



Marine weather supplier

Marine Weather supplier

Race
Support

Major
Sailing
Teams

Naval
Architects

Cargos

Squid
Routing

Squid
(Weather
data)

Pre Race
Weather
Analysis



OFFICIAL SUPPLIER

VOLVO
OCEAN
RACE
ROUND THE WORLD

Official supplier of many offshore events

- Official supplier of the Volvo Ocean Race
(for the second edition)

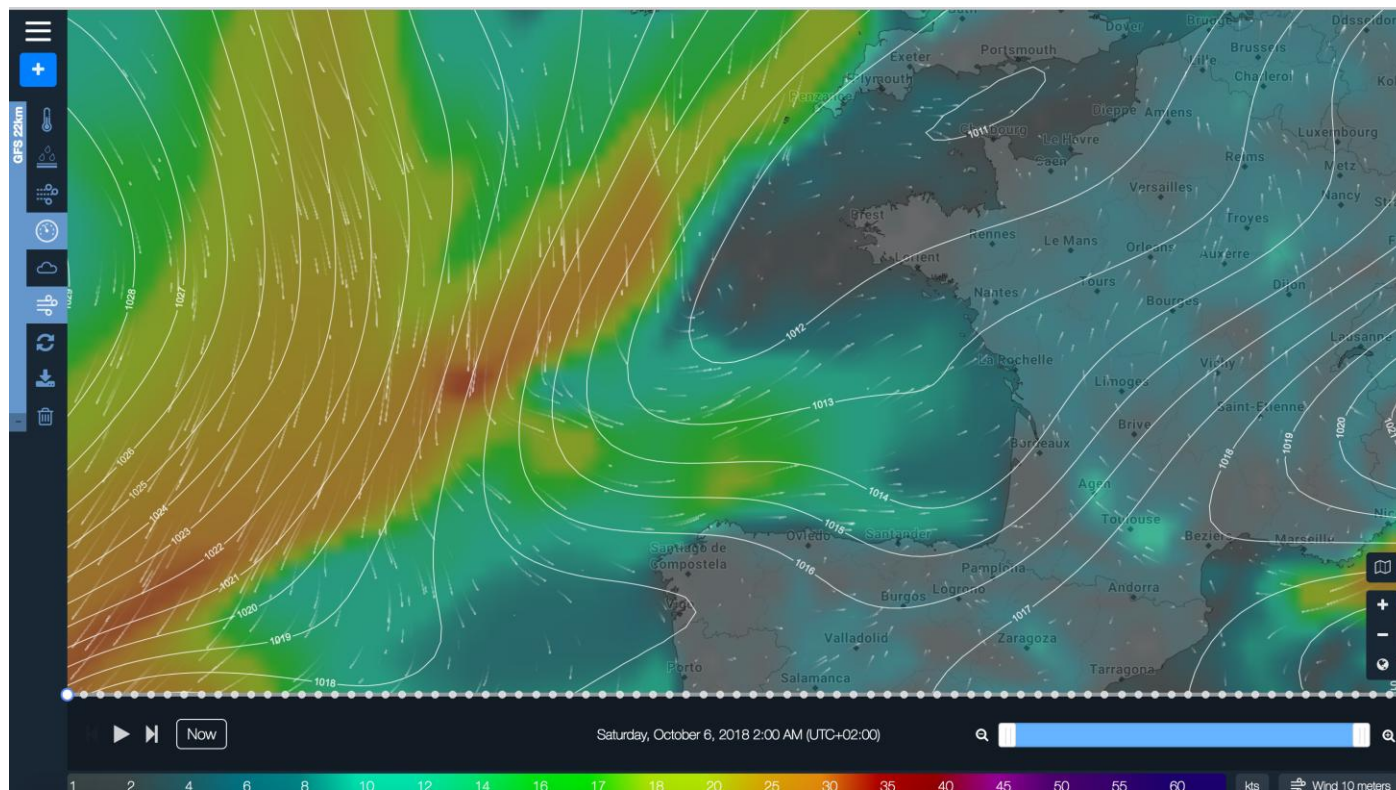


- Official supplier of the Vendée Globe



- Official supplier of the Mini Transat



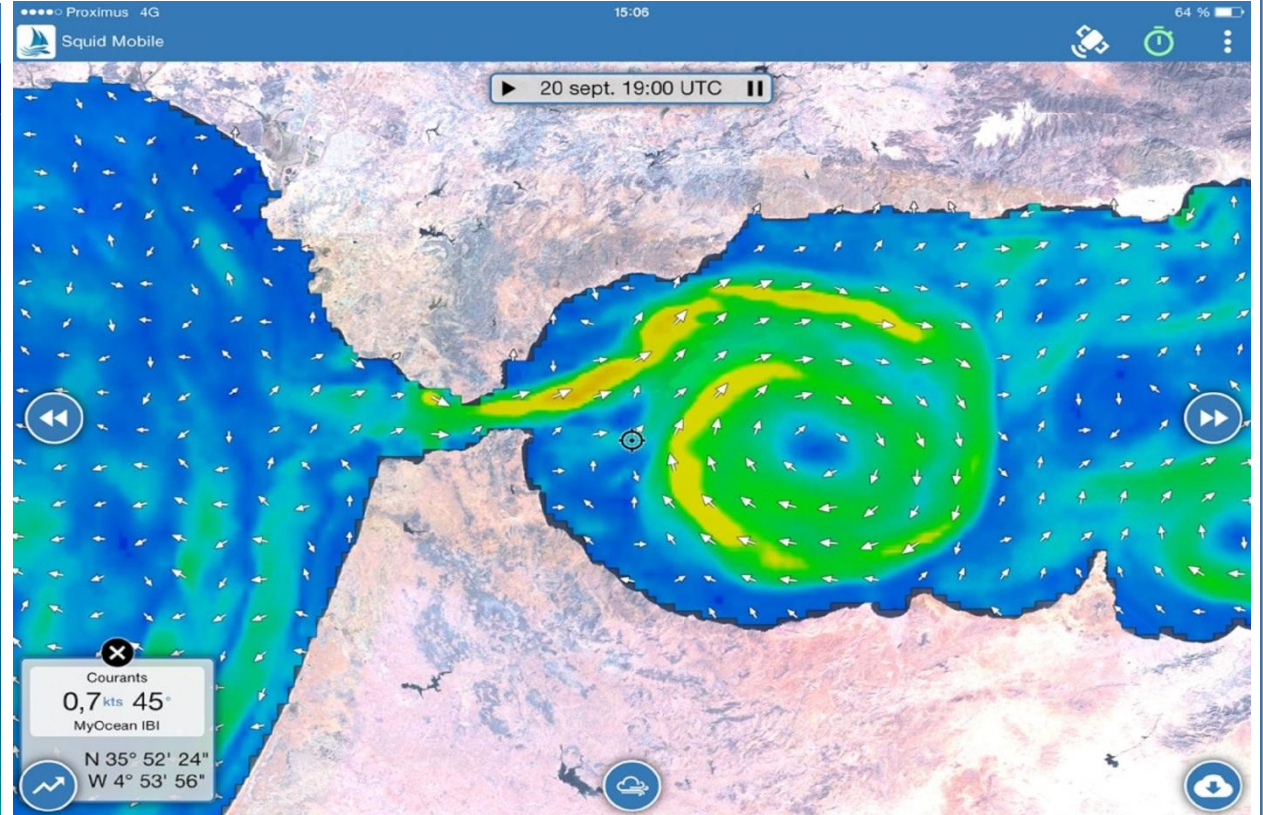
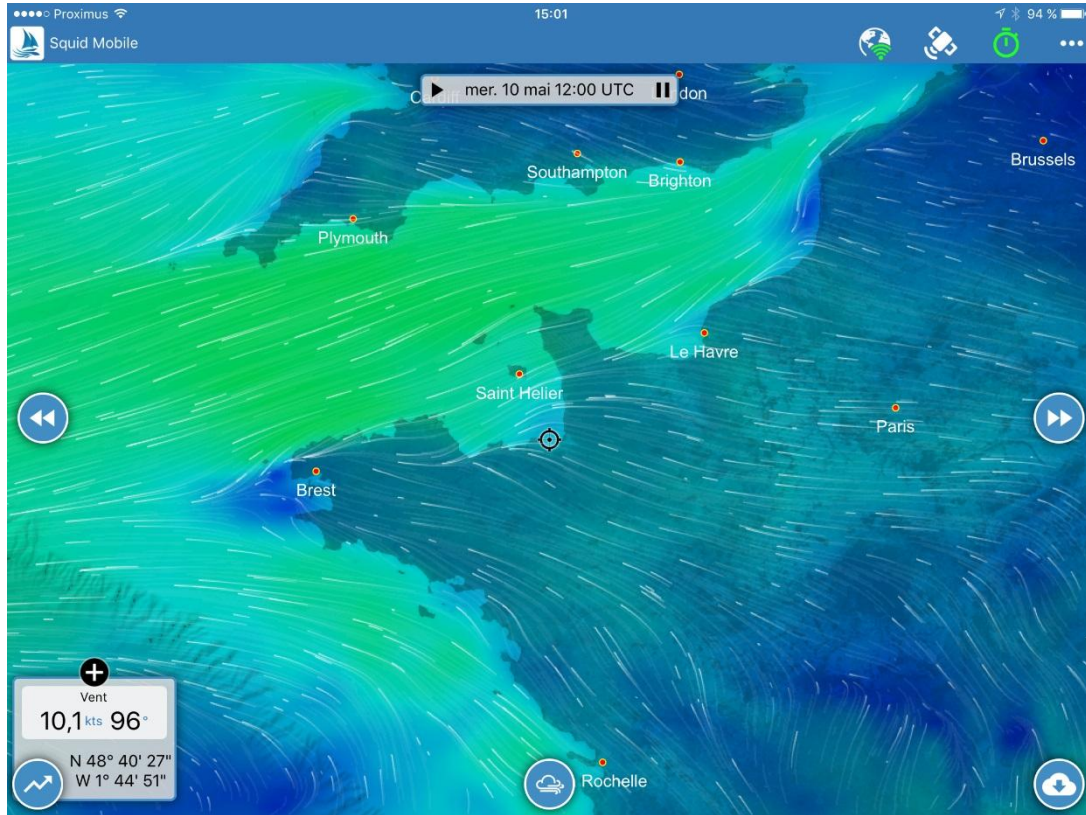


