

Clouds/WX Codes

B.1 Introduction

This appendix provides the necessary tables and specific instructions to enter Clouds/Wx at the Surface Data screen. This guidance assumes no previous knowledge of synoptic code procedures. However, a basic understanding of clouds and weather is necessary. For those already familiar with synoptic code, you will notice some departure from conventional WMO coding procedures. If you simply observe the elements requested and report them according to tables provided in this text, the intent of the Clouds/Wx entry will be fully met.

B.2 Getting Started

The Cloud/WX entry is a nine-digit, mandatory group. **All** nine digits must be entered, regardless of the presence **or** absence of clouds or significant weather conditions.

Operational Suggestion: If time before release is critical to where a proper Clouds/Wx coding cannot be made, simply enter any nine digits to complete the Surface Data screen. After release, properly code the clouds and weather. Edit the surface observation by clicking on “Tools” and selecting “Change Surface Data” enter the Clouds/Wx block with new data. The WMO format for entry of clouds and weather has been modified in the RRS software to meet NCDC requirements. **All** stations using RRS software will follow this modified format, regardless of location; i.e., stations in either WMO Region IV or WMO Region V. A description of the nine digit format follows:

1. Clouds/Wx group format: **N_hC_LhC_MC_HWWWW**
 - a. **N_h** = Amount (in oktas) of the sky covered by all low clouds (**C_L**) observed or the amount of sky covered by all the middle clouds (**C_M**) observed. In no case will the amounts of the low and middle clouds be combined to report **N_h**. Use **Table B-1** to report the amount of low or middle cloud coverage.
 - b. **C_L** = Type of low cloud, based on the priority given in **Table B-2**. A solidus (/) is reported if **C_L** clouds are not visible owing to fog or similar obscuring phenomena.

***Note:** Clouds are divided into three families, classified as low, middle, or high. The general height ranges for these are: surface to 6500 feet for low; 6500 feet to 20000 feet for middle; and above 20000 feet for high. Remember, these ranges are not absolute, but given as a guide only. More consideration may be given to the cloud form than the height in many cases. Each cloud family is coded with a single digit, 0 through 9. The code figure 0 is used to indicate that clouds are not present for a given family.*

- c. **h** = Height of the base of the lowest cloud observed. The height reported is with respect to the surface. The height is coded as a solidus (/)

if there is a total surface-based obscuration that prevents an observation of the clouds. Use **Table B-3** for the cloud base height.

d. C_M = Type of middle cloud, based on priority given in **Table B-4**. A solidus (/) is reported if C_M clouds are not visible owing to fog or similar obscuring phenomena, or because of a continuous layer of lower clouds.

e. C_H = Type of high cloud, based on priority given in **Table B-5**. A solidus (/) is reported if C_H clouds are not visible owing to fog or similar obscuring phenomena, or because of a continuous layer of lower clouds.

f. **WWWW** = Present weather coded in two groups of **WW**. These code groups are found in **Table B-6**. The coding starts with 99 (the highest priority) and descends to 00 (the lowest priority). Note that code figure 17 is placed out of numerical sequence to highlight its relative coding priority. You should note that present weather codes for some weather phenomena are events that have occurred during the past hour, not at observation time. When entering **WWWW**, go down **Table B-6** and use the first and second applicable code figures. Note that two **WW** groups must **always** be coded, even if that means using the same code figure twice.

**(See the Example Observations page at the end of Appendix B.) RRS Version 1.1.3
10/01/05 Appendix B. Clouds/Weather Codes B-3**

Code Cloud amount in Cloud amount figure oktas (eights) in tenths 0 0 0

1	1 okta or less, 1/10 or less, but not zero but not zero
2	2 oktas 2/10 - 3/10
3	3 oktas 4/10
4	4 oktas 5/10
5	5 oktas 6/10
6	6 oktas 7/10 - 8/10
7	7 oktas or more, 9/10 or more, but not 8 oktas but not 10/10
8	8 oktas 10/10
9	Sky obscured by fog and/or other meteorological phenomena / Cloud cover is indiscernible for reasons other than fog or other meteorological phenomena, or observation is not made

Note: If there are any breaks in the sky at all, such as an overcast with a mackerel sky (*altocumulus perlucidus* or *stratocumulus perlucidus*), N_h would be encoded as 7. If there are only a few patches of low or middle cloud in the sky, N_h cannot be encoded as 0 but is encoded as 1. A partial obscuration does not affect the coding of N_h . A total obscuration is coded as 9, not 8 (overcast sky).

LOW Clouds

This table presents the specifications for type of low cloud, C_L , in order of priority. Go down the table and use the first applicable code figure. Code figure Coding criteria

(a) Cumulonimbus present, with or without other C_L clouds

$C_L = 9$ If the upper part of at least one of the cumulonimbus clouds present is clearly fibrous or striated, use $C_L = 9$.

$C_L = 3$ If the upper part of none of the cumulonimbus clouds present is clearly fibrous or striated, use $C_L = 3$.

(b) No cumulonimbus present

$C_L = 4$ If stratocumulus formed by the spreading out of cumulus is present, use $C_L = 4$.

$C_L = 8$ If the C_L code figure 4 is not applicable and if cumulus and stratocumulus clouds with bases at different levels are present, use $C_L = 8$.

$C_L = 2$ If the C_L code figures 4 and 8 are not applicable and if cumulus clouds of moderate or strong vertical extent are present, use $C_L = 2$.

$C_L = 1$ If the C_L code figures 4, 8, and 2 are not applicable: use $C_L = 1$, if the C_L clouds present are predominantly¹ cumulus with little vertical extent and seemingly flattened or ragged cumulus other than of bad weather², or both;

$C_L = 5$ Use $C_L = 5$, if among the C_L clouds present, stratocumulus other than that formed by the spreading out of cumulus is predominant;

$C_L = 6$ Use $C_L = 6$, if the C_L clouds present are predominantly stratus in a more or less continuous sheet or layer, or in ragged shreds (other than ragged stratus of bad weather), or both;

$C_L = 7$ Use $C_L = 7$, if the C_L clouds present are predominantly pannus (ragged shreds of stratus of bad weather or ragged cumulus of bad weather), or both.

0 No C_L Clouds -- No cumulus, cumulonimbus, stratocumulus, or stratus.

/ C_L clouds not visible owing to fog or similar obscuring phenomena.

¹Consideration of predominance is restricted to the clouds corresponding to C_L code figures 1, 5, 6 and 7, which have the same priority. Clouds of any one of these four specifications are said to be predominant when their sky cover is greater than that of the clouds of any of the other three specifications.

²'Bad weather' denotes the conditions which generally exist during precipitation and a short time before and after.

Reportable heights(ft)

0	0 or 100
1	200 or 300
2	400 to 600*
3	700 to 900*
4	1000 to 1900*
5	2000 to 3200*
6	3300 to 4900*
7	5000 to 6500**
8	7000 to 8000**
9	8500 or higher or no clouds
/	unknown or base of clouds below surface of station

* reported in 100 foot increments

** reported in 500 foot increments

MID Clouds

This table presents the specifications for type of middle cloud, C_M , in order of priority. Go down the table and use the first applicable code figure.

Coding criteria:

(a) **Alto cumulus present**

$C_M = 9$ If the sky is chaotic, use $C_M = 9$.

$C_M = 8$ If the C_M code figure 9 is not applicable and if alto cumulus with sprouting in the form of turrets or battlements or alto cumulus having the appearance of small cumuliform tufts is present, use $C_M = 8$.

$C_M = 7$ If the C_M code figures 9 and 8 are not applicable and if altostratus or nimbostratus is present together with alto cumulus, use $C_M = 7$.

$C_M = 6$ If the C_M code figures 9, 8, and 7 are not applicable and if alto cumulus formed by the spreading out of cumulus or cumulonimbus is present, use $C_M = 6$.

