

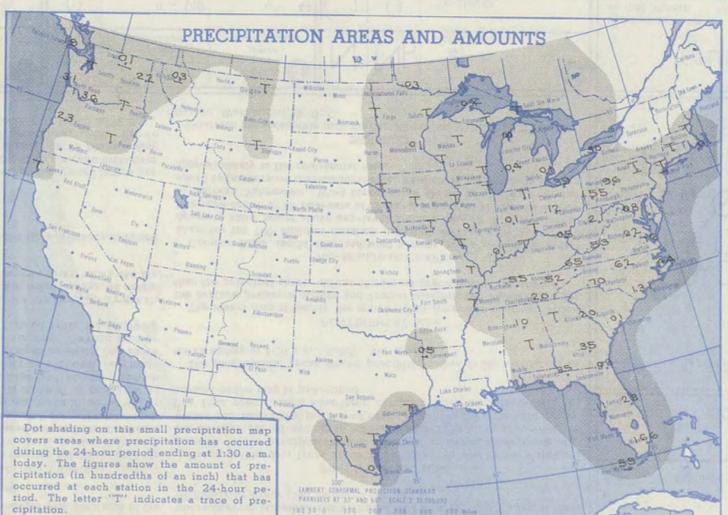
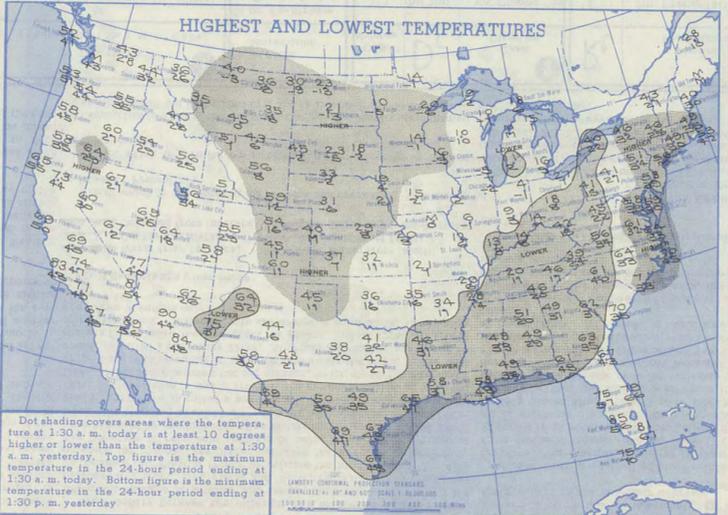
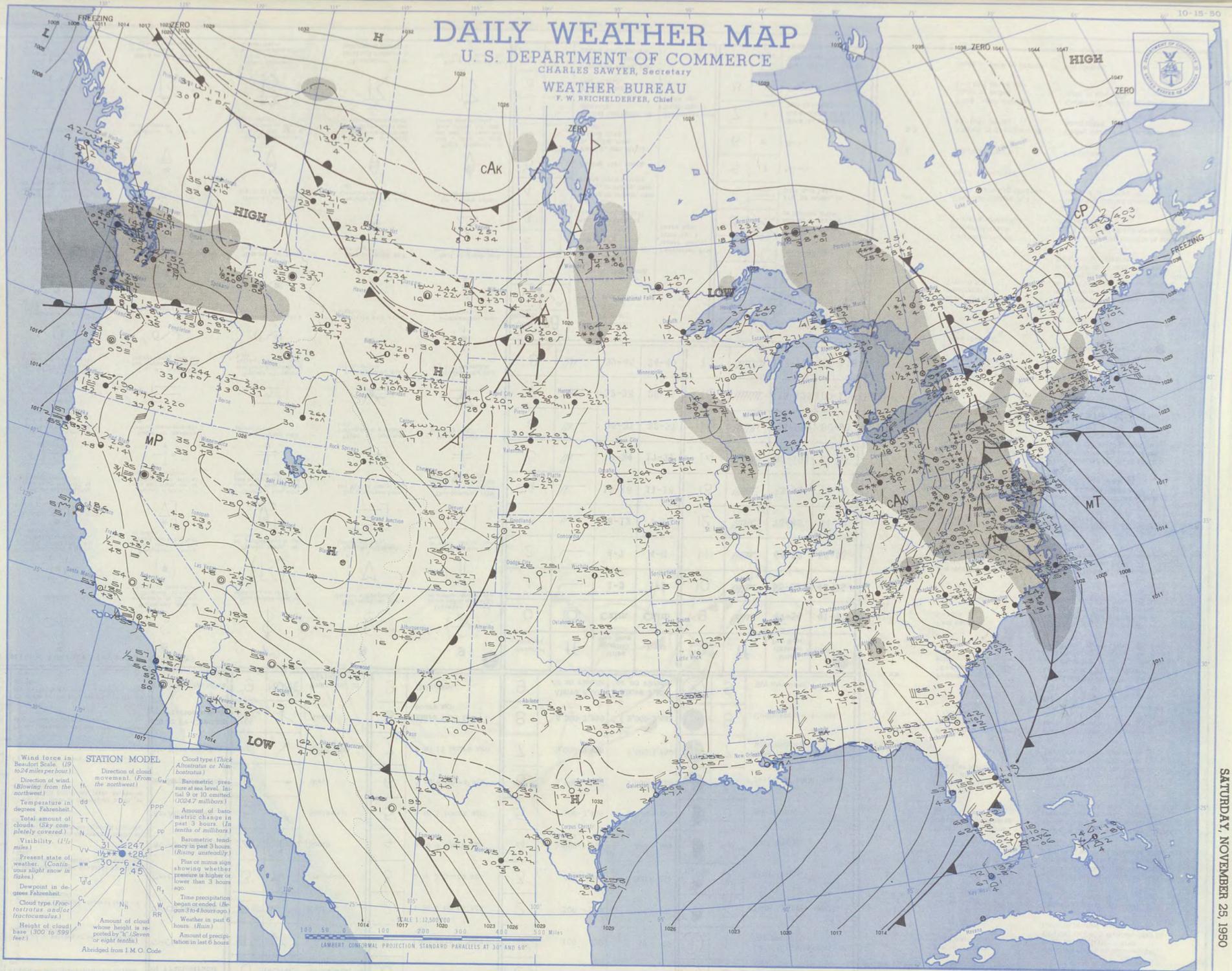
WEATHER FORECASTS
 U. S. WEATHER BUREAU, WASHINGTON, D. C.
 SATURDAY, NOVEMBER 25, 1950