Software used to request Weather data

- Grib files (more than 30 models)
- Fronts
- Observations
- Currents
- Colorized sat pictures

- 30 000 users
- In more than 50 countries
- 1 000 new users every month

Squid-Mobile



Iphone, Ipad and Android devices

Pre Race Weather Support

Analysis of the historical data

Pre Race Support

- **Principle**

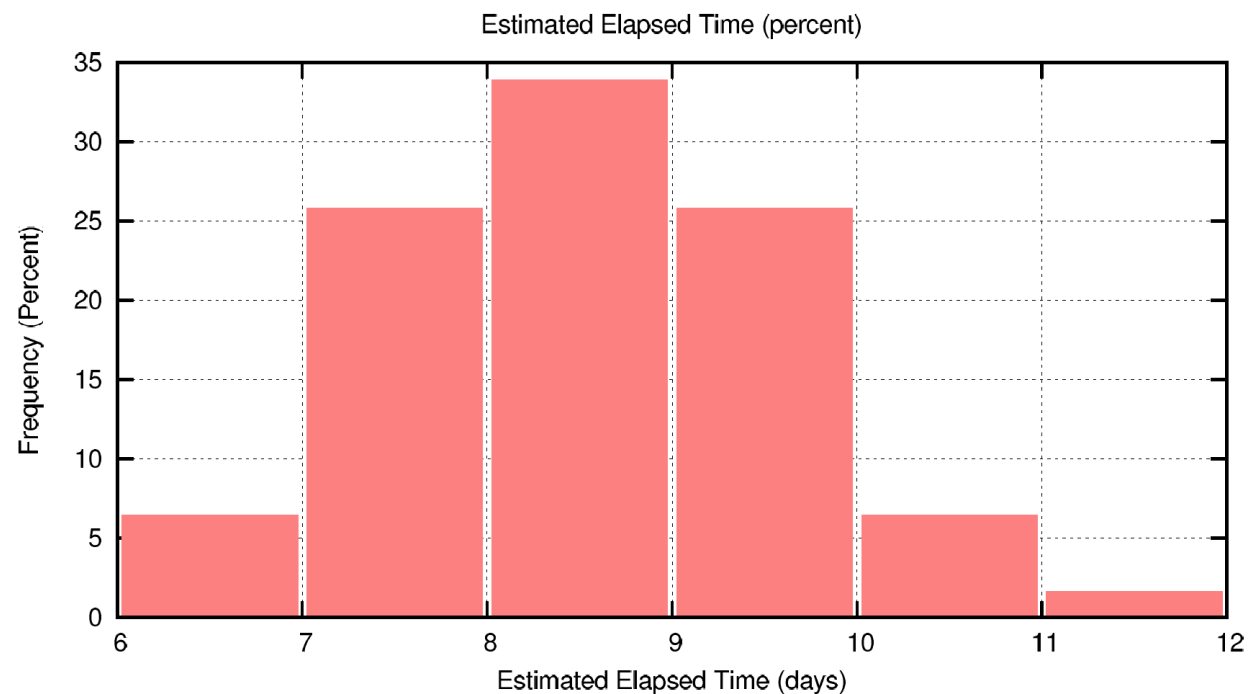
- Simulation of a start every day during the last 13 years
- 15 days prior to the date and 15 days after the date
- Total: 390 simulations

