Weather

for Watchkeepers

What do we need to know?...

What do we need to know?...

- Wind
- Barometric pressure
- Precipitation
- Clouds
- Storms
- Changes in weather

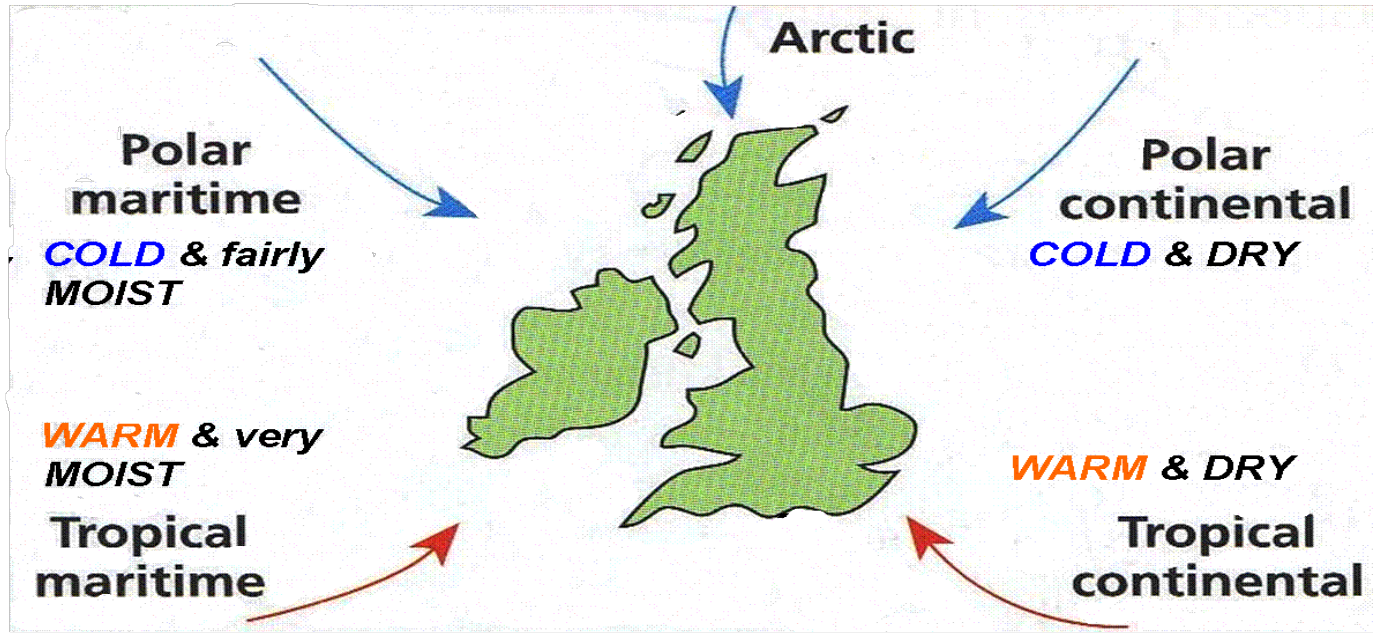
…and when do we need to know it?

…and when do we need to know it?

Whenever conditions are likely to affect a vulnerable vessel

WHAT

UK Weather systems



Where the weather is coming from largely determines its behaviour. Here the prevailing condition tends to be ‘tropical maritime’ bringing warm, wet weather. This may be changing.

Acronyms we use at PQ

Acronym	Meaning (WKH Table 18 page 8:2)
hPa	Hectopascal (= millibar)
mb	Millibar (=hectopascal)
MCA	Maritime & Coastguard Agency
MRCC	Marine Rescue Co-ordination Centre
MSI	Marine Safety Information broadcast
SAR	Search & Rescue
UTC	Co-ordinated Universal Time (= GMT+0)
WxFx	Weather Forecase (used in log)
21 1458 UTC	Date/time group (1458 hours on 21st of month)

WKH12 Table 18 (page 8:2)

Tuesday 4 November 2025 Sunset: 16:46 (UTC)

