

# Private Weather Forecast – Quick Update

## 2022 Bayview Mackinac Race

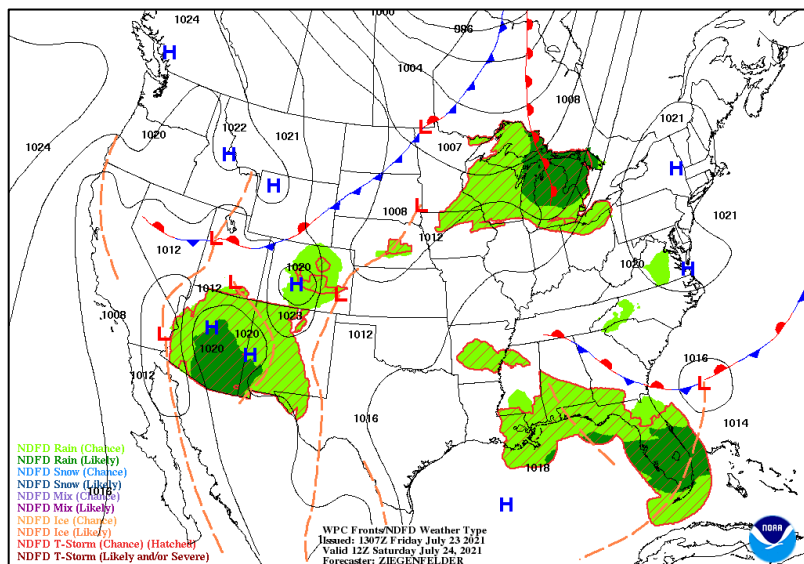
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**Disclaimer:** The user assumes all risk related to the use of this Private Weather Forecast. The forecast may include the potential for severe thunderstorms. The National Weather Service threshold for a severe thunderstorm are winds exceeding 50 knots, hail greater than 1" in diameter, or the formation of a tornado. Both severe and non-severe thunderstorms can have a significant and unpredictable effect on wind speed, wind direction, and wave heights. The crew of the participating yacht must determine their ability and willingness to manage all weather-related challenges. Please consult the current official National Weather Service forecast, watches, and warnings before and during the race. LakeErieWX Marine Weather does not issue watches or warnings or otherwise advise clients of approaching severe weather.

