



NCI FLEETWOOD TRAINING MANUAL

PART 7

WEATHER

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WEATHER

Introduction

Weather often has an impact on the safety of those who venture out to sea and along our coasts. The ability to accurately assess and record current weather conditions is a fundamental requirement for effective watchkeeping.

A basic understanding of weather patterns is important in order to anticipate the impact of changing conditions on vulnerable craft and people.

Recording Current Weather (Weather Report)

At the bottom of each page of the station logbook there is a table where the current weather conditions are to be recorded.

A weather report should be completed at the beginning and end of each watch and every two hours in between and at the time of any reportable incident.

Recording the weather at regular intervals allows trends such as changing pressure, backing winds etc. to be more easily monitored.

For day-to-day recording the electronic weather station should be used to obtain accurate weather information.

Wind Speed and Direction

Wind speed is expressed either in knots (nautical miles per hour) or as a force number in the Beaufort Scale. This can range from Force 0 (Calm) to Force 12 (Hurricane). The wind speeds in the Beaufort Scale refer to sustained wind speed, not gusts or lulls. Because wind speeds are not constant we give weather reports in terms of 'Force' which gives those at sea an idea of the range of wind speed.



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The weather station includes an anemometer on the roof to give the current wind speed and direction.

The display is set to give the current wind speed. The average wind speed detected over the previous 10 minutes is also displayed.

The display shows the speed in knots and the Beaufort scale. A conversion table between speed and the Beaufort scale is provided on the inside cover of the logbook.

A solid arrow within the compass rose indicates the current wind direction. Arrow caps indicate up to six different 10-minute dominant wind directions to provide a history of the dominant wind directions for the past hour.

Wind Direction is reported and recorded by use of the points of the compass as the direction from which the wind is blowing. (N, S, SW, E, NW, SSW etc.)

Wind direction can be ascertained without reference to the weather station. Useful indicators are the Ranger flags when present, the neighboring golf course flags and even the long grass.

Wind direction changes can be described as wind 'backing' or 'veering':

Veering: The wind direction changes clockwise e.g. N to NE.

Backing: The wind direction changes anti-clockwise e.g. W to SW.

The NCI national training competencies require watchkeepers to be able to give the current wind direction and speed without the use of a weather station.

Sea State

'Sea State' is a description of the waves raised by the wind in the immediate neighbourhood of the place and time of observation. It is expressed in a scale which runs from calm to phenomenal. In our coastal waters it is usually within the range of calm to moderate.

It is often difficult to estimate wave height from an elevated watchstation and, although waves breaking on the beach below may provide an indication, because we are in a bay that is not very accurate. It is better to try to judge wave height further out before the waves are breaking, primarily by observation of the outlet marker posts looking to the west. Judging sea state is a skill which comes from practical observation. A 'sea state' table is provided in the inside cover of the logbook.



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The sea state will be worse if:

- The wind is blowing onshore
- The wind is against the tide (i.e. in opposite directions)
- The wind has been blowing for a long time
- The water is shallow

Swell

Swell is the wave motion which originates from storms or high winds well offshore in mid-ocean and is characterized by long, regular undulations on the sea surface. The greater the distance of open water covered by the waves the greater the swell in terms of both wave height and length between wave crests. However, due to our setting in Morecambe Bay swell is not able to be accurately assessed and is therefore not entered in the logbook.

Visibility

Visibility is recorded as the distance or range that can be seen in nautical miles. The assessment should be based on the visibility to seaward. (We are asked to record the poorest visibility).

Barrow is 10 nautical miles from the Tower, Heysham 8, Wyre Light 1.9 and along with other visible markers can be a useful guide in the assessment. An AIS signal from a vessel observed at the limits of visibility can help define the range.

Cloud Cover

Cloud cover is measured in oktas (eighths) with 0 being clear sky and 8 being full cloud cover. If the cloud cannot be seen because of fog, 'Obs' for obscured should be recorded.

Barometric Pressure

Barometric pressure is expressed in millibars (mb). 1013.2mb is the dividing line between high and low pressure with a range in the UK of between 985mb (very low) and 1045 (very high).



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Regular recording of weather station barometer readings enables the rise or fall in pressure - *the pressure tendency* - to be established:

- A steady fall usually indicates the approach of a depression or frontal system with worsening conditions and increasing winds.
- A steady rise usually indicates the above systems are moving away.

The following can be expected if, within a three-hour period, pressure changes by:

- 3mb: strengthening winds
- 5mb: a force 6. If already force 7, a full gale within the hour
- 8mb: a force 8 gale

Over a one-hour period, the following rule-of-thumb can be applied to changes of:

- 1mb: force 6
- 2mb: force 8
- 3mb: force 9-1

Outside Air Temperature (OAT)

Temperature is expressed in degrees Celsius.