GALE WARNINGS

Portland: No gale warning in force

Plymouth: Gale warning. Issued: 09:54 (UTC) on Tue 4 Nov 2025
Southerly gale force 8 expected soon

INSHORE WATERS FORECAST

for coastal areas up to 12 miles offshore

Issued by the Met. Office on behalf of the Maritime & Coastguard Agency at 05:00 (UTC) on Tue 4 Nov 2025 for the period 06:00 (UTC) on Tue 4 Nov 2025 to 06:00 (UTC) on Wed 5 Nov 2025

Lyme Regis to Lands End including the Isles of Scilly

Strong wind warning

24 hour forecast

Wind: South or southwest 5 to 7.

Sea State: Moderate or rough, but rough or very rough west of the Lizard peninsula.

Weather: Occasional rain.

Visibility: Moderate or good, occasionally poor.

SALCOMBE TIDE TIMES

as published by the UK Hydrographic Office

Tue 4 Nov 2025	*HW*	*LW*	*HW*	*LW*
Time (UTC)	04:36	10:42	16:52	23:08
Height (m)	5.0	1.1	5.2	0.8

Gale & storm warnings

Title	definition
Gale	means winds of at least Force 8 or gusts reaching 43-knots
Severe gale	winds of F9 or gusts reaching 52-60 knots
Storm	winds of F10 or gusts reaching 61-18 knots
Violent storm	winds of F11 or gusts over 69 knots
Hurricane force	winds at F12

WKH12 Table 20 (page 8:5)

When?

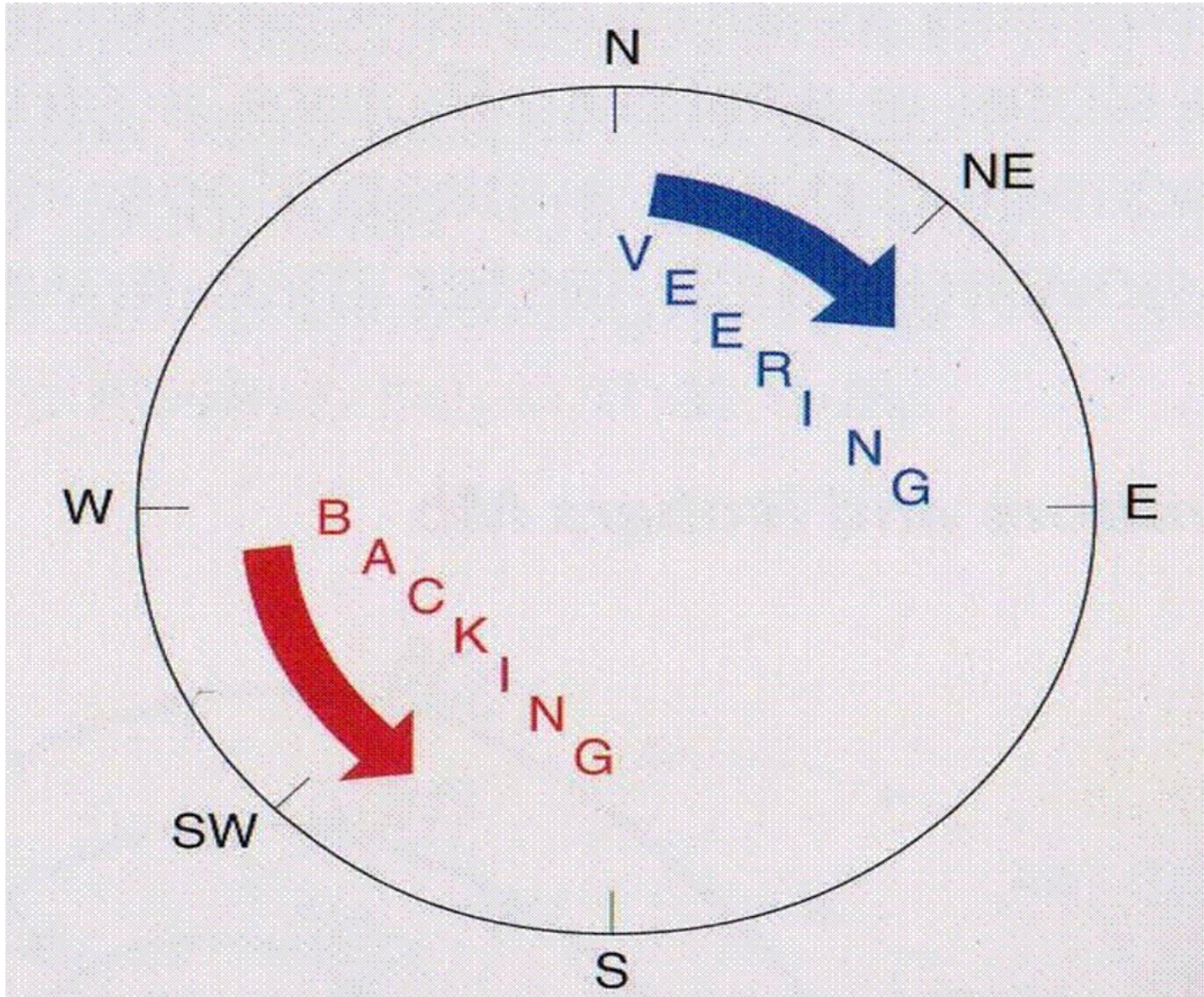
Term	means…
Imminent	expected within 6 hours
Soon	within 6 to 12 hours
Later	after more than 12 hours

