

Department of Commerce • National Oceanic & Atmospheric Administration • National Weather Service

**NATIONAL WEATHER SERVICE INSTRUCTION 10-310**

**JUNE 18, 2019**

**Operations and Services**

**Marine, Tropical, and Tsunami Services Branch, NWSPD 10-3**

**COASTAL WATERS FORECAST**

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

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**OPR:** AFS26 (W. Presnell)

**Certified by:** AFS2 (A. Allen)

**Type of Issuance:** Routine

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**SUMMARY OF REVISIONS:** This instruction supersedes NWSI 10-310, *Coastal Waters Forecast*, dated April 18, 2017.

The following revisions were made to this directive:

1. Updated examples to show use of mixed case.
2. Adjusted wording to reflect consolidation of Small Craft Advisories into one headline.
3. In section 2.2.3, removed the phrase “but no earlier than 1 hour before this issuance time.”
4. In section 2.3.5 b1, edited first sentence to read “When a tropical cyclone warning is in effect, the warning headline should supersede all other headlines in the area covered by the tropical cyclone warning.”
5. Removed Note indicating an exception for Alaska Region (top of page 8)
6. In section 2.3.8, added wording that knots should be the unit used to represent wind speed and the term “knot(s)” or “kt” is acceptable in representing wind speed. Also, removed any use of “kts” for knots and used “knot” in body and used “kt” to indicate knots in examples.
7. In section 2.3.8c, indicated that “visibility” should be spelled out and not abbreviated.
8. In section 2.4, added that NWSI 10-1701 has information on character line and total character limitations.

Signed

06/04/2019

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Date

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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. 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
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 message from the appropriate hurricane center.

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 is a brief description of surface weather features which 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 issuance criteria, as well as definitions for Gale, Storm and Hurricane Force Wind Watches and Warnings.

a. 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.

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 in the area covered by the tropical cyclone warning.

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.

The four headlines for Small Craft Advisories: 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) have been consolidated into one headline, Small Craft Advisory. See NWSI 10-303 for a general definition of this advisory.

Based on Local or Regional policy, WFOs/WSO may manually include cautionary statements (e.g., “SMALL CRAFT SHOULD EXERCISE CAUTION”) in situations below SCA 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
- 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, freezing fog, ice coverage, etc.). Always emphasize the most critical conditions.

Exception: WFO/WSOs, after coordinating with their Region, 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”. Wind speed forecasts should use knots as the unit of measurement with the term “knot(s)” or “kt” acceptable according to World Meteorological Organization (WMO) policy. One knot is equal to 1 nautical mile per hour. Forecasters should round speeds to the nearest 5 knots 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 kt with gusts to 35 kt).

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 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 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. The word “visibility” should be written out and not abbreviated, for example, “...visibility 3 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
- 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*. Please consult NWSI 10-1701 sections 3.3 - 3.5, for information on the character line and total character limitations of the CWF. 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:**

FZUS52 KILM 141405  
CWFILM

Coastal Waters Forecast  
National Weather Service Wilmington NC  
905 AM EST Fri Dec 14 2018

SURF CITY NC TO SOUTH SANTEE RIVER SC OUT 20 NM

AMZ200-142215-  
905 AM EST Fri Dec 14 2018

.Synopsis for coastal waters from Surf City North Carolina to South Santee River South Carolina out to 20 nautical miles...

Low pressure will move northeast across the central Carolinas today followed by a cold front later Saturday. High pressure will build in from the west early next week, remaining over the waters through mid week.

\$\$

AMZ250-142215-  
Coastal waters from Surf City to Cape Fear NC out 20 nm-  
905 AM EST Fri Dec 14 2018

...SMALL CRAFT ADVISORY IN EFFECT THROUGH LATE SATURDAY NIGHT...

.REST OF TODAY...SE winds 15 to 20 kt, increasing to 20 to 25 kt early this afternoon, then diminishing to 15 to 20 kt late. Seas 4 to 6 ft, building to 5 to 8 ft this afternoon. Showers. Visibility 1 to 3 NM late.

.TONIGHT...S winds 15 to 20 kt. Seas 5 to 8 ft. Showers with isolated tstms. Visibility 1 to 3 NM, decreasing to 1 NM or less after midnight.

.SAT...SW winds 10 to 15 kt. Seas 5 to 7 ft. Showers with isolated tstms in the morning, then scattered showers in the afternoon. Visibility 1 NM or less, increasing to 1 to 3 NM in the afternoon.

.SAT NIGHT...W winds 10 to 15 kt. Seas 4 to 6 ft. Scattered showers, mainly in the evening.

.SUN...W winds 10 to 15 kt, increasing to 15 to 20 kt in the afternoon. Seas 4 to 5 ft.

.SUN NIGHT...NW winds 10 to 15 kt. Seas 4 to 5 ft.

.MON...NW winds 10 to 15 kt. Seas 3 to 4 ft.

.TUE...N winds 10 to 15 kt. Seas 3 to 4 ft.

Winds and seas higher in and near tstms.

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AMZ252-142215-

Coastal waters from Cape Fear NC to Little River Inlet SC out 20 nm-  
905 AM EST Fri Dec 14 2018

...SMALL CRAFT ADVISORY IN EFFECT THROUGH LATE SATURDAY NIGHT...

.REST OF TODAY...SE winds 15 to 20 kt, increasing to 20 to 25 kt this afternoon. Seas 5 to 8 ft. Showers. Visibility 1 to 3 NM.

.TONIGHT...S winds 15 to 20 kt. Seas 5 to 8 ft. Showers with isolated tstms. Visibility 1 to 3 NM, decreasing to 1 NM or less after midnight.

.SAT...SW winds 10 to 15 kt. Seas 5 to 7 ft. Scattered showers with isolated tstms in the morning, then scattered showers in the afternoon. Visibility 1 NM or less in the morning.

.SAT NIGHT...W winds 10 to 15 kt. Seas 4 to 6 ft. Scattered showers, mainly in the evening.

.SUN...W winds 10 to 15 kt, increasing to 15 to 20 kt in the afternoon. Seas 4 to 5 ft.

.SUN NIGHT...NW winds 10 to 15 kt. Seas 3 to 4 ft.

