



STRAUMMÅLING

NS 9425-2

LOKALITET MIDTFLUA

Tysnes kommune



2012/03/14



Resipientanalyse AS

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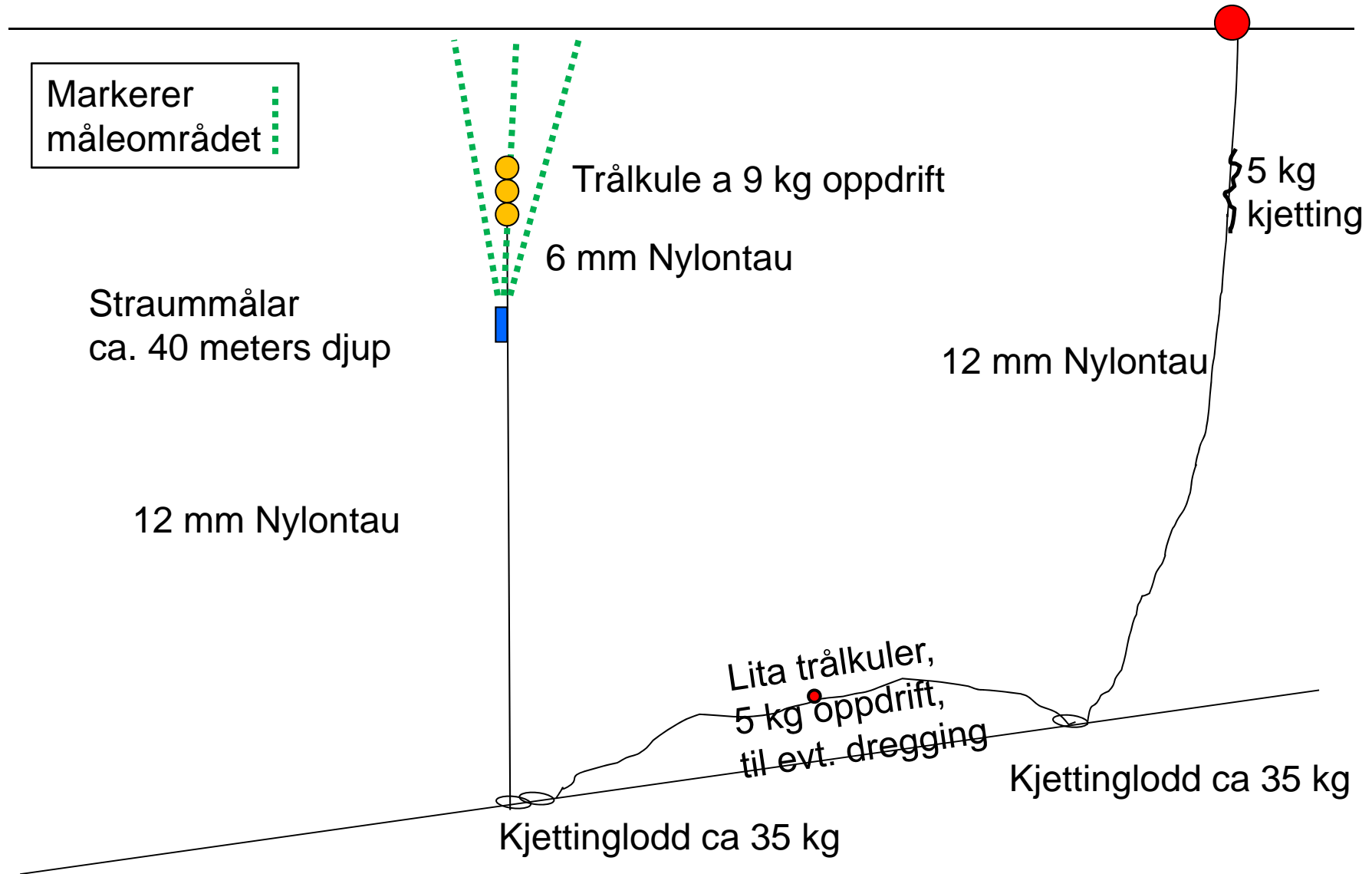
<i>Lokalitetsnamn, lokalitetsnr.og biomasse tillatelse</i> Midtflua – 13 541 – 3 120 TN	<i>Dato, rapport</i> 24 / 04 – 2012
<i>Kommune</i> Ramsvik kommune	<i>Dato, felt</i> Utsett: 14 / 03 – 2012 Opptak: 24 / 04 – 2012
<i>Oppdragsgjevar</i> Lerøy Vest AS	<i>Rapport nr.</i> 745 – 2012
<i>Oppdragsart</i> Straummåling	<i>Rapportsider</i> 48
<i>Personell feltundersøking</i> Frode Berge-Haveland, Resipientanalyse AS Robert Siglevik, Lerøy Vest AS Erik Johnsen, Lerøy Vest AS Tommy Tøssdal, Lerøy Vest AS	Høgste målte vasstraum: Ved 5 meters djup: 0,366 m/s MOT sørvest (225°). Ved 15 meters djup: 0,246 m/s MOT aust (90°).
Den gjennomsnittlege Vassutskiftningsstraumen i måleperioden: 6 til 8 cm/s mellom 5 og 15 meters djup.	Den gjennomsnittlege Spreiingsstraumen i måleperioden: 5 til 7 cm/s mellom 20 og 30 meters djup.
<i>Samandrag</i> <p>Ein Nortek 400kHz Aquadopp profilerande straummålar blei sett ut på ca. 36 meters djup. Der var ca. 160 meter djupt ved målepunktet. Straummålaren målte oppover i vassøyla og var programmert til å måle 40 celler a 2 meter.</p> <p>Straummålinga viser ein dominerande straumretning nordover ved 5, 25 og 30 meters djup. Mellom 10 og 20 metersdjup gikk straumen omtrent like mykje nordover som sørover.</p>	
<i>Fagansvarleg i Resipientanalyse AS</i> Frode Berge-Haveland <i>Cand. Scient.</i> Marin mikrobiolog Daglegleiar i Resipientanalyse	<i>Kvalitetsansvarleg i Resipientanalyse AS</i> Kjetil Aursland <i>Cand. Scient.</i> Mikrobiolog Kvalitetsleiar i Resipientanalyse

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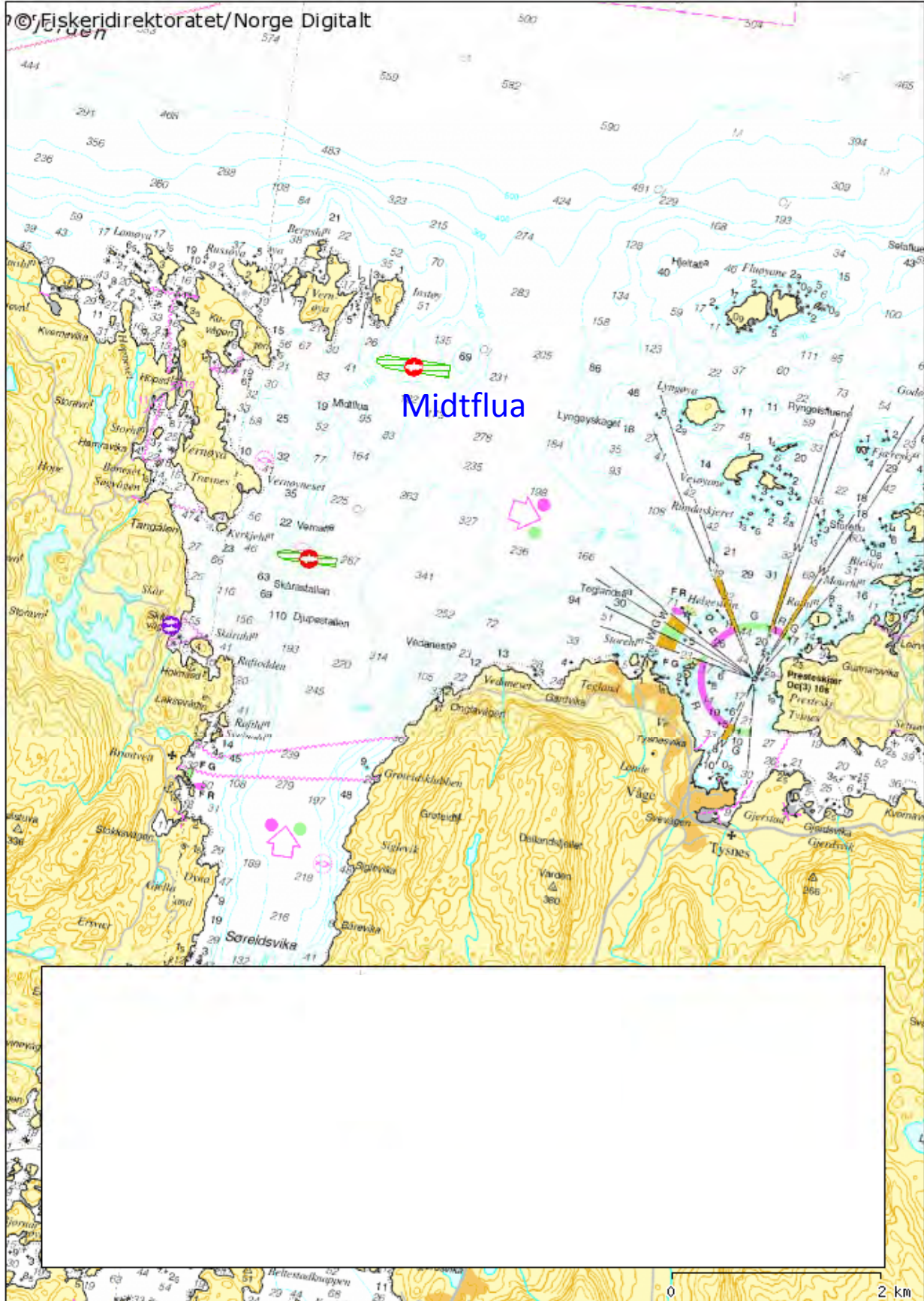
Skisse for utsetting av 1 profilerande doppler strømmålar