- **The output is a PDF file which includes**

- All the routes
- The average elapsed time
- The the standard deviation
- The wind conditions

Pre Race Support

The elapsed time



Statistics	t (hours)	t (days)	dist (NM)	boat speed (kt)	max wind (kt)	max wave (m)
Mean	205.38	8.55	3093.50	15.22	26.78	3.62
Stddev	23.87	.99	207.52	1.67	5.62	1.12
Q10	174.53	7.27	2861.06	13.22	20.87	2.31
Q50	205.88	8.57	3053.21	14.95	25.54	3.33
Q90	233.05	9.71	3432.68	17.28	35.37	5.07

Pre Race Support

Wind conditions: TWA and TWS distribution

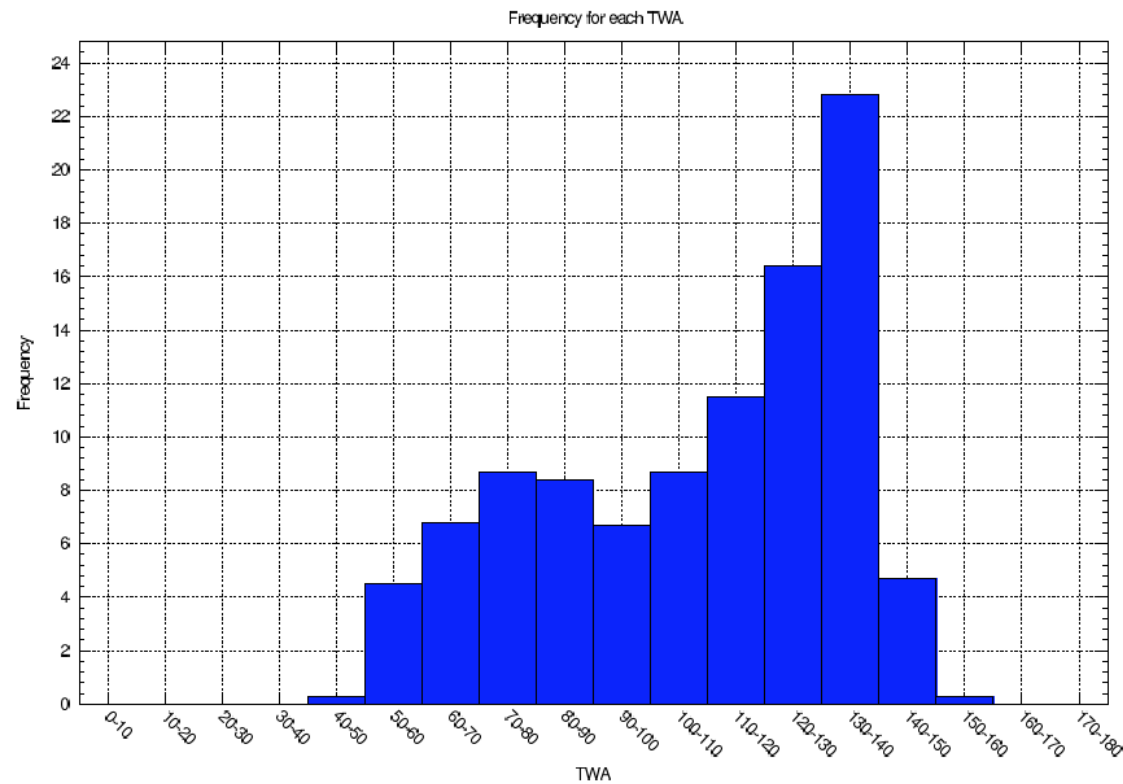


Figure 6: Frequency (%) for each TWA

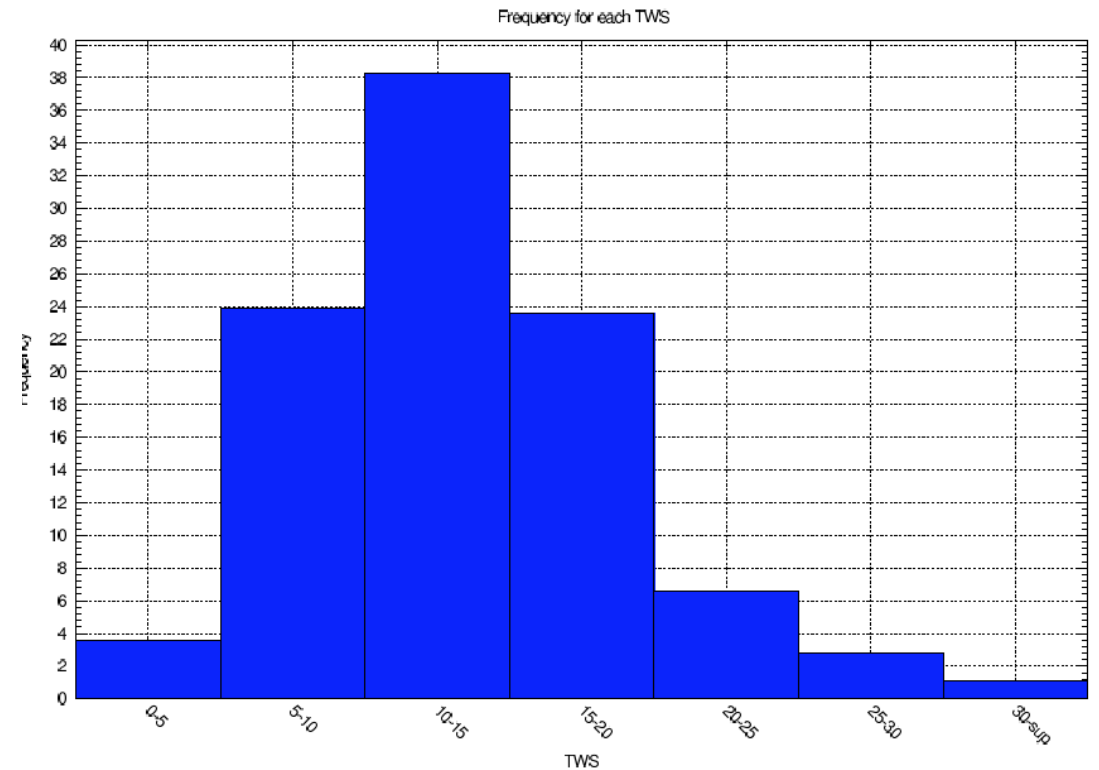


Figure 7: Frequency (%) for each TWS

Pre Race Support

Wind conditions: TWS / TWA

TWS TWA	0-5	5-10	10-15	15-20	20-25	25-30	30<	Σ
0-10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-50	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.3
50-60	0.4	1.0	1.2	0.9	0.5	0.6	0.1	4.5
60-70	0.5	1.9	2.0	1.0	0.6	0.4	0.2	6.8
70-80	0.4	2.5	3.1	1.3	0.7	0.4	0.3	8.7
80-90	0.4	2.2	3.1	1.6	0.6	0.3	0.1	8.4
90-100	0.3	2.4	2.6	0.8	0.3	0.1	0.1	6.7
100-110	0.5	3.6	3.1	1.0	0.2	0.2	0.0	8.7
110-120	0.5	4.4	4.4	1.9	0.2	0.0	0.0	11.5
120-130	0.2	3.7	8.5	3.0	0.9	0.1	0.1	16.4
