

Extension of the Gulf of Mexico Recreational Red Snapper Fishing Season
Southeast Regional Office
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Abstract

The 2012 recreational red snapper quota was projected to be met in 40 days on July 10. Landings and effort data are not available in-season to estimate if the quota will be met on July 10. Due to severe weather in the central and northeastern Gulf of Mexico during the first 26 days of the 2012 recreational red snapper fishing season, it is likely that fishing effort and landings are lower than projected, necessitating extension of the fishing season. Anglers and for-hire captains lost numerous days of fishing due to high winds and waves generated by Tropical Storm Debby in late June. Poor weather conditions also persisted prior to that time in the central and northeastern Gulf. Wave heights and wind speeds have been greater in June 2012 than June 2011 for all areas of the Gulf, except Texas. This analysis evaluated how long the season could possibly be extended. Weather data from four buoys stationed throughout the Gulf of Mexico were used as proxies for determining days when fishing did not occur or when effort was reduced. It is estimated that the season could be extended by as much as 4-8 days, depending on assumptions about trip cancellations due to weather conditions (e.g., > 15 knot winds or > 4 foot seas). Given the uncertainty in these estimates, as well as past season length projections which have resulted in annual overages of the recreational red snapper quota, it is recommended that the season length be extended no more than 6 days.

Background

NOAA Fisheries Service projected the 2012 Gulf of Mexico recreational red snapper quota would be met in 40 days (SERO 2012). The recreational season opened June 1, 2012, and will close at 12:01 a.m. on July 11, 2012. The length of the recreational red snapper fishing season was determined prior to the fishing season using historical trends in landings, fishing effort, and the average weight of fish caught to predict when the quota will be met (see SERO 2012). Due to the short length of the recreational fishing season, it is not possible to monitor landings in-season to determine when the quota will be met.

During the 2012 recreational fishing season, severe weather conditions have reduced fishing effort especially in the eastern Gulf of Mexico. Buoy data indicates wave heights and wind speeds have been much higher during the 2012 fishing season than during the 2011 fishing season. Vessel monitoring system data for dually permitted for-hire and commercial reef fish vessels indicates no trips were made in the central and northeastern Gulf of Mexico on June 24 or 25 due to Tropical Storm Debby. Emails and phone calls from charter captains indicate 4-10 days of fishing trips have been cancelled due to severe weather off Mississippi through the Florida Panhandle during the first 26 days of the recreational red snapper season. Emails and phone calls from private anglers have also indicated that many days of fishing have been lost due to rough seas and high winds preventing smaller vessels from making fishing trips. The purpose of this report is to evaluate how long the recreational red snapper season could be extended beyond June 10, 2012, given the poor weather conditions experienced in the central and eastern Gulf of Mexico since June 1.

Methods

Landings and fishing effort data are not currently available for the 2012 fishing season. To evaluate the number of days that could not be fished and the number of days when fishing activity was greatly reduced, wave height and wind speed data were obtained from buoys monitored by the National Data Buoy Center (www.ndbc.noaa.gov). Wave height and wind speed data from four buoys located in the eastern, central, and western Gulf of Mexico were summarized for the first 26 days of the 2011 and 2012 red snapper recreational fishing seasons (Table 1, Figures 1-4). The number of days with wind speeds greater than 15 or 20 knots was then calculated for each year, as well as the number of days with wave heights greater than 3, 4, or 5 feet. Average daily wave heights and wind speeds were based on hourly buoy data that was averaged for time periods between 7 a.m. and 7 p.m., which represent peak fishing hours.

Data were compared for the 2011 and 2012 fishing seasons and differences between the number of days with wave heights greater than 3, 4, or 5 feet, or wind speeds greater than 15 or 20 knots were determined by state/region. Wind speeds greater than 15 knots or seas greater than 4 feet result in the cancellation of many for-hire fishing trips and most private/rental fishing trips. Wind speeds of 20+ knots or seas of 5 feet or greater result in the cancellation of nearly all recreational fishing trips. Small craft advisories are issued by the National Weather Service when wind speeds reach 20-33 knots.

To determine how long the 2012 recreational red snapper fishing season could possibly be extended, three scenarios were considered. The first scenario used a weighted average of the difference in days during June 1-26, 2012 versus days during June 1-26, 2011 having wind speeds greater than 15 knots. Differences were estimated based on each state/region. The second scenario was similar to the first, except average wave heights greater than 4 feet were used instead of wind speeds greater than 15 knots. The third scenario was similar to the second but assumed private angler trips would be cancelled if seas were greater than 3 feet and charter trips would be cancelled if seas were greater than 4 feet. Differences in the number of days with wind speeds greater than 15 knots or seas greater than 3 or 4 feet were weighted using 2009 and 2011 average landings by state/region, or state/region and mode (Table 2). Landings for 2010 were excluded due to area closures from the Deepwater Horizon oil spill which affected the geographic distribution of recreational red snapper landings. State landings by mode were obtained from the Southeast Fisheries Science Center's annual catch limit database. Headboat landings are reported in aggregate for the Florida Panhandle and Alabama and were separated into state landing estimates by using the distance from shore variable in the catch-effort logbook records reported by headboat captains.