$C_M = 5$ If the C_M code figures 9, 8, 7, and 6 are not applicable, and if the alto cumulus present is progressively invading the sky, use $C_M = 5$.

*There are several definitions of $C_M = 7$ and each has a different priority; therefore $C_M = 7$ appears several times in this code table.

$C_M = 4$ If the C_M code figures 9, 8, 7, 6, and 5 are not applicable and if the alto cumulus present is continually changing in appearance, use $C_M = 4$.

$C_M = 7$ If the C_M code figures 9, 8, 6, 5, and 4 are not applicable and if the alto cumulus present occurs at two or more levels, use $C_M = 7$.

$C_M = 7, 3$ If the C_M code figures 9, 8, 6, 5, and 4 are not applicable and if the alto cumulus present occurs at one level, use $C_M = 7$ or 3 depending on whether the greater part of the alto cumulus is respectively opaque or semi-transparent.

(b) **No alto cumulus present**

$C_M = 2$ If nimbostratus is present or if the greater part of the altostratus present is opaque, use $C_M = 2$.

$C_M = 1$ If there is no nimbostratus and if the greater part of the altostratus present is semi-transparent, use $C_M = 1$.

0 No C_M Clouds -- No altostratus, altostratus, or nimbostratus.

/ C_M clouds not visible owing to fog or similar obscuring phenomena, or because of a continuous layer of lower clouds.

HIGH Clouds

This table presents the specifications for type of high cloud, C_H , in order of priority. Go down the table and use the first applicable code figure.

Coding criteria

$C_H = 9$ If cirrocumulus is present alone or is more than the combined sky cover of any cirrus and cirrostratus present, use $C_H = 9$.

(a) Cirrostratus present

$C_H = 7$ If the cirrostratus covers the whole sky, use $C_H = 7$.

$C_H = 8$ If the cirrostratus does not cover the whole sky and is not invading the celestial dome, use $C_H = 8$.

$C_H = 6$ If the cirrostratus is progressively invading the sky and if the continuous veil extends more than 45 degrees above the horizon but does not cover the whole sky, use $C_H = 6$.

$C_H = 5$ If the cirrostratus is progressively invading the sky but the continuous veil does not reach 45 degrees above the horizon, use $C_H = 5$.

(b) $C_H = 9$ not applicable and no cirrostratus present

$C_H = 4$ If the cirrus clouds are invading the sky, use $C_H = 4$.

$C_H = 3$ If the C_H code figure 4 is not applicable and if dense cirrus which originated from cumulonimbus is present in the sky, use $C_H = 3$.

$C_H = 2, 1$ If the C_H code figures 4 and 3 are not applicable:

Use $C_H = 2$, if the combined sky cover of dense cirrus, of cirrus with sproutings in the form of small turrets or battlements and of cirrus in tufts is greater than the combined sky cover of cirrus in the form of filaments, strands or hooks;

Use $C_H = 1$, if the combined sky cover of cirrus in the form of filaments, strands or hooks is greater than the combined sky cover of dense cirrus, of cirrus with sproutings in the form of small turrets or battlements and of cirrus in tufts.

0 No C_H Clouds -- No cirrus, cirrostratus, or cirrocumulus.

/ C_H clouds not visible owing to fog or similar obscuring phenomena, or because of a continuous layer of lower clouds.

Present Weather

This table presents the specifications for present weather, **WW**, in order of priority. Go down the table and use the first and second applicable code figures. The code figure with the higher priority is reported as the first **WW** group and the code with the lower priority is the second **WW** group. (This convention is followed even if the higher priority code describes weather that occurred during the preceding hour but not at the time of observation.) Note that two **WW** groups must **always** be coded, even if that means using the same code figure twice. (See the Example Observations page at the end of Appendix B.)

ww = 99-50 Used for precipitation at the station at the time of observation.

ww = 99-80 Used for showery precipitation or precipitation with current or recent thunderstorms.

99 Thunderstorm, severe, with hail, small hail, or snow pellets at time of observation. There may or may not also be rain or snow or a mixture of rain and snow of any intensity.

