

NATIONAL WEATHER SERVICE INSTRUCTION 10-310

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Operations and Services

Marine and Coastal Weather Services, NWSPD 10-3

COASTAL WATERS FORECAST

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

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SUMMARY OF REVISIONS: This instruction supersedes NWSI 10-310, *Coastal Waters Forecast*, dated November 5, 2014. Changes made to reflect the NWS Headquarters reorganization effective April 1, 2015.

The following revisions were made to this directive:

1. Updated Hurricane Local Statement (HLS) to Marine Weather Message (MWW) in first sentence of section 2.3.5b. However WSO Pago Pago may issue the HLS in lieu of the MWW.
2. Replaced WFOs with WFOs/WSO, where appropriate, as Pago Pago is a WSO.
3. Updated examples in the Appendix.

Signed

4/4/2017

Andrew D. Stern

Date

Director

Analyze, Forecast, and Support Office

Coastal Waters Forecast

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1 Introduction

This procedural instruction provides product specifications for the main alphanumeric coastal weather products issued by the National Weather Service (NWS) Weather Forecast Offices (WFOs) and Weather Service Office (WSO) Pago Pago.

2 Coastal Waters Forecast (Product Category CWF)

2.1 Mission Connection

The Coastal Waters Forecast (CWF) is a text product issued by all coastal WFOs and WSO Pago Pago to explicitly state expected weather conditions within their marine forecast area of responsibility through Day 5. The CWF is used by a wide variety of marine users and partners including the media, emergency managers, and the general public. It is primarily used as a tool for planning purposes to support and promote safe transportation across the coastal waters.

2.2 Issuance Guidelines

Forecasters should ensure the values included within the CWF are consistent with the values from the associated gridded forecast elements.

2.2.1 Creation Software

WFOs will produce the CWF using the Advanced Weather Interactive Processing System (AWIPS) software formatters. The Interactive Forecast Preparation System (IFPS) Graphical Forecast Editor (GFE) application formatting tools will be used for generation of product content. All WFOs with the exception of American Samoa and WFO Guam (for the East and West Micronesia forecast) offices will use the Graphical Hazard Generator (GHG) to produce hazard headlines. American Samoa (WSO Pago Pago) and Guam (for Micronesia) offices will use regionally-approved creation software until AWIPS capabilities become available.

2.2.2 Issuance Criteria

The CWF will be issued twice per day with updates as necessary. Regions, as dictated by user requirements, may require scheduled updates.

2.2.3 Issuance Time

CWFs are issued routinely. Two daily issuances are mandatory. Some offices will issue more than two routine forecasts daily. Forecasters should make the CWF available to users by the scheduled issuance time, but no earlier than 1 hour before this issuance time. The issuance time is expressed in Coordinated Universal Time (UTC), while the mass media header is expressed in local time. The issuance time in the mass media header is the same time the product is issued by the WFO/WSO. WFOs/WSO should issue CWFs based on the following, except during tropical cyclone events, when the routine issuance time may be delayed:

<u>Region/Office</u>	<u>Scheduled Issuance Time (UTC)</u>	
Eastern(Standard/Daylight)	0900/0800	2100/2000
Southern (EST/CST)	0900/1000	2100/2200
(EDT/CDT)	0800/0900	2000/2100
<u>Region/Office</u>	<u>Scheduled Issuance Time (UTC)</u>	
WFO San Juan	0800	2000
Western (Standard/Daylight)	1100/1000	2300/2200

Alaska	(Standard/Daylight)	1300/1200	0100/0000
WFO Honolulu		0145 0800	1345 2200
		0800-1000	2000-2200
WFO Guam	(Marianas/Guam)	0700	2000
WFO Guam	(East Micronesia)	0500	1700
WFO Guam	(West Micronesia)	0700	1900
WSO Pago Pago		0200 0900	1800

During a tropical cyclone event, WFOs/WSO may delay the “scheduled” issuance of the CWF until after advisories from the National Hurricane Center (NHC), Central Pacific Hurricane Center (CPHC) or Joint Typhoon Warning Center (JTWC) or RSMC Nadi Tropical Cyclone Center are issued. In these circumstances, the CWF should be issued as soon as reasonably possible, but no later than 1.5 hours after receiving the NHC message.

In all forecasts, include forecast periods as shown below. All forecast periods beyond the current day will be described by the day of the week. For example, a forecast issued Sunday evening will include: TONIGHT, MONDAY, MONDAY NIGHT, TUESDAY, TUESDAY NIGHT, WEDNESDAY, THURSDAY, and FRIDAY. Forecast periods of the CWF are shown below:

The early morning forecast will cover:

Today	(Issuance time to 6PM local time)	1st Period
Tonight	(6PM to 6AM)	2nd Period
Day 2	(6AM to 6PM)	3rd Period
Day 2 Night	(6PM to 6AM)	4th Period
Day 3	(6AM to 6AM)	5th Period
Day 3 Night (Optional)	(6PM to 6AM)	6th Period
Day 4	(6AM to 6AM)	Day 4
Day 5	(6AM to 6AM)	Day 5

The last two 24-hour days may be broken up into two 12 hour periods:

