

NATIONAL WEATHER SERVICE INSTRUCTION 10-315
OCTOBER 18, 2012

Operations and Services
Marine and Coastal Weather Services, NWSPD 10-3
MARINE WEATHER MESSAGE

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SUMMARY OF REVISIONS: This directive supersedes NWSI 10-315, Marine Weather Message dated September 10, 2010. This directive includes the following changes:

1. Changed wording to highlight Hazardous Weather Outlook in 3.a, 4, 4.2, 4.3
2. Made wording on update times more consistent in 5.2.3 and 5.2.5
3. Removed mention of mph in 5.2.2.1 and 6.2.2.1
4. Updated examples in Appendix A and added example of Hurricane Force Wind Warning.
5. Amended wording on frequent gusts in 5.2.2.1, 6.2.2.1 and 7.2.2.1 and added disclaimers at bottom of tables on regional/local criteria.
6. Added new Ashfall Warning Example in Appendix A.

signed

David B. Caldwell

Director, Office of Climate, Water and Weather Services

October 4, 2012

Date

Marine Weather Message

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1. **Introduction.** This procedural directive describes the marine weather message product issued by National Weather Service (NWS) Weather Forecast Offices (WFOs) serving the U.S. coastal waters and Great Lakes, except in Alaska, guidelines associated with this product, and detailed content and format.

2. **Marine Weather Event.** A marine weather event is a meteorological phenomenon that impacts public safety, transportation, and/or commerce.
 - 2.1 **Marine Weather Event Beginning Time.** A marine weather event begins either when the issuance criteria are forecast to be initially met or exceeded, or when public safety, transportation and/or commerce are adversely affected as a direct result of the expected or occurring meteorological conditions before criteria are met.

 - 2.2 **Marine Weather Event Ending Time.** A marine weather event ends when the issuance criteria are forecast to no longer be met, when meteorological conditions are expected to no longer pose a threat to public safety, transportation and/or commerce, or when such conditions are forecast to end.

3. **Multi-tiered Concept.** The NWS marine weather warning program should use, when appropriate, the multi-tiered concept to increase public awareness and promote a proper response to the impending hazardous marine weather event. Generically, the multitiered concept is:
 - a. **Outlook** An outlook is used to indicate that a hazardous marine weather event may develop. It is intended to provide information to those who need considerable lead time to prepare for the event. Marine outlooks are issued with a Hazardous Weather Outlook (HWO) and/or a Marine Weather Statement (MWS).

 - b. **Watch** A watch is used when the risk of a hazardous marine weather event has increased, but its occurrence, location, and/or timing is still uncertain. It is intended to provide enough lead time so those who need to set their plans in motion can do so.

 - c. **Warning** A warning is used when a hazardous marine weather event is occurring, is imminent, or has a very high probability of occurrence. A warning is used for conditions posing a threat to life or property.

 - d. **Advisory** An advisory is used for less serious conditions that cause significant inconvenience and, if caution is not exercised, could lead to situations that may threaten life and/or property.

To properly apply the multi-tiered concept, it is important to have agreement between the forecast staff and other affected WFOs to reach a forecast consensus. This will increase consistency and decrease geographical/time discontinuities, especially for the longer duration products like outlooks and watches. Proper coordination will enable the NWS to speak with one voice when alerting users to the potential for such an event.

4. Marine Weather Outlook (product category HWO or MWS).

4.1 Mission Connection. Marine weather outlooks provide our users and partners three to five day (3-5) advance notice of a hazardous marine weather event which has the potential to threaten life or property. The primary goal of this product is to provide information to those who need considerable lead time to prepare for the event.

4.2 Issuance Guidelines. WFOs should use the Hazardous Weather Outlook (HWO) and/or the Marine Weather Statement (MWS) to highlight hazardous marine weather conditions beyond 48 hours.

4.3 Technical Description. Marine outlooks should follow the format and content described in NWSI 10-517, section 4.3 for the Hazardous Weather Outlook (HWO) and NWSI 10-314, section 2.3 for the Marine Weather Statement (MWS).

5. Marine Weather Watches (product category MWW).

5.1 Mission Connection. Marine watches provide our users and partners 12-to-48 hour advance notice of hazardous marine weather events which have the potential to threaten life or property. The primary goal of this product is to provide enough lead time for mariners who may wish to consider altering their plans.

5.2 Issuance Guidelines.

5.2.1 Creation Software. WFOs will use the AWIPS Graphical Hazard Generator (GHG) as the primary software to create and issue marine watches.

5.2.2 Issuance Criteria. WFOs should issue a marine watch when conditions are favorable for a hazardous marine weather event to develop over part or all of the marine forecast area, but the occurrence is uncertain. WFOs should issue a marine watch for the second, third, or occasionally fourth forecast periods, when there is a significant chance of a hazardous marine weather event meeting or exceeding warning criteria.

5.2.2.1 Marine Watch Products The list of all possible watch products affecting marine areas and subsequent issuance criteria are listed in Table 1.

Marine Watch Product Name	Issuance Criteria
Gale Watch	Conditions are favorable for a gale force wind event to meet the Gale Warning criteria of sustained winds or frequent gusts* of 34 knots to 47 knots in the next 12 to 48 hours.
Storm Watch	Conditions are favorable for a storm force wind event to meet Storm Warning criteria of sustained winds or frequent gusts* of 48 knots to 63 knots in the next 12 to 48 hours.
Hurricane Force Wind Watch	Conditions are favorable for a hurricane force wind event to meet or exceed Hurricane Force Wind Warning criteria of sustained winds or frequent gusts* of 64 knots or greater in the next 12 to 48 hours.
Heavy Freezing Spray Watch	Conditions are favorable for a heavy freezing spray event to meet local Heavy Freezing Spray Warning criteria in the next 12 to 48 hours.
Hazardous Seas Watch	Conditions are favorable for a hazardous seas event to meet or exceed Hazardous Seas Warning criteria in the next 12 to 48 hours.

Table 1. Marine watch product table.

* Frequent Gusts: For 2 or more hours during a 12 hour forecast period

5.2.3 Issuance Time The marine watch is an event-driven product. WFOs should issue the initial watch when the watch issuance criteria are met. Subsequent updates are issued at least once every 12 hours until a warning or advisory is issued or the watch is cancelled.

5.2.4 Valid Time A marine watch is valid for 12 to 48 hours after the issuance time. The valid time (event start and end time) is placed in the P-VTEC line and described in the watch headline.

5.2.5 Product Expiration Time. The product expiration time is generally 12 hours after the issuance time and is placed at the end of the UGC string. The product expiration time is the time when users can expect to receive an updated MWW.