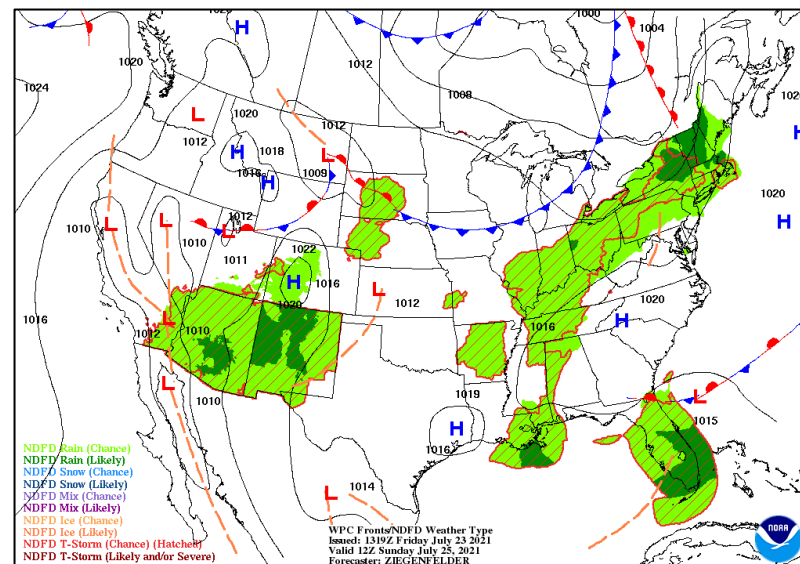
# Large Scale Weather Pattern

## Large Scale Weather Pattern-Summary

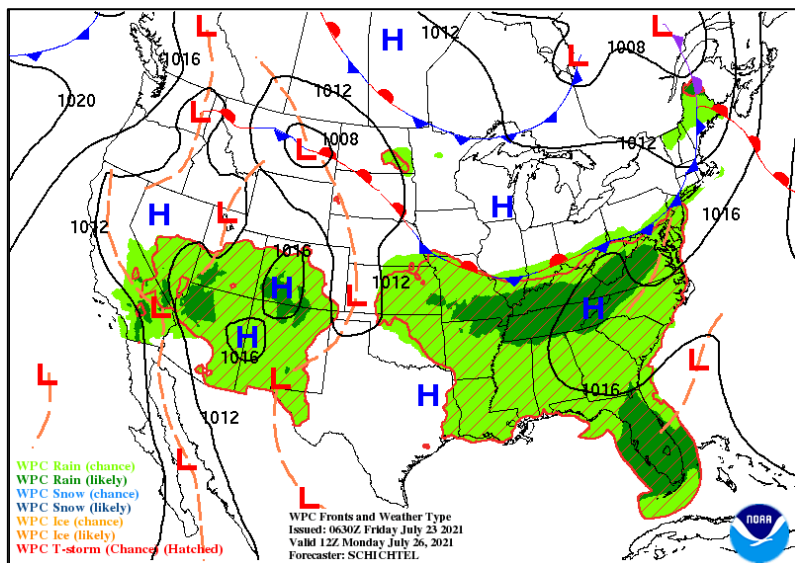
Surface Forecast Valid 8:00 am Saturday



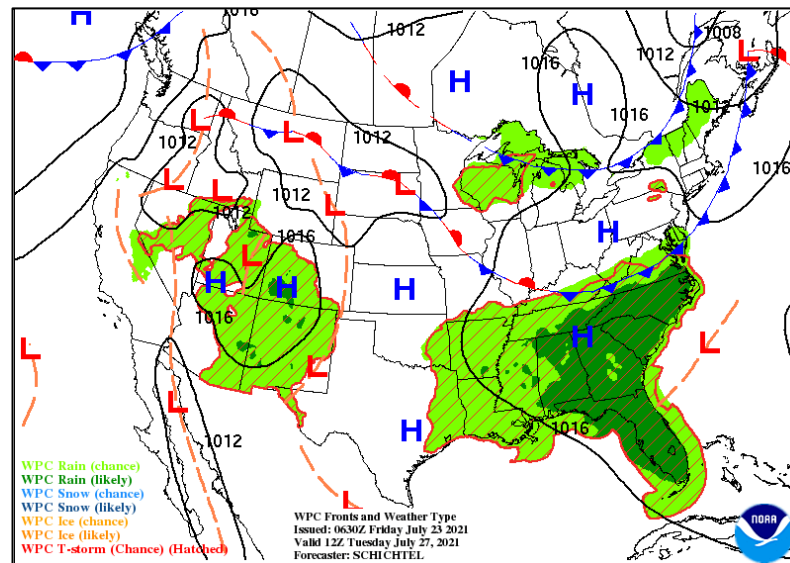