WKH12 Table 20 (page 8:5)

Wind direction

Term	meaning
N, SE, SSW, etc.	wind coming FROM compass point
Becoming cyclonic	Considerable change is due
Veering	Wind change in clockwise direction
Backing	Wind change in anticlockwise direction

WKH12 Table 20 (page 8:6)


N
NE
E
SW
S
W
VEERING
BACKING

Barometric pressure

- Expressed in millibars (mb)
- Average range between 985mb and 1045mb
- Average in UK is 1013.2
- STEADY FALL indicates approach of a low pressure or frontal system with worsening conditions and increasing winds
- STEADY RISE indicates low pressure is moving away. Weather will likely improve and winds will drop.

Barometric pressure

The **rate of change** is a key indicator

- 3mb within a 3 hr period: strengthening winds
- 5mb within 3 hr period: F6 will happen (if already F7, a full gale within the hour)
- 8mb within 3 hr period: F8 gale imminent

Beaufort Scale

Beaufort Scale	Wind kts	Description
Force 0	0 - 1	Calm, glassy sea
Force 1	1 - 3	Light Airs - 0m – Glassy ripples on water
Force 2	4 – 6	Light breeze – 0.1m – smooth wavelets
Force 3	7 – 10	Gentle breeze – 0.4m slight – no white horses visible
Force 4	11 – 16	Moderate breeze – 1m – occasional white horses
Force 5	17 – 21	Fresh breeze – 2m – consistent white horses

