

NATIONAL WEATHER SERVICE INSTRUCTION 10-303

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Operations and Services

Marine And Coastal Weather Services, NWSPD 10-3

MARINE AND COASTAL SERVICES STANDARDS AND GUIDELINES

NOTICE: This publication is available at: <http://www.nws.noaa.gov/directives/>.

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SUMMARY OF REVISIONS: This directive supersedes NWSI 10-303, dated July 5, 2006. This directive contains the following changes:

1. Added a wind amendment guideline in Section 2.1 when sustained wind and/or gust conditions begin to affect marine operations adversely or favorably.
2. Changed visibility amendment guidelines in Section 2.3 from $\frac{1}{4}$ NM to 1 NM.

signed
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Date

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1. General Guidelines. The forecaster is responsible for the timeliness, currency, and accuracy

of the marine weather products issued for the marine area of responsibility. However, to the extent possible, forecasters should try to maintain spatial and temporal consistency between adjoining offices and from one forecast period to the next. Forecasters from WFOs will use the Interactive Forecast Preparation System (IFPS) intersite coordination tools to minimize discontinuities in gridded products prepared at adjoining offices.

Marine forecasts will include significant or predominant weather events impacting marine users. Wind and sea conditions will always be included in NWS marine forecasts. To most effectively describe these conditions, one value or a small range of values should be used. To avoid confusion, transition terms for winds and seas should be discrete and consistently used. Wind speed transition terms such as "INCREASING" and "DIMINISHING" and direction transition terms such as "BECOMING" and "SHIFTING" should be used to add clarity to the forecast trends. The terms "VEERING, BACKING, BECOMING, SHIFTING," or "RISING" may be used when appropriate, but **not** "DECREASING." For seas, transition terms such as "BUILDING" and "SUBSIDING" should be used.

NWS marine products may include tidal information. If it is included, it should cover no more than 24 hours and will be based on official Government observations or predictions.

Marine forecasts should not use the word "under" when describing winds below a certain threshold. Instead use the words "less than". For instance, in the High Seas Forecast, state "WINDS LESS THAN 20 KT" versus "WINDS UNDER 20 KT". Similarly, do not use the word "below" when describing seas less than a certain threshold. Instead use the words "less than". For instance, in the High Seas Forecast, state "SEAS LESS THAN 8 FT", versus "SEAS BELOW 8 FT". Also, use separate sentences when describing the wind and sea conditions in the Offshore Waters and High Seas Forecasts.

2. Update Guidelines. Forecasters should update forecasts whenever existing or expected weather conditions differ significantly (i.e., there is a change in a warning or advisory status) from the forecast which are expected to continue for more than 2 hours. If an amendment is needed near the next scheduled forecast time (i.e., within an hour), the forecaster may issue that forecast early in lieu of an amendment. Specific instructions and criteria are described in NWSI 10-310, 10-311, and 10-312.

Based on available information, use the following guidelines for updating marine forecasts. The regions and local offices may develop local updating procedures and criteria to supplement these.

2.1 Wind. Amend if:

- a. Unpredicted change in status of advisories or warnings.
- b. Highest sustained wind speed increased or diminished 10 KT or more from forecast (20 KT or more if no change in hurricane force wind warning status occurs).

- c. Mean wind direction changes by more than 45 degrees from forecast when speeds are 20 KT or greater.
 - d. Sustained wind and/or gust conditions begin to affect marine operations adversely or favorably.
- 2.2 Seas. Amend if unpredicted wind wave, swell, or combined seas begin to affect marine operations either adversely or favorably.
- 2.3 Visibility. For WFOs providing visibility forecasts, amend if:
- a. No restriction to visibility is in the forecast and the forecast visibility of 5NM or more changes to 1 NM or less over a significant part of the forecast area.
 - b. Forecast visibility of 1 NM or less increases to 5 NM or more over a significant part of the forecast area.
- 2.4 Weather. Amend if significant, unpredicted changes in weather begin to affect marine operations either adversely or favorably.
- 2.5 Severe Local Storm Watches. If a watch for severe local storms is issued over marine zones, the routine marine forecast will be updated.
3. Warning/Advisory Guidelines. Criteria for all marine warnings and advisories are defined in NWSI 10-301. Instructions on short-duration warning events (lasting 2 hours or less) are contained in NWSI 10-313.

Headline standards and other appropriate methods for highlighting long duration events (more than 2 hours) are described in NWSI 10-310, 10-311, and 10-312.