Day 4	(6AM to 6PM)
Day 4 Night	(6PM to 6AM)
Day 5	(6AM to 6PM)
Day 5 Night	(6PM to 6AM)

The late afternoon forecast will cover:

Tonight	(Issuance time to 6AM local time)	1st Period
Tomorrow	(6AM to 6PM)	2nd Period
Tomorrow Night	(6PM to 6AM)	3rd Period
Day 2	(6AM to 6PM)	4th Period
Day 2 Night	(6PM to 6AM)	5th Period
Day 3	(6AM to 6AM)	6th Period
Day 3 Night (Optional)	(6PM to 6AM)	7th Period
Day 4	(6AM to 6AM)	Day 4
Day 5	(6AM to 6AM)	Day 5

The last two 24-hour days may be broken up into two 12 hour periods:

Day 4	(6AM to 6PM)
Day 4 Night	(6PM to 6AM)
Day 5	(6AM to 6PM)
Day 5 Night	(6PM to 6AM)

2.2.4 Valid Time

CWFs are valid from the time of issuance until the expiration time.

2.2.5 Universal Geographic Code (UGC)

CWFs will contain marine-based zone UGC codes.

2.2.6 Product Expiration Time

The CWF product expiration time is not more than 13 hours from the initial valid time, except up to 14 hours for OCONUS WFOs/WSO.

2.3 Technical Description

CWFs will follow the format and content described in this section.

2.3.1 Mass News Disseminator (MND) Broadcast Line

None.

2.3.2 MND Header

The CWF MND Header is “COASTAL WATERS FORECAST [+ Optional Descriptor]”.

2.3.3 Content

Follow the format for the CWF as shown in section 2.4. In each marine zone, include all required forecast periods and forecast parameters. Forecasters may subdivide areas (e.g., NORTHERN HALF, SOUTHERN HALF; WATERS WITHIN 5 NM OF SHORE, OPEN WATERS; etc.) to describe significant differences. If geographical reference points are used in the subdivision, forecasters should ensure they are well known. Forecasters should combine marine zones for which they are responsible if conditions are expected to be homogeneous. However, do not combine one marine zone with just a part of another.

Forecasters should include applicable National Marine Sanctuaries (NMS), as noted in NWS Instruction (NWSI) 10-302, in the appropriate CWF. These NMS names should be included in the specific zone(s) and/or general area description.

The forecaster may combine forecast periods (beyond the first period) if, in the forecaster’s opinion, the weather elements in each are consistent (Regional supplements should be consulted). Also, the forecaster may subdivide the first period of the forecast to account for rapid weather changes.

2.3.4 Synopsis

The synopsis for the CWF should be a concise, understandable description of surface weather

features that may cause significant winds and seas over the forecast area during the forecast period. Areas in the tropics often have significant upper level features which are the dominant cause of the weather (e.g., Tropical Upper Tropospheric Troughs (TUTTs)). The synopsis may mention these features. At a minimum, it should identify the strength, trend and movement of each major weather system affecting the area.

The synopsis may be broadcast over the marine radio, and therefore, it should contain complete and grammatically correct sentences. All synopses will be meteorologically consistent with other products issued by the WFO/WSO. For consistency, all distances should be in nautical miles (NM).

When ashfall from a volcanic eruption is expected to affect marine areas, a brief statement will be included in the synopsis after coordination with the appropriate NWS Volcanic Ash Advisory Center (VAAC). For example: "WESTDAHL VOLCANO, 70 NM SOUTHWEST OF COLD BAY, IS CURRENTLY ACTIVE."

If a tropical cyclone with winds of tropical storm force or higher is expected to impact the forecast area, WFOs/WSO should include in the synopsis appropriate identification of the tropical cyclone, its last location (local time), and the direction and speed of movement. Give the location as distance (nautical miles) and direction (16-point compass) from a known landmark or breakpoint. The forecaster may use generic terms if a tropical cyclone is expected to develop in later periods of the forecast. See section 2.3.7 for an example.

2.3.5 Headlines

Use headlines to emphasize weather events likely to have a significant impact on mariners or marine operations. Marine warnings and advisories are only mandated in the first 12-hour forecast period. In most situations, to reduce multiple headlines, the forecaster can leave off the hazards after the upgrade or the most severe hazard.

The headlines generated by GHG software are sorted in chronological order by start time, then by action, by significance, and alphabetically by phenomena. These headlines should contain the hazard, and the action and timing phrases. For offices that issue the Marine Weather Message, please refer to NWSI 10-315, Marine Weather Message, NWSI 10-1703, Valid Time Event Code (VTEC), NWSI 10-1701, Text Product Formats and Codes, and section 2.3.9 of this instruction for additional details.

Refer to NWSI 10-303, Marine and Coastal Services Standards and Guidelines, for Regionally-defined Small Craft Advisory, Small Craft Advisory for Winds, Small Craft Advisory for Rough Bar, and Small Craft Advisory for Hazardous Seas issuance criteria, as well as definitions for Gale, Storm and Hurricane Force Wind Watches and Warnings.

1. Non-Tropical Cyclone Related Headlines.

Non-tropical cyclone watch and warning marine headlines are included in the CWF.

