Listings of Climate Datasets in Japan, 1982

There are about 69 main datasets plus microfilm holdings for 39 categories of data.

There are 6 main items here and 93 pages.

Roy Jenne
10 April 2002
Listings of Climate Data in Japan, 1982

Roy Jenne
10 Apr 2002

This text has 6 main items with 89 pages plus 2 pages in front.

1. Data holdings in Japan (10/1982, 11 p)
   At NCAR we had a data listing from Japan in Japanese. Akira Kasahara (NCAR) helped us to translate the list. This has a greater variety of information than the other lists. But there are not as many details. There are lists of 69 datasets plus microfilm holdings for 39 categories of data.

2. A two-page list of data in Japan (02/1982, 2 p)


   This inventory was prepared by JMA in Japan. This lists about 56 datasets and it has information about the observing networks. It has a list of the 155 principal climate stations with lat, lon, elevation.
   - 56 datasets listed here.

   This is a list of the Japanese datasets as prepared by WMO, based on information from Japan. This lists 36 datasets.

Dear Mr. Jenne

I would like to apologize a delayed reply for your letter to Dr. Nitta dated 12 Oct. '82. Many administrative tasks regrettfully made this so.

The list of JMA holding of Meteorological Observation Data was sent to you by a separated post. I am indebted to Dr. Nitta for his kind consultation.

In the meantime, it should be mostly grateful if you would deal with this list as a personal communication, not an official one, since the Planning Division, JMA, is preparing to send a data inventory list (enclosing this list) to WMO in the near future.

If you have any more question on this list, please contact to me with no hesitation.

With best regards

Yours faithfully

E. Uchida

E. Uchida
Deputy Director
Dept. of Observations
JMA

Dept. of Observations
Data Holdings in Japan

The enclosed lists of data are a translation of tables provided by Nitta of the Japanese Meteorological agency. The translation was made by A. Kasahara of NCAR. Tables 2 through 5 are attached. There is no Table 1. The list of tables are:

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Data holdings of JMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Processed climatological data</td>
<td>24 items</td>
</tr>
<tr>
<td>- Basic observed data</td>
<td>29 items</td>
</tr>
</tbody>
</table>

| Table 3 | Data at JMA Research Institute | 7 items |

| Table 4 | Data at Japan Meteorological Satellite Center | 9 items |

| Table 5 | JMA microfilm data | 39 types of data on film |
Table 2: Japan Meteorology Agency Holdings of Meteorological Observation Data.

Processed Climatological Data

1. Normal climatological monthly data for separate elements. 1 MT each element. All elements, about 150 stations. obs start-1980
2. Normal monthly climatological data for separate stations. 16 MT. All elements, 150 stations (observatories) 1941-1970
3. 5-day mean data for separate stations. 6 MT. 5-day mean pressure, temp, humidity, vapor pressure, sunshine, precipitation for all stations. 1931-1980
4. Long-term climatic 5-day average, monthly average 1 MT/YR. Monthly values for major elements at 12 stations. (5 day too?). 1967-1980
5. Observatory monthly values 1 MT/YR. Temp, precipitation, snow depth, sunshine, velocity, observatories 1550 stations. 1961-1977
6. Monthly average values. 1 MT. For the 1550 stations. 1941-1970
7. World monthly values. Climatic variation survey. 1 MT/element. Sea level pressure, temp, precipitation, 150 stations. start obs-present
8. World monthly climatic values. 4 MT. From US NCC. About 1200 stations. start - 1973
10. Daily statistics and 5-day means, valid 1970 (30 years) 3 MT. 7 elements. All met. observatories, 150 stations. (Are the observatories in addition to the stations?) 1941-1970
12. Daily average values, valid 1980 (30 years) Smoothed 1 MT. Ave. max, min temp, 15 term moving average, all met obs., 150 stations. 1951-1980
13. 5-day mean, smoothed, 30YR (1980) 2 MT. 7 elements. All met observatories, 150 stations. 1951-1980
14. Same for monthly values.  
   3 MT. All elements.  
   1951-1980

15. Seasonal reports, 30 year (to 1980).  
   1 MT. Days of first and last appearance of  
   frost and snow.  
   1951-1980

   Only in planning stage.  
   1951-1980

   Industrial meteorological data and biological

17. Biological season data.  
   2 MT: Dates of flowers blooming, and fall colors.  
   102 stations.  
   1953-1980

18. Hours of unsuitable outside working conditions.  
   1 MT. Strong wind and/or precipitation.  
   From 7-18 hrs. 54 stations.  
   1964-1980

19. Uncomfortable working index.  
   1 MT. Based on max temp, ave dew point. 150 stations.  
   1964-1980

   Marine Data

   15 MT. 430 ocean regions, marine meteorology.  
   1961-1975

   13 MT. For 15 representative WMO places in the ocean.  
   1971-1973

22. Marine obs. Sea sfc. temp, 5-day mean.  
   1 MT. 1° lat-lon mesh, SST.  
   1950-1980

23. Marine monthly mean water temp, at 100m.  
   1 MT. For regions (20-48°N, 124-161°E).  
   1963-1980

24. Off-shore water temp and density. 10 day mean  
   cards. 30 stations around Japanese islands.  
   1908-1980
Table 2. (Continued)

Basic ("Raw") Observed Data

1. Basic observations for 150 stations
   1951-present
   2 MT per year. 8/day temp, wind, pressure.
   4/day vapor pressure, humidity, clouds, present
   weather, etc. Also daily values for the 150
   stations. True?

2. 3-hourly average data for each station.
   1964-1980
   2 MT. 8/day temp, wind for 150 stations.
   Averages for each long period month. (OK?)

3. Daily average for 150 stations.
   1964-1978
   1 MT. Will have more elements in the future.

4. Max-min temp for 150 stations.
   start-present
   1 MT. Long-term means?

5. Hourly and daily values (for a long-term climatology)
   1967-1980
   1 MT/YR. Hourly temp, pressure, VP. Daily max-min,
   hrs. sunshine, snow accumulation, radiation.
   For 12 stations.

6. Amedos meteorological observations (from GTS?)
   1976-present
   1 MT/Mo. 4 elements, 1300 stations (What are
   these - what 4 elements?)

   1976-1980
   1 MT/YR. Data for the above (what is this?)

8. Hourly and daily special obs. at Mt. Fuji.
   1965-1974
   1 MT. Published data in 1975.

9. Hourly data at aeronautical met. observatories
   1972-1978
   3 MT. Airport stations. For 9 regional areas.
   How many stations?

10. Reports of abnormal met. events.
    1974-present
    1 MT/YR. Separate phenomena for 60 regions,
    probably tornados, typhoons, etc.

11. 1980 statistics of 24 hr. precipitation.
    1971-1980
    1 MT. for 150 stations.

12. Turbidity
    1975-1980
    1 MT. 1 station.

13. Hr. and daily pressure, temp, wind, precipitation
    1975-1980
    for turbidity station. 3 MT. 1 station.

* Table 3 # 2 above data to 1953. Item 19
   below shows only 46 stations with 10 min data?!
1 MT. 16 stations. (Note: direct solar starts in 1960??).  
1974-1980

15. Direct solar radiation  
2 MT. Available for 14 of the 16 stations above.  
1960-1980

16. Outgoing radiation (IR?)  
1 MT. 1 station. (net radiation or only emitted from ground?)  
1978-1980

17. Rocket observation (& aerological?)  
1 MT. 1 station.  
1979-1980

18. UA aerological  
1 MT. From a journal ADESS (??)  
13 years

19. Amedas. 10 min data.  
6 MT. From cassette tapes. 4 element, 46 stations  
(What is?)  
1976-1979

20. Hourly geomagnetic data.  
Start-1980

21. Geomagnetic data. Minute  
1 MT. One station.  
1976-1980

1 MT. One station.  
1932-1980

23. Hourly atmospheric electric potential  
2 MT. Two stations start 1929, 1949. Use electric potential meters.  
to 1980

24. Marine ship observations.  
20 MT. Data observed from various ships.  
(only Japanese ships? Older data too?)  
1961-1980

25. Marine observations from permanent ship cards. One station (29°N, 135°E)  
1961-1980

1 MT. 60 stations.  
1967-1980

27. BT's at permanent ship station.  
2 MT. Water temp, salinity at levels.  
1967-1980

28. Sea surface temperature and current, perm. ship.  
2 MT. At same permanent ship as above.  
1955-1980

29. Meteorological obs. at Ocean buoy  
1 MT. At one buoy? SST too?  
One list with 5 buoy and water temp at 8ft (SST) and at 2, 20, and 50 m depth  
Japanese ship data at Asheville starts in 1933. Do you also have the records?  
1973-1980
Table 3. Data at the JMA Meteorological Research Institute near Tokoyo. Valid 30 July 1981.

1. FGGE IIb operational data 27 Nov. 1978 - 1 Dec. 1979
   176 MT (1600 BPI)
   FGGE IIIb build-up and operational 1 Jan. 1978 - 1 Dec. 1979
   101 MT.

2. Amedas data 16 MT (1600) 1953-1960
   100 MT (1600) 1961-1964
   6 MT (6250) 1964-1979
   42 MT (1600) 1977-June 1980

3. ?

   4 MT. (Probably from NCAR)
   • Global FGGE 1000-30 mb., 8 levels.
   6 MT. Global 5° mesh. (where from?)

5. Ocean marine obs., Seasat height data. 11 MT
   (?)
   3 MT


7. Met. satellite data. GMS 365 MT (6250 BPI) Dec. 1979 -
   vis (03Z), IR (3 hourly) June 1980.
   Also they have GMS microfilm for April 1978 - Aug. 1979

8. Monthly analyses (must be daily too?) 1976 - on
   300 MT (1600 BPI). Analyses, forecasts, etc.
   From computation center. (Hemispheric or global?)

Question: Is this GM data (#7), a reduced resolution compared to the data in Table 4, item 1, (4000 MT/Year)?
Table 4. Data of Japan Meteorological Satellite Center. Valid August, 1981.