5.2.6 Event Ending Time. The event ending time is when the marine hazardous event is expected to end. The event ending time is placed in the P-VTEC line and described in the watch headline (e.g., GALE WATCH IN EFFECT FROM LATE SUNDAY NIGHT TO MONDAY MORNING).

5.3 Technical Description. Marine watches will follow the format and content described in this section.

5.3.1 Universal Geographic Code Type. Marine watches will use the (Z) form of the UGC.

5.3.2 Mass News Disseminator Broadcast Instruction Line. Not applicable.

5.3.3 Mass News Disseminator Product Type Line. The marine watch MND line is URGENT - MARINE WEATHER MESSAGE.

5.3.4 Marine Watch Content. The marine watch may contain an overview section, but will include segmented forecast information.

5.3.4.1 Overview Section. The marine watch overview section is optional. If included, it should contain at least one of the following items:

a. Overview Headline - a general headline statement that summarizes the hazardous weather threat, area affected and expected time of development. The overview headline will begin and end with three periods...

Example:

...STORM FORCE WINDS POSSIBLE TUESDAY AND TUESDAY NIGHT...

b. Overview - a brief, non-technical description of the developing marine event. The description may include the location and movement of large scale weather features (e.g., fronts, low pressure systems). The first line of this descriptive information will be preceded by a period.

5.3.4.2 Segmented Forecast Information. Each segment of the marine watch will include a watch headline. The headline should be followed by a descriptive text describing why the watch

was issued. Each segment describes a specific hazardous marine weather event(s) for the same geographical area.

a. Watch Headline. The watch headline will include the following elements in the order shown:

- (1) Leading ellipsis (...)
- (2) Valid watch product name listed in Table 1.
- (3) Event action phrase defined in Table 2.
- (4) General event beginning day and time phrase
- (5) General event ending day and time phrase
- (6) Trailing ellipsis (...)

Generic Watch Headline Format:

(1) Used when watch product is in effect:

...<watch product name> <event action phrase> FROM <event beginning date and time phrase> THROUGH <event ending date and time phrase>...

(2) Used to cancel a watch prior to event beginning date and time:

...<watch product name> IS CANCELLED...

Event Action Phrase. The event action phrase in the watch headline corresponds with the VTEC action code. Only the following event action phrases in Table 2 will be used in marine weather watch headlines:

VTEC Action Code	Description	Required Event Action Phrase	Include Time/Date phrase?
NEW	Initial Issuance	IN EFFECT	Yes
EXA	Expansion of watch area	IN EFFECT	Yes
EXB	Expansion of watch area and change to watch valid time	IN EFFECT	Yes

CON	Continuation or update of event	REMAINS IN EFFECT	Yes
EXT	Extend/shorten event start and/or ending date/time	NOW IN EFFECT	Yes
CAN	Product cancelled prior to event end time	IS CANCELLED	No
UPG	Upgrade watch - no headline		

Table 2. Event action phrases for MWW watch headlines.

a. Watch Headline Examples:

(1) Initial issuance:

...GALE WATCH IN EFFECT FROM SUNDAY MORNING THROUGH MONDAY MORNING...

(2) Update:

...GALE WATCH REMAINS IN EFFECT FROM SUNDAY MORNING THROUGH MONDAY MORNING...

(3) Extended event end time:

...GALE WATCH NOW IN EFFECT FROM SUNDAY MORNING THROUGH MONDAY AFTERNOON...

(4) Expansion of watch area and shortened event start and end time:

...GALE WATCH IN EFFECT FROM SATURDAY EVENING THROUGH SUNDAY EVENING...

(5) Watch cancelled prior to event end time/date:

...GALE WATCH IS CANCELLED...

b. Watch descriptive Text. This section should provide the following watch information:

(1) National Weather Service attribution line. For the **initial** watch, include the following phrase to begin the text of a watch:

THE NATIONAL WEATHER SERVICE IN [WFO NAME or LOCATION] HAS ISSUED A (e.g., GALE/STORM/HURRICANE FORCE WIND) WATCH.

The attribution line is optional for subsequent issuances.

- (2) Reason watch was issued. Include marine weather elements prompting the watch.
- (3) Generalized quantitative wind speed forecasts (or frequent gusts, wave heights, steepness, etc.) based upon warning criteria (e.g., when the risk of gale force winds of 34 to 47 knots has significantly increased).
- (4) Explanation of a watch and uncertainty involved. Include the following phrase to define a marine watch:

A (e.g., GALE/STORM/HURRICANE FORCE WIND) WATCH IS ISSUED WHEN THE RISK OF (e.g., GALE/STORM/HURRICANE FORCE WINDS) HAS SIGNIFICANTLY INCREASED, BUT THE SPECIFIC TIMING AND/OR LOCATION IS STILL UNCERTAIN.

- (5) Brief potential impact or Call To Action (CTA) statements. CTA's can be effective in reminding mariners what actions to take in preparing themselves for the potential hazardous marine weather event.

c. Order of Segments. Marine watches are usually placed last in the order of segments. This order was designed to place the most important and/or time sensitive information near the beginning of the message. The order of segments is:

- (1) Cancellation
- (2) Warnings
- (3) Advisories
- (4) **Watches**

d. Multiple Headlines. More than one headline is allowed in a segment when two or more marine weather events are forecast to occur for the same UGC or geographical area.

Example:

Small Craft Advisory and Gale Watch in effect for the same geographical area.

...SMALL CRAFT ADVISORY IN EFFECT UNTIL 9 AM EST THIS MORNING...
...GALE WATCH IN EFFECT FROM THURSDAY AFTERNOON THROUGH FRIDAY AFTERNOON...

5.3.5 Format.

<u>Product Format</u>	<u>Description of Entry</u>
WHaaii cccc ddhhmm MWWxxx	(WMO Heading) (AWIPS ID)
URGENT - MARINE WEATHER MESSAGE NATIONAL WEATHER SERVICE city state time am/pm time_zone day mon dd yyyy	(Product Name or MND) (Issuing Office) (Issuance time/date)
...<Overview headline statement>...	(Optional)
.<General marine weather synopsis>	(Optional - one to three paragraphs)
mmZxxx-xxx-xxx-ddhhmm- /k.aaa.cccc.pp.s.####.yymmddThhnnZB- yymmddThhnnZE/ zone-zone-zone- time am/pm time_zone day mon dd yyyy	(UGC: Z & expiration time) (P-VTEC Line(s)) (Zone Names) (Issuance time/date)
...WATCH HEADLINE...	(Two to three paragraphs)
<Descriptive Text>	
{Includes the following information: 1. NWS attribution line (Optional after initial issuance) 2. Why watch was issued 3. Potential Impact	(Start of CTA Marker)
PRECAUTIONARY/PREPAREDNESS ACTIONS...	(End of CTA Marker)
4. Definition of a watch with uncertainty 5. Call to action statement.	(UGC Delimiter)
&&	(Optional after last segment)

\$\$ Name/Initials/Forecaster ID	
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Figure 1. Generic format for a marine watch.

5.4 Updates, Cancellations, and Corrections. WFOs will update marine watches at least once every 12 hours, or when there is a significant change in timing, areal extent, or expected conditions. WFOs should issue the updated MWW before the product expiration time is reached.

Marine watches are either upgraded to warnings or advisories, or cancelled.

WFOs will issue a MWW to cancel a watch when the forecaster believes the threat of hazardous marine weather will not develop.

WFOs will issue correction statements for format or grammatical errors as required. To reduce format or grammatical errors, forecasters should proofread the product before transmission.

5.5 Upgrade Watch to Warning or Advisory. When a marine weather watch is upgraded to a marine weather warning or marine weather advisory for the same geographical area, the MWW segment will contain one headline and two P-VTEC lines. The headline will list the new warning or advisory only. The first P-VTEC line will use the UPG action code to show the old marine weather watch is being upgraded. The second P-VTEC line will either use the NEW action code to start the new marine weather warning or advisory, or use the EXA or EXB action code to extend an existing marine weather warning or advisory into this geographical area.

5.5.1 Upgrade Watch to Warning Segment Example.

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ANZ050          -050245-
/O.UPG.KCAR.SR.A.0001.060805T0800Z-060805T2300Z/   (P-VTEC line 1)
/O.NEW.KCAR.SR.W.0001.060805T0800Z-060805T2300Z/   (P-VTEC line 2)
COASTAL WATERS FROM EASTPORT ME TO STONINGTON ME OUT 25 NM -
237 PM EDT FRI AUG 4 2006
  
```

...STORM WARNING IN EFFECT FROM 4 AM TO 7 PM EDT SATURDAY...
(Only one headline used - lists active marine weather warning)

<descriptive text>

\$\$

6. Marine Weather Warnings (product category MWW).

6.1 Mission Connection Marine weather warnings provide our users and partners advance notice of hazardous marine weather events that threaten life or property.

6.2 Issuance Guidelines.

6.2.1 Creation Software WFOs will use AWIPS GHG as the primary software to create and issue marine warnings.

6.2.2 Issuance Criteria. WFOs will issue marine weather warnings when hazardous marine weather is imminent, occurring or highly likely over part or all of the forecast area. WFOs should issue a marine weather warning for the first, second, or occasionally third forecast periods, when there is high confidence of a hazardous marine weather event meeting or exceeding warning criteria.

6.2.2.1 Marine Weather Warning Products. The list of all possible warning products affecting marine areas and subsequent issuance criteria are listed in Table 3.

Warning Product Name	Issuance Criteria
Ashfall Warning	A warning issued for a volcano undergoing a major eruption where mariners will be affected to a significant extent such as greater than or equal to ¼” of ashfall accumulation, significant debris, lava or lahar flows.
Gale Warning	Sustained surface winds, or frequent gusts* in the range of 34 knots to 47 knots inclusive, either predicted or occurring, and not directly associated with a tropical cyclone.
Storm Warning	Sustained surface winds, or frequent gusts* in the range of 48 knots to 63 knots inclusive, either predicted or occurring, and not directly associated with a tropical cyclone.
Hurricane Force Wind Warning	Sustained winds, or frequent gusts* of 64 knots or greater, either predicted or occurring, and not directly associated with a tropical cyclone.
Heavy Freezing Spray Warning	An accumulation of freezing water droplets on a vessel at a rate of 2 cm per hour or greater caused by some appropriate combination of cold water, wind,

	cold air temperature, and vessel movement.
Hazardous Seas Warning	Wave heights and/or wave steepness values meeting or exceeding locally defined warning criteria.

Table 3. Marine Warning product table

* Frequent Gusts: For 2 or more hours during a 12 hour forecast period

6.2.3 Issuance Time. A marine weather warning is an event-driven product and is initially issued when a hazardous marine weather event is expected to meet or exceed local warning criteria. WFOs should issue updated warnings at least once every six to eight hours until the event ends or is canceled.

6.2.4 Valid Time. A marine weather warning is valid up to 36 hours after the issuance time. The valid time (event start and end times) is placed in the P-VTEC line(s) and is described in the warning headline. In extreme cases, the valid time may exceed 36 hours from the time of issuance.

6.2.5 Product Expiration Time. The product expiration time is generally 6 to 8 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end. The product expiration time is placed in the UGC line.

6.2.6 Event Ending Time. The event ending time is when the hazardous marine weather event is expected to end. The event ending time can match the product expiration time if the warning is in effect for eight hours or less. The event ending time is placed in the P-VTEC line and is described in the warning headline (e.g., STORM WARNING IN EFFECT UNTIL 9 AM EST TODAY). The event ending time should generally not exceed 36 hours from the time of issuance.

6.3 Technical Description. Marine weather warnings will follow the format and content described in this section.

6.3.1 Universal Geographic Code Type. Marine weather warnings will use the (Z) form of the UGC.

6.3.2 Mass News Disseminator Broadcast Instruction Line. Not applicable.

6.3.3 Mass News Disseminator Product Type Line. The marine weather warning MND line is URGENT - MARINE WEATHER MESSAGE.

6.3.4 Content. The marine weather warning may contain an overview section, but will include segmented forecast information.

6.3.4.1 Overview Section. The marine weather warning overview section is optional. If included, it should contain at least one of the following items:

a. Overview Headline - a general headline statement that summarizes the hazardous weather threat, area affected and expected time of development. An ellipsis “...” will begin the overview headline.

Examples:

...GALE FORCE WINDS DEVELOPING THIS AFTERNOON AND TONIGHT...
...STORM FORCE WINDS WILL IMPACT THE PACIFIC NORTHWEST
COASTAL WATERS LATE TONIGHT AND FRIDAY...

b. Overview - a brief, non-technical description of the developing marine event. The description may include the location and movement of large scale weather features (e.g., fronts, low pressure systems). A period “.” will precede the first line of this descriptive information.

6.3.4.2 Segmented Forecast Information. Each segment of a marine weather warning will include a warning headline. The headline should be followed by a descriptive text describing why the warning was issued. Each segment describes a specific hazardous marine weather event(s) for the same geographical area.

a. Warning Headline. The warning headline should include the following elements in the order shown:

- (1) Leading ellipsis (...)
- (2) Valid marine weather warning product name listed in Table 3.
- (3) Event action phrase defined in Table 4.
- (4) Appropriate event beginning day and time phrase from Tables 1-3 of NWSI 10-310
- (5) Appropriate event ending day and time phrase from Tables 1-3 of NWSI 10-310
- (6) Trailing ellipsis (...)

Generic Warning Headline Format.

(1) Warning product issuance time prior to event beginning time:
...<warning product name> <event action phrase> FROM <event beginning date and time phrase> TO <event ending date and time phrase>...

(2) Warning product issuance time equals event beginning time:
...<warning product name> <event action phrase> UNTIL <event ending date and time phrase>...

(3) Warning product cancellation or expiration statement:
...<warning product name> <event action phrase>...

Event Action Phrase. The event action phrase in the warning headline corresponds with the VTEC action code. Only the following event action phrases in Table 4 will be used in marine weather warning headlines:

VTEC Action Code	Description	Required Event Action Phrase	Include Time/Date ?
NEW	Initial warning issuance	IN EFFECT	Yes
EXA	Expansion of warning area	IN EFFECT	Yes
EXB	Expansion of warning area and change to warning valid time	IN EFFECT	Yes
CON	Continuation or update of warning	REMAINS IN EFFECT	Yes
EXT	Extend/shorten warning start and/or ending date/time	NOW IN EFFECT	Yes
CAN	Warning cancelled prior to event end time	IS CANCELLED	No
EXP	Advisory approaching the expiration time. Used up to 30 minutes prior to advisory end time.	WILL EXPIRE AT	Yes
	Advisory has expired. Used up to 30 minutes after advisory expiration has passed.	HAS EXPIRED	No

UPG	Upgrade - Not applicable		
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Table 4. Event action phrases for MWW warning headlines.

a. Warning Headline Examples:

(1) Initial issuance or expansion in area:

...STORM WARNING **IN EFFECT** FROM 7 AM THIS MORNING TO 11 AM EST WEDNESDAY...

(2) Update:

...STORM WARNING **REMAINS IN EFFECT** UNTIL 11 AM EST WEDNESDAY...

(3) Change to event end time:

...STORM WARNING **NOW IN EFFECT** UNTIL 5 PM EST WEDNESDAY...

(4) Cancelled prior to event end time/date:

...STORM WARNING **IS CANCELLED**...

(5) Expiration statement up to 30 minutes prior to event end time:

...STORM WARNING **WILL EXPIRE** AT 5 PM EST THIS AFTERNOON..

(6) Expiration statement up to 30 minutes after event end time:

...STORM WARNING **HAS EXPIRED**...

b. Warning descriptive Text. This section should include the following warning information:

(1) National Weather Service attribution line. For the **initial** warning, include the following phrase to begin the text of a warning:

THE NATIONAL WEATHER SERVICE IN [WFO NAME or LOCATION] HAS ISSUED A (e.g., GALE/STORM/HURRICANE FORCE WIND) WARNING.

The attribution line is optional for subsequent issuances.

- (2) Reason warning was issued. Include marine weather element(s) prompting the warning.
- (3) Quantitative wind speed forecasts (or wave heights, steepness, etc.).
- (4) Definition of a warning when event has not yet begun. Use the following phrase to define a warning:

**A (GALE/STORM/HURRICANE FORCE WIND, etc.) WARNING MEANS
(HAZARDOUS WEATHER CONDITIONS) ARE IMMINENT OR OCCURRING.**

- (5) Brief CTA statements, safety rules.

c. Order of Segments. Marine weather warnings are placed second in the order of segments. This order was designed to place the most important and/or time sensitive information near the beginning of the message. The order of segments is:

- (1) Cancellation
- (2) **Warnings**
- (3) Advisories
- (4) Watches

d. Multiple Headlines. More than one headline is allowed in a segment when two or more marine weather events are forecast to occur for the same UGC or geographical area.

Example:

Gale Warning and Storm Watch in effect for the same geographical area.

...GALE WARNING IN EFFECT UNTIL 9 AM EST THIS MORNING...
...STORM WATCH IN EFFECT FROM THURSDAY AFTERNOON
THROUGH FRIDAY AFTERNOON...

6.3.5 Format.

<u>Product Format</u>	<u>Description of Entry</u>
WHaaii cccc ddhhmm MWWxxx	(WMO Heading) (AWIPS ID)
URGENT - MARINE WEATHER MESSAGE NATIONAL WEATHER SERVICE city state time am/pm time_zone day mon dd yyyy	(Product Name or MND) (Issuing Office) (Issuance time/date)
...<Overview headline statement>...	(Optional)
.<General marine weather synopsis>	(Optional - one to three paragraphs)
mmZxxx-xxx-xxx-ddhhmm- /k.aaa.cccc.pp.s.####.yymmddThhnnZB-yymmddThhnnZE/ zone-zone-zone- time am/pm time_zone day mon dd yyyy	(UGC: <u>Z</u> & expiration time) (P-VTEC Line(s)) (Zone Names) (Issuance time/date)
...WARNING HEADLINE...	
<Descriptive Text> {Includes the following information: 1. NWS attribution line (Optional after initial issuance) 2. Why warning was issued (marine weather element(s) prompting the warning) 3. Timing of the event (beginning, ending, timing of worst conditions, duration)	(Two to three paragraphs)
PRECAUTIONARY/PREPAREDNESS ACTIONS... 4. Definition of a warning (before event begins) 5. Potential impact, call to action statement.	(Start of CTA Marker)
&& \$\$	(End of CTA Marker)
Name/Initials/Forecaster ID	(UGC Delimiter) (Optional after last segment)

Figure 2. Generic format for a marine weather warning.

6.4 Updates, Cancellations, and Corrections. WFOs will update marine weather warnings at least once every six to eight hours until the event ends or is canceled. WFOs should issue the updated MWW before the product expiration time is reached. Frequent updates help to keep our users and partners informed on the current and short term aspects of the hazardous weather event. Update warnings whenever there is a change in timing, areal extent, or expected conditions.

WFOs will issue a MWW to cancel a warning when the forecaster believes the weather threat has diminished before the valid time expires.

WFOs will issue correction statements for format or grammatical errors as required. To reduce format or grammatical errors, forecasters should proofread the product before transmission.

6.5 Downgrade Warning to Advisory. When a marine weather warning is downgraded to a marine weather advisory or a lower level warning (e.g., Storm Warning to Gale Warning) for the same geographical area, the MWW segment will contain two P-VTEC lines.

6.5.1 Downgrade Warning to Advisory Segment Example.

LHZ421-422-441>443-032230-

/O.CAN.KDTX.GL.W.0003.000000T0000Z-040103T2300Z/ (P-VTEC line 1)

/O.NEW.KDTX.SC.Y.0050.040103T0900Z-040103T2300Z/ (P-VTEC line 2)

OUTER SAGINAW BAY-INNER SAGINAW BAY- PORT AUSTIN TO HARBOR BEACH
MI-HARBOR BEACH TO PORT SANILAC MI- PORT SANILAC TO PORT HURON MI-
400 AM EST SAT JAN 3 2004

...SMALL CRAFT ADVISORY IN EFFECT UNTIL 6 PM EST THIS EVENING...
...GALE WARNING IS CANCELLED...

(Two headlines used - lists new advisory, then cancelled warning)

<descriptive text>

\$\$

7. Marine Weather Advisories (product category MWW).

7.1 Mission Connection. Marine weather advisories provide our users and partners advance notice of hazardous marine weather events which could lead to life-threatening situations if caution is not exercised.

7.2 Issuance Guidelines.

7.2.1 Creation Software. WFOs will use AWIPS GHG as the primary software to create and issue marine advisories.

7.2.2 Issuance Criteria. WFOs should issue marine weather advisories for hazardous marine weather events that cause significant inconveniences, and if caution is not exercised, could lead to life-threatening situations over part or all of the forecast area.

WFOs should issue marine weather advisories for the first, second, or occasionally third forecast periods, when there is high confidence of a hazardous marine weather event meeting or exceeding local advisory criteria.

7.2.2.1 Marine Weather Advisory Products. The list of all possible advisory products affecting marine areas and subsequent issuance criteria are listed in Table 5.

Advisory Product Name	Issuance Criteria
Ashfall Advisory	An advisory issued for a volcano undergoing a minor eruption where there is the potential that mariners could be affected by a limited hazard extent such as less than ¼” of ashfall accumulation, pumice rafts or some floating debris.
Brisk Wind Advisory	Small Craft Advisory winds expected for ice -covered w aters
Dense Fog Advisory	Widespread or localized fog reducing visibilities to 1 nautical mile or less (regionally or locally defined)**.
Dense Smoke Advisory	Widespread or localized smoke reducing visibilities to 1 nautical mile or less (regionally or locally defined)**.
Freezing Spray Advisory	Light to moderate accumulation of ice is expected on vessels.
Low Water Advisory	Water levels are significantly below average and may cause impact to safe marine navigation. The need for this product is locally determined**.

Small Craft Advisory	Sustained wind speeds or frequent gusts* of 20 to 33 knots (regionally defined**) and/or seas or waves 4 feet and greater (locally defined**).
Small Craft Advisory for Hazardous Seas	Wind speeds are lower than small craft advisory criteria, yet waves or seas are potentially hazardous due to wave period, steepness, or swell direction. The criteria are regionally defined**.
Small Craft Advisory for Rough Bar	Waves in or near bars are hazardous to mariners due to the interaction of swell, tidal or river currents in relatively shallow water. Threshold criteria are locally defined** and are specific to local geographic areas, and are based upon parameters such as wave steepness, wind speed and direction, and local bathymetry.
Small Craft Advisory for Winds	When wave heights and/or wave steepness are lower than Small Craft Advisory criteria, yet wind speeds are potentially hazardous.

Table 5. Marine advisory product table.

* Frequent Gusts: For 2 or more hours during a 12 hour forecast period

**Refer to NWSI 10-303 (Appendix C) for Regional and Local Criteria

7.2.3 Issuance Time. Advisories are event-driven products and are initially issued when a hazardous marine weather event is expected to meet or exceed local advisory criteria. WFOs should issue updated advisories at least once every six to eight hours until the event ends or is canceled.

7.2.4 Valid Time. A marine weather advisory is valid up to 36 hours after the issuance time. The valid time (event start and end times) is placed in the P-VTEC line(s) and is described in the warning headline. In extreme cases, the valid time may exceed 36 hours from the time of issuance.

7.2.5 Product Expiration Time. The product expiration time should be 6 to 8 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end. The product expiration time is placed in the UGC line.

7.2.6 Event Ending Time. The event ending time is when the hazardous marine weather event is expected to end. The event ending time can match the product expiration time if the advisory is in effect for eight hours or less. The event ending time is placed in the P-VTEC line and is described in the advisory headline (e.g., SMALL CRAFT ADVISORY IN EFFECT UNTIL 9 AM EST MONDAY). The event ending time should generally not exceed 36 hours from the time of issuance.

