



United States Coast Guard

MISLE Incident Investigation Report For Dauphin Island Sailing Race - Loss of Lives

On 24Apr2015 19:00:00 CDT



MISLE Activity Number: 5117401
MISLE Case Number: 723850

U.S. Department of
Homeland Security

United States
Coast Guard



Commandant
United States Coast Guard

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16732
April 8, 2019

INJURY AND LOSS OF LIFE DURING THE DAUPHIN ISLAND REGATTA ON APRIL 25, 2015

ACTION BY THE COMMANDANT

The U.S. Coast Guard reviewed the records and other evidence regarding the circumstances associated with this investigation. I approve these records, including the findings of fact, analysis, and conclusions, subject to the following comments. This marine casualty investigation is closed.

COMMENTS ON THE REPORT

1. On April 25, 2015, the 57th Annual Dauphin Island Regatta took place in Mobile Bay, Alabama. During this event, a chain of events occurred that resulted in the tragic loss of six lives, the rescue of 40 people from the water, and the sinking of eight vessels. While there were many causal factors, the chain of events was exacerbated by miscommunication between those involved in the event. I offer my sincere condolences to the families and friends of those whose lives were lost.

2. In order to have a safe and successful marine event, there must be effective hazard identification, communication and risk management among event organizers, participants, and the U.S. Coast Guard. While regatta organizers are ultimately responsible for safety during events, event participants also have the responsibility for the safety of their vessel and crew. Ineffective hazard identification, communication, and risk management contributed to a chain of events that ultimately led to this marine casualty.

ACTION ON RECOMMENDATION

Safety Recommendation #1 – Wearing PFDs: It is recommended that the U.S. Sailing Association amend their racing rules to require all crewmembers to wear Coast Guard PFDs suitable for the activity on deck at all times when participating in sanctioned events. As indicated in previous studies relating to wearing PFDs, they save lives. We recommend that the International Sailing Federation (ISAF) amend their Racing Rules of Sailing Part 4 rule 40 to read that PFDs shall be worn at all times instead of the current wording "When flag Y is displayed with one sound before or with the warning signal."

Action: I concur with the intent of this recommendation. It is well known that proper use of Personal Floatation Devices (PFDs) saves lives. The U.S. Sailing Association already has

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rules for carriage and use of PFDs that reference Federal and State law, and include provisions for requiring PFD wear when warranted (when the flag Y is displayed). Considering the weather hazards presented on the day of the incident, race organizers should have required PFDs be worn by race participants under existing rules. I will recommend the U.S. Sailing Association amend their rules to more clearly specify the conditions and circumstances under which PFD wear is required.

***Safety Recommendation #2 – VHF Radios:** It is recommended that the U.S. Sailing Association amend racing rules to state that boat skipper(s) shall have a handheld VHF radio (on a lanyard) available for their immediate use in the cockpit at all times during sanctioned events. This investigation revealed that a significant number of race boats that participated in the Dauphin Island Race stored the required VHF in the boat cabin, which limited the ability of crewmembers to hear any urgent severe weather marine broadcasts.*

Action: I concur with the intent of this recommendation. U.S. Sailing Association and Dauphin Island Race Notices already state: "Radio equipment suitable for communications and receipt of NOAA weather reports should be at the ready with batteries fully charged. Hand-held VHF radios are ideal." Prescribing the exact placement of radios for all races and hull types for which U.S. Sailing Association rules are used (including for example, wind surfing or non-sanctioned events) is not practicable. In this case, however, requiring handheld radios for immediate use in the cockpit appears reasonable and practicable considering participating boats and conditions. The Coast Guard will therefore provide a copy of this report to the Fairhope Yacht Club and the U.S. Sailing Association recommending rules be established for the placement of radios in the cockpit based on the specific hull types.

***Safety Recommendation #3 – Crew/Vessel Check-ins:** It is recommended that the U.S. Sailing Association amend racing rules to require every boat to check-in with all crewmembers on deck, properly wearing Coast Guard PFDs suitable for the activity and displaying an operational handheld VHF radio prior to the start of a sanctioned event. This investigation revealed that due to the last minute change in crews, several race participants did not have PFDs onboard their assigned boats. Additionally, of those boats with last minute crew changes or first timers, many did not know where PFDs were stored, did not understand how to don the PFD, and/or were the wrong size. This change would ensure crews known the location of their PFD, how to don them, and that they are of the proper size before the beginning of the race.*

Action: I concur with the intent of this recommendation. The familiarity and provision of safety equipment should be an inherent part of prudent seamanship. Irrespective of discretion and flexibility afforded for PFD wear and VHF radio placement discussed in my actions for recommendation #1 and #2, at a minimum all race participants should be required to check-in with race organizers affirming that required PFDs and suitable radio equipment are onboard, and their crews are familiar with use prior to the start of the race. The Coast Guard will provide a copy of this report to the Fairhope Yacht Club and U.S. Sailing Association recommending they amend their rules regarding check-in prior to the start of races.

Safety Recommendation #4 – Crew Lists: *It is recommended that U.S. Sailing Association amend racing rules to require every boat to submit an accurate finalized crew list to the organizing authority 30 minutes prior to the start of the race. This investigation revealed that the lack of updated crew lists significantly contributed to the Coast Guard's inability to determine who was onboard which vessel, exactly how many people participated in the race, and how many were potentially in the water. This information is essential in determining resources and assigning assets needed for search and rescue efforts.*

Action: I concur with this recommendation. Immediate access to accurate crew lists is essential in coordinating Coast Guard search and rescue efforts. The Coast Guard will provide a copy of this report to the Fairhope Yacht Club and U.S. Sailing Association recommending rules are amended so that crew lists are provided to race organizers in a timely fashion prior to the start of races. Similarly, I will direct the U.S. Coast Guard Office of Boating Safety and the Office of Waterways Management examine revision of COMDTINST M16751.3 to require this for permitted marine events, as appropriate.

7. **Safety Recommendation #5 – CG-4424 Permit for Marine Event:** *It is recommended that Commandant amend the CG-4424 (Permit for Marine Event). On the form under: "There will be a Regatta Patrol assigned by the Coast Guard," the form states, "The attached instruction for Patrol Commanders outlines their responsibility and authority." It was unclear to investigators and Sector Mobile Waterways Management personnel to which instructions the permit referenced. Investigators assumed this referred to Enclosure (8) of COMDTINST M16751.3, Permitting of Regattas & Marine Parades, Patrol Commander Designation Letter, but there is a lack of specific guidance on the form. Amending the form to mandate instructions to the Patrol Commander via designation letter provides clarification to Coast Guard Waterways Management personnel as to the information that needs to be provided to the PATCOM and event organizers along with the CG-4424. Investigators discovered that the latest revision to the CG-4424 was completed in June 2004 and latest revision to COMDTINST M16751.3 was completed March 2013.*

Action: I concur with the intent of this recommendation. While use of the sample Patrol Commander Designation Letter is optional, the clear communication of instructions, responsibilities and authorities flowing through the U.S. Coast Guard Sector Commander to the assigned Patrol Commander should not be optional. The current Form CG-4424 (Permit for Marine Event) states that this "instruction" is written and "attached" but it was not so in this case. This may have contributed to Coast Guard personnel being unaware of their authority to terminate the event due to weather. To ensure clear instructions are provided for Patrol Commanders outlining their responsibilities and authorities, I will direct that COMDTINST M16751.3 be revised to reflect that this instruction will always be written, include mandatory elements conferring responsibility and authority to the Patrol Commander, and is attached to the Marine Event Permit. In addition, we will use this incident as a case study as part of the training provided to Coast Guard personnel involved with permitting marine events.

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Safety Recommendation #6 – Mandated Use of PATCOM Designation Letters: *It is recommended that Commandant amend COMDTINST M16751.3, Permitting of Regattas & Marine Parades, Chapter 7.B, Designation of Patrol Commanders (PATCOM) to mandate the use of Enclosure 8 (Sample Patrol Commander Designation Letter) instead of allowing units to choose another mechanism to designate a PATCOM. The designation letter in Enclosure 8 clearly establishes the role and authorities of the PATCOM which include to "Contact the Event Sponsor/Chairperson no less than two weeks prior to the event and arrange for such meetings and/or conferences as you consider necessary." Mandating the use of Enclosure 8 provides consistency with how PATCOMs are provided their roles and responsibilities and standardizes the Marine Event process for all units across the Coast Guard.*

Action: I concur with the intent of this recommendation. As indicated in my answer to recommendation #5, while use of the sample Patrol Commander Designation Letter is optional, clear communication of instructions, responsibilities and authorities flowing through the U.S. Coast Guard Sector Commander to the assigned Patrol Commander should not be optional. Rather than direct mandatory use of the sample form, I will direct that COMDTINST M16751.3 be revised to reflect that this instruction will always be written, include mandatory elements conferring responsibility and authority to the Patrol Commander, and is attached to the Marine Event Permit.