DISTRICT OF COLUMBIA AND VICINITY, strong winds, temperature falling to below freezing by afternoon with rain changing to snow this morning probably ending by evening; strong northwest winds and much colder with lowest 15 to 20 Sunday morning, fair and cold Sunday.

MARYLAND, strong shifting winds, heavy snow western counties accumulating 10 to 15 inches today and rain central and east changing to snow as temperatures fall this morning but little accumulation expected; strong winds and much colder with cold wave and lowest 5 to 10 in west and 15 to 20 east portions tonight; Sunday fair and very cold.

VIRGINIA, snow southwest and heavy snow Blue Ridge and Shenandoah Valley will accumulate 8 to 10 inches today and rain eastern sections will change to snow with falling temperature this morning but only small accumulation expected; windy and colder with cold wave east portion tonight, lowest 5 to 10 west and 15 to 20 east portion by Sunday morning; Sunday fair and very cold.

DELAWARE, strong shifting winds with rain this forenoon turning much colder and changing to snow this afternoon and evening with no great accumulation expected; windy and much colder, lowest 15 to 20 tonight; Sunday windy and continued very cold.



THE MAPS shown here are prepared from observations taken daily at hundreds of stations throughout North America. The observations taken at 1:30 a. m. E. S. T., at approximately two hundred selected stations are inscribed on the large surface map of the United States, southern Canada, northern Mexico, and Cuba.

A complete explanation of these maps (including all symbols and tables) is printed frequently on the reverse side. Periodically, during each month, climatological charts and graphs appear in place of the Explanation; and, occasionally, illustrated articles of special meteorological interest are published.

