

# SAFESEAS Overview

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<http://www.nws.noaa.gov/mdl/safeseas/>



# SAFESEAS Overview

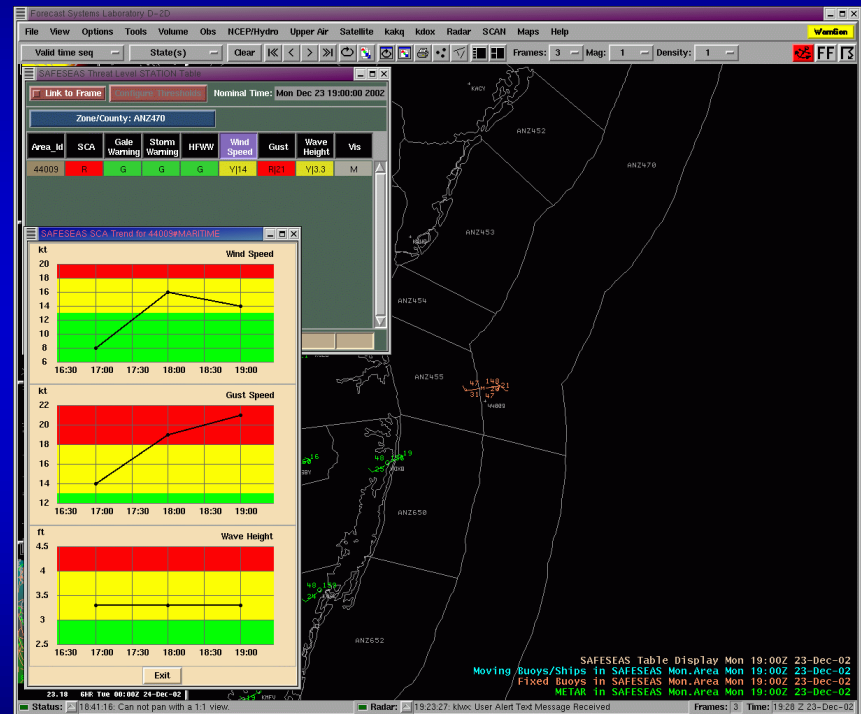
- What is SAFESEAS?
- Background Monitoring
- Table and D-2D Display Features
- Localization
- Customizing SAFESEAS
- The Future of SAFESEAS



# SAFESEAS Overview

## What is SAFESEAS?

SAFESEAS is a set of applications in the National Weather Service's Advanced Weather Interactive Processing System (AWIPS). SAFESEAS continuously monitors marine and adjacent overland conditions for specific marine weather hazards. It automatically alerts NWS forecasters whenever such conditions are detected, and provides interactive graphic user interfaces with which the forecaster can easily investigate the data.

