



WEATHER

Monitoring and understanding weather forecasts before and during time afloat is vital to help remain safe at sea.



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WEATHER FORECASTS

Weather can change very quickly and so it is important that you are aware of the forecast prior to going on the water and monitor the forecast while afloat. Weather is dangerous on land but even more so in the open elements when afloat. **It really can be a matter of life and death.**

You can get the relevant local inland forecast from the television, radio, and even listen to the shipping forecast. You'll also find the latest weather information will be presented at the harbour or the marina office.

Whilst at sea you can listen to the VHF radio frequency for weather and safety information. You may also choose to acquire a NAVTEX receiver to give you the latest weather and safety information.

Mobile devices such as phones and tablets can also allow you to gather weather forecast information.

Wind strength will have a bearing on the sea state and is described by speed in Knots or the **Beaufort Scale** (shown overleaf). The Beaufort Scale is an empirical measure used in Met Office marine forecasts and ranges from 0-12, based on the sea state. The forecast will also describe the sea as **Smooth, Slight, Moderate** and **Rough**.

WIND SPEEDS AND DIRECTION

Keeping abreast of wind speeds is essential for safety on the sea.

Force 1-3

Wind speed 1-10 knots
Wave height 0-.09 metres
Typical sea state: smooth or slight

These are fairly gentle conditions at the lowest end of the scale. You may see occasional wave crests.

Force 3-5

Wind speed 7-21 knots
Wave height 0.9-2.5 metres
Typical sea state: slight to moderate

Conditions are picking up. At the top of this range there will be boisterous seas and you should consider finding shelter, as a small boat could find conditions tough.

Force 6 and above

Wind speed 21 knots and above
Wave height 4 metres and above
Typical sea state: rough

There are large waves with white foam crests – not conditions you would choose to be in. If caught out, you make your way to a safe haven.














You will also be able to hear the wind direction and whether it is veering or backing. **Veering** is clockwise and **Backing** is anticlockwise.



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THE BEAUFORT SCALE

Beaufort Number	Description	Wind speed	Wave height	Sea conditions	Land conditions	
0	Calm	< 1 knot < 1 mph < 2 km/h	0 ft 0 m	Sea like a mirror	Smoke rises vertically	
1	Light air	1–3 knots 1–3 mph 2–5 km/h	0–1 ft 0–0.3 m	Ripples	Direction shown by smoke drift	
2	Light breeze	4–6 knots 4–7 mph 6–11 km/h	1–2 ft 0.3–0.6 m	Small wavelets	Wind felt on face	
3	Gentle breeze	7–10 knots 8–12 mph 12–19 km/h	2–4 ft 0.6–1.2 m	Large wavelets	Leaves and small twigs in constant motion	
4	Moderate breeze	11–16 knots 13–18 mph 20–28 km/h	3.5–6 ft 1–2 m	Small waves	Raises dust and loose paper	
5	Fresh breeze	17–21 knots 19–24 mph 29–38 km/h	6–10 ft 2–3 m	Moderate waves	Small trees and leaves begin to sway	
6	Strong breeze	22–27 knots 25–31 mph 39–49 km/h	9–13 ft 3–4 m	Large waves	Large branches in motion	
7	High wind, moderate gale, near gale	28–33 knots 32–38 mph 50–61 km/h	13–19 ft 4–5.5 m	Sea heaps up	Whole trees in motion	
8	Gale, fresh gale	34–40 knots 39–46 mph 62–74 km/h	18–25 ft 5.5–7.5 m	Moderately high waves	Twigs break off trees	
9	Strong/severe gale	41–47 knots 47–54 mph 75–88 km/h	23–32 ft 7–10 m	High waves	Slight structural damage	
10	Storm, whole gale	48–55 knots 55–63 mph 89–102 km/h	29–41 ft 9–12.5 m	Very high waves	Trees uprooted, considerable structural damage	
11	Violent storm	56–63 knots 64–72 mph 103–117 km/h	37–52 ft 11.5–16 m	Exceptionally high waves	Widespread damage	
12	Hurricane force	≥ 64 knots ≥ 73 mph ≥ 118 km/h	≥ 46 ft ≥ 14 m	Exceptionally high waves, sea is completely white	Devastation	



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VISIBILITY

There are four recognised states of visibility:
Good, Moderate, Poor and Fog.

