

## The Beaufort Wind Scale (Land)

The Beaufort scale was long in use as a system for estimating wind speeds. It was introduced in 1806 by Admiral Sir Francis Beaufort (1774-1857) of the British navy to describe wind effects on a fully rigged man-o-war sailing vessel, and it was later extended to include descriptions of effects on land features as well. Today the accepted international practice is to report wind speed in knots (1 knot equals about 1.85 km, or 1.15 mi, per hour).

The Beaufort scale is divided into a series of values, from 0 for calm winds to 12 and above for hurricanes. Each value represents a specific range and classification of wind speeds with accompanying descriptions of the effects on surface features, as follows:

Beaufort	Avg miles per hour	Avg km per hour	Knots	Surroundings
0 (calm)	0	0	0 – 1	Smoke rises vertically.
1 (light air)	1 – 3	2 – 5	1 – 3	Smoke drift indicates wind direction.
2 (light breeze)	4 – 7	6 – 12	4 – 6	Wind felt on face; leaves rustle.
3 (gentle breeze)	8 – 12	13 – 20	7 – 10	Leaves, small twigs in constant motion.
4 (moderate breeze)	13 – 18	21 – 30	11 – 16	Dust and leaves raised up, branches move.
5 (fresh breeze)	19 – 25	31 – 40	17 – 21	Small trees begin to sway.
6 (strong breeze)	26 – 31	41 – 50	22 – 27	Large branches of trees in motion/
7 (moderate gale)	32 – 38	51 – 61	28 – 33	Whole trees in motion; resistance felt walking against wind.
8 (fresh gale)	39 – 46	62 – 74	34 – 40	Twigs and small branches break from trees.
9 (strong gale)	47 – 55	75 – 89	41 – 47	Larger branches break from trees.
10 (whole gale)	56 – 64	90 – 103	48 – 55	Trees broken and uprooted.
11 (storm)	65 – 74	104 – 119	56 – 63	Widespread damage.
12 (hurricane)	75+	120+	64+	Violence and destruction.

## The Beaufort Wind Scale (Water)

The Beaufort scale was long in use as a system for estimating wind speeds. It was introduced in 1806 by Admiral Sir Francis Beaufort (1774-1857) of the British navy to describe wind effects on a fully rigged man-o-war sailing vessel, and it was later extended to include descriptions of effects on land features as well. Today the accepted international practice is to report wind speed in knots (1 knot equals about 1.85 km, or 1.15 mi, per hour).

The Beaufort scale is divided into a series of values, from 0 for calm winds to 12 and above for hurricanes. Each value represents a specific range and classification of wind speeds with accompanying descriptions of the effects on surface features, as follows:

Beaufort	Avg miles per hour	Avg km per hour	Knots	Surroundings
0 (calm)	0	0	0 – 1	Sea like a mirror.
1 (light air)	1 – 3	2 – 5	1 – 3	Ripples but without foam crests.
2 (light breeze)	4 – 7	6 – 12	4 – 6	Small wavelets. Crests do not break.
3 (gentle breeze)	8 – 12	13 – 20	7 – 10	Large wavelets. Perhaps scattered white horses.
4 (moderate breeze)	13 – 18	21 – 30	11 – 16	Small waves. Fairly frequent white horses.
5 (fresh breeze)	19 – 25	31 – 40	17 – 21	Moderate waves, many white horses.
6 (strong breeze)	26 – 31	41 – 50	22 – 27	Large waves begin to form; white foam crests, probably spray.
7 (moderate gale)	32 – 38	51 – 61	28 – 33	Sea heaps up and white foam blown in streaks along the direction of the wind.
8 (fresh gale)	39 – 46	62 – 74	34 – 40	Moderately high waves, crests begin to break into spindrift.
9 (strong gale)	47 – 55	75 – 89	41 – 47	High waves. Dense foam along the direction of the wind. Crests of waves begin to roll over. Spray may affect
10 (storm)	56 – 64	90 – 103	48 – 55	Very high waves with long overhanging crests. The surface of the sea takes on a white appearance. The tumbling of the sea becomes heavy and shock like.
11 (violent storm)	65 – 74	104 – 119	56 – 63	Exceptionally high waves. The sea is completely covered with long white patches of foam lying in the direction of the wind. Visibility affected.
12 (hurricane)	75+	120+	64+	The air is filled with foam and spray. Sea completely white with driving spray. Visibility very seriously affected.