ↗ |           |
| 11     | 9     | H 69    | 7.5        | 90  | 842       | -21       | 9  | 0  | 2  | x  | 8As, 1Ac           | ⊗ ↗ | 5         |
|        | 15    | H160    | 4          | 60  | 810       | -24       | 9  | 0  | 8  | x  | 1Ac                | ⊙ * | 2         |
| 12     | 21    | H210    | 3          | 75  | 795       | -26.7     |    |    |    |    |                    | ⊙ * |           |
|        | 9     | H228    | 3          | 75  | 785       | -23.5     | 10 | x  | x  | x  | White out,<br>halo | ⊙ * | 1         |

| Date    | L. T. | St. No. | U<br>(m/s) | D   | p<br>(mb) | T<br>(°C) | N  | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | N <sub>C</sub> | W   | V<br>(km) |
|---------|-------|---------|------------|-----|-----------|-----------|----|----------------|----------------|----------------|----------------|-----|-----------|
| 1973    |       |         |            |     |           |           |    |                |                |                |                |     |           |
| Apr. 12 | 15    | Z 3     | 9          | 75° | 755       | -28.5     | 9  | 0              | 7              | 2              | 1Ac, 2Ci       | ⊕ ↗ | 2         |
|         | 21    | Z 20    | 11         | 75  | 748       | -33.0     |    |                |                |                |                | * ↗ |           |
| 13      | 9     | Z 21    | 14         | 75  | 752       | -32.0     | 7  | 0              | 3              | 1              | 5Ac, 1Ci, 1Cc  | ⊕ ↗ | 0.2       |
|         | 15    | Z 60    | 15         | 90  | 742       | -36       | 0  | 0              | 0              | 0              |                | ○ ↗ | 0.2       |
|         | 23    | Z 85    | 14         | 90  | 735       | -40       |    |                |                |                |                | ○ ↗ |           |
| 14      | 9     | Z 88    | 12         | 90  | 735       | -34       | 0  | 0              | 0              | 0              |                | ○ ↗ | 0.5       |
|         | 15    | Mizuho  | 9          |     | 730       |           | 1  | 0              | 1              | 0              | 1Ac            | ○ ↗ | 1         |
| 15      | 9     | "       | 12         | 90  |           | -40       | 2  | 0              | 2              | 8              | 4As, 1Cs       | ○ ↗ | 0.4       |
| 16      | 9     | "       | 10         | 105 | 730       | -46       | 0  | 0              | 0              | 0              |                | ○ ↗ | 1         |
| 17      | 9     | "       | 12         | 105 | 734       | -42       | 3  | 0              | 0              | 8              | 1Cs            | ⊕ ↗ | 0.1       |
| 18      | 9     | "       | 15         | 105 | 736       | -36       | 10 | x              | x              | x              |                | * ↗ | 0.05      |
| 19      | 9     | "       | 14         | 105 | 728       | -40       | 0  | 0              | 0              | 0              |                | ○ ↗ | 0.1       |
| 20      | 9     | "       | 11         | 105 | 734       | -36       | 8  | 0              | 2              | 0              | 8As            | ⊗ ↗ | 0.05      |
| 21      | 9     | "       | 16         | 105 | 727       | -38       | 0  | 0              | 0              | 0              |                | ○ ↗ | 0.1       |
| 22      | 12    | "       | 15         | 105 | 735       | -38       | 2  | 0              | 0              | 8              | 2Cs            | ○ ↗ | 0.1       |
| 23      | 10    | "       | 11         | 120 | 737       | -42       | 3  | 0              | 0              | 9              | 3Cc            | ○ ↗ | 0.3       |
| 24      | 9     | "       | 12         | 105 | 736       | -42       | 0  | 0              | 0              | 0              |                | ○ ↗ | 0.1       |
| 25      | 9     | "       | 13         | 105 | 725       | -45       | 0  | 0              | 0              | 0              |                | ○ ↗ | 0.05      |
|         | 15    | Z 90    | 10         | 90  | 730       | -42       | 0  | 0              | 0              | 0              |                | ○ ↗ | 0.1       |
|         | 21    | Z 60    | 12         | 90  | 739       | -43.5     |    |                |                |                |                | ○ ↗ |           |
| 26      | 9     | "       | 12         | 90  | 739       | -43       | 3  | 0              | 1              | 9              | 1As, 2Cc       | ○ ↗ | 0.3       |
|         | 15    | Z 35    | 10         | 90  | 746       | -40.5     | 2  | 0              | 0              | 1              | 2Ci            | ○ ↗ | 1         |
|         | 21    | S 122   | 11         | 90  | 764       | -37       |    |                |                |                |                | ○ ↗ |           |
| 27      | 9     | "       | 10         | 90  | 770       | -42       | 1  | 0              | 0              | 1              | 1Ci            | ○ ↗ | 1         |
|         | 15    | H 204   | 3.5        | 105 | 803       | -34.5     | 4  | 0              | 1              | 9              | 2As, 2Cs       | ⊕ ↗ | 10        |
|         | 21    | H 133   | 10         | 75  | 826       | -30       |    |                |                |                |                | ⊕ ↗ |           |

| Date    | L. T. | St. No. | U<br>(m/s) | D    | P<br>(mb) | T<br>(°C) | N | CL | C <sub>M</sub> | C <sub>H</sub> | N <sub>C</sub> | W   | V<br>(km) |
|---------|-------|---------|------------|------|-----------|-----------|---|----|----------------|----------------|----------------|-----|-----------|
| Apr. 28 | 9     | H 130   | 11         | 105° | 820       | -37.5     | 2 | 0  | 1              | 1              | 1As, 1Ci       | ○ ↗ | 0.1       |
|         | 15    | H 90    | 13         | 90   | 833       | -25       | 3 | 0  | 1              | 1              | 1As, 2Ci       | ○ ↗ | 0.1       |
|         | 21    | "       | 15         | 90   | 835       | -22       |   |    |                |                |                | ○ ↗ |           |
| 29      | 9     | "       | 13         | 90   | 837       | -22       | 4 | 0  | 3              | 0              | 1Ac            | ⊕ ↗ | 0.5       |
|         | 15    | S 23    | 11         | 90   | 889       | -18.2     | 5 | 0  | 5              | 1              | 4Ac, 1Ci       | ⊕ ↗ | 10        |
| 30      | 21    | S 16    | 8          | 75   | 922       | -17       |   |    |                |                |                | ○   |           |
|         | 9     | "       | 7          | 75   | 917       | -22       | 1 | 0  | 0              | 1              | 1Ci            | ○   | 30        |



Table 5. Surface meteorological data along route S-H-Z and at Mizuho Camp in 10 August-13 October 1973.

| Date   | L.T. | St. No. | U<br>(m/s) | D    | P<br>(mb) | T<br>(°C) | N | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | N <sub>C</sub>     | W   | V<br>(km) |
|--------|------|---------|------------|------|-----------|-----------|---|----------------|----------------|----------------|--------------------|-----|-----------|
| 1973   |      |         |            |      |           |           |   |                |                |                |                    |     |           |
| Aug.10 | 15   | S 18    | 10         | 105° |           | -30.5     | 1 | 0              | 0              | 1              | 1Ci                | ○ ↕ | 20        |
|        | 21   | S 27    | 11         | 60   | 880       | -30.0     | 2 |                |                |                |                    | ○ ↗ |           |
| 11     | 9    | "       | 14         | 60   | 883       | -26.5     | 2 | 0              | 0              | 2              | 2Ci                | ○ ↗ | 2         |
|        | 15   | H 55    | 12         | 75   | 857       | -31.0     | 4 | 0              | 3              | 3              | 2Ac, 2Cc           | ⊖ ↗ | 1         |
|        | 21   | H 82    | 11         | 90   | 845       | -33.0     | 2 |                |                |                |                    | ⊖ ↕ |           |
| 12     | 9    | "       | 7          | 90   | 842       | -36.0     | 2 | 0              | 3              | 1              | 1Ac, 1Ci           | ○ ↕ | 15        |
|        | 15   | H160    | 6          | 120  | 815       | -37.0     | 5 | 0              | 5              | 3              | 2Ac, 1As, 1Cc, 1Ci | ⊖   | 10        |
|        | 21   | H204    | 5          | 90   | 804       | -39.0     | 4 |                |                |                |                    | ⊖   |           |
| 13     | 9    | "       | 4          | 75   | 808       | -39.5     | 2 | 0              | 3              | 1              | 1Ac, 1Ci           | ○   | 20        |
|        | 15   | H250    | 5          | 75   | 796       | -40.0     | 3 | 0              | 3              | 1              | 2Ac, 1Ci           | ○   | 15        |
|        | 21   | H278    | 3          | 90   | 790       | -41.0     | 2 |                |                |                |                    | ○ ↔ |           |
| 14     | 9    | "       | 12         | 90   | 788       | -40.5     | 1 | 0              | 3              | 0              | 1Ac                | ○ ↗ | 0.1       |
|        | 15   | Z 10    | 13         | 90   | 767       | -45.0     | 1 | 0              | 0              | 1              | 1Ci                | ○ ↗ | 0.1       |
|        | 21   | Z 21    | 14         | 105  | 760       | -49.0     | 2 |                |                |                |                    | ○ ↗ |           |
| 15     | 9    | "       | 15         | 90   | 752       | -52.0     | 0 | 0              | 0              | 0              |                    | ○ ↗ | 0.1       |
|        | 15   | "       | 16         | 105  | 751       | -51.5     | 0 | 0              | 0              | 0              |                    | ○ ↗ | 0.1       |
|        | 21   | "       | 14         | 90   | 751       | -50.0     | 0 | 0              | 0              | 0              |                    | ○ ↗ |           |
| 16     | 9    | "       | 14         | 105  | 755       | -44.0     | 0 | 0              | 0              | 0              |                    | ○ ↗ | 0.05      |
|        | 15   | "       | 14.5       | 90   | 755       | -43.0     | 0 | 0              | 0              | 0              |                    | ○ ↗ | 0.05      |
|        | 21   | "       | 13         | 75   | 751       | -44.0     | 0 | 0              | 0              | 0              |                    | ○ ↗ |           |
| 17     | 9    | "       | 10         | 75   | 748       | -44.5     | 0 | 0              | 0              | 0              |                    | ○ ↗ | 0.1       |
|        | 15   | Z 39    | 15         | 90   | 738       | -43.0     | 0 | 0              | 0              | 0              |                    | ○ ↗ | 0.03      |
|        | 21   | Z 80    | 14         | 90   | 732       | -45.0     | 0 | 0              | 0              | 0              |                    | ○ ↗ |           |
| 18     | 9    | "       | 17         | 90   | 730       | -43.5     | x | x              | x              | x              |                    | ↗   | 0.03      |