130-140	0.1	2.0	9.3	9.2	1.8	0.2	0.1	22.8
140-150	0.1	0.1	0.9	2.6	0.7	0.3	0.0	4.7
150-160	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3
160-170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170-180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Σ	3.6	23.9	38.3	23.6	6.6	2.8	1.1	100.0

Pre Start Weather Support

Pre Start

- We work with around 100 Professional teams
 - We provide weather analysis to around 1 000 cruising boats
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- Vendée Globe
 - Sydney Hobart in 2017
 - Mini Transat
 - Fastnet
 - Newport – Bermuda race
 - Transpac
 - Figaro Race
 - Volvo Ocean Race

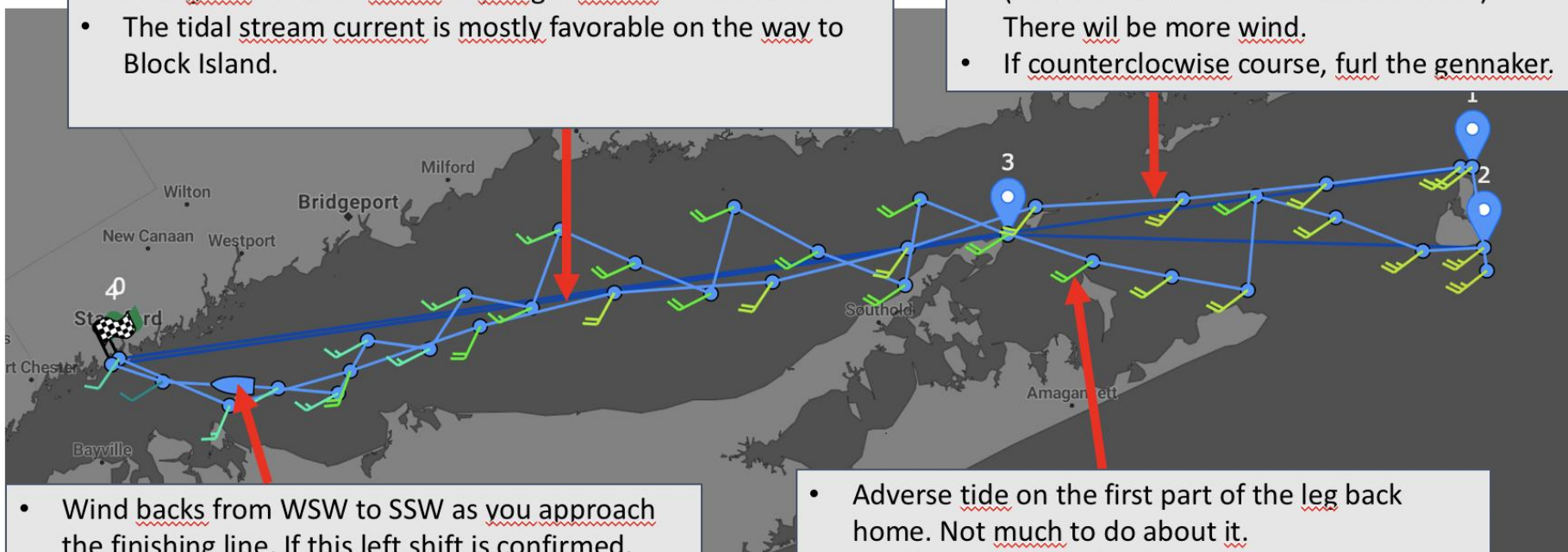


Pre Start

Full analysis of the race

- Downwind to Block Island mainly on starboard tack. The wind increases from 8-10 knots at the start up to 20 knots with gusts at 25-28 knots as you get closer to Block Island.
- The tidal stream current is mostly favorable on the way to Block Island.

- In case you do not lay on one tack, it is better to gybe once you are out of the sound (About 5 to 10 miles from Block Island). There will be more wind.
- If counterclockwise course, furl the gennaker.



