DAILY SYNOPTIC SURFACE REPORTS

The daily synoptic reports shown in this publication are accumulated from special forms prepared by the various countries in the Northern Hemisphere, from published data prepared by those countries, and from teletype reports from all collectives available to all of the services cooperating in the preparation of the publication. Wherever possible, data are taken from the first two named sources, and teletype data are used to complete the presentation. Data for stations in the United States are tabulated from punched cards prepared on the stations for this purpose and mailed to the Tabulating Unit at New Orleans. The 1230Z observation is shown for most stations. For those stations that do not take a synoptic observation at that particular hour, the observation for the nearest hour thereto is shown, whenever possible. The time of the observation, to the nearest hour, is shown for each station. In preparation of this bulletin, it has been our aim to present as complete a coverage for the Northern Hemisphere as is possible. With this consideration in mind, it was deemed advisable to delete data from certain stations where the coverage was already considered adequate, and to show all reports for areas where data are sparse, even though those data might not be available for all days. The data are subject to observational and transmission errors which have been corrected insofar as personnel and time considerations permit.

Station Names and Index Numbers:

All stations for which data are presented are identified by the station name and the station index number. The numbers assigned in accordance with IMO agreements effective January 1, 1949, are used in all cases except where the stations concerned are still using the old numbers. The latter are shown in a separate group, with appropriate heading.

Method of Presentation:

In preparing the data for publication, the entire collection of reports (mailed, published, and teletype) have been placed on punched cards, then sorted by block numbers, and numerically by station number within blocks. The data are presented in that manner. It is further divided into 3 groups as follows:

1. Data for all days for stations reporting in the new code.
2. Data for all days for ship reports.
3. Data for all days for stations reporting in the old code.

It is recognized that some inconvenience may result from these divisions. However, the recent change in codes which were adopted by some stations and not by others, left us little alternative. It is expected that the remaining stations will adopt the new codes in the near future, at which time all surface data will be combined.

Description of Codes:

Three different codes are at present being used in reporting surface synoptic data. We shall call these Type I, II and III for purposes of identification. Type I is the code adopted by the IMO for use effective January 1, 1949. It is used by the vast majority of nations in the Northern Hemisphere. Data for all stations for which new station numbers (with block numbers) are shown, will be in this code. Type II is used by ships reporting weather and Type III is being used by those stations still using the old code numbers. These are the stations referred to in previous paragraphs, as having listings in a separate group. A listing of stations using each type of code will not be attempted here since that fact can be easily determined by seeing if the station is in the general listings or in the later group. It is further expected that gradually all stations will change to the new code. At any rate, no fear need be felt concerning misinterpretation of the data, since headings, showing elements represented, are shown above all data. The form of codes used is not shown here since it is apparent from the headings.

The meaning of the heading symbols are as follows:

Type I - New code.

1. iii Station number (the block number is at the head of each group of station numbers).
   T_dT_d Temperature of the dew point, to nearest whole degree F.
2. N Total amount of clouds. IMO Code 1-1-49.
   dd Wind direction from which wind is blowing, to 36 points.
   ff Wind speed in knots.
3. VV Visibility. IMO Code 1-1-49.
   ww Present weather. IMO Code 1-1-49.
   W Past weather. IMO Code 1-1-49.
4. PPP Pressure, mean sea level - 10's, units, and 10ths of mbs - hundreds figures are omitted.
   TT Temperature, to nearest degree F.
5. N_h Amount of cloud whose height is reported for "h". IMO Code 1-1-49.
   C_L Clouds of genera Sc, St, Cu, Cb. IMO Code 1-1-49.
   h Height above ground of base of cloud. IMO Code 1-1-49.
   C_M Clouds of genera Ac, As, Ns. IMO Code 1-1-49.
   C_H Clouds of genera Ci, Cs, Cc. IMO Code 1-1-49.
6. 6 Indicator figure.
   D_C Direction from which clouds are moving, 8 points. IMO Code 1-1-49.
   a Characteristic of barograph trace, 3 hours. IMO Code 1-1-49.
   pp Pressure tendency, 3 hours. IMO Code 1-1-49.
7. 7 Indicator figure.
   R Whole inches of rain, used when inch or over.
   RR Amount of rain, last 6 hours - 100ths of inch precipitation.
   R_t Time rain began or ended. IMO Code 1-1-49.
   s Depth of snow on ground, nearest whole inch.

Extra groups - any of which may be included.

8 Indicator figure.
N_s Amount of significant cloud layer. IMO Code 1-1-49.
C Type of significant cloud layer. IMO Code 1-1-49.
h_sh_s Height above station of layer of significant clouds. IMO Code 1-1-49

9 Indicator figure for special phenomena.
S_PS_P Special phenomena, general description. IMO Code 1-1-49.
s_ps_p Special phenomena, detail description. IMO Code 1-1-49.
1 Indicator for wave group.
d_wd_w Direction (00-36) from which waves come.
P_w Period of the waves. IMO Code 1-1-49.
H_w Mean maximum height of waves. IMO Code 1-1-49.
2 Indicator figure for 850 mb. pressure group.
$h_{85}h_{85}h_{85}$ Height of 850 mb. surface, 10's of geo. ft. above sea level.
a_3 Characteristic of barograph trace ending 3 hours ago. IMO Code 1-1-49.
3 Indicator figure for 24 hour precipitation.
$R_{24}R_{24}R_{24}R_{24}$ Amount of precipitation in last 24 hours - tens, units, tenths, and hundreds of inches.
4 Indicator figure for maximum and minimum temperature.
T_xT_x Maximum temperature for previous calendar day, nearest whole degree F.
T_nT_n Minimum temperature for previous 12 hours, nearest whole degree F.