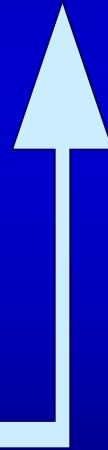


# SAFESEAS Overview

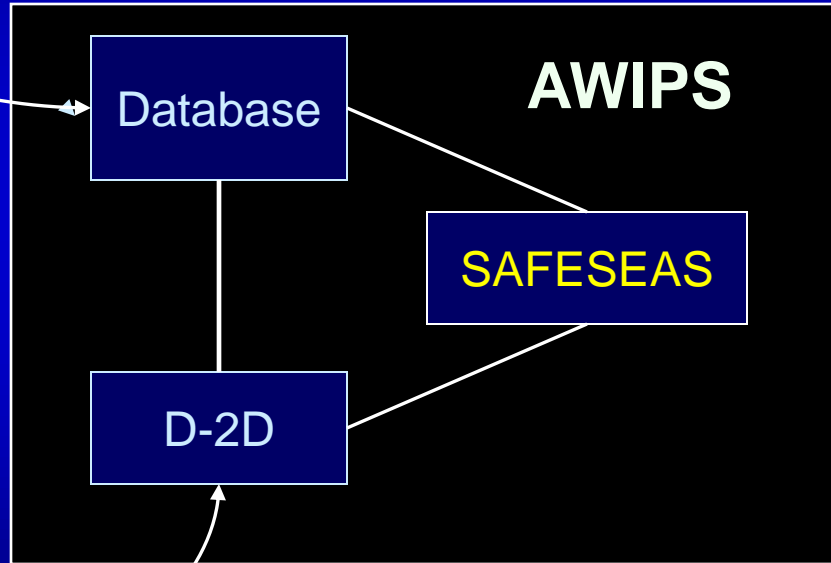
*What is SAFESEAS?*



**Marine  
warnings and  
advisories**



Observations



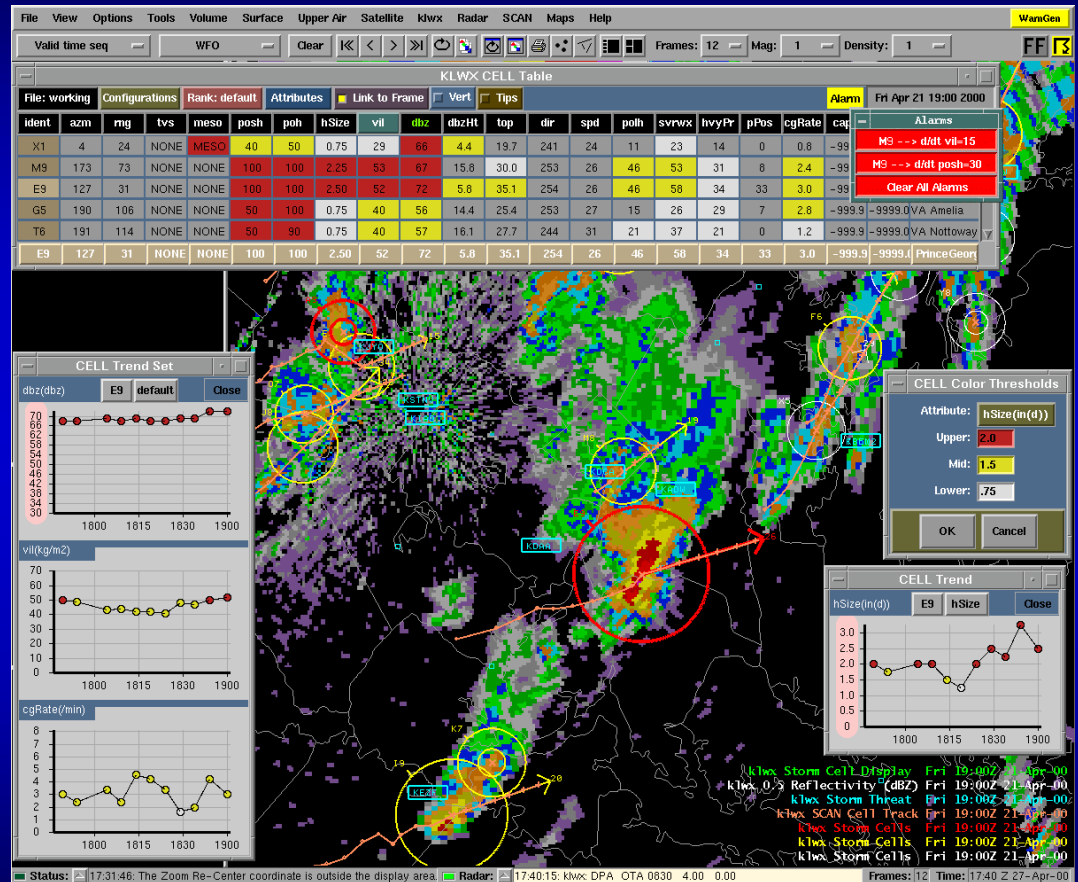
Forecaster



# SAFESEAS Overview

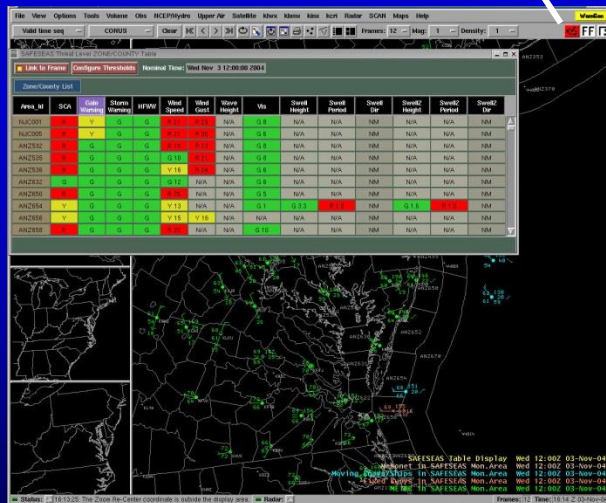
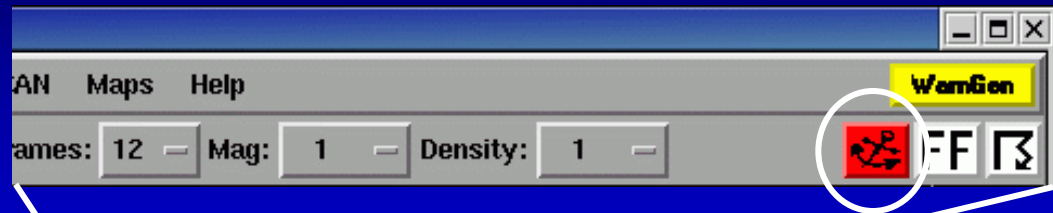
## What is SAFESEAS?

SAFESEAS uses the same approach as SCAN – a persistent background monitor coupled with an interactive D-2D display



# SAFESEAS Overview

## Background Monitoring

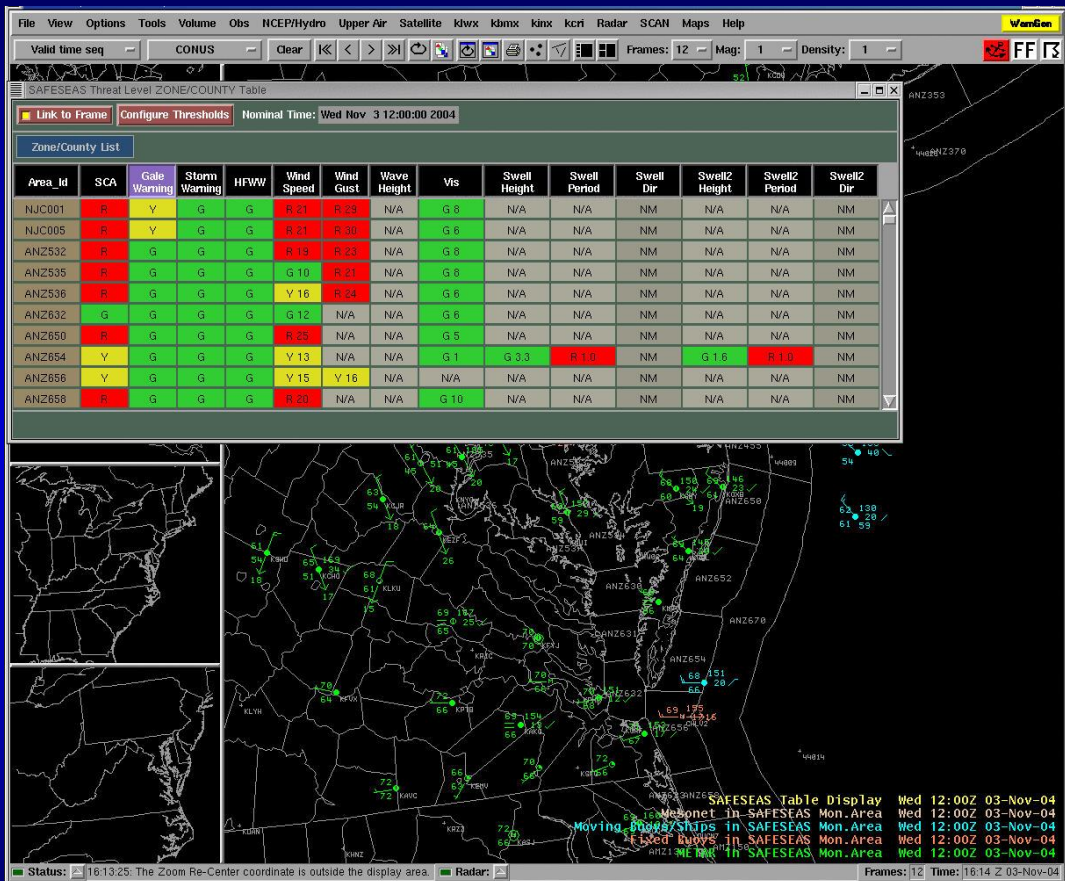


The SAFESEAS Alert button provides configurable, worst-case monitoring, even if SAFESEAS displays are not in use. This is an example of the SCAN monitoring concept.



# SAFESEAS Overview

## Table and D-2D Display Features



Interactive Table and D-2D display.





# SAFESEAS Overview

## Table and D-2D Display Features

SAFESEAS Threat Level ZONE/COUNTY Table

Nominal Time: Wed Nov 3 12:00:00 2004

Zone/County List

Area_Id	SCA	Gale Warning	Storm Warning	HFWW	Wind Speed	Wind Gust	Wave Height	Vis	Swell Height	Swell Period	Swell Dir	Swell2 Height	Swell2 Period	Swell2 Dir
NJC001	R	Y	G	G	R 21	R 29	N/A	G 8	N/A	N/A	NM	N/A	N/A	NM
NJC005	R	Y	G	G	R 21	R 30	N/A	G 6	N/A	N/A	NM	N/A	N/A	NM
ANZ532	R	G	G	G	R 19	R 23	N/A	G 8	N/A	N/A	NM	N/A	N/A	NM
ANZ535	R	G	G	G	G 10	R 21	N/A	G 8	N/A	N/A	NM	N/A	N/A	NM
ANZ536	R	G	G	G	Y 16	R 24	N/A	G 6	N/A	N/A	NM	N/A	N/A	NM
ANZ632	G	G	G	G	G 12	N/A	N/A	G 6	N/A	N/A	NM	N/A	N/A	NM
ANZ650	R	G	G	G	R 25	N/A	N/A	G 5	N/A	N/A	NM	N/A	N/A	NM
ANZ654	Y	G	G	G	Y 13	N/A	N/A	G 1	G 3.3	R 1.0	NM	G 1.6	R 1.0	NM
ANZ656	Y	G	G	G	Y 15	Y 16	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM
ANZ658	R	G	G	G	R 20	N/A	N/A	G 10	N/A	N/A	NM	N/A	N/A	NM

The SAFESEAS Table initially displays the worst-case conditions in each county or zone. Each column can be sorted by value. Selecting a county/zone name will provide information for that area. Letters in the cells aid color-blind forecasters.