Results

Table 3 and Figures 5-10 summarize data obtained from four weather buoys in the Gulf of Mexico. The number of days with wind speeds exceeding 15 knots was greater in 2012 versus 2011 for all areas except Texas (Table 3). During the first 26 days of the 2011 red snapper fishing season, no days were reported off Florida or Alabama with wind speeds of 15 knots or greater. In comparison, 7 days off Florida and 4 days off Alabama recorded wind speeds of 15 knots or greater during the first 26 days of the red snapper season. Louisiana also reported 9 days of wind speeds exceeding 15 knots during 2012, compared to only four in 2011. Texas was the only region where the number of days with wind speeds exceeding 15 knots was less in 2012 than in 2011.

Similar results were observed when comparing wave heights. During 2012, buoys off Florida and Alabama reported wave heights of 4 feet or greater during 10 and 7 days respectively, compared to no days reported in 2011 with wave heights of 4 feet or greater. The number of days with wave heights exceeding 4 feet was comparable from 2011 to 2012 off Louisiana and less off Texas (Table 3). Off Florida and Alabama, only 3 of the first 26 days of the 2012 season saw wave heights less than wave heights observed on the same dates during the 2011 fishing season (Figures 5b, 6b). Wind speeds and wave heights off Louisiana for 2012 were comparable to 2011, with the exception of a large wind event on June 10th (Figures 7a, 7b). For Texas, wind speeds and wave heights appear to be lower this fishing season than in 2011 (Figures 8a, 8b).

Figures 9 and 10 show the proportion of days during the first 26 days of the 2011 and 2012 fishing seasons with wind speeds greater than 15 knots and wave heights greater than 4 feet. Twenty five percent of red snapper fishing days off Florida, 15% of days off Alabama, 35% of days off Louisiana, and 8% of days off Texas recorded wind speeds of 15 knots or higher during 2012 (Figure 9). Wave heights of 4 feet or greater were reported on 38% of the days off Florida, 27% of the days off Alabama, 8% of the days off Louisiana, and 12% of the days off Texas (Figure 10). Only Texas had a higher proportion of days with 15 knot winds or 4 foot seas during 2011 versus 2012.

Table 4 summarizes calculations of how long the season could possibly be extended. Estimates for extending the season length ranged from 4 to 8 days. The shortest extension to the season was projected using Scenario 1 (wind speeds of 15 knots or greater), while the longest extension to the season was projected using Scenario 3 (wave heights of 3 feet or greater for private vessels and 4 feet or higher for for-hire vessels). Scenario 2 (wave heights of 4 feet or greater for all modes) indicated the season could be extended 6 days.

Discussion

Estimates for extending the red snapper recreational fishing season are difficult to estimate because landings and effort data are not available in season. This report relied on weather conditions to approximate days when fishing did not occur or occurred at much reduced effort levels. Estimates presented here agree well with anecdotal information from charter captains and recreational anglers, which have indicated up to 10 days of fishing has been lost to severe weather in the central and northeastern Gulf. Vessel monitoring system data clearly indicates no fishing occurred for several days as Tropical Storm Debby passed through the Gulf in late June, although fishing may have occurred on other days prior to Tropical Storm Debby when fishing conditions were poor (> 15 knots, > 4 ft seas).

Fishermen and managers should keep in mind that red snapper is managed as a Gulf wide stock and fishing was still occurring in the western Gulf of Mexico during days when weather was poor in the central and northeastern Gulf. Calculations presented here account for harvest occurring throughout the Gulf by weighting days that may not have been fished by average state/region landings. Overall, results indicate the season could be extended by as much as 4-8 days, although it should be noted that these estimates assume no fishing occurred on days when weather was defined as poor (> 15 knots or > 3 or 4 foot seas). Because some fishing effort did occur on poor weather days not affected by Tropical Storm Debby, the season would likely need to be extended less than estimated here. Given the uncertainty in these estimates, as well as past season length projections which have resulted in overages of the recreational red snapper quota, it is recommended that the season length be extended no more than 6 days.

NOAA Fisheries Service will receive preliminary Marine Recreational Information Program and Southeast Headboat Survey landings for June by mid-August. Landings and quota projections will be reevaluated at that time to determine if the recreational red snapper season can be reopened in the fall taking into account any additional days the June 1-July 10 fishing season is extended.

References

SERO. 2012. 2012 Recreational red snapper quota closure analysis. NOAA Fisheries Service, Southeast Regional Office, St. Petersburg, FL. 17 pp.

Table 1. Description of Gulf of Mexico weather buoys used in this analysis.

Buoy #	Location	Latitude	Longitude
42036	106 nm WNW of Tampa, FL	28°30'0" N	84°31'0" W
42012	Orange Beach, AL	30°3'55" N	87°33'19" W
SPLL1	South Timbalier Block 52, LA	28°52'0" N	90°29'0" W
42035	22 nm E of Galveston, TX	29°13'54" N	94°24'46" W

Table 2. Proportion of Gulf of Mexico recreational red snapper annual landings by state and mode.

Year	Mode	WFL	AL/MS	LA	TX
2009	For-hire	19.7%	8.5%	4.5%	10.7%
	Private	21.3%	20.6%	11.2%	3.5%
2011	For-hire	15.6%	9.2%	1.2%	7.1%
	Private	21.5%	37.0%	4.9%	3.4%
Avg	For-hire	17.7%	8.8%	2.9%	8.9%
	Private	21.4%	28.8%	8.1%	3.5%
Avg	All modes	39.1%	37.6%	10.9%	12.4%

Table 3. Comparison of the number of days during the first 26 days of the 2011 and 2012 recreational red snapper fishing seasons with wind speeds greater than 15-20 knots and waves greater than 3-5 feet. Wind speeds and wave heights are from weather buoys described in Table 1.

Variable	Year	Number of Days			
		42036 NW of Tampa, FL	42012 Orange Beach, AL	SPLL1 Grand Isle, LA	42035 Galveston, TX
Wind Speed > 15 knots	2011	0	0	4	5
	2012	7	4	9	2
Wind Speed > 20 knots	2011	0	0	1	0
	2012	3	2	1	0
Wave Height > 3 feet	2011	2	1	3	12
	2012	14	15	3	7
Wave Height > 4 feet	2011	0	0	1	7
	2012	10	7	2	3
Wave Height > 5 feet	2011	0	0	1	3
	2012	4	3	1	0

Table 4. Summary of calculations for determining the maximum number of days that the 2012 red snapper season can be extended. 'Diff in Days' refers to the difference in days during 2012 vs. 2011 when wind speeds exceeded 15 knots or wave heights exceeded 3 or 4 feet. 'Weight' refers to the proportion of landings by state/region or state/region and mode (see Table 2). The weighted total is the sum of the difference in days times the weight.

Scenario	Variables	State/Region				Maximum Days Extended
		WFL	AL/MS	LA	TX	
Scenario 1 (> 15 knot winds)	Diff in Days	7	4	5	-3	
	Weight	39.1%	37.6%	10.9%	12.4%	
	<i>Weighted Total</i>	<i>2.7</i>	<i>1.5</i>	<i>0.5</i>	<i>-0.4</i>	4.4
Scenario 2 (> 4 ft waves)	Diff in Days	10	7	1	-4	
	Weight	39.1%	37.6%	10.9%	12.4%	
	<i>Weighted Total</i>	<i>3.9</i>	<i>2.6</i>	<i>0.1</i>	<i>-0.5</i>	6.2
Scenario 3 (> 3 ft waves private) (> 4 ft waves for-hire)	Diff in Days - private	12	14	0	-5	
	Weight - private	21.4%	28.8%	8.1%	3.5%	
	<i>Weighted Total - private</i>	<i>2.6</i>	<i>4.0</i>	<i>0.0</i>	<i>-0.2</i>	
	Diff in Days - for-hire	10	7	1	-4	
	Weight - for-hire	17.7%	8.8%	2.9%	8.9%	
	<i>Weighted total - for-hire</i>	<i>1.8</i>	<i>0.6</i>	<i>0.0</i>	<i>-0.4</i>	
<i>Weighted total - all modes</i>	<i>4.3</i>	<i>4.6</i>	<i>0.0</i>	<i>-0.5</i>	8.5	

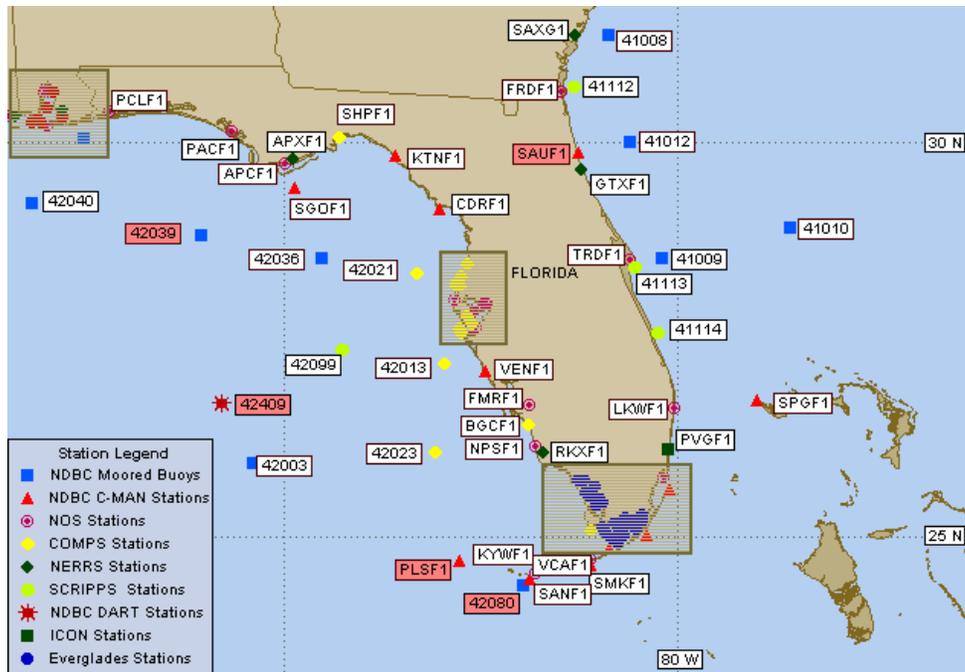


Figure 1. Location of weather buoys in the eastern Gulf of Mexico. Wave and wind data for west Florida were obtained from weather buoy 42036. Source: www.ndbc.noaa.gov.

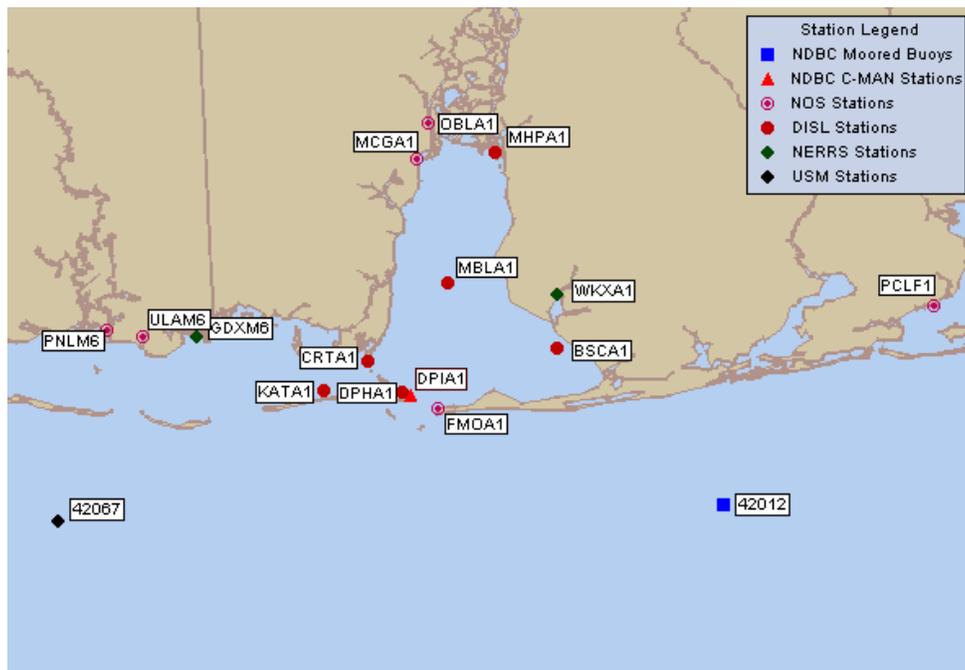


Figure 2. Location of weather buoys off Alabama and Mississippi. Wave and wind data for Mississippi/Alabama were obtained from weather buoy 42012. Source: www.ndbc.noaa.gov.

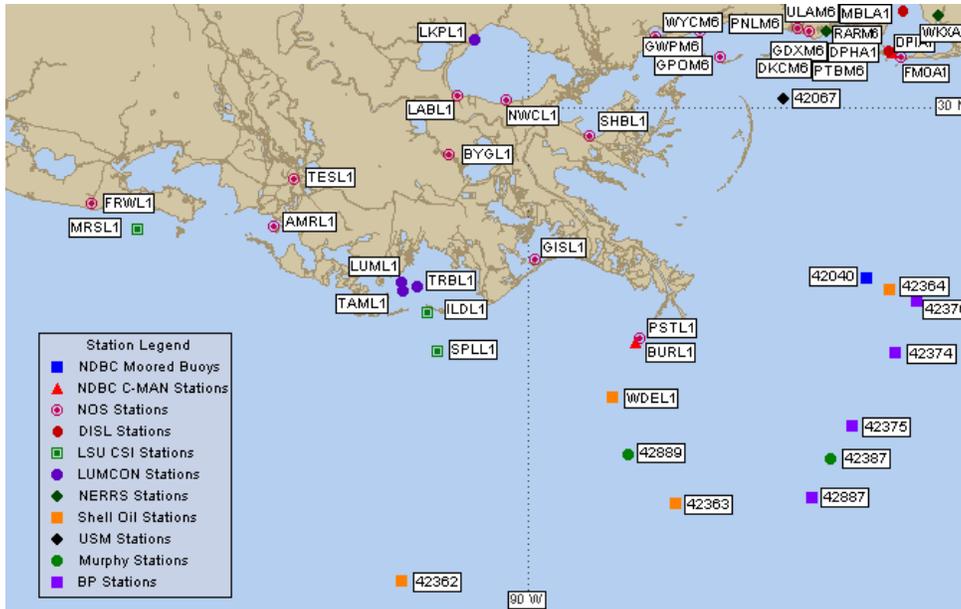


Figure 3. Location of weather buoys off Louisiana. Wave and wind data for Louisiana were obtained from weather buoy SP11. Source: www.ndbc.noaa.gov.

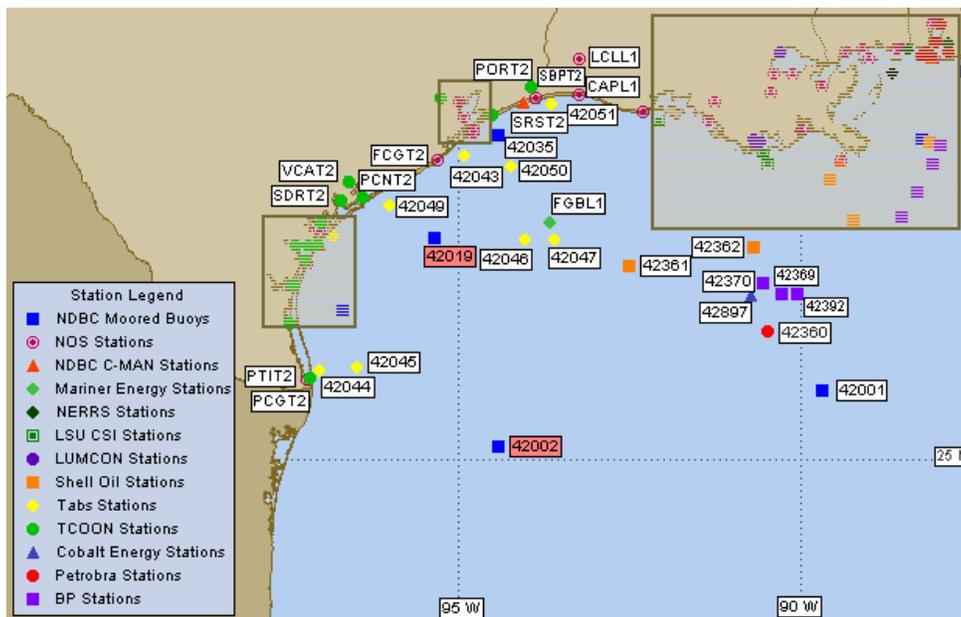


Figure 4. Location of weather buoys off Texas. Wave and wind data for Texas were obtained from weather buoy 42035. Source: www.ndbc.noaa.gov.

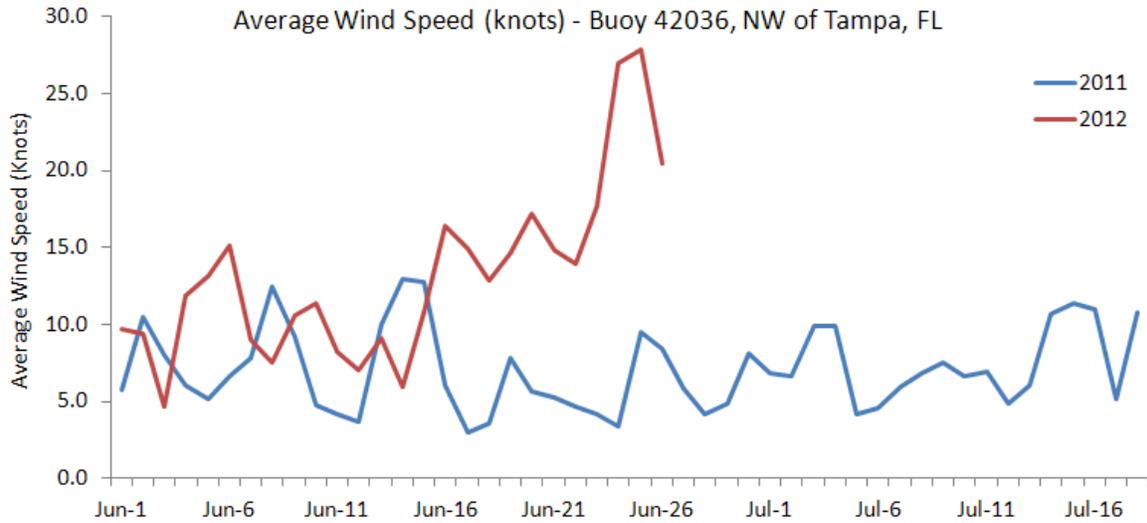


Figure 5a. Average wind speeds (knots) at buoy 42036 (106 nm NW of Tampa, Florida) during the 2011 and 2012 red snapper fishing seasons.

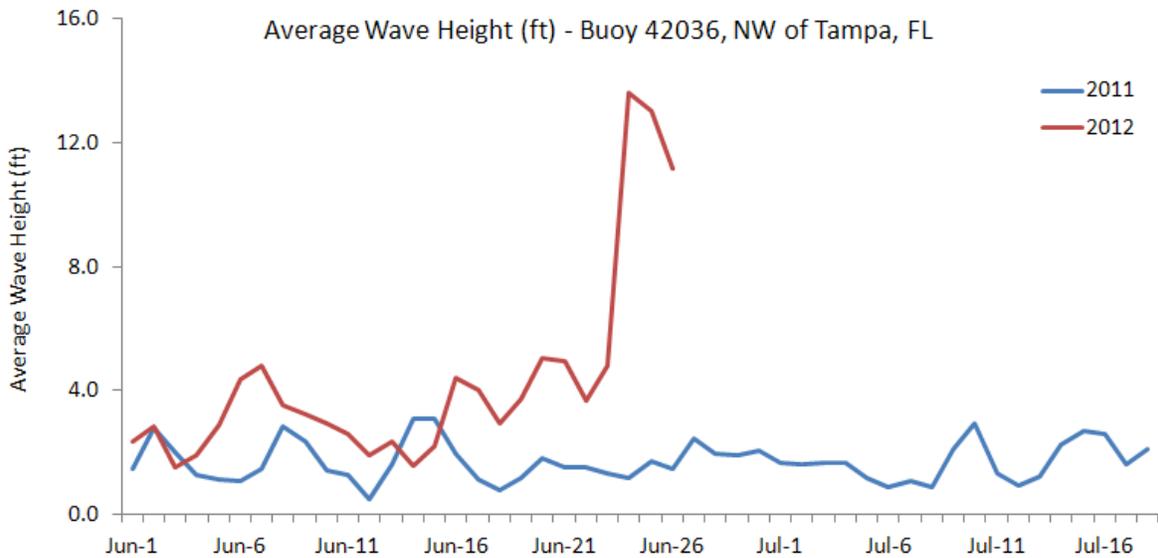


Figure 5b. Average wave heights (feet) at buoy 42036 (106 nm NW of Tampa, Florida) during the 2011 and 2012 red snapper fishing seasons.