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EXPLANATION OF THE WEATHER MAP

Nearly all weather forecasting is based on weather maps which show the weather and its development and movement from place to place. Several different types of maps are used. Some portray conditions at the earth's surface and others show conditions in the upper air. Some cover the entire Northern Hemisphere while others cover only local areas as required for special purposes. Most of the maps used for daily forecasting by the Weather Bureau are similar to this printed daily weather map. At Weather Bureau offices, maps showing conditions at the earth's surface are drawn four times daily or oftener. Maps of upper level temperature, pressure, and humidity are drawn twice a day.

PRINCIPAL SURFACE CHART

To prepare the surface maps and present the information quickly and pictorially, two actions are necessary: (1) Weather observers at many places must go to their posts at regular times each day to observe the weather and send the information by wire or radio to the offices where the maps are drawn; and (2) The information must be quickly transcribed to the maps. In order that the necessary speed and economy of space and transmission time may be realized, codes have been devised for sending the information and for plotting it on the maps.

CODES AND MAP PLOTTING

A great deal of information is contained in a brief coded weather message. If each item were named and described in plain language, a very lengthy message would be required and it would be confusing to read and difficult to transfer to a map. Use of a code permits the message to be condensed to a few five-figure numeral groups, each figure of which has a meaning depending upon its position in the message. Persons trained in the use of the code can read the message as easily as plain language.

The location of the reporting station is printed on the map as a small circle (the station circle). A definite arrangement of the data around the station circle, called the station model, is used. When the report is plotted in these fixed positions around the station circle on the weather map, many of the code figures are transcribed exactly as sent. Entries in the station model which are not made in code figures or actual values found in the message are usually in the form of symbols which graphically represent the element concerned. In some cases, certain of the data may or may not be reported by the observer, depending upon local weather conditions. Precipitation and clouds are examples. In such cases the absence of an entry on the map is interpreted as non-occurrence or non-observation of the phenomena.

Both the code and the station model are based on international agreements. Through such standardized use of numerals and symbols, a meteorologist of one country can use the weather reports and weather maps of another country even though he does not understand the language. Weather codes are in effect an international language making possible complete interchange and use of worldwide weather reports so essential in present-day activities.

The international code form for surface reports used by the Weather Bureau beginning January 1, 1949, is shown in abridged form in the column at the right together with a corresponding sample message. The symbolic station model used on the printed map, a sample station model entered from the sample message, and an explanation of the symbols with remarks on map entry are also given.

Many of the elements in the plotting model are entered in values which can be interpreted directly. Some, however, require reference to code tables. These tables are given in the boxes following the station model and example. Those with a more complete explanation of the code are referred to the Synoptic Code (1949 Edition).

FRONTS AND AIR MASSES

The boundary between two different air masses is called a front. Important changes in weather and temperature often occur with the passage of a front. Half circle and/or triangular symbols are placed on the lines representing fronts to indicate the kind of front. The side on which the symbols are placed indicates the direction of movement. The boundary of relatively cold air of polar origin advancing into an area occupied by warmer air, often of tropical origin, is called a cold front. The boundary of relatively warm air advancing into an area occupied by colder air is called a warm front. The line along which a cold front has overtaken a warm front is called an occluded front. A boundary between two air masses, which shows little tendency at the time of observation to advance into either the warm or the cold areas, is called a stationary front. Air mass boundaries are known as surface fronts when they intersect the ground, and as upper air fronts when they do not. Surface fronts are drawn in solid black, fronts aloft are drawn in outline only.

Front symbols are given below:

- Warm front (surface)
- Cold front (surface)
- Occluded front (surface)
- Warm front (aloft)
- Cold front (aloft)
- Stationary front (surface)

A front which is disappearing or is weak and decreasing in intensity is labeled "Frontolysis".

A front which is forming or increasing in intensity is labeled "Frontogenesis".

A squall line is a line of thunderstorms or squalls usually accompanied by shifting winds and heavy showers, and is indicated as follows:

The paths followed by individual disturbances are called storm tracks and are shown as follows. The symbols indicate past positions of the low pressure center at 6-hour intervals.