| Date   | L.T. | St. No. | U<br>(m/s) | D   | P<br>(mb) | T<br>(°C) | N | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | NC       | W  | V<br>(km) |
|--------|------|---------|------------|-----|-----------|-----------|---|----------------|----------------|----------------|----------|----|-----------|
| Aug.18 | 15   | Z 80    | 18         | 90° | 722       | -40.0     | x | x              | x              | x              |          | ↑  | 0.02      |
|        | 21   | "       | 18         | 90  | 720       | -37.5     | x | x              | x              | x              |          | ⊙↑ |           |
| 19     | 9    | "       | 10         | 90  | 720       | -37.0     | 0 | 0              | 0              | 0              |          | ⊙↑ | 0.1       |
|        | 15   | Mizuho  | 10         | 105 |           | -42.5     | 2 | 0              | 3              | 1              | 3Ac, 1Ci | ⊙↑ | 0.1       |
| 20     | 21   | "       | 12         | 105 | 715       | -45.0     | 0 | 0              | 0              | 0              |          | ⊙↑ |           |
|        | 9    | "       | 14         | 115 | 710       | -45       | x | x              | x              | x              |          | ↑  | 0.05      |
|        | 15   | "       | 12         | "   | 707       | -46       | x | x              | x              | x              |          | ↑  | 0.1       |
| 21     | 21   | "       | 10         | "   | 706       | -47       |   |                |                |                |          | ⊙↑ |           |
|        | 9    | "       | 10         | "   | 705       | -51       | 0 | 0              | 0              | 0              |          | ⊙↑ | 0.2       |
| 22     | 15   | "       | 12         | "   | 705       | -50       | 1 | 0              | 1              | 1              | 1As, 1Ci | ⊙↑ | 0.2       |
|        | 21   | "       | 13         | "   | 707       | -51       |   |                |                |                |          | ⊙↑ |           |
|        | 9    | "       | 14         | "   | 707       | -52       | 0 | 0              | 0              | 0              |          | ⊙↑ | 0.1       |
|        | 15   | "       | 14         | "   | 708       | -51       | 0 | 0              | 0              | 0              |          | ⊙↑ | 0.1       |
|        | 21   | "       | 14         | "   | 708       | -51       | 0 | 0              | 0              | 0              |          | ⊙↑ |           |
| 23     | 9    | "       | 13         | "   | 707       | -51       | 0 | 0              | 0              | 0              |          | ⊙↑ | 0.2       |
|        | 15   | "       | 11         | "   | 705       | -50       | 0 | 0              | 0              | 0              |          | ⊙↑ | 0.5       |
| 24     | 21   | "       | 10         | "   | 703       | -52       |   |                |                |                |          | ⊙↑ |           |
|        | 9    | "       | 9          | "   | 704       | -52       | 0 | 0              | 0              | 0              |          | ⊙↑ | 0.5       |
|        | 15   | "       | 9          | "   | 703       | -53       | 0 | 0              | 0              | 0              |          | ⊙↑ | 0.5       |
| 25     | 21   | "       | 11         | "   | 703       | -55       |   |                |                |                |          | ⊙↑ |           |
|        | 9    | "       | 11         | 105 | 706       | -53       | 0 | 0              | 0              | 0              |          | ⊙↑ | 0.5       |
|        | 15   | "       | 11         | "   | 707       | -52       | 0 | 0              | 0              | 0              |          | ⊙↑ | 0.5       |
| 26     | 21   | "       | 11         | "   | 709       | -53       | 0 | 0              | 0              | 0              |          | ⊙↑ |           |
|        | 9    | "       | 13         | "   | 712       | -49       | x | x              | x              | x              |          | ⊙↑ | 0.05      |
|        | 15   | "       | 15         | "   | 712       | -42       | x | x              | x              | x              |          | ⊙↑ | 0.03      |
|        | 21   | "       | 15         | 90  | 710       | -35       | x | x              | x              | x              |          | ↑  |           |

| Date   | L.T. | St. No. | U<br>(m/s) | D   | P<br>(mb) | T<br>(°C) | N | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | N <sub>C</sub> | W   | V<br>(km) |
|--------|------|---------|------------|-----|-----------|-----------|---|----------------|----------------|----------------|----------------|-----|-----------|
| Aug.27 | 9    | Mizuho  | 15         | 90° | 713       | -37       | x | x              | x              | x              |                | ↑   | 0.05      |
|        | 15   | "       | 14         | "   | 715       | -34       | x | x              | x              | x              |                | ↑   | 0.05      |
|        | 21   | "       | 17         | 105 | 716       | -37       | x | x              | x              | x              |                | ↑   |           |
| 28     | 9    | "       | 14         | "   | 716       | -40       | x | x              | x              | x              |                | ↑   | 0.05      |
|        | 15   | "       | 14         | "   | 714       | -38       | x | x              | x              | x              |                | ① ↑ | 0.05      |
|        | 21   | "       | 13         | "   | 715       | -36       | x | x              | x              | x              |                | ↑   |           |
| 29     | 9    | "       | 13         | 115 | 715       | -40       | 4 | 0              | 2              | 8              | 2As, 2Cs       | ① ↑ | 0.1       |
|        | 15   | "       | 12         | "   | 716       | -39       | 6 | 0              | 7              | 6              | 4Ac, 2Cs       | ① ↑ | 0.1       |
|        | 21   | "       | 14         | 180 | 717       | -38       |   |                |                |                |                | ① ↑ |           |
| 30     | 9    | "       | 12         | 115 | 721       | -42       | 1 | 0              | 0              | 1              | 1Ci            | ○ ↑ | 0.5       |
|        | 15   | "       | 10         | "   | 722       | -40       | 1 | 0              | 0              | 1              | 1Ci            | ○ ↓ | 15        |
|        | 21   | "       | 10         | "   | 725       | -42       |   |                |                |                |                | ○ ↓ |           |
| 31     | 9    | "       | 11         | 135 | 729       | -44       | 0 | 0              | 0              | 0              |                | ○ ↑ | 1         |
|        | 15   | "       | 12         | "   | 730       | -43       | 2 | 0              | 0              | 5              | 2Ci            | ○ ↓ | 5         |
|        | 21   | "       | 13         | "   | 732       | -45       |   |                |                |                |                | ○ ↑ |           |
| Sep. 1 | 9    | "       | 12         | 125 | 734       | -43       | 0 | 0              | 0              | 0              |                | ○ ↑ | 1         |
|        | 15   | "       | 13         | "   | 734       | -41       | 0 | 0              | 0              | 0              |                | ○ ↑ | 0.5       |
|        | 21   | "       | 13         | "   | 734       | -41       |   |                |                |                |                | ○ ↑ |           |
| 2      | 9    | "       | 13         | 115 | 734       | -39       | 2 | 0              | 0              | 9              | 2Cc            | ○ ↑ | 0.5       |
|        | 15   | "       | 14         | "   | 733       | -37       | 4 | 0              | 2              | 9              | 3As, 1Cc       | ○ ↑ | 0.5       |
|        | 21   | "       | 14         | 90  | 733       | -38       |   |                |                |                |                | ○ ↑ |           |
| 3      | 9    | "       | 14         | "   | 732       | -33       | x | x              | x              | x              |                | ○ ↑ | 0.1       |
|        | 15   | "       | 15         | "   | 732       | -35       | x | x              | x              | x              |                | ⊗ ↑ | 0.05      |
|        | 21   | "       | 17         | "   | 730       | -36       |   |                |                |                |                | ↑   |           |
| 4      | 9    | "       | 17         | "   | 730       | -33       | x | x              | x              | x              |                | ↑   | 0.05      |
|        | 15   | "       | 17         | "   | 730       | -33       | x | x              | x              | x              |                | ⊗ ↑ | 0.05      |

| Date   | L.T. | St. No. | U<br>(m/s) | D   | P<br>(mb) | T<br>(°C) | N  | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | NC                  | W   | V<br>(km) |
|--------|------|---------|------------|-----|-----------|-----------|----|----------------|----------------|----------------|---------------------|-----|-----------|
| Sep. 4 | 21   | Mizuho  | 16         | 90° | 731       | -36       |    |                |                |                |                     | ↑   |           |
| 5      | 9    | "       | 15         | "   | 731       | -35       | 10 | 0              | 9              | x              | 10Ac                | ⊙ ↑ | 0.1       |
|        | 15   | "       | 13         | 115 | 730       | -36       | 4  | 0              | 2              | 8              | 1Ac, 2As, 1Cs, halo | ⊙ ↑ | 0.2       |
|        | 21   | "       | 14         | "   | 728       | -38       |    |                |                |                |                     | ⊙ ↑ |           |
| 6      | 9    | "       | 15         | "   | 728       | -39       | 4  | 0              | 2              | 0              | 4As                 | ⊙ ↑ | 0.1       |
|        | 15   | "       | 15         | "   | 729       | -35       | 10 | 0              | 9              | x              | 10Ac                | ⊙ ↑ | 0.1       |
|        | 21   | "       | 15         | 105 | 730       | -35       |    |                |                |                |                     | ⊙ ↑ |           |
| 7      | 9    | "       | 14         | "   | 734       | -31       | 10 | 0              | 9              | x              | 10Ac                | ⊙ ↑ | 0.05      |
|        | 15   | "       | 15         | 90  | 734       | -29       | 10 | 0              | 9              | x              | 10Ac                | ⊙ ↑ | 0.05      |
|        | 21   | "       | 15         | 105 | 735       | -30       |    |                |                |                |                     | ↑   |           |
| 8      | 9    | "       | 15         | "   | 737       | -30       | x  | x              | x              | x              |                     | ⊗ ↑ | 0.05      |
|        | 15   | "       | 13         | 90  | 737       | -29       | x  | x              | x              | x              |                     | ⊗ ↑ | 0.1       |
|        | 21   | "       | 14         | 115 | 736       | -31       |    |                |                |                |                     | ↑   |           |
| 9      | 9    | "       | 14         | "   | 733       | -34       | 10 | 0              | 9              | x              | 10Ac                | ⊙ ↑ | 0.1       |
|        | 15   | "       | 15         | "   | 730       | -34       | 10 | 0              | 9              | x              | 10Ac                | ⊙ ↑ | 0.1       |
|        | 21   | "       | 17         | "   | 727       | -36       | x  | x              | x              | x              |                     | ⊙ ↑ |           |
| 10     | 9    | "       | 16         | "   | 724       | -37       | 5  | 0              | 0              | 6              | 5Cs                 | ⊙ ↑ | 0.1       |
|        | 15   | "       | 16         | "   | 724       | -36       | 4  | 0              | 0              | 6              | 4Cs                 | ⊙ ↑ | 0.1       |
|        | 21   | "       | 15         | "   | 724       | -40       |    |                |                |                |                     | ⊙ ↑ |           |
| 11     | 9    | "       | 14         | 90  | 724       | -40       | 1  | 0              | 0              | 1              | 1Ci                 | ⊙ ↑ | 1         |
|        | 15   | "       | 14         | "   | 725       | -38       | 3  | 0              | 0              | 5              | 1Ci, 2Cs            | ⊙ ↓ | 5         |
|        | 21   | "       | 12         | "   | 727       | -41       |    |                |                |                |                     | ⊙ ↓ |           |
| 12     | 9    | "       | 8          | "   | 731       | -35       | 8  | 0              | 2              | x              | 8As                 | ⊗ ↓ | 1         |
|        | 15   | "       | 8          | 115 | 732       | -32       | 10 | 0              | 2              | x              | 10As                | ⊙ ↓ | 0.5       |
|        | 21   | "       | 11         | "   | 730       | -42       |    |                |                |                |                     | ⊙ ↑ |           |
| 13     | 9    | "       | 14         | "   | 727       | -40       | 0  | 0              | 0              | 0              |                     | ⊙ ↑ | 0.1       |