98 Thunderstorm at time of observation combined with duststorm at time of observation. There must also be some sort of precipitation at the time of observation, but it may not be seen because of poor visibility. Judgment must be used.

97 Thunderstorm, severe without hail, small hail, or snow pellets but with rain and/or snow at time of observation. The rain or snow may be of any intensity.

96 Thunderstorm with hail, small hail, or snow pellets at time of observation. There may or may not be rain or snow or a mixture of rain and snow of any intensity.

95 Thunderstorm without hail, small hail, or snow pellets, but with rain and/or snow at time of observation.

ww = 94-91 Used if there was a thunderstorm during the past hour, and there is some sort of precipitation at the time of observation. In order to have this situation, the last lightning or thunder observed must have been more than 15 minutes before the observation, but less than 1 hour 15 minutes before the observation.

94 Moderate or heavy snow or rain and snow mixed or hail, small hail, or snow pellets at time of observation. Thunderstorm during previous hour but not at time of observation.

93 Light snow or rain and snow mixed or hail, small hail, or snow pellets at time of observation. Thunderstorm during previous hour but not at time of observation.

92 Moderate or heavy rain at time of observation. Thunderstorm during previous hour but not at time of observation. No other forms of precipitation.

91 Light rain at time of observation. Thunderstorm during previous hour but not at time of observation. No other forms of precipitation.

90 Moderate or heavy shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder.

ww = 88-87 Used if showers of snow pellets or ice pellets are observed at the station at the time of the observation. The snow pellets or ice pellets may or may not be mixed with rain or both rain and snow

88 Moderate or heavy shower(s) of snow pellets or small hail, with or without rain or rain and snow mixed. All of the precipitation must be moderate or heavy.

87 Light shower(s) of snow pellets or small hail, with or without rain or rain and snow mixed. All of the precipitation must be light.

ww = 86-85 Used if only snow showers are observed at the station at the time of observation.

86 Snow shower(s), moderate or heavy.

85 Snow shower(s), light.

ww = 84-83. Used if mixed rain showers and snow showers are observed at the station at the time of observation.

84 Moderate or heavy shower(s) of rain and snow mixed. Intensity of either may be moderate or heavy.

83 Light shower(s) of rain and snow mixed. Intensity of both must be light.

ww = 82-80. Used to report rain showers at the time of observation.

82 Violent rain shower(s). Report a rain shower as violent if the rate of fall is at least 1.0" per hour or 0.10" in 6 minutes.

81 Moderate or heavy rain shower(s).

80 Light rain shower(s).

ww = 79-50 Use code figures 79-50 for precipitation that is not showery.

ww = 79-70 Use code figures 79-70 to report solid precipitation not in showers.

ww = 79-76 Use code figures 79-76 to report types of solid, non-showery precipitation.

79 Ice Pellets. Use this code figure regardless of the intensity of the ice pellets and regardless of whether the ice pellets are mixed with another type of precipitation.

78 Isolated star-like snow crystals with or without fog or ice fog.

77 Snow grains with or without fog or ice fog. Use this code figure regardless of intensity.

76 Diamond dust (ice crystals) with or without fog or ice fog.

ww = 75-70 Use code figures 75-70 to report snow that is not in the form of showers at the station at the time of the observation. The code figure selected depends on a combination of intensity and whether the snow is intermittent or continuous.

75 Continuous fall of snowflakes, heavy at time of observation.

74 Intermittent fall of snowflakes, heavy at time of observation.

73 Continuous fall of snowflakes, moderate at time of observation.

72 Intermittent fall of snowflakes, moderate at time of observation.

71 Continuous fall of snowflakes, light at time of observation.

70 Intermittent fall of snowflakes, light at time of observation.

ww = 69-60 Code figures 69-60 are generally used to report rain.

ww = 69-66 Use code figures 69-66 to report liquid precipitation that is mixed with snow or is freezing.