Surface Forecast Valid 8:00 am Sunday



Surface Forecast Valid 8:00 am Monday

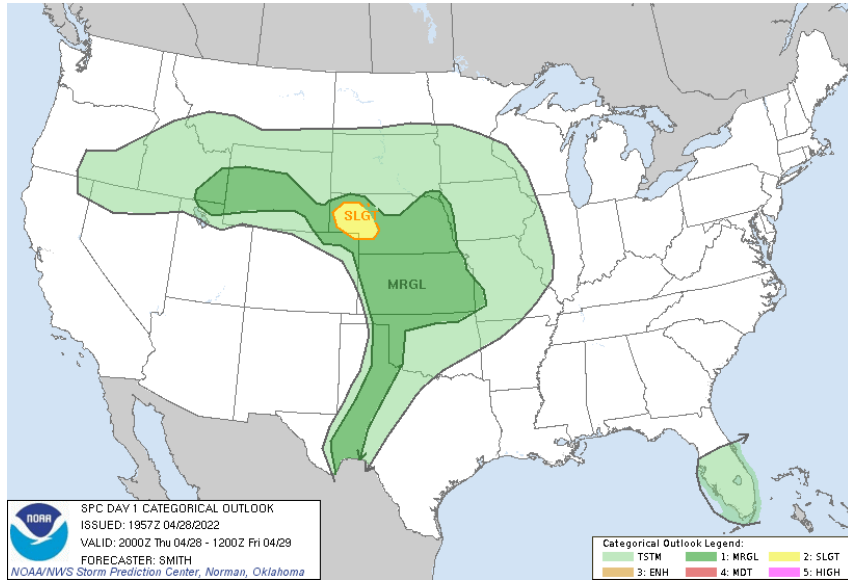


Surface Forecast Valid 8:00 am Tuesday

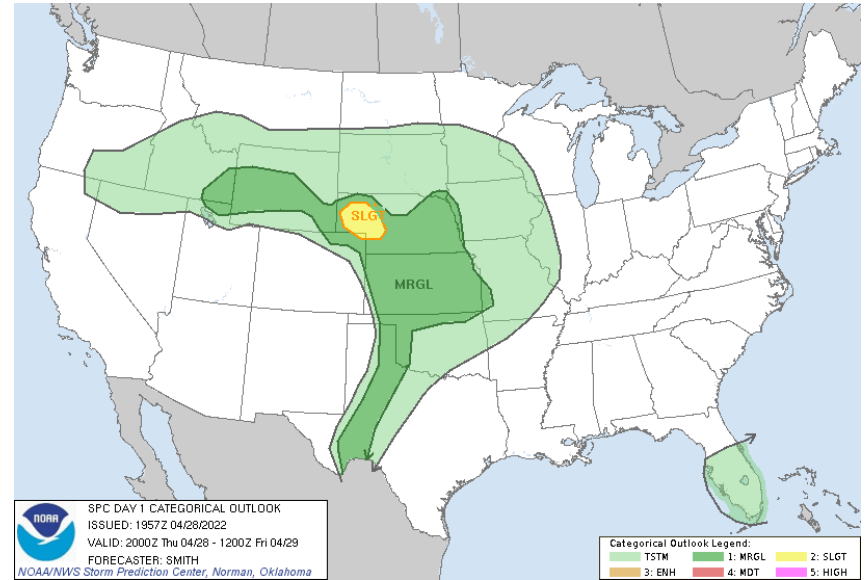


## Convective Outlooks

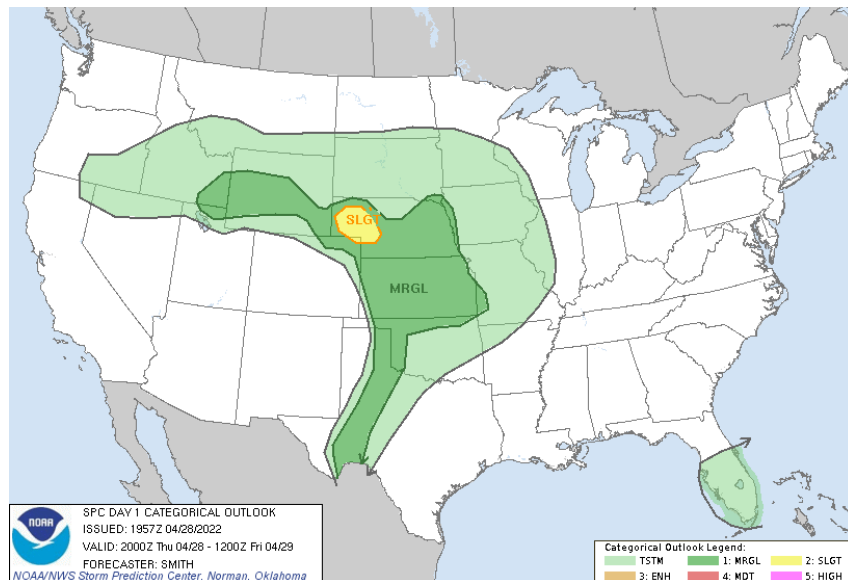
