Section 6
WEATHER DEPICTION CHART

The weather depiction chart, Figure 6-3, is computer-generated (with human frontal analysis) from METAR reports. The weather depiction chart gives a broad overview of the observed flying category conditions at the valid time of the chart. This chart begins at 01Z each day, is transmitted at 3-hours intervals, and is valid at the time of the plotted data.

PLOTTED DATA

Observations reported by both manual and automated observation locations provide the data for the chart. The right bracket ( ]) indicates the present weather information was obtained by an automated system only. The plotted data for each station are total sky cover, cloud height or ceiling, weather and obstructions to vision, and visibility. If the stations on the chart are crowded together, the weather, visibility, and cloud height may be moved up to 90 degrees around the station for better legibility. When reports are frequently updated, as at some automatic stations (every 20 minutes) or when the weather changes significantly, the observation used is the latest METAR received instead of using the one closest to the stated analysis time.

TOTAL SKY COVER

The amount of sky cover is shown by the station circle shaded as in Figure 6-1.

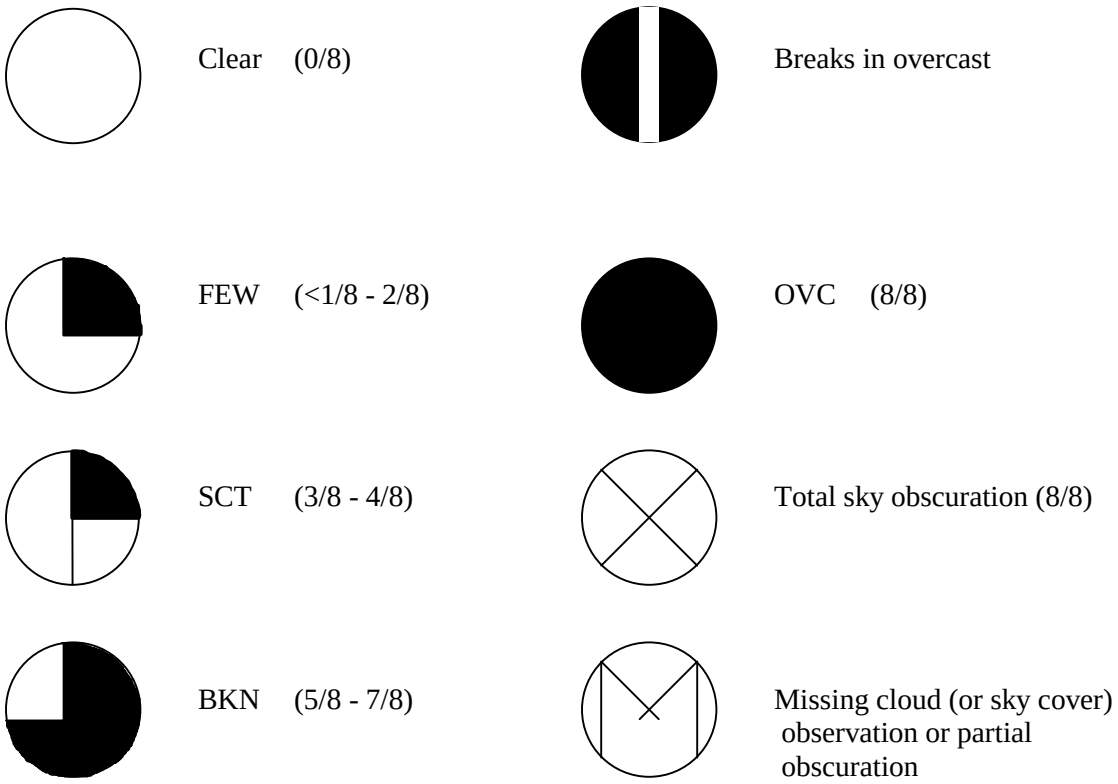


Figure 6-1. Total Sky Cover.