J. P. Nadeau
Rear Admiral, U.S. Coast Guard
Assistant Commandant for Prevention Policy

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
U. S. Coast Guard Sector Mobile

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16732

11 MAR 2016

MEMORANDUM

From: *J. H. Snowden*
J. Snowden, CAPT
CG Sector Mobile (s)

Reply to: CG Sector Mobile (spv)
Attn of: [REDACTED]

To: COMDT (CG-INV)
Thru: CGD EIGHT (dp)

Subj: 2015 DAUPHIN ISLAND REGATTA REPORT OF INVESTIGATION

Ref: (a) Title 46, United States Code, Chapter 63
(b) Title 46, Code of Federal Regulations, Part 4
(c) Marine Safety Manual Volume V, COMDTINST M16000.10A

1. In accordance with the above references, my office conducted an investigation into the loss of lives during the 2015 Dauphin Island Sailing Regatta on 25 April 2015. The resulting Report of Investigation is attached.

2. Following my review of the Report of Investigation, I concur with the Findings of Fact, Analysis, Conclusions, and Recommendations.

#

Enclosure: Report of Investigation dated 07 March 2016

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
U.S. Coast Guard Sector Mobile

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Phone: (251) 441-5586
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16732
7 Mar 2016

MEMORANDUM

From: [REDACTED] LT
Investigating Officer

To: CG Sector Mobile (s) [REDACTED] 3/11
Thru: (1) CG Sector Mobile (sp) [REDACTED] 3/10
(2) CG Sector Mobile (sd)

Subj: LOSS OF LIVES ON MOBILE BAY, ALABAMA DURING DAUPHIN ISLAND
SAILING RACE ON 25 APRIL 2015

Ref: (a) Marine Safety Manual Volume V, COMDTINST M16000.10A
(b) U.S. Coast Guard Marine Investigations: Documentation and Reporting Procedures
(MCI-05), Version 1.0

Executive Summary:

On 25 April 2015, the Fairhope Yacht Club, located in Fairhope, Alabama, held the 57th annual running of the Dauphin Island Race in Mobile Bay, Alabama. A total of 125 boats and 475 people registered for the race. Of the 125 registered boats, 117 participated in the race. The one-way race began in upper Mobile Bay, passed through Middle Bay Light and ended near the Dauphin Island Bridge. The course length was approximately 18 nautical miles. The race had an original start time of 0930, but due to a miscommunication between Fairhope Yacht Club race committee members, the Yacht Club's website posted an erroneous cancellation notice. This caused confusion among the race participants and led to a one-hour delay, pushing the official start to 1030. An additional 15-minute delay pushed the Division 1 race boats to start at 1045 and the Division 2 and 3 race boats at 1100. The first race boats finished at approximately 1350. At approximately 1508, severe thunderstorms consisting of hurricane force winds and steep waves swept across the western shores of Mobile Bay. Eight boats sank during the thunderstorms and tragically, six lives were lost. The Coast Guard, State of Alabama, and good Samaritans rescued 40 persons from the water. Over five days, rescuers searched a total of 7,477 square miles on Mobile Bay. The Coast Guard Eighth District Commander suspended search and rescue efforts at 2132 on April 30, 2015. Of the six lives lost, five persons were located and one person remains missing and is presumed dead. Investigating Officers from Sector Mobile Investigations Division, assisted by the Investigations National Center of Expertise (INCOE), conducted a marine casualty investigation under MISLE Activity # 5117401 and produced this Report of Investigation in accordance with references (a) and (b).

Capsized Vessel Data:

Vessel	Registration Number	Make	Length	Status
4G	AL-2032-ML	Catalina	22	Total Loss
WINDSONG III	AL-1036-LS	Catalina	21	Total Loss
MISS SCARLET	AL-1104-LV	Ultimate	20	Recovered/ Total Loss
SWEET LOUIS	AL-8220-ML	Cape Dory	23	Recovered/Salvaged
NONO9	MI-1142-BL	Cal	24	Total Loss
RAZR	WDSV10781180 (Hull Number)	Shock Santana	23	Total Loss
GYPSY	FL-9034-PK	Precision	23	Recovered/Salvaged
SHAKEDOWN	AL-0667-WD	Mirage	23	Recovered/Salvaged

Personnel Casualty Data:

Name	Age	Position	Vessel	Status
Kristopher Beall		Crewmember	SCOUNDREL	Deceased
Robert Delaney		Captain	NONO9	Deceased
		Crewmember	RAZR	Presumed Dead
Adam Clark		Crewmember	RAZR	Deceased
Robert Thomas		Crewmember	NONO9	Deceased
William Glenn Massey		Crewmember	DAUNTLESS	Deceased

Party In Interest

Party In Interest	Role	Representative
Fairhope Yacht Club	Sponsoring Organization	Mr. [REDACTED] Esq.

Casualty Location:

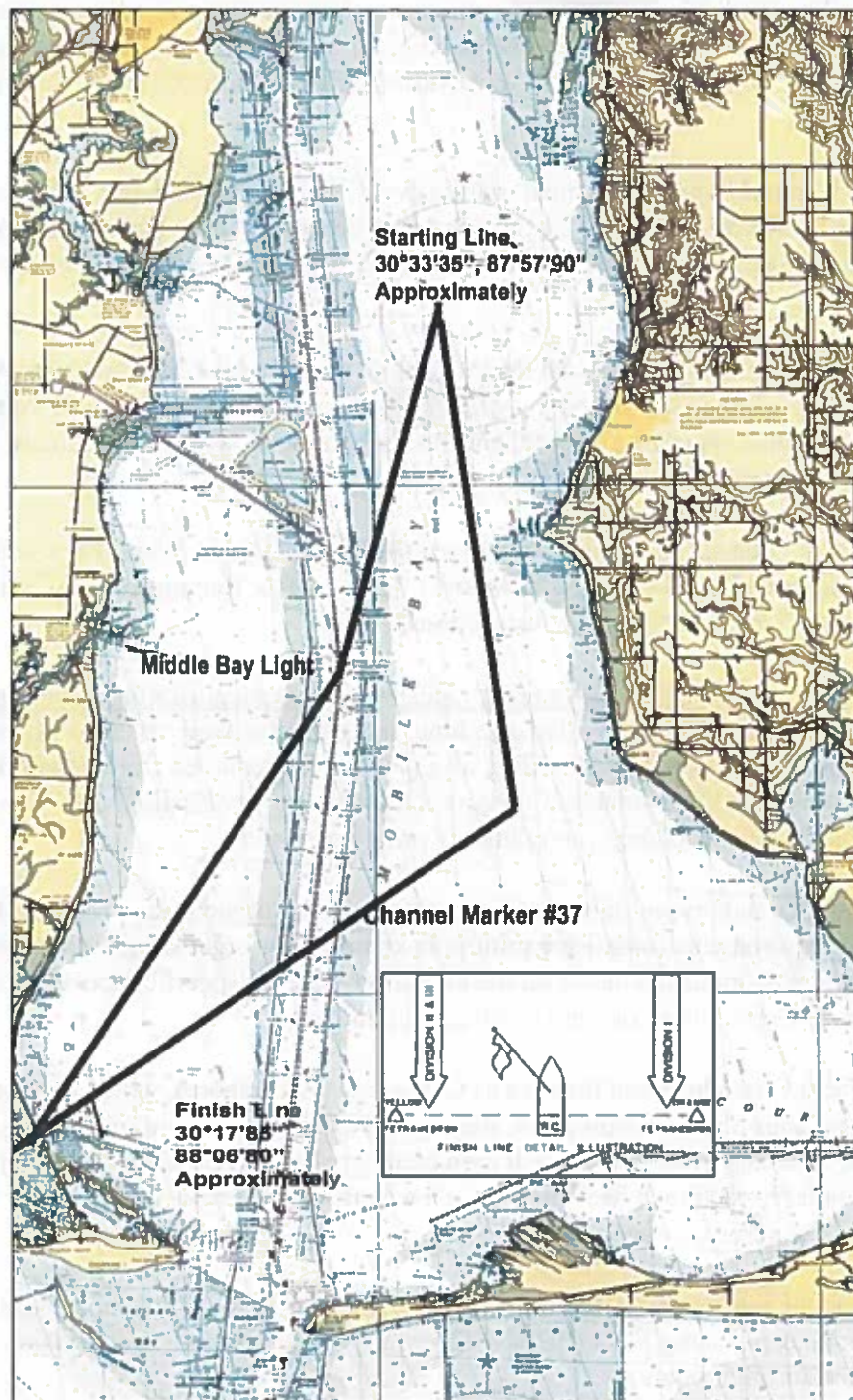


Chart View of Dauphin Island Regatta Race, Excerpt from NOAA Chart 11376
(Bold lines describe the general area of the race course. Participants boats were to only cross between Middle Bay Light and Mobile Ship Channel Marker #37)