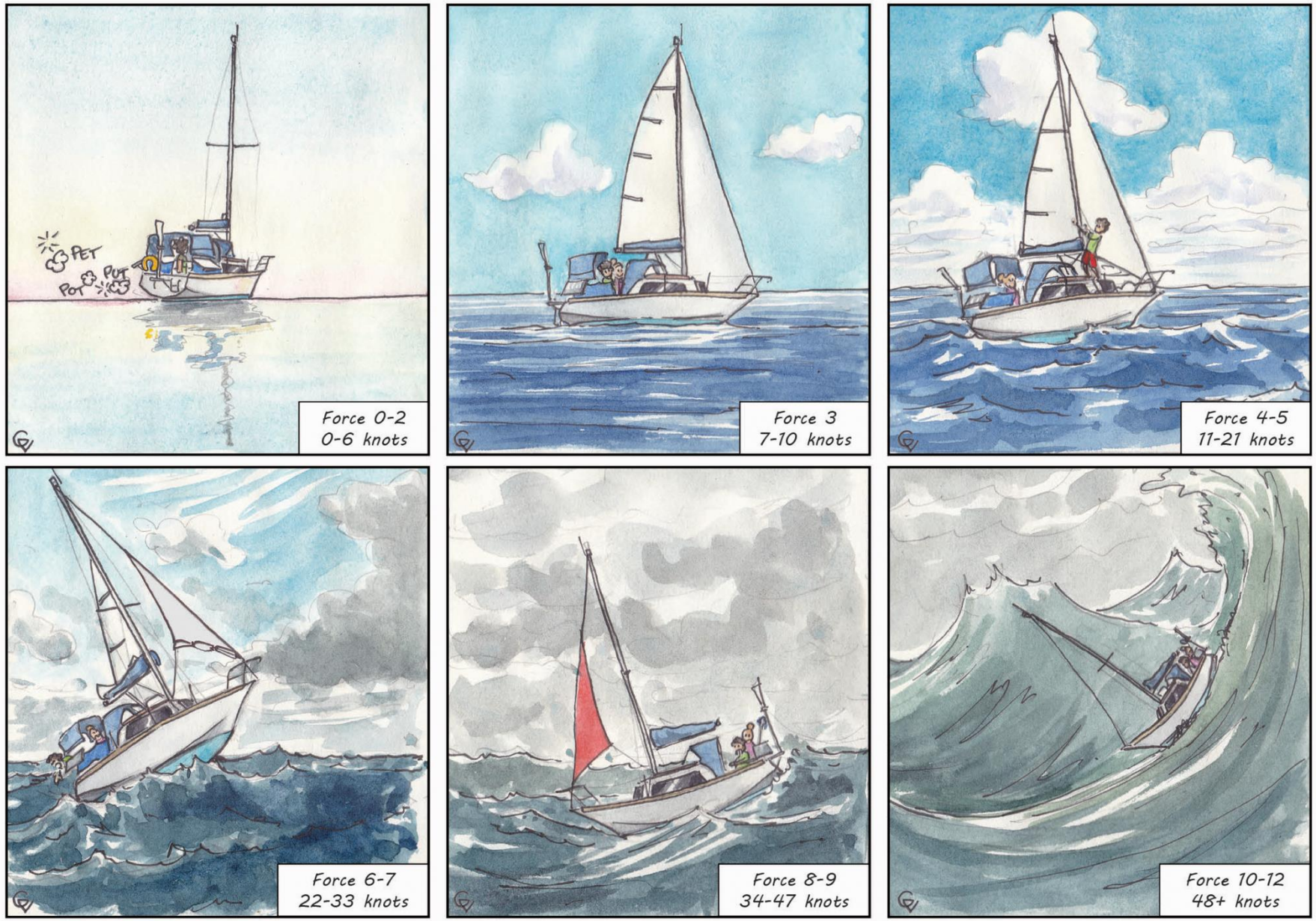
WKH12 Table 21 (page 8:9)

Beaufort Scale	Wind kts	Description
Force 6	22 – 27	Strong breeze – 3m – Large waves, white foam
Force 7	28 – 33	Moderate gale - 4m – waves begin to heap up
Gale force 8	34 – 40	Fresh gale – 5.5m – longer waves, some spindrift
Gale force 9	41 – 47	Strong or severe gale – 7m – dense foam streaks
Storm fce 10	46 – 56	Whole gale or storm – 9m ‘very high’
Storm fce 11	56 – 63	Violent storm – 11m ‘very high’
Storm fce 12	64+	Hurrance – 14m ‘phenomenal’. Air completely filled with spray, very limited visibility.

WKH12 Table 21 (page 8:9)

Note how sails should be reefed in storm conditions (next slide).

Keep a close eye on vessels that appear to have an inappropriate amount of sail visible as they can easily become overwhelmed.