Watch headlines. WFOs/WSO should include watch headlines when criteria are met for the second, third, or occasionally fourth and fifth periods, when there is significant chance of a

hazardous marine weather event meeting or exceeding warning criteria. In areas where hazardous conditions are climatologically common, watches (other than convective), may be reserved for advanced notice of unusual or “first of the season” events. The following watch headlines are included in the CWF if a decision has been made by a WFO/WSO or the Storm Prediction Center (SPC) as appropriate, to issue one of these watches:

- Tornado Watch (issued by SPC and only for CONUS)
- Severe Thunderstorm Watch (issued by SPC and only for CONUS)
- Gale Watch
- Storm Watch
- Hurricane Force Wind Watch
- Heavy Freezing Spray Watch
- Hazardous Seas Watch (Optional)

Warning Headlines. WFOs/WSO will include the following warning headlines when criteria are met for the first period, and may issue warning headlines for events that begin in the second, third or fourth periods when forecaster confidence is high.

- Hurricane Force Wind Warning
- Storm Warning
- Gale Warning
- Heavy Freezing Spray Warning
- Ashfall Warning
- Hazardous Seas Warning (Optional)

In situations where winds gust frequently to or above advisory / warning thresholds, forecasters should use discretion in issuing advisories or warnings, as appropriate, to alert users and partners to hazardous marine conditions. Gusts occurring for more than 2 hours during a 12 hour forecast period are considered frequent.

Note: Due to dissemination limitations and climatologically frequent Gale conditions, areas of the Alaska Region may be exempt from including a first period headline as detailed in the Alaska Region Supplement applicable to NWSI 10-310.

b. Tropical Cyclone Related Headlines.

WFOs/WSO issue tropical cyclone watches and warnings using the Marine Weather Message (MWW) in their coastal waters, and will coordinate their issuance with NHC, CPHC, JTWC, and adjacent WFOs. WSO Pago Pago may issue the Hurricane Local Statement in lieu of the MWW. WSO Pago Pago will coordinate Samoa Meteorology Division, RSMC Nadi, and CPHC. Refer to NWSI 10-601, *Weather Forecast Office Tropical Cyclone Products* for additional details. When tropical cyclone related headlines are issued, they will be included in the CWF. Existing headlines for marine zones should be replaced with applicable tropical cyclone headlines. Tropical Cyclone headlines have the highest priority of any headline included in the CWF. Tropical Cyclone headlines listed in priority order are:

1. Hurricane or Typhoon Warning

2. Tropical Storm Warning
3. Hurricane or Typhoon Watch
4. Tropical Storm Watch

As a tropical cyclone leaves an area, forecasters should headline watch and warning cancellations. A qualitative description of wind conditions in the wake of the tropical cyclone (e.g., gale force winds) should be included in the synopsis. Tropical cyclone cancellation headlines may co-exist with non-tropical warnings and advisories, but are not used for upgrading to higher priority warnings and watches. For example, the headline “Tropical Storm Warning Is Cancelled” is not used simultaneously within the CWF with a “Hurricane Warning In Effect”.

Once the tropical cyclone is no longer impacting the marine zone, forecasters should again headline appropriate advisories or warnings not associated with the tropical cyclone.

b.1. Usage of Small Craft Advisories and Related Cautionary Statements.

When a tropical cyclone warning is in effect, the warning headline should supersede all other headlines.

When a tropical cyclone watch is in effect, or a tropical cyclone is approaching or departing, and conditions warrant, forecasters may include the headline “Small Craft Advisory.” In addition, “Small Craft Should Remain in Port” may be manually appended.

c. Small Craft / Brisk Wind Advisory headlines.

There are four Small Craft Advisory headlines: Small Craft Advisory (SCA), Small Craft Advisory for Hazardous Seas (SCAHS), the Small Craft Advisory for Winds (SCAW), and the Small Craft Advisory for Rough Bar (SCARB). See NWSI 10-303 for general definitions of these advisories.

WFOs/WSO may issue a SCAHS when wind speeds are forecast to be relatively light and seas or waves are expected to be hazardous. WFOs/WSO may issue a SCAW when waves are forecast to be below SCAHS criteria, but wind speeds are expected to be above regionally defined thresholds. WFOs/WSO may issue a SCARB when waves are expected to be hazardous over specified harbor or river entrances or bars. Regional criteria for these and other advisories are defined in NWSI 10-303.

Based on Local or Regional policy, WFOs/WSO may manually include cautionary statements (e.g., “SMALL CRAFT SHOULD EXERCISE CAUTION”) in situations below SCA, SCAHS, or SCAW criteria.

