

Weather information code table

Water color

Forel-Ule scale and conversions from percent yellow and percent brown scales

Code	Percent Yellow	Percent Brown	Forel-Ule Scale
01	0		I
02	2		II
03	5		III
04	9		IV
05	14		V
06	20		VI
07	27		VII
08	35		VIII
09	44		IX
10	54		X
11	65	0	XI
12		2	XII
13		5	XIII
14		9	XIV
15		14	XV
16		20	XVI
17		27	XVII
18		35	XVIII
19		44	XIX
20		54	XX
21		65	XXI

Wave height (WMO 1555)

WMO Code 1555 for recording height of the dominant waves

		If 50 is added to direction	
Code		Code	
0	Less than 1/4 m (1 ft)	0	5 m (16 ft)
1	1/2 m (1 1/2 ft)	1	5 1/2 m (17 1/2 ft)
2	1 m (3 ft)	2	6 m (19 ft)
3	1 1/2 m (5 ft)	3	6 1/2 m (21 ft)
4	2 m (6 1/2 ft)	4	7 m (22 1/2 ft)
5	2 1/2 m (8 ft)	5	7 1/2 m (24 ft)
6	3 m (9 1/2 ft)	6	8 m (25 1/2 ft)
7	3 1/2 m (11 ft)	7	8 1/2 m (27 ft)
8	4 m (13 ft)	8	9 m (29 ft)
9	4 1/2 m (14 ft)	9	9 1/2 m (30 1/2 ft)
X	Height not determined		

Note :

- Each code figure provides for reporting a range of heights.
For example :
 $1 = 1/4 \text{ m (1 ft) to } 3/4 \text{ m (2 1/2 ft)}$
 $5 = 2 1/4 \text{ m (7 ft) to } 2 3/4 \text{ m (9 ft)}$
 $9 = 4 1/4 \text{ m (13 1/2 ft) to } 4 3/4 \text{ m (15 ft), etc.}$
- If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported; e.g. a height of $2 3/4 \text{ m}$ is reported by code figure 5.
- In aeronautical forecast codes, only the left-hand table is to be used and code figure 9 has the meaning; $4 1/2 \text{ m (14 ft)}$ or more.
- The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.

Sea State (WMO 3700)

WMO Code 3700 for recording sea state

Code	Description	Height(m)
0	Calm-glassy	0
1	Calm-rippled	0 - 0.10
2	Smooth-wavelet	0.10 - 0.50
3	Slight	0.50 - 1.25
4	Moderate	1.25 - 2.50
5	Rough	2.50 - 4
6	Very rough	4 - 6
7	High	6 - 9
8	Very high	9 - 14
9	Phenomenal	Over 14

Height

The average wave height as obtained from the larger well-formed waves of the wave system.

The exact bounding height is to be assigned for the lower code figure , e.g. a height of 4 meters is coded as 5.

Wave Period (WMO 3155)

WMO Code 3155 for recording period of dominant waves

Code	
2	5 seconds or less
3	6 or 7 seconds
4	8 or 9 seconds
5	10 or 11 seconds
6	12 or 13 seconds
7	14 or 15 seconds
8	16 or 17 seconds
9	18 or 19 seconds
0	20 or 21 seconds
1	over 21 seconds
x	calm, or period not determined

Note :

1. The period of the waves is the time between the passage of two successive wave crests past a fixed

- point (it is equal to the wave length divided by the wave speed).
- The average value of the wave period is reported, as obtained from the larger well-formed waves of the wave system being observed.
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Wind force (Conversion to Beaufort wind scale)