Findings of Fact:

1. On 2 December 2014, Mr. [REDACTED] submitted a Marine Event Application for the 2015 Dauphin Island Race on Form CG-4423 to Coast Guard Sector Mobile. The race was scheduled to be on 25 April 2015. Starting time for the race was originally set for 0930 and finishing time was set for 1700.
2. The Dauphin Island Race is an annual marine event listed under 33 Code of Federal Regulations (CFR) 100.801, Table 7. The event is hosted on a rotating basis between Fairhope Yacht Club of Fairhope, AL, Buccaneer Yacht Club of Mobile, AL, and Mobile Yacht Club of Mobile, AL.
3. On 15 December 2014, Coast Guard Sector Mobile approved the Marine Event Application for the Dauphin Island Race submitted by Mr. [REDACTED] and issued a Marine Event Permit to the sponsoring organization, Fairhope Yacht Club. Sector Mobile assigned Coast Guard Station Dauphin Island as the Patrol Commander for the race.
4. Fairhope Yacht Club sponsored and organized the 2015 Dauphin Island Race using the current prescriptions of U.S. Sailing Association's 2013 – 2016, Racing Rules of Sailing and their own Fairhope Yacht Club Sailing Instructions.
5. U.S. Sailing Association classifies sailing races into three categories based on distance and location. Category 1 (Ocean) is classified as a long distance race, well offshore where rescue may be delayed. Category 2 (Coastal) is classified as a race not far removed from shorelines, where rescue is likely to be quickly available. Category 3 (Nearshore) is classified as a race primarily sailed during the day, close to shore, in relatively protected waters.
6. U.S. Sailing Association provides minimum safety and equipment requirements for each race category. These requirements establish a minimum standard for organizing authorities to implement and may be modified based on the conditions of their specific race. However, they may not supersede Coast Guard or state boating regulations.
7. Fairhope Yacht Club classified the race as Category C (Nearshore), which corresponds with U.S. Sailing Association's definition of a Category 3 (Nearshore). The minimum required safety equipment for a Nearshore race is: (1) each crewmember shall have a Coast Guard approved life jacket onboard and (2) each race boat shall have a watertight handheld VHF radio or handheld VHF radio with a waterproof cover.
8. Fairhope Yacht Club classified the race boats into three divisions. Division 1 is classified as Performance Handicap Racing Fleet (PHRF), Division 2 is Portsmouth and Division 3 are one design, multi-hull or other boats.

9. Fairhope Yacht Club designated Mr. [REDACTED] as Chairman, Mr. [REDACTED] as Co-Chairman and Ms. [REDACTED] as Principal Race Officer (PRO) for the 2015 Dauphin Island Race.

10. U.S. Sailing Association describes a race officer as a person in charge of racing on the water. The duties include ensuring the safety of competitors and members of the race committee, choosing courses to give competitors the best possible races, starting the fleet, adjusting the course in response to changing conditions, finishing the fleet, and scoring the event. Certification programs to become a race officer are available through the U.S. Sailing Association, though persons are not required to be certified to serve as the race officer.

11. At the time of the Regatta, Fairhope Yacht Club had no members certified as a race officer through the U.S. Sailing Association.

12. On 23 April 2015, Ms. [REDACTED] contacted all skippers (persons in charge) of 16-foot Hobie catamarans to notify them that they were not required to carry VHF radios if they provided a means of contact (cell phone) to the race committee.

13. Fairhope Yacht Club's Sailing Instructions, Rule 13.3, for the 2015 Dauphin Island Race required all boats to carry VHF radios, regardless of size or class rules, for safety purposes. Carriage of VHF radios was a requirement of the sailing rules. They are not required to be carried by these particular vessels under federal law.

14. On 24 April 2015, Fairhope Yacht Club held a Skipper's Meeting at their headquarters in Fairhope, AL to address the following issues: (1) instructions for start and finish, (2) designation of VHF channel 68 for all communications on race day, (3) rules for crossing the Mobile Ship Channel, and (4) forecasted weather. The meeting was not mandatory and not attended by all vessel representatives.

15. Mr. [REDACTED] a private volunteer and local weather expert, gave a weather brief during the Skippers Meeting that provided a general synopsis of the next day's outlook. He stated the morning forecast called for light winds, sunny skies and one to two foot seas. The afternoon forecast called for a second round of thunderstorms between 1100-1300.

16. On 25 April 2015 at 0715, the National Weather Service (NWS) Storm Prediction Center (SPC) issued Severe Thunderstorm Watch¹ #109 for coastal Texas and southwestern Louisiana. The primary threats were very large hail events up to 2 inches in diameter possible with isolated damaging winds gusts up to 70 miles per hour (mph) possible.

¹ The NWS issues a severe thunderstorm watch when conditions are favorable for the development of severe thunderstorms in and close to the watch area

17. At 0727, NWS Mobile issued a Hazardous Weather Outlook² for portions of southeast Mississippi, southwest Alabama and northwest Florida. The outlook stated that two lines of showers and thunderstorms would move east of those areas that morning. A few of those thunderstorms could be strong to severe with damaging winds and hail as the primary threat. A tornado could not be ruled out. Another round of strong to severe thunderstorms was expected in the afternoon.

18. At approximately 0730, Mr. [REDACTED] webmaster for the Fairhope Yacht Club, posted the cancellation of the Dauphin Island Race on the Club's website after receiving a voicemail the previous night from Mr. [REDACTED]. In the voicemail, Mr. [REDACTED] stated that he wanted Mr. [REDACTED] to post the scratch sheets³ to the website. However, Mr. [REDACTED] interpreted the voicemail as saying the race was scratched and to post it on the website.

19. After conversations with race participants of the Mobile Yacht Club, it was agreed to postpone the start of the race to allow those members to return to the starting line. At approximately 0800, Mr. [REDACTED] received clarification from Mr. [REDACTED] and removed the cancellation of the race from the website. He then posted that the race was to start at 1030 instead of the original starting time of 0930.

20. At approximately 0810, Coast Guard Auxiliary assets arrived to the race area on Mobile Bay, AL. The Auxiliary was assigned to facilitate the crossing of the race boats from Middle Bay Light to buoy "37" in the regulated safety zone.

21. At 0818, NWS Mobile issued a Marine Forecast for Pascagoula, MS to Destin, FL including Mobile Bay, AL. Southwest winds at approximately 3 to 9 mph winds were expected to increase to 12 to 17 mph with a chance of thunderstorms in the morning and afternoon.

22. At 0907, Coast Guard Sector Mobile issued a Safety Broadcast Notice to Mariners (BNM) 284-15 pertaining to the Dauphin Island Race to facilitate race participants crossing the Mobile Ship Channel at Middle Bay Light. The BNM provided the start and end times for the race, designated the regulated area for the race as Mobile Bay from Middle Bay Light to Miles Marker 37 and provided contact information for the Patrol Commander.

23. At 0945, NWS Mobile issued a Hazardous Weather Outlook for portions of southeast Mississippi, southwest Alabama and northwest Florida. Showers and thunderstorms would develop in the afternoon with some of the thunderstorms expected to become strong or briefly severe with damaging winds and large hail.