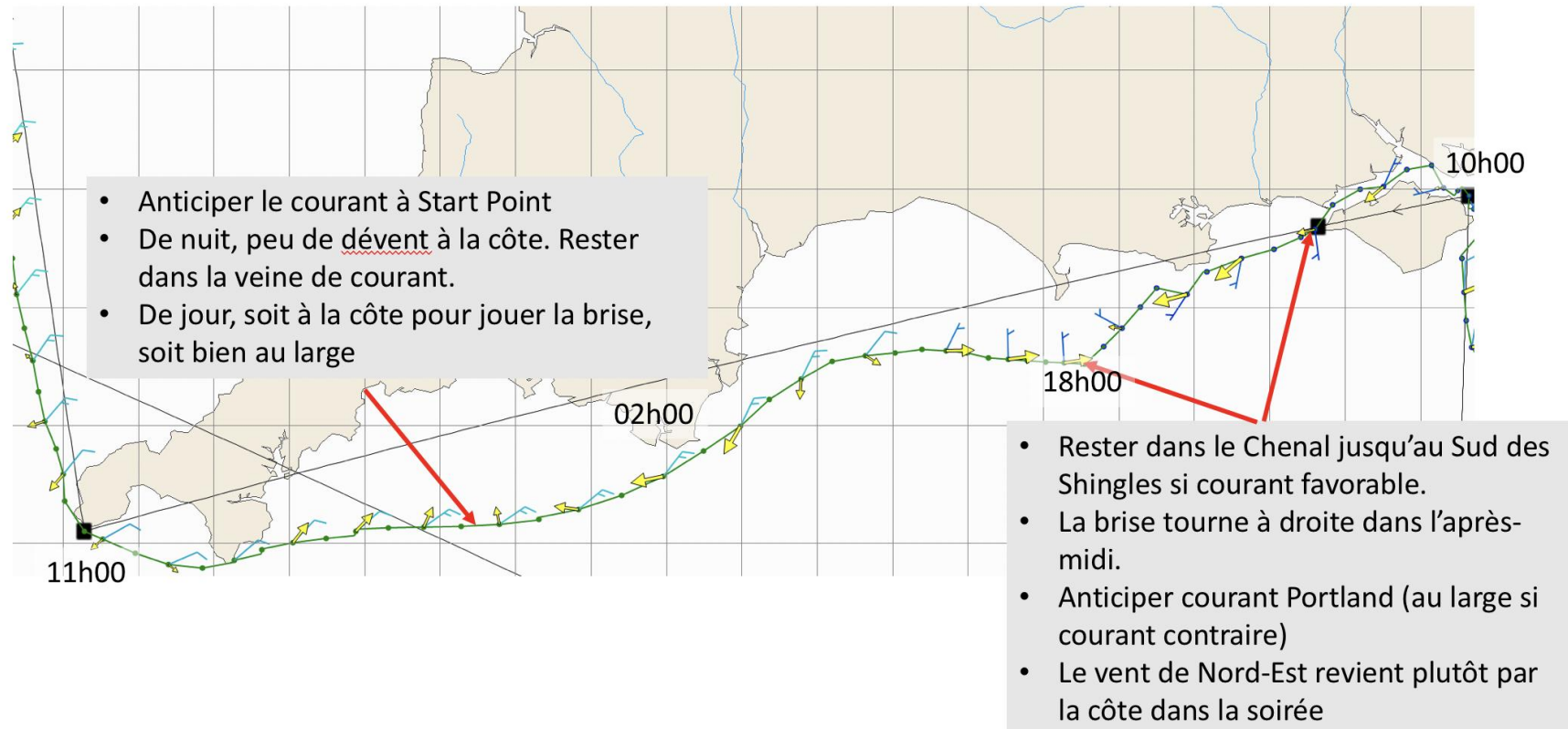
- Wind backs from WSW to SSW as you approach the finishing line. If this left shift is confirmed, you should finish on a long port tack.
- Wind decreases from 20+ knots down to 5-8 knots close to the finish.
- Mainly sunny with showers

- Adverse tide on the first part of the leg back home. Not much to do about it.
- It will be easier to play the current once in the sound.