Advisory Headlines. WFOs/WSO should include the following advisory headlines when criteria are met for the first period, and may issue advisory headlines for events that begin in the second, third or fourth periods when forecaster confidence is high:

- Small Craft Advisory

- Small Craft Advisory for Hazardous Seas, (Optional)
- Small Craft Advisory for Winds, (Optional)
- Small Craft Advisory for Rough Bar, (Optional)
- Brisk Wind Advisory

When sufficient observational data is available, WFOs/WSO should include the following advisory headlines when criteria are met for the first period, and may issue advisory headlines for events that begin in the second or third periods when forecaster confidence is high:

- Dense Fog Advisory
- Dense Smoke Advisory
- Freezing Spray Advisory
- Ashfall Advisory
- Low Water Advisory

2.3.6 1-3 Day Forecast Periods

Except as noted below, forecasts of wind and sea state will be included in each discrete forecast period of the CWF. When sufficient (supporting) data exists, forecasters should also include forecasts of other weather significantly impacting the marine zone(s) (e.g., ice accretion, precipitation, wave periods, low visibilities, ashfall, ice crystals, ice fog, ice coverage, etc.). Always emphasize the most critical conditions.

Exception: The Regions may specify certain bays, inlets, harbors, inland waters, and estuaries for which sea state need not be included in forecasts if complexities in these areas (e.g., fetch, water depth, currents, etc.) make wave forecasts impractical. In these areas, forecasters may use general descriptions of sea conditions (e.g., rough, moderate, etc.).

2.3.7 4-5 Day Forecast Periods

Aside from the two exceptions noted below, always include wind and sea height information in each 24 hour period, or optional 12 hour period. Above that, forecasters should include only the more threatening weather conditions.

Exception 1: When a tropical cyclone threatens to impact a marine zone, indicate the possible tropical cyclone conditions, based on NHC, CPHC, WFO Guam, WSO Pago Pago, and / or Weather Prediction Center (WPC) guidance, for the specific day(s) impacted. Because large positional and intensity errors are possible in these cases, forecasters should not give specific wind and sea values.

Example:

.FRIDAY...SOUTHEAST WINDS 25 KT INCREASING. SEAS 12 FT.
.SATURDAY...TROPICAL STORM CONDITIONS POSSIBLE.
.SUNDAY...HURRICANE CONDITIONS POSSIBLE.

Exception 2: For marine areas heavily influenced by topography, (e.g., Puget Sound, Southeast Alaska), forecasters may give trend forecasts in lieu of specific wind and sea heights.

Example:

TUESDAY AND WEDNESDAY...INCREASING EAST WINDS AND HIGHER SEAS ENHANCED BY A STRONG SOUTHEAST SWELL.”

2.3.8 CWF - Forecast Parameters

a. Wind. Wind represents predominant conditions 10 meters above the surface of the water. Forecasters should give direction to eight points of the compass. Avoid such phrases as “NORTH TO NORTHEAST WINDS”. Forecasters should round speeds to the nearest 5 KT in forecasting specific wind speeds and ranges in wind speed.

In the CWF, include only sustained winds unless there are significant differences between sustained winds and peak gusts (e.g., NORTHWEST WIND 20 KTS WITH GUSTS TO 35 KTS).

Reference NWSI 10-303 for more detailed instructions on wording on wind and seas forecasts. Where there is sufficient open water (ice-free seas) to include a sea state forecast, an SCA, SCAW, or SCAHS will be issued when appropriate. If sea heights are omitted due to ice coverage, the proper hazard type is Brisk Wind Advisory. The Brisk Wind Advisory should use the same regionally determined wind thresholds as the SCA.

b. Seas (or Combined Seas). Include sea state as a combined sea height or break it down into appropriate components (e.g., WIND WAVES 2 TO 4 FT, NORTHEAST SWELL 10 FT, or SEAS 12 FT). Whenever a SWELL is specified, include the direction from which the swell is propagating, to 8 points of the compass. Mention of swell period and secondary swell (i.e., height, period, and direction) are a regional option. Forecasters may only use descriptive words such as MODERATE or ROUGH in regionally specified bays, inlets, harbors, estuaries, etc.

Transition terms such as “BUILDING” and “SUBSIDING” should be used to add clarity to forecast trends. Forecast changes in sea state should be meaningful (at least 3 feet in outer coastal waters and at least 2 feet in sheltered bays, inlets, etc.). Trends may be used to express more subtle changes, e.g., “SEAS 4 FT SUBSIDING WED AFTERNOON.”

Sea state forecasts will be included for marine areas or portions of marine areas not covered by ice. For other marine areas where coverage of 7/10 or more of sea ice is expected, forecasts of sea state are usually omitted; however, if the area has at least 10% contiguous open water, sea state forecasts may be given. In these cases, use the phrase “SEAS IN ICE FREE WATERS”.

An SCA, a SCARB or a SCAHS headline should be included for sea state, even if the wind threshold is not met. Thresholds for a small craft advisory due to rough seas (and winds) are locally and regionally defined based upon expressed user needs specific to the area.

c. Significant Weather / Visibility. When it is expected, forecasters should include significant weather posing a hazard to navigation (i.e., widespread fog or other restriction lowering visibilities to 1 NM or less, or thunderstorms). Forecasters should emphasize thunderstorms in the CWF product. They may include the phrase “WINDS AND WAVES HIGHER NEAR THUNDERSTORMS” for the areas over which significant thunderstorms are anticipated. Based on forecaster discretion, and/or expected impact to users, forecasters may

include obstructions to visibility ranging between 1 ½ NM to 5 NM. Forecasters may use precipitation probability terms such as “CHANCE”, “OCCASIONAL”, etc., as defined in NWSI 10-204, and they may include specific visibility distances. However, do not include sky cover.

d. Icing. The forecaster should include freezing spray or freezing fog in the body of the forecast whenever ice accretion on exposed surfaces is likely. When freezing spray is forecast to meet warning or advisory thresholds, a headline should also be included (e.g., ...HEAVY FREEZING SPRAY WARNING...).

e. Air Temperatures. Air temperatures are optional, and may be included if they are forecast to be at or below freezing and if the forecaster considers this information to be significant.