24. At 1010, National Data Buoy Center (NDBC) Station (West Cameron Block) 110 in Louisiana recorded 83 mph winds.

² The NWS defines Hazardous Weather Outlook as narrative statement frequently issued on a routine basis to provide information regarding the potential of significant weather expected during the next one to five days.

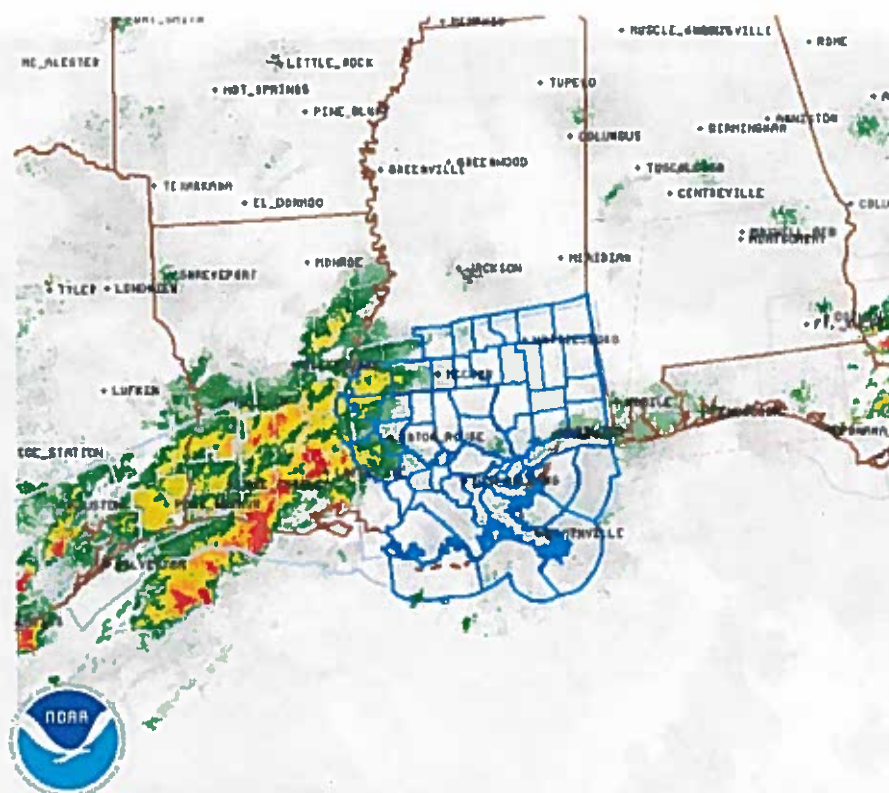
³ A scratch sheet is defined as a racing publication listing competitors removed from the event.



(Taken from www.lakeeriewx.com on July 20, 2015)

25. At approximately 1030, the race started with 117 race boats with approximately 476 people participating. Several boats started the race early and officials delayed the race again by fifteen minutes. Race officials then issued a general recall and all the boats reset at the starting line.

26. At 1040, NWS Storm Prediction Center (SPC) issued Severe Thunderstorm Watch #111 for portions of southeast Louisiana to southern Mississippi. The primary threats were scattered damaging winds and isolated significant winds up to 75 mph. The forecast also stated a possibility of scattered large hail and isolated very large hail up to 2 inches in diameter.



Severe Thunderstorm Watch # 111 • Valid from 1040 AM until 600 PM CDT

NOAA/NWS/Storm Prediction Center

Updated: 20150425/1545 UTC

(Taken from www.lakeeriewx.com on July 20, 2015)

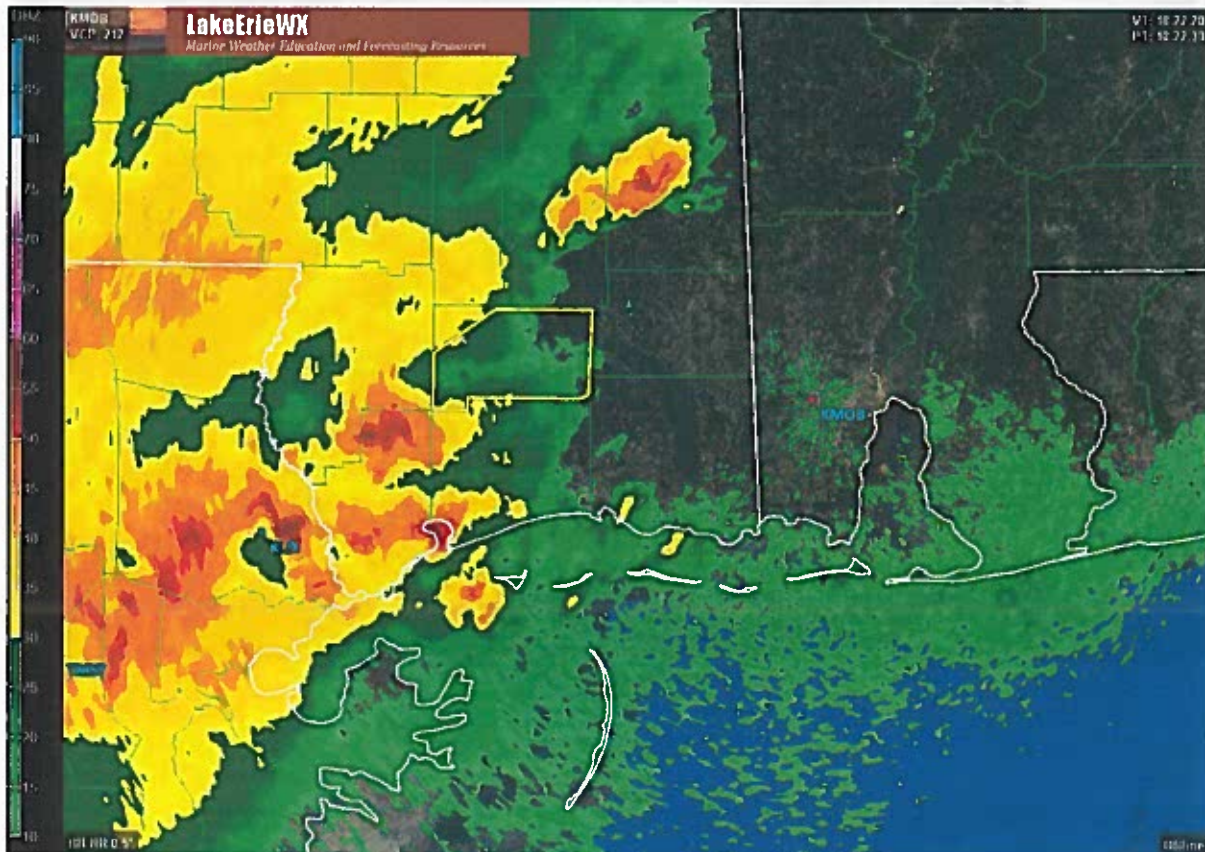
27. At 1045, NWS Mobile issued a Hazardous Weather Outlook for Mobile Bay, AL. The outlook stated that thunderstorms would move in from the west in the afternoon and across the area with some thunderstorms expected to become strong or severe with gusty winds and large hail as the primary threat.

28. At approximately 1045, Division 1 race boats started the race.

29. At approximately 1100, Division 2 and 3 race boats started the race.

30. At approximately 1300, unable to travel south of Gilliard Island and with increasingly poor weather conditions, Coast Guard Auxiliary assets received permission from the Patrol Commander at Coast Guard Station Dauphin Island to depart Mobile Bay,

31. At 1322, NWS Mobile issued Severe Thunderstorm Warning⁴ #27 for Stone County, MS. At 1320, a severe thunderstorm capable of producing quarter size hail and damaging winds over 60 mph was located 11 miles east of Picayune, MS and moving northeast at 45 mph. This was a dangerous storm and preparations for destructive hail were necessary.