| Date    | L.T. | St. No. | U<br>(m/s) | D    | P<br>(mb) | T<br>(°C) | N  | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | N <sub>C</sub> | W   | V<br>(km) |
|---------|------|---------|------------|------|-----------|-----------|----|----------------|----------------|----------------|----------------|-----|-----------|
| Sep. 13 | 15   | Mizuho  | 14         | 125° | 726       | -37       | 0  | 0              | 0              | 0              |                | ○ ↗ | 0.1       |
|         | 21   | "       | 16         | "    | 726       | -42       |    |                |                |                |                | ○ ↗ |           |
| 14      | 9    | "       | 16         | "    | 724       | -43       | 0  | 0              | 0              | 0              |                | ○ ↗ | 0.5       |
|         | 15   | "       | 12         | 135  | 722       | -41       | 0  | 0              | 0              | 0              |                | ○ ↗ | 5         |
| 15      | 21   | "       | 13         | "    | 719       | -46       |    |                |                |                |                | ○ ↗ |           |
|         | 9    | "       | 13         | 115  | 714       | -48       | 0  | 0              | 0              | 0              |                | ○ ↗ | 5         |
| 15      | 15   | "       | 11         | 90   | 716       | -43       | 0  | 0              | 0              | 0              |                | ○ ↗ | 10        |
|         | 21   | "       | 10         | "    | 720       | -46       |    |                |                |                |                | ○ ↗ |           |
| 16      | 9    | "       | 10         | 115  | 725       | -48       | 0  | 0              | 0              | 0              |                | ○ ↗ | 10        |
|         | 15   | "       | 11         | "    | 726       | -43       | 2  | 0              | 0              | 9              | 2Cc            | ○ ↗ | 5         |
| 17      | 21   | "       | 13         | "    | 727       | -45       |    |                |                |                |                | ○ ↗ |           |
|         | 9    | "       | 14         | "    | 728       | -42       | 1  | 0              | 0              | 1              | 1Ci            | ○ ↗ | 1         |
| 17      | 15   | "       | 14         | "    | 728       | -40       | 3  | 0              | 0              | 6              | 2Cs, 1Ci       | ○ ↗ | 0.5       |
|         | 21   | "       | 14         | "    | 727       | -43       |    |                |                |                |                | ○ ↗ |           |
| 18      | 9    | "       | 14         | 90   | 730       | -39       | 3  | 0              | 0              | 9              | 3Cc            | ⊙ ↗ | 0.1       |
|         | 15   | "       | 12         | "    | 730       | -34       | 10 | x              | x              | x              |                | ⊗ ↗ | 0.1       |
| 19      | 21   | "       | 11         | "    | 731       | -36       |    |                |                |                |                | ↘   |           |
|         | 9    | "       | 9          | 115  | 734       | -35       | 10 | 0              | 0              | 7              | 7Cs            | ⊗ ↘ | 2         |
| 19      | 15   | "       | 8          | 90   | 734       | -33       | 6  | 0              | 0              | 6              | 5Cc, 1Ci       | ⊗ ↘ | 2         |
|         | 21   | "       | 9          | "    | 735       | -38       |    |                |                |                |                | ⊙ ↘ |           |
| 20      | 9    | "       | 9          | 115  | 737       | -40       | 1  | 0              | 0              | 1              | 1Ci            | ○ ↘ | 5         |
|         | 15   | "       | 8          | "    | 738       | -37       | 4  | 0              | 3              | 5              | 1Ac, 2Cs, 1Ci  | ⊙ ↘ | 10        |
| 21      | 21   | "       | 9          | "    | 737       | -43       |    |                |                |                |                | ⊙ ↘ |           |
|         | 9    | "       | 12         | "    | 733       | -43       | 1  | 0              | 0              | 1              | 1Ci            | ○ ↘ | 0.5       |
| 21      | 15   | "       | 12         | "    | 730       | -39       | 4  | 0              | 0              | 5              | 2Cc, 2Ci       | ⊙ ↘ | 0.2       |
|         | 21   | "       | 15         | "    | 726       | -44       |    |                |                |                |                | ⊙ ↘ |           |

| Date    | L.T. | St.No. | U<br>(m/s) | D   | P<br>(mb) | T<br>(°C) | N  | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | NC             | W   | V<br>(km) |
|---------|------|--------|------------|-----|-----------|-----------|----|----------------|----------------|----------------|----------------|-----|-----------|
| Sep. 22 | 9    | Mizuho | 10         | 90° | 724       | -38       | 10 | 0              | 2              | x              | 10As           | ⊗ ↓ | 1         |
|         | 15   | "      | 9          | "   | 722       | -38       | 1  | 0              | 0              | 1              | 1Ci            | ○ ↓ | 10        |
|         | 21   | "      | 8          | "   | 720       | -40       |    |                |                |                |                | ○ ↓ |           |
| 23      | 9    | "      | 8          | "   | 730       | -40       | 2  | 0              | 0              | 1              | 2Ci            | ○ ↓ | 10        |
|         | 15   | "      | 7          | "   | 732       | -38       | 1  | 0              | 0              | 1              | 1Ci            | ○   | 20        |
|         | 21   | "      | 9          | "   | 732       | -43       |    |                |                |                |                | ○ ↓ |           |
| 24      | 9    | "      | 10         | "   | 734       | -38       | 10 | x              | x              | x              |                | ⊗ ↑ | 0.2       |
|         | 15   | "      | 13         | "   | 735       | -32       | 10 | x              | x              | x              |                | ⊗ ↑ | 0.2       |
|         | 21   | "      | 17         | "   | 732       | -31       |    |                |                |                |                | * ↑ |           |
| 25      | 9    | "      | 21         | 65  | 728       | -24       | x  | x              | x              | x              |                | * ↑ | 0.02      |
|         | 15   | "      | 20         | "   | 728       | -22       | x  | x              | x              | x              |                | * ↑ | 0.05      |
|         | 21   | "      | 18         | "   | 728       | -23       |    |                |                |                |                | * ↑ |           |
| 26      | 9    | "      | 8          | 25  | 726       | -27       | 9  | 0              | 3              | 6              | 5Ac, 4Ci       | ⊗   | 15        |
|         | 15   | "      | 1          | 45  | 722       | -28       | 7  | 0              | 3              | 6              | 5Ac, 2Ci       | ⊗   | 10        |
|         | 21   | "      | 2          | "   | 719       | -41       |    |                |                |                |                | ○   |           |
| 27      | 9    | "      | 9          | 115 | 718       | -45       | 1  | 0              | 0              | 1              | 1Ci            | ○ ↑ | 1         |
|         | 15   | "      | 9          | "   | 718       | -40       | 5  | 0              | 0              | 5              | 4Cs, 1Ci       | ⊕ ↑ | 2         |
|         | 21   | "      | 10         | "   | 716       | -33       |    |                |                |                |                | ○ ↑ |           |
| 28      | 9    | "      | 10         | 105 | 716       | -42       | 2  | 0              | 0              | 1              | 2Ci            | ○ ↑ | 3         |
|         | 15   | "      | 7          | 90  | 716       | -37       | 6  | 0              | 5              | 1              | 4Ac, 1Ci       | ⊕ ↓ | 15        |
|         | 21   | "      | 8          | 115 | 715       | -40       |    |                |                |                |                | ⊕ ↓ |           |
| 29      | 9    | "      | 10         | 105 | 714       | -41       | 3  | 0              | 0              | 2              | 3Ci            | ⊕ ↑ | 2         |
|         | 15   | "      | 9          | 115 | 714       | -37       | 7  | 0              | 2              | 1              | 6As, 1Ci, halo | ⊗ ↓ | 2         |
|         | 21   | "      | 8          | 105 | 714       | -43       |    |                |                |                |                | ⊕ ↓ |           |
| 30      | 9    | "      | 7          | "   | 721       | -44       | 0  | 0              | 0              | 0              |                | ○ ↓ | 20        |
|         | 15   | "      | 9          | 90  | 722       | -38       | 1  | 0              | 0              | 1              | 1Ci            | ○ ↓ | 15        |

| Date    | L.T. | St. No. | U<br>(m/s) | D   | P<br>(mb) | T<br>(°C) | N  | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | N <sub>C</sub>  | W   | V<br>(km) |
|---------|------|---------|------------|-----|-----------|-----------|----|----------------|----------------|----------------|-----------------|-----|-----------|
| Sep. 30 | 21   | Mizuho  | 13         | 90° | 720       | -37       |    |                |                |                |                 | ⊗ ↗ |           |
| Oct. 1  | 9    | "       | 11         | "   | 716       | -25       | 10 | x              | x              | x              |                 | ⊙ ↗ | 0.5       |
|         | 15   | "       | 8          | 65  | 716       | -23       | 10 | x              | x              | x              |                 | ⊙ ↗ | 0.5       |
| 2       | 21   | "       | 11         | 90  | 721       | -25       | x  | x              | x              | x              |                 | ⊙ ↗ |           |
|         | 9    | "       | 19         | "   | 725       | -26       | 10 | x              | x              | x              |                 | * ↗ | 0.05      |
| 3       | 15   | "       | 19         | "   | 724       | -25       | x  | x              | x              | x              |                 | * ↗ | 0.03      |
|         | 21   | "       | 16         | 105 | 726       | -27       |    |                |                |                |                 | * ↗ |           |
| 4       | 9    | "       | 17         | 115 | 725       | -31       | x  | x              | x              | x              |                 | ⊙ ↗ | 0.1       |
|         | 15   | "       | 14         | "   | 724       | -29       | 2  | 0              | 0              | 9              | 2C <sub>c</sub> | ⊙ ↗ | 0.15      |
| 5       | 21   | "       | 15         | "   | 724       | -34       |    |                |                |                |                 | ⊙ ↗ |           |
|         | 9    | "       | 16         | 125 | 721       | -36       | x  | x              | x              | x              |                 | ⊙ ↗ | 0.05      |
| 6       | 15   | "       | 16         | "   | 716       | -34       | x  | x              | x              | x              |                 | ⊙ ↗ | 0.05      |
|         | 21   | "       | 17         | "   | 714       | -42       |    |                |                |                |                 | ⊙ ↗ |           |
| 7       | 9    | "       | 13         | 115 | 718       | -41       | 0  | 0              | 0              | 0              |                 | ⊙ ↗ | 0.5       |
|         | 15   | "       | 10         | 105 | 719       | -37       | 0  | 0              | 0              | 0              |                 | ⊙ ↘ | 40        |
| 8       | 21   | "       | 11         | "   | 720       | -42       | 0  | 0              | 0              | 0              |                 | ⊙ ↘ |           |
|         | 9    | "       | 13         | 105 | 722       | -39       | 1  | 0              | 0              | 1              | 1Ci             | ⊙ ↗ | 0.5       |
| 9       | 15   | Z104    | 12         | "   |           | -32       | 2  | 0              | 0              | 1              | 2Ci             | ⊙ ↗ | 0.5       |
|         | 21   | Z 74    | 11         | "   |           | -38.5     | 3  |                |                |                |                 | ⊙ ↘ |           |
| 10      | 9    | "       | 9          | 120 |           | -36.5     | x  | x              | x              | x              |                 | ⊗ ↗ | 0.5       |
|         | 15   | Z 30    | 7          | 90  | 745       | -31.5     | 2  | 0              | 0              | 1              | 2Ci, halo       | ⊙ ↘ | 10        |
| 11      | 21   | S122    | 10         | 105 | 757       | -36.5     | 1  | 0              | 0              | 1              | 1Ci             | ⊙ ↘ | 5         |
|         | 9    | "       | 11         | 90  | 760       | -34.5     | 1  | 0              | 0              | 1              | 1Ci             | ⊙ ↘ | 30        |
| 12      | 15   | "       | 8          | "   | 765       | -30       | 0  | 0              | 0              | 0              |                 | ⊙ ↘ | 30        |
|         | 21   | H294    | 9.5        | "   | 770       | -36.5     | 0  | 0              | 0              | 0              |                 | ⊙ ↘ |           |
| 13      | 9    | "       | 4          | "   | 772       | -34       | 1  | 0              | 0              | 1              | 1Ci             | ⊙   | 30        |

| Date   | L.T. | St. No. | U<br>(m/s) | D   | P<br>(mb) | T<br>(°C) | N | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | NC       | W   | V<br>(km) |
|--------|------|---------|------------|-----|-----------|-----------|---|----------------|----------------|----------------|----------|-----|-----------|
| Oct. 9 | 15   | H226    | 3          | 90° | 791       | -25.5     | 1 | 0              | 0              | 1              | 1Ci      | ○   | 50        |
|        | 21   | H143    | 9          | "   | 823       | -27.5     | 8 | 0              | 2              | x              | 8As      | ⊙   |           |
| 10     | 9    | "       | 16         | "   | 816       | -16       | x | x              | x              | x              |          | * ↗ | 0.02      |
|        | 15   | "       | 18         | 75  | 816       | -14.5     | x | x              | x              | x              |          | * ↗ | 0.02      |
|        | 21   | "       | 20         | 135 | 815       | -15.5     | x | x              | x              | x              |          | * ↗ | 0.01      |
| 11     | 9    | "       | 18         | 120 | 814       | -15.5     | x | x              | x              | x              |          | * ↗ | 0.05      |
|        | 15   | "       | 13         | 90  | 814       | -15       | 9 | 0              | 2              | 1              | 8As, 1Ci | * ↗ | 0.1       |
| 12     | 21   | H 97    | 14         | "   | 826       | -18       | 8 | 0              | 2              | 1              | 7As, 1Ci | ⊗ ↗ |           |
|        | 9    | "       | 11         | "   | 830       | -17       | 7 | 0              | 1              | 9              | 3As, 4Cc | ⊗ ↗ | 2         |
|        | 15   | S 28    | 13         | "   | 865       | -13       | 6 | 0              | 1              | 6              | 3As, 3Cs | ① ↗ | 1         |
| 13     | 21   | S 19    | 17         | 105 | 900       | -14       | 9 | 0              | 9              | x              | 9Ac      | ⊙ ↗ |           |
|        | 9    | "       | 14         | 90  | 903       | -14       | 4 | 0              | 3              | 0              | 3Ac      | ① ↗ | 0.2       |



