

# Interpreting 48 Hour Surface Forecast Weather Faxes

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These surface forecast products generated twice each day for each ocean based on the 00Z and 12Z Global Forecast System (GFS) forecast model run outputs with additional guidance from other government agencies such as the NAVY's Navy Operational Global Atmospheric Prediction System (NOGAPS). Also, other foreign governments/university numerical model guidance is used such as the Canadian Regional (GEM), the United Kingdom UKMET, and the European (ECMWF) Model. The use of several numerical models allows adjustments to be made to the final forecast product. The products show surface isobars every 4 mb with labeling of 2 digits in increments of 8 mb. The central pressure millibar values of synoptic scale lows and highs in bold 3 or 4 digits are underlined adjacent to or under the "L" or "H". The 24-hour forecast position and future 72-hour forecast position of lows and highs have vector arrows with an "X" for low centers and a "circle with an X inside" by the head for high centers. An underlined bold two digit mb central pressure value will be placed under or adjacent to the 24/72 hour position label (e.g., 1050 mb high would be written as a 50 and a 960 mb low would have 60). The 48-hour surface forecast depicts wind speeds in knots (wind barbs in increments of 5 or 10 knots) for areas of wind in excess of 33 knots, and frontal systems (occluded, warm, and cold). Significant systems have labels depicting whether the system is expected to have "gale", "storm" or "hurricane force" conditions. If 72 hour forecast gale, storm or hurricane force conditions are expected, the appropriate area has the label "developing gale", "developing storm" or "developing hurricane force". If a tropical system such as a hurricane or typhoon is anticipated the 48-hour position will be indicated as a "tropical symbol". The 24-hour and 72-hour position will correspond to the latest official forecast from the Joint Typhoon Warning Center (JTWC) or Central Pacific Hurricane Center (CPHC) in the Pacific or the National Hurricane Center (NHC) in Miami, Florida which has responsibilities in the Atlantic and Pacific. The very timely issuance of the 48-hour surface forecasts, when used in conjunction with the 48-hour 500 mb and wind/wave forecast products can help vessels make course and speed adjustments to avoid the heaviest forecast wind and wave conditions or minimize the ship's exposure to heavy weather. The tracking history and forecast projection of highs and low from 24 hours through 72 hours will serve to extend the time usage of the product, thus aiding a vessel's Master in the determination of crew safety, minimizing ship or cargo damage, fuel economy, and maintaining schedules.