Code	Description	Knots	m/s
0	Calm	0- 0.9	0 - 0.2
1	Light air	1- 3	0.3- 1.5
2	Light breeze	4- 6	1.6- 3.3
3	Gentle breeze	7- 10	3.4- 5.4
4	Moderate breeze	11- 16	5.5- 7.9
5	Fresh breeze	17- 21	8.0-10.7
6	Strong breeze	22- 27	10.8-13.8
7	Near gale	28- 33	13.9-17.1
8	Gale	34- 40	17.2-20.7
9	Strong gale	41- 47	20.8-24.4
10	Storm	48- 55	24.5-28.4
11	Violent storm	56- 63	28.5-32.6
12	Hurricane	64- 71	32.7-36.9
13	Hurricane	72- 80	37.0-41.4
14	Hurricane	81- 89	41.5-46.1
15	Hurricane	90- 99	46.2-50.9
16	Hurricane	100-108	51.0-56.0
17	Hurricane	109-118	56.1-61.2

Present weather (WMO 4501)

WMO Code 4501 for recording present weather

Code	Description
0	Clear(No cloud at any level)
1	Partly cloudy(Scattered or broken)
2	Continuous layer(s) of blowing snow
3	Sandstorm, duststorm, or blowing snow
4	Fog, thick dust or haze
5	Drizzle
6	Rain
7	Snow, or rain and snow mixed
8	Shower(s)
9	Thunderstorm(s)

Conversion from Beaufort weather notation to WMO Code 4501

Abbreviation	Description	Code
b.	Blue sky whether with clear or hazy atmosphere, or sky not more than one-quarter clouded.	0
bc.	Sky between one-quarter and three-quarters clouded.	1
c.	Mainly cloudy (not less than three-quarters covered).	1
d.	Drizzle or fine rain.	5
e.	Wet air without rain falling.	4
f.	Fog.	4
fe.	Wet fog.	4
g.	Gloomy.	2
h.	Hail.	9
kq.	Line squall.	9
l.	Lightning.	9
m.	Mist.	4
o.	Overcast sky (i.e., the whole sky covered with unbroken cloud).	2
p.	Passing showers.	8
q.	Squalls.	9
r.	Rain.	6
rs.	Sleet (i.e., rain and snow together).	7
s.	Snow.	7
t.	Thunder.	9
tl.	Thunderstorm.	9
u.	Ugly, threatening sky.	2
v.	Unusual visibility.	0
z.	Dust haze; the turbid atmosphere or dry weather.	4

Present Weather (WMO Code 4677)

WMO Code 4677 for recording present weather

ww = 00 - 03

No meteors except photometeors

Code ww	
00	Cloud development not observed or not observable *
01	Clouds generally dissolving or becoming less developed *
02	State of sky on the whole unchanged *
03	Clouds generally forming or developing *

* characteristic change of the state of sky during the past hour

ww = 04 - 09

Haze, dust, sand or smoke

Code ww	
04	Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes
05	Haze
06	Widespread dust in suspension in the air, not raised by wind at or near the station at the time of observation
07	Dust or sand raised by wind at or near the station at the time of observation, but no well developed dust whirl(s) or sand whirl(s), and no duststorm or sandstorm seen
08	Well developed dust whirl(s) 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
09	Duststorm or sandstorm within sight at the time of observation, or at the station during the preceding hour

* The expression "at the station" refers to a land station or a ship.

Code ww	
10	Mist
11	Patches of shallow fog or ice fog at the station, whether on land or sea, not deeper than about 2 metres on land or 10 metres at sea
12	More or less continuous shallow fog or ice fog at the station, whether on land or sea, not deeper than about 2 metres on land or 10 metres at sea
13	Lightning visible, no thunder heard
14	Precipitation within sight, not reaching the ground or the surface of the sea
15	Precipitation within sight, reaching the ground or the surface of the sea, but distant (i.e. estimated to be more than 5 km) from the station
16	Precipitation within sight, reaching the ground or the surface of the sea, near to, but not at the station
17	Thunderstorm, but no precipitation at the time of observation
18	Squalls at or within sight of the station during the preceding hour or at the time of observation
19	Funnel cloud(s) ** at or within sight of the station during the preceding hour or at the time of observation

* The expression "at the station" refers to a land station or a ship.