Convective Outlook - Saturday



Convective Outlook - Sunday



Convective Outlook - Monday



# Forecast Summary By Zone

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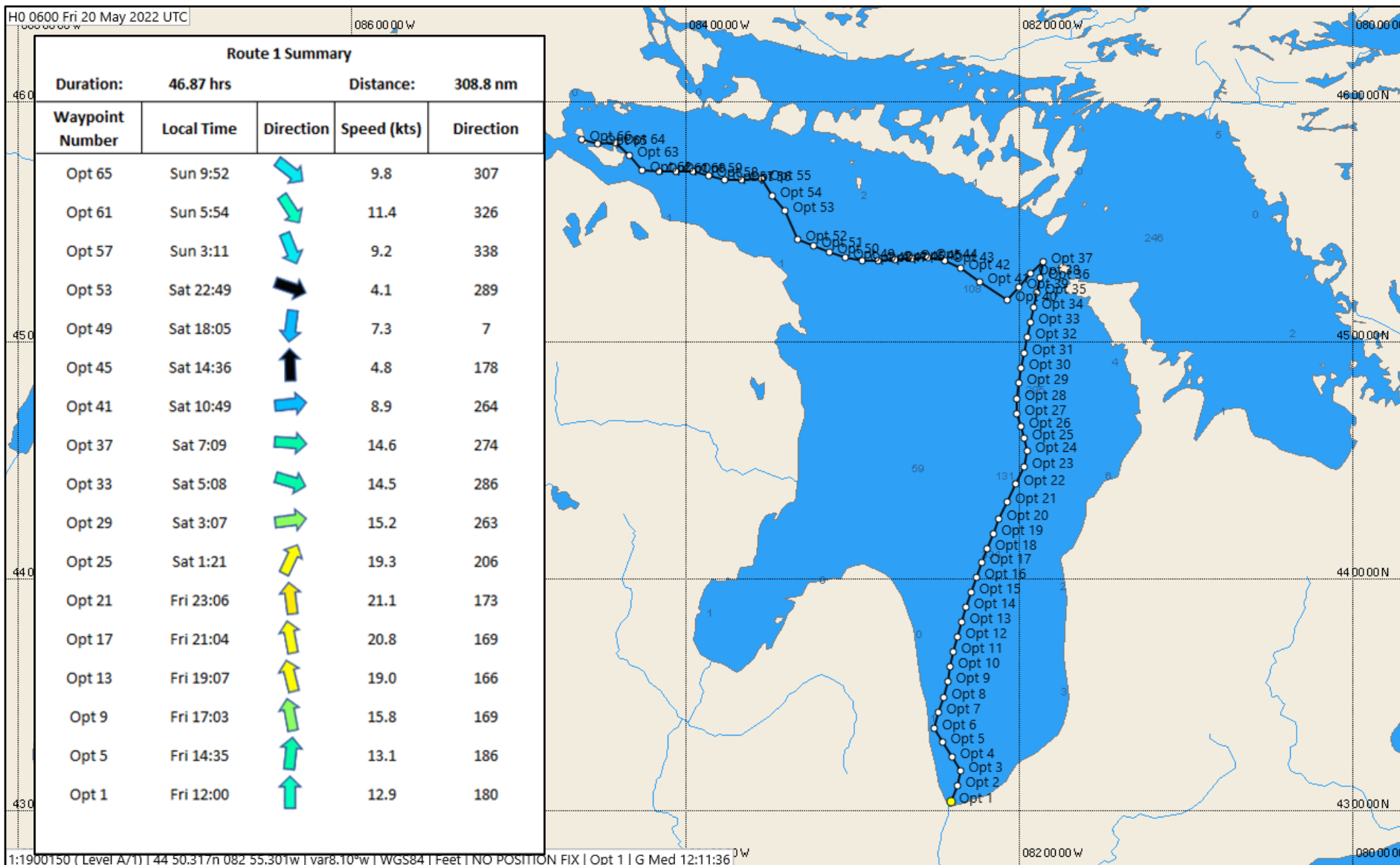
## Forecast Summary By Zone