# SAFESEAS Overview

## Table and D-2D Display Features

SAFESEAS Threat Level STATION Table

Link to Frame Configure Thresholds Nominal Time: Wed Nov 3 12:00:00 2004

Zone/County: ANZ532

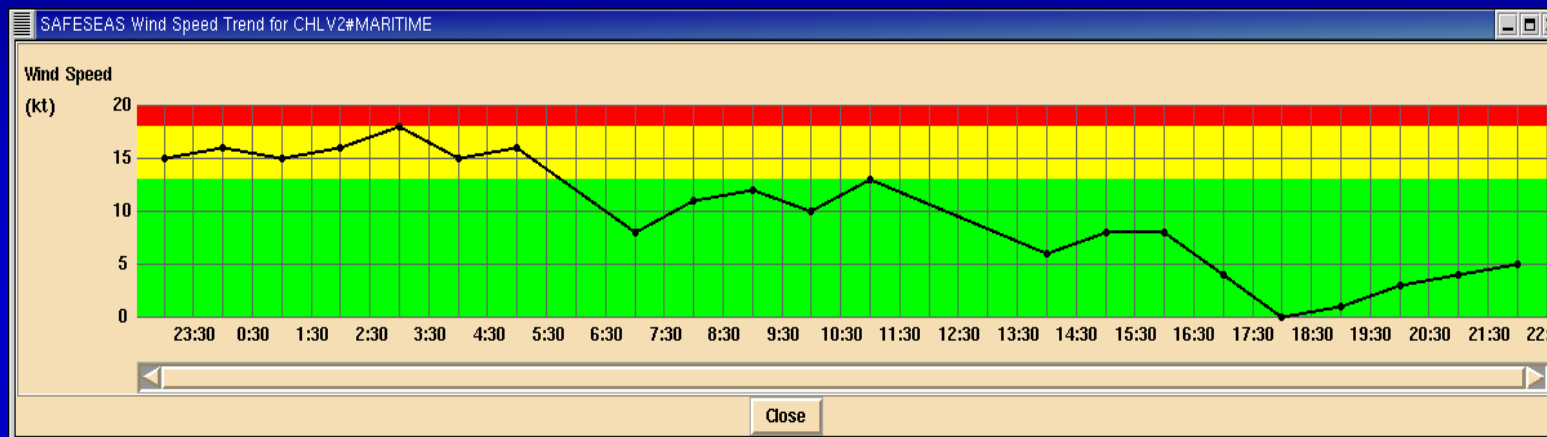
Area_Id	SCA	Gale Warning	Storm Warning	HFWW	Wind Speed	Wind Gust	Wave Height	Vis	Swell Height	Swell Period	Swell Dir	Swell2 Height	Swell2 Period	Swell2 Dir
TPLM2	R	G	G	G	R 19	R 23	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM
KNAK	Y	G	G	G	Y 15	N/A	N/A	G 8	N/A	N/A	NM	N/A	N/A	NM

The selected area's observation data points will be displayed. The D-2D map will zoom into the area.

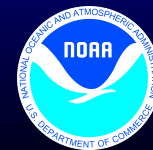


# SAFESEAS Overview

## *Table and D-2D Display Features*

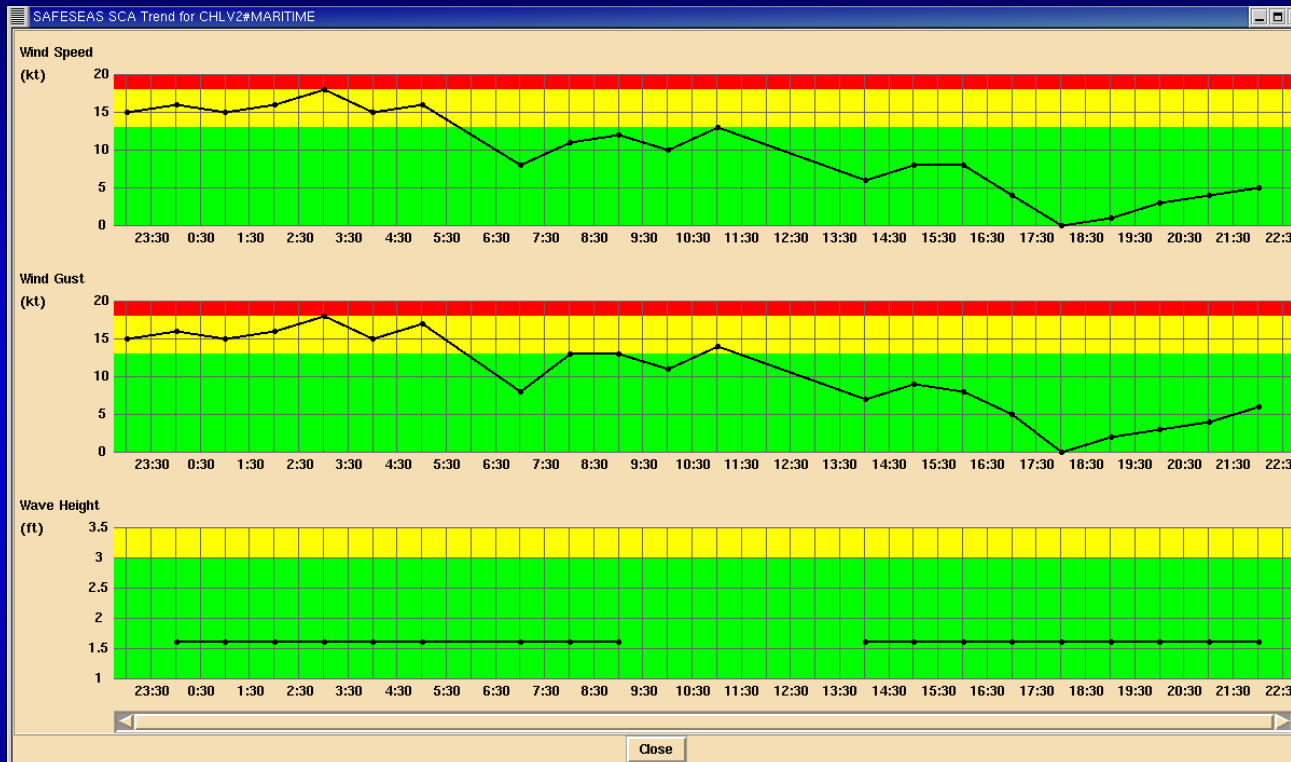


24-Hour trend graphs are available for most parameters.  
Color levels correspond to those in the table.



# SAFESEAS Overview

## *Table and D-2D Display Features*



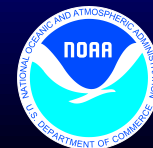
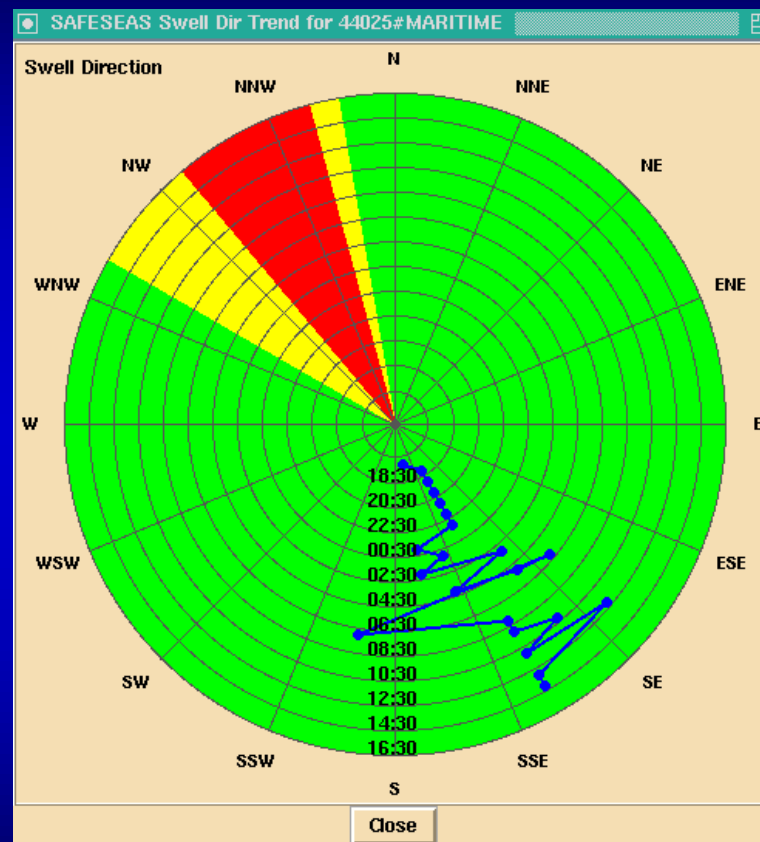
Parameters dependent on multiple values can be represented by a series of trend graphs.