** Tornado cloud or waterspout.

ww = 20 - 29

Precipitation, fog, ice fog or thunderstorm at the station during the preceding hour but not at the time of observation

Code ww	
20	Drizzle (not freezing) or snow grains not falling as shower(s)
21	Rain (not freezing) not falling as shower(s)
22	Snow not falling as shower(s)
23	Rain and snow or ice pellets, type (a) not falling as shower(s)
24	Freezing drizzle or freezing rain not falling as shower(s)
25	Shower(s) of rain
26	Shower(s) of snow, or of rain and snow
27	Shower(s) of hail*, or of rain and hail*
28	Fog or ice fog
29	Thunderstorm (with or without precipitation)

* Hail, ice pellets, type (b), snow pellets. French: grele, gresil ou neige roulee.

ww = 30 - 39

Duststorm, sandstorm, drifting or blowing snow

Code ww	
30	Slight or moderate duststorm or sandstorm - has decreased during the preceding hour
31	Slight or moderate duststorm or sandstorm - no appreciable change during the preceding hour
32	Slight or moderate duststorm or sandstorm - has begun or has increased during the preceding hour
33	Severe duststorm or sandstorm - has decreased during the preceding hour
34	Severe duststorm or sandstorm - no appreciable change during the preceding hour
35	Severe duststorm or sandstorm - has begun or has increased during the preceding hour
36	Slight or moderate blowing snow generally low (below eye level)
37	Heavy drifting snow generally low (below eye level)
38	Slight or moderate blowing snow generally high (above eye level)
39	Heavy drifting snow generally high (above eye level)

ww = 40 - 49

Fog or ice fog at the time of observation

Code ww	
40	Fog 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
41	Fog or ice fog in patches
42	Fog or ice fog, sky visible has become thinner during the preceding hour
43	Fog or ice fog, sky invisible has become thinner during the preceding hour
44	Fog or ice fog, sky visible no appreciable change during the preceding hour
45	Fog or ice fog, sky invisible no appreciable change during the preceding hour
46	Fog or ice fog, sky visible has begun or has become thicker during the preceding hour
47	Fog or ice fog, sky invisible has begun or has become thicker during the preceding hour
48	Fog, depositing rime, sky visible
49	Fog, depositing rime, sky invisible

ww = 50 - 99

Precipitation at the station at the time of observation

ww = 50 - 59

Drizzle

Code ww	
50	Drizzle, not freezing, intermittent slight at time of observation
51	Drizzle, not freezing, continuous slight at time of observation
52	Drizzle, not freezing, intermittent moderate at time of observation
53	Drizzle, not freezing, continuous moderate at time of observation
54	Drizzle, not freezing, intermittent heavy (dense) at time of observation
55	Drizzle, not freezing, continuous heavy (dense) at time of observation
56	Drizzle, freezing, slight
57	Drizzle, freezing, moderate or heavy (dense)
58	Drizzle and rain, slight
59	Drizzle and rain, moderate or heavy

ww = 60 - 69

Rain

Code ww	
60	Rain, not freezing, intermittent slight at time of observation
61	Rain, not freezing, continuous slight at time of observation
62	Rain, not freezing, intermittent moderate at time of observation
63	Rain, not freezing, continuous moderate at time of observation
64	Rain, not freezing, intermittent heavy at time of observation
65	Rain, not freezing, continuous heavy at time of observation
66	Rain, freezing, slight
67	Rain, freezing, moderate or heavy
68	Rain, or drizzle and snow, slight
69	Rain, or drizzle and snow, moderate or heavy

ww = 70 - 79

Solid precipitation not in showers

Code ww	
70	Intermittent fall of snow flakes slight at time of observation
71	Continuous fall of snow flakes slight at time of observation
72	Intermittent fall of snow flakes moderate at time of observation
73	Continuous fall of snow flakes moderate at time of observation
74	Intermittent fall of snow flakes heavy at time of observation
75	Continuous fall of snow flakes heavy at time of observation
76	Ice prisms (with or without fog)
77	Snow grains (with or without fog)
78	Isolated starlike snow crystals (with or without fog)
79	Ice pellets, type (a)

