

## History of the Marine Weather Services Program in the National Weather Service

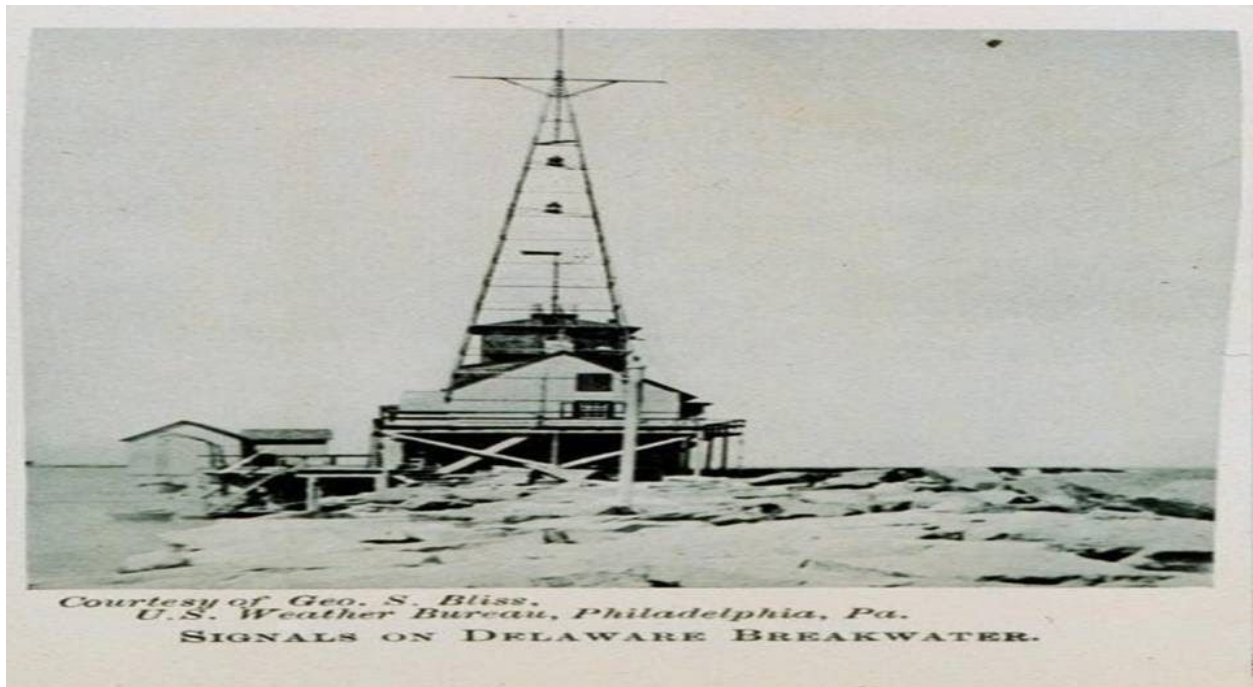
1873: A Marine weather program began on January 23, 1873 at the United States Army Signal Service's Division (US Army Signal Corps today) in New Orleans, Louisiana. On that day, the Signal Observer transcribed meteorological data from the ship logs of those arriving in port.

1901: Official three-day marine weather forecasts for the North Atlantic began in 1901 (from U.S. Navy).

1904: The responsibility of marine forecasting was transferred to the Weather Bureau in 1904.

1905: The SS New York transmits the first wireless weather report received on ship at sea.

1912: As a result of the Titanic disaster, an international ice patrol is established, conducted by the Coast Guard.



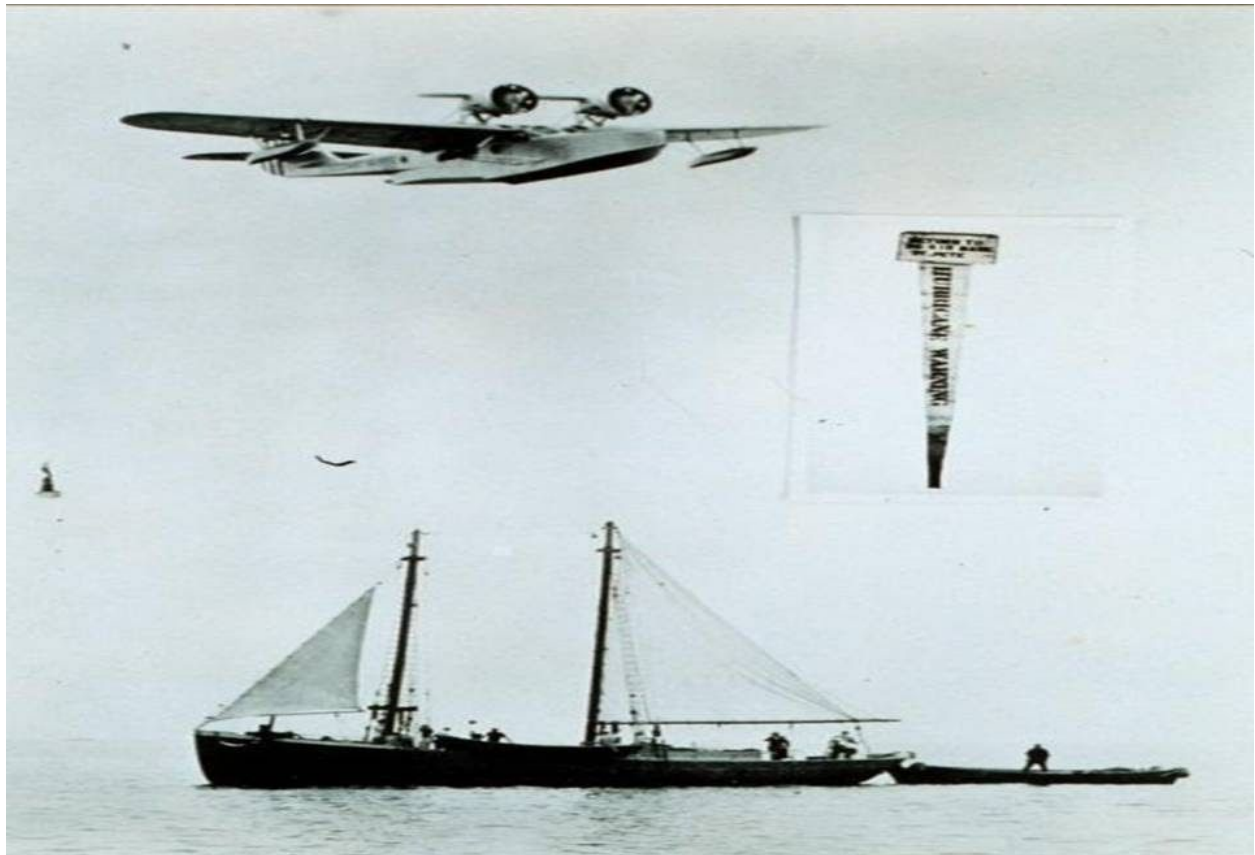
Picture 1 - Signal Tower for Storm Warning Flags used by day, lanterns by night. Used to warn mariners In: "The Boy and the U.S. Weather Men", 1917, p.236. Photo Courtesy of U.S. Weather Bureau circa 1910.