7.3 Technical Description. Marine weather advisories will follow the format and content described in this section.

7.3.1 Universal Geographic Code Type. Marine weather advisories will use the (Z) form of the UGC.

7.3.2 Mass News Disseminator Broadcast Instruction Line. Not applicable.

7.3.3 Mass News Disseminator Product Type Line. The advisory MND line is URGENT - MARINE WEATHER MESSAGE.

7.3.4 Content. The marine weather advisory may contain an overview section, but will include segmented forecast information.

7.3.4.1 Overview Section. The advisory overview section is optional. If included, it should contain at least one of the following items:

a. Overview Headline - a general headline statement that summarizes the hazardous weather threat, area affected and estimated time of development. The overview headline will begin and end with three periods "...".

For example:

...DENSE FOG EXPECTED ACROSS PARTS OF SOUTHERN LAKE MICHIGAN
SHORELINE TONIGHT...

b. Overview - a brief, non-technical description of the developing marine weather event. The description may include the location and movement of large scale weather features (e.g., fronts, low pressure systems). A period "." will precede the first line of this descriptive information.

7.3.4.2 Segmented Forecast Information. Each segment of a marine weather advisory will include the advisory headline. The headline should be followed by a descriptive text describing why the advisory was issued. Each segment describes a specific hazardous marine weather event(s) for the same geographical area.

a. Advisory Headline. The advisory headline should include the following elements in the order shown:

- (1) Leading ellipsis (...)
- (2) Valid marine weather advisory product name listed in Table 5
- (3) Event action phrase defined in Table 6

- (4) Appropriate event beginning day and time phrase from Tables 1-3 of NWSI 10-310
- (5) Appropriate event ending day and time phrase from Tables 1-3 of NWSI 10-310
- (6) Trailing ellipsis (...)

Generic Advisory Headline Format.

- (1) Advisory product issuance time prior to event beginning time:
...<advisory product name> <event action phrase> FROM <event beginning date and time phrase> TO <event ending date and time phrase>...
- (2) Advisory product issuance time equals event beginning time:
...<advisory product name> <event action phrase> UNTIL <event ending date and time phrase>...
- (3) Advisory product cancellation or expiration statement:
...<advisory product name> <event action phrase>...

Event Action Phrase. The event action phrase in the advisory headline corresponds with the VTEC action code. Only the following event action phrases in Table 6 will be used in marine weather advisory headlines:

VTEC Action Code	Description	Required Event Action Phrase	Include Time/Date ?
NEW	Initial advisory issuance	IN EFFECT	Yes
EXA	Expansion of advisory area	IN EFFECT	Yes
EXB	Expansion of advisory area and change to advisory valid time	IN EFFECT	Yes
CON	Continuation or update of advisory	REMAINS IN EFFECT	Yes
EXT	Extend/shorten advisory start and/or ending date/time	NOW IN EFFECT	Yes

CAN	Advisory cancelled prior to event end time	IS CANCELLED	No
EXP	Advisory approaching the expiration time. Used up to 30 minutes prior to advisory end time.	WILL EXPIRE AT	Yes
	Advisory has expired. Used up to 30 minutes after advisory expiration has passed.	HAS EXPIRED	No
UPG	Upgrade to warning - no headline		

Table 6. Event action phrases for MWW advisory headlines.

a. Advisory Headline Examples:

(1) Initial issuance or expansion in area:

...SMALL CRAFT ADVISORY **IN EFFECT** FROM 7 AM THIS MORNING TO 11 AM EST WEDNESDAY...

(2) Update:

...SMALL CRAFT ADVISORY **REMAINS IN EFFECT** UNTIL 11 AM EST WEDNESDAY...

(3) Extend event end time:

...SMALL CRAFT ADVISORY **NOW IN EFFECT** UNTIL 5 PM EST WEDNESDAY...

(4) Cancelled prior to event end time/date:

...SMALL CRAFT ADVISORY **IS CANCELLED**...

(5) Expiration statement up to 30 minutes prior to event end time:

...SMALL CRAFT ADVISORY **WILL EXPIRE AT** 5 PM EST THIS AFTERNOON...

(6) Expiration statement up to 30 minutes after event end time:

...SMALL CRAFT ADVISORY **HAS EXPIRED**...

b. Advisory descriptive Text. This section should include the following advisory information:

(1) National Weather Service attribution line. For the **initial** advisory, include the following phrase to begin the text of the advisory:

THE NATIONAL WEATHER SERVICE IN [WFO NAME or LOCATION] HAS ISSUED A (e.g., DENSE FOG/SMALL CRAFT) ADVISORY.

The attribution line is optional for subsequent issuances.

(2) Reason advisory was issued. Include marine weather element(s) prompting the advisory.

(3) Quantitative wind speed forecasts (or wave heights, steepness, etc.).

(4) Brief call to action statements, safety rules.

c. Order of Segments. Advisories are placed third in the order of segments. This order was designed to place the most important and/or time sensitive information near the beginning of the message. The order of segments is:

- (1) Cancellation
- (2) Warnings
- (3) Advisories**
- (4) Watches

d. Multiple Headlines. More than one headline is allowed in a segment when two or more marine weather events are forecast to occur for the same UGC or geographical area.

Example: Dense Fog Advisory and Storm Watch in effect for the same geographical area.

...DENSE FOG ADVISORY IN EFFECT UNTIL 9 AM EST THIS MORNING...
 ...STORM WATCH IN EFFECT FROM THURSDAY AFTERNOON TO FRIDAY AFTERNOON...

7.3.5 Format.

<u>Product Format</u>	<u>Description of Entry</u>
WHaaii cccc ddhhmm	(WMO Heading)
MWWxxx	(AWIPS ID)
URGENT - MARINE WEATHER MESSAGE	(Product Name or MND)