# SAFESEAS Overview

## *Table and D-2D Display Features*

Directional parameter trends  
are represented by  
hodographs.



# SAFESEAS Overview

## Table and D-2D Display Features

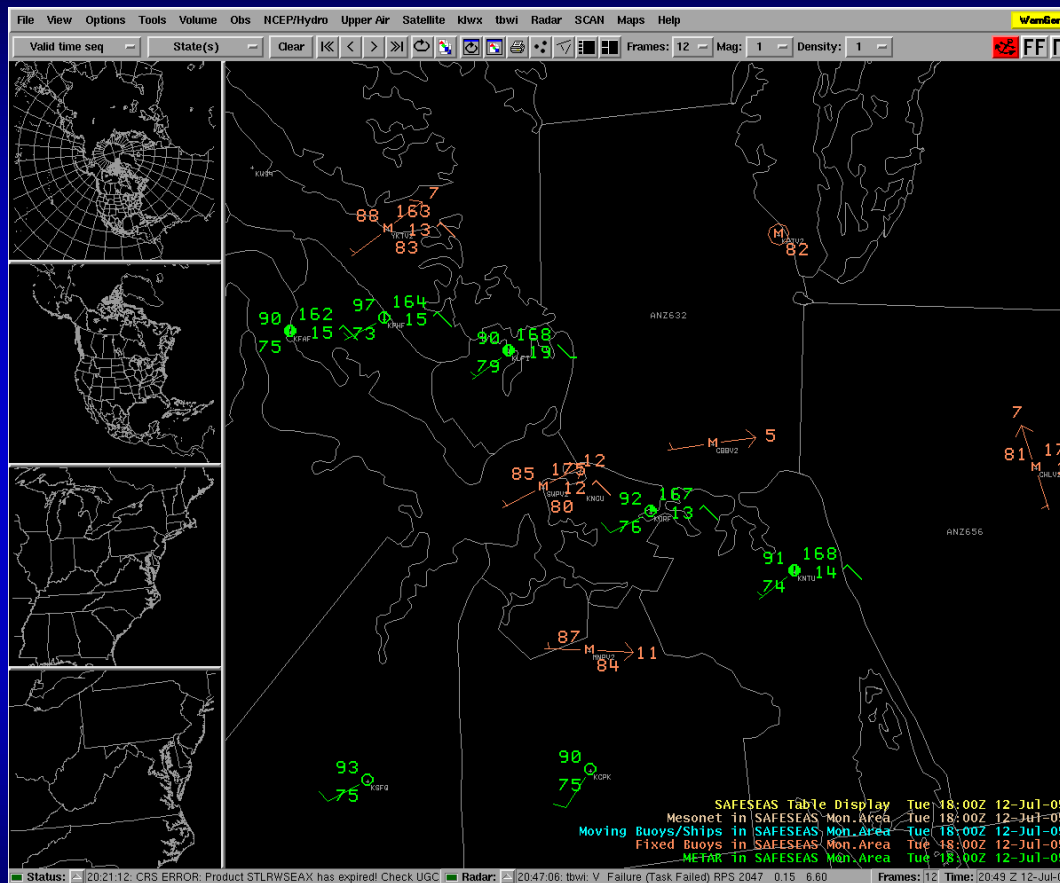
SAFESEAS Observation History Table												
Station ID: 46035# Marine										Configure	Update	Close
Time (UTC)	Lat (deg)	Lon (deg)	Significant Wave Hgt (ft)	Primary Swell Hgt (ft)	Primary Swell Dir (deg)	Primary Swell Per (sec)	Pressure (in)	P Tendency (in)	Wind Spd (kt)	Gust (kt)	Vis (nm)	
SAFESEAS Configure Obs History Table			40	50	60	70	80	90	100	110		
<input checked="" type="checkbox"/> Maritime <input type="checkbox"/> METAR <input checked="" type="checkbox"/> Lat (deg) <input type="checkbox"/> Lat (deg) <input checked="" type="checkbox"/> Lon (deg) <input type="checkbox"/> Lon (deg) <input checked="" type="checkbox"/> Significant Wave Hgt (ft) <input type="checkbox"/> Wind Dir (deg) <input checked="" type="checkbox"/> Primary Swell Hgt (ft) <input type="checkbox"/> Wind Spd (kt) <input checked="" type="checkbox"/> Primary Swell Dir (deg) <input type="checkbox"/> Pressure (in) <input checked="" type="checkbox"/> Pressure (in) <input type="checkbox"/> P Tendency (in) <input checked="" type="checkbox"/> P Tendency (in) <input checked="" type="checkbox"/> Wind Spd (kt) <input checked="" type="checkbox"/> Gust (kt) <input checked="" type="checkbox"/> Vis (nm)			41	51	61	71	81	91	101	111		
17:30 Feb 02	17.17	132.27	317	417	517	617	717	817	917	1017	1117	
18:30 Feb 02	18.18	132.28	318	418	518	618	718	818	918	1018	1118	
19:30 Feb 02	19.19	132.29	319	419	519	619	719	819	919	1019	1119	
20:30 Feb 02	20.20	132.30	320	420	520	620	720	820	920	1020	1120	
21:30 Feb 02	21.21	132.31	321	421	521	621	721	821	921	1021	1121	
22:30 Feb 02	22.22	132.32	322	422	522	622	722	822	922	1022	1122	
23:30 Feb 02	23.23	132.33	323	423	523	623	723	823	923	1023	1123	

Observation History Table gives trends in tabular form.



# SAFESEAS Overview

## Table and D-2D Display Features



SAFESEAS multiload provides a conventional observation display, differentiated in color by station type.

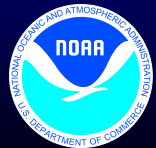
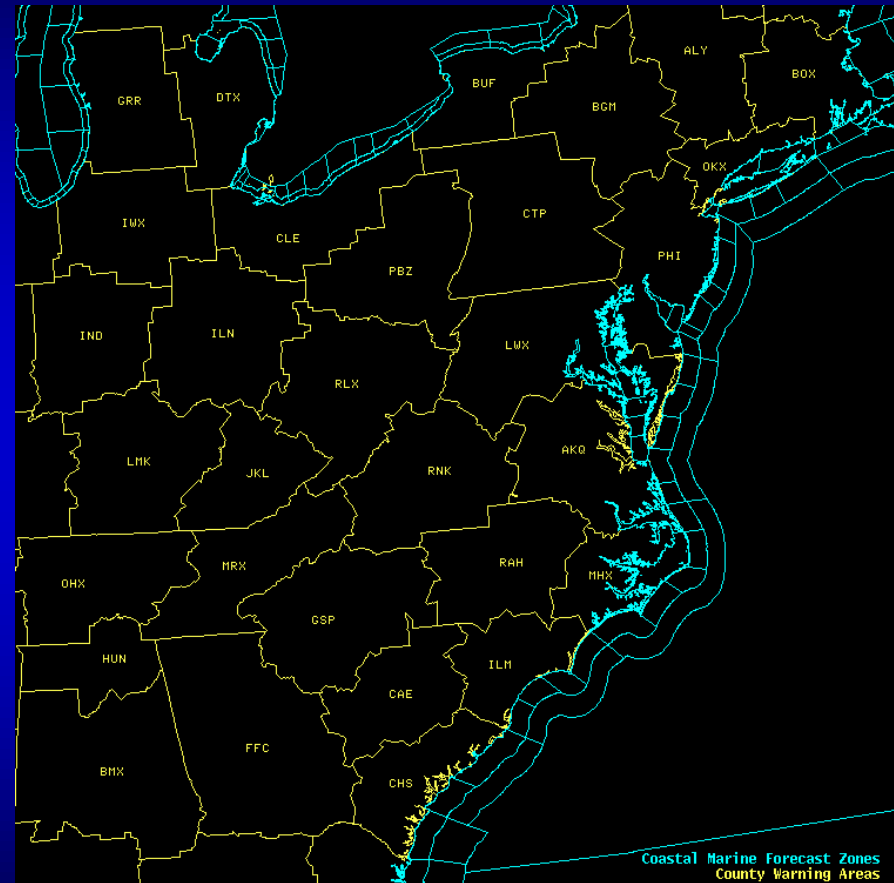




# SAFESEAS Overview

## *Localization -- Scope*

SAFESEAS localization will be centered around each forecast offices County Warning Area. The localization will set up monitoring for the home county warning area, the neighboring County Warning Areas from maritime forecast offices, and the marine zones covered by those forecast offices.