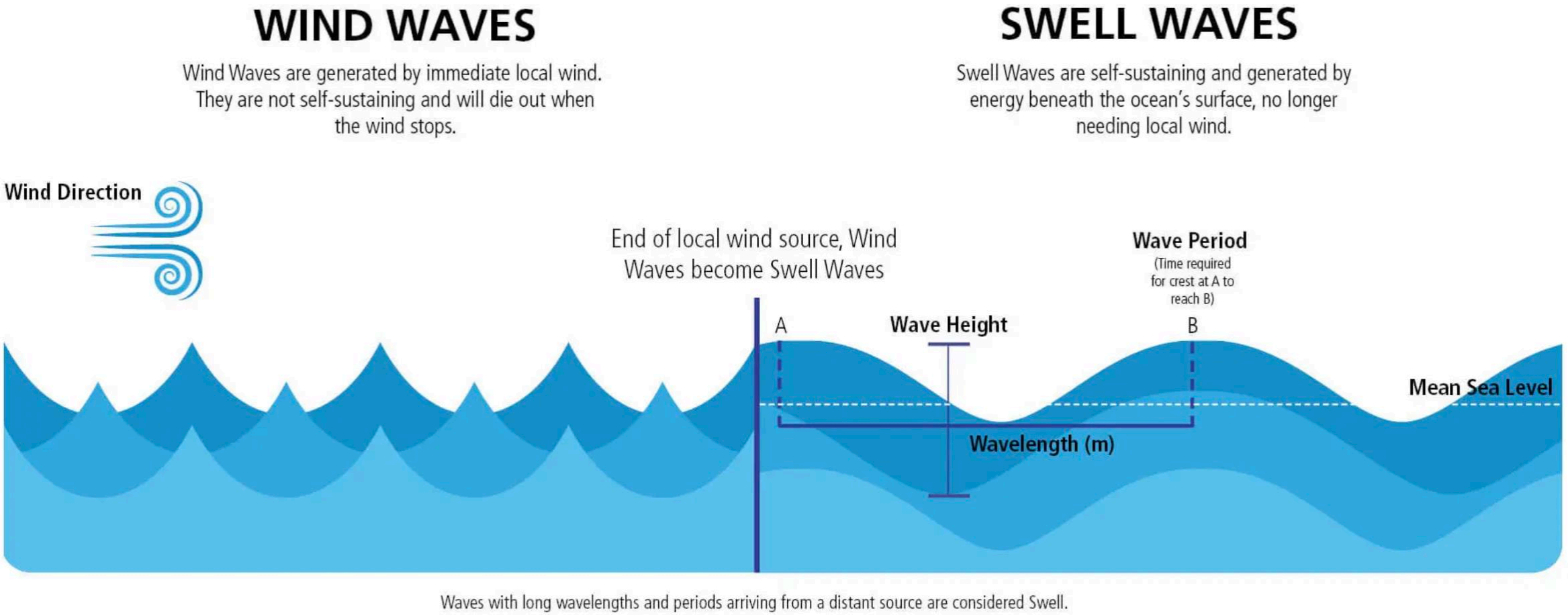
From https://sailsupandgo.wordpress.com/2018/09/03/cirrus-own-beaufort-scale/

Sea STATE

WKH12 Table 20 (page 8:6)

Term	meaning
Smooth	wave height less than 0.4m
Slight	wave height 0.5m to 1.25m
Moderate	wave height 1.25m to 2.5m
Rough	wave height 2.5 to 4m
Very rough	wave height 4 to 6m

High or above we are very unlikely to see at PQ



Wind waves vs Swell waves. Credit: StormGeo

Sea SWELL

Term	meaning
None	no visible swell (almost never!)
Slight	wave motion up to 2m
Moderate	wave motion between 2 and 4m
Large	Above 4m – seen VERY rarely at PQ

WKH12 Table 23 (page 8:11)

Sea conditions

Sea STATE generally comes from immediate weather conditions.

Sea SWELL comes from ‘fetch’ – wave motions originating from storms that might be hundreds of miles away.