<p>NATIONAL WEATHER SERVICE city state time am/pm time_zone day mon dd yyyy</p> <p>...<Overview headline statement>...</p> <p>.<General marine weather synopsis></p> <p>mmZxxx-xxx-xxx-ddhhmm- /k.aaa.cccc.pp.s.####.yymmddThhnnZB-yymmddThhnnZE/ zone-zone-zone- time am/pm time_zone day mon dd yyyy</p> <p>...ADVISORY HEADLINE...</p> <p><Descriptive text> {Includes the following information: 1. NWS attribution line (<i>Optional after initial issuance</i>) 2. Why advisory was issued (marine weather element(s) prompting the advisory) 3. Timing of the event (beginning, ending, timing of worst conditions, duration)</p> <p>PRECAUTIONARY/PREPAREDNESS ACTIONS...</p> <p>4. Definition of an advisory (before event begins) 5. Potential impact, call to action statement. &&</p> <p>\$\$</p> <p>Name/Initials/Forecaster ID</p>	<p>(<i>Issuing Office</i>) (<i>Issuance time/date</i>)</p> <p>(<i>Optional</i>)</p> <p>(<i>Optional - one to three paragraphs</i>) (<i>UGC: Z & expiration time</i>) (<i>P-VTEC Line(s)</i>) (<i>Zone Names</i>) (<i>Issuance time/date</i>)</p> <p>(<i>Two to three paragraphs</i>)</p> <p>(<i>Start of CTA Marker</i>)</p> <p>(<i>End of CTA Marker</i>)</p> <p>(<i>UGC Delimiter</i>)</p> <p>(<i>Optional after last segment</i>)</p>
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Figure 3. Generic format for a marine weather advisory.

7.4 Updates, Amendments, and Corrections. WFOs will update advisories at least once every six to eight hours until the event ends or is canceled. WFOs should issue the updated MWW before the product expiration time is reached. The frequent updates help to keep our

users and partners informed on the current and short term aspects of the marine weather event. Update advisories whenever there is a change in timing, areal extent, or expected conditions. WFOs will issue a MWW to cancel an advisory when the forecaster believes the weather threat has diminished before the valid time expires.

WFOs will issue correction statements for format or grammatical errors as required. To reduce format or grammatical errors, forecasters should proofread the product before transmission.

7.5 Upgrade Advisory to Warning. When a marine weather advisory is upgraded to a marine weather warning for the same geographical area, the MWW segment will contain one headline and two P-VTEC lines. The headline will list the new warning only. The first P-VTEC line will use the UPG action code to show the old advisory is being upgraded. The second P-VTEC line will either use the NEW action code to start the new warning, or use the EXA or EXB action code to extend an existing advisory into this geographical area.

7.5.1 Upgrade Advisory to Warning Segment Example.

PZZ350-356-370-376-092300-

/O.UPG.KMFR.SW.Y.0051.000000T0000Z-070310T0500Z/ (*P-VTEC line 1*)

/O.NEW.KMFR.GL.W.0003.070309T1600Z-070310T0500Z/ (*P-VTEC line 2*)

COASTAL WATERS FROM FLORENCE TO CAPE BLANCO OR OUT 20 NM- COASTAL WATERS FROM CAPE BLANCO OR TO PT. ST. GEORGE CA OUT 20 NM-WATERS FROM FLORENCE TO CAPE BLANCO OR FROM 20 TO 60 NM- WATERS FROM CAPE BLANCO OR TO PT. ST. GEORGE CA FROM 20 TO 60 NM-705 AM PST FRI MAR 9 2007

...GALE WARNING IN EFFECT UNTIL 9 PM PST THIS EVENING...

(One headline used - lists new warning only)

<descriptive text>

APPENDIX A - Marine Weather Message Product Examples

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 4.1 Canceled Small Craft Advisory..... A-7

- 1. Introduction. This section contains guidelines and examples of MWW products.
- 2. Marine Weather Warning Examples.
- 2.1 Gale Watch. An example of a continuation of a Gale Watch.

WHUS73 KMQT 241509
MWWMQT

URGENT - MARINE WEATHER MESSAGE
NATIONAL WEATHER SERVICE MARQUETTE MI
1109 AM EDT THU MAY 24 2012

LSZ263-264-266-242315-
/O.CON.KMQT.GL.A.0015.120525T0600Z-120525T1600Z/
LAKE SUPERIOR FROM SAXON HARBOR WI TO UPPER ENTRANCE TO PORTAGE

CANAL MI 5NM OFF SHORE TO THE US/CANADIAN BORDER INCLUDING ISLE ROYALE NATIONAL PARK-LAKE SUPERIOR FROM UPPER ENTRANCE TO PORTAGE CANAL TO MANITOU ISLAND MI 5NM OFF SHORE TO THE US/CANADIAN BORDER-LAKE SUPERIOR EAST OF A LINE FROM MANITOU ISLAND TO MARQUETTE MI AND WEST OF A LINE FROM GRAND MARAIS MI TO THE US/CANADIAN BORDER BEYOND 5NM FROM SHORE-

1109 AM EDT THU MAY 24 2012

...GALE WATCH REMAINS IN EFFECT FROM LATE TONIGHT THROUGH FRIDAY MORNING...

A GALE WATCH REMAINS IN EFFECT FROM LATE TONIGHT THROUGH FRIDAY MORNING.

* WIND AND WAVES DURING THE GALE WATCH: EXPECT SUSTAINED WINDS OF UP TO 32 KNOTS FROM THE SOUTHWEST...WITH GUSTS UP TO 34 KNOTS. THE LARGEST EXPECTED SIGNIFICANT WAVES WILL BE 9 FEET WITH A MAXIMUM WAVE HEIGHT OF UP TO 14 FEET POSSIBLE.

* TIMING: THE MAXIMUM WINDS ARE EXPECTED AROUND 8 AM EDT FRIDAY WITH THE LARGEST WAVES EXPECTED AROUND 11 AM EDT FRIDAY.

PLEASE SEE THE LATEST MARINE FORECASTS FOR MORE DETAILED INFORMATION.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A GALE WATCH IS ISSUED WHEN THE RISK OF GALE FORCE WINDS OF 34 TO 47 KNOTS HAS SIGNIFICANTLY INCREASED...BUT THE SPECIFIC TIMING AND/OR LOCATION IS STILL UNCERTAIN. IT IS INTENDED TO PROVIDE ADDITIONAL LEAD TIME FOR MARINERS WHO MAY WISH TO CONSIDER ALTERING THEIR PLANS.

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2.2 Gale Warning. An example of a Gale Warning, first issuance. NWS attribution line is mandatory.

WHUS76 KPQR 220940

MWWPQR

URGENT - MARINE WEATHER MESSAGE
NATIONAL WEATHER SERVICE PORTLAND OR
240 AM PDT TUE MAY 22 2012

PZZ250-255-270-275-221745-
/O.UPG.KPQR.GL.A.0016.120522T1800Z-120523T0000Z/
/O.NEW.KPQR.GL.W.0034.120522T1700Z-120523T0500Z/
COASTAL WATERS FROM CAPE SHOALWATER WA TO CASCADE HEAD OR OUT
10 NM-COASTAL WATERS FROM CASCADE HEAD TO FLORENCE OR OUT 10 NM-
WATERS FROM CAPE SHOALWATER WA TO CASCADE HEAD OR FROM 10 TO
60 NM-WATERS FROM CASCADE HEAD TO FLORENCE OR FROM 10 TO 60 NM-
240 AM PDT TUE MAY 22 2012

...GALE WARNING IN EFFECT FROM 10 AM THIS MORNING TO 10 PM PDT
THIS EVENING...

THE NATIONAL WEATHER SERVICE IN PORTLAND HAS ISSUED A GALE
WARNING...WHICH IS IN EFFECT FROM 10 AM THIS MORNING TO 10 PM PDT
THIS EVENING. THIS REPLACES THE GALE WATCH WHICH WAS PREVIOUSLY IN
EFFECT.