Finish	Sat 8am	Sat 11am	Sat 2pm	Sat 5pm	Sat 8pm	Sat 11pm	Sun 2am	Sun 5am	Sun 8am	Sun 11am	Sun 2pm	Sun 5pm	Sun 8pm	Sun 11pm	Mon 2am	Mon 5am	Mon 8am	Mon 11am	Mon 2pm	Mon 5pm	Mon 8pm	Mon 11pm
Direction																						
Speed (kts)	19.5	18.4	17.8	22.1	25.4	29.3	34.0	34.1	32.1	28.9	26.9	24.4	20.9	15.6	5.7	5.4	7.3	6.3	5.0	4.8	7.0	8.9
Sig. Waves (ft)	4.4	3.7	3.5	5.1	6.4	7.8	9.2	10.2	10.4	10.3	9.1	7.3	5.7	4.3	3.2	2.6	2.2	1.9	1.5	1.1	0.9	0.9
North	Sat 8am	Sat 11am	Sat 2pm	Sat 5pm	Sat 8pm	Sat 11pm	Sun 2am	Sun 5am	Sun 8am	Sun 11am	Sun 2pm	Sun 5pm	Sun 8pm	Sun 11pm	Mon 2am	Mon 5am	Mon 8am	Mon 11am	Mon 2pm	Mon 5pm	Mon 8pm	Mon 11pm
Direction																						
Speed (kts)	17.0	16.6	18.8	24.4	26.6	27.3	35.9	35.4	33.3	27.7	22.6	20.8	20.3	19.1	20.6	21.1	18.9	14.7	14.4	11.4	10.6	8.9
Sig. Waves (ft)	2.2	2.1	3.2	4.7	5.9	6.6	7.9	9.0	9.3	8.8	7.6	6.2	4.8	3.8	3.3	3.3	3.2	2.8	2.3	1.9	1.7	1.6
Central	Sat 8am	Sat 11am	Sat 2pm	Sat 5pm	Sat 8pm	Sat 11pm	Sun 2am	Sun 5am	Sun 8am	Sun 11am	Sun 2pm	Sun 5pm	Sun 8pm	Sun 11pm	Mon 2am	Mon 5am	Mon 8am	Mon 11am	Mon 2pm	Mon 5pm	Mon 8pm	Mon 11pm
Direction																						
Speed (kts)	15.9	15.1	19.5	23.3	20.5	27.1	30.5	34.4	25.3	23.8	21.0	18.2	20.0	19.8	19.2	20.2	17.0	11.4	8.4	8.7	12.4	13.2
Sig. Waves (ft)	1.9	1.8	3.2	4.5	4.3	5.1	7.1	7.9	6.9	5.9	5.2	4.6	3.9	3.4	3.5	3.5	3.2	2.7	2.1	1.7	1.7	1.8
South	Sat 8am	Sat 11am	Sat 2pm	Sat 5pm	Sat 8pm	Sat 11pm	Sun 2am	Sun 5am	Sun 8am	Sun 11am	Sun 2pm	Sun 5pm	Sun 8pm	Sun 11pm	Mon 2am	Mon 5am	Mon 8am	Mon 11am	Mon 2pm	Mon 5pm	Mon 8pm	Mon 11pm
Direction																						
Speed (kts)	6.4	6.6	13.3	17.3	22.7	28.6	31.0	32.1	25.3	25.5	25.2	21.7	19.9	17.5	18.9	19.6	15.4	13.3	13.9	13.2	9.9	7.0
Sig. Waves (ft)	0.4	0.3	0.7	2.2	3.7	5.5	6.4	6.4	5.8	5.0	4.3	3.6	3.2	3.3	3.5	3.3	2.7	2.3	1.8	1.4	1.3	1.3
Start	Sat 8am	Sat 11am	Sat 2pm	Sat 5pm	Sat 8pm	Sat 11pm	Sun 2am	Sun 5am	Sun 8am	Sun 11am	Sun 2pm	Sun 5pm	Sun 8pm	Sun 11pm	Mon 2am	Mon 5am	Mon 8am	Mon 11am	Mon 2pm	Mon 5pm	Mon 8pm	Mon 11pm
Direction																						
Speed (kts)	11.4	14.6	14.9	16.0	28.2	27.8	27.7	30.4	24.4	23.3	23.6	19.3	17.4	16.6	17.4	18.3	15.4	13.9	13.8	11.9	11.8	11.0
Sig. Waves (ft)	0.8	1.1	1.4	2.6	3.6	5.0	5.7	5.3	4.7	3.9	3.3	2.6	2.2	2.2	2.1	2.1	2.0	1.7	1.2	1.0	1.0	1.0

# Forecast Model Routing



## Forecast Model Routing-Summary



**Note: Waypoints on weather forecast maps and other imagery provided by LakeErieWX are not to be used for navigational purposes. Client and crew are responsible for avoiding all navigational hazards and operating the yacht in a safe and seamanlike manner.**



## Forecast Model Routing – Heat Map & Graphs

### Route 1 Heat Map

Duration: 1d 22h 52m 02s      Avg. Wind Speed: 13.1 kts  
 Time (hrs): 46.9      Avg. Boat Speed: 6.9 kts  
 Distance: 308.8      Avg. Wind Direction: 229

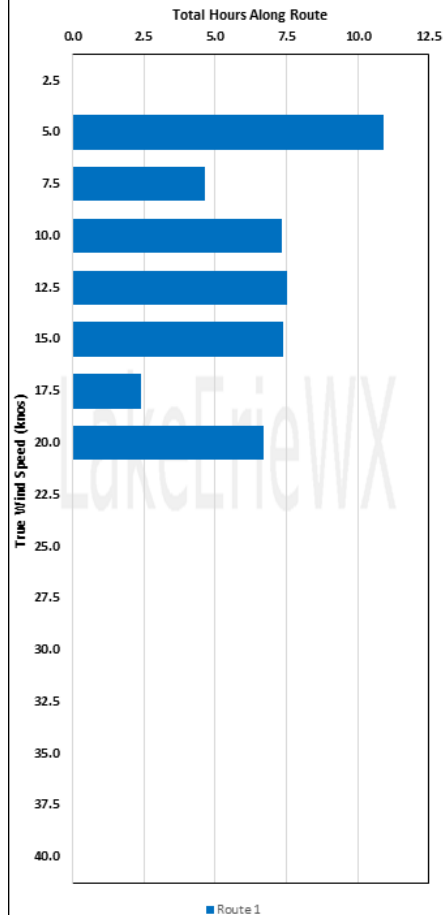
Optimal Route 1 - Total Hours During Route By True Wind Speed and True Wind Angle																				
		True Wind Speed (kts)																		
		2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0	22.5	25.0	27.5	30.0	32.5	35.0	37.5	40.0	Angle Tot. (hrs)	Angle Tot. %	Angle
True Wind Angle (degrees)	40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	22.7
	50	0.0	6.5	2.7	6.7	3.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.2	45.2%	
	60	0.0	0.4	0.5	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	3.2%	
	70	0.0	0.4	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	3.1%	4.0
	80	0.0	1.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	3.5%	
	90	0.0	0.4	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	2.0%	
	100	0.0	1.9	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	9.0%	5.9
	110	0.0	0.0	0.0	0.0	0.0	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	2.0%	
	120	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.6%	
	130	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.4%	14.2
	140	0.0	0.0	0.0	0.0	0.0	0.0	1.3	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4	13.7%	
	150	0.0	0.0	0.0	0.0	4.5	0.8	0.3	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1	15.2%	
	160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0
	170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	
	180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	
Speed Total:		0.0	10.9	4.6	7.4	7.5	7.4	2.4	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.9	100%	46.9
Speed Grp (hrs)		10.9	12.0	14.9	9.1	0.0	0.0	0.0	0.0											
Speed Grp %		23.2%	25.6%	31.8%	19.3%	0.0%	0.0%	0.0%	0.0%											

### How To Use The Heat Map

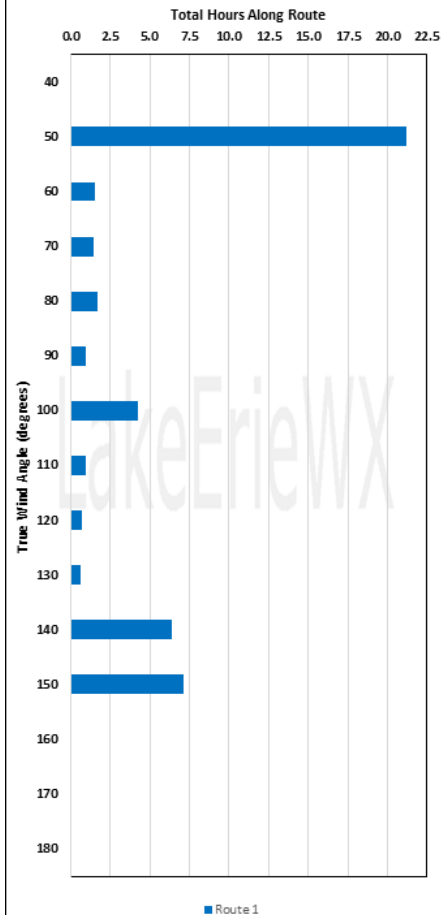
The heat map displays a table of predicted total hours sailed by true wind speed and true wind angle. Each cell is color-coded to allow a quick assessment of the predominant wind speed and direction you will encounter during the race. The total hours for each true wind angle are located in the 'Angle Tot. (hrs)' column along the right side of the table. The overall percentage of total hours for each wind angle and groupings are also along the right side of the table. The total hours for each wind speed category can be found along the bottom of the table. The overall percentage of total hours for each wind speed and groupings are also located along the bottom of the chart.