<table>
<thead>
<tr>
<th>Period</th>
<th>Data Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. a. Raw VISSR ea YR.</td>
<td>10 MT/day * 365 day + 365 vol. = 4000 MT/YR.</td>
</tr>
<tr>
<td>b. NOAA Polar Orbiter 6 Mo.</td>
<td>(6250 BPI). 2/day * 183 = 366 MT.</td>
</tr>
<tr>
<td>1 week</td>
<td>(1600 BPI) 5/day * 7 = 35 MT</td>
</tr>
<tr>
<td>c. SEM (accumulated) 10 yrs.</td>
<td>.5 MT/mo (?) 12 mo = 6 MT</td>
</tr>
<tr>
<td>HK (accumulated) 10 yrs.</td>
<td>.5 MT/mo (?) 12 mo = 6 MT</td>
</tr>
<tr>
<td>(What data is this?) (6 tapes per yr.?)</td>
<td></td>
</tr>
</tbody>
</table>

2. Processed data

<table>
<thead>
<tr>
<th>Period</th>
<th>Data Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Wind from GMS IR 10 yrs.</td>
<td>2 vol/mo (?) * 12 mo. = 24 vol/Yr.</td>
</tr>
<tr>
<td>(Correct? Could tapes be blocked and merged to 4 or 5 tapes for whole period?)</td>
<td></td>
</tr>
<tr>
<td>b. Cloud height (and amount?) 10 yrs.</td>
<td>12 MT/Yr.</td>
</tr>
<tr>
<td>c. Cloud distribution 10 yrs. (area covered?)</td>
<td>2 MT/Yr.</td>
</tr>
<tr>
<td>d. Low resolution ocean SST anal. 10 yrs. (area covered?)</td>
<td>6 MT/Yr.</td>
</tr>
<tr>
<td>e. High resolution SST analyses</td>
<td>12 MT/Yr.</td>
</tr>
<tr>
<td>f. NOAA TOVS sounders 10 yrs.</td>
<td>48 MT/Yr.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>Years</th>
<th>Reels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Meteorological Observations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw 1. Climatological obs. records</td>
<td>start to 1976</td>
<td>6051</td>
</tr>
<tr>
<td>Proc 4. Data for each geomagnetic stn</td>
<td>-1976</td>
<td>1304</td>
</tr>
<tr>
<td>Raw 5. Hrly precip., orig. records</td>
<td>-1976</td>
<td>158</td>
</tr>
<tr>
<td>Raw 7. Abnormal met. data</td>
<td>-1950</td>
<td>88</td>
</tr>
<tr>
<td>Upper air observations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw 1. Orig. rawinsonde records</td>
<td>-1972</td>
<td>480</td>
</tr>
<tr>
<td>Raw 2. Mandatory levels</td>
<td>-1972</td>
<td>423</td>
</tr>
<tr>
<td>Raw 3. UA wind observations</td>
<td>-1972</td>
<td>887</td>
</tr>
<tr>
<td>Proc 4. UA accumulated records (?)</td>
<td>-1965</td>
<td>26</td>
</tr>
<tr>
<td>Proc 5. UA statistics</td>
<td>-1965</td>
<td>31</td>
</tr>
<tr>
<td>Aeronautical observations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(what they are)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw 1. Aeronautical</td>
<td>-1970</td>
<td>50</td>
</tr>
<tr>
<td>Ocean Marine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw 1. Fixed marine stations</td>
<td>-1970</td>
<td>25</td>
</tr>
<tr>
<td>Ocean Marine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw 1. Each level marine, BT</td>
<td>-1964</td>
<td>20</td>
</tr>
<tr>
<td>Raw 2. Ocean tides</td>
<td>-1963</td>
<td>53</td>
</tr>
<tr>
<td>Raw 3. Along shore observations</td>
<td>-1963</td>
<td>14</td>
</tr>
<tr>
<td>Raw 5. Tide gage traces (compare to 2?)</td>
<td>-1965</td>
<td>149</td>
</tr>
<tr>
<td>Raw 6. BT traces (compare to 1?)</td>
<td>-1965</td>
<td>29</td>
</tr>
<tr>
<td>Geomagnetic Data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw 1. Orig. records</td>
<td></td>
<td>78</td>
</tr>
<tr>
<td>Raw 2. Traces</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw 3. Hourly values</td>
<td>1913-1980</td>
<td>78</td>
</tr>
</tbody>
</table>
Weather Maps

Raw 1. Surface weather
Raw 2. UA charts
Proc 3. Statistics (example?)

Meteorological satellite data

Raw 1. Original pictures
Raw 2. Composite pictures

<table>
<thead>
<tr>
<th>Raw</th>
<th>Holding Period</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. HR-FAX (orig pix)</td>
<td>4 years permanent</td>
<td>(For all times?)</td>
</tr>
<tr>
<td>4. Microfilm (?)</td>
<td>10 yrs.</td>
<td>36h and 72h each</td>
</tr>
<tr>
<td>5. Work Microfilm</td>
<td>5 yrs.</td>
<td>15h each loo</td>
</tr>
<tr>
<td>6. Dupe film for rental (?)</td>
<td>5 yrs.</td>
<td></td>
</tr>
<tr>
<td>7. Dupe film for checking (?)</td>
<td>10 yrs.</td>
<td></td>
</tr>
<tr>
<td>8. 16 mm movie film</td>
<td>3 yr.</td>
<td></td>
</tr>
<tr>
<td>9. Multi-color anal. film (is this color vs. temperature?)</td>
<td>3 yr.</td>
<td></td>
</tr>
<tr>
<td>10. Loop film</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Movie film for wind analysis (how dif. from 10?)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
October 12, 1982

Dr. Takashi Nitta
Forecasting Division
Japan Meteorological Agency
1-3-4 Otemachi, Chiyoda-Ku
Tokyo 100
JAPAN

Dear Takashi:

With the great help of Akira Kasahara, we have prepared the enclosed translation of the tables for data holdings in Japan which you sent me after our meeting in Geneva. Could you help us to resolve some of the resulting questions? Some of these are in the enclosed tables, a few are below, and Akira probably also has some. Please also feel free to add other information as desired. When the list is complete, I suggest that we send a copy of it to Geneva.

In WMO No. 464, "Statistical Information --- Operational Hydrology", 1977, it says that Japan has 819 regular rain gages and 2476 recording gages. Are these data held by JMA or by a hydrology office?

Are the 150 stations mostly city stations that have been affected by urbanization? Were many of the stations moved from the city to an airport? Are there other stations with daily max-min temperature and precipitation?

I note that there is 5-day mean data which dates back to 1931. Has any of the daily data been digitized for periods that early?

Are rawinsonde observations taken from the permanent ship?

I'm interested in the cloud drift winds and the SST from GMS. How are the atmospheric water vapor corrections for SST calculated? Are there comparisons of satellite SST with near-by ship data?

Does Japan routinely make global 5° analyses for 1000-30 mb, 8 levels?

What is the cost of obtaining copies of your tapes, or do we have more data that you want so that we could make a trade?
Thank you again for sending the tables. I hope that we have a chance to meet again before too long.

With best regards,

Roy

Roy L. Jenne
Manager, Data Support

RLJ/fcg
Listing of Japanese data

from Takaaki Nitta in Japan

Via Air Mail
PAR Avion

Mr. Roy JENNE
NATIONAL CENTER FOR ATMOSPHERIC RESEARCH (NCAR)
P.O. Box 3000
BOULDER, Colorado 80307
U.S.A.

Printed Matter
昭和 年 10月20日

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Japan Meteorological Agency

気像 庁

郵便番号 100
電話 東京 (大代表) 212-8341

T. Nitta

TOkyo, JAPAN
From Nitta in Japan

20 Oct, '81

Dear Ray,

It was really very nice that I could see you and work together on the data referral system. I am thankful to you for your kindness and help.

Enclosed please find a copy of list of available data from Japan. I am sorry for Japanese only, but please ask Akira Kasahara to translate it into English.

Hoping to see you again in near future. With best regards,

Sincerely yours,

Takashi

Takashi Nitta
Forecast Management Division  
Japan Meteorological Agency  
1-3-4 Otemachi, Chiyoda-ku  
Tokyo 100 Japan  

29 October 1982  

Mr. Roy Jenne  
Manager, Data Support  
National Center for  
Atmospheric Research  
P.O. Box 3000, Boulder, Colorado  
80307 U.S.A.  

Dear Roy,  

Thank you very much for your letter of October 12, 1982 through Akira Kasahara. I was very much pleased to know that you in cooperation with Akira were going to complete tables for data holding in Japan. I am sorry for that I could not help you in preparing these tables.  

As to your questions, I have consulted with people associated with these data holding, particularly Dr. Eiji Uchida (Counsellor, Observation Department of JMA) who first compiled original tables.  

We came to a conclusion that, from now on, it would be more efficient and beneficial for both you and us to establish a direct communication between you and Dr. Uchida. Therefore, Dr. Uchida will reply you later in a lump in consultation with those concerned including myself. In addition, he would be a right person to be a co-author of a possible article on the information about data holding in Japan.  

I believe that Akira will convey you similar comments from us. In case, however, if I would be of any further help to you, please do not hesitate in writing me.  

With best regards,  

Sincerely yours,  

Takashi Nitta  
Head, Forecast Management Division  

c.c. Dr. Akira Kasahara, NCAR
March 28, 1983

Mr. Roy Jenne
NCAR
Box 3000
Boulder, Colorado
USA 80307

Dear Roy:

Thank you for your very kind support at the planning meeting. Your assistance is very necessary and hopefully will not be too burdensome.

I have just received copies of the "Climate Data Inventory" for Japan that might be of interest to you. Regrettably it is in Japanese. Should you wish further information I could make a photocopy for you and possibly the document can be obtained from the authors.

I imagine we will be in touch in the near future as the course of the Plains' Climate Comparability Study is clarified.

Sincerely yours,

[Signature]

G. A. McKay
A/Director General
Canadian Climate Centre

The spaghetti was great.
Data in Japan

Roy James

v 1982

I note that the 1200 to 1550 voluntary stations were closed down in 1977 and replaced by automatic stations. I also note that the tape with monthly values by what random variables do the automatic stations measure? In WMO No. 464 Statistical Information Operational Hydrology, 1977, it says that Japan has 819 regular rain gauges and 2476 recording gauges. Are these data held by JMA or by a hydrology office?

Have the primary 150 stations been mostly in the same location for many years or were many of them moved from the city to the airport? For long studies of long period climatic change, are these the best stations to use?

The old listing indicated that there was 5 day (pentad) data for each station starting in 1931 for all stations. Perhaps this was incorrect. The new list only indicates pentad data for 12 stations starting in 1967. Do there older data available?

**Table 4** the starting dates of the satellite archives would also of interest. What is the SEM information? Are there archives of both the individual spot SST's as well as analyses?
Table 3. Data at the JMA Meteorological Research Institute (MRI) at Tsukuba. Valid 30 July 1981.

1. FGGE II-b operational year. 27 Nov. 1978~ 1 Dec. 1979
   207 MT. (1600 BPI)
   FGGE III-a build-up and operational year. 1 Jan. 1978~ 1 Dec. 1979
   101 MT. (1600 BPI)
   FGGE III-b (operational year, ECMWF). 21 MT. (6250 BPI)

2. Northern hemisphere sea level pressure. 15° N ~ 90° N (5° Mesh). 1899~1979
   4 MT. (obtained from NOAA)

   6 MT. Global 5° mesh (obtained from NOAA)

4. Marine data, ship observations.
   11 MT.

5. Global aerological data. (obtained from NOAA) 1971~1978
   40 MT. (6250 BPI)

   VIS (03 GMT only), IR (3 hourly)
   424 MT. (6250 BPI)

7. Also, the MRI owns GMS microfilm for Apr. 1978~Aug. 1979.

From a list from Japan dated Feb 1982
   - Roy Penne
<table>
<thead>
<tr>
<th>Data</th>
<th>Format</th>
<th>Archive period</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnetic tape</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VISSR image data</td>
<td>6250 bpi</td>
<td>2 years</td>
<td>Observations of FGGE period will be kept for 5 years.</td>
</tr>
<tr>
<td>Wind vector</td>
<td>6250 bpi</td>
<td>10 years</td>
<td></td>
</tr>
<tr>
<td>Sea-surface temperature</td>
<td>6250 bpi</td>
<td>10 years</td>
<td></td>
</tr>
<tr>
<td>Cloud amount distribution</td>
<td>6250 bpi</td>
<td>10 years</td>
<td></td>
</tr>
<tr>
<td>Cloud top height</td>
<td>6250 bpi</td>
<td>10 years</td>
<td></td>
</tr>
<tr>
<td>SEM cumulative data</td>
<td>6250 bpi</td>
<td>10 years</td>
<td></td>
</tr>
<tr>
<td>NOAA HRPT data</td>
<td>6250 bpi</td>
<td>10 months</td>
<td></td>
</tr>
<tr>
<td>NOAA sounding data</td>
<td>6250 bpi</td>
<td>10 years</td>
<td></td>
</tr>
<tr>
<td>Film</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large size original film</td>
<td>479×603mm</td>
<td>4 years</td>
<td>Negative. Four kinds of imageries are available, full-disk, partially enlarged full-disk, Mercator and polar stereo. 1 roll (100ft) contains all of imagery products of 10-day observation. Positive.</td>
</tr>
<tr>
<td>Microfilm</td>
<td>35mm, 100ft</td>
<td>Permanent</td>
<td>For wind analyses.</td>
</tr>
<tr>
<td>Loop film</td>
<td>35mm</td>
<td>3 years</td>
<td>IR, 1 roll contains 3-hourly full-disk pictures for 1 year.</td>
</tr>
<tr>
<td>Long-term movie</td>
<td>16mm</td>
<td>10 years</td>
<td></td>
</tr>
</tbody>
</table>
An Inventory of Climate Data
in Japan Meteorological Agency

DRAFT

June 1982

Note: Data listed in this inventory are not necessarily available.
Index

Surface station data in Japan (except MT-006)

MT-001 Hourly and daily data at AMeDAS stations
MT-002 Hourly and daily data at reference climatological stations
MT-003 Monthly and 5-day mean data at reference climatological stations
MT-004 Monthly data at auxiliary stations and agricultural meteorological stations
MT-005 Monthly normals at auxiliary meteorological stations
MT-006 Monthly surface climate data for the world
MT-007 Hourly air temperature data at AMeDAS stations
MT-008 Hourly precipitation data at AMeDAS stations
MT-009 Hourly sunshine duration data at AMeDAS stations
MT-010 Hourly wind data at AMeDAS stations
MT-011 Monthly extremes and rankings at principal climatological stations
MT-012 Hourly and daily data at principal climatological stations
MT-013 Monthly data at principal climatological stations (by stations)
MT-014 Monthly data at principal climatological stations (by elements)
MT-015 5-day mean data at principal climatological stations
MT-016 Monthly normals for 1941-1970 at ordinary climatological stations
MT-017 Daily smoothed normals for 1941-1970 at ordinary climatological stations
MT-018 5-day normals for 1941-1970 at ordinary climatological stations
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MT-100 Monthly normals for 1941–1970 at coastal area grid points

Upper air data (except MT-205)

MT-101 Northern Hemisphere objective analysis data at 00Z,12Z
MT-150 Meteorological rocketsonde data at Ryori
MT-200 Daily harmonic analysis of Northern Hemisphere 500mb height
MT-201 Monthly normals of isobaric surface heights at Northern Hemisphere grid points
MT-202 Monthly isobaric surface heights at Northern Hemisphere grid points
MT-203 5-day normals of isobaric surface heights at Northern Hemisphere grid points
MT-204 5-day mean isobaric surface heights at Northern Hemisphere grid points
MT-205 Monthly normals of surface data at global stations

Marine meteorological data

MT-250 Monthly marine meteorological data at grid points over western North Pacific
MT-251 Monthly marine meteorological data at selected grid points over western North Pacific
MT-252 Marine meteorological observation data over western North Pacific (raw data)

Marine data

MT-300 Sea surface current and subsurface temperature in the seas adjacent to Japan
Index (continued)

MT-301 Marine meteorological data obtained by ocean buoys in the seas adjacent to Japan

Radiation data in Japan

MT-400 Hourly totals of diffuse and reflected solar radiation at Tateno
MT-401 Hourly totals of global solar radiation
MT-402 Spectral direct solar radiation and turbidity coefficient at Ryori
MT-403 Direct solar radiation, atmospheric transmittance and turbidity coefficient

Bibliography

MT-500 Index of geophysical bibliography

Others

MT-550 Report of meteorological disaster and unusual weather
MT-551 Report of phenology
MT-552 Hourly tidal observations
Hourly and daily data at AMeDAS stations

1. Variables (units): air temperature (0.1°C), precipitation (1mm), sunshine duration (0.1h), wind speed (1m/s), wind direction (the nearest of 16 points of compass); hourly values (every hour)


3. Spatial range: 1316 stations (see Atch A)

4. Volume of records: 86 tapes (1 tape/month)

Hourly and daily data at reference climatological stations

1. Variables (units): air pressure (0.1mb), air temperature (0.1°C), relative humidity (1%), water vapor pressure (0.1mb); hourly values (every hour)
   sunshine duration (0.1h), precipitation (0.1mm); daily totals
   daily maximum depth of snow cover (1cm)


3. Spatial range: 12 stations (see Atch B)

4. Volume of records: 3 tapes (1 tape/5 year)

Monthly and 5-day mean data at reference climatological stations

1. Variables (units): station pressure (0.1mb), air temperature (0.1°C), daily minimum air temperature (0.1°C), daily maximum air temperature (0.1°C), relative humidity (1%), water vapor pressure (0.1mb);
   monthly means and 5-day means
   sunshine duration (0.1h), precipitation (0.1mm); monthly totals and 5-day totals


3. Spatial range: 12 stations (see Atch B)

4. Volume of records: 3 tapes
MT-004  Monthly data at auxiliary stations and agricultural meteorological stations

1. Variables (units): daily maximum air temperature (0.1°C), daily minimum air temperature (0.1°C), wind speed (1m/s); monthly means
   snowfall (1cm), sunshine duration (0.1h), precipitation (1mm); monthly totals
   monthly maximum air temperature (0.1°C) and its date, monthly minimum air temperature (0.1°C) and its date, monthly maximum of daily amount of precipitation (1mm)
   number of days with specified air temperature, number of days with specified precipitation


3. Spatial range: about 1300 stations (number of station varies by year)

4. Volume of records: 1 tape

5. Note: These observation were replaced by AMeDAS in 1979, and since then discontinued.

MT-005  Monthly normals at auxiliary meteorological stations

1. Variables (units): air temperature (0.1°C), daily minimum air temperature (0.1°C), daily maximum air temperature (0.1°C); monthly means and number of days with specified value
   precipitation (1mm); monthly totals and number of days with specified value

2. Period of records:

3. Spatial range: 1609 stations (number of stations varies by year)

4. Volume of records: 1 tape

5. Note: Same as MT-004 Note. Data period; 1951-1978

MT-006  Monthly surface climate data for the world

1. Variables (units): station pressure (0.1mb), sea level pressure (0.1mb), air temperature (0.1°C); monthly means
   precipitation (1mm); monthly totals

2. Period of records: from beginnings of observation (1880's) through 1977

3. Spatial range: 150 stations (global)

4. Volume of records: 1 tape

5. Note: data source is 'Monthly Climatic Data for the World'
MT-007 Hourly air temperature data at AMeDAS stations
1. Variables(units): air temperature (0.1°C); hourly values (every hour)
3. Spatial range: 838 stations (see Atch A)
4. Volume of records: 5 tapes (1 tape/year)

MT-008 Hourly precipitation data at AMeDAS stations
1. Variables(units): precipitation (1mm); hourly totals (every hour)
3. Spatial range: 1316 stations (see Atch A)
4. Volume of records: 5 tapes (1 tape/year)

MT-009 Hourly sunshine duration data at AMeDAS stations
1. Variables(units): sunshine duration (0.1h); hourly totals (every hour)
2. Period of records: 1980 only (see Atch A)
3. Spatial range: 838 stations
4. Volume of records: 1 tape

MT-010 Hourly wind data at AMeDAS stations
1. Variables(units): wind speed (1m/s), wind direction (the nearest of 16 points of compass); hourly values (every hour)
3. Spatial range: 838 stations (see Atch A)
4. Volume of records: 3 tapes (1 tape/year)
MT-011 Monthly extremes and rankings at principal climatological stations

1. Variables (units): extremes and rankings of the following elements by each month of year
daily maximum wind speed and its direction (0.1m/s, the nearest of 16 points of compass), daily maximum instantaneous wind speed and its direction (0.1m/s, the nearest of 16 points of compass), daily maximum amount of precipitation for 10 minutes (0.1mm), daily maximum amount of precipitation for 1 hour (0.1mm), daily amount of precipitation (0.1mm), daily maximum air temperature (0.1°C), daily minimum air temperature (0.1°C), daily minimum relative humidity (1%), monthly mean air temperature (0.1°C), monthly totals of precipitation (0.1mm), monthly totals of sunshine duration (0.1h), daily minimum sea level pressure (0.1mb), monthly maximum depth of snow cover (1cm), daily amount of snow fall (1cm)

2. Period of records:

3. Spatial range: 154 stations (see Atch C)

4. Volume of records: 1 tape

5. Note: Data period ——— from the beginings of observation through 1980

MT-012 Hourly and daily data at principal climatological stations

1. Variables (units): sea level pressure (0.1mb), station pressure (0.1mb); air temperature (0.1°C), water vapor pressure (0.1mb), relative humidity (1%), wind direction (the nearest of 16 points of compass), wind speed (0.1m/s), cloud amount (0.1), weather code; hourly value, monthly means, monthly maximums and monthly minimums sunshine duration (0.1h), global solar radiation (1cal/cm²/min), amount of evaporation (0.1mm), precipitation (0.1mm), depth of snow cover (1cm); daily totals


3. Spatial range: 154 stations (see Atch C)

4. Volume of records: 20 tapes (1 tape/year)

5. Note: Time of observation is indicated in ATCH C.
MT-013  Monthly data at principal climatological stations (by stations).

1. Variables (units): station pressure (0.1mb), sea level pressure (0.1mb), air temperature (0.1 c), daily maximum air temperature (0.1 c), daily minimum air temperature (0.1 c), relative humidity (1%), water vapor pressure (0.1mb), wind speed (0.1m/s), cloud amount (0.1); monthly means and annual means precipitation (0.1mm), sunshine duration (0.1h); monthly totals and annual totals rate of sunshine (1%), number of days with specified air temperature by 5 categories, number of days with specified amount of daily precipitation by 4 categories, number of days with daily maximum depth of snow cover by 5 categories, number of days with specified weather by 6 categories

2. Period of records: 1941-1970

3. Spatial range: 154 stations (see Atch B)

4. Volume of records: 1 tape
MT-014 Monthly data at principal climatological stations (by elements)

1. Variables (units): sea level pressure (0.1 mb), station pressure (0.1 mb), air temperature (0.1°C), daily maximum air temperature (0.1°C), daily minimum air temperature (0.1°C), relative humidity (1%), water vapor pressure (0.1 mb), wind speed (0.1 m/s), cloud amount (0.1), global solar radiation (1 cal/cm²); monthly means and annual means, sunshine duration (0.1 h), precipitation (0.1 mm); monthly totals, rate of sunshine (1%), number of days with specified air temperature by 7 categories, number of day days with cloud amount by 4 categories, number of days with specified daily precipitation by 9 categories, number of days with daily maximum instantaneous wind speed by 3 categories, number of days with specified depth of snow cover by 5 categories, number of days with specified weather, number of sunless day.