1914: In response to the Titanic disaster, The Safety of Life at Sea (SOLAS) Convention was established. The SOLAS Convention, generally regarded as the most important of all international treaties concerning the safety of merchant ships, required nations with established meteorological services to issue and broadcast meteorological forecasts and warnings for all of the world's open oceans.

1926: Weatherfax/Radiifax weather charts began being broadcast. The earliest broadcasts of weather maps via radiofacsimile appear to have been made in 1926 by American inventor Charles Francis Jenkins in a demonstration to the NAVY. Jenkins is often credited with the invention of the motion picture and later established the first U.S. TV station, W3XK in Washington D.C. and later, Wheaton, MD. RCA and the U.S. Weather Bureau conducted further tests and began cooperative efforts in 1930. Even in today's digital world, Radiifax weather maps remain a popular method for mariners to receive weather information; especially in the offshore and high seas areas.

1929: Second version of the SOLAS Convention was created.

1935: A hurricane warning service was established.



**Picture 2 - Coast Guard aircraft used to drop hurricane warnings to sponge fishermen off the west coast of Florida. Photo Courtesy of the National Weather Service circa 1938.**

1940: President Roosevelt orders the US Coast Guard to man ocean weather stations. US Navy creates a weather center.

1944: The decision to invade Normandy on June 6 was based on weather forecasts, which indicated the correct combination of tides and winds.

1948: Third version of the SOLAS Convention was created.

1957: US Weather Bureau began publishing Mariners Weather Log.

1960: 4<sup>th</sup> version of the SOLAS Convention was created.

1971: North Atlantic forecasts were shifted from a closed U.S. Navy endeavor to a National Weather Service product suite via radiofacsimile.

1972: Northeast Pacific forecasts became publicly available by the same method.

1974: The 1974 version of the SOLAS includes the tacit acceptance procedure - which provides that an amendment shall enter into force on a specified date unless, before that date, objections to the amendment are received from an agreed number of Parties. As a result the 1974 Convention has been updated and amended on numerous occasions. The Convention in force today is sometimes referred to as SOLAS, 1974, as amended.

1975: The first "hurricane hunter" Geostationary Operational Environmental Satellite (GOES) was launched into orbit; these satellites with their early and close tracking of hurricanes, greatly reduce the loss of life from tropical cyclones.

1977: The success of weather satellites results in the elimination of the last U.S. weather observation ship; real time access to satellite data by national centers advances hurricane, marine and coastal storm forecasts.

Mid 1990s: NWS FTPMail was established. FTPMail allows mariners to request and receive NWS products via email. FTPMail remains a popular method for mariners to access NWS marine products using a low bandwidth data transfer.

1999: The Global Maritime Distress and Safety System (GMDSS) was implemented February 1, 1999. The GMDSS is an integrated communications system using radio and satellite technology to broadcast Maritime Safety Information (MSI) to coastal, offshore and high seas areas of the world's oceans. A part of MSI is meteorological forecasts and warnings which are prepared by the NWS and broadcast by the US Coast Guard (via radio technology) and approved satellite companies several times each day.

2010s:

During this decade, the NWS began creating gridded marine forecasts and making them available to mariners. These products are stored in the National Digital Forecast Database (NDFD) and allow mariners to see marine forecasts in a digital and graphical representation.

The Nearshore Wave Prediction System (NWPS) is developed and provides on-demand, high-resolution nearshore wave model guidance to U.S. coastal WFOs, triggered in real time by forecast wind grids prepared and submitted by the individual offices.

<https://polar.ncep.noaa.gov/nwps/>

The Coastal Hazards: Total Water Level Viewer tool is developed and it displays experimental total water level and coastal change model guidance for select regions of the U.S. coastline using NWPS output and local beach characteristics

2020: A New satellite system (developed by Iridium), SafetyCast, will become operational. The system is similar to Inmarsat's SafetyNet and will give mariners over the high seas another option for receiving Maritime Safety Information and improve the ability to receive MSI in the Arctic and Antarctic regions.

For more about Marine Weather Forecasting in the National Weather Service, see this article in the December 2014 edition of the Mariners Weather Log:

### **Marine Weather Forecasting in the NWS**

<https://www.vos.noaa.gov/MWL/201412/forecasting.shtml>