Overflatebøye A1
oppdrift 18 kg



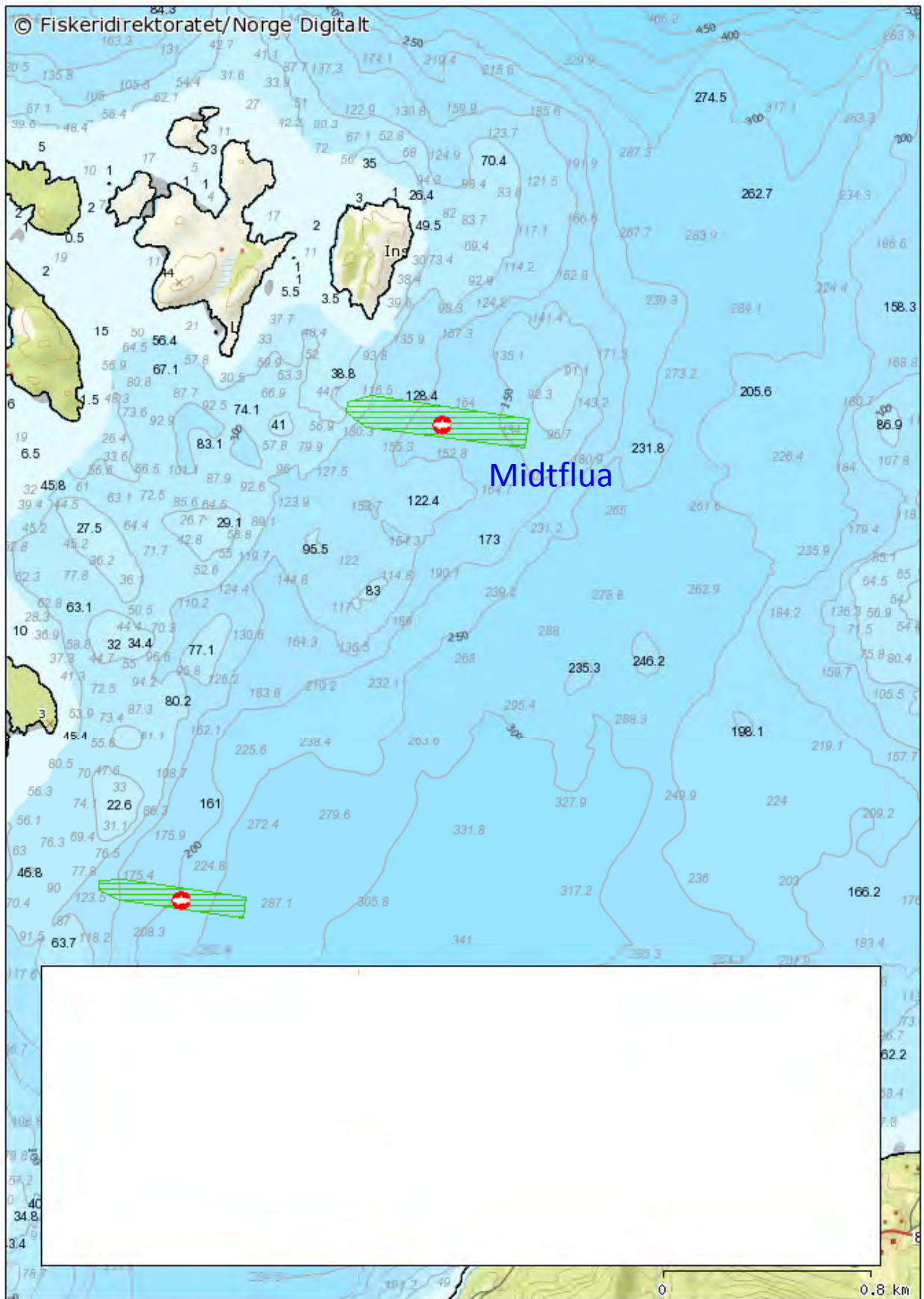
20.01.2010

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Målestokk: 1:50 000

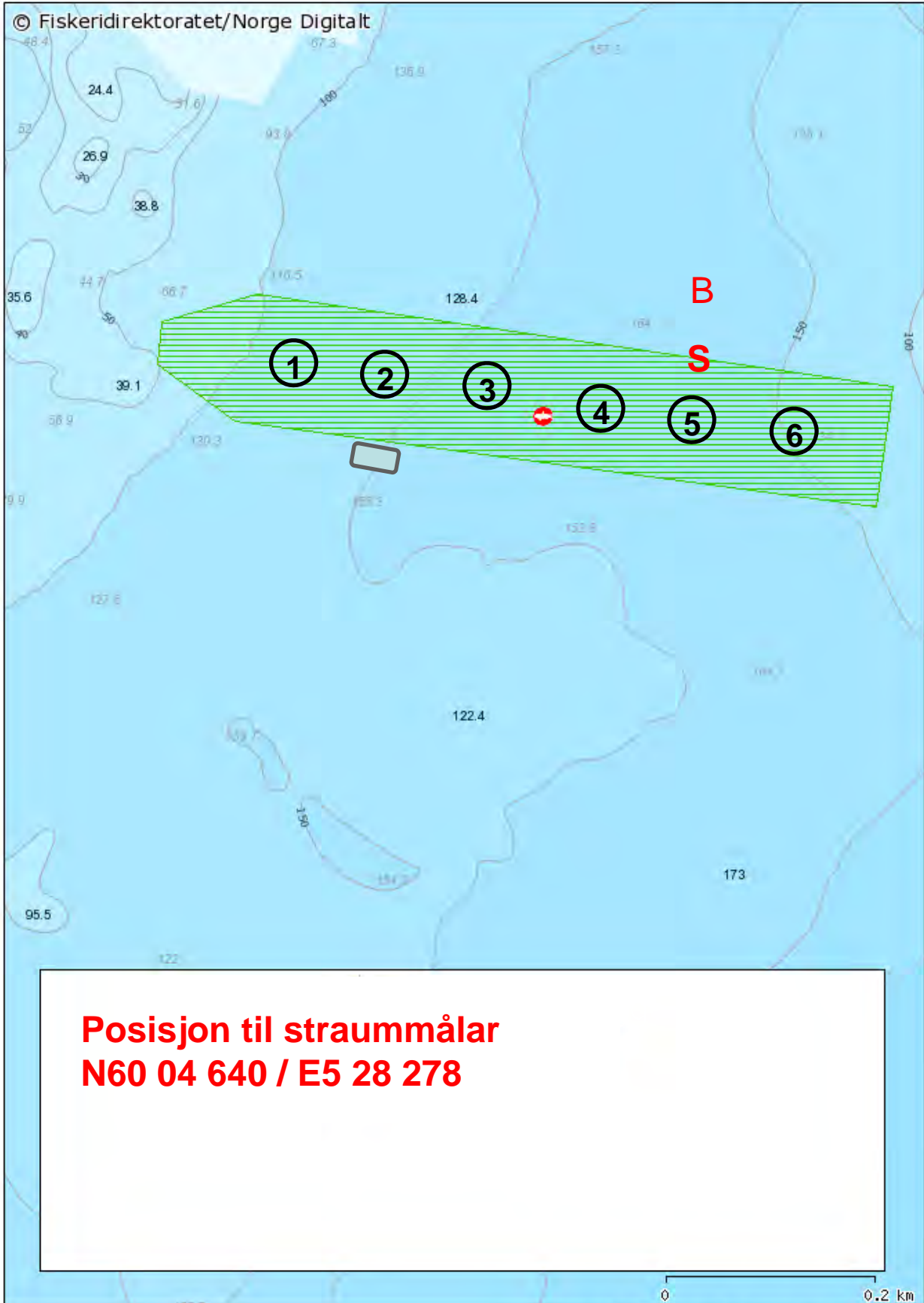
20.01.2010



Målestokk: 1:20 000

21.01.2010

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Målestokk: 1:5 000



Vassutskifting

24.04.2012

Resipientanalyse AS

Frode Berge-Haveland

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Summary

Details

Instrument

Head Id	AQP 3645
Board Id	AQD 5627
Frequency	400000

Configuration

Start	14.03.2012 14:00
End	24.04.2012 08:30
Data records	5872
Longitude	5° 28,28'E
Latitude	60° 4,64'N
Orientation	DOWN
Cells	40
Cell size(m)	2
Blanking distance(m)	0,99
Average interval(sec)	60
Measurement interval(sec)	600

Quality

Low Pressure Threshold	0
HighTilt Threshold	30
Expected Orientation	UP
Amplitude Spike Threshold	70
Velocity Spike Threshold	5
SNR Threshold	3

Post processing

Selected Start	14.03.2012 14:00
Selected End	24.04.2012 07:50
Compass Offset	0
Pressure Offset	0
Selected Records	5868
Reference	Water Surface
Top Depth(m)	5
Top invalid data	0
Middle Depth(m)	10
Middle invalid data	0
Bottom Depth(m)	15
Bottom invalid data	1

Statistics

Top [5,0m]

Mean current [m/s]	0.08
Max current [m/s]	0.37
Min current [m/s]	0.00
Measurements [#]	5868
Std.dev [m/s]	0.04
Significant max velocity [m/s]	0.12
Significant min velocity [m/s]	0.03
10 year return current [m/s]	0.604
50 year return current [m/s]	0.678
Most significant directions [°]	15.00, 30.00, 45.00, 60.00
Most significant speeds [m/s]	0.10, 0.05, 0.15, 0.20
Most flow	19646.99m ³ by 15-30°.
Least flow	4689.32m ³ by 255-270°.

Middle [10,0m]

Mean current [m/s]	0.06
Max current [m/s]	0.26
Min current [m/s]	0.00
Measurements [#]	5868
Std.dev [m/s]	0.04
Significant max velocity [m/s]	0.10
Significant min velocity [m/s]	0.03
10 year return current [m/s]	0.429
50 year return current [m/s]	0.481
Most significant directions [°]	60.00, 45.00, 30.00, 195.00
Most significant speeds [m/s]	0.05, 0.10, 0.15, 0.20
Most flow	16620.83m ³ by 180-195°.
Least flow	3442.37m ³ by 285-300°.