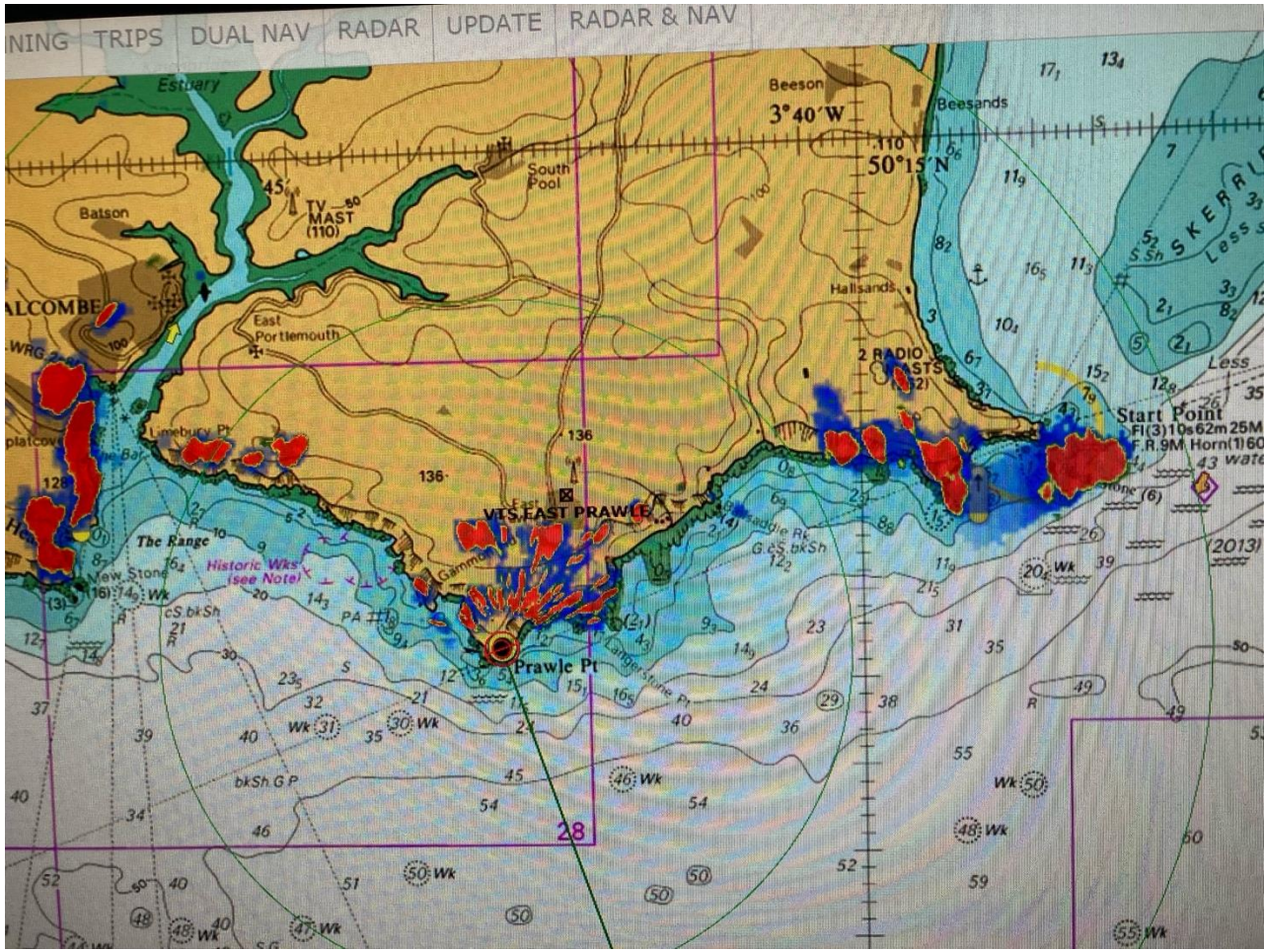
Weather to watch for

These are **Cumulo-nimbus** (storm) clouds, typically associated with hail or an approaching thunderstorm.

Watch for these clouds!

Weather to watch for

Stratus or **Nimbo-stratus** clouds are typically associated with sheets of rain. As you see them approach they will likely be preceded by high(er) winds.



Storm over Start Point also showing on radar (10 Nov 2025

Weather to watch for

Another example of an approaching storm front. You will see these not infrequently at PQ.