Table 6. Surface meteorological data along route S-H-Z in 23-30 August 1973.

| Date   | L.T. | St.No. | U<br>(m/s) | D   | P<br>(mb) | T<br>(°C) | N  | C <sub>L</sub> | C <sub>M</sub> | CH | NC                  | W   | V<br>(km) |
|--------|------|--------|------------|-----|-----------|-----------|----|----------------|----------------|----|---------------------|-----|-----------|
| 1973   |      |        |            |     |           |           |    |                |                |    |                     |     |           |
| Aug.23 | 21   | Z 50   | 9          |     | 710       | -52       | 0  |                |                |    |                     | ○   |           |
| 24     | 7    | "      |            |     |           | -54       |    |                |                |    |                     |     |           |
|        | 9    | Z 43   | 5          | 85° | 708       | -55       | 0  |                |                |    |                     | ○   | 20        |
|        | 15   | Z 5    | 7          | 85  | 727       | -50.5     | 0  |                |                |    |                     | ○   | 5         |
|        | 21   | H278   | 6          | 100 | 744       | -50       | 0  |                |                |    |                     | ○↓  |           |
| 25     | 9    | "      | 5          | 85  | 746       | -50       | 0  |                |                |    |                     | ○↓↔ | 0.5       |
|        | 15   | H216   | 4          | 85  | 771       |           | 2  |                |                |    | Ci                  | ○   | 10        |
|        | 21   | H140   | 8          | 80  | 797       | -39       | 0  |                |                |    |                     | ○↓  |           |
| 26     | 9    | "      | 12         | 90  | 796       | -29       | 10 |                |                |    |                     | *↑  | 0.1       |
|        | 22   | H137   | 16         | 70  | 792       | -22       | 10 |                |                |    |                     | *↑  | 0.2       |
| 27     | 9    | "      | 17         | 90  | 797       | -24       | 10 |                |                |    |                     | *↑  | 0.01      |
|        | 15   | "      | 18         | 80  | 799       | -27       | 10 |                |                |    |                     | *↑  | 0.01      |
|        | 21   | "      | 15         | 70  | 801       | -30       |    |                |                |    |                     | ⊙↑  | 0.01      |
| 28     | 9    | "      | 16         | 70  | 799       | -28       | 9  |                |                |    |                     | ⊙↑  | 0.05      |
|        | 15   | "      | 13         | 70  | 799       | -26       | 10 |                |                |    |                     | ⊙↑  | 0.10      |
|        | 21   | "      | 12         | 90  | 798       | -25       |    |                |                |    |                     | *↑  | 0.05      |
| 29     | 9    | "      | 9          | 40  | 800       | -29       | 10 |                |                |    |                     | ↔   | 0.2       |
|        | 15   | H 58   | 13         | 60  | 832       | -29       | 5  |                |                |    | White out<br>Ac, Ci | ①↓  | 0.3       |
|        | 21   | S27-4  |            |     | 857       | -29       |    |                |                |    |                     | ○↓  |           |
| 30     | 9    | S 22   | 8          | 85  | 880       | -28       | 7  |                |                |    | As, Ci              | ①   | 10        |

Table 7. Surface meteorological data along routes S-H-Z and M in 10 September-14 October 1973.

| Date    | L.T. | St. No. | U<br>(m/s) | D   | p<br>(mb) | T<br>(°C) | N | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | NC | W   | V<br>(km) |
|---------|------|---------|------------|-----|-----------|-----------|---|----------------|----------------|----------------|----|-----|-----------|
| 1973    |      |         |            |     |           |           |   |                |                |                |    |     |           |
| Sep. 10 | 15   | S 16    | 9          | 60° | 896       | -17       | 4 |                |                |                | Cs | ⊙   | 50        |
|         | 21   | S18-3   | 9          | 80  | 887       | -22.5     | 0 |                |                |                |    | ○   |           |
| 11      | 9    | S21-3   | 8          | 70  | 877       | -25       | 2 |                |                |                | Ci | ○   | 30        |
|         | 15   | S28-1   | 8          | 70  | 855       | -24       | 2 |                |                |                | Cs | ○   | 30        |
|         | 21   | H 6-1   | 9          | 70  | 848       |           | 0 |                |                |                |    | ○   | 30        |
| 12      | 9    | "       | 12         | 70  | 850       | -24.5     | 0 |                |                |                |    | ○↕  | 0.3       |
|         | 15   | H48-1   | 11         | 50  | 840       | -24       | 0 |                |                |                |    | ○↕  | 1         |
|         | 21   | H 65    | 7          | 70  | 836       | -29.5     | 0 |                |                |                |    | ○   | 10        |
| 13      | 9    | H 70    | 10         | 80  | 825       | -30.5     | 0 |                |                |                |    | ○↕  | 2         |
|         | 16   | "       | 9          | 80  | 824       | -25.5     | 0 |                |                |                |    | ○↕  | 2         |
|         | 21   | H 83    | 11         | 80  | 817       | -30       | 0 |                |                |                |    | ○↕  | 1         |
| 14      | 9    | H97-1   | 9          | 80  | 814       | -31       | 1 |                |                |                | Cs | ○↕  | 3         |
|         | 15   | H127    | 9          | 90  | 801       | -30       | 0 |                |                |                |    | ○   | 4         |
|         | 21   | H124    | 9          | 80  | 797       | -35       | 0 |                |                |                |    | ○   |           |
| 15      | 9    | H137    | 6          | 70  | 792       | -38       | 0 |                |                |                |    | ○   | 60        |
|         | 15   | H178    | 4          | 70  | 780       | -35       | 0 |                |                |                |    | ○   | 60        |
|         | 21   | H189    | 7          | 90  | 782       | -37       | 0 |                |                |                |    | ○   | 30        |
| 16      | 9    | "       | 7          | 70  | 785       | -34       | 4 |                |                |                | Cs | ⊙↕  | 0.5       |
|         | 15   | H231    | 4          | 70  | 775       | -34       | 5 |                |                |                | Cs | ⊙   | 10        |
|         | 21   | H252    | 5          |     | 767       | -38       | 3 |                |                |                |    | ⊙   |           |
| 17      | 9    | H254    | 5          | 90  | 767       | -36.5     | 3 |                |                |                | Cs | ⊙↕↔ | 1         |
|         | 15   | H256    | 9          | 70  | 765       | -32       | 3 |                |                |                | Ci | ⊙↕  | 0.3       |

| Date    | L.T. | St. No. | U<br>(m/s) | D   | P<br>(mb) | T<br>(°C) | N  | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | NC         | W  | V<br>(km) |
|---------|------|---------|------------|-----|-----------|-----------|----|----------------|----------------|----------------|------------|----|-----------|
| Sep. 17 | 21   | H253    | 14         | 40° | 764       | -34       |    |                |                |                |            | ⊙↑ |           |
| 18      | 10   | "       | 7          | 70  | 767       | -28       | 10 |                |                |                | White out  | *↑ | 0.1       |
|         | 15   | "       | 0          | -   | 769       | -29       | 0  |                |                |                | Halo       | ⊙← | 1         |
|         | 21   | "       | 4          |     | 770       | -29       | 10 |                |                |                |            | ⊙  |           |
| 19      | 9    | H262    | 7          | 95  | 771       | -28       | 8  |                |                |                | As         | ⊙  | 4         |
|         | 15   | H295-1  | 7          | 80  | 758       | -28       | 6  |                |                |                | As, Cs     | ⊙  | 3         |
|         | 21   | S122    | 8          | 70  | 755       | -31       | 3  |                |                |                |            | ⊙  |           |
| 20      | 10   | Z 4-1   | 7          | 80  | 753       | -34       | 2  |                |                |                | Ci         | ⊙  | 2         |
|         | 15   | Z 26    | 6          | 90  | 745       | -31       | 10 |                |                |                | Ac, Cc     | ⊙  | 10        |
|         | 21   | Z 37    | 10         |     | 740       | -39       | 0  |                |                |                |            | ⊙  |           |
| 21      | 10   | Z 37    | 12         | 90  | 732       | -37       | 7  |                |                |                | Ci, Cs     | ⊙↑ |           |
|         | 18   | "       | 13         | 90  | 726       | -39       | 0  |                |                |                |            | ⊙↑ |           |
|         | 21   | "       | 11         |     | 725       | -40       | 0  |                |                |                |            | ⊙↑ |           |
| 22      | 9    | "       | 7          | 80  | 723       | -32       | 10 |                |                |                |            | *↑ | 0.3       |
|         | 21   | Z 66    | 6          |     | 721       | -39       | 2  |                |                |                |            | ⊙  |           |
| 23      | 9    | Z 70    | 5          | 80  | 723       | -39       | 1  |                |                |                | Halo       | ⊙← | 0.5       |
|         | 15   | Z 85    | 5          | 80  | 723       | -37.5     | 2  |                |                |                | Cs         | ⊙← | 5         |
| 27      | 15   | Z 83    | 7          | 70  | 726.7     |           | 7  |                |                |                | Halo       | ⊙  | 2         |
|         | 21   | Z 45    |            |     |           | -41       | 2  |                |                |                |            | ⊙↓ |           |
| 28      | 10   | Z 29    | 4          |     | 736.0     | -34.5     | 3  |                |                |                | Cs, Cc     | ⊙  | 5         |
|         | 15   | M 6     | 5          | 60  | 740.5     | -32.5     | 4  |                |                |                | As, Ci, Cs | ⊙  | 5         |
|         | 21   | M 11    |            |     |           | -39.5     | 0  |                |                |                |            | ⊙↓ |           |
| Sep. 29 | 9    | M 11    | 7          | 65  | 735       | -36       | 10 |                |                |                |            | ⊙↑ | 0.1       |
|         | 15   | "       | 7          | 60  | 737       | -32.5     | 7  |                |                |                | Cc         | ⊙↓ | 2         |
|         | 21   | M 13    | 4          |     | 738       | -42       | 2  |                |                |                |            |    |           |
| 30      | 9    | "       | 6          | 70  | 744       | -41       | 0  |                |                |                |            | ⊙  | 4         |