Pre Start

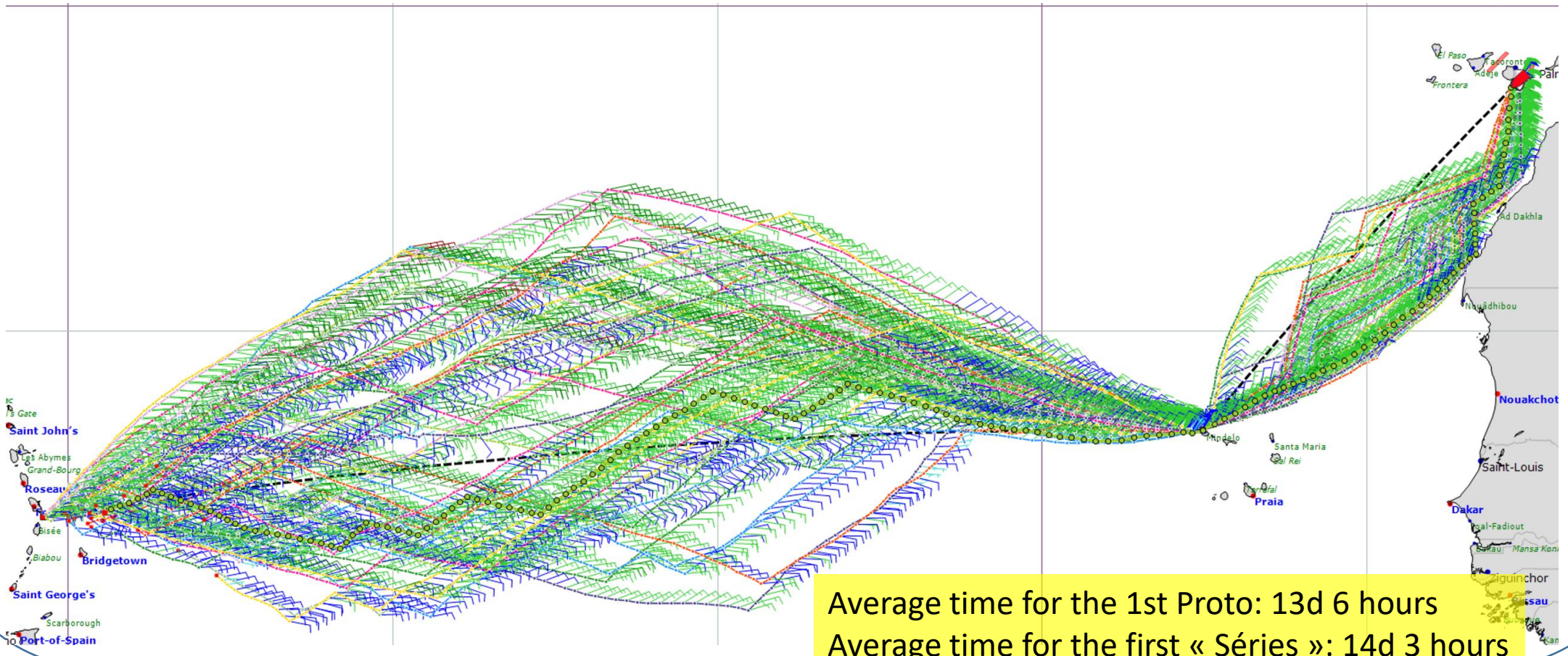
Full analysis of the race

Sud Grande Bretagne les 28 et 29 Mai



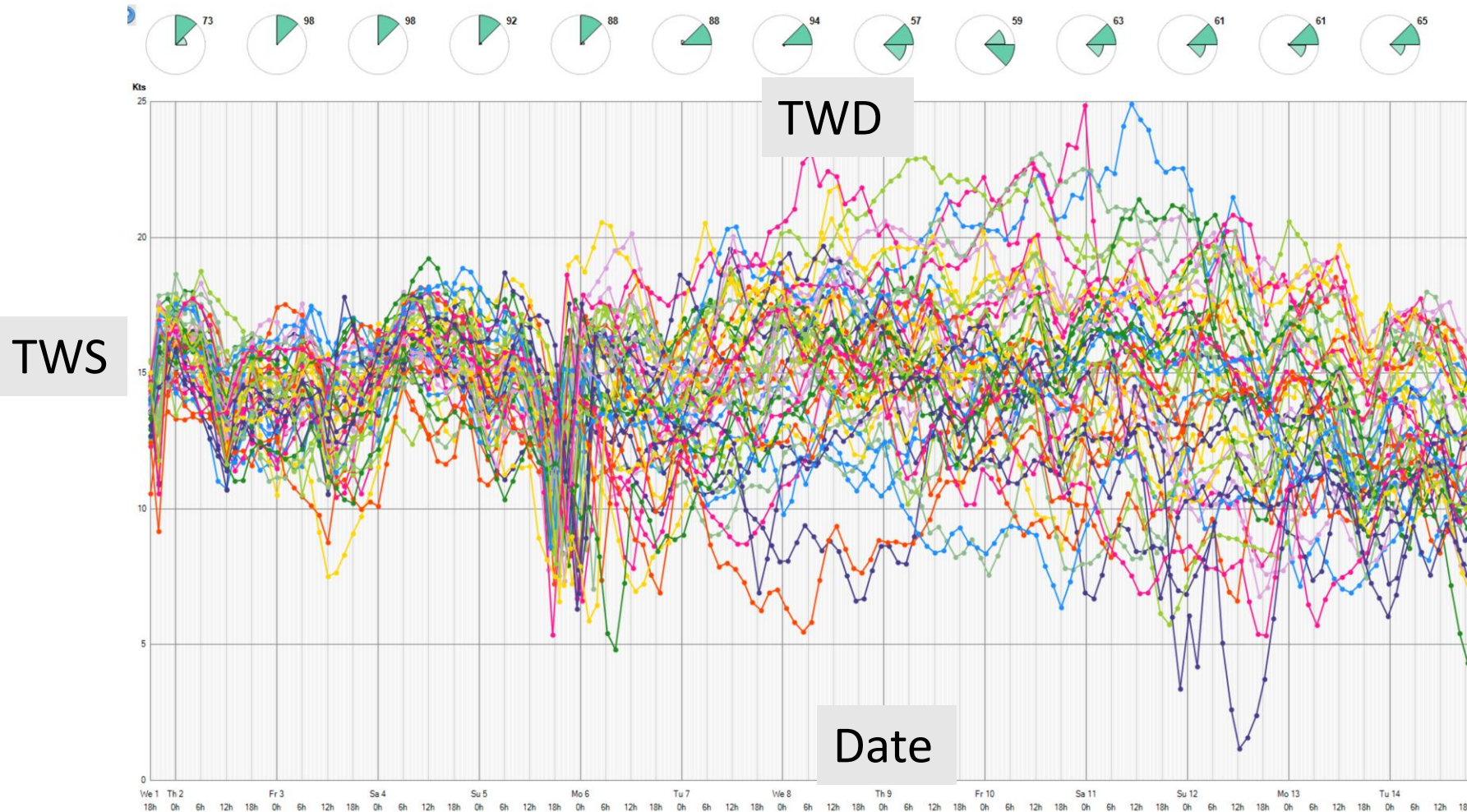
Pre Start Support

Ensemble routing with 70 models



Pre Start

Ensemble routing with 70 models – wind along the route

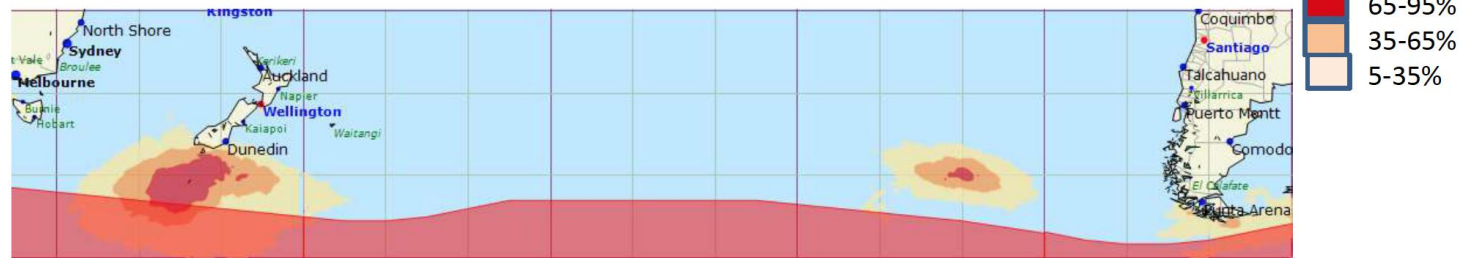


Weather Support to race organizers during the Race

During the Race

Probability: Wind Speed higher than 35kt

Dec 27 at 00Z