3. Spatial range: 154 stations (see Atch C).

4. Volume of records: 45 tapes (1 tape/year).

MT-015 5-day mean data at principal climatological stations

1. Variables (units): sea level pressure (0.1 mb), air temperature (0.1°C), daily maximum air temperature (0.1°C), daily minimum air temperature (0.1°C), relative humidity (1%), water vapor pressure (0.1 mb), global solar radiation (1 cal/cm²), daily mean wind speed (0.1 m/s), daily mean cloud amount (0.1); 5-day means, precipitation (0.1 mm), sunshine duration (0.1 h); 5-day totals.


3. Spatial range: 154 stations (see Atch C).

4. Volume of records: 1 tape.
MT-016 Monthly normals for 1941–1970 at ordinary climatological stations

1. Variables (units): sea level pressure (0.1 mb), air temperature (0.1 °C), daily maximum air temperature (0.1 °C), daily minimum air temperature (0.1 °C), relative humidity (1%), monthly means precipitation (0.1 mm), sunshine duration (0.1 h); monthly totals

2. Period of records:

3. Spatial range: 154 stations (see Atch C)

4. Volume of records: 1 tape

MT-017 Daily smoothed normals for 1941–1970 at ordinary climatological stations

1. Variables (units): sea level pressure (0.1 mb), air temperature (0.1 °C), relative humidity (1%); daily means precipitation (0.1 mm), sunshine duration (0.1 h); daily totals

2. Period of records:

3. Spatial range: 156 stations (see Atch C)

4. Volume of records: 1 tape

5. Note: data are composed of principal components in harmonic analysis of 5-day normals for 1941–1970

MT-018 5-day normals for 1941–1970 at ordinary climatological stations

1. Variables (units): sea level pressure (0.1 mb), air temperature (0.1 °C), daily maximum air temperature (0.1 °C), daily minimum air temperature (0.1 °C), relative humidity (1%), water vapor pressure (0.1 mb), wind speed (0.1 m/s), cloud amount (0.1), global solar radiation (1 cal/cm²); 5-day means precipitation (0.1 mm), sunshine duration (0.1 h); 5-day totals

2. Period of records:

3. Spatial range: 154 stations (see Atch C)

4. Volume of records: 1 tape

//
1. Variables (units): date of the first and the last snowfall in winter, and their extreme value
   date of the first and the last frost in winter, and their extreme value
3. Spatial range: 156 stations (see Atch C)
4. Volume of records: 1 tape

MT-020  Monthly normals for 1951-1980 at ordinary climatological stations
1. Variables (units): sea level pressure (0.1 mb), air temperature (0.1°C), daily maximum air temperature (0.1°C), daily minimum air temperature (0.1°C), relative humidity (1%), water vapor pressure (0.1 mb), wind speed (0.1 m/s), cloud amount (0.1), global solar radiation (1 kcal/cm²); monthly means precipitation (0.1 mm), sunshine duration (0.1 h); monthly totals
2. Period of records:
3. Spatial range: 154 stations (see Atch C)
4. Volume of records: 1 tape

MT-021  5-day normals for 1951-1980 at ordinary climatological stations
1. Variables: sea level pressure (0.1 mb), air temperature (0.1°C), daily maximum air temperature (0.1°C), daily minimum air temperature (0.1°C), relative humidity (1%), water vapor pressure (0.1 mb), wind speed (1 m/s), cloud amount (0.1), global solar radiation (1 kcal/cm²); 5-day means precipitation (0.1 mm), sunshine duration (0.1 h); 5-day totals
2. Period of records:
3. Spatial range: 154 stations
4. Volume of records: 1 tape
MT-100 Monthly normals for 1941-1970 at coastal area grid points

1. Variables (units): air temperature (°C), relative humidity (%), wind direction (the nearest of 16 points of compass), wind speed (m/s); monthly means, precipitation (mm), sunshine duration (h), depth of snowfall, duration of precipitation and gale (h); monthly total, most frequent wind direction (the nearest of 16 points of compass), frequency of wind direction by the nearest of 16 points of compass, frequency of daily maximum wind speed (10 categories), frequency of wind direction and wind speed by specified value, number of days with snowfall

2. Period of records: 1941-1970

3. Spatial range:

4. Volume of records: 2 tapes

MT-101 Northern Hemisphere objective analysis data at 00Z, 12Z

1. Variables (units): geopotential height (gpm), wind components (m/s), air temperature (°C) at 1000, 850, 700, 500, 400, 300, 250, 200, 150, 100, 50, 30, 20, 10 mb, difference of air temperature and dew point temperature (°C) at 1000, 850, 700, 500, 400 mb; values at 00Z, 12Z

2. Period of records: from March 1982

3. Spatial range: 4225 (65x65) grid points on each pressure level in Northern Hemisphere

4. Volume of records: 1 tape/month

5. Note: Data will be preserved for the last five years

MT-150 Meteorological rocketsonde data at Ryori

1. Variables (units): air temperature (°C), wind direction (°), wind speed (m/s), air pressure (mb), air density (kg/m³), sound speed (m/s); raw data (1 observation/week)


3. Spatial range: at Ryori (39° 02' N, 141° 50' E); standard pressure levels (70, 50, 30, 20, 10, 0 mb) and standard heights (every 1 km for 20 km - 60 km)

4. Volume of records: 1 tape
MT-200 Daily harmonic analysis of Northern Hemisphere 500mb height
1. Variables (units): amplitude (1m) and phase (1° longitude) of 0–7 harmonic waves of 500 mb height at each latitude circle; daily value
2. Period of records: 1964–1979
3. Spatial range: 60°N, 50°N, 40°N, 30°N
4. Volume of records: 1 tape
5. Note: It would take much time before this data could be provided.

MT-201 Monthly normals of isobaric surface heights at Northern Hemisphere grid points
1. Variables (units): sea level pressure (0.1mb), isobaric surface heights at 500, 300, 200, 100, 50, 30 mb; monthly means
2. Period of records:
3. Spatial range: 324 grid points (10 LON X 10 LAT) on each pressure level in Northern Hemisphere
4. Volume of records: 1 tape

MT-202 Monthly isobaric surface heights at Northern Hemisphere grid points
1. Variables (units): sea level pressure (0.1mb), isobaric surface heights at 500, 300, 100 mb; monthly means
3. Spatial range: 326 grid points (10° LAT X 10° LON) on each pressure level in Northern Hemisphere
4. Volume of records: 1 tape
MT-203  5-day normals of isobaric surface heights at Northern Hemisphere grid points
1. Variables (units) : sea level pressure (0.1 mb), isobaric surface height at 700, 500, 300, 200, 100, 50, 30 mb (1 gpm); 5-day means
2. Period of records :
3. Spatial range : 324 grid points (10° LAT x 10° LON) on each pressure level in Northern Hemisphere
4. Volume of records : 1 tape
5. Note : Data sources are Historical Weather Map (NOAA, 1946-1953) and Daily Maps (JMA, 1955-1956)

MT-204  5-day mean isobaric surface heights at Northern Hemisphere grid points
1. Variables (units) : sea level pressure (0.1 mb), isobaric surface height at 700, 500, 300, 100 mb (1 gpm); 5-day means
3. Spatial range : 324 grid points (10° LAT x 10° LON) on each pressure level in Northern Hemisphere
4. Volume of records : 1 tape

MT-205  Monthly normals of surface data at global stations
1. Variables (units) : surface air temperature (0.1°C); monthly means, precipitation (1 mm); monthly totals, standard deviation of monthly mean surface air temperature (0.1°C), number of days with precipitation
2. Period of records :
3. Spatial range : 1007 stations in Northern Hemisphere, 329 stations in Southern Hemisphere (1236 stations listed in CLINO and 100 stations in China)
4. Volume of records : 1 tape
5. Note : Data in China are normals for 1951-1970, others are normals for 1931-1960. Data source is 'Climatological Normals (CLINO)' (except Chinese data)
MT-250 Monthly marine meteorological data at grid points over western North Pacific

1. Volume of records (units): air temperature (0.1°C), dew point temperature (0.1°C), sea surface temperature (0.1°C), air-sea temperature difference (0.1°C), wind speed (0.1 m/s), air pressure (0.1 mb), wave height (0.5 m), visibility (coded); monthly totals

   number of observation, number of observation with specified wind direction by the nearest of 36 points of compass, number of observation with specified cloud amount, number of observation with specified weather; monthly values


3. Spatial range: 430 grid points (2° LAT x 5° LON) over western North Pacific

4. Volume of records: 15 tapes

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MT-251 Monthly marine meteorological data at selected grid points over western North Pacific

1. Variables (units): air temperature (0.1°C), dew point temperature (0.1°C), sea surface temperature (0.1°C), air-sea temperature difference (0.1°C), air pressure (0.1 mb), cloud amount (0.1); monthly totals

   number of observation, number of observation with following specified value —— visibility, weather, wind direction, wind force, wave height, wave frequency, direction of wave propagation; monthly values


3. Spatial range: 15 grid points (2° LAT x 5° LON) over western North Pacific

4. Volume of records: 13 tapes (1 tape/year)

5. Note: Same as "WMO marine climatological summary"
MT-252  Marine meteorological observation data over western North Pacific (raw data)
1. Variables (units): location of ship (0.1°LON, 0.1°LAT), date and time of observation, ship number, nationality of ship, cloud amount, wind direction (the nearest of 36 points of compass), wind speed (1knot), visibility (16 categories), weather, air pressure (0.1mb), air temperature (0.1°C), wet-bulb temperature (0.1°C), cloud observation, sea surface temperature (0.1°C), air-sea temperature difference (0.1°C), frequency and height of wind wave (1sec, 0.5m), direction-frequency-height of swell (the nearest of 36 points of compass, 1sec, 0.5m), dew point temperature (0.1°C), wind force; raw data

3. Spatial range: 0-46°N, 120°E-170°W (report from all ships)
   global (report from Japanese ships only)
4. Volume of records: 21 tapes (1tape/year)

MT-300  Sea surface current and subsurface temperature in the seas adjacent to Japan
1. Variables (units): subsurface sea temperature (0.1°C), sea surface current (direction: 10°, speed: 0.1knot)
3. Spatial range: adjacent sea of Japan
4. Volume of records: 1 tape
5. Note: BT observation (temperature) and GEK observation (surface current)
MT-301  Marine meteorological data obtained by ocean buoys in the seas adjacent to Japan

1. Variables (units): wind direction (10°), wind speed (1knot), air temperature (1°C), wet bulb temperature (1°C), air pressure (0.1mb), water temperature (1°C), wave observation (height: 1m, period: 1sec), solar radiation (1cal/cm²/min), sea surface current (direction: 10°, speed: 1knot), electric conductivity of sea water (1/50 cm), buoy orientation (10°); raw data (3-hourly observation)