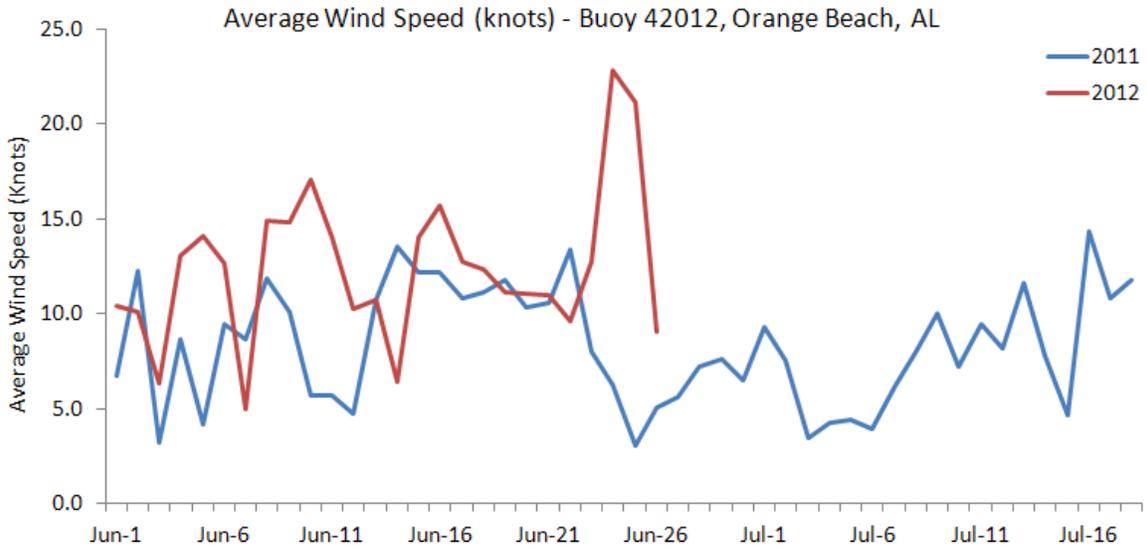


Figure 6a. Average wind speeds (knots) at buoy 42012 (S. of Orange Beach) during the 2011 and 2012 red snapper fishing seasons.

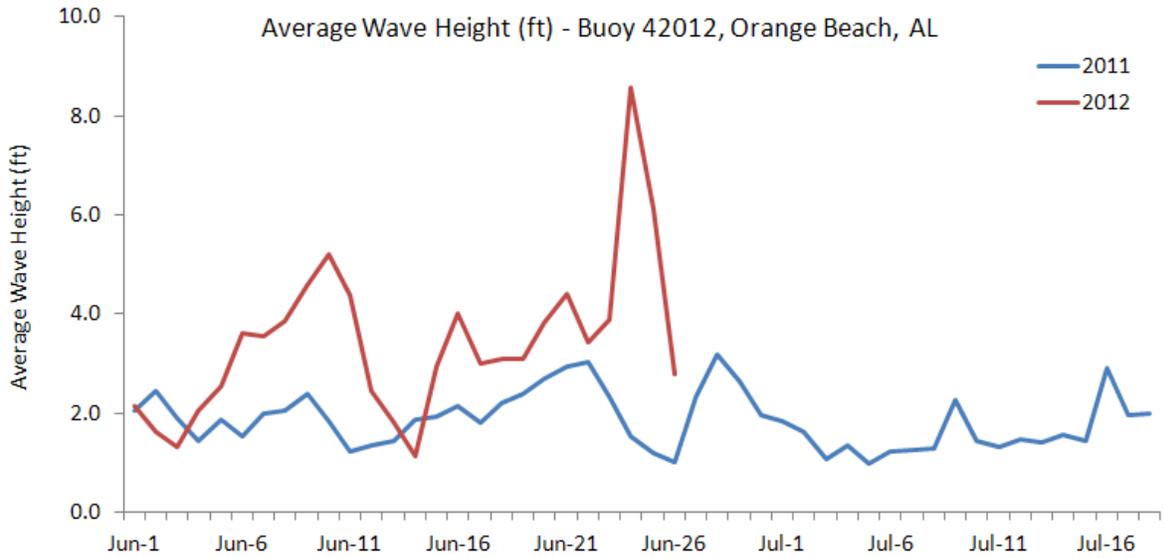


Figure 6b. Average wave heights (feet) at buoy 42012 (S. of Orange Beach) during the 2011 and 2012 red snapper fishing seasons.

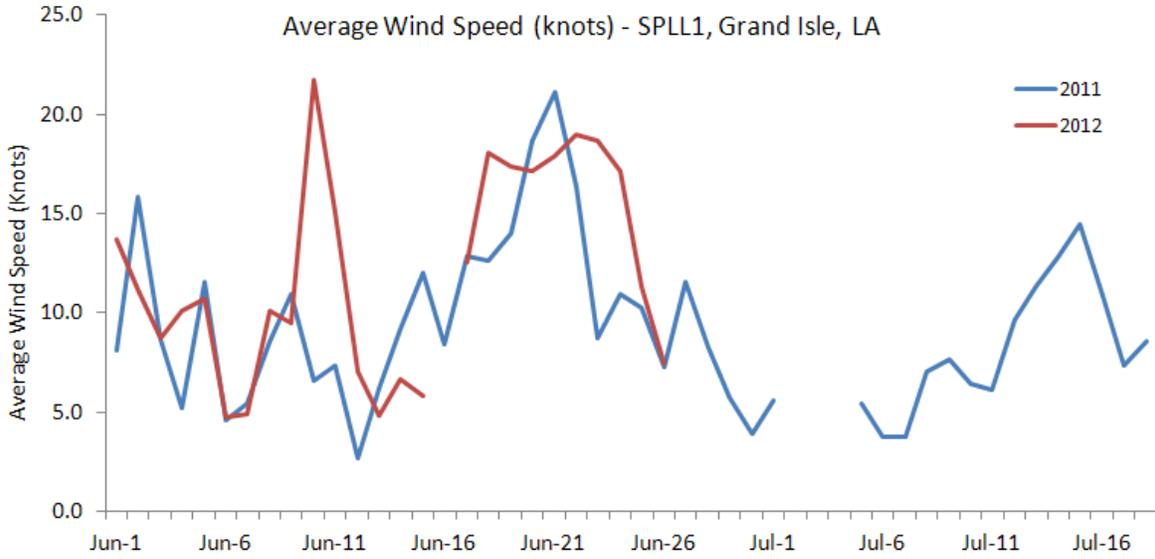


Figure 7a. Average wind speeds (knots) at buoy SPL1 (SW of Grand Isle, LA) during the 2011 and 2012 red snapper fishing seasons.