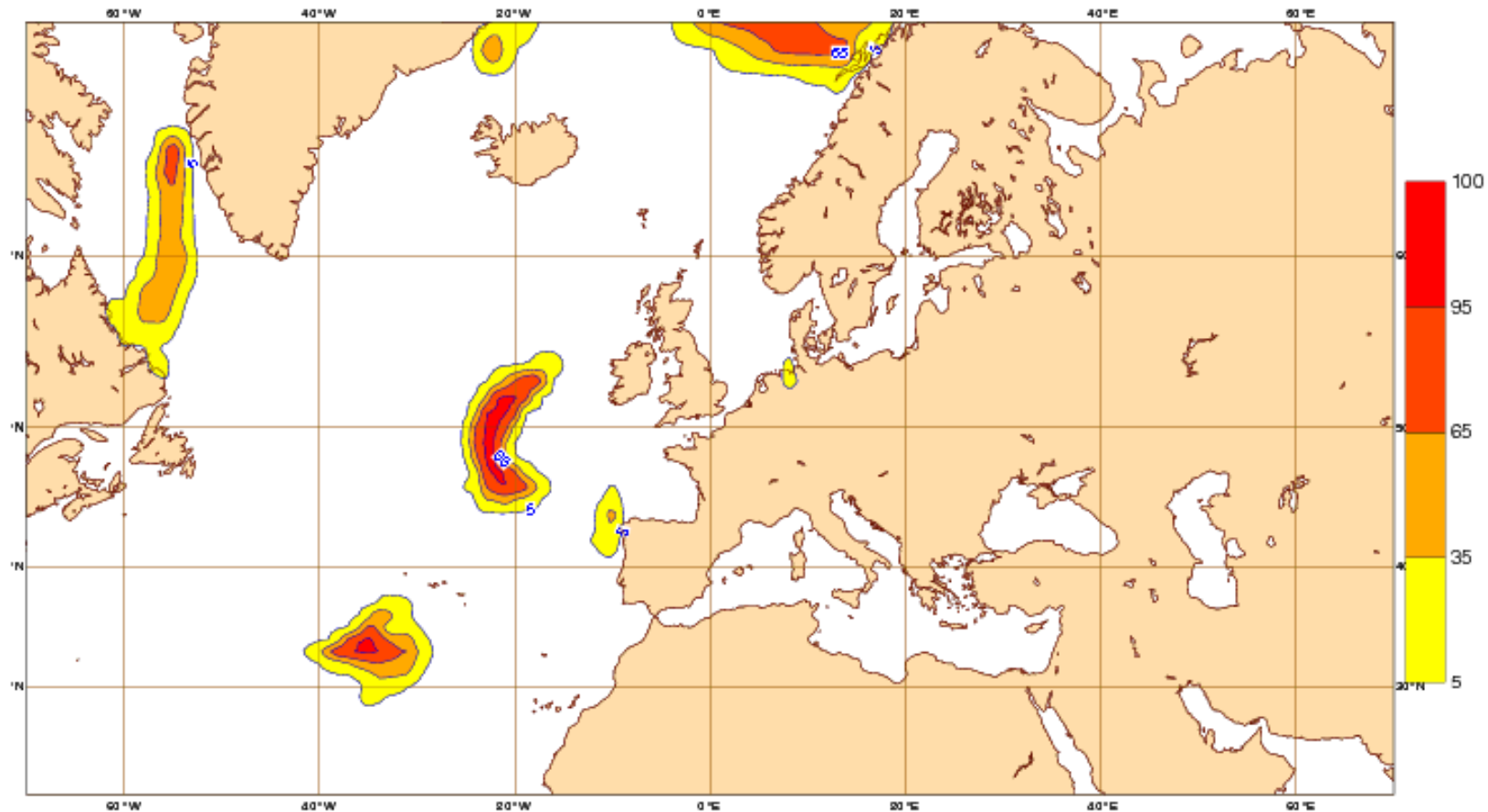
Dec 27 at 12Z



During the Race

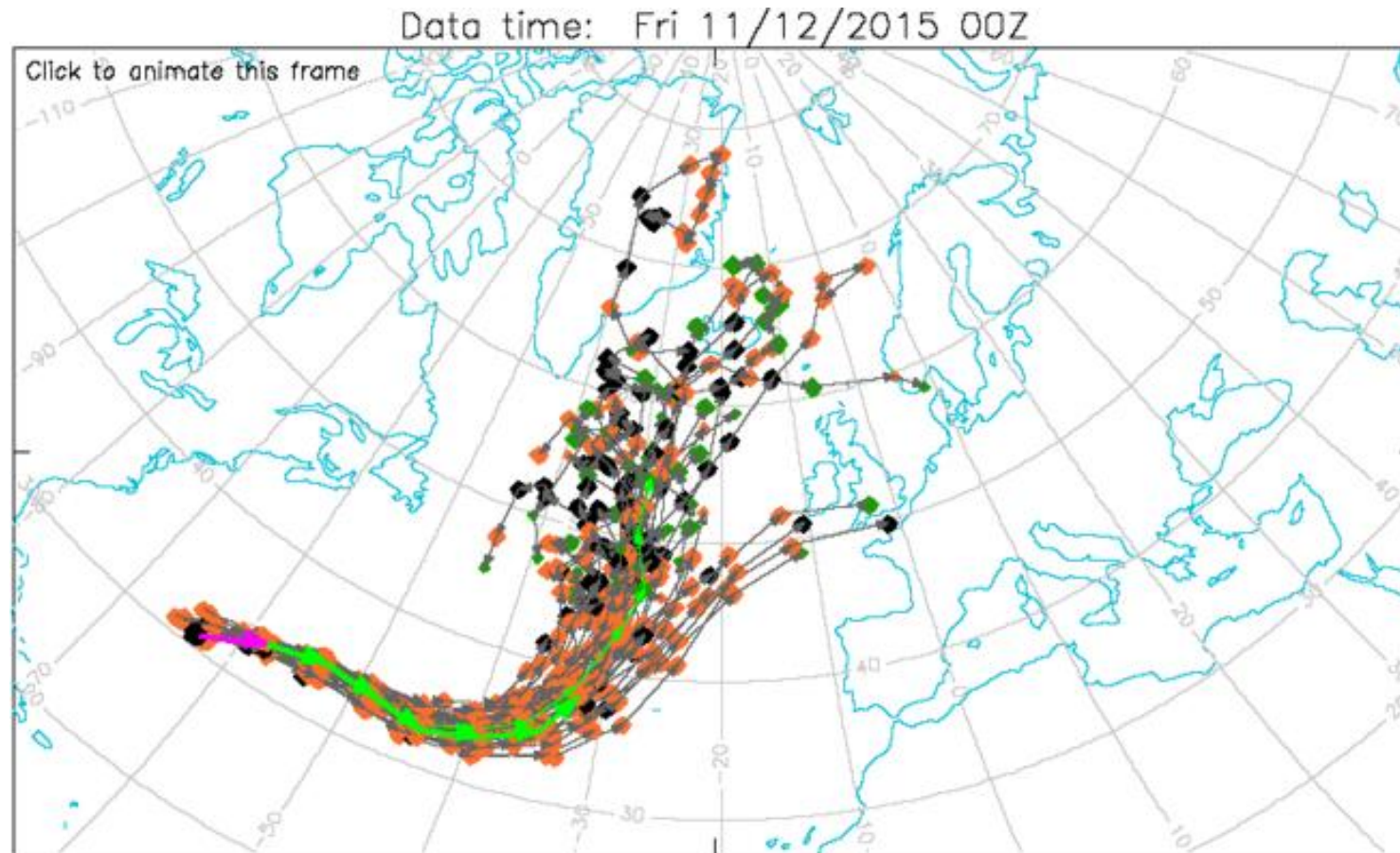
Probability: gusts (>50kt) – 13 to 14dec

Sunday 13 December 2015 00 UTC ©ECMWF Forecast probability 1-000-024 VT: Sunday 13 December 2015 00 UTC - Monday 14 December 2015 00 UTC
Surface: 10 metre Wind gust of at least 25 m/s



During the Race

Possible trajectories of a low



During the Race

Risk of heavy weather for each of the boats
(based on the Ensemble models)