Bottom [15,0m]

Mean current [m/s]	0.06
Max current [m/s]	0.25
Min current [m/s]	0.00
Measurements [#]	5867
Std.dev [m/s]	0.04
Significant max velocity [m/s]	0.10
Significant min velocity [m/s]	0.03
10 year return current [m/s]	0.406
50 year return current [m/s]	0.455
Most significant directions [°]	60.00, 75.00, 45.00, 195.00
Most significant speeds [m/s]	0.05, 0.10, 0.15, 0.20
Most flow	16577.21m ³ by 180-195°.
Least flow	3434.47m ³ by 270-285°.

Direction with return period

Top [5,0m]

Direction	Mean	Max	Mean 10y	Max 10y	Mean 50y	Max 50y
0	0,076	0,235	0,125	0,387	0,140	0,434
45	0,079	0,245	0,130	0,404	0,146	0,453
90	0,074	0,286	0,121	0,472	0,136	0,529
135	0,070	0,311	0,115	0,513	0,129	0,576
180	0,094	0,302	0,155	0,498	0,174	0,559
225	0,067	0,366	0,110	0,604	0,124	0,678
270	0,066	0,188	0,108	0,310	0,122	0,348
315	0,067	0,183	0,110	0,302	0,123	0,339

Middle [10,0m]

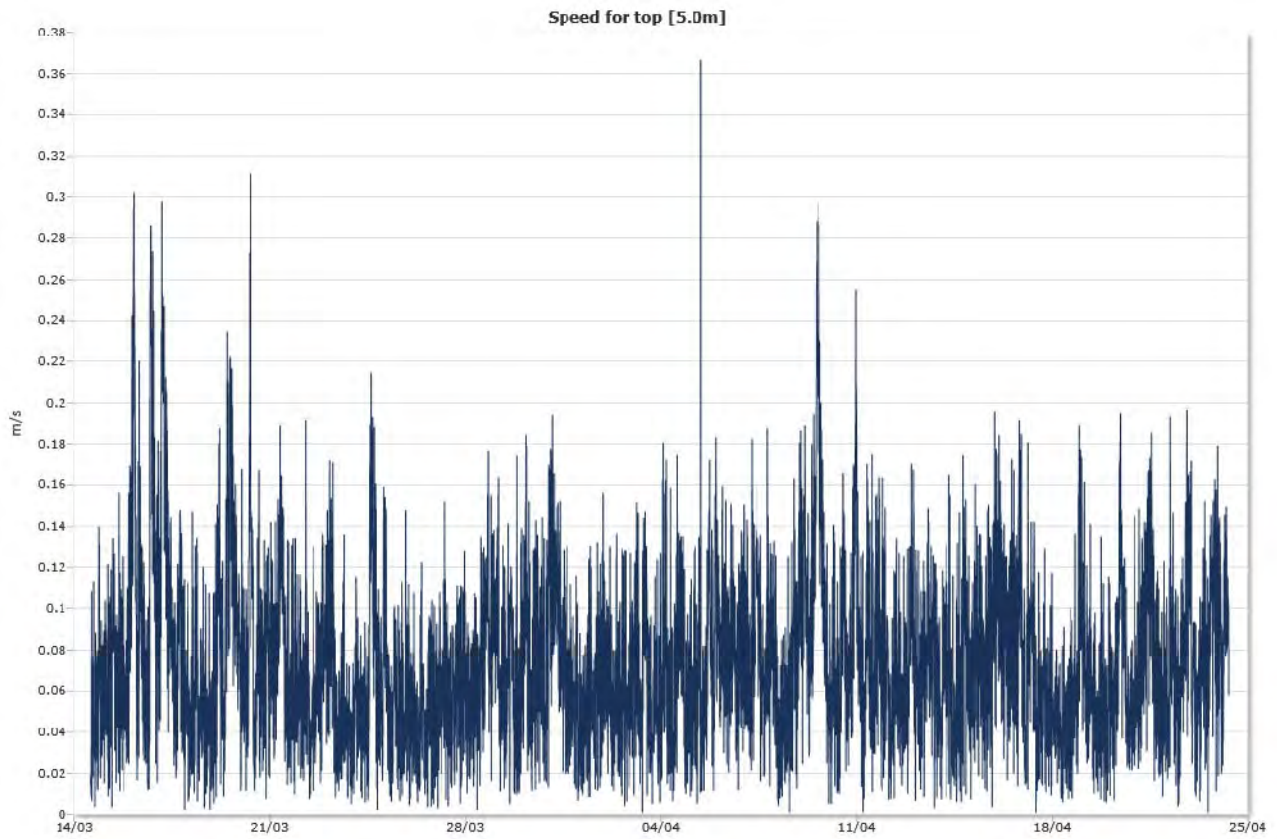
Direction	Mean	Max	Mean 10y	Max 10y	Mean 50y	Max 50y
0	0,056	0,177	0,092	0,291	0,103	0,327
45	0,064	0,207	0,105	0,342	0,118	0,383
90	0,060	0,220	0,099	0,362	0,111	0,406
135	0,056	0,231	0,093	0,381	0,104	0,427
180	0,078	0,245	0,128	0,405	0,144	0,454
225	0,063	0,260	0,104	0,429	0,117	0,481
270	0,048	0,141	0,079	0,232	0,088	0,260
315	0,049	0,160	0,081	0,264	0,091	0,296

Bottom [15,0m]

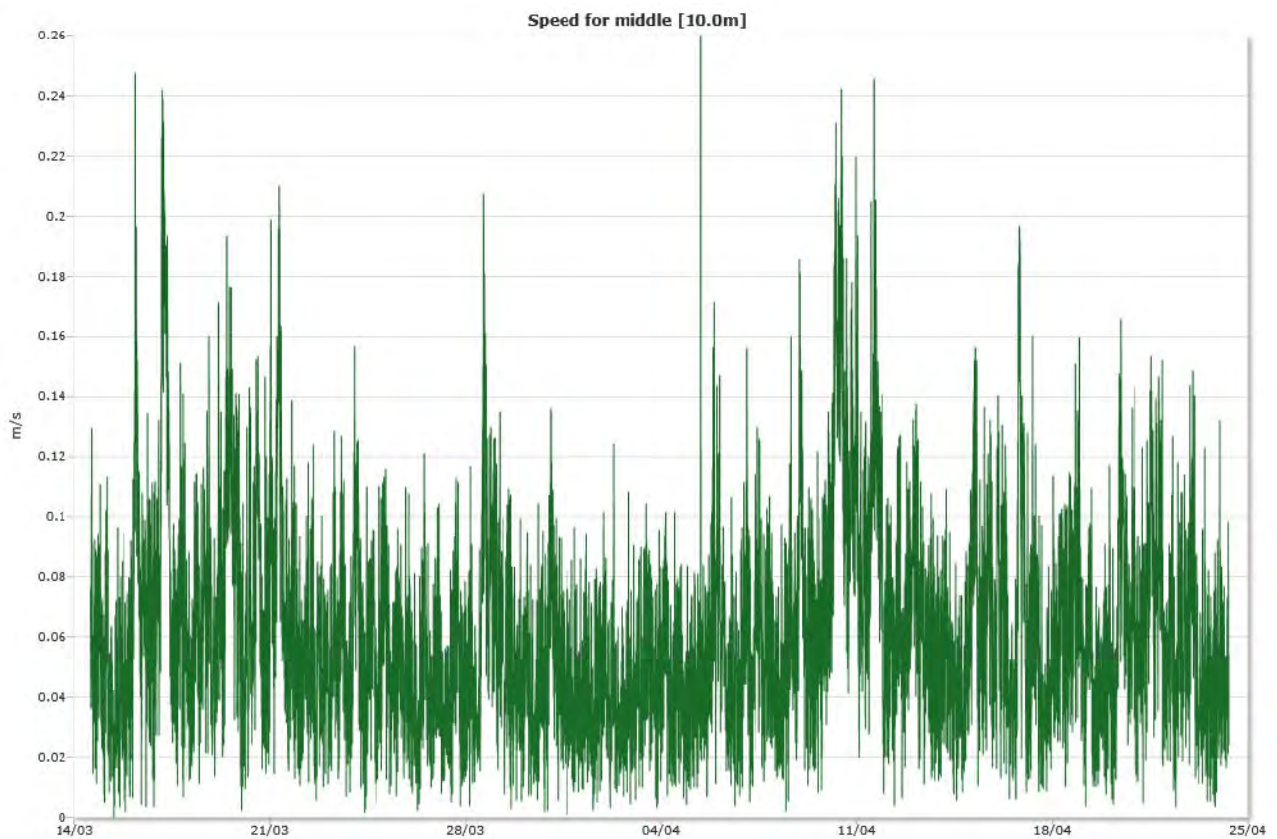
Direction	Mean	Max	Mean 10y	Max 10y	Mean 50y	Max 50y
0	0,056	0,179	0,093	0,295	0,104	0,331
45	0,058	0,189	0,095	0,312	0,106	0,349
90	0,061	0,246	0,101	0,406	0,113	0,455
135	0,055	0,201	0,091	0,332	0,103	0,372
180	0,083	0,241	0,136	0,397	0,153	0,445
225	0,062	0,217	0,103	0,357	0,115	0,401
270	0,047	0,125	0,077	0,207	0,087	0,232
315	0,050	0,153	0,082	0,253	0,092	0,284

