The sources of data, methods of accumulation, and index numbers used for the daily synoptic upper-air reports are quite similar to those used for the surface data and have been explained under "Daily Synoptic Surface Reports." However, the time of observations is different. For upper air reports, the observation at or nearest to 0000Z is shown in all cases. The time of the observation, to the nearest hour, is shown for each station.

Method of Presentation:

The upper air data are presented in four groups as follows:
1. Upper air wind data for all days for stations reporting in the new code.
2. Upper air wind data for all days for stations reporting in the old code.
3. Rhob data for all days for stations reporting in the new code.
4. Rhob data for all days for stations reporting in other than new code.

As in the surface data, it is expected that all stations will be reporting in the new code in the near future. At such time, data of each type will be combined. The data in each group are presented numerically by block numbers (where applicable) and symbolically by stations within each block. Upper air wind data are also shown for rhob where the rhob balloon was tracked by rawin or rafal methods.

Upper Air Wind Observations

Each group of the upper air wind data contains all pilots, reports, and rawins received for that category. The data are shown in two tabulations, the first containing values of wind direction and speed for levels through 20,000 feet, and the second the same type of information for levels above 20,000 feet.

Symbol headings used for upper air winds reported in the new code, referred to as Type I above, are as follows:

- `dd` Direction to 36 points.
- `ff` Speed in knots.

Where an upper air wind observation is not taken and the reason for the missed observation is known, the reason is indicated under surface winds in the following code:

- `01` - No balloons
- `02` - Low clouds
- `03` - Thick dust
- `04` - Fog
- `05` - No gas
- `06` - Instrument trouble
- `07` - Smoke
- `08` - Rain
- `09` - Unfavorable sea
- `10` - Snow

II - High or gusty surface wind

Reports from ships are similar to those from land stations except that position is given instead of station name.

Reports from Russia are shown in the following manner:

<table>
<thead>
<tr>
<th>J</th>
<th>I</th>
<th>J</th>
<th>D</th>
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<td>I14</td>
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</tr>
</tbody>
</table>

III Station number.

GG Time (Moscow).

dd Wind direction in 36 points.

vv Wind speed in m.p.h.

Height levels are indicated as follows:

- Surface
- 200 meters
- 500-500 meters
- 1000 meters
- 2000-2000 meters
- etc.
- 10,000-15,000 meters

M | Reason for causing upper wind observation as follows:

- 0 | Entered cloud
- 1 | Lost in fog
- 2 | Lost in mist
- 3 | Lost accidently
- 4 | Lost in precipitation
- 5 | Lost behind cloud
- 6 | Lost in background
- 7 | Lost in distance
- 8 | Lost, balloon burst
- 9 | Lost, other cases

C | Predominant cloud.

Explanation of other codes used by individual stations can be found in H.O. 306, 1946.

Rhob Data

Rhob data are shown in three different tabulations. The first shows the station index number, the station name, and values of height, temperature, and dew point (and wind direction and speed where rawin or rafal methods were utilized), for the 1000 m, 850 m, 700 m, and 500 m surfaces. The second tabulation shows data for the same elements for the 300 m, 200 m, and 100 m surfaces. The third tabulation shows values of pressure, temperature, and dew point for significant levels. In all cases, the first significant level contains the surface data. Although station names are not indicated in the latter two tabulations, the index numbers are identical to those used in the first tabulation, which shows the station name for each number. Thus, any station may be easily identified from the second tabulation.

Where a rhob is not taken and the reason for the missed observation is known, the reason is indicated under 1000 m, in the "101" additional data indicator code as adopted by the IMO.

Symbol headings used for rhob reported in the new code, referred to as Type III above, are as follows:

- `hh` Height in tens of feet above mean sea level. The tens of thousands figure is not shown. 500 ft. is indicated as 025, 4720 ft. as 472, and 18,200 ft. as 829.
- `TT` Temperature to whole degrees, the 10ths value being dropped.
- `Td` Temperature of dew point to whole degrees, the 10ths value being dropped.
- `Tx` Approximate tenth value of air and dew point temperatures. The tenths values of T and Td can be determined from the following table.

<table>
<thead>
<tr>
<th>Td</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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</tr>
</tbody>
</table>

- `dd` Wind direction to 36 points, even though code indicates whole degree.

If wind is speed in knots. When value is over 100 knots, 50 is added to direction and the 100 figure dropped from the speed. Wind direction 22, speed 108 is shown as 72 - 02.

Hour or time of release of rhob to nearest hour, GCT.

Code Type - An indicator to specify the units of height, temperature and wind direction used in the report. Explanation of the code is as follows:

Symbol `a` - Indicator specifying units of height, temperature, and wind direction.

<table>
<thead>
<tr>
<th>Code</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Feet, °C, wind direction to whole degrees.</td>
</tr>
<tr>
<td>1</td>
<td>Feet, °C, wind direction to tens of degrees.</td>
</tr>
<tr>
<td>2</td>
<td>Feet, °F, wind direction to whole degrees.</td>
</tr>
<tr>
<td>3</td>
<td>Feet, °F, wind direction to tens of degrees.</td>
</tr>
<tr>
<td>4</td>
<td>Meters, °C, wind direction to whole degrees.</td>
</tr>
<tr>
<td>5</td>
<td>Meters, °C, wind direction to tens of degrees.</td>
</tr>
<tr>
<td>6</td>
<td>°C, winds not reported.</td>
</tr>
<tr>
<td>7</td>
<td>°F, winds not reported.</td>
</tr>
<tr>
<td>8</td>
<td>°C, winds not reported.</td>
</tr>
<tr>
<td>9</td>
<td>Not allocated.</td>
</tr>
</tbody>
</table>

PPP = pressure at significant level, in whole millibars. When value is over 999 mbar, the 1000's value is dropped. 1023.6 mbar is shown as 023.

Ship reports are shown in the same manner with the ship's location in place of station name.

Exceptions --

Station 01001, Jas Maysen, reports in Prat Code
(for code see H.O. 206, 1946)