2.3.9 CWF - Forecast Time Phrases

The selection of the time phrases used in advisory and warning headlines within the CWF is dependent upon the number of hours that have transpired since the time of product creation rather than the product issuance time. The selection of time phrases used in Watch, Warning, and Advisory headlines also depends upon the type of event.

Timing phrases described in Tables 1, 2 and 3 are included in headlines issued for the following Watches, Warnings and Advisories:

- Gale Watch
- Storm Watch
- Hurricane Force Wind Watch
- Heavy Freezing Spray Watch
- Hazardous Seas Watch
- Hurricane Force Wind Warning
- Storm Warning
- Gale Warning
- Heavy Freezing Spray Warning
- Hazardous Seas Warning
- Small Craft Advisory
- Small Craft Advisory for Hazardous Seas
- Small Craft Advisory for Rough Bar
- Small Craft Advisory for Winds
- Freezing Spray Advisory
- Dense Fog Advisory
- Dense Smoke Advisory
- Ashfall Advisory
- Brisk Wind Advisory
- Low Water Advisory

Headlines for the following Watches and Advisories include explicit times at offices which use VTEC operationally:

- Tornado Watch
- Severe Thunderstorm Watch
- Dense Fog Advisory
- Dense Smoke Advisory
- Ashfall Advisory

Headlines for the following Watches and Warnings do not include explicit times or timing phrases:

- Hurricane, Typhoon, or Tropical Storm Warnings
- Hurricane, Typhoon, or Tropical Storm Watches

a. First Period. An advisory or warning event in effect for the first period will use explicit time phrases. When the issuance time and event start and/or end time occur on the same calendar day, the warning and advisory headline will include the time phrase listed in Table 1, except for products issued from the Pacific and Alaskan WFOs.

Time Period Covered	Time Phrases
Midnight – 5:59 AM	EARLY THIS MORNING
6 AM – 11:59 AM	THIS MORNING
Noon	TODAY
12.01 PM – 5:59 PM	THIS AFTERNOON
6 PM – 11:59 PM	THIS EVENING

Table 1. Time Phrase Format for Coastal Waters Forecast (CWF) Advisory and Warning Headlines for Events Beginning in First Forecast Period on Same Calendar Day of Issuance.

For products issued with GHG software and VTEC from the Pacific and Alaskan WFOs, an advisory or warning event in effect for the first period on the same calendar day of issuance will use time phrases as described in Table 2.

Time Period Covered	Time Phrases
Midnight – 2:59 AM	LATE TONIGHT
3:00 AM – 5:59 AM	EARLY THIS MORNING
6:00 AM – 8:59 AM	THIS MORNING
9:00 AM – 11:59 AM	LATE THIS MORNING

12:00 PM – 2:59 PM	EARLY THIS AFTERNOON
3:00 PM – 5:59 PM	LATE THIS AFTERNOON
6:00 PM – 8:59 PM	THIS EVENING
9:00 PM – 11:59 PM	TONIGHT

Table 2. Time Phrase Format for Coastal Waters Forecast (CWF) Advisory and Warning Headlines Issued with GHG software (except for offices which do not have AWIPS) by Pacific and Alaska Region WFOs and WSO Pago Pago for Events Beginning in First Forecast Period on Same Calendar Day of Issuance.

b. Beyond the First Period. A headline for an advisory or warning event in effect not meeting criteria described in part a above will use generic time phrases as described in Table 3.

Time Period Covered	Same Calendar Day Time Phrases	Day + 1 Time Phrases	Day + n Time Phrases Where $1 < n \leq 5$
Midnight – 5:59 AM		LATE TONIGHT	LATE (Day + (n - 1)) NIGHT
6 AM – 11:59 AM		(Day + 1) MORNING	(Day + n) MORNING
NOON – 5:59 PM	THIS AFTERNOON	(Day + 1) AFTERNOON	(Day + n) AFTERNOON
6 PM – 11:59 PM	THIS EVENING	(Day + 1) EVENING	(Day + n) EVENING

Table 3. Time Phrase Format for Coastal Waters Forecast (CWF) Watch, Warning and Advisory Headlines in Effect or Ending Beyond First Period.

2.3.10 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 refer to Section 5, Digital Forecast Collaboration, of NWSI 10-201, *National Digital Forecast Database and Local Database Description and Specifications*, for detailed information on the coordination and collaboration processes for gridded forecasts and analyses, available at: <http://www.nws.noaa.gov/directives/sym/pd01002001curr.pdf>.

