

HOW TO UNDERSTAND MAFOR CODE

The code used in the transmission of marine weather forecasts is known as the MAFOR code. The code begins with a Date/Time group, followed by the name of the lake to which the forecast applies, followed by one or more five figure groups. Each of the five figure groups may in turn be followed by an optional group.

GROUP CODE FIGURES

YYG1G1/

YY: is the day of the month in accordance with Coordinated Universal Time (UTC)

G1G1: is the time of the beginning of the valid period of the forecasts in Coordinated Universal Time. (UTC).

/: the last digit of this group is not used.

1GDFMW1

1: is an identifying number required by international practice. Each code group following the name of the lake will begin with 1.

G: is the code figure for the period of time covered by the forecast given in the group.

TABLE 1 - PERIOD OF TIME COVERED BY FORECAST

Code figure

0 Existing weather conditions at the beginning of the forecast period

1 Forecast valid for 3 hours

2 Forecast valid for 6 hours

3 Forecast valid for 9 hours

4 Forecast valid for 12 hours

5 Forecast valid for 18 hours

6 Forecast valid for 24 hours

7 Forecast valid for 48 hours

8 Forecast valid for 72 hours

9 Occasionally

D: is the code figure for the forecast direction of the wind.

TABLE 2 - FORECAST DIRECTION OF WIND

Code Figure Code Figure

0 Calm 5 Southwest

1 Northeast 6 West

2 East 7 Northwest

3 Southeast 8 North

4 South 9 Variable

Fm: is the code figure for the forecast speed of the wind

TABLE 3 - FORECAST SPEED OF WIND

Code Figure

0 Beaufort Number 0-3 (0-10 knots)

1 Beaufort Number 4 (11 -16 knots)

2 Beaufort Number 5 (17 - 21 knots)

3 Beaufort Number 6 (22 - 27 knots)

4 Beaufort Number 7 (28 - 33 knots)

5 Beaufort Number 8 (34 - 40 knots)

6 Beaufort Number 9 (41 -47 knots)

7 Beaufort Number 10 (48 - 55 knots)

8 Beaufort Number 11 (56 - 63 knots)

9 Beaufort Number 12 (64 -71 knots)

w1: is the code figure for forecast weather.

TABLE 4 - FORECAST WEATHER

Code figure

0 Moderate or good visibility (greater than 3 nautical miles)

1 Risk of ice accumulation on superstructure (air temperature between 05C and -55C)

2 Strong risk of accumulation of ice on superstructure (air temperature below -55C)

3 Mist (visibility 1/2 to 3 nautical miles)

4 Fog (visibility less than 1/2 nautical mile)

5 Drizzle

6 Rain

7 Snow or rain and snow

8 Squally weather with or without showers

9 Thunderstorms

2: is an indicator which identifies the group as a supplementary group. The 2 group is valid for the same period as the 1 group that immediately precedes it.

v: is the code figure for the forecast visibility

TABLE 5 - FORECAST VISIBILITY

Code Figure

0 Less than 50 meters

1 50 - 200 meters

2 200 - 500 meters

3 500 meters to 1/2 nautical mile

4 1/2 to 1 nautical mile

5 1 - 2 nautical miles

6 2 - 5 nautical miles

7 5 - 12 nautical miles

8 -

9 -

s: is the code figure for the forecast sea state

TABLE 6 - FORECAST STATE OF SEA

Code Figure Description Height in Meters

0	Calm (glassy)	0
1	Calm (rippled)	0 - 0.1
2	Smooth (wavelets)	0.1 - 0.5
3	Slight	0.5 - 1.25
4	Moderate	1.25 - 2.5
5	Rough	2.5 - 4
6	Very Rough	4 - 6
7	High	6 - 9
8	Very High	9 - 14
9	Phenomenal	over 14

EXAMPLE OF A MARINE FORECAST

MAFOR 0403/ Superior 12646 14755 245// 12720

Ontario 15820 12804

Referring to the code tables this may be decoded as follows

MAFOR 0403/: Marine forecast valid from 03 Coordinated Universal Time of the fourth day of the current month

LAKE SUPERIOR: first 6 hours of the forecast period - wind west at 28 - 33 knots, with rain. Next 12 hours of forecast period - wind northwest 34 - 40 knots, with drizzle. During the same period - visibility 1/2 - 1 nautical mile, with rough seas, wave heights of 2.5 - 4 m. Final 6 hours of the forecast period - wind northwest at 17 - 21 knots, visibility greater than 3 nautical miles

LAKE ONTARIO: First 18 hours of forecast period - wind north 17 - 21 knots, visibility greater than 3 nautical miles, final 6 hours of forecast period - wind north at 10 knots or less, with fog reducing visibility to less than 1/2 nautical mile.

MAFOR Synopsis

Each MAFOR broadcast is followed by a brief technical synopsis of the current weather map in plain language. The synopsis gives the location of the centers of significant high and low pressure areas, and their forecast motion (direction and speed). Reference is occasionally made to marked wind shift lines, giving the anticipated time at which the wind shift will occur at key points.

The following is an example of the type of synopsis that is issued:

Low Chicago moving ENE 35

High New York City moving e 15

Wind shift SW to NW Detroit early morning

Kingston late evening