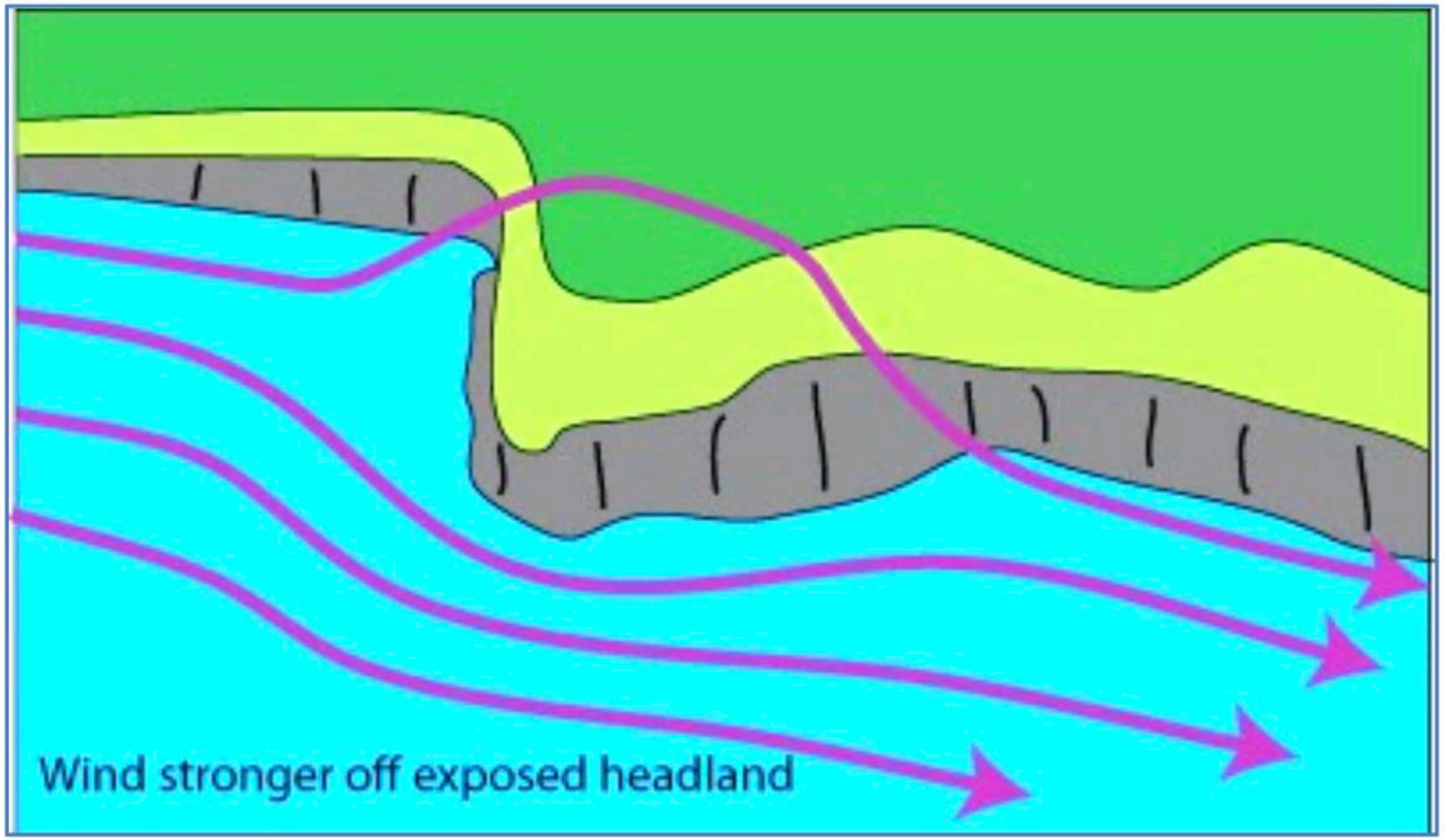
As they approach they will be preceded by high(er) winds and a drop in temperature

Weather effects

Headlands like Prawle Point can
change how the wind influences sea conditions.