| Date    | L.T. | St. No. | U<br>(m/s) | D    | P<br>(mb) | T<br>(°C) | N     | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | NC     | W   | V<br>(km) |
|---------|------|---------|------------|------|-----------|-----------|-------|----------------|----------------|----------------|--------|-----|-----------|
| Sep. 30 | 16   | M 22    | 8.5        | 80°  | 740       | -34.5     | 7     |                |                |                | Cs     | ⊕ ↗ |           |
|         | 21   | "       | 12.5       |      | 734       | -29       | 10    |                |                |                | Cs     | * ↗ | 0.05      |
| Oct. 1  | 9    | "       | 19         |      | 729       | -20.5     | 10    |                |                |                |        | * ↗ | 0.02      |
|         | 15   | "       |            | 730  | -19       | 10        |       |                |                |                |        | * ↗ | 0.02      |
|         | 21   | "       |            |      | 736       | -22       | 10    |                |                |                |        | * ↗ | 0.02      |
| 2       | 9    | "       | 17         |      | 737       | -22       | 10    |                |                |                | As     | * ↗ | 0.05      |
|         | 15   | "       |            | 740  | -22       |           |       |                |                |                |        | ⊕ ↗ | 0.05      |
|         | 21   | "       |            |      | 742       | -25.5     |       |                |                |                |        | ⊕ ↗ |           |
| 3       | 10   | "       | 12         |      | 741       | -28       | 7     |                |                |                | Ci, Cs | ⊕ ↗ |           |
|         | 15   | "       |            | 10   | 70        | 740       | -26.5 | 1              |                |                |        | Ci  | ○ ↗       |
|         | 21   | "       |            |      | 738       |           |       |                |                |                |        | ↗   |           |
| 4       | 10   | "       | 13         |      | 734       | -29       |       |                |                |                |        | ⊕ ↗ | 0.1       |
|         | 15   | "       |            | 14   |           | 731       | -29   | 10             |                |                |        |     | ⊙ ↗       |
|         | 21   | "       |            |      | 730       | -35       |       |                |                |                |        | ⊕ ↗ |           |
| 5       | 9    | "       | 10         |      | 734       | -37       | 0     |                |                |                |        | ○ ↗ | 0.2       |
|         | 22   | M28-1   |            | Calm |           |           | -38   | 0              |                |                |        |     | ○         |
| 6       | 9    | "       | 12         | 90   |           | -35       | 3     |                |                |                | Cs     | ⊕ ↗ | 1         |
| 7       | 10   | M32     | 11         |      |           | -33       |       |                |                |                | Cs     | ⊕ ↗ | 0.3       |
|         | 15   | "       |            | 8    | 741       | -32       | 4     |                |                |                |        |     | ⊕         |
|         | 21   | "       | 7          |      | 741       | -37.5     | 0     |                |                |                |        | ○   |           |
| 8       | 10   | "       | 9          |      | 745       | -35.5     | 2     |                |                |                | Cs     | ○ ↗ | 1         |
|         | 17   | M37-1   |            |      |           |           | -32.5 |                |                |                |        |     |           |
| 9       | 7    | M 46    | Calm       |      |           | -36.5     | 0     |                |                |                |        | ○   | 40        |
|         | 9    | M 49    | 5          |      |           | -33       | 2     |                |                |                | Ci     | ○   | 20        |
|         | 21   | moraine | 8          | 95   | 788       | -28.5     | 9     |                |                |                |        | ⊙ ↗ | 2         |
| 10      | 11   | "       |            |      | 785       | -18.5     | 0     |                |                |                |        | * ↗ | 0.01      |

| Date    | L.T. | St. No. | U<br>(m/s) | D  | p<br>(mb) | T<br>(°C) | N | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | NC         | W   | V<br>(km) |
|---------|------|---------|------------|----|-----------|-----------|---|----------------|----------------|----------------|------------|-----|-----------|
| Oct. 10 | 16   | moraine |            |    | 785       |           |   |                |                |                |            | * ↗ | 0.01      |
|         | 21   | "       | 15         |    | 784       | -19       |   |                |                |                |            | * ↗ |           |
| 11      | 12   | "       | 12         |    | 781.5     | -19       | 9 |                |                |                |            | ⊙ ↗ | 0.05      |
|         | 16   | "       | 13         | 50 | 781       | -18.5     | 7 |                |                |                |            | ⊙ ↗ |           |
| 12      | 21   | "       |            |    |           |           |   |                |                |                |            | ⊙ ↗ | 0.1       |
|         | 9    | "       |            |    |           |           |   |                |                |                |            | ⊙ ↗ |           |
| 13      | 15   | M 65    |            |    |           |           |   |                |                |                |            | ⊙ ↗ | 0.2       |
|         | 21   | H160    | 14         |    | 809       | -22.5     |   |                |                |                |            | ⊙ ↗ |           |
| 13      | 9    | H150    | 13         |    | 814.8     | -20.5     | 4 |                |                |                | Ac, Ci, Cs | ⊙ ↗ | 0.5       |
| 14      | 8    | S24-3   |            |    |           | -13       |   |                |                |                |            | ⊙ ↗ |           |

Table 8. Surface meteorological data along routes S-H-Z, X, C, D, A and S in 10 November 1973 - 29 January 1974.

| Date    | L.T. | St.No. | U<br>(m/s) | D   | P<br>(mb) | T<br>(°C) | N | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | N <sub>C</sub> | W   | V<br>(km) |
|---------|------|--------|------------|-----|-----------|-----------|---|----------------|----------------|----------------|----------------|-----|-----------|
| 1973    |      |        |            |     |           |           |   |                |                |                |                |     |           |
| Nov. 10 | 15   | S 16   | 8.5        | 75° | 924       | - 2.5     | 1 | 0              | 0              | 1              | 1Cc, 1Ci       | ○   | 60        |
|         | 21   | S 23   | 9.0        | 75  | 890       | -11.5     | 1 | 0              | 3              | 1              | 1Ac, 1Cc, 1Ci  | ○   | 50        |
| 11      | 9    | "      | 8.5        | 90  | 888       | - 9.5     | 0 | 0              | 0              | 0              |                | ○   | 60        |
|         | 15   | H 49   | 8.5        | 90  | 847       | - 8.5     | 0 | 0              | 0              | 0              |                | ○   | 60        |
| 12      | 21   | H101   | 9.0        | 90  | 828       | -17.5     | 0 | 0              | 0              | 0              |                | ○   | 50        |
|         | 9    | "      | 13.0       | 90  | 827       | -18.5     | 0 | 0              | 0              | 0              |                | ○ ↗ | 0.5       |
| 13      | 15   | H146   | 11.0       | 90  | 815       | -15.5     | 0 | 0              | 0              | 0              |                | ○ ↗ | 1.0       |
|         | 21   | H210   | 5.5        | 90  | 796       | -22.0     | 1 | 0              | 1              | 0              | 1Ac            | ○   | 50        |
| 14      | 9    | "      | 8.5        | 90  | 796       | -22.0     | 0 | 0              | 0              | 0              |                | ○ ↗ | 5         |
|         | 15   | H268   | 6.5        | 85  | 778       | -18.0     | 0 | 0              | 0              | 0              |                | ○   | 50        |
| 15      | 21   | Z 11   | 6.5        | 90  | 755       | -27.0     | 0 | 0              | 0              | 0              |                | ○   | 50        |
|         | 9    | "      | 11.0       | 75  | 753       | -26.0     | 0 | 0              | 0              | 0              |                | ○ ↗ | 0.5       |
| 16      | 15   | Z 40   | 12.5       | 105 | 739       | -22.0     | 0 | 0              | 0              | 0              |                | ○ ↗ | 30        |
|         | 21   | Z 82   | 11.0       | 90  | 733       | -29.0     | 0 | 0              | 0              | 0              |                | ○ ↗ | 20        |
| 17      | 9    | "      | 13.0       | 90  | 732       | -27.2     | 0 | 0              | 0              | 0              |                | ○ ↗ | 1         |
|         | 15   | Z 92   | 8.0        | 90  | 720       | -21.6     | 1 | 0              | 3              | 0              | 1Ac            | ○ ↗ | 20        |
| 18      | 21   | Mizuho | 9.0        | 90  | 725       | -27.0     | 2 | 0              | 3              | 0              | 2Ac            | ○ ↗ | 20        |
|         | 9    | "      | 11.0       | 85  | 722       | -23.0     | 5 | 0              | 5              | 0              | 5Ac            | ⊖ ↗ | 1.5       |
| 19      | 15   | "      | 13.0       | 105 | 723       | -19.0     | 5 | 0              | 5              | 0              | 5Ac, halo      | ⊖ ↗ | 5         |
|         | 23   | "      | 8.0        | 80  | 732       | -26.5     | 4 | 0              | 3              | 1              | 3Ac, 1Cc       | ⊖ ↗ | 5         |
| 20      | 9    | "      | 13.0       | 70  | 728       | -24.5     | 4 | 0              | 5              | 0              | 4Ac            | ⊖ ↗ | 1         |
|         | 15   | "      | 13.0       | 80  | 730       | -20.0     | 4 | 0              | 5              | 0              | 4Ac            | ⊖ ↗ | 2         |

| Date    | L.T. | St. No. | U<br>(m/s) | D    | p<br>(mb) | T<br>(°C) | N | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | NC       | W   | V<br>(km) |
|---------|------|---------|------------|------|-----------|-----------|---|----------------|----------------|----------------|----------|-----|-----------|
| Nov. 17 | 21   | X 14    | 8.0        | 100° | 737       | -27.0     | 1 | 0              | 0              | 1              | 1Ci      | ○ → | 50        |
| 18      | 9    | "       | 10.0       | 90   | 735       | -25.0     | 0 | 0              | 0              | 0              |          | ○ → | 5         |
|         | 15   | S171    | 10.0       | 90   | 742       | -20.5     | 1 | 0              | 3              | 0              | 1Ac      | ○   | 40        |
|         | 21   | C140    | 5.5        | 95   | 745       | -25.0     | 1 | 0              | 3              | 0              | 1Ac      | ○   | 40        |
| 19      | 9    | C138    | 7.5        | 90   | 749       | -23.8     | 1 | 0              | 3              | 0              | 1Ac      | ○   | 40        |
|         | 15   | C130    | 7.0        | 105  | 747       | -18.2     | 2 | 0              | 3              | 0              | 2Ac      | ○   | 40        |
|         | 21   | C120    | 7.0        | 105  | 747       | -24.0     | 3 | 0              | 5              | 0              | 3Ac      | ⊖   | 40        |
| 20      | 9    | C117    | 9.0        | 110  | 755       | -23.0     | 8 | 0              | 9              | x              | 5Ac, 4As | ⊗   | 5         |
|         | 15   | C110    | 5.0        | 85   | 755       | -18.0     | 1 | 0              | 3              | 1              | 1Ac, 1Cc | ○   | 50        |
|         | 21   | C100    | 4.0        | 100  | 764       | -23.7     | 1 | 0              | 3              | 0              | 1Ac      | ○   | 40        |
| 21      | 10   | C 98    | 12.5       | 95   | 765       | -20       | 3 | 0              | 3              | 1              | 2Ac, 1Cc | ⊖ → | 5         |
|         | 17   | "       | 5.0        | 100  | 764       | -17       | 3 | 0              | 3              | 1              | 2Ac, 1Cc | ⊖   | 40        |
|         | 21   | "       | 7.0        | 95   | 764       | -21.5     | 2 | 0              | 3              | 1              | 1Ac, 1Ci | ○   | 40        |
| 22      | 9    | "       | 9.0        | 100  | 765       | -20.5     | 4 | 0              | 3              | 0              | 4Ac      | ⊖   | 10        |
|         | 15   | C 91    | 7.5        | 100  | 767       | -15.5     | 1 | 0              | 0              | 1              | 1Cc      | ○   | 60        |
|         | 21   | C 81    | 8.5        | 120  | 770       | -19.2     | 1 | 0              | 0              | 1              | 1Cc      | ○   | 40        |
| 23      | 10   | C 80    | 10.5       | 100  | 776       | -20.0     | 0 | 0              | 0              | 0              |          | ○ → | 1         |
|         | 15   | C 74    | 8.5        | 100  | 780       | -14.5     | 0 | 0              | 0              | 0              |          | ○   | 50        |
|         | 21   | C 66    | 7.0        | 115  | 780       | -19.0     | 1 | 0              | 0              | 1              | 1Cc      | ○   | 40        |
| 24      | 9    | C 64    | 11.5       | 120  | 780       | -20.8     | 1 | 0              | 0              | 8              | 1Cs      | ○   | 30        |
|         | 15   | C 56    | 8.0        | 75   | 783       | -16.3     | 0 | 0              | 0              | 0              |          | ○   | 60        |
|         | 21   | C 43    | 5.5        | 60   | 776       | -20.5     | 0 | 0              | 0              | 0              |          | ○   | 70        |
| 25      | 11   | C 37    | 11.0       | 55   | 775       | -20.0     | 1 |                |                |                |          | ○ → | 30        |
|         | 17   | "       | 6.0        | 65   | 775       | -16.3     | 1 | 0              | 0              | 8              | 1Cs      | ○   | 60        |
|         | 22   | "       | 6.0        | 65   | 774       | -21.8     | 0 | 0              | 0              | 0              |          | ○   | 60        |
| 26      | 9    | "       | 10.0       | 65   | 772       | -22.3     | 2 | 0              | 0              | 5              | 2Cs      | ○   | 60        |