69 Rain or drizzle and snow, moderate or heavy.

68 Rain or drizzle and snow, light.

67 Rain, freezing, moderate or heavy.

66 Rain, freezing, light.

ww = 65-60 Use code figures 65-60 to report rain (but not freezing rain or rain mixed with snow) at the station at the time of observation. The code figure used depends on the combination of intensity and whether the precipitation is intermittent or continuous.

- 65 Rain, not freezing, continuous, heavy at time of observation.**
- 64 Rain, not freezing, intermittent, heavy at time of observation.**
- 63 Rain, not freezing, continuous, moderate at time of observation.**
- 62 Rain, not freezing, intermittent, moderate at time of observation.**
- 61 Rain, not freezing, continuous, light at time of observation.**
- 60 Rain, not freezing, intermittent, light at time of observation.**

ww = 59-50 Use 59-50 to report drizzle.
ww = 59-56 Drizzle mixed with rain, or freezing drizzle.

- 59 Drizzle and rain, moderate or heavy.**
- 58 Drizzle and rain, light.**
- 57 Drizzle, freezing, moderate or heavy.**
- 56 Drizzle, freezing, light.**

ww = 55-50 Use code figures 55-50 to report drizzle (but not freezing drizzle or drizzle mixed with rain) at the station at the time of observation.

- 55 Drizzle, not freezing, continuous, heavy at time of observation.**
- 54 Drizzle, not freezing, intermittent, heavy at time of observation.**
- 53 Drizzle, not freezing, continuous, moderate at time of observation.**
- 52 Drizzle, not freezing, intermittent, moderate at time of observation.**
- 51 Drizzle, not freezing, continuous, light at time of observation.**
- 50 Drizzle, not freezing, intermittent, light at time of observation.**

ww = 49-00 Use code figure 49-00 when no precipitation is occurring at the station at the time of observation.
ww = 49-40 Use code figures 49-40 only if there is fog. The fog may be made of water droplets or ice crystals (ice fog). The visibility in fog or ice fog must be less than 5/8 mi. If the visibility is 5/8 mi or more, use code figure 10. The code figure used will depend on whether the fog has changed during the past hour and whether the sky can be seen (blue sky, stars or higher clouds).

- 49 Fog depositing rime, sky invisible.** Fog that deposits rime will be made up mostly of supercooled water droplets, not ice crystals.
- 48 Fog, depositing rime, sky visible.**
- 47 Fog or ice fog, sky invisible.** Fog has begun or has become thicker during the preceding hour.
- 46 Fog or ice fog, sky visible.** Fog has begun or has become thicker during the preceding hour.
- 45 Fog or ice fog, sky invisible.** Fog has shown no appreciable change during the preceding hour.
- 44 Fog or ice fog, sky visible.** Fog has shown no appreciable change during the preceding hour.
- 43 Fog or ice fog, sky invisible.** Fog has become thinner during the preceding hour.
- 42 Fog or ice fog, sky visible.** Fog has become thinner during the preceding hour.
- 41 Fog or ice fog in patches.** Fog has begun or has become thicker during the preceding hour.

40 For or ice fog at a distance at the time of observation, but not at the station during the preceding hour, the fog or ice fog extending to a level above that of the observer.

ww = 39-30 Use code figures 39-30 to report a duststorm, sandstorm, or drifting or blowing snow.
ww = 39-36 In deciding among code figures 39-36, the following must be considered: snow that is being moved by the wind may be generally low (below about 6 ft) or generally high (above 6 ft). If the snow is low, it is drifting snow; if high, it is blowing snow. Code figure 37 is not reported under United States rules.

39 Heavy blowing snow, generally high (above eye level). Visibility less than 5/16 mi.

38 Light or moderate blowing snow, generally high (above eye level). Visibility 6 mi or less but not less than 5/16 mi.

36 Drifting snow, generally low (below eye level).

ww = 35-30 In deciding among code figures 35-30 the following must be considered: if the visibility at the station at the time of observation is less than 5/16 mi, there is a severe duststorm or sandstorm; if the visibility is at least 5/16 mi but less than 5/8 mi, there is a light or moderate duststorm or sandstorm. The code figure used depends on the intensity of the duststorm or sandstorm and any change in its intensity during the preceding hour.