Time series

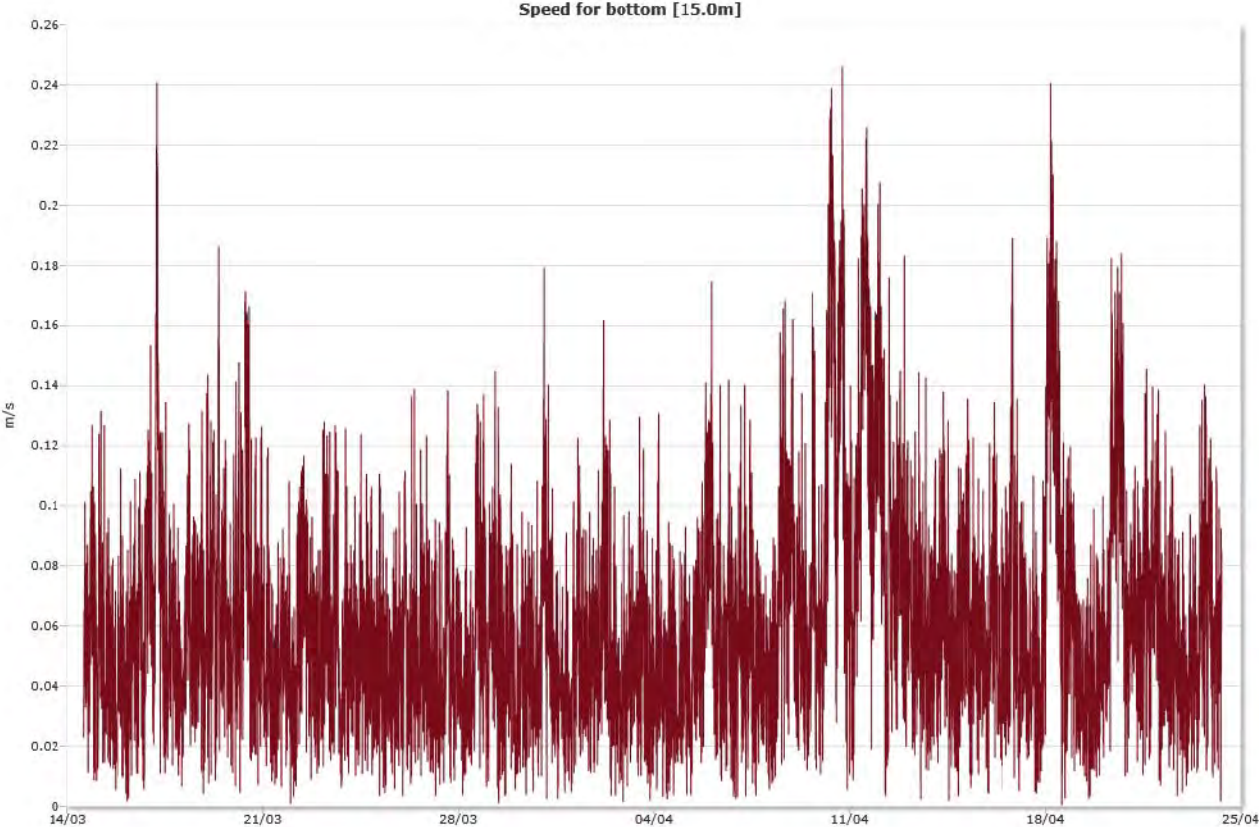
Top [5,0m]



Middle [10,0m]

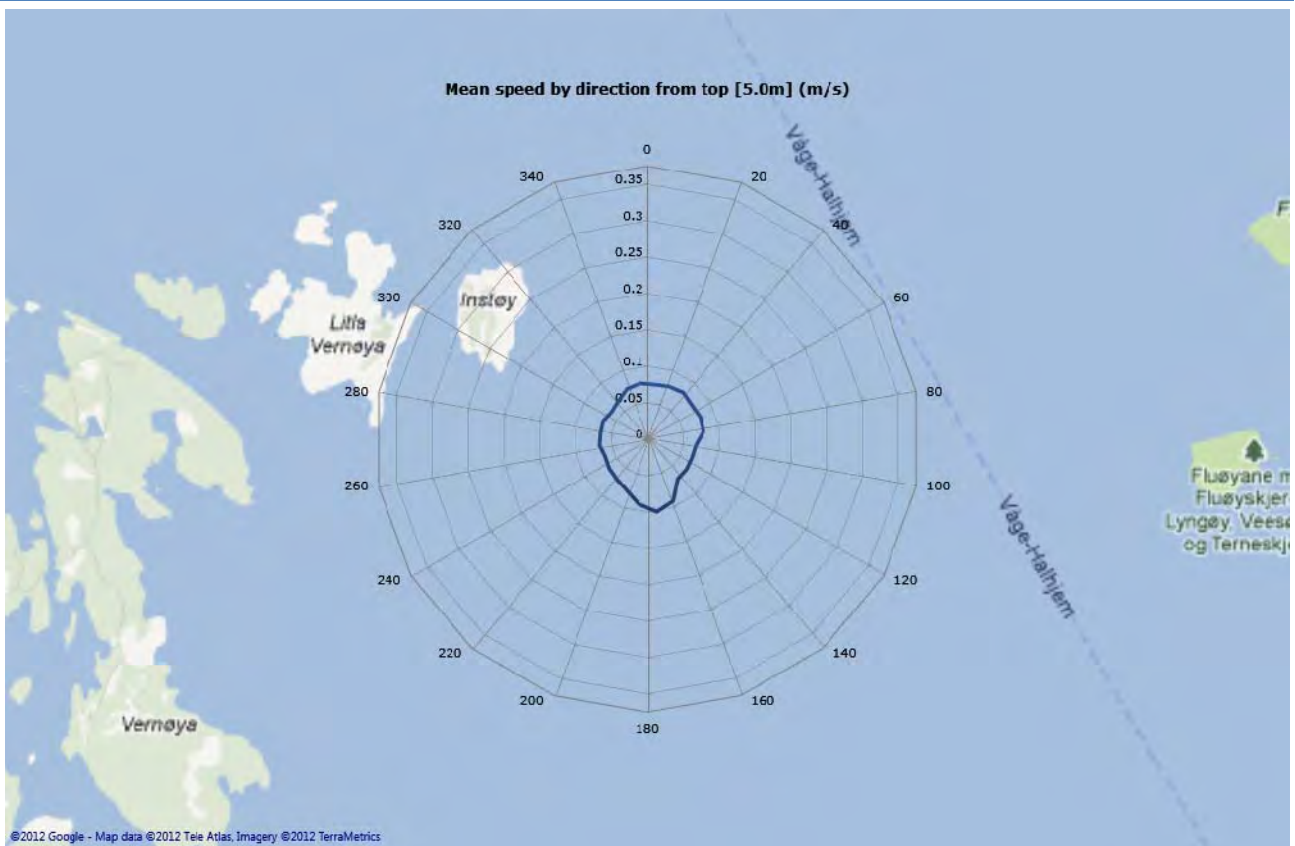


Bottom [15,0m]