3. Spatial range: 4 points (25° 40' N, 135° 55' E; 28° 20' N, 126° 05' E; 38° 30' N, 145° 30' E; 37° 45' N, 134° 23' E)

4. Volume of records: 1 tape

MT-400  Hourly totals of diffuse and reflected solar radiation at Tateno

1. Variables (units): reflected solar radiation (MJ/m²), diffuse solar radiation (MJ/m²), downward radiation (MJ/m²), net radiation (MJ/m²); hourly totals


3. Spatial range: at Tateno (36° 03' N, 140° 08' E)

4. Volume of records: 1 tape

5. Note: This observation is not sure to continue in future.
MT-401 Hourly totals of global solar radiation

1. Variables (units): global solar radiation (0.01MJ/m²); hourly value (every hour for 03-21 J.S.T)
3. Spatial range: 16 stations (including Tateno)
4. Volume of records: 1 tape
5. Note: Before 1980, unit of variable is (1cal/cm²)

MT-402 Spectral direct solar radiation and turbidity coefficient at Ryori

1. Variables (units): optical air mass (0.001), spectral solar radiation (0.001KW/m²), Schuepp’s turbidity coefficient (0.001), Angstrom’s turbidity coefficient (0.001), station pressure (0.1mb), wave length exponent (0.01), air temperature (0.1°C), dew point temperature (0.1°C), wind direction (the nearest of 16 points of compass), wind speed (0.1m/s); values at 09,12,15 J.S.T
3. Spatial range: at Ryori (39° 02' N, 141° 50' E)
4. Volume of records: 2 tapes
5. Note: Before 1980, unit of spectral solar radiation is (0.001 cal/cm²/min)

MT-403 Direct solar radiation, atmospheric transmittance and turbidity coefficient

1. Variables (units): direct solar radiation (0.01kw/m²), optical air mass (0.01), ratio of direct solar radiation to solar radiation at outer limit of the atmosphere (0.01), transmissivity (0.01), Fuessner & Duboi’s turbidity coefficient (0.1), station pressure (0.1mb); values at 09,12,15 J.S.T
3. Spatial range: 14 stations (reference climatological stations and Ryori)
4. Volume of records: 1 tape
5. Note: Before 1980, unit of direct solar radiation is (0.01 cal/cm²/min)

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MT-500  Index of geophysical bibliography
1. Variables: language, publication year, author, name of publication, volume, page, title, keyword
3. Spatial range:
4. Volume of records: 4 tapes

MT-550  Report of meteorological disaster and unusual weather
1. Variables: date, area, kind of unusual weather, kind of disaster, synoptic meteorological conditions, values of meteorological elements in unusual weather condition, description of disaster
3. Spatial range: all over Japan
4. Volume of records: 1 tape
5. Note:
Report of phenology

1. Variables:
   - date of bloom: plum, camellia, dandelion, cherry, azalea, wisteria, blush clover, hydrangea, crape myrtle, Japanese pampass glass
   - date of full bloom: cherry
   - date of leaf falling: ginkgo, maple
   - date of leaf turning to red or yellow: ginkgo, maple
   - date of first chirp: sky lark, shrike, large brown cicada
   - date of first appearance: swallow, small cabbage white, swallow tail, frog, dragonfly, firefly

3. Spatial range: 102 stations in Japan
4. Volume of records: 1 tape

Hourly tidal observations

1. Variables (units):
   - sea level (1cm): hourly values (every hour)
3. Spatial range: 60 stations in Japan
4. Volume of records: 2 tapes
ATCH A

Automated Meteorological Data Acquisition System (AMeDAS)

AMeDAS is a network of surface meteorological observation in Japan, set up by Japan Meteorological Agency in 1976. Number of station is about 1300. In averaging, 17 Km square contains one station.

About 840 stations observe precipitation, air temperature, wind and sunshine duration. Other stations observe only precipitation.

These observation are performed automatically, and the data are sent to AMeDAS Center in Tokyo through telephone circuit every hour.
Reference Climatological Station

Number of reference climatological stations in Japan is 12 (see ATCH D). Elements and time of observation are indicated below.

<table>
<thead>
<tr>
<th>Element</th>
<th>Time (Japan Standard Time)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24</td>
</tr>
<tr>
<td>Air Temperature</td>
<td>○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>Air Pressure</td>
<td>○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>Precipitation</td>
<td>○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>Daily Maximum Air Temperature</td>
<td>○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>Daily Minimum Air Temperature</td>
<td>○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>Depth of Snow Cover</td>
<td>○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>Sunshine Duration</td>
<td>○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>Direct solar radiation</td>
<td>○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○</td>
</tr>
</tbody>
</table>

Observed by recording instrument.

Instantaneous Value: 09, 12, 15 local time

Integrated Value: observed by recording instrument.
Principal Climatological Station

Number of principal climatological stations in Japan is 160 (see ATCH D). Elements and time of observation in 155 stations are indicated below. In other 5 stations, observation is performed once a day at 09 Japan standard time.

Amount of evaporation and global solar radiation are observed at limited stations.

<table>
<thead>
<tr>
<th>Elements</th>
<th>Time (Japan Standard Time)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>03  06  09  12  15  18  21  24</td>
</tr>
<tr>
<td>Air Temperature</td>
<td>O    O    O    O    O    O    O    O</td>
</tr>
<tr>
<td>Wind Direction and Speed</td>
<td>O    O    O    O    O    O    O    O</td>
</tr>
<tr>
<td>Station Pressure, Sea level pressure</td>
<td>O    O    O    O    O    O    O    O</td>
</tr>
<tr>
<td>Precipitation</td>
<td>O    O    O    O    O    O    O    O</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>O    O    O    O    O    O    O    O</td>
</tr>
<tr>
<td>Water Vapor Pressure</td>
<td>O    O    O    O    O    O    O    O</td>
</tr>
<tr>
<td>Dew Point Temperature</td>
<td>O    O    O    O    O    O    O    O</td>
</tr>
<tr>
<td>Cloud Amount</td>
<td>O    O    O    O    O    O    O    O</td>
</tr>
<tr>
<td>Cloud Forms</td>
<td>O    O    O    O    O    O    O    O</td>
</tr>
<tr>
<td>Direction of Cloud Motion</td>
<td>O    O    O    O    O    O    O    O</td>
</tr>
<tr>
<td>Visibility</td>
<td>O    O    O    O    O    O    O    O</td>
</tr>
<tr>
<td>Current Weather</td>
<td>O    O    O    O    O    O    O    O</td>
</tr>
<tr>
<td>Depth of Snow Cover</td>
<td>O    O    O    O    O    O    O    O</td>
</tr>
<tr>
<td>Depth of Snowfall</td>
<td>O    O    O    O    O    O    O    O</td>
</tr>
</tbody>
</table>

The following are observed by recording instruments:

daily maximum air temperature and its time, daily minimum air temperature and its time, daily maximum relative humidity and its time, daily maximum wind speed and its direction and time, daily maximum instantaneous wind speed and its time, daily mean wind speed, hourly total of precipitation, daily maximum amount of precipitation for 1 hour and its time, daily maximum amount of precipitation for 10 minutes and its time, sunshine duration, global solar radiation.
# Station List

155 stations listed below are principal climatological stations in Japan.  
12 stations with underlines combine reference climatological stations.

## Station List

<table>
<thead>
<tr>
<th>Station</th>
<th>Lat. φ</th>
<th>Long. (°E)</th>
<th>H</th>
<th>Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fukuoka</td>
<td>33.67</td>
<td>130.62</td>
<td>677</td>
<td>Osaka</td>
</tr>
<tr>
<td>Hiroshima</td>
<td>34.42</td>
<td>132.95</td>
<td>765</td>
<td>Kyoto</td>
</tr>
<tr>
<td>Kobe</td>
<td>34.58</td>
<td>135.47</td>
<td>802</td>
<td>Tokyo</td>
</tr>
<tr>
<td>Nagoya</td>
<td>35.02</td>
<td>136.05</td>
<td>819</td>
<td>Tokyo</td>
</tr>
<tr>
<td>Kanazawa</td>
<td>36.74</td>
<td>138.68</td>
<td>835</td>
<td>Tokyo</td>
</tr>
<tr>
<td>Sapporo</td>
<td>43.05</td>
<td>141.58</td>
<td>858</td>
<td>Tokyo</td>
</tr>
<tr>
<td>Tokyo</td>
<td>35.57</td>
<td>139.67</td>
<td>873</td>
<td>Tokyo</td>
</tr>
<tr>
<td>Yokohama</td>
<td>35.47</td>
<td>139.62</td>
<td>887</td>
<td>Tokyo</td>
</tr>
<tr>
<td>Yokohama</td>
<td>35.47</td>
<td>139.62</td>
<td>887</td>
<td>Tokyo</td>
</tr>
<tr>
<td>Yokosuka</td>
<td>34.58</td>
<td>139.67</td>
<td>894</td>
<td>Tokyo</td>
</tr>
</tbody>
</table>

## Notes

- The stations in bold are principal climatological stations.
- The stations with underlines are reference climatological stations.

## Additional Information

- The stations listed are located across Japan, including major cities and coastal areas.
- The data includes latitude, longitude, elevation, and station names for each location.
- The station list is comprehensive and covers a wide range of geographical locations within Japan.

## Further Reading

For more detailed information on the stations and climatological data, refer to the appropriate climatological reports and publications.
List of Japanese datasets

Date: June 1983

Part A. Organizational information

- Organization code
- Name: Japan Meteorological Agency
- Address: 1-3-4 Ote-machi, Chiyoda-ku, Tokyo, Japan
- Working language: Japanese and English
- Availability of data: By negotiation
- Contact address for information: Planning Division
  Japan Meteorological Agency

- The number of data set descriptions in Part B: 36

Note: Japan sent this list to WHO. Susan sent this list to me at NCAR.

To: Roy Jensen

When are you coming to Geneva? Let me know dates if you can stop in Geneva.

I'm sorry for the delay in sending this to you — got tied up with WHO Congress & Exec. Council May/early June. Hope all well there.

Susan

14 June 83
Part B. No. 1

Title: Ordinary climatological, hourly and daily tape

Description: Fixed-time values, daily mean, daily sum and daily extremes, by element.

Elements: Barometric pressure (station and sea level), temperature, water vapour pressure, relative humidity, wind direction & speed, cloud amount, present weather, duration of sunshine, precipitation amount, etc.


Frequency of observations (daily): 8 times for temperature, 4 times for barometric pressure, water vapour pressure, relative humidity and cloud amount; daily mean wind speed is based on 24-hour wind run

Geographic area: Japan

Type of observing stations: Land station

Number of sites: 154

Data type: Original

Archive media: Magnetic tape

Volume: 21 reels

Quality control: Yes, AQC

Sources: Registers kept at each station
Part B. No. 2

Title: Ordinary climatological, daily tape

Description: Daily mean, sum and extremes, by element

Elements: Sea level pressure, temperature (daily mean, max. & min.), water vapour pressure, relative humidity, cloud amount, duration of sunshine, global solar radiation, wind speed, daily precipitation amount, etc.