# SAFESEAS Overview

## Customizing SAFESEAS -- Display Thresholds

SAFESEAS Configure Display Thresholds

File	Small Craft Advisory			Gale Warning			Storm Warning			HFW			Wind Spd(kt)	Gust Spd(kt)	Wave Hgt(ft)	Vis (nm)	Primary Swell				Secondary Swell																					
	Wind Spd(kt)	Gust Spd(kt)	Wave Hgt(ft)	Wind Spd(kt)	Gust Spd(kt)	Wind Spd(kt)	Gust Spd(kt)	Wind Spd(kt)	Gust Spd(kt)	Hgt(ft)	Per(s)	Dir(deg) (from)					Dir(deg) (to)	Hgt(ft)	Per(s)	Dir(deg) (from)	Dir(deg) (to)																					
	y	y	y	y	y	y	y	y	y	y	y	y					y	y	y	y	y	y																				
ANZ534	18	13	18	13	4	3	34	29	34	29	48	43	48	43	64	59	64	59	18	13	18	13	4	3	1/4	1/2	7	5	10	15	0	0	0	0	7	5	10	15	0	0	0	0
ANZ535	18	13	18	13	4	3	34	29	34	29	48	43	48	43	64	59	64	59	18	13	18	13	4	3	1/4	1/2	7	5	10	15	0	0	0	0	7	5	10	15	0	0	0	0
ANZ536	18	13	18	13	4	3	34	29	34	29	48	43	48	43	64	59	64	59	18	13	18	13	4	3	1/4	1/2	7	5	10	15	0	0	0	0	7	5	10	15	0	0	0	0
ANZ537	18	13	18	13	4	3	34	29	34	29	48	43	48	43	64	59	64	59	18	13	18	13	4	3	1/4	1/2	7	5	10	15	0	0	0	0	7	5	10	15	0	0	0	0
ANZ630	18	13	18	13	4	3	34	29	34	29	48	43	48	43	64	59	64	59	18	13	18	13	4	3	1/4	1/2	7	5	10	15	10	20	30	90	7	5	10	15	340	350	10	20
ANZ631	18	13	18	13	4	3	34	29	34	29	48	43	48	43	64	59	64	59	18	13	18	13	4	3	1/4	1/2	7	5	10	15	0	0	0	0	7	5	10	15	0	0	0	0
ANZ632	18	13	18	13	4	3	34	29	34	29	48	43	48	43	64	59	64	59	18	13	18	13	4	3	1/4	1/2	7	5	10	15	0	0	0	0	7	5	10	15	0	0	0	0
ANZ633	18	13	18	13	4	3	34	29	34	29	48	43	48	43	64	59	64	59	18	13	18	13	4	3	1/4	1/2	7	5	10	15	0	0	0	0	7	5	10	15	0	0	0	0
	18	13	18	13	4	3	34	29	34	29	48	43	48	43	64	59	64	59	18	13	18	13	4	3	1/4	1/2	7	5	10	15	10	20	30	90	7	5	10	15	340	350	10	20

De-Select All    Accept

Apply    Apply & Close    Close

Display Threshold Configuration Tool allows users to customize the levels at which the table parameters change color.



# SAFESEAS Overview

## *Customizing SAFESEAS – Monitoring Area*

SAFESEAS provides a tool for customizing its monitoring area. The forecast office can:

- Add and delete zones and counties.
- Add and delete fixed stations.
- Associate fixed observation stations with zones and counties.

The screenshot shows the 'SAFESEAS Configure Monitor Area Set Up Data' dialog box. It features several sections for configuring monitoring parameters:

- Configure:** A dropdown menu set to 'Zone' and a text field containing '44007#MARITIME'.
- Monitor Area Stns:** A list box containing station identifiers such as '32352246#RAWS', '324161DA#RAWS', '3287267#RAWS', and several '44007#MARITIME' entries.
- Associated Zones:** A list box containing 'ANZ150'.
- Additional Stations:** A list box containing various station identifiers like '02600176#RAWS', '02601200#RAWS', and '080003C2#RAWS'.
- MA Zones / Regional Zones:** A list box containing zone identifiers such as 'ANZ150', 'ANZ170', 'ANZ230', 'ANZ231', 'ANZ232', 'ANZ233', 'ANZ234', 'ANZ235', 'ANZ236', and 'ANZ237'.
- Time window (hrs):** A slider control set to '2.00'.

Buttons for 'Add ^', 'Remove v', 'Add a New Stn to Monitor Area', 'Delete a Newly added Station', 'OK', and 'Cancel' are also visible.



# SAFESEAS Overview

## Customizing SAFESEAS -- Thresholds

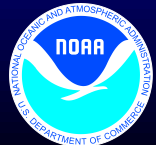
SAFESEAS Configure Monitor Thresholds

	Wind Spd(kt)		Gust Spd(kt)		Wave Hgt(ft)		Visibility(nm)		Primary Swell				Secondary Swell											
	red	yellow	red	yellow	red	yellow	red	yellow	Height(ft)	Period(s)	Dir(deg)	Dir(deg)	Height(ft)	Period(s)	Dir(deg)	Dir(deg)								
									red	yellow	yellow	red	red	yellow	yellow	red	red	yellow						
ANZ530	18	13	18	13	4	3	1/4	1/2	7	5	10	15	0	0	0	0	7	5	10	15	0	0	0	0
ANZ531	18	13	18	13	4	3	1/4	1/2	7	5	10	15	0	0	0	0	7	5	10	15	0	0	0	0
ANZ532	18	13	18	13	4	3	1/4	1/2	7	5	10	15	0	0	0	0	7	5	10	15	0	0	0	0
ANZ533	18	13	18	13	4	3	1/4	1/2	7	5	10	15	10	30	50	60	7	5	10	15	340	350	10	20
ANZ534	18	13	18	13	4	3	1/4	1/2	7	5	10	15	0	0	0	0	7	5	10	15	0	0	0	0
ANZ535	18	13	18	13	4	3	1/4	1/2	7	5	10	15	0	0	0	0	7	5	10	15	0	0	0	0
ANZ536	18	13	18	13	4	3	1/4	1/2	7	5	10	15	0	0	0	0	7	5	10	15	0	0	0	0
ANZ537	18	13	18	13	4	3	1/4	1/2	7	5	10	15	0	0	0	0	7	5	10	15	0	0	0	0
	18	13	18	13	4	3	1/4	1/2	7	5	10	15	0	0	0	0	7	5	10	15	0	0	0	0