Masses of air are classified to indicate their origin and basic characteristics. For example, the letter P (Polar) denotes relatively cold air from northern regions, and the letter T (Tropical) denotes relatively warm air from southern regions. Letters placed before P and T indicate air of maritime characteristics (m) or continental characteristics (c). Letters placed after P and T show that the air mass is colder (k) or warmer (w) than the surface over which it is moving. A plus sign (+) between two air-mass symbols indicates mixed air masses, and an arrow (→) between two symbols indicates a transitional air mass changing from one type to the other. Two air mass symbols, one above the other and separated by a line, indicate one air mass aloft and another at lower levels. Air mass symbols are formed from the following letters:

m = Maritime; c = Continental; A = Arctic; P = Polar; T = Tropical; E = Equatorial; S = Superior (a warm, dry air mass having its origin aloft); k = colder and w = warmer than the surface over which the air mass is moving.

Areas where precipitation is occurring at the time of observation are shaded.

AUXILIARY CHARTS

Temperature Map
Temperature data from about 175 stations in the United States are entered. The figures entered above the station dots denote maximum temperatures reported from these stations during the 24 hours ending 1:30 a.m., E.S.T.; the figures entered below the station dots denote minimum temperatures during the 24 hours ending at 1:30 p.m., E.S.T., of the previous day.

Light gray shading, labeled "Higher" or "Lower", indicates the areas where current temperatures recorded at 1:30 a.m., E.S.T., are at least 10° higher or lower than 24 hours earlier.

PRECIPITATION MAP

Precipitation data from about 175 stations in the United States are entered. When precipitation has occurred at any of these stations in the 24-hour period ending at 1:30 a.m., E.S.T., the total amount, in inches and hundredths, is entered near the station dot. When the figures for total precipitation have been compiled from incomplete data the amount on the map is underlined.

The geographical areas where precipitation has fallen during the 24 hours ending at 1:30 a.m., E.S.T., are shaded.

CONTINENTAL MAP

The insert map of nearly the entire North American continent shows the surface pressure pattern and frontal analysis twelve hours earlier than the principal chart. Areas of current precipitation are shaded.

700-MILLIBAR CHART

Contour lines, isotherms, and wind arrows are shown on the insert chart for the 700-millibar constant pressure surface. Solid lines are drawn to show height above sea-level and are labeled in feet. Dashed lines are drawn at 10° intervals of temperature and at 32° and are labeled in degrees Fahrenheit. Wind direction is shown by arrows and wind speed by feathers on the Beaufort Scale. This chart corresponds in time approximately to the continental map.

INQUIRIES

Inquiries regarding this map may be addressed to Chief, U. S. Weather Bureau, Washington 25, D. C.

SYMBOLIC FORM OF MESSAGE

TT Nddff VVww PPPT NChCQ, 6Qppp 7RRR5
 Note: This Abridged Code Shows Only Data Normally Plotted on Printed Maps.