.MON...NW winds 10 to 15 kt. Seas 3 to 4 ft.

.TUE...N winds 10 to 15 kt. Seas 2 to 3 ft.

Winds and seas higher in and near tstms.

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AMZ254-142215-

Coastal waters from Little River Inlet to Murrells Inlet SC out 20 nm-  
905 AM EST Fri Dec 14 2018

...SMALL CRAFT ADVISORY IN EFFECT THROUGH LATE SATURDAY NIGHT...

.REST OF TODAY...SE winds 15 to 20 kt. Seas 5 to 8 ft. Showers. Visibility 1 to 3 NM.

.TONIGHT...S winds 15 to 20 kt. Seas 5 to 7 ft. Showers with isolated tstms. Visibility 1 to 3 NM, decreasing to 1 NM or less after midnight.

.SAT...SW winds 10 to 15 kt. Seas 4 to 6 ft. Scattered showers with isolated tstms in the morning, then scattered showers in the afternoon. Visibility 1 NM or less in the morning.

.SAT NIGHT...W winds 10 to 15 kt. Seas 4 to 5 ft. Scattered showers, mainly in the evening.

.SUN...W winds 10 to 15 kt. Seas 4 to 5 ft.

.SUN NIGHT...NW winds 10 to 15 kt. Seas 3 to 4 ft.

.MON...NW winds 10 to 15 kt. Seas 2 to 3 ft.

.TUE...N winds 10 kt. Seas 2 ft.

Winds and seas higher in and near tstms.

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AMZ256-142215-

Coastal waters from Murrells Inlet to South Santee River SC out 20 nm-  
905 AM EST Fri Dec 14 2018

...SMALL CRAFT ADVISORY IN EFFECT THROUGH LATE SATURDAY NIGHT...

.REST OF TODAY...SE winds 15 to 20 kt. Seas 5 to 8 ft. Showers. Visibility 1 to 3 NM.

.TONIGHT...S winds 15 to 20 kt, diminishing to 10 to 15 kt after midnight. Seas 5 to 7 ft.  
Showers. Isolated tstms. Visibility 1 NM or less.

.SAT...SW winds 10 to 15 kt. Seas 4 to 6 ft. Showers with a slight chance of tstms in the  
morning, then scattered showers in the afternoon. Visibility 1 NM or less in the morning.

.SAT NIGHT...W winds 10 to 15 kt. Seas 4 to 5 ft. Scattered showers, mainly in the evening.

.SUN...W winds 10 to 15 kt. Seas 4 to 5 ft.

.SUN NIGHT...NW winds 10 to 15 kt. Seas 3 to 4 ft.

.MON...NW winds 10 to 15 kt. Seas 2 to 3 ft.

.TUE...N winds 10 to 15 kt. Seas 2 to 3 ft.

Winds and seas higher in and near tstms.

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**Example 2:**

FZUS52 KKEY 141657 AAA

CWFKEY

Coastal Waters Forecast for the Florida Keys...UPDATED

National Weather Service Key West FL

1156 AM EST Fri Dec 14 2018

Updated to increase wind in Straits of Florida

Florida Bay...Hawk Channel and Straits of Florida from Ocean Reef to south of Dry  
Tortugas...and the extreme southeastern Gulf of Mexico...including The Florida Keys National  
Marine Sanctuary

Seas are given as significant wave height...which is the average height of the highest 1/3 of the  
waves. Individual waves may be more than twice the significant wave height.

GMZ005-142345-

Synopsis for Keys coastal waters from Ocean Reef to Dry Tortugas

1156 AM EST Fri Dec 14 2018

.SYNOPSIS...Low pressure will move slowly to the east-northeast from the Lower Mississippi Valley to the mid-Atlantic coast through Saturday night, then move offshore from the northeastern states on Sunday. Showers and thunderstorms ahead of the trailing cold front may affect the Keys coastal waters tonight, and the front is expected to move through the area on Saturday. A westerly swell approaching 8 feet will affect the deep Gulf waters and the western Florida Straits from Saturday into early Sunday.

The Approximate Shoreward Edge of the Gulf Stream as of December 13...

33 NM South of Dry Tortugas Light...on Loggerhead Key.  
18 NM South of Cosgrove Shoal Light...off the Marquesas Keys.  
17 NM South of Sand Key Light...off Key West.  
24 NM South of Looe Key...off Big Pine Key.  
25 NM South of Sombrero Key Light...off Marathon.  
8 NM Southeast of Alligator Reef Light...off Islamorada.  
3 NM Southeast of Molasses Reef Light...off Key Largo.  
1 NM East of Carysfort Reef Light...off Ocean Reef.

Gulf Stream Information Courtesy of the Naval Oceanographic Office.

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GMZ031-142345-

Florida Bay including Barnes Sound, Blackwater Sound, and Buttonwood Sound-  
1156 AM EST Fri Dec 14 2018

...SMALL CRAFT SHOULD EXERCISE CAUTION UNTIL WINDS DECREASE...

.THIS AFTERNOON...Southeast to south winds 15 to 20 knots, decreasing to near 15 knots this afternoon. Bay waters choppy, becoming a moderate chop. Isolated showers and late afternoon thunderstorms.

.TONIGHT...South winds 10 to 15 knots. Bay waters a light to moderate chop. Scattered showers and thunderstorms in the evening, then numerous showers and scattered thunderstorms after midnight.

.SATURDAY...Southwest to west winds 5 to 10 knots. Bay waters smooth to a light chop. Scattered showers and thunderstorms.

.SATURDAY NIGHT...Northwest to north winds 5 to 10 knots. Bay waters smooth to a light chop. Scattered showers.

.SUNDAY...Northwest winds 5 to 10 knots. Bay waters smooth to a light chop. Isolated showers.

.SUNDAY NIGHT AND MONDAY...Northwest to north winds 10 to 15 knots. Bay waters a light to moderate chop.

.MONDAY NIGHT AND TUESDAY...Northwest to north winds 5 to 10 knots. Bay waters smooth to a light chop.

.TUESDAY NIGHT...Northeast winds 5 to 10 knots. Bay waters smooth to a light chop.