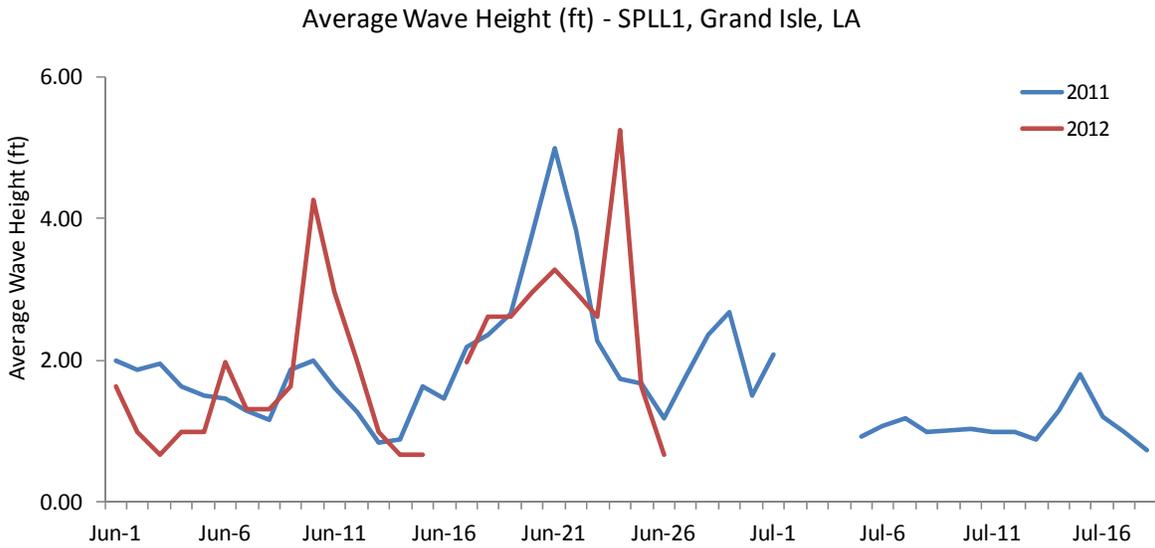


Figure 7b. Average wave heights (feet) at buoy SPL1 (SW of Grand Isle, LA) during the 2011 and 2012 red snapper fishing seasons.

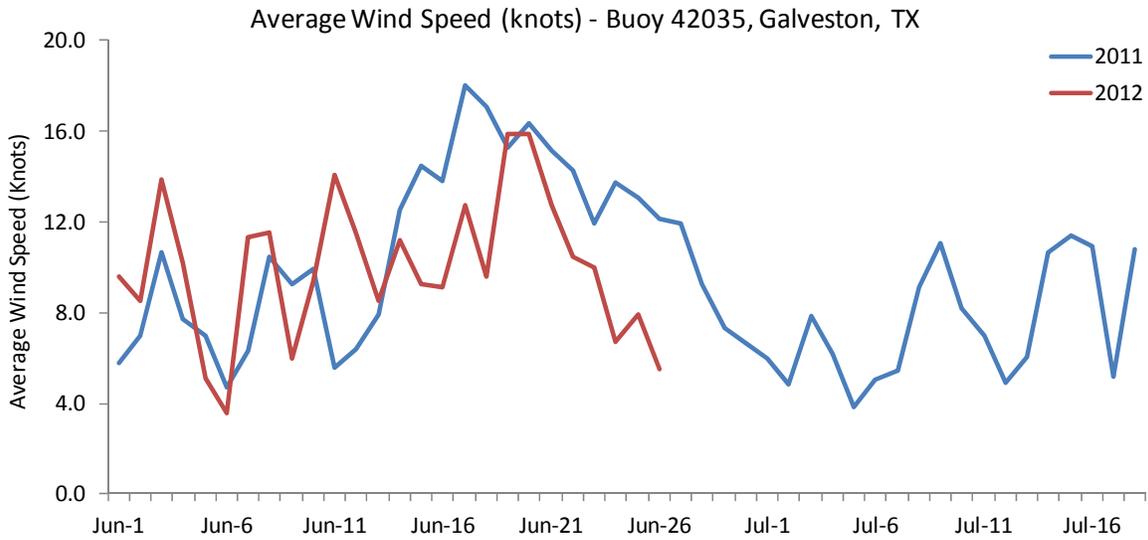


Figure 8a. Average wind speeds (knots) at buoy 42035 (E of Galveston, TX) during the 2011 and 2012 red snapper fishing seasons.