Weather

The final column of the weather report requires a general weather description. A table of descriptions is provided in the inside cover of the logbook.

Provision of Weather Reports

Reports on local weather conditions may be provided to the Coastguard:

- If requested.
- If weather conditions have significantly deteriorated.
- When the barometric pressure alters by more than 5mb in a watch.



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Members of the public, the Coastguard and others, may request the current weather conditions within the vicinity of the watchstation. They should be provided with the weather report as recorded in the station log. Advice must not be offered as to whether or not conditions are safe for any water-borne or coastal activity.

Maritime Safety Information (MSI) broadcasts

The Coastguard Maritime Safety Information (MSI) Service, which includes local maritime weather information, is usually broadcast by Coastguard stations around the UK at three-hourly intervals.

During the opening hours of Fleetwood (Rossall Point) watchstation there are usually three MSI broadcasts on channel 16 given by Holyhead CG advising the three channels (62, 63 and 64) on which the information will be broadcast. This information is usually given at 1030, 1330 and 1630. These broadcasts are not always transmitted.

The Shipping Forecast sea area for Fleetwood is 'Irish Sea' and the Inshore Waters area is "Great Orme to Mull of Galloway".

The MSI broadcasts for our area are made on VHF Channel 62 following the initial brief announcement on Channel 16.

- Gale Warnings relate to sea areas and are issued when winds of Force 8 and above are forecast. They are also issued for winds less than force 8 but when gusts to force 9 are expected. The warnings state the time of issue and remain in force until they are amended or cancelled and will be re-issued if the gale persists for more than 24 hours.
- Strong Wind Warnings relate to Inshore Waters and are issued when winds of Force 6 or more are forecast. The warnings are valid only until the next inshore forecast.

Inshore forecasts state when the forecast was issued and when it is valid from and valid to.

They comprise four elements: Wind, Sea State, Weather and Visibility and a typical forecast might read as follows:

- Great Orme Head to the Mull of Galloway.
- East or northeast 4 or 5, increasing 6 at times
- Slight or Moderate



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- Fair to Good

Should an element of the forecast be expected to change during the validity of the forecast the timing of that change can be expressed in the following terms:

- Imminent: Expected within six hours of time of issue
- Soon: Expected within six to 12 hours of time of issue
- Later: Expected more than 12 hours from time of issue

MSI broadcasts should be recorded in the logbook when 'Gale' and 'Strong Wind' warnings are forecast. The entry should be underlined in red ink and must include:

- The time of issue
- The time the forecast is valid from
- The time the forecast is valid to
- The details of the wind conditions Any other unusual conditions

Internet - Met Office Forecasts

A Met Office website page contains the exact wording of the inshore waters forecast and can be accessed at the following link.

www.metoffice.gov.uk/mobile/marine/inshore-waters.

A shortcut icon for this site is on the left hand desktop screen.

Relay of the Met Office Inshore Waters Forecast

Following discussions between the Maritime and Coastguard Agency (MCA) and the National Coastwatch Institution it has been agreed that NCI stations may relay the Inshore Waters Forecast for their specific area to mariners, subject to the following conditions:

- The forecast may be relayed using channel 65 in response to a specific request from a mariner who, for reasons beyond his/her control, has not been able to obtain it directly from HM Coastguard.



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- NCI must not broadcast the forecast.
- NCI stations must take all necessary steps to ensure that they have the latest version of the forecast and that they relay it with total accuracy.
- The NCI agree that all forecasts read out via VHF should begin “This forecast is issued by the Met Office on behalf of the Maritime and Coastguard Agency”. The VHF relay must conclude with “Forecast Ends”
- The NCI understand that this agreement does not constitute any formal part of the United Kingdom’s MSI system, and its use is not considered as a replacement or alternative to existing protocols available to mariners.
- NCI stations are aware that the forecast supplied to the MCA is under copyright to the Met Office and is a commercial agreement between the two organisations. Any deviation from the above conditions would infringe that agreement and could result in the withdrawal of permission for the NCI to relay that forecast.
- The NCI agree to record the number of times their staff relay the forecast, locations and to seek clarity from the mariner as to any difficulty in them obtaining the forecast through normal MCA / HMCG processes. This will support HMCG technical review of any geographic areas of concern.

In order to assist watchkeepers a pro-forma is kept in the “Watchkeepers Ready Reference” file which sets out the format of the procedure which must be used.

The forecast given will be for the Rossall Point local area and should be read directly from the website www.metoffice.gov.uk/mobile/marine/inshore-waters. A shortcut icon for this site is on the left hand desktop computer screen.

Each request for a forecast is to be recorded in the daily Log and should include the reason why the vessel had been unable to access the forecast from the regular broadcasts. The “Daily Activity Record” sheet should be completed to record the number of requests for a forecast made on each watch.