CLOUD HEIGHT

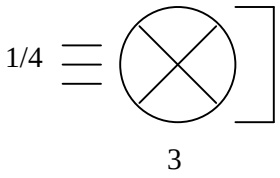
Cloud height above ground level (AGL) is entered under the station circle in hundreds of feet; the same as coded in a METAR report. If total sky cover at a station is scattered, the cloud height entered is the base of the lowest scattered cloud layer. If total sky cover is broken or greater at a station, the cloud height entered is the lowest broken or overcast cloud layer. A totally obscured sky is shown by the sky cover symbol "X" and is accompanied by the height entry of the obscuration (vertical visibility into the obscuration). A partially obscured sky without a cloud layer above, however, is not recognized by the computer program reading the METAR report. It cannot differentiate between a partial obscuration and a missing observation. Therefore, the computer program will enter an "M" in the sky cover circle for either occurrence. Consequently, the user will not know if the observation is missing or a partial obscuration is present. To obtain the most accurate information, the user must consult the METAR report for that specific station. A partially obscured sky with clouds above will have a cloud height entry for the cloud layer, but there will be no entry to indicate that there is a partial obscuration at the surface. So once again the user must consult the METAR report to obtain the most accurate information.

WEATHER AND OBSTRUCTIONS TO VISIBILITY

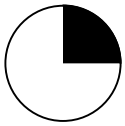
Weather and obstructions to visibility symbols are entered to the left of the station circle. Figure 5-6 explains most of the symbols used. When several types of weather and/or obstructions to visibility are reported at a station, the first one reported in the METAR would usually be the highest coded number in Figure 5-6. Also, for some stations that are not ordinarily plotted, the weather symbol is plotted only if the weather is significant, such as a thunderstorm.

VISIBILITY

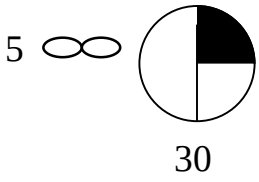
When visibility is 5 miles or less, it is entered to the left of the weather or obstructions to vision symbol. Visibility is entered in statute miles and fractions of a mile.



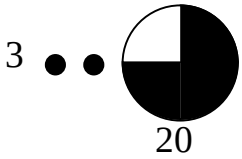
Total sky obscuration and the vertical visibility into the obscuration is 300 feet, visibility ¼, fog, bracket indicates fog was determined by an automated system



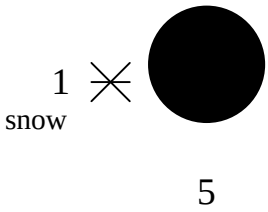
FEW sky coverage (no cloud height is indicated with FEW)



SCT sky coverage, cloud height 3,000’ AGL, visibility 5 miles, haze

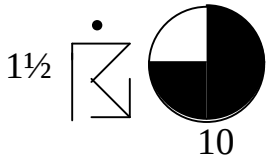


BKN sky coverage, ceiling height 2,000’ AGL, visibility 3 miles, continuous rain

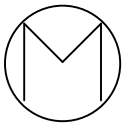


OVC sky coverage, ceiling height 500’ AGL, visibility 1 mile, intermittent snow

SCT sky coverage, cloud height 25,000’ AGL



BKN sky coverage, ceiling height 1,000’ AGL, visibility 1½ mile, thunderstorm with rain shower



Missing cloud (or sky cover) observation or partial obscuration

Figure 6-2. Examples of Plotting on the Weather Depiction Chart.

ANALYSIS

The chart shows observed ceiling and visibility by categories as follows:

IFR - Ceiling less than 1,000 feet and/or visibility less than 3 miles; hatched area outlined by a smooth line.

MVFR (Marginal VFR) - Ceiling 1,000 to 3,000 feet inclusive and/or visibility 3 to 5 miles inclusive; non-hatched area outlined by a smooth line.

VFR - No ceiling or ceiling greater than 3,000 feet and visibility greater than 5 miles; not outlined.

The three categories are also explained in the lower right portion of the chart for quick reference. In addition, the chart shows fronts and troughs from the surface analysis for the preceding hour (with one exception being that fronts and troughs are omitted on the 10Z and 23Z charts). These features are depicted the same as the surface chart.

Because space on the chart is limited, only about half the METAR reports are plotted on the chart. The areas for each flight category are determined using all available reports whether or not they are plotted.

USING THE CHART

The weather depiction chart is an ideal place to begin preparing for a weather briefing and flight planning. From this chart, one can get a “bird’s eye” view of areas of favorable and adverse weather conditions for chart time. This chart may not completely represent the en route conditions because of variations in terrain and possible weather occurring between reporting stations. Due to the delay between data and transmission time, changes in the weather could occur. One should update the chart with current METAR reports. After initially sizing up the general weather picture, final flight planning must consider forecasts, progs, and the latest pilot, radar, and surface weather reports.