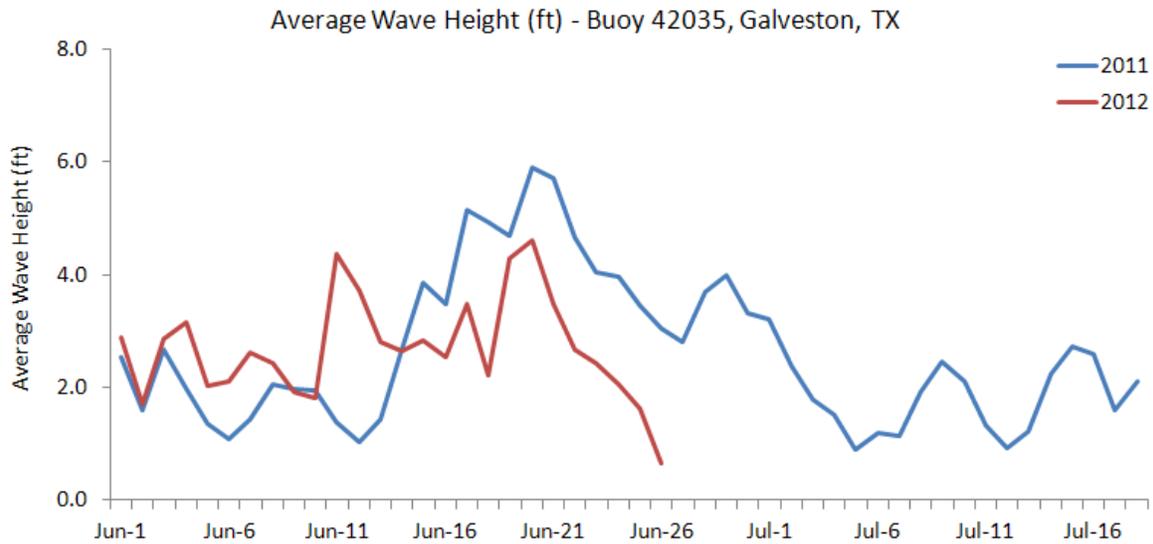


Figure 8b. Average wave heights (feet) at buoy 42035 (E of Galveston, TX) during the 2011 and 2012 red snapper fishing seasons.

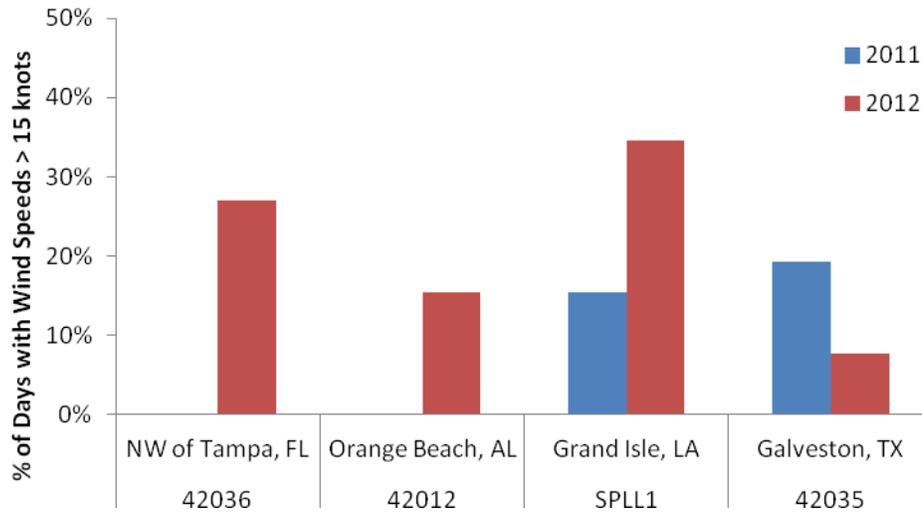


Figure 9. Percent of days during the first 26 days of the 2011 and 2012 red snapper recreational fishing seasons with wind speeds of 15 knots or greater by area. Labels on x-axis represent buoy identification numbers and general buoy locations.

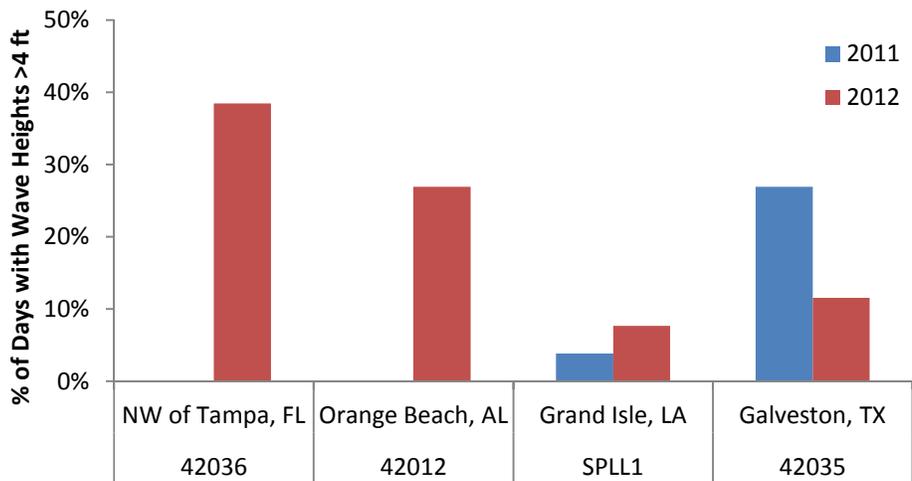


Figure 10. Percent of days during the first 26 days of the 2011 and 2012 red snapper recreational fishing seasons with wave heights of four feet or greater. Labels on x-axis represent buoy identification numbers and general buoy locations.