2.4 Format

The format of the CWF can be seen in Figure 1. For more detailed product format information consult NWSI 10-1701, *Text Product Formats and Codes*. This product is available in industry standard encoding and languages, and may include, but not limited to, American Standard Code

for Information Interchange (ASCII), Extensible Markup Language (XML), Wireless Markup Language (WML) and HyperText Markup Language (HTML).

2.4.1 Updates, Amendments and Corrections

CWFs and the appropriate gridded forecast fields will be updated or corrected when the on-duty forecast team believes the current forecast is not representative, or when significant format or content errors are detected. See NWSI 10-303 for detailed information.

```

(WMO ID)(UTC ISSUANCE DATE TIME)
(AWIPS ID)

COASTAL WATERS FORECAST [+ Optional Descriptor]
NATIONAL WEATHER SERVICE (CITY)(STATE)
(ISSUANCE TIME) AM/PM (LOCAL TIME ZONE)(DAY)(DATE)

(OVERALL AREA COVERED BY THIS FORECAST)

(SYNOPSIS UGC CODE)-(EXPIRATION TIME)-
(ISSUANCE TIME) AM/PM (LOCAL TIME ZONE)(DAY)(DATE)

.SYNOPSIS FOR (WFO/WSO MARINE AREA)...TEXT.

$$
(AREAL UGC CODE[S])-(EXPIRATION TIME)-
(FORECAST AREAL DESCRIPTOR[S])
(ISSUANCE TIME) AM/PM (LOCAL TIME ZONE)(DAY)(DATE)

...HEADLINES (If needed)...

.PERIOD 1...
.PERIOD 2...
.PERIOD 3...
.PERIOD 4...
.PERIOD 5...
.PERIOD 6 (Optional period for the morning issuance)...
.PERIOD 7 (Optional period for the afternoon issuance)...
.(DAY 4)...
.(DAY 5)...

$$
FORECASTER NAME (Optional)

```

Figure 1. Coastal Waters Forecast (CWF) Format.

2.4.2 CWF - Unscheduled Forecasts

As needed, append either "...UPDATED" or "...CORRECTED" to the product header whenever, respectively, an unscheduled CWF is issued or when an error in the CWF is corrected. A short description may be added for the updated or corrected items just below the areal header to

highlight the change.

COASTAL WATERS FORECAST...**UPDATED** (or ...**CORRECTED**)
NATIONAL WEATHER SERVICE (CITY)(STATE)
(VALID TIME) AM/PM (LOCAL TIME ZONE)(DAY)(DATE)

(REASON FOR CORRECTED/UPDATED/AMENDED). [Optional]

(OVERALL AREA COVERED BY THIS FORECAST)

(SYNOPSIS UGC CODE)-(EXPIRATION TIME)-

(ISSUANCE TIME) AM/PM (LOCAL TIME ZONE)(DAY)(DATE)

.SYNOPSIS FOR (WFO MARINE AREA)...TEXT.

\$\$

Figure 2. Unscheduled Coastal Waters Forecast (CWF) Format.

APPENDIX A - Examples of NWS Coastal Waters Forecasts

Example 1:

FZUS51 KCAR 261913
CWFCAR

COASTAL WATERS FORECAST
NATIONAL WEATHER SERVICE CARIBOU ME
313 PM EDT TUE JUL 26 2016

ANZ005-270830-
313 PM EDT TUE JUL 26 2016

.SYNOPSIS FOR EASTPORT ME TO STONINGTON ME OUT 25 NM...
WEAK HIGH PRESSURE BUILDS INTO THE AREA TONIGHT. A COLD FRONT WILL
SLOWLY WORK ACROSS THE STATE WEDNESDAY NIGHT AND THURSDAY.

\$\$

ANZ050-270830-
COASTAL WATERS FROM EASTPORT, ME TO SCHOODIC POINT, ME OUT 25 NM-
313 PM EDT TUE JUL 26 2016

.TONIGHT...W WINDS 5 TO 10 KT. SEAS 2 TO 3 FT. ISOLATED SHOWERS
AND TSTMS EARLY THIS EVENING.
.WED...NW WINDS AROUND 5 KT...BECOMING SW IN THE AFTERNOON. SEAS
AROUND 2 FT.
.WED NIGHT...SW WINDS 5 TO 10 KT. SEAS 1 TO 2 FT.
.THU...S WINDS 5 TO 10 KT. SEAS 1 FOOT OR LESS.
.THU NIGHT...S WINDS 5 TO 10 KT. SEAS 1 FOOT OR LESS. SCATTERED
TSTMS IN THE EVENING. A CHANCE OF SHOWERS.
.FRI...S WINDS 5 TO 10 KT...DIMINISHING TO AROUND 5 KT IN THE
AFTERNOON. SEAS 1 FOOT OR LESS. A CHANCE OF SHOWERS.
.FRI NIGHT...S WINDS AROUND 5 KT...BECOMING NE AFTER MIDNIGHT.
SEAS 1 TO 2 FT. A CHANCE OF SHOWERS.
.SAT...N WINDS AROUND 5 KT...BECOMING S AROUND 5 KT IN THE
AFTERNOON...THEN BECOMING W IN THE EVENING... BECOMING N AROUND
5 KT AFTER MIDNIGHT. SEAS 1 TO 2 FT... BUILDING TO 2 TO 3 FT. A
CHANCE OF SHOWERS IN THE MORNING.
.SUN...NE WINDS AROUND 5 KT...BECOMING S IN THE AFTERNOON AND
EVENING...THEN BECOMING W AROUND 5 KT AFTER MIDNIGHT. SEAS 1 TO
2 FT.