| Date    | L.T. | St. No. | U<br>(m/s) | D   | P<br>(mb) | T<br>(°C) | N  | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | NC            | W   | V<br>(km) |
|---------|------|---------|------------|-----|-----------|-----------|----|----------------|----------------|----------------|---------------|-----|-----------|
| Nov. 26 | 15   | C 25    | 8.5        | 65° | 775       | -16.0     | 1  | 0              | 0              | 8              | 1Cs           | ○   | 60        |
|         | 21   | C 16    | 3.5        | 65  | 775       | -20.8     | 3  | 0              | 1              | 8              | 2As, 1Cs      | ①   | 60        |
| 27      | 9    | C 15    | 8.0        | 70  | 777       | -18.0     | 4  | 0              | 4              | 8              | 3Ac, 1Cs      | ①   | 50        |
|         | 15   | C 7     | 8.0        | 75  | 776       | -16.0     | 2  | 0              | 3              | 0              | 2Ac           | ○   | 60        |
| 28      | 21   | C 0     | 3.5        | 90  | 774       | -17.5     | 9  | 6              | 8              | x              | 6St, 4Ac      | ⊗*  | 40        |
|         | 9    | "       | 10.0       | 85  | 771       | -20.0     | 10 | 7              | x              | x              | 10St          | ⊗*↗ | 0.2       |
|         | 17   | D 0     | 9.0        | 90  | 787       | -15.0     | 10 | 7              | x              | x              | 10St          | ⊗*  | 2         |
| 29      | 21   | "       | 5-10       | 85  | 785       | -16.0     | 1  | 1              | 0              | 0              | 1Cu           | ○   | 60        |
|         | 11   | "       | 15-22      | 85  | 778       | -20.3     | 2  | 0              | 0              | 6              | 2Cc           | ○*↗ | 0.15      |
|         | 15   | "       | 15-22      | 100 | 774       | -15.5     | x  | x              | x              | x              |               | *↗  | 0.15      |
| 30      | 21   | "       | 15-22      | 85  | 770       | -17.5     | 6  | 0              | 5              |                | 2Ac, 4As      | ①*↗ | 0.15      |
|         | 9    | "       | 8-15       | 85  | 768       | -15.0     | 9  | 0              | 9              | x              | 10Ac          | ⊗*↗ | 0.5       |
|         | 15   | "       | 10         | 85  | 773       | -11.0     | 9  | 0              | 9              | x              | 10Ac          | ⊗↗  | 2         |
| Dec. 1  | 21   | "       | 8-13       | 85  | 777       | -11.5     | 8  | 4              | 6              | 6              | 4Cu, 4Ac, 2Ci | ⊗↗  | 5         |
|         | 9    | "       | 8-12       | 100 | 780       | -11.5     | x  | x              | x              | x              |               | *↗  | 0.2       |
|         | 15   | "       | 7.0        | 110 | 785       | -10.5     | 9  | 0              | 9              | x              | 9Ac           | ⊗*↗ | 2         |
|         | 21   | "       | 12.0       | 110 | 785       | -11.2     | 8  | 0              | 9              | 9              | 6Ac, 2Cc      | ⊗*↗ | 2         |
| 2       | 9    | "       | 10-18      | 65  | 785       | -15.0     | 1  | 0              | 0              | 1              | 1Ci           | ○↗  | 10        |
|         | 15   | "       | 8-12       | 65  | 787       | -10.0     | 1  | 0              | 0              | 8              | 1Cs           | ○   | 60        |
| 3       | 21   | "       | 8-11       | 70  | 785       | -13.3     | 1  | 0              | 0              | 8              | 1Cs           | ○   | 60        |
|         | 9    | "       | 15.0       | 60  | 780       | -17.0     | 0  | 0              | 0              | 0              |               | ○↗  | 1         |
|         | 15   | "       | 8-12       | 85  | 782       | -12.0     | 2  | 0              | 3              | 0              | 2Ac           | ○↗  | 10        |
| 4       | 21   | "       | 6.0        | 120 | 781       | -14.6     | 4  | 0              | 7              | 0              | 4Ac           | ①   | 50        |
|         | 9    | "       | 6.5        | 100 | 784       | -14.2     | 10 | 0              | 2              | x              | 10As          | ⊗*  | 5         |
|         | 15   | "       | <3.0       |     | 787       | -12.7     | 10 | 0              | 2              | x              | 10As          | ⊗*  | 10        |
|         | 21   | "       | <1.0       |     | 787       | -13.8     | 10 | 0              | 2              | x              | 10As          | ⊗*  | 10        |



| Date   | L.T. | St. No. | U<br>(m/s) | D    | P<br>(mb) | T<br>(°C) | N  | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | NC             | W   | V<br>(km) |
|--------|------|---------|------------|------|-----------|-----------|----|----------------|----------------|----------------|----------------|-----|-----------|
| Dec. 5 | 9    | D 0     | 7.0        | 120° | 789       | -15.5     | 10 | 0              | 2              | x              | 10As           | ⊗*  | 10        |
|        | 15   | "       | 9.5        | 105  | 788       | -14.0     | 9  | 0              | 2              | x              | 9As            | ⊗↓  | 10        |
|        | 21   | "       | 10-15      | 95   | 787       | -16.0     | 4  | 0              | 1              | 9              | 2As, 2Cc, halo | ⊙↓  | 5         |
| 6      | 9    | "       | 15-20      | 75   | 785       | -17.5     | 3  | 0              | 0              | 8              | 3Cc            | ⊙↓  | 2         |
|        | 15   | "       | 13         | 95   | 787       | -14.0     | 3  | 0              | 0              | 5              | 1Ci, 2Cs       | ⊙   | 40        |
|        | 21   | "       | 8          | 95   | 789       | -14.2     | 10 | 0              | 2              | x              | 10As           | ⊗*  | 2         |
| 7      | 9    | "       | 8          | 75   | 793       | -15.5     | 7  | 0              | 5              | x              | 3Ac, 4As       | ⊙↓  | 2         |
|        | 15   | "       | 10         | 90   | 794       | -13.8     | 8  | 4              | 6              | 6              | 1Cu, 5Ac, 2Cc  | ⊗   | 30        |
|        | 24   | "       | 13         | 85   | 786       | -18.3     | 3  | 0              | 3              | 6              | 1Ac, 2Cc       | ⊙↓  | 5         |
| 8      | 9    | "       | 15-23      | 70   | 777       | -16.5     | 7  | 0              | 1              | 6              | 2Ac, 5Cs       | ⊙↑  | 1         |
|        | 15   | "       | 13         | 90   | 778       | -12.3     | 10 | 7              | x              | x              | 10St           | ⊙*↓ | 0.5       |
|        | 21   | "       | 13         | 85   | 779       | -13.5     | 9  | 7              | 8              | x              | 4Sc, 5Ac       | ⊗*↑ | 1         |
| 9      | 9    | "       | 14         | 85   | 778       | -13.5     | 9  | 4              | 0              | 7              | 2Cu, 8Cs       | ⊙↑  | 0.3       |
|        | 15   | "       | 13         | 105  | 792       | -11.5     | 8  | 4              | 8              | x              | 4Cu, 4Ac       | ⊗*↑ | 1         |
|        | 24   | "       | 1          | 105  | 795       | -14.0     | 1  | 0              | 4              | 0              | 1As, 1Ac       | ⊙   | 50        |
| 10     | 9    | "       | 14         | 70   | 790       | -16.3     | 0  | 0              | 0              | 0              |                | ⊙↓  | 2         |
|        | 15   | "       | 6-12       | 75   | 790       | -12.1     | 0  | 0              | 0              | 0              |                | ⊙   | 60        |
|        | 22   | "       | 7-12       | 85   | 786       | -14.5     | 0  | 0              | 0              | 0              |                | ⊙   | 70        |
| 11     | 9    | "       | 12-19      | 65   | 779       | -17.0     | 0  | 0              | 0              | 0              |                | ⊙↓  | 5         |
|        | 15   | "       | 8-13       | 65   | 778       | -12.0     | 0  | 0              | 0              | 0              |                | ⊙   | 50        |
|        | 21   | "       | 7-12       | 80   | 778       | -13.5     | 0  | 0              | 0              | 0              |                | ⊙   | 70        |
| 12     | 10   | "       | 8-16       | 65   | 784       | -13.0     | 0  | 0              | 0              | 0              |                | ⊙↓  | 10        |
|        | 23   | "       | 13-22      | 55   | 787       | -14.5     | 0  | 0              | 0              | 0              |                | ⊙   | 70        |
| 13     | 9    | "       | 8-22       | 55   | 786       | -13.0     | 1  | 0              | 1              | 0              | 1As            | ⊙↑  | 10        |
|        | 15   | "       | 10-15      | 60   | 785       | -11.5     | 1  | 0              | 0              | 1              | 1As            | ⊙↓  | 30        |
|        | 21   | "       | 8-13       | 70   | 782       | -12.5     | 1  | 0              | 0              | 1              | 1Ci            | ⊙↓  | 40        |

| Date   | L.T. | St. No. | U<br>(m/s) | D   | P<br>(mb) | T<br>(°C) | N  | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | NC            | W   | V<br>(km) |
|--------|------|---------|------------|-----|-----------|-----------|----|----------------|----------------|----------------|---------------|-----|-----------|
| Dec.14 | 10   | D 0     | 11-20      | 75° | 780       | -13.5     | 2  | 0              | 0              | 1              | 2Ci           | ○↓  | 20        |
|        | 15   | "       | 10-17      | 75  | 786       | -11.5     | 2  | 0              | 0              | 1              | 2Ci           | ○   | 50        |
|        | 21   | "       | 7-11       | 85  | 784       | -12.5     | 1  | 0              | 0              | 1              | 1Ci           | ○   | 60        |
| 15     | 10   | "       | 8-13       | 75  | 788       | -13.5     | 0  | 0              | 0              | 0              |               | ○   | 60        |
|        | 15   | "       | 10         | 75  | 788       | -10.0     | 1  | 0              | 0              | 1              | 1Ci           | ○   | 70        |
| 16     | 21   | D 10    | 3          | 115 | 793       | -10.5     | 1  | 0              | 0              | 1              | 1Cs           | ○   | 70        |
|        | 9    | "       | 13         | 85  | 790       | -13.8     | 3  | 0              | 0              | 2              | 3Ci           | ⊙   | 60        |
|        | 15   | D 20    | 8          | 85  | 780       | -12.0     | 5  | 0              | 1              | 1              | 4As, 1Ci      | ⊙   | 50        |
| 17     | 21   | D 25    | 9-15       | 105 | 778       | -14.0     | 5  | 0              | 1              | 1              | 4As, 1Ci      | ⊙   | 60        |
|        | 9    | "       | 11         | 85  | 778       | -13.0     | 9  | 0              | 8              | x              | 9Ac           | ⊗   | 40        |
|        | 15   | D 30    | 9          | 100 | 770       | -12.0     | 9  | 0              | 8              | x              | 9Ac           | ⊗   | 40        |
| 18     | 21   | D 33    | 8          | 75  | 765       | -14.0     | 5  | 0              | 3              | 1              | 4Ac, 1Ci      | ⊙   | 50        |
|        | 9    | B 12    | 8          | 65  | 754       | -14.0     | 10 | 0              | 8              | x              | 10Ac          | ⊗   | 5         |
|        | 15   | "       | 5          | 65  | 757       | -12.0     | 9  | 5              | 8              | x              | 2Sc, 7Ac      | ⊗   | 10        |
| 19     | 22   | "       | <1         | 65  | 755       | -14.0     | 8  | 5              | 8              | x              | 2Sc, 6Ac      | ⊗   | 40        |
|        | 9    | "       | 9          | 75  | 754       | -14.5     | 9  | 0              | 2              | x              | 9As           | ⊗   | 10        |
|        | 15   | "       | 7          | 70  | 755       | -12.0     | 8  | 1              | 3              | 9              | 2Cu, 4Ac, 2Cc | ⊗   | 10        |
| 20     | 21   | A003    | 10         | 70  | 732       | -13.0     | 7  | 1              | 8              | x              | 1Cu, 6Ac      | ⊙↓  | 5         |
|        | 9    | "       | 11         | 90  | 729       | -16.5     | 8  | 6              | 8              | x              | 5St, 3Ac      | ⊙*↑ | 1         |
|        | 15   | "       | 11         | 90  | 732       | -15.0     | 10 | 6              | 2              | x              | 8St, 2As      | ⊙*↑ | 1         |
| 21     | 21   | "       | 11         | 90  | 733       | -16.5     | 9  | 6              | 2              | x              | 4St, 5As      | ⊗*↑ | 1         |
|        | 9    | "       | 11         | 90  | 734       | -15.0     | 10 | 6              | 1              | x              | 4St, 6As      | ⊗*↑ | 1         |
|        | 15   | "       | 12         | 90  | 740       | -13.6     | 10 | 6              | 1              | x              | 2St, 8As      | ⊗*↑ | 1         |
| 22     | 21   | "       | 10         | 75  | 740       | -17.5     | 2  | 0              | 0              | 8              | 2Cs           | ○↓  | 5         |
|        | 9    | "       | 13         | 75  | 736.5     | -18.5     | 1  | 0              | 0              | 8              | 1Cs           | ○↓  | 2         |
|        | 15   | A004    | 14         | 80  | 730       | -16.0     | 3  | 0              | 0              | 8              | 3Cs           | ⊙↓  | 5         |