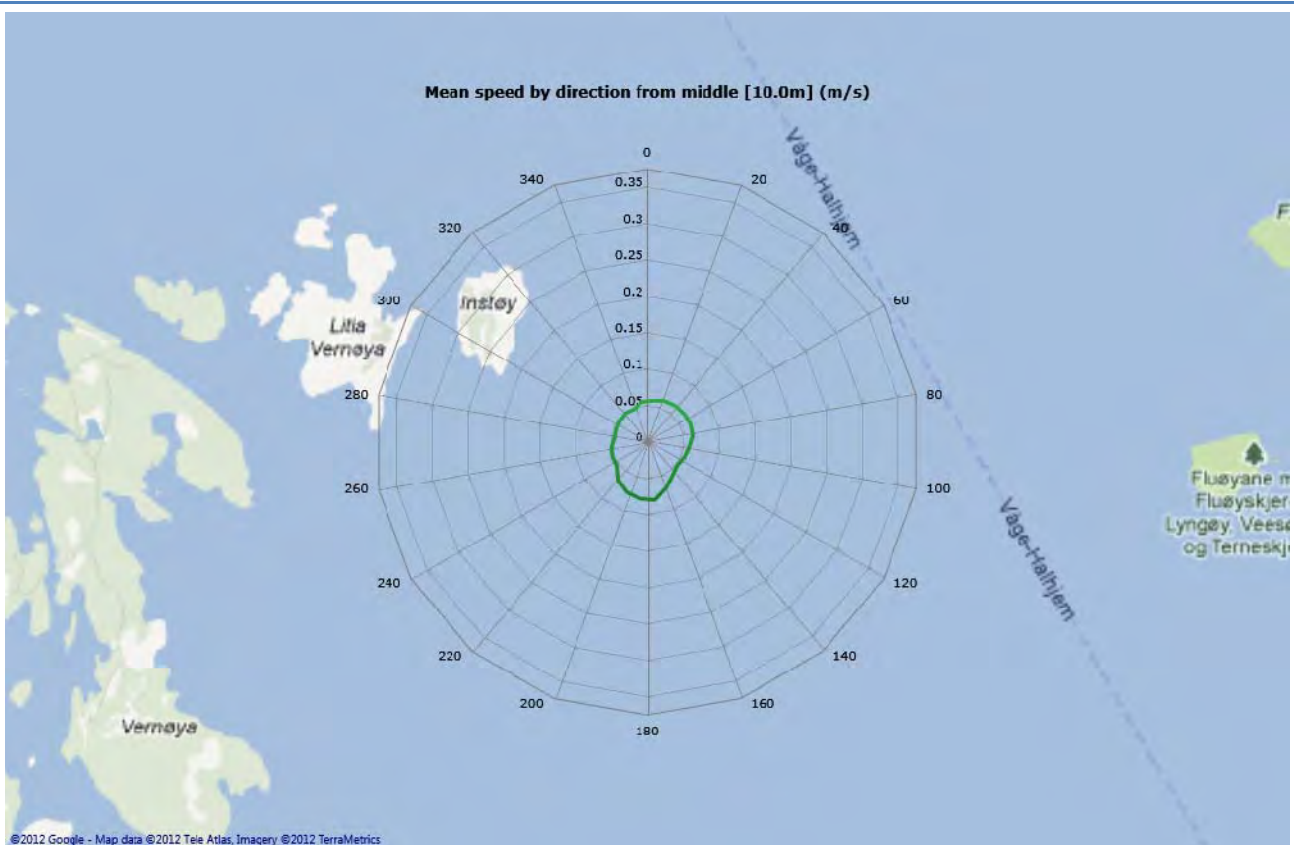


Mean speed - roseplot

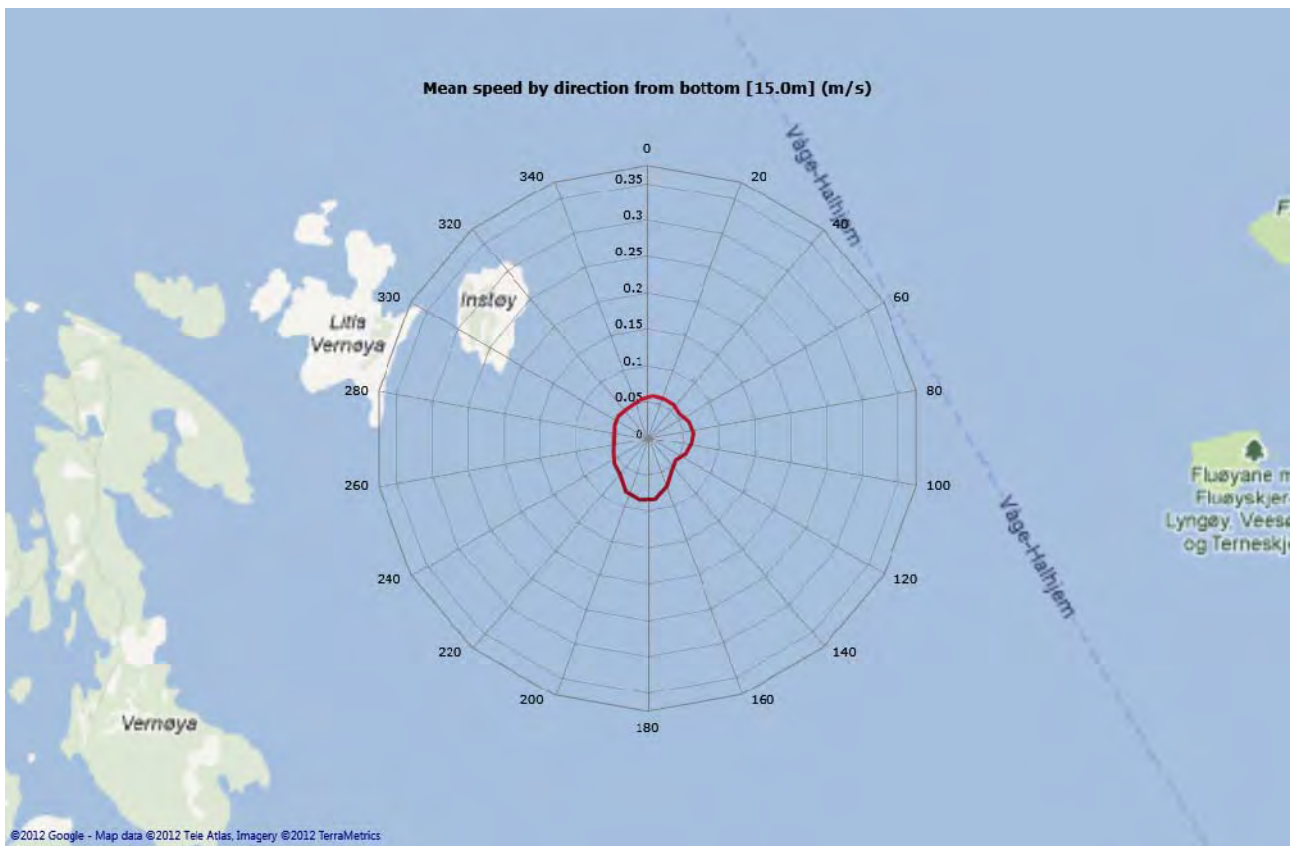
Top [5,0m]



Middle [10,0m]

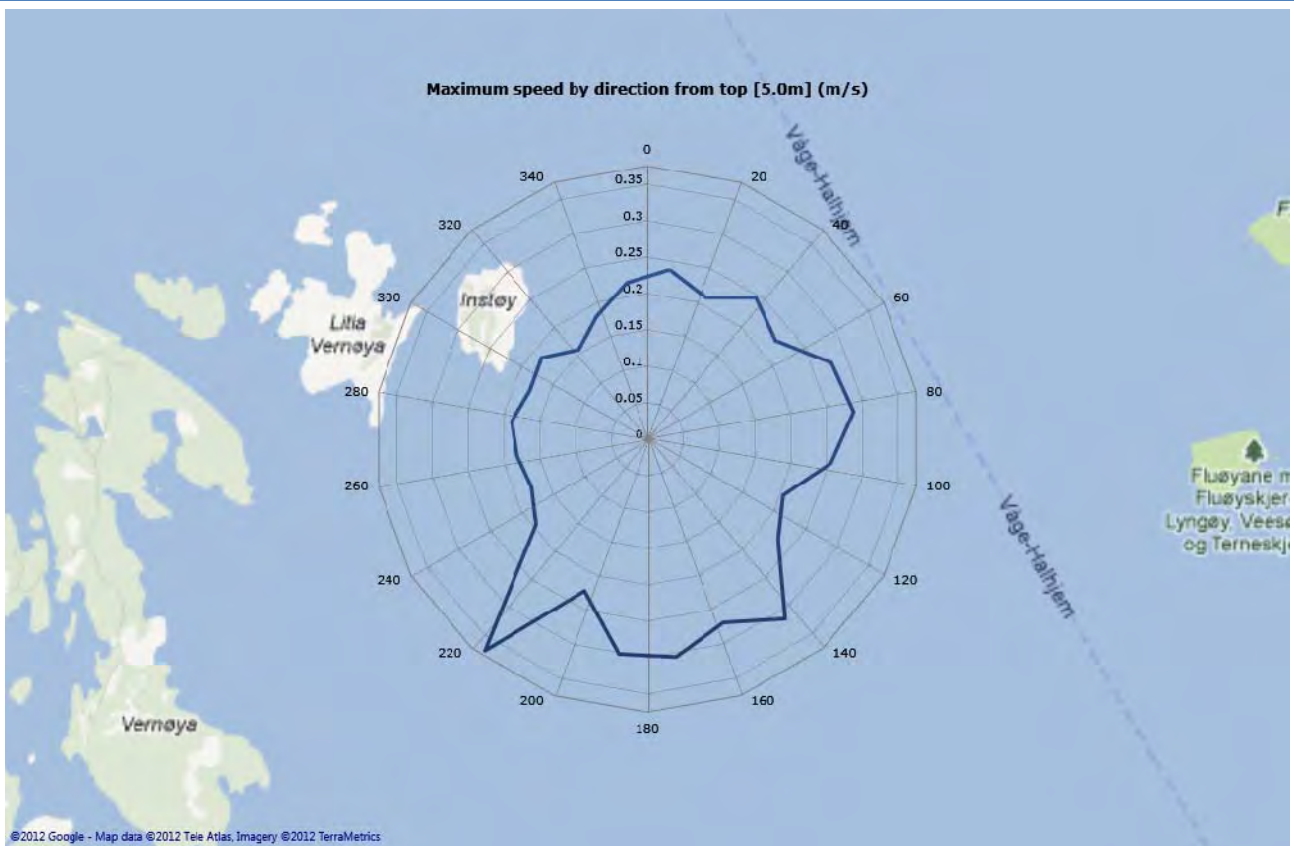


Bottom [15,0m]