ww = 80 - 99

Showery precipitation, or precipitation with current or recent thunder storm

Code ww	
80	Rain shower(s), slight
81	Rain shower(s), moderate or heavy
82	Rain shower(s), violent
83	Shower(s) of rain and snow mixed, slight
84	Shower(s) of rain and snow mixed, moderate or heavy
85	Snow shower(s), slight
86	Snow shower(s), moderate or heavy
87	Shower(s) of snow pellets or ice pellets, type (b), with or without rain or rain and snow mixed - slight
88	Shower(s) of snow pellets or ice pellets, type (b), with or without rain or rain and snow mixed - moderate or heavy
89	Shower(s) of hail [*] , with or without rain or rain and snow mixed, not associated with thunder - slight
90	Shower(s) of hail [*] , with or without rain or rain and snow mixed, not associated with thunder - moderate or heavy
91	Slight rain at time of observation - thunderstorm during the preceding hour but not at time of observation
92	Moderate or heavy rain at time of observation - thunderstorm during the preceding hour but not at time of observation

93	Slight snow, or rain and snow mixed or hail** at time of observation - thunderstorm during the preceding hour but not at time of observation
94	Moderate or heavy snow, or rain and snow mixed or hail** at time of observation - thunderstorm during the preceding hour but not at time of observation
95	Thunderstorm, slight or moderate, without hail**, but with rain and/or snow at time of observation - thunderstorm at time of observation
96	Thunderstorm, slight or moderate, with hail** at time of observation - thunderstorm at time of observation
97	Thunderstorm, heavy, without hail**, but with rain and/or snow at time of observation - thunderstorm at time of observation
98	Thunderstorm combined with duststorm or sandstorm at time of observation - thunderstorm at time of observation
99	Thunderstorm, heavy, with hail** at time of observation - thunderstorm at time of observation

* French: grele.

** Hail, ice pellets, type (b), snow pellets. French: grele, gresil ou neige roulee.

Cloud type (Genus) (WMO 0500)

WMO Code 0500 for recording cloud type (genus)

Code	
0	Cirrus ----- Ci
1	Cirrocumulus ----- Cc
2	Cirrostratus ----- Cs
3	Alto cumulus ----- Ac
4	Altostratus ----- As
5	Nimbostratus ----- Ns
6	Stratocumulus ----- Sc
7	Stratus ----- St
8	Cumulus ----- Cu
9	Cumulonimbus ----- Cb
X	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena

Cloud amount (WMO 2700)

WMO Code 2700 for recording cloud amount

Code		
0	Zero	Zero
1	1 okta or less, but not zero	1/10 or less, but not zero
2	2 oktas	2/10 to 3/10
3	3 oktas	4/10
4	4 oktas	5/10
5	5 oktas	6/10
6	6 oktas	7/10 to 8/10
7	7 oktas or more, but not 8 oktas	9/10 or more, but not 10/10
8	8 oktas	10/10
9	Sky obscured, or cloud amount cannot be estimated.	

Visibility (WMO 4300)

WMO Code 4300 for recording visibility at surface

Code		
0	Less than 50m	(Less than 55 yards)
1	50 - 200m	(Approx. 55 - 220 yards)
2	200 - 500m	(Approx. 220 - 550 yards)
3	500 - 1000m	(Approx. 550 yards - 5/8 n.m.)
4	1 - 2km	(Approx. 5/8 - 1 n.m.)
5	2 - 4km	(Approx. 1 - 2 n.m.)
6	4 - 10km	(Approx. 2 - 6 n.m.)
7	10 - 20km	(Approx. 6 - 12 n.m.)
8	20 - 50km	(Approx. 12 - 30 n.m.)
9	50km or more	(30 n.m. or more)

* n.m. : nautical mile

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