WINDS AND SEAS HIGHER IN AND NEAR TSTMS.

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ANZ051-270830-
COASTAL WATERS FROM SCHOODIC POINT, ME TO STONINGTON, ME OUT
25 NM-
313 PM EDT TUE JUL 26 2016

.TONIGHT...NW WINDS 5 TO 10 KT. SEAS AROUND 2 FT.
.WED...NW WINDS 5 TO 10 KT...BECOMING SW IN THE AFTERNOON. SEAS
AROUND 2 FT.
.WED NIGHT...SW WINDS 5 TO 10 KT. SEAS AROUND 2 FT.
.THU...S WINDS 5 TO 10 KT. SEAS 1 FOOT OR LESS.
.THU NIGHT...S WINDS 5 TO 10 KT. SEAS 1 FOOT OR LESS. SCATTERED
TSTMS IN THE EVENING. A CHANCE OF SHOWERS.
.FRI...S WINDS AROUND 5 KT. SEAS 1 FOOT OR LESS. A CHANCE OF
SHOWERS IN THE MORNING.
.FRI NIGHT...SE WINDS AROUND 5 KT...BECOMING NE AROUND 5 KT AFTER
MIDNIGHT. SEAS AROUND 2 FT. A CHANCE OF SHOWERS.
.SAT...N WINDS AROUND 5 KT...BECOMING W AROUND 5 KT IN THE
AFTERNOON AND EVENING...THEN BECOMING N AFTER MIDNIGHT. SEAS 2 TO
3 FT. A CHANCE OF SHOWERS IN THE MORNING.
.SUN...NE WINDS 5 TO 10 KT...BECOMING S IN THE AFTERNOON AND
EVENING...THEN BECOMING W AROUND 5 KT AFTER MIDNIGHT. SEAS AROUND
2 FT.

WINDS AND SEAS HIGHER IN AND NEAR TSTMS.

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ANZ052-270830-
INTRA COASTAL WATERS FROM SCHOODIC POINT, ME TO STONINGTON, ME-
313 PM EDT TUE JUL 26 2016

.TONIGHT...NW WINDS AROUND 5 KT. SEAS 1 TO 2 FT.
.WED...NW WINDS AROUND 5 KT...BECOMING SW IN THE AFTERNOON. SEAS
1 TO 2 FT.
.WED NIGHT...SW WINDS 5 TO 10 KT. SEAS 1 TO 2 FT IN THE EVENING...
THEN 1 FOOT OR LESS.
.THU...S WINDS AROUND 5 KT. SEAS 1 FOOT OR LESS.
.THU NIGHT...SE WINDS AROUND 5 KT. SEAS 1 FOOT OR LESS. SCATTERED
TSTMS IN THE EVENING. A CHANCE OF SHOWERS.
.FRI...SE WINDS AROUND 5 KT. SEAS 1 FOOT OR LESS. A CHANCE OF
SHOWERS IN THE AFTERNOON.
.FRI NIGHT...S WINDS AROUND 5 KT...BECOMING N AFTER MIDNIGHT.
SEAS 1 FOOT OR LESS. A CHANCE OF SHOWERS.

.SAT...N WINDS AROUND 5 KT...BECOMING W IN THE AFTERNOON AND EVENING...THEN BECOMING N AFTER MIDNIGHT. SEAS 1 FOOT OR LESS... THEN 1 TO 2 FT. A CHANCE OF SHOWERS IN THE MORNING.

.SUN...NE WINDS AROUND 5 KT...BECOMING W AROUND 5 KT. SEAS 1 TO 2 FT...THEN 1 FOOT OR LESS.

WINDS AND SEAS HIGHER IN AND NEAR TSTMS.

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Example 2:

FZUS56 KSGX 260917
CWFSGX

COASTAL WATERS FORECAST
NATIONAL WEATHER SERVICE SAN DIEGO CA
217 AM PDT TUE JUL 26 2016

PZZ700-270115-
217 AM PDT TUE JUL 26 2016

.SYNOPSIS FOR FAR SOUTHERN CALIFORNIA COAST...
AT 2 PM...A 1014 MB HIGH WAS 50 NM NORTHWEST OF POINT CONCEPTION AND
A 1004 MB LOW WAS NEAR NEEDLES. WEAK ONSHORE FLOW WILL PREVAIL
THROUGH SATURDAY.

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PZZ750-270115-
COASTAL WATERS FROM SAN MATEO POINT TO THE MEXICAN BORDER AND
OUT TO 30 NM-
217 AM PDT TUE JUL 26 2016

.TODAY...WIND VARIABLE LESS THAN 10 KT...BECOMING W 10 KT IN THE
AFTERNOON. WIND WAVES 2 FT OR LESS...BECOMING 3 FT IN THE
AFTERNOON. MIXED SWELL W 1 TO 2 FT AT 8 SECONDS AND S 3 FT AT
13 SECONDS.