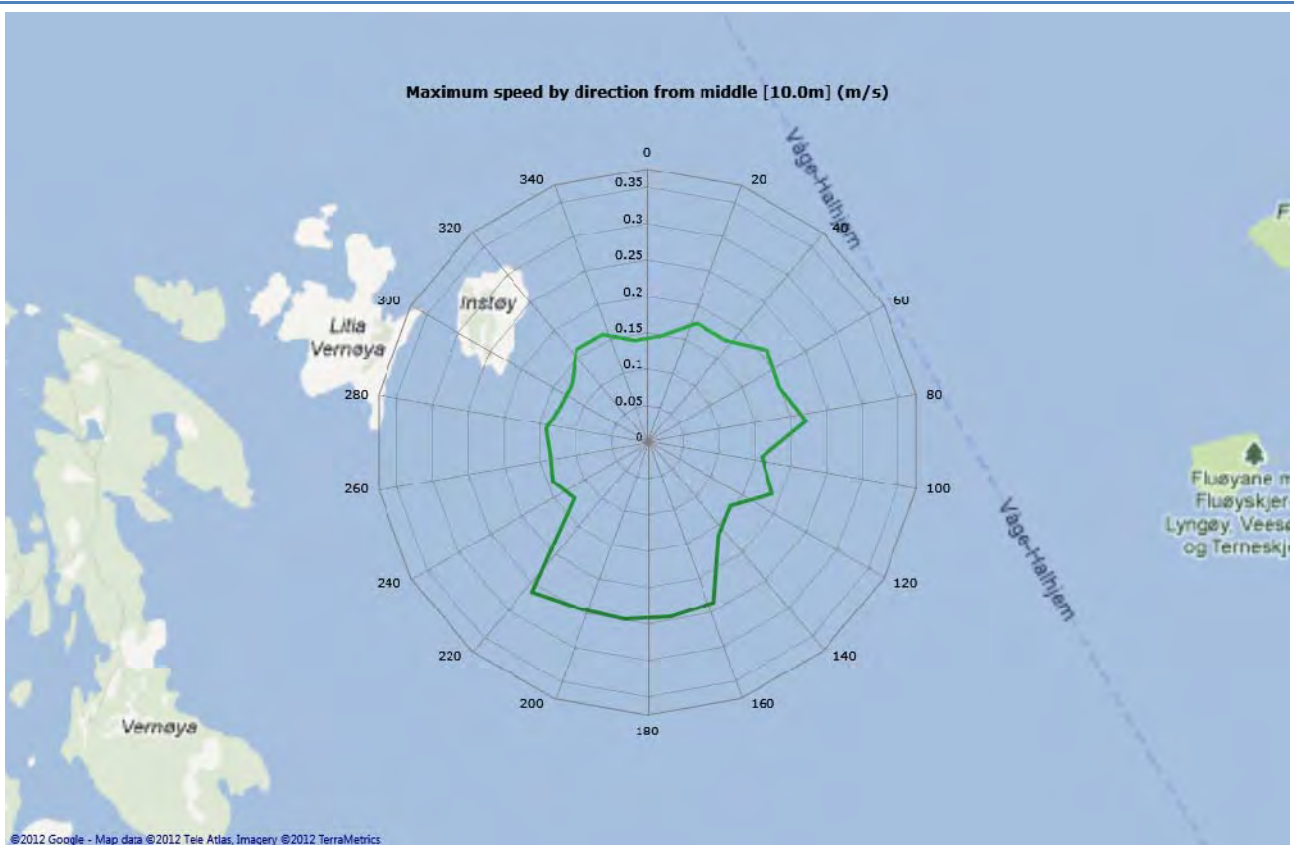


Max speed - roseplot

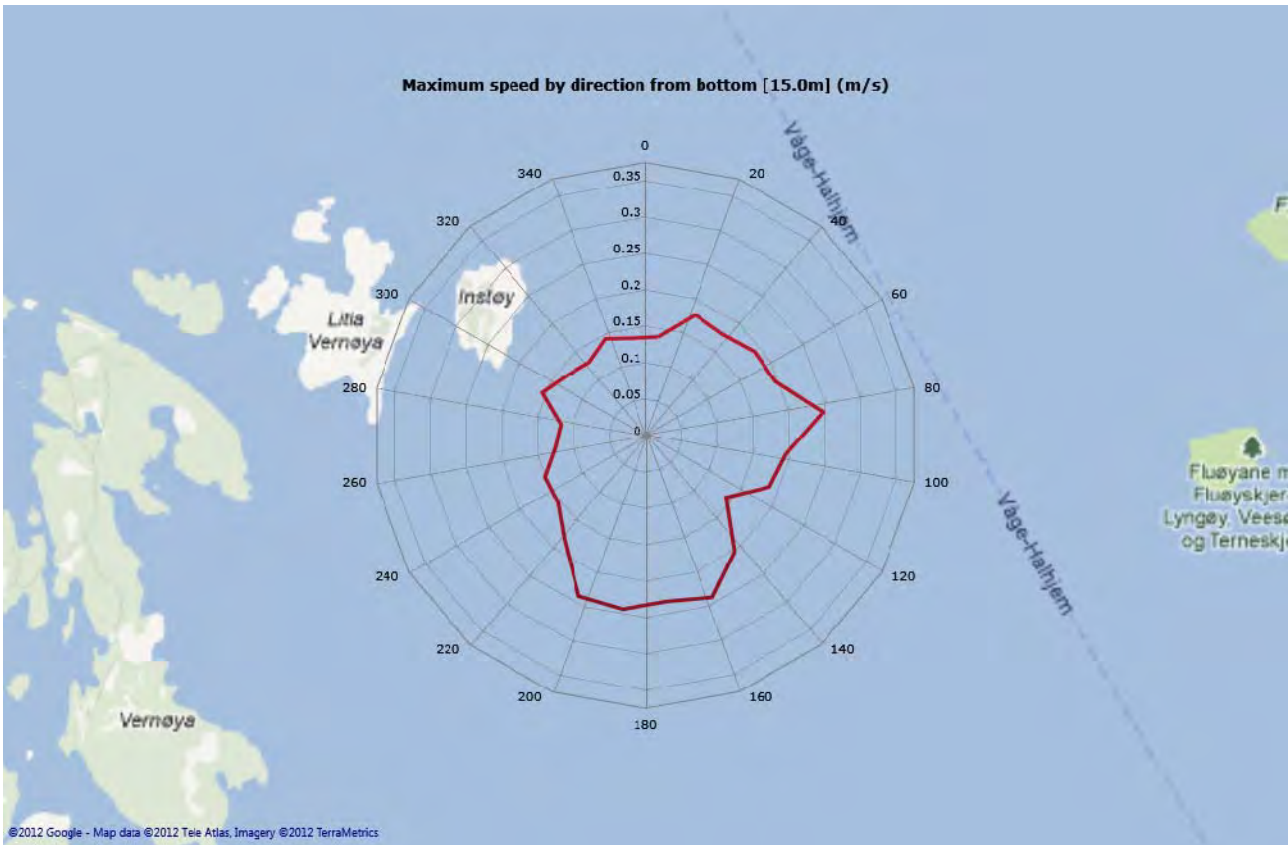
Top [5,0m]



Middle [10,0m]

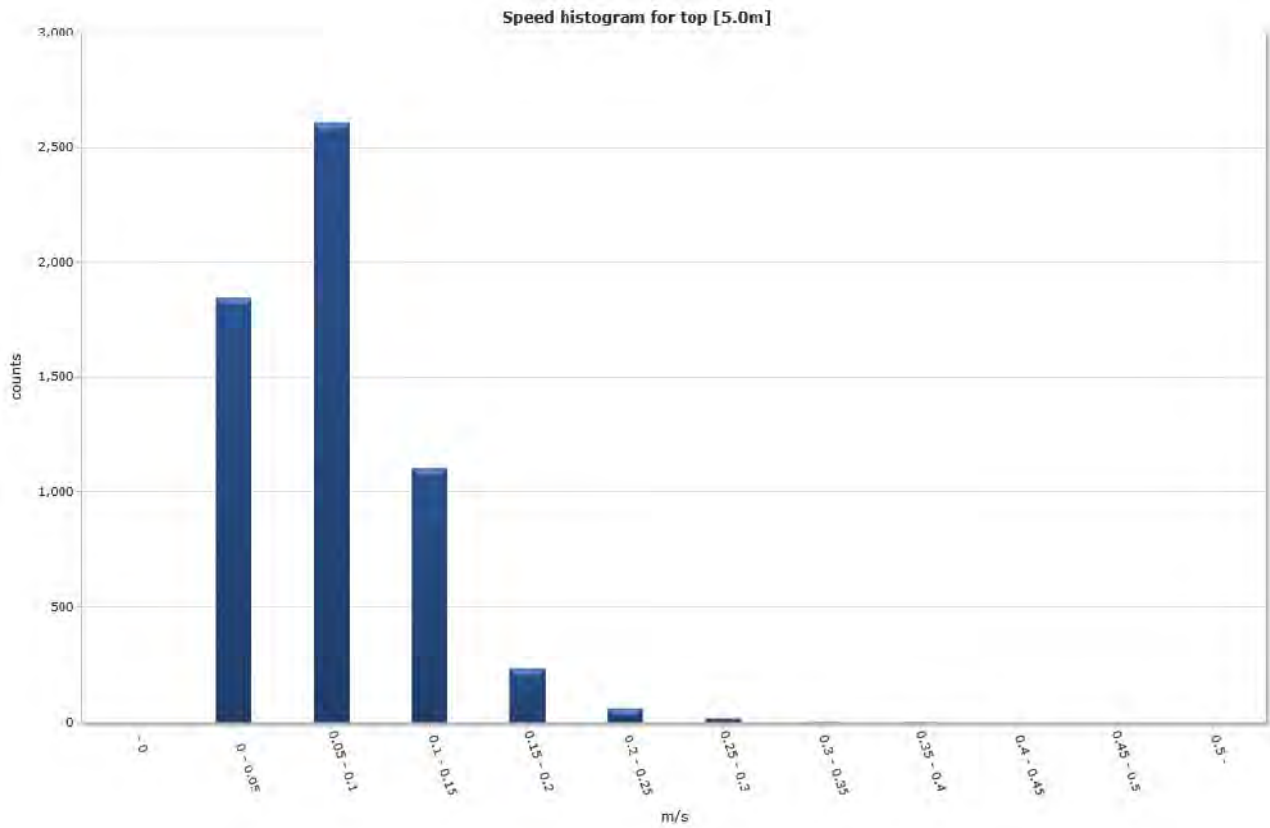


Bottom [15,0m]