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GMZ032-035-142345-

Bayside and Gulf side from Craig Key to west end of Seven Mile Bridge-Gulf of Mexico from west end of Seven Mile Bridge to Halfmoon Shoal out to 5 Fathoms-  
1156 AM EST Fri Dec 14 2018

...SMALL CRAFT SHOULD EXERCISE CAUTION...

.THIS AFTERNOON...Southeast to south winds 15 to 20 knots. Seas 1 to 3 feet, except 2 to 4 feet west of the Marquesas Keys. Nearshore waters choppy. Scattered showers in the morning, then isolated showers and thunderstorms in the afternoon.

.TONIGHT...South to southwest winds 10 to 15 knots. Seas 1 to 2 feet. Nearshore waters a light to moderate chop. Scattered showers and thunderstorms in the evening, then numerous showers and scattered thunderstorms after midnight.

.SATURDAY...West winds 5 to 10 knots. Seas 1 foot or less, building to 1 to 2 feet in the afternoon. West of the Marquesas Keys, seas 1 to 3 feet, building to 3 to 5 feet in the afternoon. Nearshore waters smooth to a light chop. Scattered showers and thunderstorms.

.SATURDAY NIGHT...Northwest to north winds 5 to 10 knots. Seas 1 to 3 feet, except 4 to 6 feet west of the Marquesas Keys. Nearshore waters smooth to a light chop. Scattered showers.

.SUNDAY...Northwest to north winds 10 to 15 knots. Seas 1 to 3 feet, except 3 to 5 feet west of the Marquesas Keys. Nearshore waters a light to moderate chop. Isolated showers.

.SUNDAY NIGHT...North winds 10 to 15 knots. Seas 1 to 2 feet. Nearshore waters a light to moderate chop.

.MONDAY THROUGH TUESDAY...North winds 10 to 15 knots. Seas 1 to 2 feet. Nearshore waters a light to moderate chop.

.TUESDAY NIGHT...Northeast winds 5 to 10 knots. Seas 1 foot or less. Nearshore waters smooth to a light chop.

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GMZ042-142345-

Hawk Channel from Ocean Reef to Craig Key out to the reef-  
1156 AM EST Fri Dec 14 2018

...SMALL CRAFT ADVISORY IN EFFECT...

.THIS AFTERNOON...Southeast to south winds near 20 knots, decreasing to 15 to 20 knots late this afternoon. Seas 2 to 4 feet. Nearshore waters rough, becoming choppy. Isolated showers and late afternoon thunderstorms.

.TONIGHT...South winds 10 to 15 knots. Seas 2 to 3 feet. Nearshore waters a light to moderate chop. Scattered showers and thunderstorms.

.SATURDAY...Southwest winds 10 to 15 knots. Seas 1 to 2 feet. Nearshore waters a light to moderate chop. Scattered showers and thunderstorms.

.SATURDAY NIGHT...Northwest winds near 10 knots. Seas 1 to 2 feet. Nearshore waters a light chop. Scattered showers.

.SUNDAY...Northwest to north winds 5 to 10 knots. Seas 1 to 2 feet. Nearshore waters smooth to a light chop. Isolated showers.

.SUNDAY NIGHT AND MONDAY...Northwest to north winds 10 to 15 knots. Seas 1 to 2 feet. Nearshore waters a light to moderate chop.

.MONDAY NIGHT...Northwest to north winds near 10 knots. Seas 1 foot or less. Nearshore waters a light chop.

.TUESDAY...North to northeast winds 5 to 10 knots. Seas 1 foot or less. Nearshore waters smooth to a light chop.

.TUESDAY NIGHT...Northeast to east winds 5 to 10 knots. Seas 1 foot or less. Nearshore waters smooth to a light chop.

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GMZ043-044-142345-

Hawk Channel from Craig Key to west end of Seven Mile Bridge out to the reef-

Hawk Channel from west end of Seven Mile Bridge to Halfmoon Shoal out to the reef-

1156 AM EST Fri Dec 14 2018

...SMALL CRAFT ADVISORY IN EFFECT...

.THIS AFTERNOON...Southeast to south winds near 20 knots this morning, decreasing to near 15 knots this afternoon. Seas 3 to 5 feet. Nearshore waters rough, becoming choppy. Isolated showers and late afternoon thunderstorms.

.TONIGHT...South to southwest winds 10 to 15 knots. Seas 1 to 3 feet. Nearshore waters a light to moderate chop. Scattered showers and thunderstorms in the evening, then numerous showers and scattered thunderstorms after midnight.

.SATURDAY...West winds 5 to 10 knots. Seas 1 to 2 feet, building to 2 to 3 feet in the afternoon. Nearshore waters smooth to a light chop. Scattered showers and thunderstorms.

.SATURDAY NIGHT...Northwest to north winds near 10 knots. Seas 1 to 3 feet, except 3 to 5 feet west of Cosgrove Shoal Light. Nearshore waters a light chop. Scattered showers.

.SUNDAY...Northwest to north winds 10 to 15 knots. Seas 2 to 3 feet. Nearshore waters a light to moderate chop. Isolated showers.

.SUNDAY NIGHT THROUGH MONDAY NIGHT...North winds 10 to 15 knots. Seas 1 to 3 feet. Nearshore waters a light to moderate chop.

.TUESDAY...North winds 5 to 10 knots. Seas 1 to 2 feet. Nearshore waters smooth to a light chop.

.TUESDAY NIGHT...Northeast to east winds 5 to 10 knots. Seas 1 to 2 feet. Nearshore waters smooth to a light chop.

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GMZ052-072-142345-

Straits of Florida from Ocean Reef to Craig Key out 20 NM-

Straits of Florida from Ocean Reef to Craig Key 20 to 60 NM out-

1156 AM EST Fri Dec 14 2018

...SMALL CRAFT ADVISORY IN EFFECT...