## Forecast Model Routing – Heat Map & Graphs

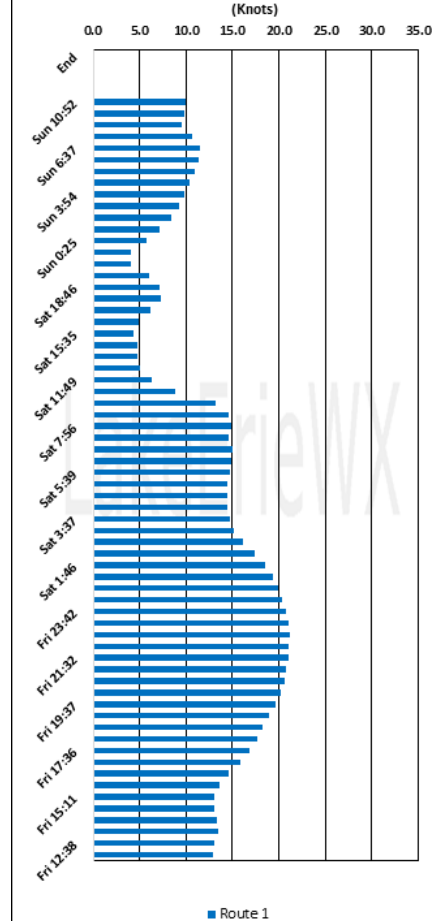
Route 1 - Hours By True Wind Speed



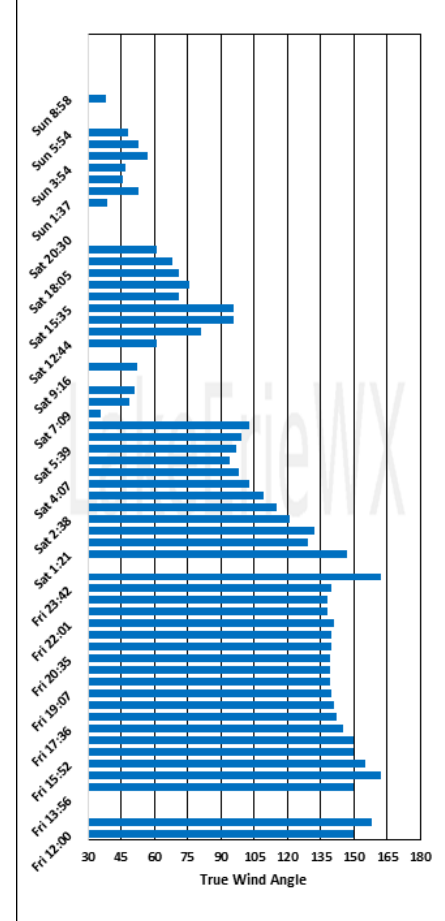
Route 1 - Hours By True Wind Angle


































Route 1 - Wind Speed Along Route



Route 1 - True Wind Angle Along Route



## Forecast Model Routing-Waypoint Details-Part 1

Route 1 Local Time	Wind Direction Arrow (Degrees)	True Wind Speed & Trend	True Wind Angle	Port / Starboard Tack	Boat Speed (kts)	Bearing	Latitude	Longitude	Waypoint Number
Fri 12:00		180	12.9	Starboard	6.8	30	43 1.855n	082 24.223w	Opt 1
Fri 13:16		182	13.4 	Best VMG	6.9	335	43 9.827n	082 20.573w	Opt 3
Fri 14:35		186	13.1 	Port	6.9	336	43 17.285n	082 27.137w	Opt 5
Fri 15:52		180	13.6 	Port	6.9	25	43 24.999n	082 28.611w	Opt 7
Fri 17:03		169	15.8 	Starboard	7.2	19	43 32.995n	082 25.408w	Opt 9
Fri 18:07		165	17.7 	Starboard	7.8	23	43 40.787n	082 23.182w	Opt 11
Fri 19:07		166	19.0 	Starboard	8.1	26	43 48.494n	082 20.266w	Opt 13
Fri 20:06		167	20.2 	Starboard	8.3	28	43 56.106n	082 16.827w	Opt 15
Fri 21:04		169	20.8 	Starboard	8.3	29	44 3.628n	082 13.028w	Opt 17
Fri 22:01		171	21.1 	Starboard	8.3	30	44 11.078n	082 9.033w	Opt 19
Fri 23:06		173	21.1 	Starboard	8.4	35	44 19.226n	082 4.074w	Opt 21
Sat 0:20		182	20.3 	Port	7.8	20	44 28.274n	081 57.724w	Opt 23
Sat 1:21		206	19.3 	Port	7.8	352	44 35.446n	081 57.806w	Opt 25
Sat 2:09		238	17.4 	Port	8.2	10	44 41.643n	082 0.492w	Opt 27
Sat 3:07		263	15.2 	Port	7.9	18	44 49.469n	081 59.894w	Opt 29
Sat 4:07		277	14.5 	Port	7.8	21	44 57.136n	081 57.955w	Opt 31