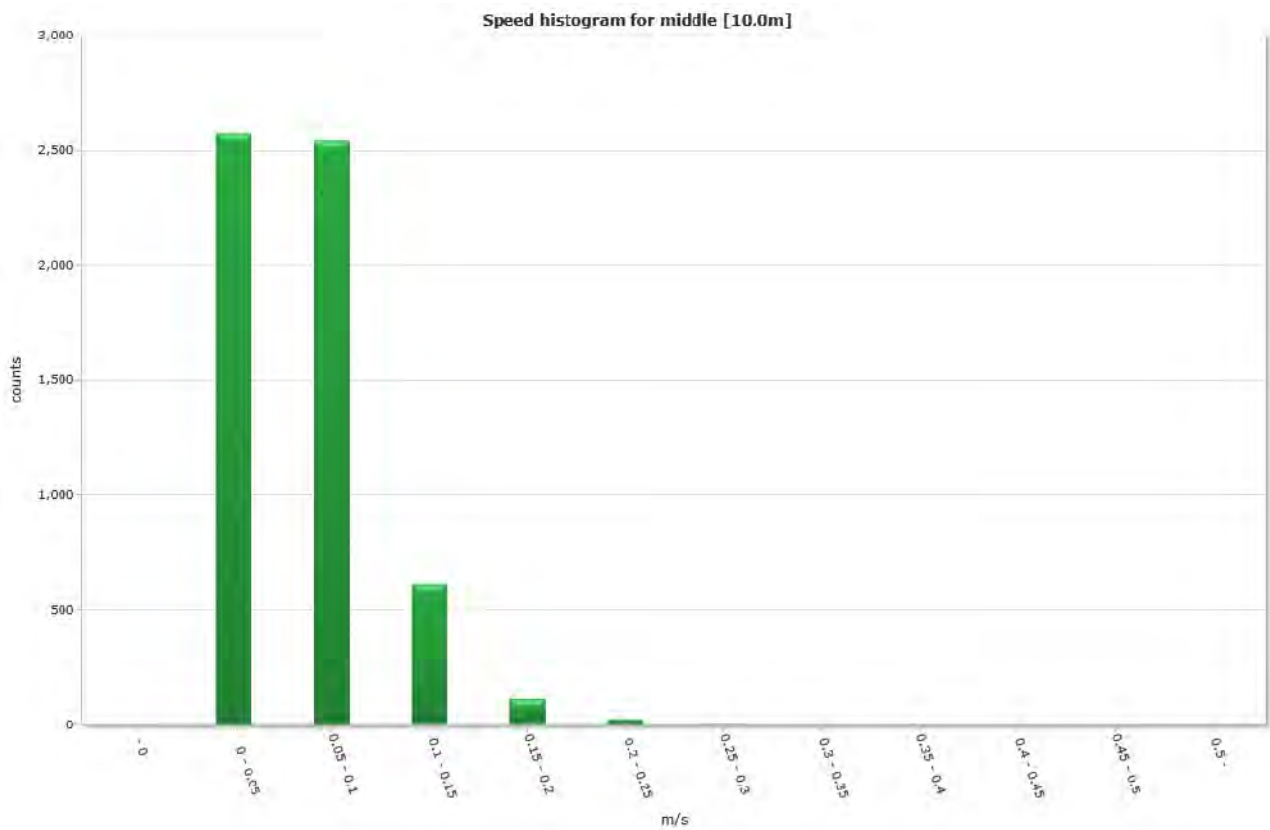


Speed histogram

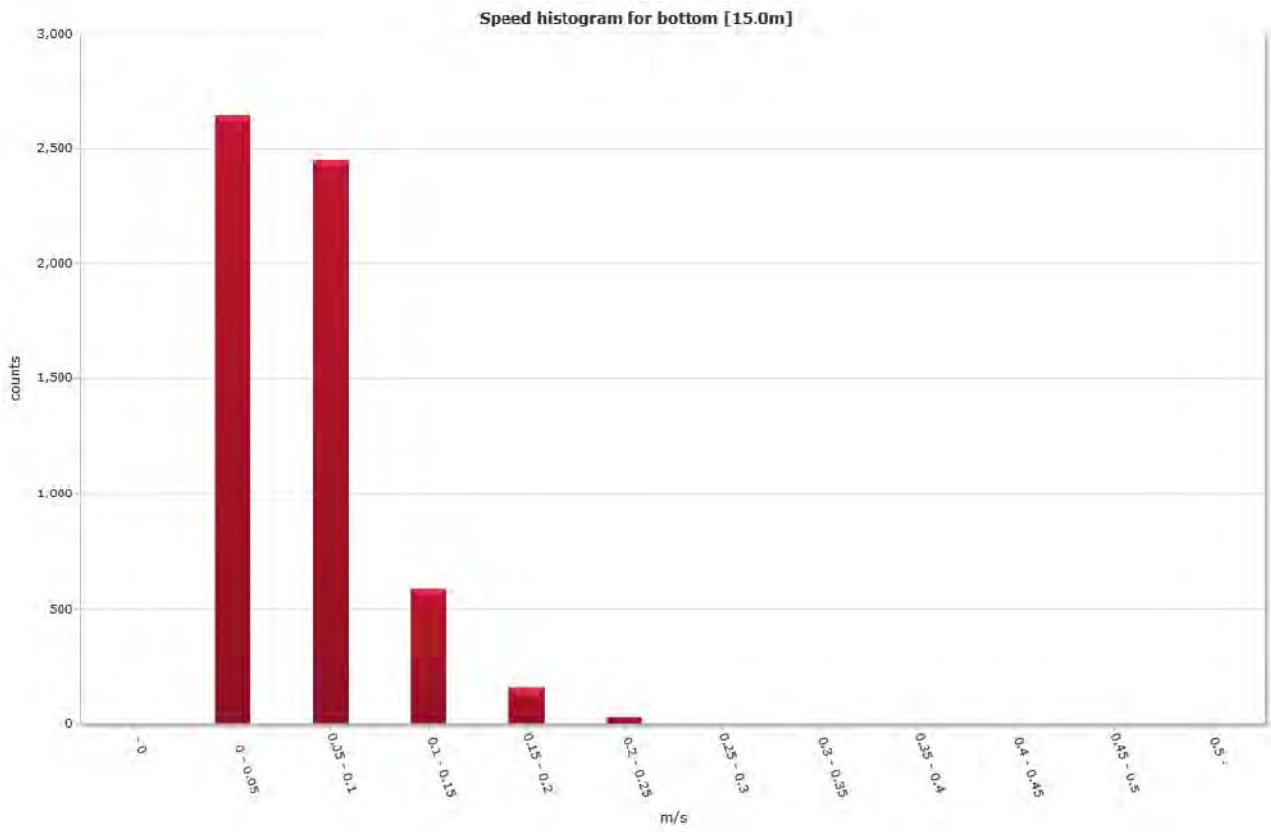
Top [5,0m]



Middle [10,0m]

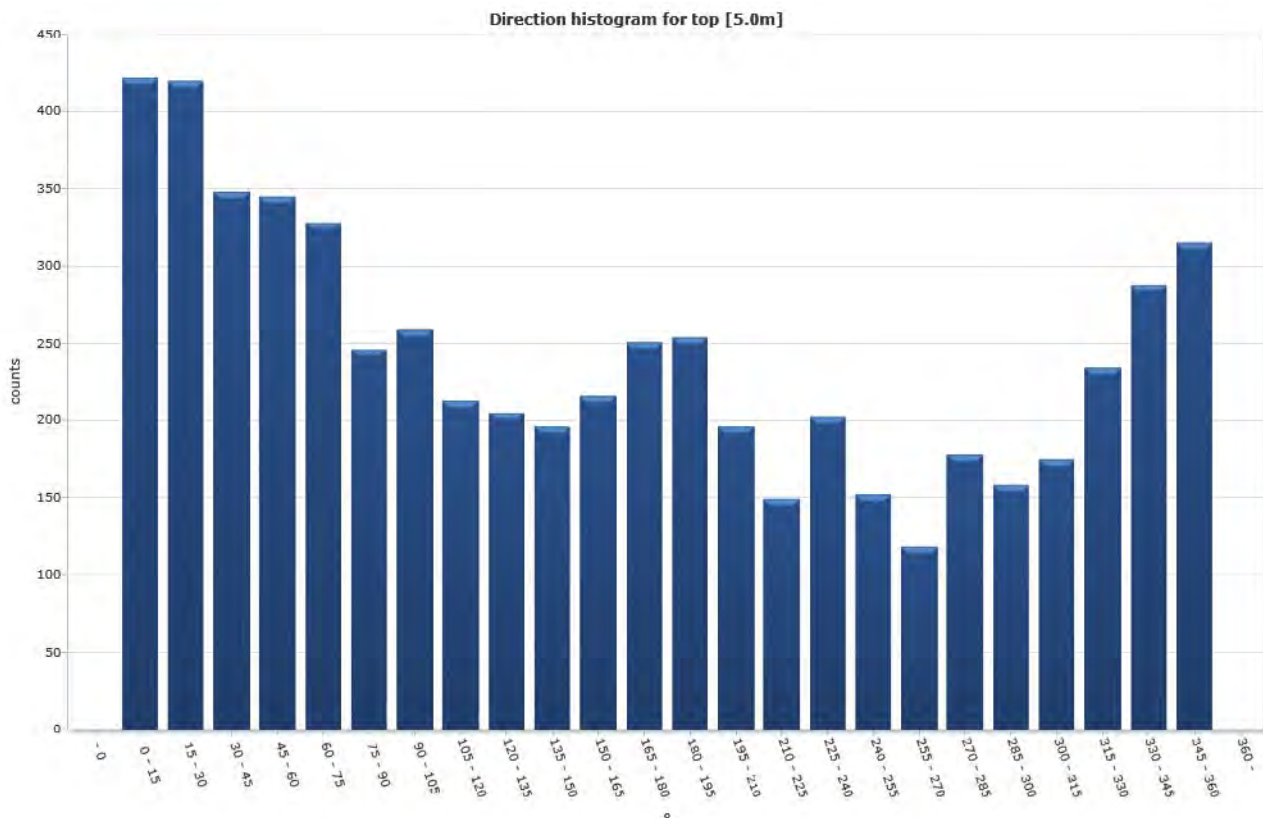


Bottom [15,0m]