If, in a forecast, a forecaster includes a range of winds or seas which cross a warning or advisory threshold, the highest value will determine the advisory or warning category (e.g., a gale warning is issued for a forecast of 'Winds 25 to 35 KT').

The forecaster may use gust speeds rather than the sustained winds if these values better describe existing conditions. In such cases, a significant portion of the area/zone(s) should be affected. As a guideline, this could include at least half of the affected area/zone(s) through at least half the affected forecast period(s).

If a tropical cyclone is anticipated to impact a marine area, the headlines associated with that

system, as issued by the TPC, CPHC, or WFO Guam (based on Joint Typhoon Warning Center guidance) supersede all other headlines.

4. Coordination and Collaboration. Field offices with adjoining or overlapping areas of responsibility should coordinate and collaborate to ensure products are consistent and compatible. This effort includes communication with appropriate governmental forecast agencies outside the United States.

Forecasters should reference Section 4, Intersite Coordination and Collaboration, of NWSI 10-506, Digital Data Products/Services Specification for detailed information on the coordination and collaboration processes for gridded forecasts and analyses, available at: <http://www.nws.noaa.gov/directives/>

4.1 USCG. The USCG is responsible for disseminating marine safety messages, including marine weather forecasts and warnings, to mariners in and around the U.S. coastline. It also retrieves and forwards observational data to the NWS. National, regional, and local level NWS managers should closely work with their USCG counterparts to ensure the most effective level of service is provided.

4.2 HAZMAT. Assistance to the NOAA Office of Response and Restoration (NOAA HAZMAT): <http://response.restoration.noaa.gov>

Hazardous Materials (HAZMAT) releases: NWS marine forecast offices will maintain current phone numbers and contact information of their NOAA HAZMAT Scientific Support Coordinator(s) (SSC). Offices will also maintain standard procedures to anticipate and respond to the specialized forecasting needs of an oil spill or other marine HAZMAT release. An example of a HAZMAT template is shown in Appendix B. Note: Offices may maintain other HAZMAT information as needed by local, state, or Federal authorities.

4.3.1 Users. To ensure user needs are being met, the NWS will maintain regular contact with users of its marine products. Similarly, the NWS will cooperate with other NOAA offices to meet organizational goals.

5. Marine Standards. Appendix A provides the standards NWS personnel should strive for within the marine service program.

APPENDIX A - NWS Marine Standards

<u>ASPECT</u>	<u>STANDARD</u>	<u>MEASURE</u>
Timeliness	Routine products disseminated according to published time schedules	Compare issuance and scheduled times
	Event driven products disseminated as soon as possible	Compare lead time between event occurrence and product issuance
Accuracy	Products consistent with actual weather	Compliance with amendment criteria
Consistency	Products coordinated between adjoining areas	Consistency between neighboring areas
	Products consistent with other in-office products	Consistency with appropriate aviation and public products
Format	Products disseminated in the proper format	Comparison with approved format
	Products contain required information	Comparison with approved content
	Products grammatically correct	Compliance with correct spelling and approved acronyms
Usefulness	Products clear and concise	Easily comprehended by users

APPENDIX B - Example of a NOAA HAZMAT weather template

INCIDENT TITLE:

Time (Local), Day (alpha) Month (alpha) Day (numeric), Year (numeric)

Sunrise/Sunset (Current Day):

Sunrise/Sunset (Current Day +1):

0-36 Hour Forecast:

Winds:

General wind speed in knots and direction (in degrees or 8 points of the compass), but often necessary to break the speed and direction into ranges of uncertainty. Local effects and unique characteristics of the area are very important.

Waves (if applicable):

Generally combined seas, but often necessary to have wind waves and swell height and direction separated. Local effects and unique characteristics of the area are very important.

Precipitation:

Continuous rain, shower and/or thunderstorm activity, but often necessary to have daily and weekly accumulation totals.

Ceiling/Visibility:

Cloud cover, haze or fog with visibility in nautical miles.

Temperatures:

General range of highs and lows.

Extended Forecast: (usually day 3 and 4 from current day)

Hydrology (if applicable):

Five day forecast, gauge readings, flood stages, current CFS (cubic feet per second) flow rate and historical normals for the current year.

Severe Weather Update (if applicable):

Severe thunderstorms, tropical depressions, tropical storms and hurricanes. Necessary to supply storm track data from storm centroid.

Special:

If gaseous chemical spill or in-situ burn, then must include stability class inversion height, mixing layer, wind shear. If in situ burn in vegetation, then include relative humidity (fuel dryness).