Earliest/latest observation dates: 1951 - 1980 (continuing)

Frequency of observations (daily): Up to 1952 inclusive, 3, 6 and 24 times mixed; since 1953, eight times for temperature, 4 times for barometric pressure, water vapour pressure, relative humidity and cloud amount; daily mean wind speed is based on 24-hour wind run

Geographic area: Japan

Type of observing stations: Land station

Number of sites: 154

Data type: Original

Archive media: Magnetic tape

Volume: 1 reel

Quality control: Yes, AQC

Sources: Registers kept at each station
Part B. No. 3

Title: Ordinary climatological, monthly tape

Description: Monthly mean, monthly sum, the number of days with specific parameters, etc., by element

Elements: Barometric pressure (station and sea level), temperature (mean, max. & min.), water vapour pressure, relative humidity, cloud amount, wind speed, duration of sunshine, percentage of possible sunshine, global solar radiation, precipitation amount, days with thunder, etc.

Earliest/latest observation dates: From the beginning of observation (earliest 1872, latest 1967) to 1980 (continuing)

Frequency of observations (daily): Up to 1952 inclusive, 3, 6 and 24 times mixed; since 1953, 8 times for temperature, 4 times for barometric pressure, water vapour pressure, relative humidity and cloud amount; daily wind speed is based on 24-hour wind run

Geographic area: Japan

Type of observing stations: Land station

Number of sites: Approximately 160

Data type: Processed

Archive media: Magnetic tape

Volume: 13 reels, by element

Quality control: Yes, AQC

Sources: Registers kept at each station
Part B. No. 4

Title: Ordinary climatological, daily smoothed normals tape

Description: Smoothed normals for each day obtained by taking simple running average over 15 consecutive days

Elements: Daily mean, max. and min. temperatures

Earliest/latest observation dates: 1951 - 1980 (continuing)

Frequency of observations (daily): 8

Geographic area: Japan

Type of observing stations: Land station

Number of sites: 154

Data type: Processed

Archive media: Magnetic tape

Volume: 1 reel

Quality control: Yes, AQC

Sources: Registers kept at each station
Title: Ordinary climatological, monthly normals tape

Description: Monthly normals

Elements: Barometric pressure, temperature, relative humidity, water vapour pressure, cloud amount, wind speed, precipitation amount, duration of sunshine, global solar radiation, the number of days with specific parameters, etc.

Earliest/latest observation dates: 1951 - 1980 (continuing); data periods of some elements such as wind speed are less than 30 years

Frequency of observations (daily): 8 times for temperature, and 4 times for barometric pressure, relative humidity, water vapour pressure and cloud amount

Geographic area: Japan

Type of observing stations: Land station

Number of sites: 154

Data type: Processed

Archive media: Magnetic tape

Volume: 3 reels

Quality control: Yes, AQC

Sources: Registers kept at each station
Title: Ordinary climatological, extremes and ranking tape

Description: Monthly extremes and ranking (to the 5th or 10th place), by element

Elements: Barometric pressure (annual extreme), max. & min. temperatures, min. relative humidity, wind speed, peak gust, precipitation amount (10-minute, 1-hour, 24-hour, calendar day), monthly mean temperature, monthly precipitation amount, monthly duration of sunshine, snow cover, snowfall, etc.

Earliest/latest observation dates: From the beginning of observation (earliest 1872, latest 1967) to 1981 (continuing); except relative humidity from 1950 to 1981, 24-hour precipitation amount from 1971 to 1981, snowfall from 1953 to 1981

Frequency of observations: Mixed

Geographic area: Japan

Type of observing stations: Land station

Number of sites: 154

Data type: Original

Archive media: Magnetic tape

Volume: 1 reel

Quality control: Yes, AQC

Sources: Registers kept at each station
Part B. No. 7

Title: Reference climatological, fixed-time and daily tape

Description: Fixed-time values, daily mean, daily sum and daily extremes, by element

Elements: Station pressure, temperature, max.& min. temperatures, relative humidity, precipitation amount, snow depth, duration of sunshine, etc.


Frequency of observations (daily): 24 times for barometric pressure, temperature and relative humidity; 8 times for precipitation amount; 3 times for snow depth and direct solar radiation

Geographic area: Japan

Type of observing stations: Land station

Number of sites: 13

Data type: Original

Archive media: Magnetic tape

Volume: 15 reels

Quality control: Yes, AQC

Sources: Registers kept at each station
Title: Reference climatological, pentad and monthly tape

Description: Mean, sum and extremes for pentad and calendar month

Elements: Station pressure, temperature, max. and min. temperature, relative humidity, precipitation amount, snow depth, duration of sunshine, water vapour pressure, max. daily precipitation amount, max. snow depth, direct solar radiation, transmission coefficient, and turbidity factor


Frequency of observations (daily): 24 times for barometric pressure, temperature, and relative humidity; 8 times for precipitation amount; 3 times for snow depth and direct solar radiation

Geographic area: Japan

Type of observing stations: Land station

Number of sites: 13

Data type: Processed

Archive media: Magnetic tape

Volume: 15 reels

Quality control: Yes, AQC

Sources: Registers kept at each station
Part B. No. 9

Title: Cooperating Climatological Station monthly tape

Description: Monthly mean and monthly sum, by element

Elements: Temperature (mean, max. & min.), precipitation amount and snow depth; at some of the stations, duration of sunshine, wind speed and temperature extremes

Earliest/latest observation dates: 1961 - 1977

Frequency of observations (daily): 1 (at 00 GMT)

Geographic area: Japan

Type of observing stations: Land station

Number of sites: 1,550

Data type: Processed

Archive media: Magnetic tape and microfilm

Volume: 17 reels of magnetic tape and 1,410 reels of microfilm

Quality control: Yes, AQC

Sources: Registers kept at each station
Part B. No. 10

Title: Cooperating Climatological Station monthly normals tape

Description: Normals for each calendar month

Elements: Mean temperature, max. & min. temperatures and precipitation amount

Earliest/latest observation dates: 1951 - 1978; for some stations to 1977

Frequency of observations (daily): 1 (at 00 GMT)

Geographic area: Japan

Type of observing stations: Land station

Number of sites: 1,609

Data type: Processed

Archive media: Magnetic tape

Volume: 1 reel

Quality control: Yes, AQC

Sources: Registers kept at each station
Title: AMeDAS* fixed-time and daily tape

Description: Hourly values, daily mean, daily sum and daily extremes, by element

Elements: Precipitation amount, temperature, wind (speed and direction) and duration of sunshine


Frequency of observations (daily): 24

Geographic area: Japan

Type of observing stations: Automatic land station

Number of sites: 1,316 of which 478 are for precipitation only

Data type: Original

Archive media: Magnetic tape

Volume: 72 reels

Quality control: Yes, AQC

Sources: Hourly transmissions collected by AMeDAS Centre

* Automated Meteorological Data Acquisition System
Part B. No. 12

Title: Phenological observations tape

Description: Phenological dates

Elements: Dates of budding, blooming, defoliation, etc. for 12 specified species of plants and those of migration, hibernation, etc. for 11 specified species of birds and animals

Earliest/latest observation dates: 1953-1980 (continuing)

Frequency of observations (daily): Unspecified

Geographic area: Japan

Type of observing stations: Land station

Number of sites: 102

Data type: Original

Archive media: Magnetic tape

Volume: 2 reels

Quality control: Yes

Sources: Registers kept at each station
Title: Atmospheric turbidity coefficient tape

Description: Fixed-time values of turbidity coefficient

Elements: One-hour accumulated values of direct solar radiation, turbidity coefficients, etc.

Earliest/latest observation dates: 1975 - 1980 (continuing)

Frequency of observations (daily): 3 times; at 09, 12 and 15 local time

Geographic area: Japan

Type of observing station: Land station (regional air-pollution station)

Number of sites: 1 (at Ryori)

Data type: Original

Archive media: Magnetic tape

Volume: 1 reel

Quality control: Yes

Sources: Registers kept at the station
Part B. No. 14

Title: Background air-pollution meteorological observations tape

Description: Hourly surface observations

Elements: Barometric pressure, temperature (including max. and min.),
dew-point temperature, wind direction and speed, precipitation
amount and duration of sunshine

Earliest/latest observation dates: 1975 - 1980 (continuing)

Frequency of observations (daily): 24

Geographic area: Japan

Type of observing station: Land station (regional air-pollution station)

Number of sites: 1 (at Ryori)

Data type: Original

Archive media: Magnetic tape

Volume: 3 reels

Quality control: Yes

Sources: Registers kept at the station
Part B. No. 15

Title: Global solar radiation tape
Description: Global solar radiation
Elements: Hourly accumulated values
Earliest/latest observation dates: 1974 - 1980 (continuing)
Frequency of observations (daily): 24 hours continuous
Geographic area: Japan
Type of observing stations: Land station
Number of sites: 16
Data type: Original
Archive media: Magnetic tape
Volume: 1 reel
Quality control: Yes
Sources: Registers kept at each station
Title: Direct solar radiation tape

Description: Instantaneous and hourly accumulated values

Elements: Instantaneous values of turbidity index comprising: direct solar radiation, optical air mass, I/I₀, transmission coefficient, Fuessner & Dubois coefficient and station pressure, and 1-hour accumulated values of direct solar radiation


Frequency of observations (daily): For turbidity index, three times (at 09, 12 and 15 Local Apparent Time); for 1-hour accumulated values, 24 hours continuous

Geographic area: Japan

Type of observing station: Land station

Number of sites: 14

Data type: Original

Archive media: Magnetic tape

Volume: 2 reels

Quality control: Yes

Sources: Registers kept at each station
Title: Solar radiation tape

Description: Hourly accumulated values of solar radiation

Elements: Reflected solar radiation, diffuse solar radiation, downward radiation and net radiation


Frequency of observations (daily): 24 hours continuous

Geographic area: Japan

Type of observing station: Land station

Number of sites: 1 (Aerological Observatory at Tateno)

Data type: Original

Archive media: Magnetic tape

Volume: 1 reel

Quality control: Yes

Sources: Registers kept at the station
Part B. No. 18

Title: Ordinary climatological registers

Description: Daily and monthly registers containing fixed time values, daily and monthly mean and sum.

Elements: Barometric pressure, temperature, water vapour pressure, relative humidity, wind direction & speed, cloud amount, present weather, duration of sunshine, precipitation amount, daily sum of snowfall, etc.

Earliest/latest observation dates: From the beginning of observation (earliest 1872, latest 1967) to 1977 (continuing)

Frequency of observations (daily): 24, etc.

Geographic area: Japan

Type of observing stations: Land station

Number of sites: About 160

Data type: Original

Archive media: Microfilm

Volume: 6,337 reels

Quality control: Yes, manual

Sources: Registers kept at each station
Part B.  No. 19

Title: Ordinary climatological multiyear registers

Description: Mean and sum for day, pentad, 10-day period and month

Elements: Barometric pressure, temperature, water vapour pressure, relative humidity, wind direction & speed, cloud amount, present weather, duration of sunshine, precipitation amount, etc.

Earliest/latest observation dates: From the beginning of observation (earliest 1872, latest 1967) to 1970 (continuing)

Frequency of observations (daily): 24, etc.

Geographic area: Japan

Type of observing stations: Land station

Number of sites: About 160

Data type: Original

Archive media: Microfilm

Volume: 545 reels

Quality control: Yes, manual

Sources: Registers kept at each station
Part B. No. 20

Title: Cooperating Climatological Station registers

Description: Fixed-time values and monthly mean and sum

Elements: Max. and min. temperatures, precipitation amount, snow depth and monthly extremes.