Select All    Accept

OK    Close

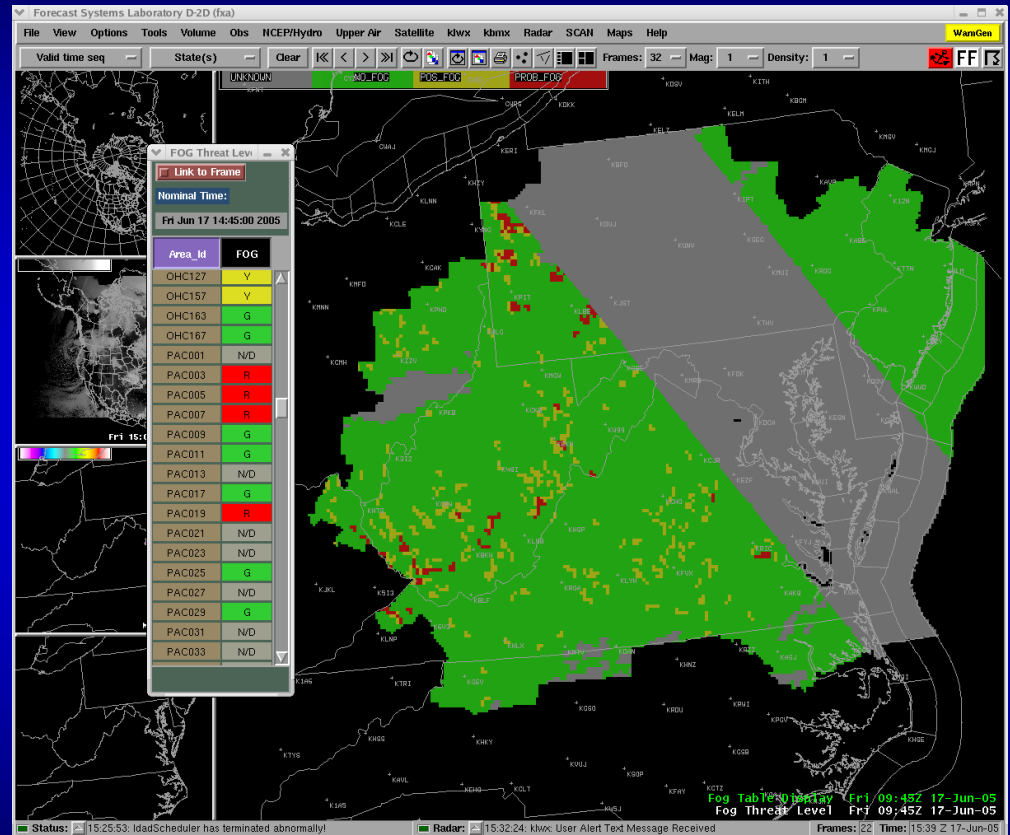
SAFESEAS provides a tool for customizing the monitor thresholds. Thresholds are zone-specific, and so may be customized for each zone individually.



# SAFESEAS Overview

## Fog Monitor

The Fog Monitor uses various algorithms to highlight suspected areas of fog from satellite data. This will be especially helpful in marine zones, where observations are scarce. The first version is being tested for deployment. Point observations will be added in later.



# SAFESEAS Overview

## *The Future of SAFESEAS – Fog Monitor*

The Fog Monitor algorithms will be highly configurable, to allow users to find the best solution for their environment.

The screenshot displays the SAFESEAS Fog Monitor software interface. At the top, there is a 'File' menu and a title bar. Below the title bar, the main window shows a color scale for 'Fog Product [ T(10.7) - T(3.9), C ]' and 'VIS (normalized count)'. The scale ranges from -10.0 to 10.0, with color bands for 0.5, 1.5, 3.0, and 4.0. Below the scale are four buttons: 'Y\_lo', 'R\_lo', 'R\_hi', and 'Y\_hi'. A navigation bar contains '<<', '<', 'Undo', 'Redo', '>', and '>>' buttons. The main configuration area consists of several rows, each with a small image icon, a label, and a numerical value with a slider control:

- Maximum Cloud Temperature (C): -1.5
- Daytime Ice/Snow vs. Fog Threshold (C): -1.3
- Cool Fog vs. Warm Surface Threshold (C): 19.9
- Daytime Smoothness Threshold (%): 80.1
- Adjacency Threshold: 49
- Twilight Angle Threshold (deg): 2.5
- Fractal Dimension Threshold: 1.5





# SAFESEAS Overview

## *Fog Monitor Mandatory Thresholds*

- **Fog Product [T (10.7 $\mu$ m) – T (3.9 $\mu$ m)]**

Nighttime threshold setting allows user to adjust the Fog Product's temperature difference range.

- **VIS (Normalized Count)**

Daytime range of normalized brightness values.

- **Maximum Cloud Temperature (C)**

Determines the 10.7 $\mu$ m threshold temperature value which the Fog Monitor uses to decide if it is detecting clouds instead of fog.



# SAFESEAS Overview

## *Fog Monitor Optional Thresholds(1)*

- **Daytime Ice/Snow vs. Fog Threshold (C)**

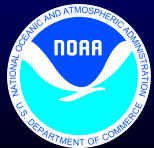
Takes advantage of strong fog scattering properties at  $3.9\mu\text{m}$ . Helps distinguish bright snowpack from fog.

- **Cool Fog vs. Warm Surface Threshold (C)**

Sets a 10.7 micron brightness temperature (best in thick fog layers, where the measured layer top is colder than the ground).

- **Daytime Smoothness Threshold (%)**

Finds areas of uniform brightness (helps distinguish fog from mid-level clouds).



# SAFESEAS Overview

## *Fog Monitor Optional Thresholds(2)*

- **Adjacency Threshold**

Filtering the suspected fog areas by size. Sets minimum size standards to discount spurious bright pixels.

- **Twilight Angle (deg)**

Sets the sun angle for “dawn/dusk” area.

- **Fractal Dimension Threshold**

This is a measure of the “jaggedness” of the edges of the detected area. Useful in identifying linear fog bank boundaries compared to jagged cloud edges (but may also filter dendritic valley/river fog.)



# SAFESEAS Overview

## Fog Monitor in SAFESEAS

Link to Frame
  Vert
  Configure Thresholds
 Nominal Time: Tue Jun 21 14:00:00 2005

Zone/County List

Area_Id	SCA	Gale Warning	Storm Warning	HFWW	Wind Speed	Wind Max	Wind Gust	Wave Height	Vis	Swell Height	Swell Period	Swell Dir	Swell2 Height	Swell2 Period	Swell2 Dir	Fog
ANZ632	G	G	G	G	G 10	N/A	Y 11	N/A	G 8	N/A	N/A	NM	N/A	N/A	NM	Y
ANZ633	G	G	G	G	G 9	R 14	G 10	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	G
VAC137	G	G	G	G	G 9	N/A	N/A	N/A	G 8	N/A	N/A	NM	N/A	N/A	NM	Y
VAC107	G	G	G	G	G 6	N/A	N/A	N/A	G 8	N/A	N/A	NM	N/A	N/A	NM	G
VAC177	G	G	G	G	G 6	N/A	N/A	N/A	G 8	N/A	N/A	NM	N/A	N/A	NM	G
VAC179	G	G	G	G	G 6	N/A	N/A	N/A	G 8	N/A	N/A	NM	N/A	N/A	NM	G
ANZ535	G	G	G	G	G 5	N/A	N/A	N/A	G 8	N/A	N/A	NM	N/A	N/A	NM	G
ANZ631	G	G	G	G	G 5	N/A	G 6	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	Y
ANZ656	G	G	G	G	G 5	G 8	G 6	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	G
DCC001	G	G	G	G	G 5	N/A	N/A	N/A	G 8	N/A	N/A	NM	N/A	N/A	NM	G

Because of Fog Monitor's potential impact on marine fog awareness, its output will be available in the SAFESEAS table.