(Taken from www.lakeeriewx.com on July 20, 2015)

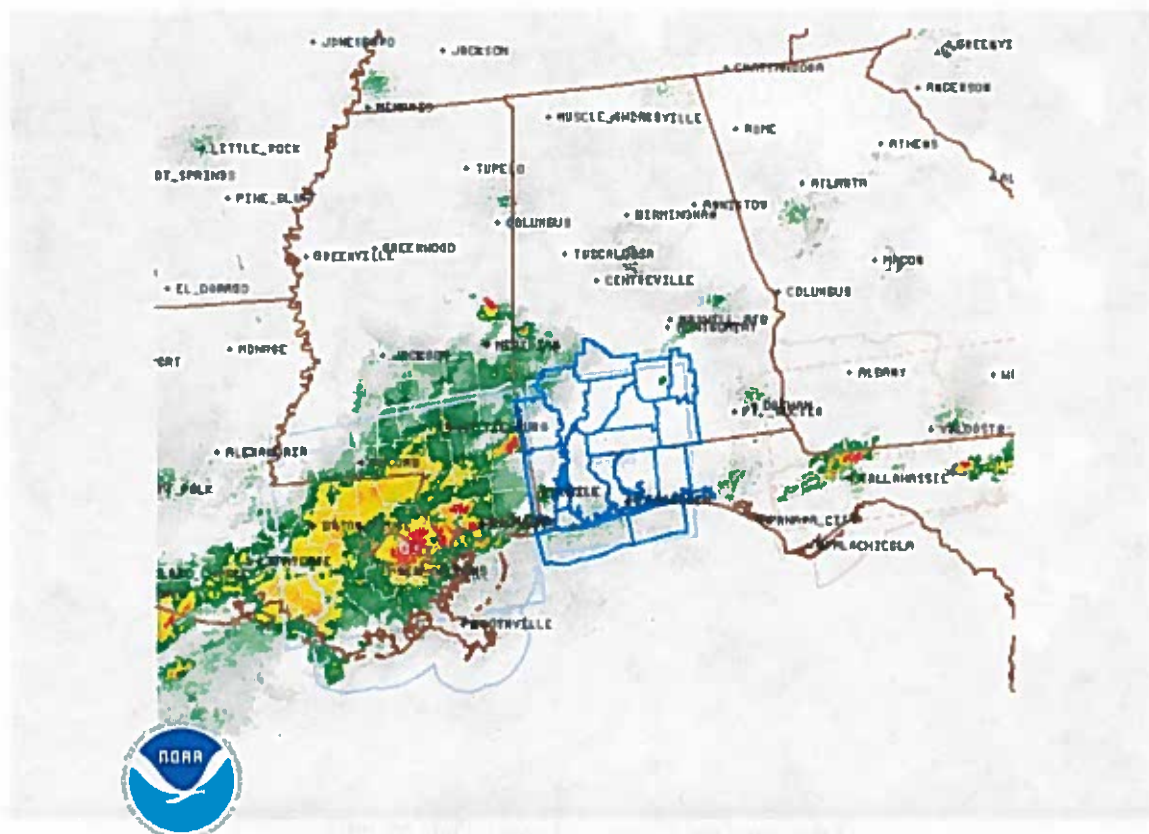
32. At 1328, NWS Mobile issued Severe Thunderstorm Warning #28 for southeastern Mississippi and southwestern Alabama. At 1327, a severe thunderstorm capable of producing quarter size hail and damaging winds over 60 mph was located 8 miles northeast of Leakesville, MS and moving east at 35 mph.

⁴ The NWS issues a severe thunderstorm warning when either a severe thunderstorm is indicated by radar or a spotter reports a thunderstorm producing hail one inch or larger in diameter and/or winds equal or exceeding 58 mph.



(Taken from www.lakeeriewx.com on July 20, 2015)

33. At 1335, NWS SPC issued Severe Thunderstorm Watch #113 for portions of southwest Alabama and the western Florida panhandle until 2100. The primary hazards of the storm were large hail and damaging winds.



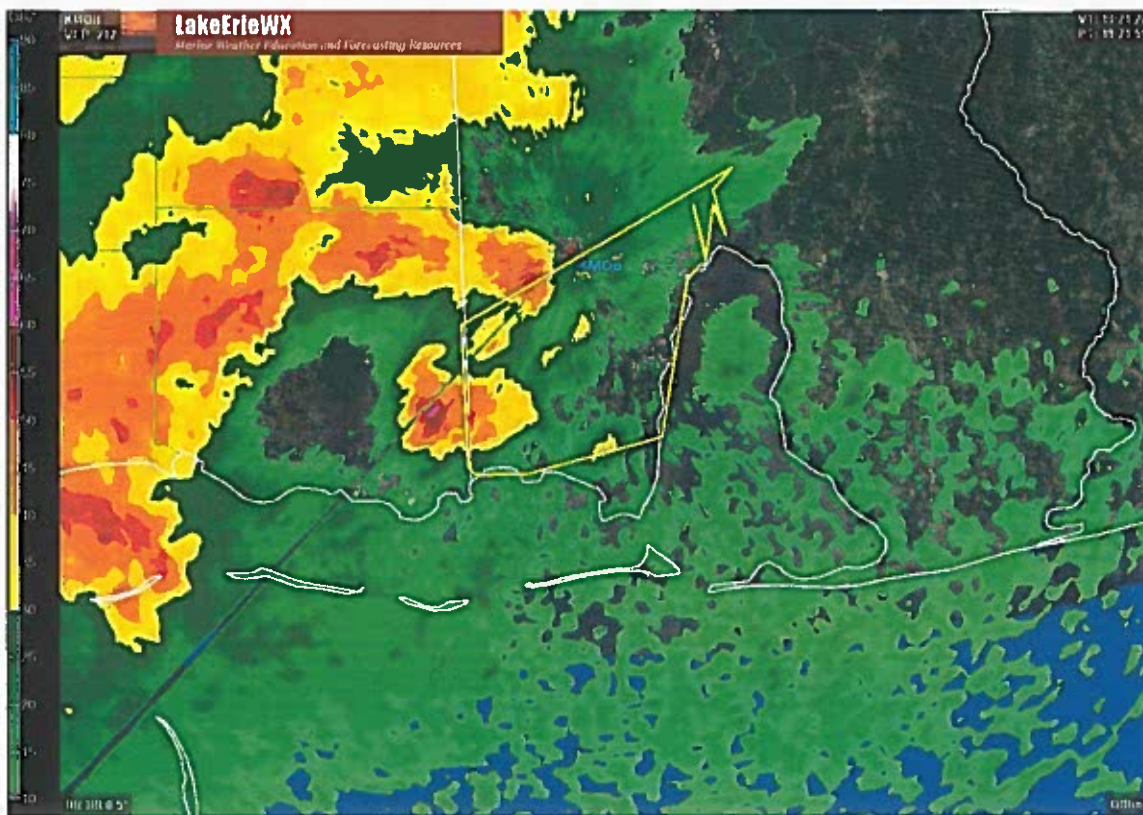
Severe Thunderstorm Watch # 113 - Valid from 135 PM until 900 PM CDT