* WINDS: S WINDS INCREASING TO 20 TO 30 KT BY MIDDAY WITH GUSTS TO
40 KT. WINDS WILL SHIFT MORE WESTERLY LATER THIS AFTERNOON...
WITH GUSTS TO 35 KT CONTINUING INTO THIS EVENING.

* SEAS: STEEP...MAINLY WIND-DRIVEN SEAS OF 10 TO 12 FT ARE
EXPECTED THIS AFTERNOON. SEAS WILL EVENTUALLY BECOMING A LONGER
PERIOD WEST SWELL LATER THIS AFTERNOON AND EVENING. SEAS WILL
SUBSIDE BELOW 10 FT LATER TONIGHT OR EARLY WEDNESDAY.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A GALE WARNING MEANS WINDS OF 34 TO 47 KNOTS ARE IMMINENT OR
OCCURRING. OPERATING A VESSEL IN GALE CONDITIONS REQUIRES
EXPERIENCE AND PROPERLY EQUIPPED VESSELS. IT IS HIGHLY
RECOMMENDED THAT MARINERS WITHOUT THE PROPER EXPERIENCE SEEK
SAFE
HARBOR PRIOR TO THE ONSET OF GALE CONDITIONS.

&&

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2.3 Hurricane Force Wind Warning. An example of a continuation of a Hurricane Force Wind Warning.

WHUS76 KPQR 120949
MWWPQR

URGENT - MARINE WEATHER MESSAGE
NATIONAL WEATHER SERVICE PORTLAND OR
249 AM PDT MON MAR 12 2012

.....A HURRICANE FORCE WIND WARNING REMAINS IN EFFECT UNTIL 1 PM PDT
THIS AFTERNOON.

* WINDS...SOUTH WIND RISING TO 40 TO 50 KT WITH GUSTS TO 70 KT TONIGHT
AND MONDAY MORNING AND EARLY AFTERNOON. THE STRONGEST WIND
SHOULD OCCUR MONDAY MORNING.

* SEAS...COMBINED SEAS ARE LIKELY TO BUILD TO 32 FEET...POSSIBLY TO 35
FEET IN THE OUTER WATERS...EARLY MONDAY MORNING...THEN EASE TO THE
MID 20S IN THE AFTERNOON...AND THEN AROUND 20 FEET BY EARLY MONDAY
EVENING. SEAS WILL BE QUITE CHOPPY WITH A HIGH SOUTH TO SOUTHWEST
WIND WAVE COMPONENT...AND A WEST LONGER PERIOD SWELL COMPONENT.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A HURRICANE FORCE WIND WARNING MEANS WINDS OF 64 KNOTS OR GREATER
ARE IMMINENT OR OCCURRING. ALL VESSELS SHOULD REMAIN IN PORT...OR
TAKE SHELTER AS SOON AS POSSIBLE...UNTIL WINDS AND WAVES SUBSIDE.

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2.4 Ashfall Warning. An example of an Ashfall Warning, first issuance. NWS attribution line is mandatory.

WHUS76 KSEA 071340
MWWSEA

URGENT - MARINE WEATHER MESSAGE
NATIONAL WEATHER SERVICE SEATTLE WA
640 AM PDT FRI MAY 7 2012

PZZ135-072200-
/O.NEW.KSEW.MH.W.0012.100507T1340Z-100508T0400Z/
PUGET SOUND AND HOOD CANAL-
640 AM PDT FRI MAY 7 2012

...ASHFALL WARNING IN EFFECT UNTIL 9 PM PDT TONIGHT...

THE NATIONAL WEATHER SERVICE IN SEATTLE HAS ISSUED AN ASHFALL
WARNING...WHICH IS IN EFFECT UNTIL 9 PM PDT THIS EVENING.

* LOCATION.... THE CASCADES VOLCANO OBSERVATORY REPORTS STRONG
SEISMICITY INDICATIVE OF AN EXPLOSIVE ERUPTION AT MOUNT RAINIER
VOLCANO IN THE CASCADE RANGE. SATELLITE ANALYSIS INDICATES A VENT AT
THE SUMMIT OF MOUNT RAINIER.

*IMPACTS...HEAVY ASHFALL IS OCCURRING WEST OF THE VOLCANO. DEBRIS
AND MUD FLOWS ARE EXPECTED IN COMMENCEMENT BAY. VESSELS SHOULD
AVOID THE IMMEDIATE AREA AND ALSO BE ALERT FOR FLOATING PUMICE.

* TIMING...ASHFALL WARNING IN EFFECT UNTIL 9 PM THIS EVENING.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

AN ASHFALL WARNING MEANS THAT THE VOLCANO IS UNDERGOING A MAJOR
ERUPTION. IT IS VERY LIKELY THAT MARINERS WILL BE AFFECTED BY
VOLCANIC HAZARDS IN THE WARNING AREA SUCH AS SIGNIFICANT
DEBRIS...GREATER THAN ONE QUARTER OF AN INCH OF ASHFALL...LAVA...OR
LAHAR AND DEBRIS FLOWS.

ASH IS AN EYE AND RESPIRATORY IRRITANT AND IS ABRASIVE. THOSE WITH
RESPIRATORY SENSITIVITIES SHOULD TAKE EXTRA PRECAUTIONS TO MINIMIZE
EXPOSURE. PROTECT ELECTRONICS AND COVER AIR INTAKES IF ASH FALL IS
EXPECTED OR CONFIRMED. REMOVE ASH FROM SURFACES
WITH WATER IF POSSIBLE TO PREVENT EXCESSIVE ACCUMULATION.

ADDITIONAL INFORMATION IS AVAILABLE AT VULCAN.WR.USGS.GOV

3. Marine Weather Advisory Examples.

3.1 Small Craft Advisory. An example of a Small Craft Advisory, first issuance. The NWS attribution line is mandatory.

WHUS73 KMKX 211440
MWMKX

URGENT - MARINE WEATHER MESSAGE
NATIONAL WEATHER SERVICE MILWAUKEE/SULLIVAN WI
940 AM CDT MON MAY 21 2012

...GUSTY NORTH WINDS THROUGH MID AFTERNOON...

.COLDER AIR RUSHING DOWN THE LONG AXIS OF LAKE MICHIGAN IN THE WAKE OF A COLD FRONT AND DEPARTING LOW PRESSURE SYSTEM WILL CAUSE GUSTY WINDS TO MIX DOWN TO LAKE LEVEL THROUGH MID AFTERNOON TODAY. HIGHEST WIND GUSTS WILL BE SOUTH OF THE NORTH POINT LIGHT. WINDS WILL DIMINISH LATER THIS AFTERNOON AND EVENING AS HIGH PRESSURE PUSHES INTO EASTERN WISCONSIN.

LMZ645-646-212200-
/O.NEW.KMKX.SC.Y.0045.120521T1440Z-120521T2200Z/
NORTH POINT LIGHT TO WIND POINT WI-

WIND POINT WI TO WINTHROP HARBOR IL-
940 AM CDT MON MAY 21 2012

...SMALL CRAFT ADVISORY IN EFFECT UNTIL 5 PM CDT THIS AFTERNOON...

THE NATIONAL WEATHER SERVICE IN MILWAUKEE/SULLIVAN HAS ISSUED A
SMALL CRAFT ADVISORY...WHICH IS IN EFFECT UNTIL 5 PM CDT THIS
AFTERNOON.

* WINDS: NORTH 15 TO 20 KNOTS WITH FREQUENT GUSTS TO 25
KNOTS...DIMINISHING TO 10 TO 20 KNOTS LATE IN THE AFTERNOON.

* WAVES: 2 TO 4 FEET SUBSIDING TO 1 TO 2 FEET LATE IN THE
AFTERNOON.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A SMALL CRAFT ADVISORY MEANS THAT WIND SPEEDS OF 23 TO 33 KNOTS
AND/OR WAVES GREATER THAN 4 FEET ARE EXPECTED TO PRODUCE
HAZARDOUS CONDITIONS TO SMALL CRAFT. INEXPERIENCED MARINERS...
ESPECIALLY THOSE OPERATING SMALLER VESSELS SHOULD AVOID
NAVIGATING IN THESE CONDITIONS.

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4. Cancellation Product Example.

4.1 Cancelled Small Craft Advisory. An example of a cancelled Small Craft Advisory for
Winds.

WHUS76 KSGX 181457
MWSGX

URGENT - MARINE WEATHER MESSAGE
NATIONAL WEATHER SERVICE SAN DIEGO CA
757 AM PDT FRI MAY 18 2012

PZZ775-181600-

/O.CAN.KSGX.SI.Y.0012.000000T0000Z-120519T0300Z/

WATERS FROM SAN MATEO POINT TO THE MEXICAN BORDER EXTENDING 30 TO
60 NM OUT INCLUDING SAN CLEMENTE ISLAND-
757 AM PDT FRI MAY 18 2012

...SMALL CRAFT ADVISORY FOR WINDS IS CANCELLED...

THE NATIONAL WEATHER SERVICE IN SAN DIEGO HAS CANCELLED THE SMALL
CRAFT ADVISORY FOR WINDS.

WINDS ARE EXPECTED TO REMAIN BELOW 25 KNOTS OVER THE OUTER WATERS
TODAY.

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