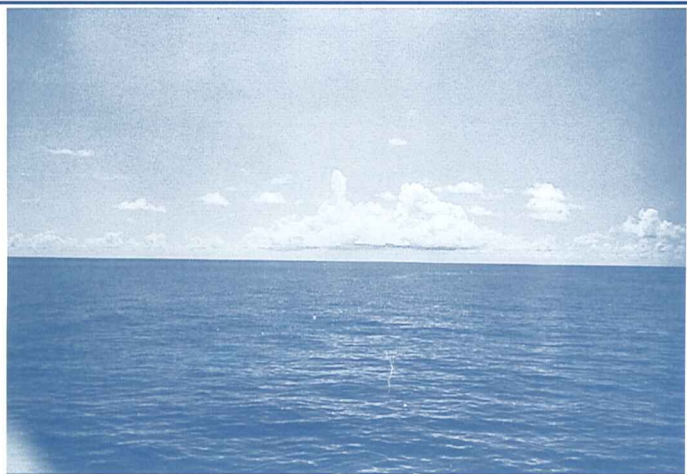


BEAUFORT SCALE OF WIND FORCE (Determination of wind speed by sea condition)

Japan Meteorological Agency (JMA)



Wind Force 1 Light air



Wind Force 5 Fresh breeze



Wind Force 9 Strong gale



Wind Force 2 Light breeze



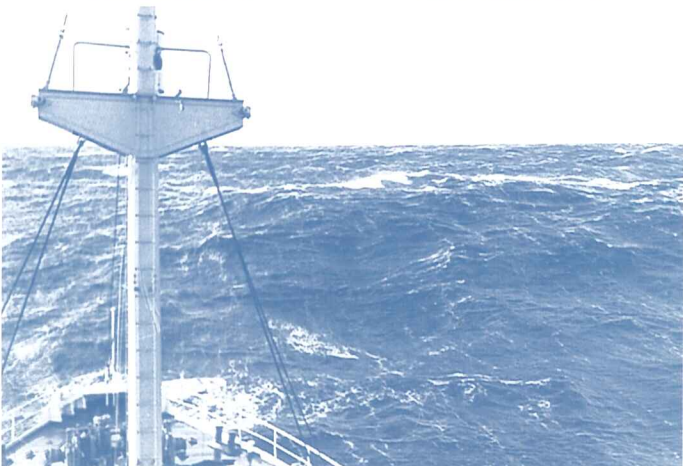
Wind Force 6 Strong breeze



Wind Force 10 Storm



Wind Force 3 Gentle breeze



Wind Force 7 Near gale



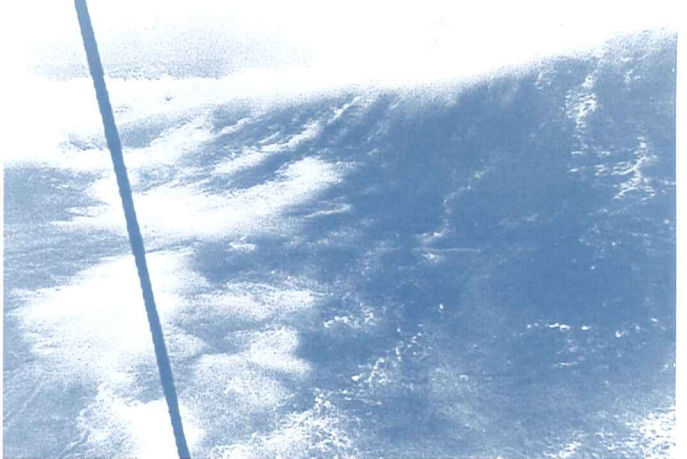
Wind Force 11 Violent storm



Wind Force Moderate breeze



Wind Force 8 Gale



Wind Force 12 Hurricane

Wind Force	Specification	Equivalent speed at 10 m above sea		Probable wave height in meters*	Wind Force	Specification	Equivalent speed at 10 m above sea		Probable wave height in meters*	Wind Force	Specification	Equivalent speed at 10 m above sea		Probable wave height in meters*
		in knots	in m/s				in knots	in m/s				in knots	in m/s	
0	Sea like a mirror.	< 1	0~0.2	-	5	Moderate waves, taking a more pronounced long form; many white horses are formed. Chance of some spray.	17~21	8.0~10.7	2(2.5)	9	High waves. Dense streaks of foam along the direction of the wind. Crests of waves begin to topple, tumble and roll over. Spray may affect visibility.	41~47	20.8~24.4	7(10)
1	Ripples with the appearance of scales are formed, but without foam crests.	1~3	0.3~1.5	0.1(0.1)	6	Large waves begin to form; the white foam crests are more extensive everywhere. Probably some spray.	22~27	10.8~13.8	3(4)	10	Very high waves with long overhanging crests. The resulting foam, in great patches, is blown in dense white streaks along the direction of the wind. On the whole, the surface of the sea takes on a white appearance. The "tumbling" of the sea becomes heavy and shock-like. Visibility affected.	48~55	24.5~28.4	9(12.5)
2	Small wavelets, still short but more pronounced. Crests have a glassy appearance and do not break.	4~6	1.6~3.3	0.2(0.3)	7	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.	28~33	13.9~17.1	4(5.5)	11	Exceptionally high waves (small and medium-sized ship might be for a time lost to view behind the waves). The sea is completely covered with long white patches of foam lying along the direction of the wind. Everywhere the edges of the wave crests are blown into froth. Visibility affected.	56~63	28.5~32.6	11.5(16)
3	Large wavelets. Crests begin to break. Foam of glassy appearance. Perhaps scattered white horses.	7~10	3.4~5.4	0.6(1)	8	Moderately high waves of greater length; edges of crests begin to break into spindrift. The foam is blown in well-marked streaks along the direction of the wind.	34~40	17.2~20.7	5.5(7.5)	12	The air is filled with foam and spray. Sea completely white with driving spray; visibility very seriously affected.	64~	32.7~	14(-)
4	Small waves, becoming longer. fairly frequent white horses.	11~16	5.5~7.9	1(1.5)										

Remark \* This table is only intended as a guide to show roughly what may be expected in the open sea, remote from land. It should never be used in the reverse way; i.e., for logging or reporting the state of the sea. In enclosed waters, or when near land, with an off-shore wind, wave heights will be smaller and the waves steeper. Figures in brackets indicate the probable maximum height of waves.