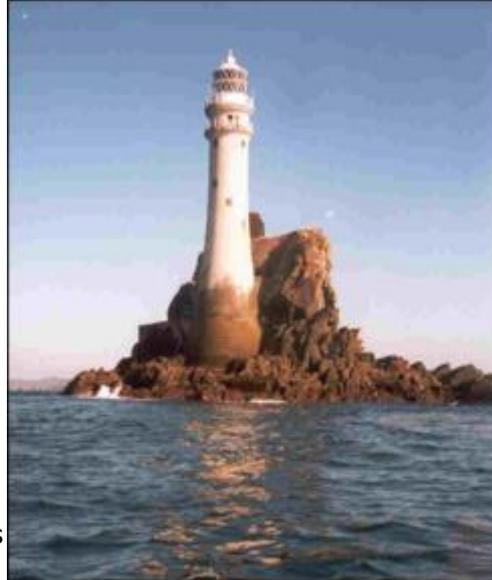


# WEATHER DATA COLLECTION & FORECASTING

## Safety at Sea

Weather is a major element in safety at sea. An accurate forecast can inform seafarers and help them to plan their route or even decide whether they will set out or not.

The weather at Mizen Head is a classic alternation of low and high-pressure systems (depressions and anticyclones). The prevailing wind is from the northwest. Mizen Head, the most south westerly point of Ireland, is projecting out into the Atlantic Ocean where the currents bring the warm waters of the tropics past in the Gulf Stream. The tides around Ireland and the Atlantic Ocean meet in a turbulent swirl. It is only possible to land onto the Fastnet Rock directly from a boat approximately twelve times in the year. Mid-Atlantic storms send huge waves to crash on the cliffs at Mizen.



Until recently the only way to predict the weather accurately was to rely on people collecting up to the minute data about the weather in their area. They passed it on to a central office where it was collated and analysed.

Lightkeepers had an important role in the collection of weather data. As a part of their daily routine they collected information about the weather for the Irish Lights. At regular intervals during the day they collected measurements and recorded them in ledgers. This information was not passed on daily. The information they collected was air temperature, barometric pressure, sea state, visibility, wind force and direction, Beaufort Weather Notation (Present weather).

The three lightkeepers on a station had 4-hour watches. 6am - 10 am., 10 am. - 2pm., 2pm. - 6pm., 6pm. - 10pm., 10pm. - 2am., 2am. - 6am. It went in rotation all week with a double watch on Sunday to move them into a different routine for the next week. As he went off watch a Lightkeeper would record the weather readings in the Irish Lights ledger.

At some stations including the Fastnet and Mizen, readings were taken by the Lightkeepers for the Meteorological Office, which contacted the station by telephone every day and the information was given in a coded form for speed and precision. Weather readings were quite complicated procedures.

There were nine readings to report.

Table I (1) N Amount of Sky Covered  
Table II (2) DD Wind Direction  
Table III (3) ff Wind Speed  
Table IV (4) VV Visibility  
Table V (5) ww Present Weather  
Table VI (6) W Past Weather (in the last 6 hours)  
Table VII (7) State of Sea  
TT Air Temperature  
PPP Atmospheric pressure

Each of these tables had a different code. It was much easier for a Lightkeeper to say to the weather office 'N8' than to say - the sky is completely overcast.

The code at the top of the Table gives the order in which readings were given at Mizen Head

MMDDHHHH (MIZEN HEAD) Nddff (Tables I, II, III) VVwwW (Tables IV, V, VI) PPPTT (Atmospheric pressure, Air Temperature) Sea State (Table VII) MINVIS/

So see if you can interpret this weather reading using the tables.

Coded weather reading:

N = 5  
DD = 27  
ff = 6  
97  
81  
8  
TT 10°C  
PPP 92  
5

The coded weather data means:

The sky is five eighths covered with cloud

The wind is from the west

The wind is a strong breeze blowing at 22 - 27 knots

The visibility is 6 miles

There are moderate to heavy rain showers

In the last six hours it was raining

TT The air temperature is ten degrees Celsius

PPP The atmospheric pressure is 992 millibars (low)

The Sea State is rough with the height of the waves 2.5 - 4 metres in height.

The Lightkeepers had to take these readings at set times every day - 6am., 11 am., 2pm., 4pm., 6pm. and 10pm.

### **Present Weather Data Collection**

With the development of satellites, weather data collection has been automated. A computer can collect data constantly and quickly.

Mizen Head Signal Station has been automated since 1993 and when the Lightkeepers left the collection of weather information ceased. There has been no weather data collection here since. Now an Automatic Weather Station has been installed at Mizen Head and Met Eireann can access the readings by modem.

The MILOS 520 System Automatic Weather Station is on a mast on the way down to the Signal Station.

On the mast there is:

An anemometer to read wind speed.

A wind vane to read direction

A digital barometer

A humidity and temperature probe

A rain gauge

A ground temperature sensor



In the Fastnet Hall the present weather is displayed on a monitor. It shows measurements of various elements of the weather in the last 24 hours.

### **Present Weather Monitor**

Air Temperature - how warm or cold it is

Humidity - how much moisture is in the air

Dewpoint Temperature - the temperature to which the air must be cooled for condensation to occur (for fog to form)

Pressure - to show low or high pressure

Precipitation - rain, sleet, and snow

Soil Temperature

Wind Direction

Wind Speed