35 Severe duststorm or sandstorm that has begun or has increased during the preceding hour.

34 Severe duststorm or sandstorm that has had no appreciable change during the preceding hour.

33 Severe duststorm or sandstorm that has decreased during the preceding hour.

32 Light or moderate duststorm or sandstorm that has begun or has increased during the preceding hour.

31 Light or moderate duststorm or sandstorm that has had no appreciable change during the preceding hour.

30 Light or moderate duststorm or sandstorm that has decreased during the preceding hour.

ww = 29-20 Use code figures 29-20 to report precipitation, fog, ice fog, or thunderstorm at the station during the preceding hour but not at the station at the time of observation. Use code figures 29-25 if the precipitation was showery; otherwise use code figures 24-20.

29 Thunderstorm (with or without precipitation). Since by U.S. definition, a thunderstorm ends 15 minutes after the last thunder or lightning, the last thunder or lightning must have happened at least 15 minutes before the time of the observation.

28 Fog or ice fog. The visibility in the fog or ice fog must have been less than 5/8 mi.

27 Shower(s) of hail, small hail, or ice pellets, or of rain and hail, small hail, or ice pellets.

26 Shower(s) of snow, or of rain and snow.

25 Shower(s) of rain.

24 Freezing drizzle or freezing rain, not falling as shower(s).

23 Rain and snow or ice pellets, not falling as shower(s).

22 Snow not falling as shower(s).

21 Rain (not freezing), not falling as shower(s).

20 Drizzle (not freezing) or snow grains, not falling as shower(s).

ww = 19-00 Use code figures 19-00 to report certain hydrometeors, electrometeors, lithometeors or no precipitation at the station at the time of observation or during the preceding hour.

19 Funnel cloud(s), tornado, or waterspout at or within sight of the station during the preceding hour of the time of observation. Since the highest code figure is reported (except code figure 17), code figure 19 cannot be used if **WW** can be encoded as some higher number.

18 Squalls. By U.S. definition, a sudden increase of at least 15 knots in average wind speed and sustained at 20 knots or more for at least 1 minute. This must occur at or within sight of the station during the preceding hour or at the time of observation. If a squall without any precipitation is observed, either at the time of observation or during the past hour, use code figure 18. If there was any precipitation, or if there was a thunderstorm with the squall, use one of the other code figures, possibly code figure 29 or one of the code figures 99-80. Select the one that best describes what happened.

ww = 17 Thunderstorm, but no precipitation at time of observation. Code figure 17 has priority over code figures 49-20 and 16-00.

17 Thunderstorm, but no precipitation at time of observation. A thunderstorm is an electrical storm that may or may not be accompanied by precipitation. Since by U.S. definition, a thunderstorm does not end until 15 minutes after the last lightning or thunder, code figure 17 would be used if the thunderstorm occurred within 15 minutes of the observation.

16 Precipitation within sight, reaching the ground or the surface of the sea, near to, but not at the station.

The precipitation must be 3 mi or less from the station, but not at the station to use code figure 16.

15 Precipitation within sight, reaching the ground or the surface of the sea, but distant; i.e., estimated to be more than 3 mi from the station.

14 Precipitation within sight, not reaching the ground or the surface of the sea. Sometimes precipitation may fall from a cloud, but into air that is dry enough to evaporate it before it can reach the ground. This is fairly common in desert areas like some parts of the southwestern United States. This phenomena is called virga.

13 Lightning visible, no thunder heard.

There are two reasons you may see lightning but not hear thunder. The first is that the lightning may be far enough away that the thunder doesn't reach the station. The other is that local sounds may muffle the thunder. Use code figure 13 to report distant lightning.

ww = 12-10 Use code figure 12 or 11 to report shallow fog. Continuous refers to covering half or more of the ground or sea; patchy refers to less than one-half coverage. The apparent visibility shall be less than 5/8 mi. Code figure 10 is used to report fog that is neither shallow nor has visibility less than 5/8 mi. (Code figures 49-40 are used to report fog that is not shallow but with visibility less than 5/8 mi.)