SAMPLE CODED MESSAGE

40530 83220 12716 24731 67220 67228 74542

SYMBOLIC STATION MODEL

ff / D C C H
 TT dd C M PPP
 VVww @ ±ppp
 Td C L N h WR
 h RR

SAMPLE PLOTTED REPORT

31 → 247
 1/2 * * +28
 30 --- 6.4
 2.45

Code Number	CL	Description (Abridged From I.M.O. Code)	Code Number	CM	Description (Abridged From I.M.O. Code)	Code Number	CH	Description (Abridged From I.M.O. Code)	Cloud Abbreviation	Code Number	Dc	Cloud Direction	Rt	Time of Precipitation	h	Height Feet (Rounded Off)	Height Meters (Approximate)	N	Nh	Sky Coverage
1		Cu with little vertical development and seemingly flattened.	1		Thin As (entire cloud layer semitransparent).	1		Filaments of Ci, scattered and not increasing.	St or Fs-Stratus or Fractostratus	0	NONE	No Clouds, or Calm	0	No Precipitation	0	0 - 149	0 - 49	0	0	No clouds.
2		Cu of considerable development, generally towering, with or without other Cu or Sc bases all at same level.	2		Thick As, or Ns.	2		Dense Ci in patches or twisted sheaves, usually not increasing.	Ci-Cirrus	1		Northeast	1	Less than 1 hour ago	1	150 - 299	50 - 99	1	1	Less than one-tenth or one-tenth.
3		Cb with tops lacking clear-cut outlines, but distinctly not cirriform or anvill-shaped, with or without Cu, Sc, or St.	3		Thin Ac; cloud elements not changing much and at a single level.	3		Ci, often anvill-shaped, derived from or associated with Cb.	Cs-Cirrostratus	2		East	2	1 to 2 hours ago	2	300 - 599	100 - 199	2	2	Two- or three-tenths.
4		Sc formed by spreading out of Cu; Cu often present also.	4		Thin Ac in patches; cloud elements continually changing and/or occurring at more than one level.	4		Ci, often hook-shaped, gradually spreading over the sky and usually thickening as a whole.	Cc-Cirrocumulus	3		Southeast	3	2 to 3 hours ago	3	600 - 999	200 - 299	3	3	Four-tenths.
5		Sc not formed by spreading out of Cu.	5		Thin Ac in bands or in a layer gradually spreading over sky and usually thickening as a whole.	5		Ci and Cs, often in converging bands, or Cs alone; the continuous layer not reaching 45° altitude.	Ac-Alto cumulus	4		South	4	3 to 4 hours ago	4	1,000-1,999	300 - 599	4	4	Five-tenths.
6		Stor Fs or both, but not Fs of bad weather.	6		Ac formed by the spreading out of Cu.	6		Ci and Cs, often in converging bands, or Cs alone; the continuous layer exceeding 45° altitude.	As-Altostratus	5		Southwest	5	4 to 5 hours ago	5	2,000-3,499	600 - 999	5	5	Six-tenths.
7		Fs and/or Fc of bad weather (scud) usually under As and Ns.	7		Double-layered Ac or a thick layer of Ac, not increasing, or As and Ac both present at same or different levels.	7		Cs covering the entire sky.	Sc-Stratocumulus	6		West	6	5 to 6 hours ago	6	3,500-4,999	1,000-1,499	6	6	Seven- or eight-tenths.
8		Cu and Sc (not formed by spreading out of Cu) with bases at different levels.	8		Ac in the form of Cu-shaped tufts or Ac with turrets.	8		Cs not increasing and not covering entire sky; Ci and Cc may be present.	Ns-Nimbostratus	7		Northwest	7	6 to 12 hours ago	7	5,000-6,499	1,500-1,999	7	7	Nine-tenths or overcast with openings.
9		Cb having a clearly fibrous (cirriform) top, often anvill-shaped, with or without Cu, Sc, St, or scud.	9		Ac of a chaotic sky, usually at different levels; patches of dense Ci are usually present also.	9		Cc alone or Cc with some Ci or Cs, but the Cc being the main cirriform cloud present also.	Cu or Fc-Cumulus or Fracto cumulus	8		North	8	More than 12 hours ago	8	6,500-7,999	2,000-2,499	8	8	Completely overcast.
									Cb-Cumulonimbus	9	NONE	Unknown, or Variable	9	Unknown	9	Above 8,000 or no clouds	Above 2,500 or no clouds	9	9	Sky obscured.