Good

You can see for more than five miles.



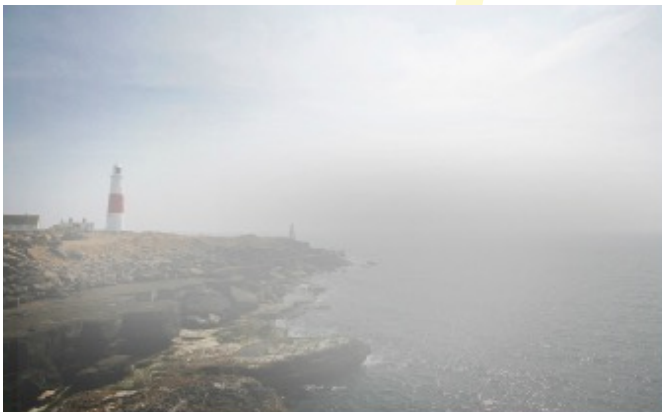
Poor

You can see for 1000m-2 miles.



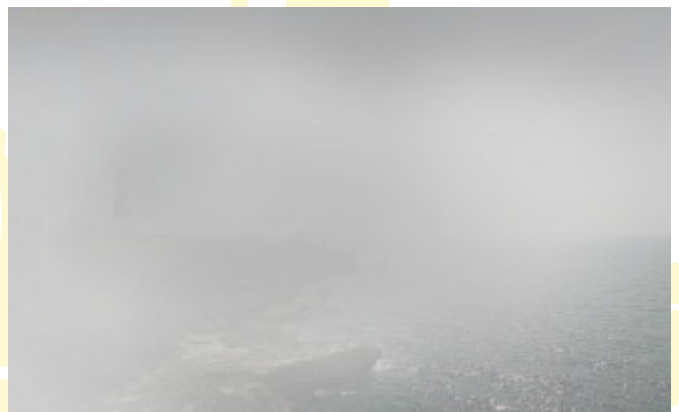
Moderate

You can see for 2-5 miles.



Fog

You can see less than a 1,000 metres.





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TIMING

We know that weather is changeable and so we need to know when. Maritime weather forecast timing is classed as: **Later**, **Soon** or **Imminent**.

Later

Weather change is expected to happen in more than 12 hours time. There may be no obvious signs of weather change, but you are aware that change is approaching.

Example of forecast information:
South-westerly 3 increasing gale force 8 later.

Soon

Weather change is expected between 6 to 12 hours time. You may be experiencing weather changes such as increased wind strength and clouds building. Depending on the forecast you should consider whether a change of course is necessary, such as heading for shelter.

Example of forecast information:
South-westerly 5 to 6 increasing gale force 8 soon.

Imminent

Weather change is expected within 6 hours time. You may be experiencing even stronger winds and thicker/darker cloud build up.

Example of forecast information:
South-westerly 6 to 7 increasing gale force 8 imminent.

BREEZE

Sea breeze

When conditions are fair a sea **breeze** is likely to develop. This occurs because the land is heated by the sun which in turn heats the air above, which then rises. The cooler air above the sea comes inland to fill the low pressure.

A sea breeze can create demanding sailing and uncomfortable power boating and will usually start later in the morning and end later in the afternoon. Exact times depend on local conditions (air and sea temperature).



Land breeze

At night the air above land cools faster than the air above the sea. The breeze will then flow from the land out to sea, typically at about force 2-3, often greater when near mountains.

Similar to a sea breeze, the strength of the land breeze will be dictated by the topography of the land nearby and the difference between land and sea temperatures. Typically land breezes tend to be weaker than sea breezes in all but the most mountainous of locations, where they can be quite strong and potentially dangerous. It is always good to search local weather phenomena when sailing in unfamiliar waters.

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