Like this…

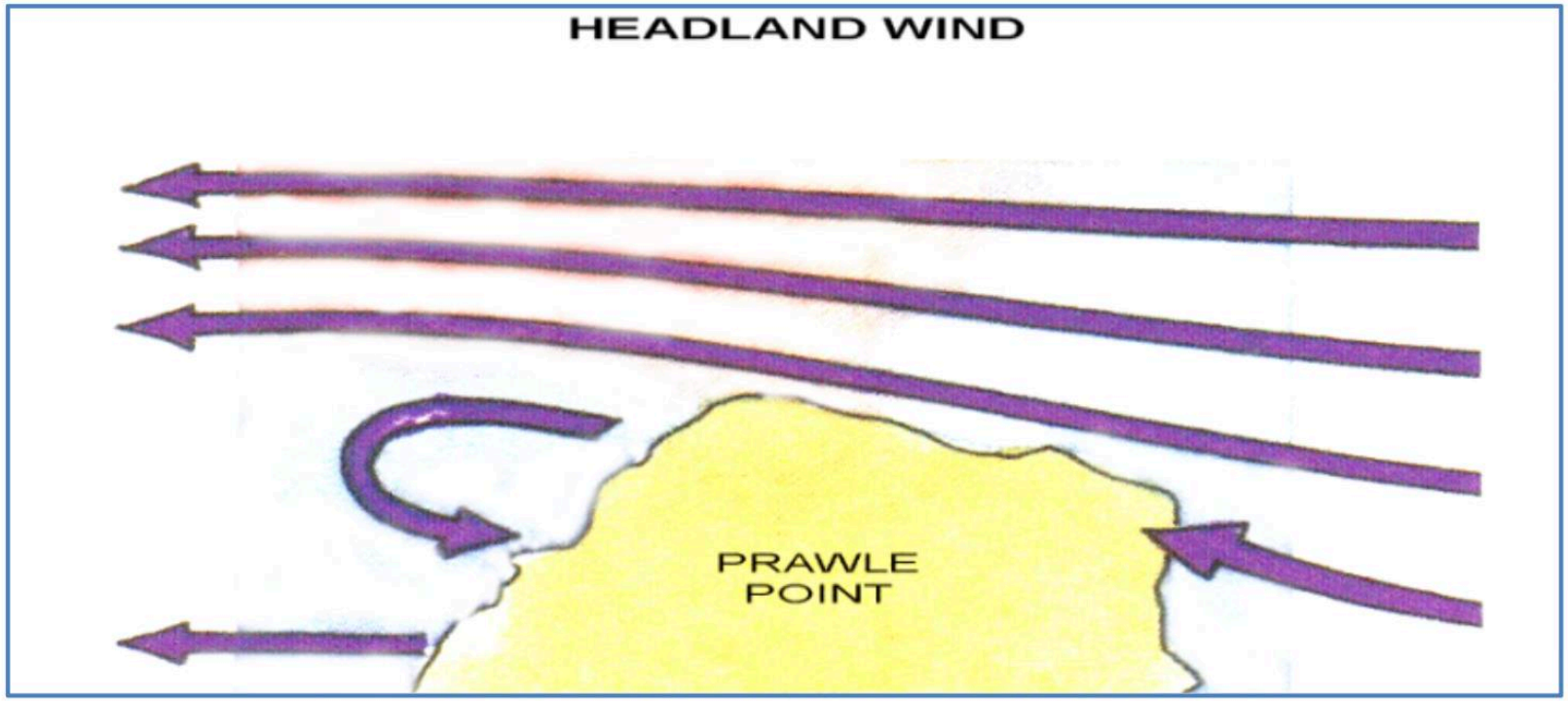
Weather effects



WKH12 Figure 8-8 (page 8:13)

Weather effects

...and this



WKH12 Figure 8-9 (page 8:13)

See WKH Chapter 8 for more information

…and if you want to become a real marine weather nerd, try this book:

Practical Weather Forecasting
by Dieter Karnetzki

Publ. 1994 Adlard Coles

ISBN 0-7136-5701-4