| Date    | L.T. | St.No. | U<br>(m/s) | D    | P<br>(mb) | T<br>(°C) | N  | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | NC            | W  | V<br>(km) |
|---------|------|--------|------------|------|-----------|-----------|----|----------------|----------------|----------------|---------------|----|-----------|
| Dec. 22 | 21   | A004   | 9          | 100° | 730       | -18.0     | 4  | 0              | 1              | 1              | 2As, 2Ci      | ⊙↗ | 40        |
| 23      | 11   | A006   | 8          | 75   | 734.6     | -17.4     | 6  | 0              | 1              | 5              | 2As, 4CiCs    | ⊙↗ | 6         |
|         | 15   | A008   | 9          | 100  | 738.0     | -14.5     | 3  | 0              | 1              | 1              | 2As, 1Ci      | ⊙↗ | 10        |
|         | 21   | "      | 11         | 75   | 737.0     | -20.0     | 0  | 0              | 0              | 0              |               | ⊙↗ | 10        |
| 24      | 3    | A010   | 11         | 75   | 730.5     | -25.5     | 0  | 0              | 0              | 0              |               | ⊙↗ | 10        |
|         | 12   | "      | 15         | 75   | 729.2     | -18.0     | 0  | 0              | 0              | 0              |               | ⊙↗ | 0.3       |
|         | 15   | "      | 15         | 80   | 730.9     | -19.0     | 1  | x              | 0              | 0              |               | ⊙↗ | 0.3       |
|         | 21   | "      | 12         | 65   | 729.0     | -21.0     | 0  | 0              | 0              | 0              |               | ⊙↗ | 2         |
| 25      | 11   | "      | 11         | 75   | 728.8     | -17.0     | 8  | 7              | 1              | 7              | 2St, 1As, 5Cs | ⊙↗ | 0.5       |
|         | 15   | "      | 9          | 95   | 729.9     | -16.0     | 9  | 7              | 1              | 7              | 5St, 1As, 4Cs | ⊙↗ | 0.5       |
|         | 21   | "      | 8          | 95   | 731.0     | -17.5     | 7  | 5              | 1              | 1              | 4Sc, 1As, 2Ci | ⊙↗ | 2         |
| 26      | 9    | "      | 10         | 90   | 735.8     | -17.0     | 4  | 5              | 0              | 8              | 3Sc, 1Cs      | ⊙↗ | 0.5       |
|         | 15   | A012   | 10         | 85   | 736.5     | -16.5     | 2  | 0              | 1              | 1              | 1As, 1Ci      | ⊙↗ | 20        |
|         | 21   | A016   | 10         | 75   | 733.5     | -19.0     | 0  | 0              | 0              | 0              |               | ⊙↗ | 30        |
| 27      | 3    | "      | 12         | 65   | 734.0     | -23.5     | 0  | 0              | 0              | 0              |               | ⊙↗ | 0.5       |
|         | 11   | "      | 14         | 75   | 735.1     | -18.5     | 0  | 0              | 0              | 0              |               | ⊙↗ | 0.3       |
|         | 15   | "      | 14         | 80   | 735.5     | -18.0     | 0  | 0              | 0              | 0              |               | ⊙↗ | 0.5       |
| 28      | 1    | "      | 14         | 75   | 733.5     | -23.0     | 0  | 0              | 0              | 0              |               | ⊙↗ | 0.3       |
|         | 11   | "      | 14         | 90   | 732.3     | -18.5     | 9  | 7              | 8              | x              | 4St, 5Ac      | ⊙↗ | 0.2       |
|         | 15   | "      | 12         | 90   | 734.2     | -17.0     | 4  | 7              | 1              | 1              | 2St, 1As, 1Ci | ⊙↗ | 0.7       |
|         | 21   | "      | 10         | 90   | 736.1     | -18.0     | 4  | 6              | 1              | 8              | 5St, 3As, 1Cs | ⊙↗ | 30        |
| 29      | 3    | A020   | 10         | 90   | 737.2     | -19.0     | 10 | 7              | x              | x              | 10St          | ⊙↗ | 0.2       |
|         | 11   | "      | 13         | 85   | 737.8     | -16.5     | 1  | 0              | 4              | 0              | 1Ac           | ⊙↗ | 0.3       |
|         | 15   | "      | 14         | 85   | 737.1     | -16.0     | 2  | 0              | 3              | 1              | 1Ac, 1Ci      | ⊙↗ | 0.3       |
|         | 21   | A021   | 11         | 100  | 736.0     | -18.0     | 1  | 0              | 1              | 0              | 1As           | ⊙↗ | 2         |
| 30      | 3    | A020   | 10         | 100  | 736.5     | -23.0     | 2  | 0              | 4              | 0              | 2Ac           | ⊙↗ | 3         |

| Date    | L.T.   | St. No. | U<br>(m/s) | D   | P<br>(mb) | T<br>(°C) | N     | CL             | CM | CH | NC       | W                 | V<br>(km) |     |
|---------|--------|---------|------------|-----|-----------|-----------|-------|----------------|----|----|----------|-------------------|-----------|-----|
| Dec. 30 | 11     | A020    | 11         | 85° | 735.5     | -16.5     | 2     | 0              | 1  | 0  | 2As      | ○↗                | 1         |     |
|         | 15     | "       | 13         | 95  | 735.9     | -15.3     | 4     | 7              | 1  | 0  | 3St, 1As | ⊙*↗               | 0.5       |     |
|         | 21     | A021    | 9          | 90  | 737.5     | -15.0     | 10    | 7              | x  | x  | 10Cu     | ⊙*↗               | 0.1       |     |
|         | 31     | 11      | A022       | 11  | 85        | 738.7     | -13.0 | 8              | 0  | 1  | 7        | 2As, 6Cs          | ⊙*↗       | 0.5 |
|         |        | 15      | "          | 11  | 75        | 738.2     | -12.0 | 3              | 6  | 1  | 0        | 2St, 1As          | ⊙↗        | 0.7 |
|         |        | 21      | "          | 11  | 85        | 737.5     | -13.5 | 1              | 0  | 1  | 0        | 1As               | ○↗        | 1   |
| 1974    | Jan. 1 | 11      | "          | 13  | 75        | 732.9     | -17.5 | 0              | 0  | 0  | 0        | ○↗                | 0.5       |     |
|         |        | 15      | "          | 14  | 75        | 731.7     | -16.3 | 0              | 0  | 0  | 0        | ○↗                | 0.5       |     |
|         |        | 21      | "          | 11  | 75        | 729.7     | -18.5 | 0              | 0  | 0  | 0        | ○↗                | 1         |     |
|         | 2      | 3       | A021       | 12  | 90        | 726.2     | -23.5 | 0              | 0  | 0  | 0        | ○↗                | 10        |     |
|         |        | 8       | A523       | 12  | 65        | 725.0     | -21.0 | 0              | 0  | 0  | 0        | ○↗                | 5         |     |
|         |        | 15      | "          | 10  | 75        | 723.8     | -17.0 | 0              | 0  | 0  | 0        | ○↗                | 20        |     |
|         | 3      | 21      | A026       | 8   | 90        | 725.6     | -18.0 | 1              | 0  | 1  | 0        | 1As, halo         | ○         | 70  |
|         |        | 3       | A031       | 6.5 | 85        | 727.5     | -23.0 | 0              | 0  | 0  | 0        | Halo              | ○↔        | 2   |
|         |        | 12      | "          | 11  | 75        | 729.5     | -15.5 | 0 <sup>+</sup> | 0  | 0  | 0        | 0 <sup>+</sup> As | ○↗        | 20  |
|         |        | 15      | A030       | 10  | 90        | 729.0     | -13.5 | 0              | 0  | 0  | 0        |                   | ○↗        | 50  |
|         | 4      | 21      | A034       | 7   | 115       | 728.0     | -17.5 | 0              | 0  | 0  | 0        |                   | ○↗        | 70  |
|         |        | 3       | A038       | 9   | 65        | 727.6     | -21.0 | 0              | 0  | 0  | 0        |                   | ○         | 40  |
|         |        | 12      | "          | 10  | 70        | 728.2     | -12.5 | 0              | 0  | 0  | 0        |                   | ○↗        | 50  |
|         |        | 15      | A538       | 8   | 100       | 728.4     | -13.3 | 0              | 0  | 0  | 0        |                   | ○         | 60  |
|         | 5      | 21      | A042       | 5   | 110       | 731.0     | -16.5 | 1              | 0  | 3  | 0        | 1Ac               | ○         | 60  |
|         |        | 3       | A046       | 6   | 65        | 731.2     | -22.0 | 2              | 0  | 3  | 9        | 1Ac, 1Cc, Ci      | ○         | 60  |
|         |        | 12      | "          | 8   | 75        | 731.5     | -12.5 | <1             | 0  | 1  | 0        | 1As               | ○         | 50  |
|         |        | 15      | "          | 8   | 90        | 731.7     | -11.5 | 0 <sup>+</sup> | 0  | 0  | 0        | 0 <sup>+</sup> As | ○         | 40  |
|         |        | 21      | A550       | 6.5 | 110       | 728.5     | -15.0 | 0 <sup>+</sup> | 0  | 0  | 0        | 0 <sup>+</sup> As | ○         | 60  |