Earliest/latest observation dates: From the beginning of observation (earliest 1926, latest 1931) to 1977

Frequency of observations (daily): 1 (at 00 GMT)

Geographic area: Japan

Type of observing stations: Land station

Number of sites: About 1,600

Data type: Processed

Archive media: Microfilm

Volume: 1,410 reels

Quality control: Yes, manual

Sources: Registers kept at each station
Part B. No. 21

Title: Hourly precipitation amount registers

Description: Hourly precipitation amount

Elements: Hourly precipitation amount

Earliest/latest observation dates: 1950 - 1977

Frequency of observations (daily): 24

Geographic area: Japan

Type of observing stations: Recording land station

Number of sites: About 500

Data type: Original

Archive media: Microfilm

Volume: 161 reels

Quality control: Yes, manual

Sources: Registers kept at each station
Part B. No. 22

Title: Ordinary climatological recording paper

Description: Recording paper of recording instruments

Elements: Barometric pressure, temperature, dew-point temperature, precipitation amount, wind direction & speed, and global solar radiation

Earliest/latest observation dates: 1951 - 1977 (continuing)

Frequency of observations (daily): --

Geographic area: Japan

Type of observing stations: Land station

Number of sites: 154

Data type: Original

Archive media: Microfilm

Volume: 1,249 reels

Quality control: No

Sources: Recording papers kept at each station
Part B. No. 23

Title: Upper-air observations registers

Description: Radiosonde observations

Elements: Barometric pressure, temperature and relative humidity at the surface and temperature, relative humidity, dew-point depression and wind direction & speed at standard isobaric surfaces

Earliest/latest observation dates: 1938 - 1975

Frequency of observations (daily): 2 (at 00 and 12 GMT)

Geographic area: Japan

Type of observing stations: Land and ship stations

Number of sites: 26 at maximum, 16 as of 1975

Data type: Original

Archive media: Microfilm

Volume: 517 reels

Quality control: Yes, manual

Sources: Registers kept at each station
Part B. No. 24

Title: Upper-wind observations registers

Description: Fixed-time values of wind direction and speed

Elements: Wind direction & speed at given heights

Earliest/latest observation dates: 1921 - 1975 (continuing)

Frequency of observations (daily): 4 (at 18, 00, 06 and 12 GMT)

Geographic area: Japan

Type of observing stations: Land and ship stations

Number of sites: 64 at maximum

Data type: Original

Archive media: Microfilm

Volume: 971 reels

Quality control: Yes, manual

Sources: Registers kept at each station
Part B. No. 25

Title: Aerological Data of Japan

Description: Fixed-time values at standard isobaric surfaces and significant levels

Elements: Temperature, relative humidity, wind direction & speed, and heights of standard isobaric surfaces and significant levels

Earliest/latest observation dates: January 1951 - December 1981 (continuing)

Frequency of observations (daily): 2 (at 00 and 12 GMT) for rawinsonde and 2 (at 18 and 06 GMT) for rawin

Geographic area: Japan

Type of observing stations: Land station

Number of sites: 18

Data type: Original

Archive media: Monthly publication

Volume: About 250 pages per issue

Quality control: Yes, manual

Sources: Registers kept at each station

25
Part B. No. 26

Title: Aeronautical meteorological observations registers

Description: Hourly surface observations at aerodromes

Elements: Wind direction & speed, visibility, runway visual range, present weather, sky cover, temperature, dew-point temperature, barometric pressure and remarks

Earliest/latest observation dates: 1953 - 1970 (continuing)

Frequency of observations (daily): 24, etc.

Geographic area: Japan

Type of observing stations: Land station

Number of sites: 20

Data type: Original

Archive media: Microfilm

Volume: 50 reels

Quality control: Yes, manual

Sources: Registers kept at each station
Part B. No. 27

Title: Ocean Data Buoy Observations

Description: Fixed-time values of meteorological and oceanographic observations

Elements: Wind direction & speed, wet and dry-bulb temperatures, barometric pressure, wave height & period, solar radiation, water temperature at depths 2, 20 and 50 m, current direction & speed, salinity and house keeping data

Earliest/latest observation dates: Since 1973 (continuing)

Frequency of observations (daily): 8

Geographic area: Seas in the vicinity of Japan

Type of observing stations: Automatic buoy

Number of sites: 5

Data type: Original

Archive media: Publication

Volume: 5 issues of about 100 pages each

Quality control: Yes

Sources: Tape recording retrieved from the buoy
Title: Ten-Day Marine Report

Description: Analyzed chart based on mean sea surface temperature over each of 1° lat., 1° long. squares, one sheet per a 10-day period

Elements: Sea surface temperature

Earliest/latest observation dates: Since 1946 (continuing)

Frequency of observations (daily): Mostly once, at around 00 GMT

Geographic area: 0° - 53°N, 110°E - 180° in the western North Pacific

Type of observing stations: Ship

Number of sites: --

Data type: Analyzed

Archive media: Publication

Volume: About 1,300 sheets of chart

Quality control: Yes, automatic and manual

Sources: Ship's wireless messages and logs sent in by mail
Part B. No. 29

Title: Tidal Observations

Description: Daily and monthly means, high water, low water, unusual tide, seiche and tsunami

Elements: Sea level

Earliest/latest observation dates: Since 1924 (continuing)

Frequency of observations (daily): Hourly

Geographic area: Japan

Type of observing stations: Automatic recording station

Number of sites: 56

Data type: Original

Archive media: Publication and magnetic tape

Volume: About 50 issues of about 90 pages each and 2 reels of magnetic tape

Quality control: Yes

Sources: Recording papers
Part B. No. 30

Title: Maritime Meteorological Data

Description: Fixed-time values stored at random on magnetic tape, a reel for each year

Elements: Air temperature, sea surface temperature, air-sea temperature difference, dew-point temperature, barometric pressure, clouds, wind speed, wave height, visibility, etc.


Frequency of observations (daily): Supposed to be 8

Geographic area: Global for Japanese ships, and 00° - 46°N, 120°E - 170°W (responsible area for Japan) for non-Japanese ships

Type of observing stations: Ship

Number of sites: --

Data type: Original

Archive media: Magnetic tape

Volume: 21 reels (1 reel per year, with about 300,000 reports)

Quality control: Yes, automatic and manual

Sources: Ship's weather log

30
Part B. No. 31

Title: Marine Climatological Tables of the North Pacific Ocean

Description: Annual issues containing (1) monthly isotherm charts for air temperature, sea surface temperature and air-sea temperature difference and (2) tables for monthly and annual means and the number of observations of various elements for each of 2° latitude, 5° longitude areas, 430 areas in all.

Elements: Air temperature, sea surface temperature, air-sea temperature difference, dew-point temperature, barometric pressure, cloud amount, wind speed, wave height and visibility

Earliest/latest observation dates: 1961 - 1975 (continuing)

Frequency of observations (daily): Supposed to be 8

Geographic area: 0°-60°N, 100°E - 170°W

Type of observing stations: Ship

Number of sites: --

Data type: Processed

Archive media: Annual publication and magnetic tape

Volume: About 190 pages per issue and 15 reels of MT

Quality control: Yes, Manual and automatic

Sources: Ship's weather log
Part B. No. 32

Title: Marine Climatological Summary

Description: Annual publication containing monthly mean of each element and monthly number of observations by numerical ranges of observed values.

Elements: Air temperature, dew-point temperature, sea surface temperature, air-sea temperature difference, visibility, weather, wind direction & speed, barometric pressure, clouds, waves

Earliest/latest observation dates: 1961 - 1973 (continuing)

Frequency of observations (daily): Supposed to be 8

Geographical area: 15 representative areas in 00° - 46°N, 120°E - 170°W

Type of observing stations: Ship

Number of sites: --

Data type: Processed

Archive media: Annual publication and magnetic tape

Volume: About 520 pages per year and 13 reels of magnetic tape

Quality control: Yes, manual and automatic

Sources: Ship's weather log
Part B. No. 33

Title: The Results of Marine Meteorological and Oceanographical Observations

Description: Publication

Elements: Hydrographic cast data, marine pollution data, subsurface temperature and sea surface current data, subsurface current data, maritime meteorological data, daily sea surface temperature, density, and wave data of coastal stations, sea ice data, etc.

Earliest/latest observation dates: For hydrographic cast data, etc., since 1947; for maritime meteorological data, since 1947; for coastal station data, since 1962; for sea ice data, since 1966 (all continuing)

Frequency of observations (daily): Mixed

Geographic area: The seas near Japan

Type of observing stations: Ship, land station, aircraft and satellite

Number of sites: 25 land stations for coastal sea surface temperature, etc; 7 land stations for sea ice observation

Data type: Original

Archive media: Twice-annual publication

Volume: About 160 pages per issue

Quality control: Yes, manual

Sources: Ship's log and pocket registers kept at each station

33
Part B.  No. 34

Title:  Cloud motion wind

Description:  Data format for magnetic tape is the same as that for international exchange of Level-II data sets during FGGE

Elements:  Position, wind direction & speed, tracked cloud top height (in barometric pressure), temperature, etc.

Earliest/latest observation dates:  Since 6 April 1978 (continuing)

Frequency of observations (daily):  2 (00 and 12 GMT)

Geographic area:  50°N - 50°S, 90°E - 170°W

Type of observing stations:  Geostationary satellite

Number of sites:  One satellite (about 400 wind vectors in a single observation)

Data type:  Processed

Archive media:  Magnetic tape and publication (a portion of Monthly Report of Meteorological Satellite Center)

Volume:  1 reel of magnetic tape for 6 months and about 60 pages in an issue of Monthly Report

Quality control:  Yes

Sources:  Visible and infrared images obtained by Geostationary Meteorological Satellite

34
Part B. No. 35

Title: 10-day mean sea surface temperature (SST)

Description: Data format for magnetic tape is the same as that for international exchange of Level-II data sets during FGGE

Elements: Sea surface temperature

Earliest/latest observation dates: Since 11 April 1978 (continuing)

Frequency of observations (daily): 4

Geographic area: 50°N to 49°S, 90°E to 171°W

Type of observing stations: Geostationary satellite

Number of observing sites: One satellite (for each of 1° lat. x 1° long. square in 100 x 100 grid)

Data type: Processed

Archive media: Magnetic tape and publication (a portion of Monthly Report of Meteorological Satellite Center)

Volume: 1 reel of magnetic tape for 1 year and 15 pages in an issue of Monthly Report

Quality control: Yes

Sources: Infrared radiance data obtained by Geostationary Meteorological Satellite

35
Part B. No. 36

Title: VISSR image data

Description: Visible image data with spatial resolution of 1.25 km and IR data with that of 5.0 km at sub-satellite point

Elements: Orbital and attitude information, and visible and infrared image data

Earliest/latest observation dates: Since 6 April 1978 (continuing) but archiving period is 2 years

Frequency of observations (daily): 14

Geographic area: The area viewed from Geostationary Meteorological Satellite who's sub-satellite point is equator, 140°E

Type of observing stations: Geostationary satellite

Number of observing sites: One satellite

Data type: Original

Archive media: Magnetic tape

Volume: 1 reel for one observation

Quality control: No

Sources: Geostationary Meteorological Satellite
Holdings of Meteorological Data in Japan

- This list was received about 1981; it is in Japanese.