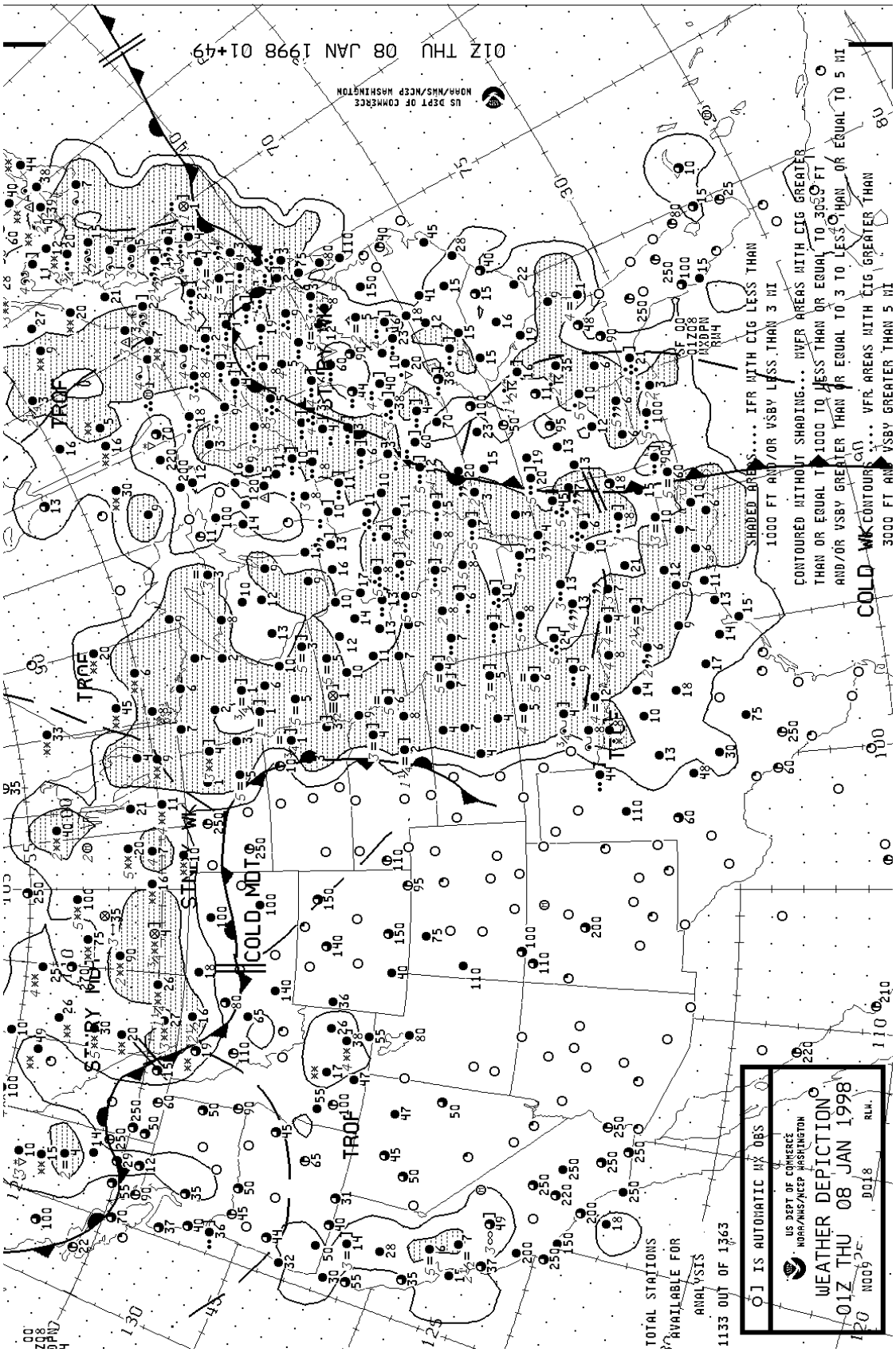


Figure 6-3. Weather Depiction Chart.