.THIS AFTERNOON...Southeast winds near 20 knots, decreasing to 15 to 20 knots late this afternoon. Seas 3 to 5 feet. Isolated showers, with isolated thunderstorms in the afternoon.  
.TONIGHT...South winds 10 to 15 knots. Seas 3 to 5 feet. Scattered showers and thunderstorms.  
.SATURDAY...Southwest winds 10 to 15 knots. Seas 2 to 4 feet. Numerous showers and scattered thunderstorms.  
.SATURDAY NIGHT...West winds near 10 knots, becoming northwest to north after midnight. Seas 3 to 5 feet. Numerous showers and isolated thunderstorms in the evening, then scattered showers after midnight.  
.SUNDAY...Northwest to north winds near 10 knots. Seas 3 to 5 feet. Isolated showers.  
.SUNDAY NIGHT AND MONDAY...North winds 10 to 15 knots. Seas 2 to 4 feet.  
.MONDAY NIGHT...North winds 5 to 10 knots. Seas 2 to 3 feet.  
.TUESDAY...North to northeast winds 5 to 10 knots. Seas 1 to 2 feet. Isolated showers.  
.TUESDAY NIGHT...Northeast to east winds 5 to 10 knots. Seas 1 to 2 feet. Isolated showers.

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GMZ053>055-073>075-142345-

Straits of Florida from Craig Key to west end of Seven Mile  
Bridge out 20 NM-Straits of Florida from west end of Seven Mile Bridge to south of  
Halfmoon Shoal out 20 NM-Straits of Florida from Halfmoon Shoal to 20 NM west of Dry  
Tortugas out 20 NM-Straits of Florida from Craig Key to west end of Seven Mile  
Bridge 20 to 60 NM out-Straits of Florida from west end of Seven Mile Bridge to south of  
Halfmoon Shoal 20 to 60 NM out-Straits of Florida from Halfmoon Shoal to 20 NM west of Dry  
Tortugas 20 to 60 NM out-  
1156 AM EST Fri Dec 14 2018

...SMALL CRAFT ADVISORY IN EFFECT...

.THIS AFTERNOON...Southeast to south winds 20 to 25 knots, decreasing to 15 to 20 knots late this afternoon. Seas 4 to 6 feet. Isolated showers and late afternoon thunderstorms.  
.TONIGHT...South to southwest winds 10 to 15 knots. Seas 2 to 4 feet. Scattered showers and thunderstorms in the evening, then numerous showers and scattered thunderstorms after midnight.  
.SATURDAY...West winds 5 to 10 knots. Seas 2 to 4 feet, except building to 4 to 8 feet west of Sand Key in a west swell. Numerous showers and scattered thunderstorms.  
.SATURDAY NIGHT...Northwest to north winds 10 to 15 knots. Seas 4 to 8 feet in a west swell, highest west of Sand Key. Scattered showers. Isolated thunderstorms in the evening.  
.SUNDAY...North winds 10 to 15 knots. Seas 4 to 6 feet in a west swell. Isolated showers.  
.SUNDAY NIGHT AND MONDAY...North to northeast winds 10 to 15 knots. Seas 3 to 5 feet.  
.MONDAY NIGHT...North winds 10 to 15 knots. Seas 2 to 3 feet.  
.TUESDAY...North to northeast winds 5 to 10 knots. Seas 1 to 3 feet. Isolated showers.  
.TUESDAY NIGHT...Northeast to east winds 5 to 10 knots. Seas 1 to 2 feet. Isolated showers.

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GMZ033-034-142345-

Gulf waters from East Cape Sable to Chokoloskee 20 to 60 NM out and beyond 5 fathoms-  
Gulf of Mexico including Dry Tortugas and Rebecca Shoal Channel-  
1156 AM EST Fri Dec 14 2018

...SMALL CRAFT ADVISORY IN EFFECT...

.THIS AFTERNOON...Southeast to south winds near 20 knots, decreasing to 15 to 20 knots late  
this afternoon. Seas 3 to 5 feet. Scattered showers in the morning, then scattered showers and  
isolated thunderstorms in the afternoon.

.TONIGHT...Southeast to south winds near 15 knots, becoming west to northwest after midnight.  
Seas 2 to 4 feet. Numerous showers and scattered thunderstorms.

.SATURDAY...Northwest winds 5 to 10 knots. Seas 2 to 3 feet, building to 4 to 8 feet in a west  
swell. Scattered showers and thunderstorms in the morning. Scattered showers and isolated  
thunderstorms in the afternoon.

.SATURDAY NIGHT...Northwest winds 10 to 15 knots. Seas 4 to 8 feet in a west swell.  
Scattered showers.

.SUNDAY...Northwest to north winds 10 to 15 knots. Seas 4 to 6 feet in a west swell.

.SUNDAY NIGHT AND MONDAY...North winds 10 to 15 knots. Seas 3 to 5 feet.

.MONDAY NIGHT...North winds 5 to 10 knots. Seas 2 to 3 feet.

.TUESDAY...North to northeast winds 5 to 10 knots. Seas 1 to 2 feet.

.TUESDAY NIGHT...Northeast to east winds 5 to 10 knots. Seas 1 to 2 feet.

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**Example 3:**

FZUS56 KSEW 141654

CWFSEW

Coastal Waters Forecast for Washington

National Weather Service Seattle WA

854 AM PST Fri Dec 14 2018

Inland waters of western Washington and the northern and central Washington coastal waters  
including the Olympic Coast National Marine Sanctuary

PZZ100-150200-

854 AM PST Fri Dec 14 2018

.Synopsis for the northern and central Washington coastal and inland waters...Strong frontal  
systems will move across the area today through next week. Small craft and gale force winds are  
likely at times through the week ahead.

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PZZ150-153-156-150200-

Coastal Waters From Cape Flattery To James Island Out 10 Nm-  
Coastal Waters From James Island To Point Grenville Out 10 Nm-  
Coastal Waters From Point Grenville To Cape Shoalwater Out 10 Nm-  
854 AM PST Fri Dec 14 2018

...GALE WARNING IN EFFECT THROUGH THIS EVENING...

.TODAY...S wind 25 to 35 kt rising to 35 to 45 kt with gusts near 60 kt in the afternoon.  
Combined seas 18 to 21 ft with a dominant period of 14 seconds. Rain.

.TONIGHT...W wind 25 to 35 kt becoming SW 15 to 25 kt after midnight. Combined seas 21 to 24 ft with a dominant period of 12 seconds subsiding to 16 to 18 ft with a dominant period of 12 seconds after midnight. Showers likely in the evening then a chance of showers after midnight.

.SAT...S wind 15 to 25 kt becoming SE 20 to 30 kt in the afternoon. Wind waves 2 to 4 ft building to 4 to 6 ft in the afternoon. W swell 14 ft at 11 seconds becoming SW 11 ft at 10 seconds in the afternoon. A slight chance of rain in the morning then a chance of rain in the afternoon.

.SAT NIGHT...SE wind 25 to 35 kt. Combined seas 11 to 14 ft with a dominant period of 10 seconds building to 16 to 19 ft with a dominant period of 13 seconds after midnight.

.SUN...SE wind 25 to 35 kt easing to 20 to 30 kt in the afternoon. Combined seas 20 to 23 ft with a dominant period of 15 seconds.

.SUN NIGHT...S wind 20 to 25 kt easing to 15 to 20 kt after midnight. Wind waves 3 to 4 ft subsiding to 2 to 3 ft after midnight. W swell 25 ft at 20 seconds.

.MON...S wind 15 to 25 kt rising to 25 to 35 kt. Combined seas 18 to 21 ft.

.TUE...S wind 20 to 30 kt becoming SW 15 to 25 kt. Wind waves 3 to 5 ft subsiding to 2 to 4 ft. SW swell 22 ft becoming W and subsiding to 18 ft.

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PZZ170-173-176-150200-

Coastal Waters From Cape Flattery To James Island 10 To 60 Nm-  
Coastal Waters From James Island To Point Grenville 10 To 60 Nm-  
Coastal Waters From Point Grenville To Cape Shoalwater 10 To 60 Nm-  
854 AM PST Fri Dec 14 2018

...GALE WARNING IN EFFECT THROUGH THIS EVENING...

.TODAY...S wind 35 to 40 kt becoming 35 to 45 kt in the afternoon. Combined seas 21 to 24 ft with a dominant period of 14 seconds. Rain.

.TONIGHT...W wind 25 to 35 kt becoming SW 15 to 25 kt after midnight. Combined seas 23 to 26 ft with a dominant period of 12 seconds subsiding to 17 to 20 ft with a dominant period of 11 seconds after midnight. A chance of showers.

.SAT...S wind 20 to 25 kt becoming SE 25 to 35 kt in the afternoon. Combined seas 13 to 15 ft with a dominant period of 11 seconds. A slight chance of rain in the morning then a chance

of rain in the afternoon.

.SAT NIGHT...SE wind 30 to 40 kt. Combined seas 16 to 19 ft with a dominant period of 11 seconds building to 22 to 25 ft with a dominant period of 13 seconds after midnight.

.SUN...SE wind 30 to 35 kt. Combined seas 23 to 26 ft with a dominant period of 15 seconds.

.SUN NIGHT...S wind 20 to 25 kt. Wind waves 3 to 4 ft. W swell 27 ft at 20 seconds.

.MON...S wind 15 to 25 kt rising to 30 to 35 kt. Combined seas 22 to 25 ft.

.TUE...S wind 20 to 30 kt becoming SW 20 to 25 kt. Wind waves 3 to 5 ft. SW swell 24 ft becoming W and subsiding to 20 ft.

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PZZ130-150200-

West Entrance U.S. Waters Strait Of Juan De Fuca-  
854 AM PST Fri Dec 14 2018

...GALE WARNING IN EFFECT THROUGH THIS EVENING...

.TODAY...SE wind 25 to 35 kt. Combined seas 15 to 17 ft with a dominant period of 14 seconds. Rain likely in the morning then rain in the afternoon.

.TONIGHT...W wind 30 to 40 kt becoming SW 15 to 25 kt after midnight. Combined seas 18 to 19 ft with a dominant period of 12 seconds subsiding to 15 to 16 ft with a dominant period of 12 seconds after midnight. Showers in the evening then a chance of showers after midnight.

.SAT...S wind 5 to 15 kt becoming SE 15 to 25 kt in the afternoon. Wind waves 1 to 2 ft building to 2 to 4 ft in the afternoon. SW swell 11 ft at 11 seconds subsiding to 9 ft at 11 seconds in the afternoon. A slight chance of rain.

.SAT NIGHT...E wind 25 to 30 kt becoming SE 20 to 25 kt after midnight. Wind waves 3 to 5 ft. SW swell 10 ft at 10 seconds building to 16 ft at 14 seconds after midnight.

.SUN...SE wind 20 to 25 kt becoming 15 to 25 kt in the afternoon. Wind waves 2 to 4 ft. SW swell 18 ft at 14 seconds.

.SUN NIGHT...SE wind 15 to 25 kt becoming S 15 to 20 kt after midnight. Wind waves 2 to 4 ft. W swell 21 ft at 20 seconds.

.MON...S wind 10 to 20 kt becoming SE 15 to 25 kt. Wind waves 2 to 4 ft. W swell 18 ft subsiding to 16 ft.

.TUE...S wind 15 to 20 kt. Wind waves 1 to 3 ft. W swell 16 ft.

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PZZ131-150200-

Central U.S. Waters Strait Of Juan De Fuca-  
854 AM PST Fri Dec 14 2018

...GALE WARNING IN EFFECT FROM 4 PM PST THIS AFTERNOON THROUGH THIS EVENING...

.TODAY...E wind 15 to 25 kt. Wind waves 2 to 4 ft. A chance of rain in the morning then rain in the afternoon.

.TONIGHT...W wind 35 to 45 kt with gusts near 60 kt becoming SW 10 to 20 kt after midnight. Wind waves 6 to 8 ft subsiding to 1 to 3 ft after midnight. Showers in the evening then a chance of showers after midnight.

.SAT...Variable wind 5 to 15 kt becoming SE 10 to 20 kt in the afternoon. Wind waves 1 to 3 ft. A slight chance of rain.

.SAT NIGHT...E wind 20 to 30 kt becoming SE 15 to 25 kt after midnight. Wind waves 3 to 5 ft.

.SUN...SE wind 15 to 25 kt. Wind waves 2 to 4 ft.

.SUN NIGHT...SE wind 15 to 20 kt becoming variable 5 to 15 kt after midnight. Wind waves 1 to 3 ft.

.MON...Variable wind 5 to 15 kt becoming SE 15 to 25 kt. Wind waves 2 ft or less building to 2 to 4 ft.

.TUE...S wind 10 to 20 kt becoming variable 5 to 15 kt. Wind waves 1 to 3 ft.

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PZZ132-150200-

East Entrance U.S. Waters Strait Of Juan De Fuca-  
854 AM PST Fri Dec 14 2018

...GALE WARNING IN EFFECT THROUGH THIS EVENING...

.TODAY...SE wind 25 to 35 kt rising to 30 to 40 kt in the afternoon. Wind waves 5 to 7 ft. A slight chance of rain in the morning then rain likely in the afternoon.

.TONIGHT...SW wind 35 to 45 kt becoming S 10 to 20 kt after midnight. Wind waves 6 to 8 ft subsiding to 1 to 3 ft after midnight. Showers in the evening then a chance of showers after midnight.

.SAT...SE wind 10 to 20 kt rising to 15 to 25 kt in the afternoon. Wind waves 2 to 4 ft. A slight chance of rain.

.SAT NIGHT...SE wind 20 to 30 kt easing to 15 to 25 kt after midnight. Wind waves 3 to 5 ft.

.SUN...SE wind 20 to 25 kt. Wind waves 3 to 4 ft.

.SUN NIGHT...SE wind 15 to 20 kt. Wind waves 2 to 3 ft.

.MON...SE wind 5 to 15 kt rising to 15 to 25 kt. Wind waves 2 ft or less building to 2 to 4 ft.

.TUE...SE wind 15 to 25 kt becoming S 5 to 15 kt. Wind waves 2 to 4 ft subsiding to 2 ft or less.

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PZZ134-150200-

Admiralty Inlet-  
854 AM PST Fri Dec 14 2018

...GALE WARNING IN EFFECT THROUGH THIS EVENING...

.TODAY...S wind 25 to 35 kt. Wind waves 4 to 6 ft. A slight chance of rain in the morning then rain likely in the afternoon.

.TONIGHT...SE wind 25 to 35 kt with gusts near 50 kt becoming S 5 to 15 kt after midnight. Wind waves 4 to 6 ft subsiding to 2 ft or less after midnight. Showers in the evening then a chance of showers after midnight.

.SAT...SE wind 5 to 15 kt rising to 15 to 25 kt in the afternoon.

Wind waves 2 ft or less building to 2 to 4 ft in the afternoon. A slight chance of rain.

.SAT NIGHT...SE wind 5 to 15 kt rising to 15 to 20 kt after midnight. Wind waves 1 to 3 ft.

.SUN...SE wind 15 to 20 kt. Wind waves 2 to 3 ft.

.SUN NIGHT...SE wind 15 to 20 kt. Wind waves 1 to 3 ft.

.MON...SE wind 5 to 15 kt rising to 15 to 25 kt. Wind waves 2 ft or less building to 2 to 4 ft.

.TUE...SE wind 15 to 20 kt becoming S 5 to 15 kt. Wind waves 1 to 3 ft.

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PZZ133-150200-

Northern Inland Waters Including The San Juan Islands-  
854 AM PST Fri Dec 14 2018

...GALE WARNING IN EFFECT THROUGH THIS EVENING...

.TODAY...S wind 30 to 40 kt. Wind waves 5 to 7 ft in the afternoon. A slight chance of rain in the morning then rain likely in the afternoon.

.TONIGHT...S wind 30 to 40 kt becoming SW 15 to 25 kt after midnight. Wind waves 5 to 7 ft subsiding to 2 to 4 ft after midnight. Showers in the evening then a chance of showers after midnight.

.SAT...SE wind 15 to 25 kt. Wind waves 2 to 4 ft. A slight chance of rain.

.SAT NIGHT...SE wind 15 to 25 kt. Wind waves 2 to 4 ft.

.SUN...E wind 15 to 25 kt becoming SE 15 to 20 kt in the afternoon. Wind waves 2 to 4 ft.

.SUN NIGHT...SE wind 15 to 20 kt. Wind waves 2 to 3 ft.

.MON...SE wind 5 to 15 kt rising to 15 to 25 kt. Wind waves 2 ft or less building to 2 to 4 ft.

.TUE...SE wind 15 to 25 kt becoming S 5 to 15 kt. Wind waves 2 to 4 ft subsiding to 2 ft or less.

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PZZ135-150200-

Puget Sound and Hood Canal-  
854 AM PST Fri Dec 14 2018

...GALE WARNING IN EFFECT THROUGH THIS EVENING...

.TODAY...S wind 5 to 15 kt rising to 25 to 35 kt in the afternoon. Wind waves 2 ft or less building to 4 to 6 ft in the afternoon. A chance of rain in the morning then rain in the afternoon.

.TONIGHT...S wind 20 to 30 kt becoming SW 10 to 20 kt after midnight. Wind waves 3 to 5 ft subsiding to 1 to 3 ft after midnight. Showers in the evening then a chance of showers after midnight.

.SAT...S wind 10 to 20 kt becoming SE 5 to 15 kt in the afternoon. Wind waves 1 to 3 ft. A slight chance of rain in the morning.

.SAT NIGHT...SE wind 5 to 15 kt becoming 10 to 20 kt after midnight. Wind waves 1 to 3 ft.

.SUN...SE wind 10 to 20 kt becoming 5 to 15 kt in the afternoon. Wind waves 1 to 3 ft.

.SUN NIGHT...S wind 5 to 15 kt. Wind waves 2 ft or less.

.MON...S wind 5 to 15 kt becoming 10 to 20 kt. Wind waves 1 to 3 ft.

.TUE...S wind 10 to 20 kt becoming 5 to 15 kt. Wind waves 1 to 3 ft.

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PZZ110-150200-

Grays Harbor Bar-

854 AM PST Fri Dec 14 2018

...SMALL CRAFT ADVISORY IN EFFECT THROUGH THIS EVENING...

Combined seas 15 to 20 feet with breakers possible. Bar conditions severe. Maximum ebb currents will occur around 930 AM and 9 PM today and 1030 AM Saturday.

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**Example 4:**

FZAK51 PAFC 141256

CWFAER

Coastal Waters Forecast

National Weather Service Anchorage Alaska

356 AM AKST Fri Dec 14 2018

Coastal Waters Forecast for the Northern Gulf of Alaska Coast up to 100 nm out including Kodiak Island and Cook Inlet.

Wind forecasts reflect the predominant speed and direction expected. Sea forecasts represent an average of the highest one-third of the combined wind wave and swell height.

PKZ197-150145-

356 AM AKST Fri Dec 14 2018

.SYNOPSIS FOR THE NORTH GULF COAST+KODIAK ISLAND WATERS+  
COOK INLET...

A North Gulf Coast front pushes into Southeast Alaska Sat morning. A 956 mb low 290 nm south of Dutch Harbor moves to 380 nm southeast of Kodiak City at 968 mb late Sat night. A 960 mb low forms 275 nm southeast of Chignik Sat morning and moves to 75 nm south of Middleton Island at 967 mb Sat night.

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PKZ119-150145-  
Cape Suckling to Cape Cleare-  
356 AM AKST Fri Dec 14 2018

...GALE WARNING TONIGHT AND SATURDAY...

.TODAY...S wind 25 kt. Seas 12 ft. Rain and snow.  
.TONIGHT...E wind 35 kt. Seas 16 ft.  
.SAT...E wind 45 kt. Seas 24 ft.  
.SAT NIGHT...E wind 50 kt. Seas 26 ft.  
.SUN...SE wind 40 kt. Seas 22 ft.  
.MON...E wind 25 kt. Seas 14 ft.  
.TUE...NE wind 25 kt. Seas 13 ft.

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PKZ120-150145-  
Cape Cleare to Gore Point-  
356 AM AKST Fri Dec 14 2018

...GALE WARNING TONIGHT AND SATURDAY...

.TODAY...SW wind 25 kt becoming SE in the afternoon. Seas 12 ft. Snow with rain.  
.TONIGHT...E wind 35 kt. Seas 17 ft. Snow with rain.  
.SAT...E wind 40 kt. Seas 23 ft. Rain and snow.  
.SAT NIGHT...NE wind 45 kt. Seas 25 ft.  
.SUN...E wind 30 kt. Seas 20 ft.  
.MON...NE wind 20 kt. Seas 14 ft.  
.TUE...N wind 20 kt. Seas 13 ft.

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PKZ121-150145-  
Resurrection Bay-  
356 AM AKST Fri Dec 14 2018

...SMALL CRAFT ADVISORY SATURDAY...

.TODAY...Variable wind less than 10 kt becoming N 10 kt in the afternoon. Seas 2 ft. Snow.  
.TONIGHT...N wind 15 kt. Seas 3 ft. Snow.  
.SAT...N wind 25 kt. Seas 5 ft. Snow.  
.SAT NIGHT...N wind 30 kt. Seas 6 ft.  
.SUN...N wind 20 kt. Seas 4 ft.

.MON...N wind 15 kt. Seas 3 ft.  
.TUE...N wind 25 kt. Seas 5 ft.

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PKZ125-150145-  
Prince William Sound-  
356 AM AKST Fri Dec 14 2018

...SMALL CRAFT ADVISORY THROUGH SATURDAY...

.TODAY...South wind 15 kt increasing to E 25 kt in the afternoon. Seas 5 ft. Snow.  
.TONIGHT...SE wind 25 kt. Seas 5 ft. Snow.  
.SAT...NE wind 25 kt. Seas 5 ft.  
.SAT NIGHT...N wind 25 kt. Seas 6 ft.  
.SUN...E wind 30 kt. Seas 7 ft.  
.MON...E wind 25 kt. Seas 6 ft.  
.TUE...NE wind 15 kt. Seas 3 ft.

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PKZ126-150145-  
Port Valdez-  
356 AM AKST Fri Dec 14 2018

.TODAY...Variable wind less than 10 kt. Seas 2 ft. Snow.  
.TONIGHT...Variable wind less than 10 kt. Seas 2 ft. Snow.  
.SAT...Variable wind less than 10 kt becoming E 10 kt in the afternoon. Seas 2 ft.  
.SAT NIGHT...NE wind 15 kt. Seas 3 ft.  
.SUN...NE wind 20 kt. Seas 4 ft.  
.MON...NE wind 10 kt. Seas 2 ft.  
.TUE...NE wind 15 kt. Seas 2 ft.

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PKZ127-150145-  
Valdez Narrows-  
356 AM AKST Fri Dec 14 2018

...SMALL CRAFT ADVISORY SATURDAY...

.TODAY...NE wind 15 kt. Seas 3 ft. Snow.  
.TONIGHT...NE wind 20 kt. Seas 3 ft. Freezing spray. Snow.  
.SAT...NE wind 25 kt. Seas 3 ft.  
.SAT NIGHT...NE wind 20 kt. Seas 3 ft.  
.SUN...NE wind 30 kt. Seas 4 ft.

.MON THROUGH TUE...NE wind 15 kt. Seas 3 ft.

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PKZ128-150145-  
Valdez Arm-  
356 AM AKST Fri Dec 14 2018

.TODAY...NE wind 10 kt. Seas 2 ft. Snow.  
.TONIGHT...NE wind 15 kt. Seas 3 ft. Snow.  
.SAT...NE wind 20 kt. Seas 4 ft.  
.SAT NIGHT...NE wind 20 kt. Seas 4 ft.  
.SUN...NE wind 25 kt. Seas 5 ft.  
.MON THROUGH TUE...NE wind 15 kt. Seas 3 ft.

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PKZ129-150145-  
Passage Canal-  
356 AM AKST Fri Dec 14 2018

.TODAY...Variable wind less than 10 kt. Seas 2 ft. Snow.  
.TONIGHT...E wind 10 kt increasing to 15 kt after midnight. Seas 2 ft. Snow.  
.SAT...E wind 15 kt diminishing to 10 kt in the afternoon. Seas 2 ft. Snow.  
.SAT NIGHT...Variable wind less than 10 kt. Seas 2 ft.  
.SUN...E wind 25 kt. Seas 4 ft.  
.MON...E wind 20 kt. Seas 3 ft.  
.TUE...W wind 15 kt. Seas 2 ft.