NOAA/NWS Storm Prediction Center

Updated 20150425/1840 UTC

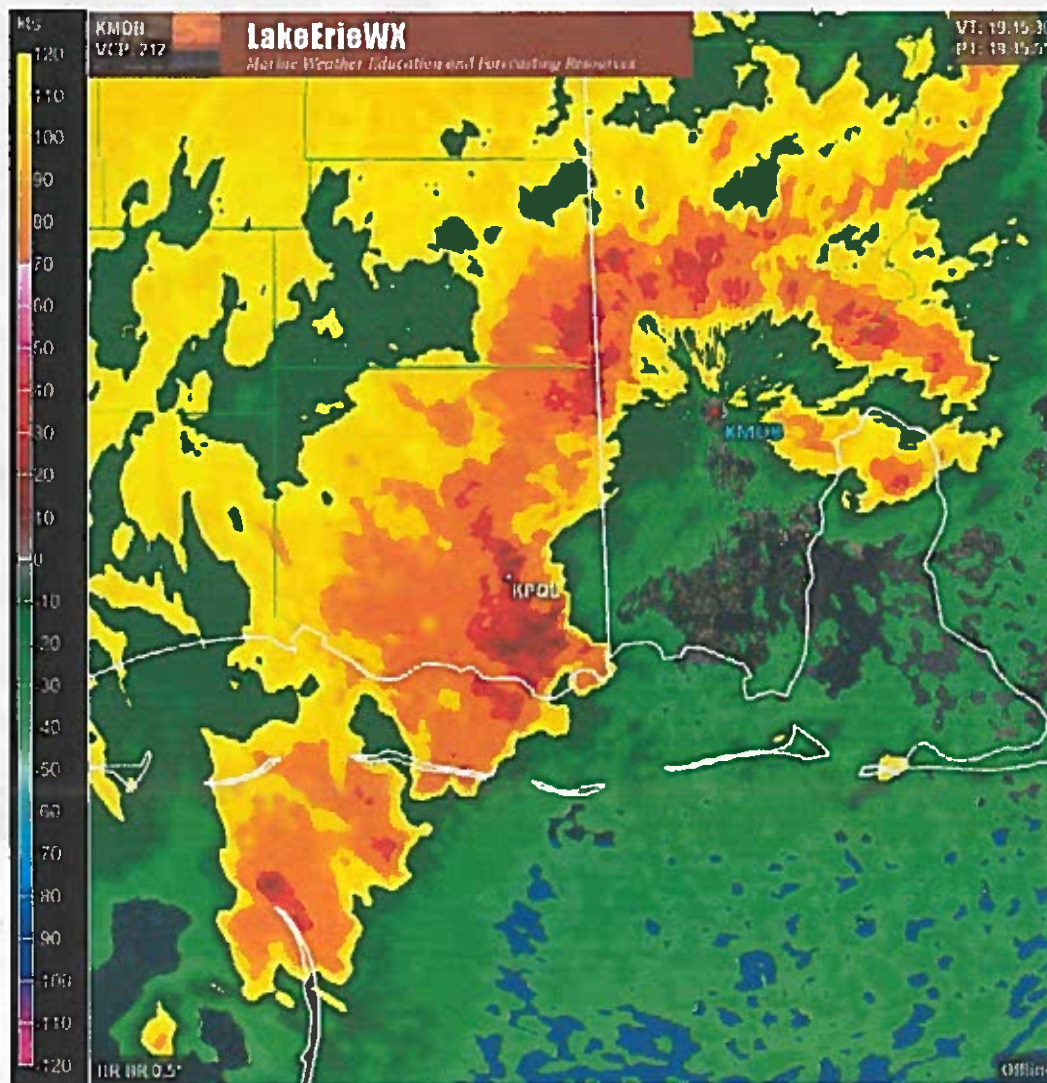
(Taken from www.lakeeriewx.com on July 20, 2015)

34. At 1338, U.S. Coast Guard at Station Dauphin Island attempted to call Mr. [REDACTED]
35. At 1342, NWS Mobile issued a Marine Forecast for coastal waters from Pascagoula, MS to Destin, FL. Showers and thunderstorms were likely with southwest winds of 12 to 17 mph.
36. At approximately 1350, the first race boats finished near Dauphin Island, AL.
37. At 1353, Mr. [REDACTED] received a call from the U.S. Coast Guard at Station Dauphin Island that conveyed weather concerns of thunderstorms heading east from Pascagoula, MS approaching Mobile Bay area with wind gusts up to 58 mph.
38. At 1421, NWS Mobile issued Severe Weather Thunderstorm Warning #29 for southwestern Mobile County, AL until 1445. A severe thunderstorm was located near Grand Bay, AL and moving east at 70 mph capable of producing quarter size hail and damaging winds over 60 mph.



(Taken from www.lakeeriewx.com on July 20, 2015)

39. At 1446, NDBC Station KPQL in Pascagoula, MS recorded 53 mph winds.



(Taken from www.lakeeriewx.com on July 20, 2015)

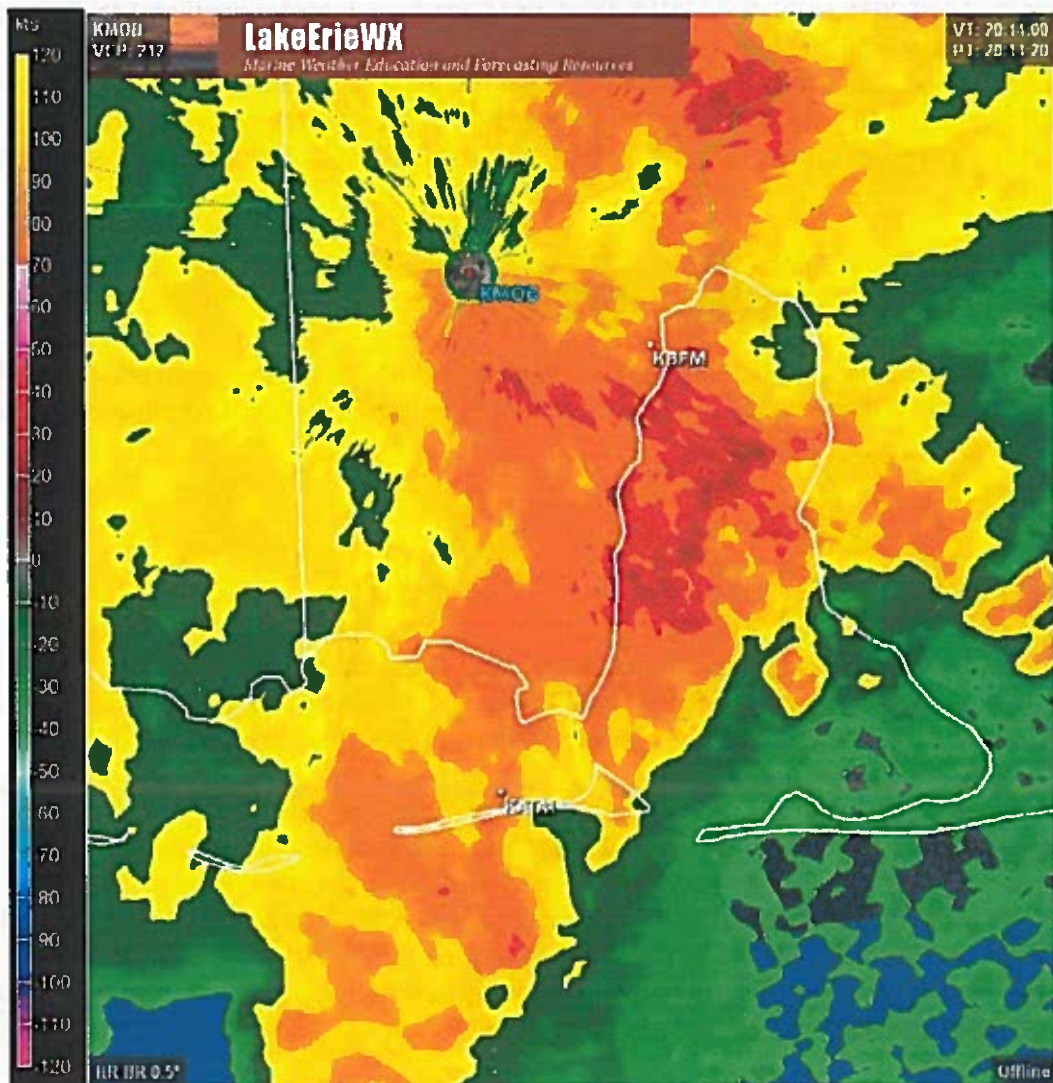
40. At 1509, NWS Mobile issued Marine Warning #34 for coastal waters from Pascagoula, MS to Pensacola, FL. At 1508 a line of thunderstorms producing winds of 39 mph or greater was located along a line extending from 15 nautical miles north of Battleship Park in Spanish Fort, AL to near central Dauphin Island, AL that was moving east at 58 mph. Areas included were Fairhope, AL Pier and Middle Bay Light on Mobile Bay, AL.



(Taken from www.lakeeriewx.com on July 20, 2015)

41. At 1510, NWS Mobile used a Marine Forecast for coastal waters from Pascagoula, MS to Destin, FL. Severe Thunderstorm Watch #113 was still in effect until 2100 with winds expected to range from 12 to 21 mph on Mobile Bay, AL.

42. At 1514, NDBC Station KATA1 (Katrina Cut) located on Mobile Bay, AL recorded 63 mph winds.



(Taken from www.lakeeriewx.com on July 20, 2015)

43. At 1515, NDBC Station MBLA 1 (Middle Bay Light) located on Mobile Bay, AL recorded 73 mph winds.

44. At approximately 1527, Coast Guard Sector Mobile Command Center received maydays for multiple boats in distress participating in the Dauphin Island Race on Mobile Bay, AL.