EXPLANATION OF SYMBOLS AND MAP ENTRIES

Symbol	Explanation of symbols and decode of example above	Remarks on coding and plotting
iii	Station number 405 = Washington	Usually printed on manuscript maps below station circle. Omitted on Daily Weather Map in favor of printed station names.
T d	Temperature of dewpoint 30 = 30° F	Coded and plotted in actual value whole degrees F.
N	Total amount of cloud 8 = completely covered	Observed in tenths of cloud cover and coded in Octas (eighths) according to code table in block 5. Plotted in symbols same as table.
dd	True direction from which wind is blowing. 32 = 320° = NW	Coded in tens of degrees and plotted as the shaft of an arrow extending from the station circle toward the direction from which the wind is blowing.
ff	Wind speed in knots 20 = 20 knots = Beaufort force 3	Coded in knots (nautical miles per hour) and plotted in equivalent Beaufort force as feathers and half-feathers on the shaft of the wind direction arrow. See block 7.
VV	Visibility in miles and fractions. 12 = 12/8 or 1 1/2 miles	Coded in eighths of miles up to 10 miles (Code figure 80) and plotted in miles and fractions. Values higher than 10 miles are omitted from the map.
ww	Present weather 71 = continuous slight snow	Coded in figures taken from the "ww" table (block 6) and plotted in corresponding symbols same block. Entries for code figures 00, 01, 02, and 03 are omitted from this map.
w	Past weather 6 = rain	Coded in figures taken from the W table (block 6) and plotted in the corresponding symbols same block. No entry made for code figures 0, 1, or 2.
PPP	Barometric pressure (in millibars) reduced to sea-level. 247 = 1024.7 mb.	Coded and plotted in tenths, units, and tenths of millibars. The initial 9 or 10 and the decimal point are omitted.
TT	Current air temperature 31 = 31° F	Coded and plotted in actual value whole degrees F.
Nh	Amount of cloud whose height is reported by "h" 6 = 7 or 8 tenths	Observed and coded same as N. Plotted as code figure given in message. See block 5.
CL	Cloud type 7 = Fractostratus and/or Fracto cumulus of bad weather (scud)	Predominating clouds of types in C1 table (block 1) are coded from that table and plotted in corresponding symbols.
h	Height of base of cloud 2 = 300 to 599 feet	Observed in feet and coded and plotted as code figures according to code table in block 4.
CM	Cloud type 2 = Thick Altostratus or Nimbostratus	See C1 above and table in block 1.
CH	Cloud type 0 = No clouds C H	See C1 above and table in block 1.
6	Indicator figure	Not plotted.
DC	Direction of cloud movement 7 = from NW	Observed in accordance with types of clouds present. Coded according to table in block 2 and plotted adjacent to the code symbol to which it applies as an arrow showing direction of movement.
a	Characteristic of barograph trace. 2 = rising unsteadily	Coded according to table in block 3 and plotted in corresponding symbols.
pp	Pressure change in 3 hours preceding observation. 28 = 2.8 millibars	Coded and plotted in units and tenths of millibars.
7	Indicator figure	Not plotted.
RR	Amount of precipitation 45 = 0.45 inches	Coded and plotted in inches and hundredths.
R	Time precipitation began or ended. 4 = 3 to 4 hours ago	Coded and plotted in figures from table in block 5.
s	Depth of snow on ground	Not plotted.

PRESENT WEATHER (Descriptions Abridged from I.M.O. Code)

Code	Symbol	Description	Code	Symbol	Description	Code	Symbol	Description
00		Cloud development NOT observed or NOT observable during past hour.	01		Clouds generally dissolving or becoming less developed during past hour.	02		State of sky on the whole unchanged during past hour.
10		Light fog.	11		Patches of shallow fog at station, NOT deeper than 5 feet on land.	12		More or less continuous fog at station, NOT deeper than 6 feet on land.
20		Drizzle (NOT freezing and NOT falling as showers) during past hour, but NOT at time of ob.	21		Rain (NOT freezing and NOT falling as showers) during past hr., but NOT at time of ob.	22		Snow (NOT falling as showers) during past hr., but NOT at time of ob.
30		Slight or moderate duststorm or sandstorm, has decreased during past hour.	31		Slight or moderate duststorm or sandstorm, has increased during past hour.	32		Severe duststorm or sandstorm, has decreased during past hour.
40		Fog at distance at time of ob., but NOT at station during past hour.	41		Fog in patches.	42		Fog, sky discernible, has become thinner during past hour.
50		Intermittent drizzle (NOT freezing) slight at time of observation.	51		Continuous drizzle (NOT freezing) slight at time of observation.	52		Intermittent drizzle (NOT freezing), moderate at time of ob.
60		Intermittent rain (NOT freezing), slight at time of observation.	61		Continuous rain (NOT freezing), slight at time of observation.	62		Intermittent rain (NOT freezing), heavy at time of observation.
70		Intermittent fall of snow flakes, slight at time of observation.	71		Continuous fall of snow flakes, moderate at time of observation.	72		Intermittent fall of snow flakes, heavy at time of observation.
80		Slight rain shower(s).	81		Moderate or heavy rain shower(s).	82		Violent rain shower(s).
90		Moderate or heavy shower(s) of hail, with or without rain, rain and snow mixed, not associated with thunder.	91		Slight rain at time of ob.; thunderstorm during past hour, but NOT at time of observation.	92		Slight snow or rain and snow mixed or hail at time of ob.; thunderstorm during past hour, but NOT at time of observation.
								Slight or mod. thunderstorm, with hail at time of observation.