**Please Note:** Waypoints on weather forecast maps and other imagery provided by LakeErieWX Marine Weather are provided for yacht racing strategy only. Routing waypoints are not to be used for navigational purposes. Client and crew are responsible for avoiding all navigational hazards and operating the yacht in a safe and seamanlike manner.

### True Wind Angle Legend

- Positive Numbers = Starboard Tack
- Negative Numbers = Port Tack
- Numbers In Parenthesis = Tacking or Jibing For Best VMG

## Forecast Model Routing-Waypoint Details-Part 2

Route 1 Local Time	Wind Direction Arrow	(Degrees)	True Wind Speed & Trend		True Wind Angle	Port / Starboard Tack	Boat Speed (kts)	Bearing	Latitude	Longitude	Waypoint Number
Sat 5:08		286	14.5	■	-94	Port	7.6	21	45 4.766n	081 55.702w	Opt 33
Sat 6:09		282	14.9	+	-99		7.8	21	45 12.370n	081 53.246w	Opt 35
Sat 7:09		274	14.6	■	-36		7.0	237	45 20.000n	081 51.000w	Opt 37
Sat 8:36		282	14.6	■	-51		7.0	230	45 13.743n	081 59.767w	Opt 39
Sat 10:49		264	8.9	■	-52		6.3	316	45 14.910n	082 13.904w	Opt 41
Sat 12:44		228	5.1	■	-61		4.6	290	45 20.418n	082 26.490w	Opt 43
Sat 14:36		178	4.8	■	-96		4.5	274	45 20.980n	082 38.311w	Opt 45
Sat 16:33		349	4.9	+	71	Starboard	4.5	278	45 20.306n	082 50.243w	Opt 47
Sat 18:05		7	7.3	+	71	Starboard	6.2	296	45 21.113n	083 2.084w	Opt 49
Sat 19:31		0	6.0	■	61	Starboard	5.4	300	45 23.939n	083 13.677w	Opt 51
Sat 22:49		289	4.1	■	(-36)	Best VMG	3.4	326	45 32.785n	083 23.699w	Opt 53
Sun 1:37		313	7.2	+	-39	Port	5.6	275	45 40.774n	083 32.290w	Opt 55
Sun 3:11		338	9.2	+	-46	Port	6.4	292	45 40.550n	083 45.457w	Opt 57
Sun 4:37		336	10.4	+	57	Starboard	6.8	278	45 42.594n	083 56.946w	Opt 59
Sun 5:54		326	11.4	+	-48	Port	6.8	279	45 42.720n	084 9.105w	Opt 61
Sun 7:50		317	10.7	■	(-3)	Best VMG	6.7	320	45 46.677n	084 19.947w	Opt 63

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