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Prior to 1936 synoptic observations from the sea were provided almost entirely by voluntary observers on merchant ships apart from those obtained from the relatively small number of naval vessels. These observations, although extremely valuable to the forecaster, were necessarily restricted in nature, and more or less haphazard as regards position.

As trans-oceanic aircraft became a possibility, it became obvious that more detailed information was necessary than could be obtained from voluntary observers in moving ships in order to provide meteorologists and aircraft with accurate information about weather conditions at sea, both on the surface and in the upper atmosphere.

In 1936–37, the British Meteorological Office placed a meteorologist aboard a cargo steamer on the North Atlantic trade route for several voyages and obtained special synoptic observations as an experiment. Visual observations of cloud heights and of upper winds were obtained in this ship by tracking the movement of pilot balloons by using compass bearings and sextant altitudes.

In 1938–39 the French fitted out a merchant ship as a stationary meteorological ship in the North Atlantic. Radio-sonde and surface observations were obtained and transmitted ashore by W/T. About the same time the Germans had two special ships performing similar functions in connection with their trans-oceanic airways—one in the North Atlantic and one in the South Atlantic. The British Meteorological Office was exploring the possibility of fitting out a vessel specifically for this work in 1939.

The 1939–45 war put an end to the above activities but during the latter part of the war the USA and UK employed a number of small naval vessels as stationary meteorological ships in the North Atlantic.

When the war ended, the naval stationary vessels were withdrawn and observations depended again solely on merchant ships. However, these were not capable of providing upper air observations and in 1946 the International Meteorological Organization (IMO), the forerunner of the World Meteorological Organization (WMO), recommended the establishment of stationary meteorological ships in certain areas. Shortly after the International Civil Aviation Organization (ICAO) passed a similar resolution in Dublin and it was subsequently agreed that a total of 13 stations be established in the North Atlantic by July 1947.

The USA, Canada, France, Holland, Belgium, Norway, Sweden, UK, Eire, Denmark, Iceland, Portugal and Spain were all signatories to the 'Ocean Weather Ship' Agreement and the allocation of stations was as follows:

United States	7
Canada and United States jointly	1
France	1
United Kingdom	2
Norway, Sweden and UK jointly	1
Holland and Belgium jointly	1

It was decided that Portugal, Denmark and Iceland already contributed sufficiently by their stations in the Azores, Greenland and Iceland respectively, and that Eire should merely provide an annual monetary contribution to the scheme.

The duties of the weather ship would include: