

***NATIONAL WEATHER SERVICE INSTRUCTION 10-310***

***May 21, 2002***

***Operations and Services***

***MARINE AND COASTAL WEATHER SERVICE PROGRAM, NWSPD 10-3***

***COASTAL MARINE FORECAST SERVICES***

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

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**OPR:** OS21 (R. Jacobson)

**Certified by:** OS21 (T. Pierce)

**Type of Issuance:** Initial.

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***SUMMARY OF REVISIONS:*** This directive supersedes WSOM Chapters D-07, Marine Weather Service Program, issuance 91-15, dated October 11, 1991, and D-51, Marine Services for Coastal, Offshore, and High Seas, issuance 94-02, dated March 21, 1994.

Signed

April 4, 2002

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Gregory A. Mandt  
Director, Office of Climate,  
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Date

## COASTAL MARINE FORECAST SERVICES

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1. Purpose. The coastal waters products provide forecast and warning information to a

wide variety of mariners and recreational users who travel on the oceanic waters abutting the U.S. and its territories.

2. Responsibilities. NWSI 10-302 lists WFO areas of responsibility for coastal waters products.

3. Coastal Waters Forecasts (CWF) - Contents/Procedures.

3.1 CWF - Product Issuance. Issue the CWF twice a day with updates as necessary. Regions, as dictated by customer requirements, may require scheduled updates. Forecasters should make the CWF available to customers by the scheduled issuance time but no earlier than 1 hour before this issuance time. In the communications header, list the issuance time in Universal Time Coordinated (UTC), but in the mass media header, list the valid time in local time.

<u>Region/Office</u>	<u>Scheduled Issuance Time (UTC)</u>		
Eastern (Winter/Summer)	0830/0730	2030/1930	
Southern (EST/CST)	0830/0930	2030/2130	
(EDT/CDT)	0730/0830	1930/2030	
WFO San Juan	0830	2030	
Western	1030	2230	
Alaska (Winter/Summer)	1300/1200	0100/0000	
WFO Honolulu	1000	2200	
WFO Guam (Marianas/Guam)	0700	1900	
WFO Guam (Micronesia)	0600	1800	

In all forecasts, include forecast periods as shown below. Use the day of the week to describe forecast periods for all but the current day. For example, for a forecast issued Sunday evening, include: TONIGHT, MON, MON NIGHT, etc.

The early morning forecasts will cover:

Today	(Issuance time to 6PM)
Tonight	(6PM to 6AM)
(Next Day)	(6AM to 6PM)
(Next Day) Night	(6PM to 6AM)
(Day 3)	(6AM to 6PM)
(Day 3) Evening (Optional)	(6PM to Midnight)
(Day 4)	(Midnight to Midnight)
(Day 5)	(Midnight to Midnight)

The late afternoon forecast will cover:

Tonight	(Issuance time to 6AM)
(Next Day)	(6AM to 6PM)
(Next Day) Night	(6PM to 6AM)
(Day 2)	(6AM to 6PM)
(Day 2) Night	(6PM to 6AM)
(Day 3)	(6AM to 6PM)
(Day 3) Evening (Optional)	(6PM to Midnight)
(Day 4)	(Midnight to Midnight)
(Day 5)	(Midnight to Midnight)

3.2 CWF - Content/Format. Follow the format for the CWF as shown below. 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 list applicable National Marine Sanctuaries as noted in NWSI 10-302 in the appropriate CWF.

The forecaster may combine forecast periods if, in the forecaster's opinion, the weather elements in each are consistent. Also, the forecaster may subdivide the first period of the forecast to account for rapid weather changes.

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

COASTAL WATERS FORECAST  
NATIONAL WEATHER SERVICE (CITY)(STATE)  
(VALID TIME) AM/PM (LOCAL TIME ZONE)(DAY)(DATE)

(OVERALL AREA COVERED BY THIS FORECAST)

(SYNOPSIS UGC CODE)-(EXPIRATION TIME)-  
.SYNOPSIS FOR (WFO MARINE AREA)...TEXT

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

...HEADLINE (If needed)...

.PERIOD 1...

.PERIOD 2...

.PERIOD 3...

.PERIOD 4...

.PERIOD 5...

.PERIOD 6 (If Needed)...

.PERIOD 7 (If Needed)...

.(DAY 4)...

.(DAY 5)...

\$\$

Forecaster Name (Optional)

3.2.1 Synopsis. The synopsis for the CWF should be a concise, understandable description of the significant surface weather features that may cause significant winds and seas over the forecast area during the forecast period. At a minimum it should identify major weather systems and the strength, trend, and movement of each.

If a hurricane or tropical storm is expected to impact the forecast area, include in the synopsis the 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. The forecaster may use generic terms if a tropical cyclone is expected to develop in the later portions of the forecast.

3.2.2 Headlines. Use headlines to emphasize weather events likely to have a significant impact on mariners or marine operations. In each headline, indicate the severity of the event in the priority order given below.

The most significant headline generally should stand alone. However, forecasters may use more than one headline to indicate multiple threats or worsening conditions. Do not a headline that downgrades a current condition in later periods (e.g., a storm warning in effect improving to a gale warning).

In the headline, the forecaster should include a general statement of the weather posing the threat, the time period covered, and, if necessary, specific area impacted.

Except for severe local storm watches, forecasters should not use specific times (e.g., GALE WARNING IN EFFECT AFTER 9AM).

a. Non-Tropical Cyclone Related Headlines. Forecasters should headline the

following in the CWF, in the priority order given, if appropriate criteria are occurring or are expected to be met.

1. Hurricane Force Wind Warning
2. Storm Warning
3. Gale Warning
4. Heavy Freezing Spray Warning
5. Coastal Flood Warning
6. Tornado Watch
7. Severe Thunderstorm Watch
8. Coastal Flood Watch

Based on event significance, forecasters may headline advisories for events, such as freezing spray, conditions impacting small craft, heavy surf, restrictions lowering visibilities below 1 NM, or volcanic ash fallout, expected to impact the forecast area.

- b. Tropical Cyclone Related Headlines. Once a tropical cyclone watch or warning has been issued which impacts a marine zone, replace existing headlines for that zone with applicable headlines specified in the latest tropical cyclone advisory. Headline the following in the priority order given:

1. Hurricane Warning
2. Tropical Storm Warning and Hurricane Watch
3. Tropical Storm Warning
4. Hurricane Watch
5. Tropical Storm Watch

As a tropical cyclone leaves an area, forecasters should headline watch and warning cancellations as issued by TPC, CPHC, or WFO Guam in the CWF. However, during this time, they should include in the synopsis a qualitative description of wind conditions (e.g., tropical storm force winds or gale force winds) in the wake of the tropical cyclone. 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.

When warranted due to an approaching or departing tropical cyclone, forecasters may append the phrase "SMALL CRAFT SHOULD STAY IN PORT" to the normal advisory headline (i.e., ADVISORY...SMALL CRAFT SHOULD STAY IN PORT DUE TO HAZARDOUS WINDS).

- 3.2.3 1-3 Day Forecast Periods. Except as noted below, include forecasts of wind and sea state

in each discrete forecast period of the CWF. Forecasters should also include forecasts of other weather significantly impacting the marine zone(s) (e.g., ice accretion, precipitation, wave periods, low visibilities, etc.). 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 (i.e., rough, choppy, etc.).

**3.2.4 4-5 Day Forecast Periods.** With two exceptions noted below, always include wind and sea height information in each 24 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 tropical cyclone, based on TPC, CPHC, WFO Guam, and/or Hydrometeorological Prediction Center (HPC) 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, and Chesapeake Bay), 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.”

### **3.3 CWF - Text Forecast Parameters.**

**3.3.1 Winds.** Winds represent predominant conditions about 10 meters above the surface of the water. Forecasters should give direction to eight points of the compass. Avoid such phrases as "N TO NE WINDS". Forecasters should normally round speeds to the nearest 5 KT.

In the CWF, normally include only sustained winds. However, where there are significant differences between sustained winds and peak gusts, forecasters should mention gusts (e.g., EAST WINDS TO 70 KTS WITH GUSTS TO 120 KTS).

Note significant changes (i.e., at a minimum, those changes denoting a change in warning category) in the winds during the forecast period.

3.3.2 Seas. Give sea state as a combined sea height or break it down into appropriate components (e.g., WIND WAVES 2 to 4 FT, NORTHEAST SWELL to 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. Forecasters may only use descriptive words such as MODERATE or ROUGH in Regionally specified bays, inlets, harbors, estuaries, etc.

3.3.3 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 6 NM or less, or thunderstorms). They may use precipitation probability terms "CHANCE", "OCCASIONAL", etc., as defined in WSOM Chapter C-11/NWS 10-503, and they may include specific visibility distances. However, do not use a qualitative description of visibility (e.g., VISIBILITY FAIR), and do not include sky cover.

3.3.4 Iceing. The forecaster should include a headline whenever ice accretion on exposed surfaces is likely. Because ice accumulation rates are ultimately dependent on individual ship characteristics and operating conditions, use only the following terms:

Freezing Spray  
Heavy Freezing Spray

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

3.4 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. Add a short description of the updated or corrected items just below the areal header to highlight the change.

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

(OVERALL AREA COVERED BY THIS FORECAST)

(SYNOPSIS UGC CODE)-(EXPIRATION TIME)-  
.SYNOPSIS FOR (WFO MARINE AREA)...TEXT

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



REASON FOR UPDATE

3.5 River Bar Forecasts. Certain marine areas, noted in NWSI 10-302, are too small to be separate marine zones but often have conditions significantly different from the larger marine zone. For these areas, append specific wave and/or current information, covering generally the first two forecast periods, to the appropriate marine zone forecast as shown below.

PZZ210-191630  
COLUMBIA RIVER BAR FORECAST  
330 AM PDT TUE JUN 19 2001

COMBINED SEAS 3 FT TODAY AND 4 FT TONIGHT...EXCEPT NEAR 6 FT WITH POSSIBLE BREAKERS DURING THE STRONG EBB TIDE AROUND 345 AM. A WEAKER EBB TIDE WILL OCCUR AROUND 415 PM.

4. Surf Zone Forecast (SRF). SRFs are provided for a very narrow area of water from the high tide level on the beach to the beginning of breaking waves on the water. This product may describe rip currents, surf conditions and forecasts, and other similar events. Regions will determine frequency of issuance. Forecasters should not use SRFs for issuing warnings or advisories. If issued, use the following format:

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

SURF ZONE FORECAST  
NATIONAL WEATHER SERVICE (CITY)(STATE)  
(VALID TIME) AM/PM (LOCAL TIME ZONE)(DAY)(DATE)

(OVERALL AREA COVERED BY THIS FORECAST)

TEXT.  
\$\$  
Forecaster Name (Optional)

4.1 Updates. Update the SRF when forecast conditions change significantly.

4.2 Rip Currents. If sufficient guidance and observational evidence is available, forecasters may use the SRF to alert customers of conditions conducive to Rip Currents. Include such information in conjunction with local safety officials who have responsibility for beachfront safety, and acknowledge the responsible local agency in the product.

If a rip current alert is issued, staff may include this in NOAA Weather Radio (NWR) programming. In any broadcast which contains such an alert, the staff should reference the local agency issuing the alert.

5. Combined Marine/Public Zones. In locations where island land masses are small and low in elevation, a forecast combining both public information and marine information may be issued. Regions will determine if and where these are to be.

5.1 Combined Product - Forecast Content/Format. These forecasts will be titled COASTAL WATERS AND PUBLIC FORECAST and should be disseminated under both marine and public product communications identifiers. Issue these in accordance with paragraph 3 above but with temperature, cloud cover, precipitation, and severe weather information added. Specific instructions for these weather elements are given in WSOM C-11/NWSI 10-503.

5.2 Combined Product - Headlines. If a tropical cyclone watch or warning has been issued which impacts a combined forecast area, use only the headlines included in the latest tropical cyclone advisory. Otherwise, use both marine and public headlines, when necessary, following the priority listed:

1. Hurricane Force Wind Warning
2. Storm Warning
3. Gale Warning
4. Heavy Freezing Spray Warning
5. Coastal Flood warning
6. Winter Storm Warning
7. Non-Precipitation Warning
8. Tornado Watch
9. Severe Thunderstorm Watch
10. Flash Flood Watch
11. Coastal Flood Watch
12. Winter Storm Watch
13. Non-Precipitation Watch

Forecasters should include advisory headlines based on event significance.

5.3 Combined Product - Text Elements. Generally provide the forecast elements in the order of most important to least important. Normally, this will be: winds, seas, precipitation (if included), temperature, and cloud cover.

5.4 Combined Product - Updates. Update these products in accordance with this chapter and WSOM chapter C-11/NWSI 10-503.

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**APPENDIX A - Examples of Coastal NWS Forecasts**

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1. Coastal Waters Forecasts

FZUS56 KEKA 201029  
CWFEKA

COASTAL WATERS FORECAST  
NATIONAL WEATHER SERVICE EUREKA CA  
330 AM PDT THU JUL 20 2000

POINT ST GEORGE TO POINT ARENA CA OUT 60 NM

PZZ400-201630-  
..SYNOPSIS FOR NORTHERN CALIFORNIA COAST...STATIONARY HIGH PRESSURE  
CENTER 500 NM WEST OF CAPE MENDOCINO HAS A RIDGE EXTENDING TOWARD  
VANCOUVER ISLAND...WHILE THERMAL LOW PRESSURE CONTINUES OVER  
INTERIOR CA. THE SURFACE HIGH WILL STRENGTHEN THROUGH FRI.  
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PZZ450-PZZ470-201630-  
COASTAL WATERS FROM POINT ST GEORGE TO CAPE MENDOCINO CA OUT 20 NM  
-WATERS FROM POINT ST GEORGE TO CAPE MENDOCINO CA FROM 20 TO 60 NM-  
330 AM PDT THU JUL 20 2000

...PATCHY DENSE FOG THIS MORNING...  
...SMALL CRAFT ADVISORY BEGINNING LATE TONIGHT...

..TODAY...NW WIND 15 KT RISING TO 20 KT IN THE AFTERNOON. WIND WAVES 4 FT.  
NW SWELL 3 TO 5 FT AT 18 SECONDS. SOUTH OF EUREKA...PATCHY VISIBILITIES  
BELOW 1 NM IN FOG DISSIPATING BY NOON.

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.TONIGHT...NW WINDS 20 KT WITH FREQUENT GUSTS TO 30 KT LATE TONIGHT.  
WIND WAVES 4 FT. NW SWELL 4 TO 6 FT AT 15 SECONDS.

.FRI...NW WIND 20 KT WITH FREQUENT GUSTS TO 30 KT. WIND WAVES 4 FT. NW  
SWELL 5 TO 7 FT AT 12 SECONDS.

.FRI NIGHT AND SAT...N WINDS 20 KT. WIND WAVES 3 FT. NW SWELL 4 TO 6 FT AT  
15 SECONDS.

.SAT EVENING...WINDS BECOMING CALM. WIND WAVES LESS THAN 1 FT. NW  
SWELL 2 TO 4 FT AT 20 SECONDS.

.SUN THROUGH MON...VARIABLE WINDS LESS THAN 10 KT. COMBINED SEAS 3 FT.  
\$\$

PZZ455-PZZ475-201630-

COASTAL WATERS FROM CAPE MENDOCINO TO PT ARENA CA OUT 20 NM-  
WATERS FROM CAPE MENDOCINO TO PT ARENA CA FROM 20 TO 60 NM-  
330 AM PDT THU JUL 20 2000

...SMALL CRAFT ADVISORY IN EFFECT...

.TODAY...NW WIND 25 KT. WIND WAVES 5 FT. NW SWELL 5 TO 7 FT AT 16  
SECONDS.

.TONIGHT THROUGH FRI NIGHT...N WIND 25 KT WITH STRONGER GUSTS MAINLY  
DURING AFTERNOON. WIND WAVES 5 FT. NW SWELL 6 TO 8 FT AT 15 SECONDS.

.SAT THROUGH MON...N WINDS 20 KT. COMBINED SEAS 3 TO 5 FT.  
\$\$

MEAD

FZAK61 PAJN 221850 AAA  
CWF061

COASTAL WATERS FORECAST...UPDATED  
NATIONAL WEATHER SERVICE JUNEAU AK  
1000 AM AST THU FEB 22 2001

MARINE FORECAST FOR EASTERN GULF COAST AND SOUTHEAST AK  
DO NOT USE AFTER 4PM THURSDAY

PKZ100-230100-

NWSI 10-310 MAY 21, 2002

.SYNOPSIS FOR EASTERN GULF COAST AND SOUTHEAST ALASKA...A COLD FRONT WILL MOVE THROUGH SOUTHEAST AK AND BECOME STATIONARY OFF SHORE FRI. HIGH PRESSURE WILL BUILD OVER THE AK INTERIOR AND NORTHWEST CANADA PERSISTING THROUGH THE WEEKEND. A LOW PRESSURE CENTER WILL APPROACH THE AREA FROM THE WEST MON.

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AREA 1A. SOUTHEAST ALASKA INSIDE WATERS DIXON ENTRANCE TO SKAGWAY

PKZ113-230100-

AREA 1A1. LYNN CANAL AND GLACIER BAY-

0400 AM AST THU FEB 22 2001

...GALE WARNING THROUGH TONIGHT...

.TODAY AND TONIGHT...N WINDS 25 KT INCREASING TO 35 KT. SEAS 5 FT BUILDING TO 7 FT. OCCASIONAL SNOW SHOWERS. FREEZING SPRAY. TEMPERATURES IN THE 20S.

.FRI THROUGH SAT...N WINDS DIMINISHING TO 25 KT FRI. SEAS TO 6 FT.

.SUN THROUGH MON...DIMINISHING N WINDS AND SUBSIDING SEAS.

\$\$

PKZ114-230100-

AREA 1A2. ICY STRAIT AND CROSS SOUND-

0400 AM AST THU FEB 22 2001

ICY STRAIT

...SMALL CRAFT ADVISORY CONTINUING...

.TODAY THROUGH SAT...NE WINDS 25 KT. SEAS 5 FT.

.SUN THROUGH MON...DIMINISHING NE WINDS AND SUBSIDING SEAS.

CROSS SOUND

...SMALL CRAFT ADVISORY CONTINUING...

.TODAY AND TONIGHT...NE WINDS 25 KT. SEAS 10 FT.

.FRI THROUGH SAT...NE WINDS 30 KT. SEAS 12 FT.

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.SUN THROUGH MON...DIMINISHING NE WINDS AND SUBSIDING SEAS.

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PKZ115-230100-

AREA 1A3. STEPHENS PASSAGE CHATHAM STRAIT FREDERICK SOUND SUMNER  
STRAIT AND CLARENCE STRAIT-

1000 AM AST THU FEB 22 2001

...UPDATED FOR WINDS AND SEAS...

CHATHAM STRAIT  
FREDERICK SOUND

...GALE WARNING CONTINUING...

.REST OF TODAY AND TONIGHT...N WINDS 30 KT INCREASING TO 35 KT. SEAS 6 FT  
BUILDING TO 9 FT.

.FRI THROUGH SAT...N WINDS 35 KT LOWERING TO 25 KT FRIDAY EVENING WITH  
GALE GUSTS FROM INTERIOR BAYS AND PASSES ENDING FRI NIGHT. SEAS  
SUBSIDING TO 5 FT FRI EVENING EXCEPT HIGHER NEAR INTERIOR BAYS AND  
PASSES.

.SUN THROUGH MON...DIMINISHING N WINDS AND SUBSIDING SEAS.

SUMNER STRAIT  
CLARENCE STRAIT

...SMALL CRAFT ADVISORY BEGINNING TONIGHT...

.REST OF TODAY AND TONIGHT...NW WINDS 15 KT. SEAS 3 FT. RAIN AND SNOW  
ENDING

.FRI THROUGH FRI NIGHT...WINDS BECOMING N 25 KT WITH GUSTS TO 40 KT NEAR  
INTERIOR PASSES. SEAS BUILDING TO 7 FT EXCEPT HIGHER NEAR INTERIOR  
PASSES.

.SAT...N WINDS DIMINISHING TO 15 KT. SEAS SUBSIDING TO 5 FT.

.SUN THROUGH MON...LITTLE CHANGE IN WINDS AND SEAS. DENSE FOG POSSIBLE  
SUN LOWERING VISIBILITIES BELOW 1 NM.

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PKZ120-230100-

AREA 1B. SOUTHEAST ALASKA OUTSIDE WATERS DIXON ENTRANCE TO CAPE  
FAIRWEATHER-

0400 AM AST THU FEB 22 2001

DIXON ENTRANCE TO CAPE DECISION

...SMALL CRAFT ADVISORY CONTINUING...

.TODAY THROUGH SAT...NW WINDS 25 KT. SEAS 8 FT. RAIN ENDING.

.SUN THROUGH MON...NE WINDS DIMINISHING BECOMING SE MON. SEAS  
SUBSIDING.

CAPE DECISION TO CAPE FAIRWEATHER

...SMALL CRAFT ADVISORY ENDING TONIGHT...

.TODAY AND TONIGHT...NE WINDS 25 KT DIMINISHING LATE TONIGHT. SEAS 8 FT  
SUBSIDING LATE TONIGHT.

.FRI THROUGH SAT...NE WINDS 20 KT. SEAS 6 FT.

.SUN THROUGH MON...LITTLE CHANGE IN WINDS AND SEAS.

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PKZ210-230100-

AREA 2A. EASTERN GULF COAST CAPE FAIRWEATHER TO CAPE SUCKLING-

0400 AM AST THU FEB 22 2001

...GALE WARNING BEGINNING TONIGHT...

...HEAVY FREEZING SPRAY WARNING BEGINNING TONIGHT...

.TODAY THROUGH FRI NIGHT...NE 30 KT WITH FREQUENT GUSTS TO 40 KT  
BEGINNING TONIGHT. SEAS 12 FT. HEAVY FREEZING SPRAY BEGINNING TONIGHT.

.SAT...NE WINDS 25 KT WITH GALE GUSTS FROM INTERIOR PASSES DIMINISHING TO  
20 KT BY SAT EVENING. SEAS 7 FT.

.SUN THROUGH MON...WINDS BECOMING SOUTHEAST AND INCREASING. SEAS  
BUILDING.

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RMOSE

FZUS54 KCRP 221527  
CWFCRP

COASTAL WATERS FORECAST  
NATIONAL WEATHER SERVICE CORPUS CHRISTI TX  
930 AM CST THU FEB 22 2001

MIDDLE TEXAS COASTAL WATERS FROM BAFFIN BAY TO MATAGORDA SHIP  
CHANNEL OUT 60 NAUTICAL MILES.

IMPORTANT NOTICE TO MARINERS...MARINE FORECASTS ARE ISSUED AT LEAST  
FOUR TIMES A DAY. BOATERS ON EXTENDED TRIPS SHOULD ROUTINELY MONITOR  
SUBSEQUENT FORECAST ISSUANCES AND UPDATES FOR THE LATEST MARINE  
WEATHER INFORMATION.

GMZ200-222130-

.SYNOPSIS FOR MATAGORDA SHIP CHANNEL TO BAFFIN BAY OUT 60 NM...A  
TORNADO WATCH HAS BEEN ISSUED INCLUDING THE WATERS OF SOUTH TEXAS  
UNTIL 1PM CDT THIS AFTERNOON. A LINE OF THUNDERSTORMS WILL BE  
CROSSING THE AREA THIS MORNING FROM THE WEST BRINGING STRONG GUSTY  
WINDS, DAMAGING HAIL, AND POSSIBLY TORNADOS. OTHERWISE...COLD FRONT  
MOVING OVER THE COASTAL WATERS THIS AFTERNOON WILL MOVE NORTH  
TONIGHT AS A WARM FRONT. THE ONSHORE FLOW WILL STRENGTHEN TONIGHT  
THROUGH FRI NIGHT AS A STRONG LOW PRESSURE SYSTEM NEARS FROM THE  
DESERT SOUTHWEST. ANOTHER COLD FRONT WILL MOVE INTO THE COASTAL  
WATERS ON SAT. HIGH PRESSURE WILL THEN GRADUALLY BUILD EAST ON SUN  
AND MON AND ALLOW OFFSHORE FLOW TO BE GRADUALLY REPLACED BY  
ONSHORE FLOW ONCE AGAIN.

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GMZ230-235-222130-

BAYS AND WATERWAYS FROM CORPUS CHRISTI TO BAFFIN BAY-  
BAYS AND WATERWAYS FROM PORT O'CONNOR TO ARANSAS PASS-  
930 AM CST THU FEB 22 2001

...TORNADO WATCH UNTIL 1PM...

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.REST OF THIS MORNING...THUNDERSTORMS...SOME POSSIBLY SEVERE.  
.OTHERWISE...NE WIND 10 TO 15 KT. BAY WATERS SLIGHTLY CHOPPY TO CHOPPY.  
.THIS AFTERNOON...NE WIND 10 TO 15 KT BECOMING E BY EVENING. BAY WATERS  
SLIGHTLY CHOPPY TO CHOPPY.  
.TONIGHT...E WIND 15 KT...BECOMING SE. BAY WATERS CHOPPY. ISOLATED  
SHOWERS. PATCHY SEA FOG.  
.FRI...SE WIND INCREASING TO 20 KT. BAY WATERS CHOPPY. ISOLATED SHOWERS.  
PATCHY MORNING SEA FOG.  
.FRI NIGHT...SE WIND 20 KT AND GUSTY...BECOMING S LATE. BAY WATERS  
CHOPPY TO OCCASIONALLY ROUGH. ISOLATED SHOWERS.  
.SAT...SW WIND 20 KT AND GUSTY...BECOMING NW BY THE AFTERNOON. BAY  
WATERS CHOPPY TO OCCASIONALLY ROUGH. A SLIGHT CHANCE OF MORNING  
SHOWERS.  
.SUN...N WIND 15 KT...BECOMING NE 10 TO 15 KT IN THE AFTERNOON. BAY  
WATERS SLIGHTLY CHOPPY TO CHOPPY.  
.MON...SE WIND INCREASING TO AROUND 15 KT. BAY WATERS CHOPPY.  
\$\$

GMZ250-255-270-275-222130-

COASTAL WATERS FROM PORT ARANSAS TO BAFFIN BAY OUT 20 NM-  
COASTAL WATERS FROM MATAGORDA SHIP CHANNEL TO PORT ARANSAS OUT 20  
NM-  
WATERS FROM PORT ARANSAS TO BAFFIN BAY 20 TO 60 NM-  
WATERS FROM MATAGORDA SHIP CHANNEL TO PORT ARANSAS 20 TO 60 NM-  
930 AM CST THU FEB 22 2001

.REST OF TODAY...E WIND 10 TO 15 KT. SEAS 3 FT. ISOLATED SHOWERS.  
.TONIGHT...E WIND 15 KT AND GUSTY...BECOMING SE 15 TO 20 KT AND GUSTY  
LATE. SEAS BUILDING TO 6 FT. ISOLATED SHOWERS.  
.FRI...SE WIND 20 KT AND GUSTY. SEAS 6 FT. ISOLATED SHOWERS.  
.FRI NIGHT...SE WIND 20 KT AND GUSTY...BECOMING S LATE. SEAS BUILDING TO 8  
FT. ISOLATED SHOWERS.  
.SAT...S WIND 25 KT AND GUSTY...SHIFTING TO THE NW LATE. SEAS 8 TO 10 FT. A  
SLIGHT CHANCE OF SHOWERS.  
.SUN...N WIND 15 TO 20 KT AND GUSTY...BECOMING NE AROUND 15 KT IN THE  
AFTERNOON. SEAS SUBSIDING TO 5 FT.  
.MON...SE WIND INCREASING TO 20 KT. SEAS BUILDING TO 5 FT.

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CRATCHIT

FZCA52 TJSJ 011411

CWFSJU

COASTAL WATERS FORECAST  
NATIONAL WEATHER SERVICE SAN JUAN PR  
1030 AM AST THU AUG 21 2001

PUERTO RICO AND U.S. VIRGIN ISLANDS WATERS

AMZ700-212030-

.SYNOPSIS FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS WATERS...TROPICAL STORM DEBBY IS EXPECTED TO INTENSIFY AND BECOME A HURRICANE TONIGHT. AT 10AM AST DEBBY WAS LOCATED AT 16N 57W AND WAS MOVING TOWARD THE WEST AT 19 KT.

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AMZ710-740-750-212030-

ATLANTIC WATERS NORTH TO 19.5N BETWEEN 68W AND 64W FROM NORTHWEST COAST OF PUERTO RICO AT PUNTA CADENA EASTWARD TO MOUTH OF RIO

GUAJATACA EXTENDING BEYOND 100 FATHOM LINE TO ANEGADA PASSAGE- CARIBBEAN WATERS FROM PUNTA VIENTO TO PUNTA MELONES AND THE WATERS OUTSIDE 12 NM FROM PUNTA MELONES TO PUNTA CADENA EXTENDING SOUTH TO 17N AND WEST TO 68W- NEARSHORE WATERS OF WEST COAST OF PUERTO RICO FROM PUNTA CADENA TO PUNTA MELONES WEST OUT 12 NM-  
1030 AM AST THU MAR 1 2001

...HURRICANE WATCH FOR DEBBY TONIGHT...

.THIS AFTERNOON...NE WINDS 30 KT. SEAS BUILDING TO 15 FT MAINLY IN NORTH-NORTHEAST SWELLS. SCATTERED SHOWERS.  
.TONIGHT...NE WINDS 65 KT WITH GUSTS TO 80 KT POSSIBLE. SEAS TO 30 FT. SHOWERS AND THUNDERSTORMS.

**NWSI 10-310 MAY 21, 2002**

.FRI...WIND BECOMING SW AND WEAKENING TO 30 KT BY EVENING. SEAS  
SUBSIDING TO 20 FT BY EVENING. SHOWERS AND THUNDERSTORMS BECOMING  
ISOLATED BY EVENING.

.FRIDAY NIGHT...WIND SE 15 TO 20 KT. SEAS SUBSIDING TO 12 TO 15 FT. ISOLATED  
SHOWERS.

.SAT...WIND SE 10 KT. SEAS 4 TO 8 FT. ISOLATED SHOWERS.

.SUN THROUGH MON...WIND SE 10 TO 15 KT. SEAS 2 TO 4 FT. ISOLATED SHOWERS.  
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AMZ720-730-012030-

ATLANTIC NEARSHORE WATERS FROM MOUTH OF RIO GUAJATACA EAST TO CABO  
SAN JUAN THEN EAST TO CULEBRA...ST THOMAS...ST JOHN...AND ADJACENT  
ISLANDS OUT TO 100 FATHOMS-

CARIBBEAN WATERS FROM PUNTA VIENTO NORTH TO CABO SAN JUAN  
EXTENDING SOUTH TO 17N AND EAST TO 64W INCLUDING THE CARIBBEAN  
WATERS OF CULEBRA AND VIEQUES AND THE U.S. VIRGIN ISLANDS-

1030 AM AST THU MAR 1 2001

...HURRICANE WARNING FOR DEBBY TONIGHT...

.THIS AFTERNOON...NE WINDS 30 TO 40 KT. SEAS BUILDING TO 15 FT MAINLY IN  
NORTH-NORTHEAST SWELLS. SCATTERED SHOWERS.

.TONIGHT...NE WINDS 80 KT WITH GUSTS TO 95 KT POSSIBLE. SEAS 30 TO 40 FT.  
SHOWERS AND THUNDERSTORMS.

.FRI...WIND BECOMING SW AND WEAKENING TO 30 KT BY AFTERNOON. SEAS  
SUBSIDING TO 20 FT BY EVENING. SHOWERS AND THUNDERSTORMS BECOMING  
ISOLATED BY EVENING.

.FRI NIGHT...WIND SE 15 TO 20 KT. SEAS SUBSIDING TO 12 TO 15 FT. ISOLATED  
SHOWERS.

.SAT...WIND SE 10 KT. SEAS 4 TO 8 FT. ISOLATED SHOWERS.

.SUN THROUGH MON...WIND SE 10 TO 15 KT. SEAS 2 TO 4 FT. ISOLATED SHOWERS.  
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PEREZ

2. Surf Zone Forecasts:

FZUS56 KLOX 020954  
SRFLOX

PZZ650-655-022200-  
SURF ZONE FORECAST  
NATIONAL WEATHER SERVICE LOS ANGELES/OXNARD CA  
200 AM PST FRI MAR 2 2001

SURF ZONE FORECAST FOR SOUTHERN CALIFORNIA

SANTA BARBARA SOUTH COAST...FRI

WIND DIRECTION	W
WIND SPEED (KT)	8
SURF HEIGHT (FT)	1-3
SWELL DIRECTION	W
SWELL PERIOD (SECONDS)	14
TIDE ANOMALIES (FT)	N/A
CURRENTS (CM/SEC)	N/A
WATER TEMP (F)	62

LOS ANGELES...FRI

WIND DIRECTION	W
WIND SPEED (KT)	8
SURF HEIGHT (FT)	2-4
SWELL DIRECTION	NW
SWELL PERIOD (SECONDS)	14
TIDE ANOMALIES (FT)	-1.0
CURRENTS (CM/SEC)	10
WATER TEMP (F)	65

.REMARKS...

THE LOS ANGELES COUNTY BEACH AUTHORITY REPORTS THAT RIP CURRENTS HAVE BEEN SEEN AT SEVERAL POINTS BETWEEN MALIBU AND SANTA MONICA. SUCH CURRENTS MAY OCCUR THROUGHOUT THE DAY. BEACH GOERS ACROSS LOS ANGELES COUNTY SHOULD TAKE APPROPRIATE PRECAUTIONS AND HEED LOCAL INSTRUCTIONS.

OUTLOOK FOR SATURDAY...LITTLE CHANGE.

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AINSWORTH

3. Combined Marine-Public Forecasts:

FZMY50 PGUM 020654  
CWFPMY

COASTAL WATERS AND PUBLIC FORECAST  
NATIONAL WEATHER SERVICE TIYAN GU  
5 PM LST FRI MAR 2 2001

FORECAST FOR GUAM AND THE MARIANA ISLANDS

GUZ010-022000-

.SYNOPSIS FOR GUAM AND THE MARIANA ISLANDS...A WEAK LOW PRESSURE SYSTEM WILL CROSS THE AREA SAT NIGHT BRINGING COOL TEMPERATURES AND AN INCREASED CHANCE FOR SHOWERS. OTHERWISE NORMAL TRADE WIND PATTERNS WILL CONTINUE. FALLOUT FROM IWO JIMA VOLCANO ERUPTION SHOULD DISSIPATE.

GUZ001-002-003-004-022000-  
GUAM-ROTA-TINIAN-SAIPAN-  
5 PM LST FRI MAR 2 2001

...ADVISORY FOR VOLCANIC ASH FALLOUT ENDING TONIGHT...  
...SMALL CRAFT ADVISORY BEGINNING SAT...  
...UNUSUALLY COOL SATURDAY NIGHT..

.TONIGHT...WIND E 10 KT. SEAS LESS THAN 3 FT. PARTLY CLOUDY WITH ISOLATED SHOWERS. LOW IN THE MID 70S. VISIBILITIES BRIEFLY LESS THAN 1 NM IN VOLCANIC ASH MAINLY NORTH SIDE OF SAIPAN.

.SAT...WIND NE 15 TO 20 KT BECOMING SE 15 TO 25 KT LATE SAT. SEAS 1 TO 3 FT. PARTLY CLOUDY WITH ISOLATED SHOWERS. HIGH IN THE UPPER 80S.

.SAT NIGHT...WIND SE 20 TO 25 KT. SEAS 3 TO 5 FT. PARTLY CLOUDY WITH A 20 PERCENT CHANCE FOR SHOWERS. LOW NEAR 55.

.SUN...WIND NE 15 TO 20 KT. SEAS 3 FT. PARTLY CLOUDY WITH ISOLATED SHOWERS. HIGH IN THE UPPER 70S.

.SUN NIGHT...WIND NE 10 TO 15 KT. SEAS LESS THAN 3 FT. PARTLY CLOUDY WITH ISOLATED SHOWERS. LOWS IN THE LOW TO MID 70S.

.MON...NE WIND 15 TO 20 KT. SEAS 1 TO 3 FT. PARTLY CLOUDY. HIGH NEAR 80.

.TUE AND WEDNESDAY...NORTHEAST WINDS TO 20 KT. SEAS TO 3 FT. ISOLATED SHOWERS. HIGHS IN THE MID 80S. LOWS IN THE MID 70S.

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AKAPO