.TONIGHT...WIND W 10 KT IN THE EVENING...BECOMING VARIABLE LESS
THAN 10 KT. WIND WAVES 2 FT OR LESS. MIXED SWELL W 2 TO 3 FT AT
8 SECONDS AND S 3 TO 4 FT AT 12 SECONDS.

.WED...WIND VARIABLE LESS THAN 10 KT...BECOMING W 10 KT IN THE
AFTERNOON. WIND WAVES 2 FT OR LESS. MIXED SWELL W 1 TO 2 FT AT
10 SECONDS AND S 3 TO 4 FT AT 11 SECONDS.

.WED NIGHT...WIND W 10 KT IN THE EVENING...BECOMING VARIABLE LESS THAN 10 KT. WIND WAVES 2 FT OR LESS. MIXED SWELL W 2 FT AT 10 SECONDS AND SW 3 TO 4 FT AT 11 SECONDS.

.THU...WIND VARIABLE LESS THAN 10 KT...BECOMING W 10 KT IN THE AFTERNOON. WIND WAVES 2 FT OR LESS. MIXED SWELL W 2 FT AT 10 SECONDS AND S 3 TO 4 FT AT 11 SECONDS.

.THU NIGHT...WIND W 10 KT IN THE EVENING...BECOMING VARIABLE LESS THAN 10 KT. WIND WAVES 2 FT OR LESS. MIXED SWELL W 2 FT AND S 2 TO 3 FT.

.FRI...WIND VARIABLE LESS THAN 10 KT...BECOMING W 10 KT IN THE AFTERNOON. WIND WAVES 2 FT OR LESS. MIXED SWELL W 1 TO 2 FT AND SW 2 TO 3 FT.

.FRI NIGHT...WIND W 10 KT IN THE EVENING...BECOMING VARIABLE LESS THAN 10 KT. WIND WAVES 2 FT OR LESS. MIXED SWELL W 1 TO 2 FT AND SW 2 FT.

.SAT...WIND VARIABLE LESS THAN 10 KT...BECOMING SW 10 KT IN THE AFTERNOON. WIND WAVES 2 FT OR LESS. MIXED SWELL W 1 TO 2 FT AND SW 2 FT.

.SAT NIGHT...WIND W 10 KT IN THE EVENING...BECOMING VARIABLE LESS THAN 10 KT. WIND WAVES 2 FT OR LESS. MIXED SWELL W 1 TO 2 FT AND S 2 FT.

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PZZ775-270115-

WATERS FROM SAN MATEO POINT TO THE MEXICAN BORDER EXTENDING 30 TO 60 NM OUT INCLUDING SAN CLEMENTE ISLAND-
217 AM PDT TUE JUL 26 2016

.TODAY...WIND VARIABLE LESS THAN 10 KT...BECOMING W 10 KT IN THE AFTERNOON. WIND WAVES 2 FT OR LESS...BECOMING 3 FT IN THE AFTERNOON. MIXED SWELL NW 1 TO 2 FT AT 8 SECONDS AND S 3 FT AT 13 SECONDS.

.TONIGHT...WIND W 10 TO 15 KT. GUSTS TO 20 KT IN THE EVENING. WIND WAVES 3 FT IN THE EVENING...BECOMING 2 FT OR LESS. MIXED SWELL NW 2 TO 3 FT AT 8 SECONDS AND S 3 TO 4 FT AT 12 SECONDS.

.WED...WIND W 10 KT. WIND WAVES 2 FT OR LESS. MIXED SWELL W 2 FT AT 10 SECONDS AND S 4 FT AT 11 SECONDS.

.WED NIGHT...WIND W 10 TO 15 KT. GUSTS TO 20 KT IN THE EVENING. WIND WAVES 3 FT IN THE EVENING...BECOMING 2 FT OR LESS. MIXED SWELL W 2 TO 3 FT AT 10 SECONDS AND S 3 TO 4 FT AT 11 SECONDS.

.THU...WIND W 10 KT. WIND WAVES 2 FT OR LESS. MIXED SWELL W 2 FT AT 10 SECONDS AND S 3 TO 4 FT AT 10 SECONDS.

.THU NIGHT...WIND W 10 KT. WIND WAVES 3 FT IN THE EVENING...BECOMING 2 FT OR LESS. MIXED SWELL W 2 FT AND S 3 FT.

.FRI...WIND W 10 KT. WIND WAVES 2 FT OR LESS. MIXED SWELL W 2 FT

AND S 3 FT.

.FRI NIGHT...WIND W 10 KT IN THE EVENING...BECOMING VARIABLE LESS THAN 10 KT. WIND WAVES 2 FT OR LESS. MIXED SWELL W 1 TO 2 FT AND SW 2 FT.

.SAT...WIND VARIABLE LESS THAN 10 KT...BECOMING W 10 KT IN THE AFTERNOON. WIND WAVES 2 FT OR LESS. MIXED SWELL W 1 TO 2 FT AND SW 2 FT.

.SAT NIGHT...WIND W 10 KT. WIND WAVES 2 FT OR LESS. MIXED SWELL W 1 TO 2 FT AND S 2 FT.

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