45. From approximately 1530 to 1630, the Coast Guard launched search and rescue assets to conduct 32 search and rescue cases. Eight boats sank during the severe thunderstorms. Four of the eight boats were eventually recovered.

46. From 26 April 2015 to 30 April 2015, the Coast Guard conducted more than 145 searches that lasted five days and encompassed more than 7,477 square miles. Coast Guard, State of Alabama and good Samaritans rescued 40 persons from the water. Mr. Beall was recovered on 25 April 2015, Mr. Delaney was recovered on 26 April 2015, Mr. Massey was recovered on 28 April 2015, Mr. Thomas was recovered on 30 April 2015, and Mr. Clark was recovered on 30 April 2015.

47. On 30 April 2015 at approximately 2132, The U.S. Coast Guard Eighth District Commander suspended the search for Mr. [REDACTED] Mr. [REDACTED] is missing and presumed dead.

48. Mr. Beall, Mr. Delaney, Mr. Massey, Mr. Thomas, and Mr. Clark were examined by Dr. [REDACTED], from the Alabama Department of Forensics Sciences. The cause of death(s) is listed as drowning.

Analysis:

1. Lack of Hazardous Weather Recognition:

Investigators heard numerous times during interviews, "the weather came out of nowhere," but throughout the day of 25 April 2015, the NWS tracked a line of severe thunderstorms moving across Louisiana, headed for southern Alabama with recorded winds in excess of 75 mph.

Most participants had some means to monitor weather, either via VHF radio, radar, or smartphone, but also admitted to investigators they were so focused on competing in and enjoying the race that they lost touch with their responsibility to monitor weather. Multiple race participants stated they kept their handheld VHF's in a waterproof container in the cabin, had the device turned off, or were at most periodically monitoring their smartphones. Under these conditions, no one could hear or would have heard urgent weather broadcasts or communications from the race committee.

Once the storm line was visible, the race participants underestimated the force of the winds associated with the approaching severe thunderstorms and ended up being caught with their sails up. During interviews, many participants stated that if they had 10 or more minutes to drop their sails and don lifejackets, they would have been better prepared to weather the storm.

This investigation revealed that by the start of the race, the organizational authority for the race was not adequately informed of the impending weather heading towards Mobile Bay.

Organizational authorities were unaware and did not use local resources for continuous weather monitoring; emergency management divisions in nearby counties provide detailed weather data and reports for large scale events free of charge to organizational authorities upon request.

2. *Sailing Culture:*

Nothing in Maritime Law relieves the Master/Operator/Person in Charge of a vessel of their duty to safely navigate the vessel. During interviews, it was noted amongst investigators that there was a noticeable level of over confidence. Investigators heard many times, "we're sailors; we sail in all kinds of weather". While this may be true, investigators believe that in those circumstances the crew is aware of and prepared for the approaching event. The Dauphin Island Regatta is known as a fun race. It has a party, good time atmosphere and has been held successfully for many years with no negative outcomes. This event started with optimal sailing conditions for the race. The high level of comfort with this race lulled many of the participants into a false sense of safety and inattention to their duties. US Sailing Safety Equipment Requirements, section 1.2, states:

"The safety of a boat and her crew is the sole and inescapable responsibility of the 'person in charge', as per RRS 46, who shall ensure that the boat is seaworthy and manned by an experienced crew with sufficient ability and experience to face bad weather. S/he shall be satisfied as to the soundness of hull, spars, rigging, sails and all gear. S/he shall ensure that all safety equipment is at all times properly maintained and safely stowed and that the crew knows where it is kept and how it is to be used."

There exists a cultural view within the sailing community that after the start of an event, the race committee and participants do not communicate with one another unless absolutely necessary. The belief is that if one participant failed to hear an official communication and another did, then one participant may receive an unfair advantage over the other, possibly leading to protests, recalls, restarts, or race cancellations. Many believe that race communications are to be avoided if at all possible. In talking with members from US Sailing, this was discussed and all agree that this view is shared in their community but should change. There should be no hesitation to pass information, particularly if the communication is safety related.

At 1353, the CG Station Dauphin Island Patrol Commander telephoned Mr. [REDACTED] and notified him of severe weather with 58 mph winds located in Pascagoula, MS and that the storm front was headed toward Mobile Bay. Mr. [REDACTED] and Ms. [REDACTED], both on the race committee boat, discussed the phone call. They took into consideration the weather information they had at hand, holding to the committee/racer communication opinion that the storm was going to move into northern Mobile Bay, not affecting the race participants. They decided not to pass the information over the designated race channel. The passing of a "weather alert" to the racers, those who were actively monitoring the designated race channel, may have given participants an hour or more of advance notice to prepare for the incoming weather.

3. *Race Delay:*

Due to a miscommunication between Fairhope Yacht Club race committee members and a general recall at the starting line, the start of the race was delayed by one hour and 15 minutes.

The original start time was scheduled for 0930, but the Division 1 race boats did not start until 1045. The majority of race participants were estimated to complete the race before 1300 and would be safely moored shortly thereafter. The delay caused the first race participants to complete the race at approximately 1350. The bulk of the race participants were still actively sailing when the severe thunderstorms approached Mobile Bay at approximately 1530. If the race had started on time, the number of race participants on the water when the storms hit would have been considerably less.

4. *Participant Accountability*

Current U.S. Sailing procedures do not require the Master of race boats to submit an updated crew list to the organizing authority before the start of the race. Initially, a total of 120 boats submitted entry forms to participate in the race, but it was later discovered only 117 had started the race. Once the weather descended on the area and the Coast Guard began fielding mayday calls, there was confusion as to the number of boats and participants. Because of last minute crew changes and the three boats dropping from the race, the organizing authority could not provide the Coast Guard with an accurate accounting of boats and their crews. Additionally, many of the race participants were unable to reach their handheld VHF radios or simply did not have one onboard. Without updated boat/crew lists, the Coast Guard had difficulty in allocating the search and rescue resources needed for the actual amount of persons in distress. Accurate data is essential for Coast Guard Command Centers to assign assets to assist the persons in distress.

5. *Marine Permit/Patrol Commander Authorities:*

The authorities and responsibilities of the Coast Guard Patrol Commander can be found in both U.S. regulations and Coast Guard policy. Title 33 Code of Federal Regulations §100.801 states "the Patrol Commander may terminate the event or the operation of any vessel at any time if it is deemed necessary for the protection of life or property".

COMDTINST Manual M16751.3, Permitting of Regattas & Marine Parades, Chapter 7, Subpart G, Grounds for Coast Guard Cancellation/Postponement of Event, states:

"It may be necessary to postpone or cancel the marine event if state or local water patrol officers fail to report for duty, or, if in the judgment of PATCOM, their departure before completion of the event will jeopardize safe conduct and control of the remainder of the marine event. The event sponsor is responsible for having sufficient resources in place to provide for the safety of the event participants. If the aggregate resources are insufficient to provide for the overall safety of the event, to the participants, spectators, and the public, the PATCOM should postpone further activities immediately. The sponsor must either immediately correct the problem or halt the marine event until the concerns are addressed. After conferring with the sponsor, race officials, state and/or local water patrols, and the COTP, PATCOM may allow the marine event to continue if all concerns have been adequately addressed. Examples of loss of control or deficient sponsor performance are:

- a. Widespread drunkenness among the participants (including spectators), resulting in unruly and potentially unsafe conduct;
- b. Inclement weather that is not addressed, or is ignored, by the sponsor;
- c. Intrusion or interference by commercial or recreational vessels;
- d. Unauthorized swimming or other water activity in the regulated area;
- e. Violations of permit conditions;
- f. Creation of unusual hazards to navigation by accumulations of spectator craft outside the regulated area; blatantly reckless or grossly negligent operation of a participant craft that creates an unusual risk to other participants or spectators; or,
- g. Blatant disorganization and inability by the sponsor to coordinate the marine event as explained in their application and Coast Guard-approved permit."

Post-incident interviews with station members revealed that they were unaware of their authority to terminate an event due to weather, an authority they may have given consideration to had they known. However, per the text in the Coast Guard Permit for Marine Event, CG-4424 (Rev. 6-04), primary responsibility for the regatta safety is the permit applicant, and the Coast Guard issuance of the permit does not absolve the applicant of that responsibility.