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PKZ130-150145-  
West of Barren Islands including Kamishak Bay-  
356 AM AKST Fri Dec 14 2018

...GALE WARNING TONIGHT...

.TODAY...NE wind 30 kt. Seas 9 ft. Freezing spray. Snow.  
.TONIGHT...NE wind 40 kt. Seas 11 ft. Freezing spray. Snow.  
.SAT...NE wind 30 kt. Seas 9 ft. Snow showers.  
.SAT NIGHT...N wind 30 kt. Seas 10 ft.  
.SUN...NW wind 25 kt. Seas 8 ft.  
.MON THROUGH TUE...NW wind 30 kt. Seas 9 ft.

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PKZ131-150145-  
Barren Islands East-  
356 AM AKST Fri Dec 14 2018

...GALE WARNING TONIGHT AND SATURDAY...

.TODAY...SW wind 20 kt becoming E 25 kt in the afternoon. Seas 11 ft. Snow and rain.  
.TONIGHT...E wind 35 kt. Seas 19 ft. Rain and snow.  
.SAT...E wind 40 kt. Seas 24 ft. Rain.  
.SAT NIGHT...NE wind 45 kt. Seas 27 ft.  
.SUN...NW wind 25 kt. Seas 19 ft.  
.MON...N wind 25 kt. Seas 14 ft.  
.TUE...NW wind 30 kt. Seas 14 ft.

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PKZ132-150145-  
Marmot Island to Sitkinak-  
356 AM AKST Fri Dec 14 2018

...GALE WARNING TONIGHT AND SATURDAY...

.TODAY...E wind 20 kt increasing to 30 kt in the afternoon. Seas 11 ft. Rain and snow.  
.TONIGHT...E wind 45 kt. Seas 18 ft building to 25 ft after midnight. Rain.  
.SAT...NE wind 40 kt. Seas 27 ft. Widespread rain showers.  
.SAT NIGHT...N wind 45 kt. Seas 28 ft.  
.SUN...NW wind 30 kt. Seas 21 ft.  
.MON...NW wind 30 kt. Seas 15 ft.  
.TUE...NW wind 35 kt. Seas 15 ft.

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PKZ136-150145-  
Chiniak Bay-  
356 AM AKST Fri Dec 14 2018

...GALE WARNING SATURDAY...

.TODAY...Variable wind less than 10 kt becoming NE 20 kt in the afternoon. Seas 3 ft building to 6 ft in the afternoon. Snow and rain.  
.TONIGHT...E wind 30 kt. Seas 10 ft. Rain and snow.  
.SAT...NE wind 35 kt. Seas 13 ft. Widespread rain showers.  
.SAT NIGHT...N wind 40 kt. Seas 16 ft.  
.SUN...NW wind 25 kt. Seas 4 ft.  
.MON...NW wind 20 kt. Seas 3 ft.  
.TUE...NW wind 25 kt. Seas 4 ft.

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PKZ137-150145-  
Marmot Bay-  
356 AM AKST Fri Dec 14 2018

...SMALL CRAFT ADVISORY TONIGHT AND SATURDAY...

.TODAY...NE wind 10 kt increasing to 15 kt in the afternoon. Seas 4 ft. Widespread snow showers.

.TONIGHT...E wind 25 kt. Seas 10 ft. Snow and rain.

.SAT...NE wind 30 kt. Seas 11 ft. Widespread rain showers and snow.

.SAT NIGHT...N wind 35 kt. Seas 14 ft.

.SUN THROUGH MON...NW wind 20 kt. Seas 3 ft.

.TUE...NW wind 25 kt. Seas 4 ft.

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PKZ138-150145-  
Shelikof Strait-  
356 AM AKST Fri Dec 14 2018

...GALE WARNING TONIGHT...

.TODAY...NE wind 15 kt increasing to 30 kt in the afternoon. Seas 4 ft building to 8 ft in the afternoon. Snow.

.TONIGHT...NE wind 35 kt. Seas 10 ft. Snow with rain.

.SAT...NE wind 30 kt. Seas 10 ft. Widespread rain showers and snow.

.SAT NIGHT...N wind 30 kt. Seas 10 ft.

.SUN THROUGH MON...NW wind 25 kt. Seas 7 ft.

.TUE...NW wind 30 kt. Seas 9 ft.

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PKZ139-150145-  
Cook Inlet Kalgin Island to Point Bede-  
356 AM AKST Fri Dec 14 2018

...GALE WARNING TONIGHT...

.TODAY...NE wind 25 kt. Seas 7 ft. Freezing spray. Snow.

.TONIGHT...NE wind 35 kt. Seas 9 ft. Freezing spray. Snow.

.SAT...NE wind 30 kt. Seas 8 ft. Freezing spray.

.SAT NIGHT...N wind 30 kt. Seas 7 ft.

.SUN...N wind 25 kt. Seas 6 ft.

.MON THROUGH TUE...N wind 20 kt. Seas 5 ft.

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PKZ140-150145-  
Cook Inlet North of Kalgin Island-  
356 AM AKST Fri Dec 14 2018

...SMALL CRAFT ADVISORY TODAY AND SATURDAY...

.TODAY...N wind 25 kt diminishing to 15 kt in the afternoon. Seas 6 ft subsiding to 4 ft in the afternoon. Freezing spray. Snow.  
.TONIGHT...N wind 20 kt. Seas 5 ft. Freezing spray. Snow.  
.SAT...N wind 25 kt. Seas 5 ft. Freezing spray.  
.SAT NIGHT...N wind 20 kt. Seas 4 ft.  
.SUN...N wind 20 kt. Seas 5 ft.  
.MON THROUGH TUE...N wind 15 kt. Seas 4 ft.

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PKZ141-150145-  
Kachemak Bay-  
356 AM AKST Fri Dec 14 2018

.TODAY...NE wind 15 kt. Seas 3 ft. Snow.  
.TONIGHT...NE wind 15 kt. Seas 3 ft. Snow.  
.SAT...NE wind 20 kt. Seas 3 ft.  
.SAT NIGHT...NE wind 15 kt. Seas 3 ft.  
.SUN...N wind 20 kt. Seas 2 ft.  
.MON THROUGH TUE...NW wind 15 kt. Seas 2 ft.

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