# SAFESEAS Overview

## Upcoming Enhancements(1)

SAFESEAS Threat Level ZONE/COUNTY Table

Link to Frame
  Vert
  Configure Thresholds
  Attributes
 Nominal Time: Sat Jul 1 06:00:00 2006

Zone/County List

Area_Id	SCA	Gale Warning	Storm Warning	HFWW	Wind Direc	Wind Speed	Peak Wind	Wind Gust	Vis	Temp	Dewpnt	SLP	SST	Wave Height	Wave Steep	Swell Height	Swell Period	Swell Dir	Swell2 Height	Swell2 Period	Swell2 Dir	Fog
MDC021	G	G	G	G	R 160	G 4	N/A	N/A	G 8	G 63	G 57	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
NCC041	G	G	G	G	R 130	G 3	N/A	N/A	G 6	G 74	G 68	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
NCC091	G	G	G	G	R 0	G 0	N/A	N/A	G 2	G 70	G 65	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
NJC005	G	G	G	G	R 230	G 5	N/A	N/A	G 6	G 66	G 61	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
NJC009	G	G	G	G	R 0	G 0	N/A	N/A	G 8	G 66	G 57	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
NJC025	G	G	G	G	R 310	G 5	N/A	N/A	G 8	G 66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
NJC035	G	G	G	G	R 0	G 0	N/A	N/A	G 5/8	G 59	G 57	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
NJC037	G	G	G	G	R 0	G 0	N/A	N/A	G 3	G 57	G 57	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
PAC095	G	G	G	G	R 0	G 0	N/A	N/A	G 1-5/8	G 59	G 57	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
VAC001	G	G	G	G	R 0	G 0	N/A	N/A	G 4	G 65	G 65	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A

### New parameters:

Wind Direction, Temperature, Dewpoint, Sea Level Pressure,  
Sea Surface Temperature, Wave Steepness.

Wind Max renamed to “Peak Wind”



# SAFESEAS Overview

## Upcoming Enhancements(2)

[Link to Frame](#)
 Vert
  Configure Thresholds
  Attributes
 Nominal Time: Tue Jan 17 23:00:00 2006

Zone/County List

Area Id	SCA	Gale Warning	Storm Warning	HFWW	Wind Dir	Wind Speed	Wind Max	Wind Gust	Vis	Temp	Dewpnt	SLP	SST	Wave Height	Wave Steep	Swell Height	Swell Period	Swell Dir	Swell2 Height	Swell2 Period	Swell2 Dir	Fog
DEC005	G	G	G	G	R 130	G 10	N/A	N/A	G 8	R 50	Y 43	R 1015	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
NJC009	Y	G	G	G	R 100	G 10	N/A	Y 17	G 8	R 48	Y 43	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
DEC001	G	G	G	G	N/A	G 6	N/A	N/A	G 6	R 45	Y 41	R 1016	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
NJC001	G	G	G	G	R 110	G 11	N/A	N/A	G 8	R 45	Y 39	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
NJC011	G	G	G	G	R 100	G 11	N/A	N/A	G 8	R 45	Y 38	R 1016	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
NJC005	Y	G	G	G	R 110	G 11	N/A	Y 16	G 6	R 41	Y 34	R 1016	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
NJC025	R	G	G	G	R 110	Y 13	N/A	R 18	G 8	R 43	Y 34	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
DEC003	G	G	G	G	R 60	G 10	N/A	N/A	G 8	R 43	Y 32	R 1017	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
PAC101	G	G	G	G	R 80	G 11	N/A	N/A	G 8	R 43	Y 30	R 1016	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
NJC021	G	G	G	G	R 70	G 8	N/A	N/A	G 8	R 38	Y 29	R 1016	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
NJC035	G	G	G	G	R 100	G 6	N/A	N/A	G 8	R 38	Y 29	R 1019	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
PAC011	G	G	G	G	R 110	G 9	N/A	N/A	G 8	R 38	Y 29	R 1017	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
PAC017	G	G	G	G	N/A	G 4	N/A	N/A	G 8	R 38	Y 29	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
PAC091	G	G	G	G	R 100	G 10	N/A	N/A	G 6	R 38	Y 29	R 1019	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
PAC095	G	G	G	G	R 80	G 9	N/A	N/A	G 8	R 38	Y 25	R 1016	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
NJC037	G	G	G	G	R 20	G 6	N/A	N/A	G 8	R 34	Y 18	R 1020	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
PAC069	Y	G	G	G	R 100	Y 13	N/A	N/A	G 8	R 27	Y 18	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
ANZ530	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
ANZ531	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A
ANZ532	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	NM	N/A

### Resizable Table

Instead of having a fixed number of visible zones/counties, the OB7 SAFESEAS table will allow the user to resize it by “dragging”.





# SAFESEAS Overview

## Upcoming Enhancements(3)

Nominal Time: Tue Jan 17 23:00:00 2006

Zone/County List

Area_Id	SCA	Gale Warning	Storm Warning	HFWW	Wind Dir	Wind Speed	Wind Max	Wind Gust	Vis	Temp	Dewpt	SLP	Fog
DEC005	G	G	G	G	R 13	N/A	N/A	N/A	G 8	R 50	Y 43	R 1015	N/A
NJC009	Y	G	G	G	R 14	Y 17	Y 16	R 18	G 8	R 48	Y 43	N/A	N/A
DEC001	G	G	G	G	N/A	N/A	N/A	N/A	G 8	R 45	Y 41	R 1016	N/A
NJC001	G	G	G	G	R 11	N/A	N/A	N/A	G 8	R 45	Y 39	N/A	N/A
NJC011	G	G	G	G	R 10	N/A	N/A	N/A	G 8	R 45	Y 38	R 1016	N/A
NJC005	Y	G	G	G	R 11	Y 16	Y 16	R 18	G 8	R 41	Y 34	R 1018	N/A
NJC025	R	G	G	G	R 11	R 18	R 18	R 18	G 8	R 43	Y 34	N/A	N/A
DEC003	G	G	G	G	R 8	N/A	N/A	N/A	G 8	R 43	Y 32	R 1017	N/A
PAC101	G	G	G	G	R 8	N/A	N/A	N/A	G 8	R 43	Y 30	R 1018	N/A
NJC021	G	G	G	G	R 7	N/A	N/A	N/A	G 8	R 38	Y 29	R 1018	N/A
NJC035	G	G	G	G	R 10	N/A	N/A	N/A	G 8	R 38	Y 29	R 1019	N/A
PAC011	G	G	G	G	R 11	N/A	N/A	N/A	G 8	R 38	Y 29	R 1017	N/A
PAC017	G	G	G	G	N/A	N/A	N/A	N/A	G 8	R 38	Y 29	N/A	N/A
PAC091	G	G	G	G	R 10	N/A	N/A	N/A	G 8	R 38	Y 29	R 1019	N/A
PAC095	G	G	G	G	R 8	N/A	N/A	N/A	G 8	R 38	Y 25	R 1018	N/A
NJC037	G	G	G	G	R 2	N/A	N/A	N/A	G 8	R 34	Y 18	R 1020	N/A
PAC089	Y	G	G	G	R 10	N/A	N/A	N/A	G 8	R 27	Y 18	N/A	N/A
ANZ530	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANZ531	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANZ532	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANZ533	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Area\_Id  
 SCA  
 Gale Warning  
 Storm Warning  
 HFWW  
 Wind Dir  
 Wind Speed  
 Wind Max  
 Wind Gust  
 Vis  
 Temp  
 Dewpt  
 SLP  
 SST  
 Wave Height  
 Wave Steep  
 Swell Height  
 Swell Period  
 Swell Dir  
 Swell2 Height  
 Swell2 Period  
 Swell2 Dir  
 Fog

## Attributes Menu

Users will be able choose which attributes to display in the SAFESEAS table. This functionality has been adapted from the SCAN table.



# SAFESEAS Overview

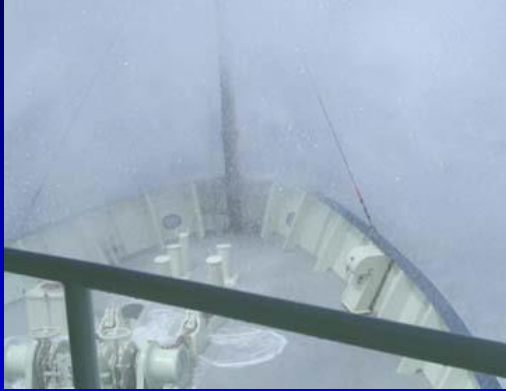
## *Upcoming Enhancements(4)*

- **Additional SAFESEAS enhancements being tested:**
  - Inclusion of MAROBS in SAFESEAS
  - Redesigned SAFESEAS configuration GUI
- **Additional SAFESEAS/Fog Monitor enhancements approved:**
  - Improved cursor sampling in table
  - Inclusion of gage depth values.
  - Inclusion of point observations in Fog Monitor (step toward becoming a general visibility monitor).
  - Implementation of statistical calculations in Fog Monitor
  - Observed vs forecast value comparisons??