COMDTINST Manual M16751.3, Permitting of Regattas & Marine Parades, Chapter 7 and Enclosure (8) provides recommended guidance and a sample designation letter for Patrol Commanders outlining instructions, responsibilities, and authorities. Instructions for the Patrol Commander were not provided beyond the information contained on the CG-4424 (Permit for Marine Event). Providing instructions similar to COMDTINST Manual M16751.3 Enclosure (8) may have clarified the termination authorities for the Patrol Commander.

6. Access to Personal Flotation Device (PFD):

Not wearing or inability to access PFD's was a contributing factor in this event. Investigators heard several stories relating that once the winds hit, there was no time to put PFDs on, or to go below and find lifejackets. The storms came in at such a high rate of speed and were so violent, most crews reacted quickly to protect their vessels and persons on board by reefing sails and taking any measures to keep their vessels afloat. Many participants weathered the storm and did so without a PFD and survived. No recovered deceased participants were wearing PFDs.

Up until the last minute before the race start, boat owners and operators were accepting, even asking people to ride or help crew on their boats. During interviews, many race participants stated that it was a boat they had never been on, it was the first time on a friend's boat, and it was just supposed to be a fun couple of hours. Some stated they were unfamiliar with the layout of the vessel or where safety equipment might be stowed.

Safety meetings of the crewmembers held prior to sailing would have provided necessary information on PFD locations, proper use, and information regarding other emergency equipment onboard that specific vessel.

The 2014 Life Jacket Wear Rate Observation Study shows that the average of adults wearing PFDs aboard all sailing craft in 2014 was 26.5% which has grown from 13.6% in 1999. Much better is the youth (17 years and younger) percentage. 72.1% of youth wore PFDs in 2014 up from 58.3% in 1999. Onboard cabin sailboats the rates fall, 18.3% and 61.0% respectfully. Of the deceased, five were adults and one youth. Of all boating fatality accidents nationwide, 70% result from drowning, and almost 85% of those who drown were not wearing a PFD.

The benefits of being a person in the water wearing a PFD cannot be overstated. Wearing PFDs saves lives. The January 15, 2010 Life Jacket Policy Study by the Army Corps of Engineers showed that many people who drown never expected to end up in the water. Adults can drown in less than a minute and children in less than twenty seconds. Safe boating is not just the responsibility of the Master/Operator/Person in Charge of the vessel, but everyone on board.

Conclusions:

1. In accordance with the Marine Safety Manual, Volume V, the initiating event (first unwanted outcome) for this casualty was the failure of the race participants to monitor, prepare for, and/or seek safe refuge from the severe thunderstorms approaching from the west.

2. The causal factors that led to this casualty are as follows:

a. **Environment:** There were three environmental causal factors.

(1) Winds in excess of 73 miles per hour. Those vessels caught with sails up were faced with the monumental task of trying to recover their sail(s) while in danger of capsizing.

(2) Swells of eight to ten feet continually battered the race boats. The resulting down flooding and capsizing of vessels forced race participants to abandon ship.

(3) Driving rain severely reduced visibility and hampered each Masters' ability to safely navigate their vessels.

b. **Personnel:** There were two primary causal factors that involve human error.

(1) Failure of race participants to use all available means to monitor weather and urgent marine weather broadcasts.

- (2) The Race Committee failed to immediately notify participants and/or cancel the race once presented with information regarding severe thunderstorms located in Pascagoula, MS headed for Mobile Bay, AL.

c. Equipment: There was one primary causal factor that involved equipment.

Race participants failed to wear or were unable to access PFDs required to be onboard in accordance with Coast Guard and State of Alabama Marine regulations.

3. Though not a causal factor in this casualty, it was revealed during the course of the investigation that the Coast Guard omitted the COMDTINST Manual M16751.3 Enclosure (8), optional guidance to Patrol Commanders (authorities and responsibilities), from the Marine Permit. This created a parallax in which the Station Dauphin Island Patrol Commander voiced their concern for the weather to the Race Officials but was unaware of their authority to cancel the event. Of note, the ultimate responsibility for the safety of the event and its' participants rests solely with the event sponsor.

4. There is no evidence that any act of misconduct, incompetence, negligence, lack of professionalism, and/or willful violation of law committed by any officer, employee, or member of the Coast Guard contributed to this casualty.

Safety Recommendations:

1. It is recommended that the U.S. Sailing Association amend sailing rules to require crewmembers to wear PFDs at all times when participating in sanctioned events. As indicated in previous studies relating to wearing PFDs, they save lives.
2. It is recommended that the U.S. Sailing Association amend sailing rules to state that boat skipper(s) shall have a handheld VHF radio (on a lanyard) in the cockpit at all times during sanctioned events. This investigation revealed that a significant number of race boats that participated in the Dauphin Island Race stored the required VHF in the boat cabin which limited the ability of crewmembers to hear any urgent severe weather marine broadcasts.
3. It is recommended that the U.S. Sailing Association amend sailing rules to require every boat to check-in with all crewmembers on deck, properly wearing PFDs and displaying an operational handheld VHF radio prior to the start of a sanctioned event. This investigation revealed that due to the last minute change in crews, several race participants did not have PFDs onboard their assigned boats. Additionally, of those boats with last minute crew changes or first timers, many did not know where PFDs were stored, did not understand how to don the PFD, and/or were the wrong size. This change would ensure crews know the location of their PFD, how to don them, and that they are of the proper size before the beginning of the race.

4. It is recommended that U.S. Sailing Association amend sailing rules to require every boat to submit a finalized crew list to the organizing authority 30 minutes prior to the start of the race. This investigation revealed that the lack of updated crew lists significantly contributed to the Coast Guard's inability to determine who was onboard which vessel, exactly how many people participated in the race, and how many were potentially in the water. This information is essential in determining resources and assigning assets needed for search and rescue efforts.

5. It is recommended that Commandant amend the CG-4424 (Permit For Marine Event). On the form under "There will be a Regatta Patrol assigned by the Coast Guard" the form states "The attached instruction for Patrol Commanders outlines their responsibility and authority." It was unclear to investigators and Sector Mobile Waterways Management personnel which instructions were being referenced. Investigators assumed this referred to Enclosure (8) of COMDTINST M16751.3, Permitting of Regattas & Marine Parades, Patrol Commander Designation Letter, but there is lack of specific guidance on the form. Amending the form to mandate instructions to the Patrol Commander via designation letter provides clarification to Coast Guard Waterways Management personnel as to the information that needs to be provided to the PATCOM and event organizers along with the CG-4424. Investigators discovered that the latest revision to the CG-4424 was completed in June 2004 and latest revision to the COMDTINST M16751.3 was completed March 2013.

6. It is recommended that Commandant amend COMDTINST M16751.3, Permitting of Regattas & Marine Parades Chapter 7.B Designation of Patrol Commanders (PATCOM) to mandate the use of Enclosure 8 (Sample Patrol Commander Designation Letter) instead of allowing units to choose another mechanism to designate a PATCOM. The designation letter in Enclosure 8 clearly establishes the role and authorities of the PATCOM which include to "Contact the Event Sponsor/Chairperson no less than two weeks prior to the event and arrange for such meetings and/or conferences as you consider necessary". Mandating the use of Enclosure 8 provides consistency to how PATCOMs are provided their roles and responsibilities and standardizes the Marine Event Process for all units across the Coast Guard.

Administrative Recommendations:

1. It is recommended that the Commandant of the Coast Guard provide a copy of this report to the following entities:

- a. Estates of the deceased;
- b. Parties in interest;
- c. U.S. Sailing Association;
- d. Gulf Yacht Association;

e. Fairhope Yacht Club

2. The men and women from Station Dauphin Island, ATC Mobile, AIRSTA Nola, Sector Mobile, and the Eighth Coast Guard District should be commended for their efforts during the Dauphin Island Sailing Race Search and Rescue efforts from 25 April – 30 April, 2015. Their actions went above and beyond the call of duty.

3. Sector Mobile Response Department should determine the Good Samaritans who assisted during the Dauphin Island Sailing Race Search and Rescue efforts from 25 April – 30 April, 2015 for recognition as warranted. Their actions went above and beyond the call of duty.

4. It is recommended this investigation be closed.

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