- Akira Kasahara (NCAR) wrote down a brief translation to English.

- This was used to prepare the list made by NCAR, dated 10/1982, 11 pages.

Roy Jenne
NCAR
Apr 2002
### Table 2. Holdings of meteorological observation data.

<table>
<thead>
<tr>
<th>種別</th>
<th>名</th>
<th>称</th>
<th>期 間</th>
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<tbody>
<tr>
<td>Prc</td>
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<td>普通気候月別累年値（要素）</td>
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<tr>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
<td>5day mean (地点別)</td>
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<td>半年別累年値（地点別）</td>
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<td>特殊資料 気候変動調査気候データ</td>
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<tr>
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<td>&quot; &quot;</td>
<td>1970年統計 日別・半日別平均値、半年別値</td>
<td>観測開始～現在</td>
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<tr>
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<td>&quot; &quot;</td>
<td>月別値</td>
<td>～1973</td>
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<td>半年別値及び平滑値</td>
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<td>月別値</td>
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<td>年度報告</td>
<td>1951～1980</td>
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<td>海上気象</td>
<td>1951～1980</td>
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<td>海面温度</td>
<td>1953～1980</td>
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<td>水深100mの月平均水温</td>
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<td>&quot; &quot;</td>
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<td>外観條件不適天候時間</td>
<td>1964～1980</td>
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<tr>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
<td>不快指数</td>
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*From some Japanese book, got at 1981*
### 观测数据（常规数据）

#### 下列1981年8月现在

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<th>数量</th>
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<td>要素ごと1本</td>
<td>全要素，全气象官署約150地点</td>
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<td>5日平均，観測所（気圧・気温・湿度・蒸気圧・降水量・日照・風速）各12地点</td>
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<td>年</td>
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<td>1本</td>
<td>最高・最低温度及び降水量の月平均值，観測所約1550地点</td>
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<td>4本</td>
<td>National Climatic Center からコピー：1200地点</td>
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<tr>
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<td>メッシュコード別：気象官署・区内・灯台等の月別値</td>
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<td>7要素，全気象官署150地点</td>
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<td>全気象官署150地点</td>
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<td>冷、暖の初終日</td>
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#### 計画中

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<th>項目</th>
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<td>观測点の変更</td>
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<td>動植物の発芽・開花・紅葉・出現等の春</td>
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<td>1本</td>
<td>昼間（7〜18時）の強風と降水のあった時間</td>
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<td>6〜9月</td>
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<td>15本</td>
<td>北太平洋430海域の海上気象統計データ</td>
</tr>
<tr>
<td>13本</td>
<td>15代表域（WMO）の</td>
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<tr>
<td>1本</td>
<td>北太平洋1度格子点の海面水温町平均値</td>
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<td>1本</td>
<td>日本近海（20〜48°N，124〜161°E）</td>
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<td>項目</td>
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<td>時別値 8 回 気温・風，4 回 気圧・蒸気圧・湿度・雲量・現在天気，日別値全要素，150 地点heets daily values at 150 stations</td>
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<td>1 日 8 回 気温・風，全気象官署 150 地点</td>
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<td>他要素の編集計画中，全気象官署，will have more items in future</td>
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<td>5 位又は 10 位，18 要素，全気象官署 150 地点</td>
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<td>時別値 気圧・蒸気圧・湿度・風，気温・最高・最低気温，日照・降水量・積雪・日射 12 地点</td>
</tr>
<tr>
<td>1 本</td>
<td>积雪含む，50 地点下積雪，12 照度計</td>
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<td>1 本</td>
<td>1975 年以降も計画中，Will publish in 1975</td>
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<tr>
<td>3 本</td>
<td>航空気象及び測候所 9 官署分</td>
</tr>
<tr>
<td>1 本</td>
<td>現象別・府県別，60 部份 (prob. maps)</td>
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<td>全気象官署 150 地点</td>
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<td>1 本</td>
<td>維里における観測資料 1 本</td>
</tr>
<tr>
<td>3 本</td>
<td>気圧・気温・錫点温度・風・降水量・日照</td>
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<tr>
<td>1 本</td>
<td>気象官署 16 地点 16 本</td>
</tr>
<tr>
<td>2 本</td>
<td>父島・南鳥島を除く気象官署 14 地点 14 本，(is the text correct?)</td>
</tr>
<tr>
<td>1 本</td>
<td>船印における観測資料 1 本 (note 本?)</td>
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<tr>
<td>1 本</td>
<td>維里におけるロボット気象観測資料 1 本</td>
</tr>
<tr>
<td>1 本</td>
<td>ADESS 計測から抽出した高層気象データ from a journal</td>
</tr>
<tr>
<td>6 本</td>
<td>カセットテープから編集 4 要素，旧気象通報所 46 地点</td>
</tr>
<tr>
<td>4 本</td>
<td>柿岡 1913 年，女満別 1952 年，鹿屋 1958 年，父島 1973 年，偏角，水平，鉛直，全磁力</td>
</tr>
<tr>
<td>1 本</td>
<td>柿岡における偏角，水平，鉛直，全磁力</td>
</tr>
<tr>
<td>1 本</td>
<td>K-index for the one</td>
</tr>
<tr>
<td>2 本</td>
<td>柿岡 1929 年，女満別 1949 年，ペントラ式，フィードバック式電位計による</td>
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<tr>
<td>20 本</td>
<td>船舶海上気象通報資料 observed from various ships</td>
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<tr>
<td>1 本</td>
<td>南方定点(29° N, 135° E)</td>
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<tr>
<td>1 本</td>
<td>日本沿岸約 60 か所 60 本</td>
</tr>
<tr>
<td>2 本</td>
<td>気象庁観測船，at met obs. ship</td>
</tr>
<tr>
<td>2 本</td>
<td>&quot; at met obs. ship (same time)</td>
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</tbody>
</table>

1 本 | 海洋気象ブロットによる観測値 only one theory |

注）気象研，気象衛星センターの M.T. は未記入
<table>
<thead>
<tr>
<th>種 類</th>
<th>内 容</th>
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<tr>
<td>FGGE データ</td>
<td>Level I b (Oper.)</td>
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<td>Level II b (Build up, Oper.)</td>
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<td>統計ヒストリカル データ</td>
<td>時刻 普通気候値</td>
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<td>アメダス データ</td>
<td>World clim data</td>
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<td>世界気候 データ</td>
<td>地上気圧、北半球5°メッシュ、15°以北、日毎気圧高度、気温、風、</td>
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<td></td>
<td>1000〜30mb/8層</td>
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<td>ocean marine obs</td>
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<td>海洋 データ</td>
<td>海洋観測、海流データ、SEASAT高度計データ</td>
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<td>ジオイド</td>
</tr>
<tr>
<td>高層 データ</td>
<td>aerological, global</td>
</tr>
<tr>
<td></td>
<td>1971〜1978 全球</td>
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<tr>
<td>気象衛星データ</td>
<td>GMS, VI SSSR (VIS[03Z], IR[3 hly])</td>
</tr>
<tr>
<td></td>
<td>daily too.</td>
</tr>
<tr>
<td>気象庁電算一本化データ</td>
<td>ANAL 月別、FMP、NHP、DCD</td>
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</tbody>
</table>

注）FGGE データの内容：Build up year (1977/12〜1978/11)，
a-Stream（現業的に収集されたデータ），b-（さらに特別に時
ta-（気象関係データ，地表面太陽光反射率，雲量，放射
SAT o Bの衛星資料が含まれる。）cについては不明。
<table>
<thead>
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<td>1978/1 〜 1979/12/1</td>
<td>101</td>
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<td>1977/1〜1980/6</td>
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<td>1976〜</td>
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注) GMS衛星画像マイクロフィルムは
ポジ(1978/4〜79/4)
ネガ(1979/5〜8)
全50本保管 reela μ film

Operational year (1978/12〜1979/11)、LevelⅠ (測定したままでのデータ)
III (定められた格子点の上に直した気象、海洋データ、水平250 km、鉛直10層)間をかけておいたデータを集めたもの、たとえば人工衛星、航空機、船舶データ
量、オゾン、降雨量、積雪水、海水等) なお LevelⅠb には SATEM、SARAD,
<table>
<thead>
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<th>データ名 (MT)</th>
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<th>保管量 (年)</th>
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<tbody>
<tr>
<td>1. 生データ</td>
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<td></td>
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| (1) VISSR 生データ | 1年 | 10/1日 
10巻 / 日 × 365日 + 350巻 (臨時) = 4000巻 |
<p>| (2) 極軌道気象衛星データ | 6か月 | 6250BPI 2巻 / 日 × 183日 = 366巻 |
| | | |
| (3) SEM (累積データ) | 10年 | 0.5巻 / 日 × 12月 = 6巻 |
| HK ( ) | | 0.5 &quot; × 12&quot; = 6巻 |
| 2. 処理済データ | | |
| wind from IR 気压計算 (累積データ) | 10年 | 2巻 / 日 × 12月 = 24巻 |
| cloud h | 1 &quot; × 12 &quot; = 12巻 |
| cloud d | 2巻 |
| SST 広域海面水温 ( ) | 0.5 &quot; × 12 &quot; = 6巻 |
| SST 狭域 ( ) | 1 &quot; × 12 &quot; = 12巻 |
| NOAA sounder 鉛直分布データ [TOVS] ( ) | 4 &quot; × 12 &quot; = 48巻 |</p>
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<td>普通気象観測原簿</td>
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<td>Raw 2.</td>
<td>気象観測器薄年原簿</td>
<td>1970</td>
<td>545</td>
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<td>Raw 3.</td>
<td>高層気象観測原簿</td>
<td>1966</td>
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<td>Raw 4.</td>
<td>区内観測原簿</td>
<td>1976</td>
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<td>Raw 5.</td>
<td>時間雨量計原簿</td>
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<td>Raw 6.</td>
<td>高層風観測原簿</td>
<td>1976</td>
<td>1,205</td>
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<td>Raw 7.</td>
<td>高層風観測原簿</td>
<td>1976</td>
<td>88</td>
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| UA Observations (高層気象観関係) |
| Raw 1. | 高層気象観測原簿 | 1972 | 480 |
| Raw 2. | 指定気圧面表観原簿 | 1972 | 423 |
| Raw 3. | 高層風観測原簿 | 1972 | 887 |
| Raw 4. | 高層風観測原簿 | 1965 | 26 |
| Raw 5. | 高層風観測原簿 | 1965 | 31 |

| Aeronautical (航空気象関係) |
| Raw 1. | 航空気象観測原簿 | 1970 | 50 |

| Ocean Marine (海上気象関係) |
| Raw 1. | 定点気象観測原簿 | 1970 | 25 |

<p>| Ocean Marine (海洋関係) |
| Raw 1. | 各層海洋観測原簿 | 1964 | 20 |
| Raw 2. | 潮汐観測原簿 | 1963 | 53 |
| Raw 3. | 高岸観測原簿 | 1963 | 14 |
| Raw 4. | その他観測原簿 | 1964 | 9 海流，プランクトン |</p>
<table>
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総計 | | 14,227 |