# SAFESEAS Overview

## *Future Projects*



Visibility



Fire Weather



Blizzards and  
Ice Storms



Rip Currents



# SAFESEAS Overview

## SNOW – SAFESEAS for Winter Weather

Link to Frame  
  Vert  
 Configure Thresholds  
 Attributes  
 Nominal Time: Thu Jun 29 14:00:00 2006

Zone/County List

Area_Id	Bliz Warn	Frz Precip	Hsnow Warn	Pres Weather	Wind Direc	Wind Speed	Peak Wind	Wind Gust	Temp	Dewpt	Vis	SLP	Wind Chill	FrstBt Time	Hourly Precip	Snow Depth	SNINCR Hrly	SNINCR Tot
NCC189	G	N/A	N/A	N/A	R 280	G 11	N/A	N/A	R 70	R 57	G 8	N/A	N/A	N/A	N/A 0	N/A	N/A	N/A
PAC003	G	N/A	N/A	N/A	R 240	G 10	N/A	G 16	R 65	R 56	G 8	R 1020	N/A	N/A	N/A 0	N/A	N/A	N/A
VAC017	G	N/A	N/A	N/A	R 280	G 9	N/A	N/A	R 65	R 59	G 6	N/A	N/A	N/A	N/A 0	N/A	N/A	N/A
VAC035	G	N/A	N/A	N/A	R 300	G 8	N/A	N/A	R 70	R 65	G 8	N/A	N/A	N/A	N/A 0	N/A	N/A	N/A
VAC155	G	N/A	N/A	N/A	R 300	G 8	N/A	N/A	R 74	R 57	G 8	N/A	N/A	N/A	N/A 0	N/A	N/A	N/A
NCC009	G	N/A	N/A	N/A	R 330	G 7	N/A	N/A	R 70	R 56	G 8	N/A	N/A	N/A	N/A 0	N/A	N/A	N/A
PAC019	G	N/A	N/A	N/A	R 250	G 7	N/A	N/A	R 66	R 57	G 6	N/A	N/A	N/A	N/A 0	N/A	N/A	N/A
PAC063	G	N/A	N/A	N/A	R 220	G 7	N/A	N/A	R 68	R 61	G 8	N/A	N/A	N/A	N/A 0	N/A	N/A	N/A
VAC173	G	N/A	N/A	N/A	R 250	G 7	N/A	N/A	R 72	R 59	G 8	N/A	N/A	N/A	N/A 0	N/A	N/A	N/A
PAC121	G	N/A	N/A	N/A	R 240	G 6	N/A	N/A	R 65	R 57	G 8	N/A	N/A	N/A	N/A 0	N/A	N/A	N/A

- **System for Nowcasting of Winter Weather.**
  - Using SAFESEAS approach for winter weather problems.
  - Shut down and removed from D-2D menu with a few quick steps!



# SAFESEAS Overview

## *Future Projects – Rip Current Monitor*

### Rip Currents

#### Contributing Factors :

1. On-shore wave characteristics
2. Water levels
3. Surf zone bathymetry

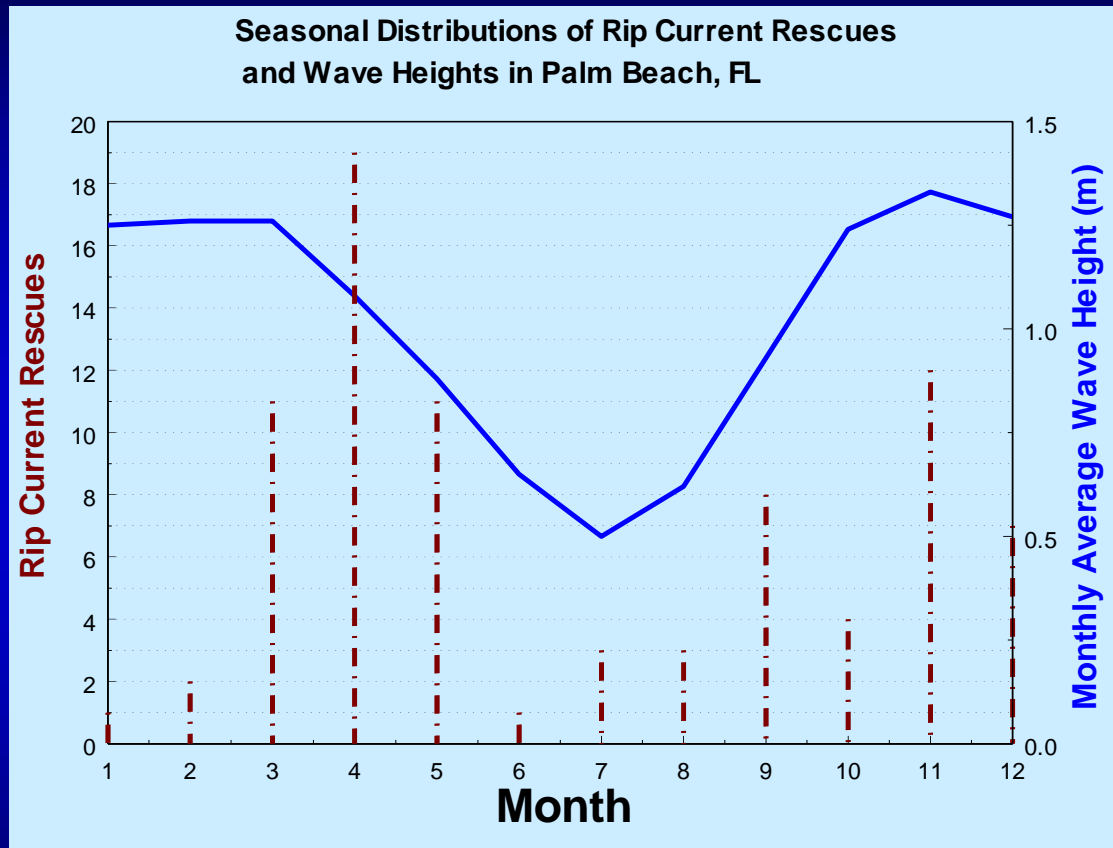


Source: [www.ripcurrents.noaa.gov](http://www.ripcurrents.noaa.gov)



# SAFESEAS Overview

## *Future Projects – Rip Current Monitor(2)*



Sources: Dr. C.S. Wu (NWS) & Prof. Robert Dean  
(University of Florida), 2003





# SAFESEAS Overview

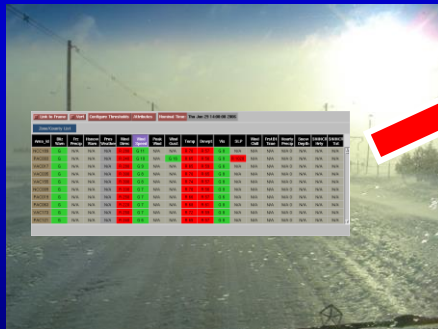
*The future of SAFESEAS*



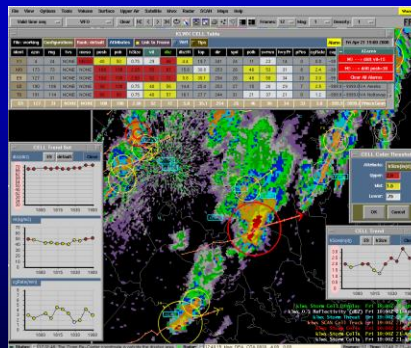
Visibility (enhanced Fog Monitor)



Fire Weather



Blizzards and Ice Storms (SNOW)



SAFESEAS



Rip Currents



# SAFESEAS Overview

July, 2006

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