Exceptions to above:

It should be noted that most stations outside of North America only report the first 6 groups. This absence of group 7 does not therefore definitely indicate the lack of rain. The occurrence of this phenomena can be detected from the reports of present and past weather in group 3.

Iceland stations sometimes report temperature in degrees C.

French stations sometimes report temperature in degrees C, sometimes °F.

Certain Spanish stations reduce surface pressure to 1 Km. rather than to sea level.

Mexican stations, group 7, RRR are in millimeters.

South Pacific stations - report $3RRD_LD_M$ in place of the 7 group where R is rainfall; D_L and D_M are directions of low and middle clouds.

European stations - changes group 6 to $6a_xapp$, where a_x is additional information on pressure change.

Asian stations - group 6 is reported $6D_capp$ where D_c is direction of lowest cloud observed.

South American stations - group 6 is reported as 6Eapp with E as state of ground.

India stations, blocks 42 and 43 - group 7 shown as $7RRT_eT_e$ where T_eT_e is extreme temperature.

Japanese stations in block 47 - same as India above.

Type II - Ship reports.

1. Y Day of week.
   Q Quadrant of globe. (see table II)
   $L_aL_aL_a$ Latitude in degrees and tenths.
2. $L_oL_oL_o$ Longitude in degrees and tenths, the 1 being omitted if ship is 100 degrees or more.
   GG Time of observation, GCT.
3. Nddff (Explanations for 3, 4, 5 and 6 are the same as
4. VVwwW for new land code above.)
5. PPPTT
6. $N_hC_LhC_MC_H$
7. D_s Ships course - direction toward which ship is moving (see table XIV).
   V_s Speed of ship, in knots (see table XV).
   a Characteristic of barometer tendency, 3 hours (see table XVI).
   pp Amount of barometric change, 3 hours (see table XVII).
8. 0 Group designator.
   T_sT_s Difference between air temperature and sea temperature, whole degrees F. If air temperature is below sea temperature, 50 is added to value of difference.
   T_dT_d Temperature of dew point - whole degrees F.
9. 1 Group designator.
   d_wd_w Direction from which waves are coming (see table IV).
   P_w Period (in seconds) of waves (see table XX).
   H_w Mean maximum height of waves (see table XXI).

All references are to "International Code For Radio Weather Reports From Ships".

Type III - Old code, 1942.

$IIIC_1C_m$ wwVhN_h DDFWN PPPTT UC_happ $T_sT_sR_tRR$ R'RRRR F>9 GG

Codes used for the non-fixed ships are as follows:

LLLlll DDFww PPVTT $3C_1C_mC_hN$ $T_dKD_kWN_h$ $d_sv_s$app $h_ch_cMT_sT_s$ GG

LLLlll DDFww PPVTT $hC_1C_mC_hN$ $T_dKD_kWN_h$ $d_sv_s$app $h_ch_cMT_sT_s$ GG

The meaning of symbols in the above codes, whose values will be found in tables of international codes and symbols, is as follows:

a Characteristic of the barometric tendency in preceding three hours.
C_1 Form of low cloud.
C_m Form of middle cloud.
C_h Form of high cloud.
DD Wind direction.
D_k Direction from which swell comes (8-point scale).
d_s Direction toward which the ship is moving (8-point scale).
F Wind speed on Beaufort scale, 0-9.
F>9 Amount of wind speed over Beaufort scale 9.
GG Hour in Greenwich time (12 noon: 13 1 P.M., etc.).
h Height of the lowest clouds.
h_ch_c Height of ceiling in hundreds of feet.
III International index number.
K State of swell in open sea.
LLL Latitude in degrees and tenths.
lll Longitude in degrees and tenths, with initial hundreds digit omitted.
M Method of determining ceiling.
N Total amount of sky covered by clouds.
N_h Amount of sky covered by clouds whose height is reported by h.
PP Pressure in whole millibars, first figure (9 or 10) omitted.
PPP Pressure in millibars and tenths, first figure (9 or 10) omitted.
pp Amount of barometric tendency for preceding three hours in fifths of millibars.
R_t Time precipitation began or ended.
RR Amount of precipitation in 6-hour period preceding time of observation.
R Amount of precipitation over ninety-nine in the 6-hour period preceding time of observation.
RRRR Amount of 24-hour precipitation in inches and hundredths.
S State of the sea.
T_d Temperature difference between air and water.
TT Temperature in whole degrees.
T_sT_s Temperature of the dew point in whole degrees.
U Relative humidity.
V Horizontal visibility.
v_s Speed of the ship.
W Past weather.
ww Present weather.
3 Group indicator in certain ship codes.

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