Winds > 30 knots 0-24h

TEAM	MODELE	Toute la route				0 - 24h				24 - 48h				48 - 72h			
		Q25	Q50	Q75	Vent Max	Q25	Q50	Q75	Vent Max	Q25	Q50	Q75	Vent Max	Q25	Q50	Q75	Vent Max
HugoBoss	CEP	11.15	14.40	18.65	29.20	22.7	24.1	27.7	29.2	14.625	15.250	16.875	19.100	11.975	12.750	15.725	-10000.0
	ENS-CEP	9.85	14.60	19.40	32.10	22.3	24.8	26.9	32.1	13.875	15.400	17.400	27.000	12.175	14.300	16.100	28.800
Gitana	CEP	10.90	14.65	19.40	30.10	24.1	26.7	27.6	30.1	15.40	16.60	18.45	20.60	12.125	13.250	16.000	-10000.0
	ENS-CEP	10.00	14.90	20.45	30.70	25.1	26.7	27.8	30.7	14.5	16.1	18.2	27.2	12.3	14.4	16.2	25.7
MaitreCoq	CEP	9.925	14.300	19.150	29.600	24.8	27.0	27.9	29.6	15.80	17.25	17.85	19.50	12.125	12.900	15.775	-10000.0
	ENS-CEP	10.3	15.1	20.6	30.7	25.325	26.800	28.000	30.700	14.9	16.6	18.8	27.9	12.40	14.45	16.20	25.90
SMA	CEP	9.15	15.65	23.30	33.40	22.1	22.9	27.5	30.3	26.275	30.800	32.200	33.400	13.700	16.500	17.675	-10000.0
	ENS-CEP	10.3	16.7	23.7	38.9	20.900	22.500	26.375	33.800	24.3	27.3	30.4	38.9	13.975	16.500	19.800	28.800
Initiatives	CEP	9.1	16.4	23.5	35.6	21.1	21.7	27.1	31.7	27.875	31.700	34.550	35.600	14.35	17.10	18.95	-10000.0
	ENS-CEP	10.2	17.1	24.1	41.9	20.4	21.8	26.2	33.7	26.075	29.100	31.800	41.900	14.60	17.45	20.90	29.70
SpiritOfYukoh	CEP	9.525	17.950	25.250	40.900	25.0	25.5	30.0	34.9	25.350	30.950	34.725	40.900	17.05	19.95	21.95	-10000.0
	ENS-CEP	9.6	17.4	26.2	40.5	24.2	25.5	29.0	39.7	27.50	30.85	34.00	40.50	16.5	19.7	23.6	39.0
PRB	CEP	8.875	16.100	23.225	37.200	18.1	18.9	24.2	31.3	29.475	31.700	34.225	37.200	13.90	16.75	19.25	-10000.0
	ENS-CEP	10.3	16.5	23.8	40.2	17.7	19.3	23.8	32.0	27.0	29.8	32.1	40.2	14.4	17.3	21.0	29.3

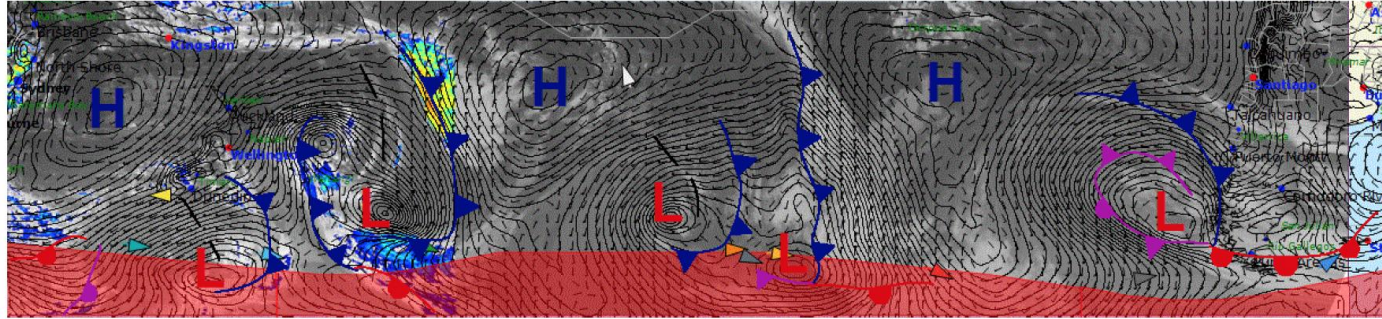
Winds > 30 knots 24-72h

TEAM	MODELE	Toute la route				0 - 24h				24 - 48h				48 - 72h			
		Q25	Q50	Q75	Vent Max	Q25	Q50	Q75	Vent Max	Q25	Q50	Q75	Vent Max	Q25	Q50	Q75	Vent Max
Newrest	CEP	11.35	16.50	25.35	33.50	14.2	15.9	18.4	23.9	27.10	30.10	32.35	33.50	22.15	27.90	31.00	-10000.0
	ENS-CEP	10.575	15.800	24.900	40.100	13.500	15.100	17.175	27.100	26.8	29.4	31.7	40.1	22.175	26.400	29.500	37.800

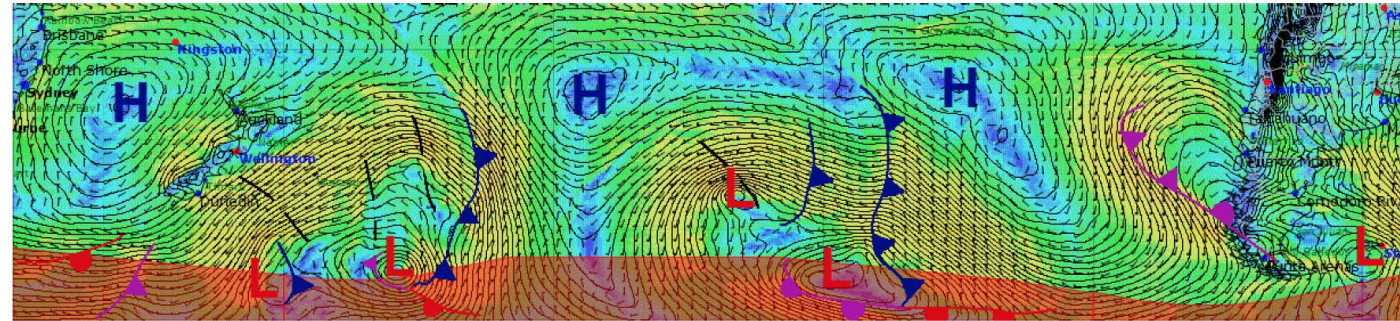
During the Race

Analysis and Forecast issued 24/12/2016 at 07h00 Z

24/12/2016 – 06h00 Z



25/12/2016 – 00h00 Z



26/12/2016 – 00h00 Z