| Date   | L.T. | St. No. | U<br>(m/s) | D   | P<br>(mb) | T<br>(°C) | N | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | NC           | W  | V<br>(km) |
|--------|------|---------|------------|-----|-----------|-----------|---|----------------|----------------|----------------|--------------|----|-----------|
| Jan. 6 | 3    | A055    | 11         | 55° | 728.2     | -18.3     | 1 | 0              | 0              | 8              | 1Cs          | ○  | 50        |
|        | 12   | "       | 10         | 85  | 725.9     | -13.5     | 1 | 0              | 1              | 0              | 1As          | ○↕ | 2         |
|        | 15   | A054    | 8          | 105 | 725.5     | -12.2     | 2 | 0              | 1              | 8              | 1As, 2Cs     | ○↕ | 40        |
|        | 21   | A060    | 5          | 100 | 729.7     | -15.5     | 5 | 0              | 1              | 6              | 1As, 4Cs, Ci | ⊕  | 60        |
| 7      | 3    | A065    | 7          | 77  | 736.0     | -13.5     | 9 | 0              | 6              | x              | 9Ac          | ⊗  | 30        |
|        | 12   | "       | 11         | 77  | 740.4     | -12.5     | 2 | 0              | 0              | 9              | 2Cc          | ○↕ | 10        |
|        | 15   | A066    | 10         | 113 | 737.0     | -12.0     | 1 | 0              | 0              | 8              | 1Cs          | ○↕ | 40        |
| 8      | 21   | A070    | 7.5        | 103 | 736.2     | -12.0     | 4 | 0              | 2              | 8              | 1As, 3Cs     | ⊕  | 50        |
|        | 3    | A071    | 8          | 62  | 737.5     | -16.3     | 8 | 0              | 5              | x              | 7Ac, 1As     | ⊗  | 30        |
|        | 12   | "       | 10         | 82  | 735.0     | -6.5      | 2 | 0              | 0              | 9              | 2Cc          | ○  | 30        |
|        | 15   | A072    | 10         | 72  | 733.2     | -6.5      | 2 | 0              | 0              | 8              | 2Cs          | ○↕ | 5         |
| 9      | 21   | A078    | 7          | 113 | 733.7     | -10       | 0 | 0              | 0              | 0              |              | ○  | >70       |
|        | 3    | A083    | 7          | 67  | 733.5     | -13.5     | 0 | 0              | 0              | 0              |              | ○  | >70       |
|        | 15   | A082    | 6          | 77  | 732.5     | -5.5      | 0 | 0              | 0              | 0              |              | ○  | 70        |
| 10     | 21   | A588    | 6.5        | 107 | 732.2     | -9.5      | 0 | 0              | 0              | 0              |              | ○  | 60        |
|        | 3    | A093    | 7          | 73  | 737.8     | -15.2     | 0 | 0              | 0              | 0              |              | ○↕ | 40        |
|        | 15   | A094    | 6          | 82  | 734.8     | -7.7      | 0 | 0              | 0              | 0              |              | ○  | >70       |
| 11     | 21   | A098    | 3.5        | 107 | 732.2     | -13.5     | 0 | 0              | 0              | 0              |              | ○  | >70       |
|        | 3    | A101    | 5.5        | 68  | 730.0     | -18       | 0 | 0              | 0              | 0              |              | ○  | 60        |
|        | 15   | A102    | 5          | 112 | 726.5     | -8.2      | 0 | 0              | 0              | 0              |              | ○  | >70       |
| 12     | 21   | A110    | 4          | 112 | 720.0     | -14.0     | 0 | 0              | 0              | 0              |              | ○  | >70       |
|        | 3    | A113    | 7          | 68  | 721.5     | -19.2     | 0 | 0              | 0              | 0              |              | ○↕ | 40        |
|        | 12   | "       | 7.5        | 68  | 722.8     | -11.5     | 0 | 0              | 0              | 0              |              | ○↕ | 40        |
| 13     | 15   | A116    | 7          | 83  | 721.8     | -12.7     | 1 | 0              | 0              | 8              | 1Cs          | ○↕ | 30        |
|        | 21   | A122    | 5          | 112 | 722.0     | -18.5     | 2 | 0              | 0              | 6              | 2Cc          | ○  | 70        |
|        | 3    | A125    | 6          | 73  | 725.0     | -24.0     | 1 | 0              | 0              | 6              | 1Cc          | ○  | 50        |

| Date    | L.T. | St.No. | U<br>(m/s) | D   | P<br>(mb) | T<br>(°C) | N | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | NC                 | W   | V<br>(km) |
|---------|------|--------|------------|-----|-----------|-----------|---|----------------|----------------|----------------|--------------------|-----|-----------|
| Jan. 13 | 12   | A125   | 7.5        | 88° | 726.5     | -16.2     | 3 | 0              | 0              | 9              | 3Cc                | ⊙   | 50        |
|         | 15   | A128   | 5.5        | 78  | 725.5     | -17.3     | 1 | 0              | 0              | 9              | 1Cc                | ○   | 50        |
|         | 21   | A634   | 3          | 101 | 726.5     | -21.0     | 2 | 0              | 0              | 8              | 2Cs                | ○   | 60        |
| 14      | 3    | A637   | 5.5        | 79  | 725.2     | -25.7     | 6 | 0              | 5              | 9              | 4Ac, 2Cc           | ⊙   | 40        |
|         | 12   | "      | 7          | 79  | 721.3     | -15.0     | 1 | 0              | 0              | 8              | 1Cs                | ○   | 60        |
|         | 15   | A138   | 7          | 111 | 721.5     | -14.0     | 4 | 0              | 0              | 6              | 4Cc                | ⊙   | 40        |
| 15      | 21   | A146   | 5.5        | 113 | 716.4     | -18.2     | 5 | 0              | 1              | 6              | 1As, 1Cs, 2Cc, 1Ci | ⊙   | 40        |
|         | 3    | A147   | 6          | 69  | 718.0     | -23.5     | 6 | 0              | 8              | 6              | 4Ac, 2Cc           | ⊙   | 30        |
|         | 12   | "      | 7.5        | 89  | 718.5     | -16.0     | 3 | 0              | 0              | 6              | 1Ci, 1Cs           | ⊙   | 30        |
| 16      | 15   | A146   | 7          | 86  | 717.2     | -16.2     | 5 | 0              | 0              | 6              | 4Cs, 1Ci           | ⊙   | 30        |
|         | 21   | A154   | 5          | 91  | 715.0     | -17.5     | 6 | 0              | 0              | 6              | 3Cs, 3Cc           | ⊙   | 30        |
|         | 3    | A155   | 8.5        | 69  | 716.0     | -23.5     | 7 | 0              | 5              | 6              | 1Ac, 5Cs, 1Ci      | ⊙   | 30        |
| 17      | 15   | A157   | 8          | 95  | 713.0     | -16.3     | 6 | 0              | 0              | 6              | 4Cs, 2Ci           | ⊙   | 40        |
|         | 21   | A161   | 8.5        | 85  | 709.0     | -18.0     | 7 | 0              | 1              | 6              | 3As, 4Cs           | ⊙   | 30        |
|         | 3    | A164   | 10.5       | 90  | 708.2     | -24.5     | 9 | 6              | 2              | 6              | 2St, 4As, 3Cc      | ● ↘ | 10        |
| 18      | 15   | S240   | 11         | 100 | 704.7     | -17.2     | 9 | 0              | 0              | 7              | 9Cs                | ⊙ ↘ | 2         |
|         | 21   | "      | 9          | 95  | 703.5     | -21.2     | 8 | 0              | 2              | 6              | 3As, 5Cs           | ⊙ ↘ | 5         |
|         | 12   | "      | 12         | 90  | 703.5     | -19.5     | 2 | 0              | 0              | 5              | 2Cs                | ○ ↗ | 0.5       |
| 19      | 15   | "      | 10         | 95  | 704.0     | -17.3     | 1 | 0              | 0              | 8              | 1Cs                | ○ ↗ | 1         |
|         | 21   | "      | 7.5        | 100 | 705.3     | -19.8     | 1 | 0              | 0              | 5              | 1Cs                | ○   | 40        |
|         | 9    | "      | 11         | 95  | 705.0     | -19.5     | 2 | 0              | 0              | 5              | 2Cs                | ○ ↘ | 5         |
| 20      | 15   | S232   | 9          | 90  | 713.6     | -14.8     | 3 | 0              | 0              | 8              | 3Cs                | ⊙ ↘ | 5         |
|         | 21   | S219   | 6          | 105 | 724.2     | -19.0     | 3 | 0              | 0              | 8              | 3Cs                | ⊙   | 50        |
|         | 9    | S215   | 9          | 90  | 728.5     | -17.2     | 3 | 0              | 0              | 8              | 3Cs                | ⊙ ↘ | 30        |
| 20      | 15   | S207   | 5          | 90  | 734.9     | -12.5     | 2 | 0              | 0              | 8              | 2Cs                | ○   | 50        |
|         | 21   | S200   | 5          | 95  | 738.3     | -18.5     | 1 | 0              | 0              | 8              | 1Cs                | ○   | 60        |

| Date    | L.T. | St. No. | U<br>(m/s) | D    | p<br>(mb) | T<br>(°C) | N  | C <sub>L</sub> | C <sub>M</sub> | C <sub>H</sub> | NC             | W  | V<br>(km) |
|---------|------|---------|------------|------|-----------|-----------|----|----------------|----------------|----------------|----------------|----|-----------|
| Jan. 21 | 9    | S 200   | 9          | 100* | 738.0     | -18.0     | 2  | 0              | 0              | 8              | 2Cs            | ○  | 50        |
|         | 15   | S 191   | 8          | 90   | 747.5     | -11.3     | 7  | 0              | 0              | 6              | 6Cs, 1Ci       | ⊖  | 50        |
|         | 21   | S 177   | <3         | 85   | 759.5     | -16.5     | 6  | 0              | 0              | 6              | 3Cs, 3Ci       | ⊖  | 40        |
| 22      | 9    | S 174   | 9          | 85   | 762.2     | -16.2     | 5  | 0              | 0              | 6              | 3Cs, 2Ci       | ⊖  | 40        |
|         | 15   | X 12    | 8          | 75   | 752.2     | -13.0     | 4  | 0              | 0              | 6              | 2Cs, 2Ci       | ⊖  | 40        |
|         | 21   | Mizuho  | 6          | 85   | 745.2     | -19.7     | 3  | 0              | 3              | 8              | 1Ac, 2Cs       | ⊖  | 50        |
| 23      | 9    | "       | 7.5        | 85   | 745.7     | -18.5     | 0  | 0              | 0              | 0              |                | ○  | 50        |
|         | 15   | "       | 5          | 65   | 746.1     | -13.6     | 1  | 0              | 0              | 8              | 1Cs            | ○  | 70        |
|         | 21   | "       | 5          | 110  | 744.0     | -20.0     | 1  | 0              | 0              | 8              | 1Cs            | ○  | >70       |
| 24      | 9    | "       | 12         | 90   | 742.0     | -21.0     | 0  | 0              | 0              | 0              |                | ○  | >70       |
|         | 15   | "       | 9          | 110  | 740.0     | -14.0     | 0  | 0              | 0              | 0              |                | ○  | 70        |
|         | 21   | "       | 7          | 90   | 739.5     | -17.5     | 9  | 6              | 9              | x              | 4St, 5Ac       | ⊗* | 5         |
| 25      | 9    | "       | 10         | 100  | 740.0     | -19.0     | 10 | 6              | 8              | x              | 4St, 6As       | ⊗* | 1         |
|         | 15   | "       | 9          | 110  | 740.5     | -18.0     | 0  | 0              | 0              | 0              |                | ○↓ | 30        |
|         | 21   | "       | 7          | 110  | 738.5     | -22.0     | 3  | 0              | 5              | 0              | 3Ac            | ⊖  | 40        |
| 26      | 9    | "       | 8          | 110  | 739.5     | -22.0     | 3  | 0              | 5              | 8              | 2Ac, 1Cs       | ⊖  | 30        |
|         | 15   | Z 41    | 8          | 70   | 752.9     | -15.8     | 1  | 0              | 0              | 8              | 1Cs            | ○↓ | 40        |
|         | 21   | Z 10    | 4          | 70   | 763.2     | -21.0     | 0  | 0              | 0              | 0              |                | ○  | 40        |
| 27      | 9    | "       | 9          | 70   | 762.0     | -19.5     | 3  | 0              | 0              | 6              | 3Cc            | ⊖↓ | 30        |
|         | 15   | S 115   | 3          | 60   | 775.3     | -13.7     | 3  | 0              | 3              | 9              | 1Ac, 1Cc, 1Cs. | ⊖  | 40        |
|         | 21   | S 95    | <3         | 85   | 794.8     | -17.5     | 2  | 0              | 3              | 9              | 1Ac, 1Cc       | ○  | 40        |
| 28      | 9    | "       | 7.5        | 85   | 797.2     | -18.0     | 2  | 0              | 2              | 0              | 2As            | ○↓ | 10        |
|         | 15   | S 70    | 4          | 45   | 821.0     | -11.0     | 2  | 0              | 8              | 9              | 1Ac, 1Cc,      | ○  | 50        |
|         | 21   | S 45    | <1         | 122  | 847.8     | -18.0     | 3  | 0              | 2              | 9              | 2As, 1Cc       | ⊖  | 40        |
| 29      | 9    | "       | 5          | 100  | 849.8     | -15.3     | 3  | 0              | 8              | 0              | 3Ac            | ⊖  | 40        |
|         | 15   | S 16    | <2         | 265  | 929.0     | - 2.5     | 8  | 0              | 5              | x              | 4As, 4Ac       | ⊗  | 30        |