12 More or less continuous shallow fog or ice fog at the station; the fog or ice fog is not deeper than about 6 ft.

11 Patches of shallow fog or ice fog at the station; the fog or ice fog is not deeper than

10 Mist. Code figure 10 refers only to water droplets and ice crystals. The visibility restriction shall be 5/8 mi or more but less than 7 mi. Use code figure 10 whether the mist is patchy or more or less continuous.

ww = 09-04 Use code figures 09-04 to report lithometeors.

09 Duststorm or sandstorm within sight at the time of observation, or at the station during the preceding hour. Visibility in dust or sand must be (or have been) 6 mi or less.

08 Well-developed dust whirl(s) (devils) or sand whirl(s) seen at or near the station during the preceding hour or at the time of observation, but no duststorm or sandstorm.

07 Dust or sand raised by wind at or near the station at the time of observation, but no well-developed dust whirl(s) (devils) or sand whirl(s), and no duststorm or sandstorm seen. Visibility at the time of observation must be 6 mi or less.

06 Widespread dust in suspension in the air, not raised by wind at or near the station at the time of observation. This code figure may be used with any visibility, as long as there is dust in the air.

05 Haze. Code figure 05 is not restricted to the definition for reports of haze in the basic observation, but can be used if it is simply hazy, regardless of the visibility.

04 Visibility reduced by smoke; e.g., veldt or forest fires, industrial smoke, or volcanic ash. If the smoke is coming from a great distance, it will be spread through a deep layer of the atmosphere. In this case, use code figure 04 regardless of how much the visibility is restricted. If the smoke is coming from somewhere fairly close, then it will be pretty much layered in the lower atmosphere. In this case, the visibility has to be 6 mi or less before code figure 04 is used.

ww = 03-00 Phenomena without significance.

03 Clouds generally forming or developing. Used only if there are clouds at the time of the observation, no other weather exists, and the clouds have increased or become more developed during the past hour.

02 State of sky on the whole unchanged. This is the characteristic of the sky during the past hour.

01 Clouds generally dissolving or becoming less developed. This is the characteristic of the sky during the past hour. Used if the sky is clear at the time of observation, but there were clouds during the past hour. Also used when clouds have dissolved or become less developed during the past hour.

00 Cloud development not observed or not observable. This is the characteristic of the past hour. Used if clouds were not observed during the past hour, whether the sky is clear or not at time of observation.

EXAMPLE OBSERVATIONS

Sky: 3/8 moderate cumulus at 2100 feet, 1/8 stratocumulus at 5000 feet, 2/8 altocumulus (one level, opaque) at 12000 feet. State of sky generally becoming less developed during past hour.

Weather: Light rain shower ended 17 minutes before observation.

Code: 485702501

Sky: Clear sky with few patches of semi-transparent altocumulus at 15000 feet. Altocumulus covered 4/8 of sky during past hour.

Weather: None.

Code: 109300101

Sky: Surface-based obscuration in fog with 300 feet vertical visibility.

Weather: Fog with visibility 1/2 mile. Last hour had a partial obscuration (fog) and 8/8 stratus at 400 feet.

Code: 9////4747

Sky: 7/8 cumulonimbus (no anvil visible) at 1800 feet, 1/8 cirrus at 35000 feet, originating from cumulonimbus.

Weather: Moderate showers of rain and small hail. Lightning seen in distance (on horizon), but no thunder heard.

Code: 734038813

Sky: 8/8 stratocumulus (with breaks) at 4500 feet. State of sky unchanged during past hour.

Weather: None.

Code: 756//0202

Sky: 8/8 nimbostratus at 2100 feet. State of sky unchanged during past hour.

Weather: Light rain and drizzle. Patchy fog reducing visibility to 3 miles was present during past hour but not at time of observation. No other changes.

Code: 8052/5802