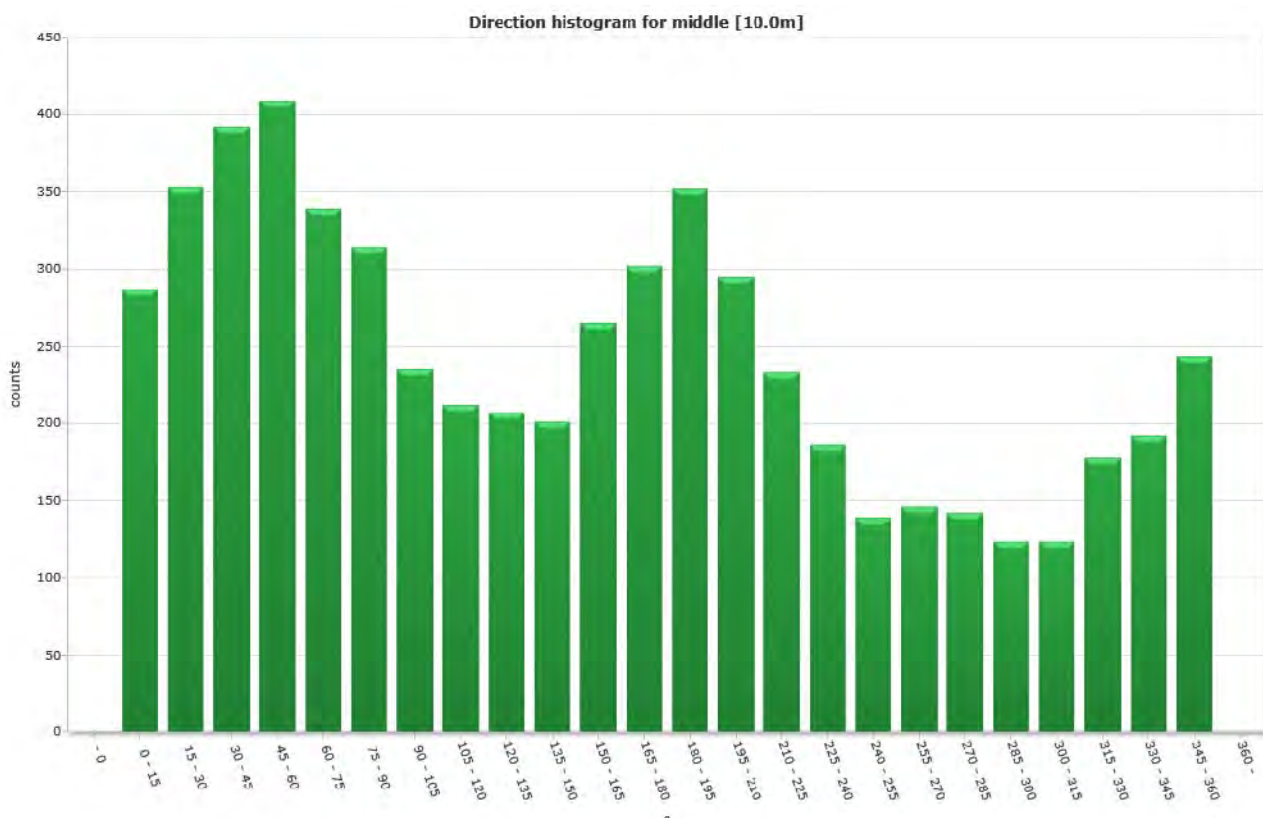


Direction histogram

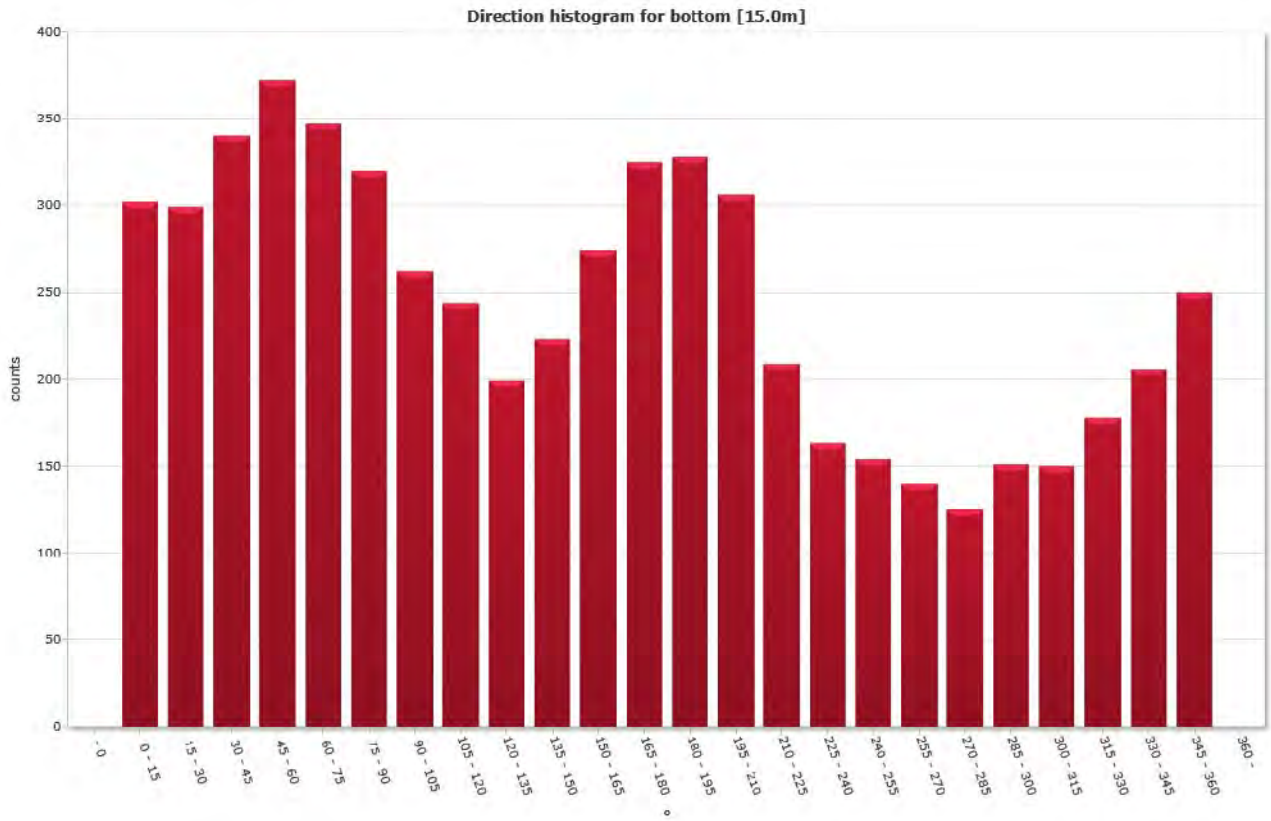
Top [5,0m]



Middle [10,0m]



Bottom [15,0m]



Direction/Speed histogram

Top [5,0m]

		Direction/speed matrix for top [5.0m]																									
m/s		15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360	%	Sum
0.0																											
0.05		123	111	80	98	83	67	90	72	74	72	66	60	68	64	57	67	61	44	77	67	75	88	91	88	31.4	1843
0.10		193	193	173	169	162	116	129	110	93	83	67	85	87	83	57	104	68	56	64	63	72	109	124	145	44.4	2607
0.15		91	99	76	57	65	45	32	28	29	34	51	56	68	35	31	26	21	15	35	21	24	34	65	67	18.8	1105
0.20		12	14	18	16	13	13	5	2	7	6	21	28	16	10	2	5	2	3	2	7	4	3	8	14	3.9	231
0.25		1	3	1	5	3	3	2	1	2	0	8	15	10	4	1	0	0	0	0	0	0	0	0	1	1.0	60
0.30		0	0	0	0	2	2	1	0	0	0	3	6	5	0	0	0	0	0	0	0	0	0	0	0	0.3	19
0.35		0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.0	2
0.40		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.0	1
0.45		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
0.50		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
%		7.2	7.2	5.9	5.9	5.5	4.2	4.4	3.6	3.5	3.3	3.7	4.3	4.3	3.3	2.5	3.4	2.6	2.0	3.0	2.7	3.0	4.0	4.9	5.4	100.0	100.0
Sum		422	420	348	345	328	246	259	213	205	196	216	251	254	196	149	202	152	118	178	158	175	234	288	315	100.0	5858

Middle [10,0m]

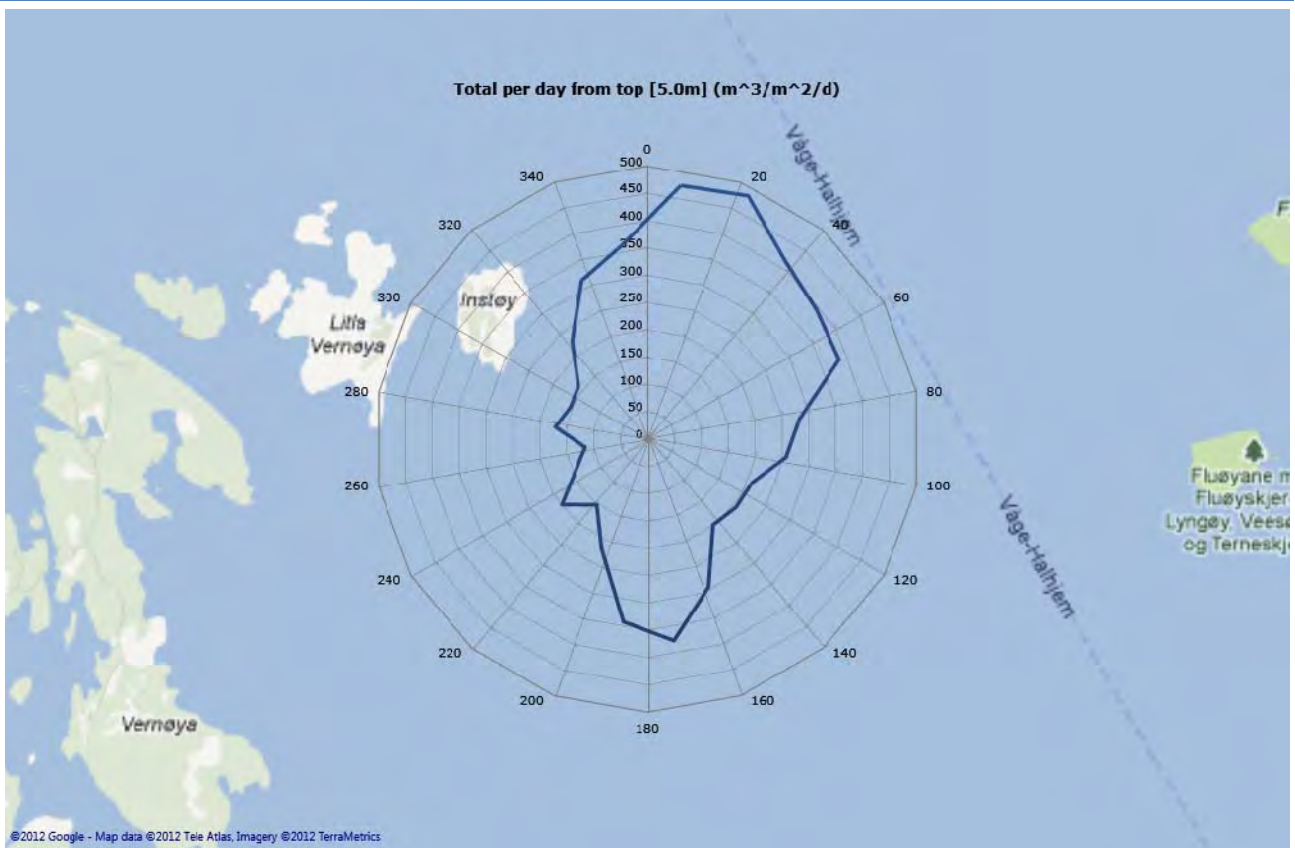
		Direction/speed matrix for middle [10.0m]																									
m/s		15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360	%	Sum
0.0																											
0.05		130	144	143	158	128	146	108	111	109	94	115	90	117	100	79	86	74	78	96	78	71	96	108	114	43.8	2573
0.10		130	162	208	195	174	124	103	84	80	84	100	139	127	117	120	90	56	62	37	37	47	74	78	114	43.3	2542
0.15		27	44	38	48	30	34	21	14	18	21	36	42	76	61	30	10	9	6	9	8	5	7	5	15	10.5	614
0.20		0	3	3	7	7	9	3	3	0	2	11	20	28	12	3	0	0	0	0	0	0	1	1	0	1.9	113
0.25		0	0	0	1	0	1	0	0	0	0	3	11	4	5	0	0	0	0	0	0	0	0	0	0	0.4	25
0.30		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.0	1
0.35		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
0.40		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
0.45		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
0.50		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
%		4.9	6.0	6.7	7.0	5.8	5.4	4.0	3.6	3.5	3.4	4.5	5.1	5.0	5.0	4.0	3.2	2.4	2.5	2.4	2.1	2.1	3.0	3.3	4.1	100.0	100.0
Sum		287	353	392	409	339	314	235	212	207	201	265	302	352	295	233	186	139	146	142	123	123	178	192	243	100.0	5858

Bottom [15,0m]

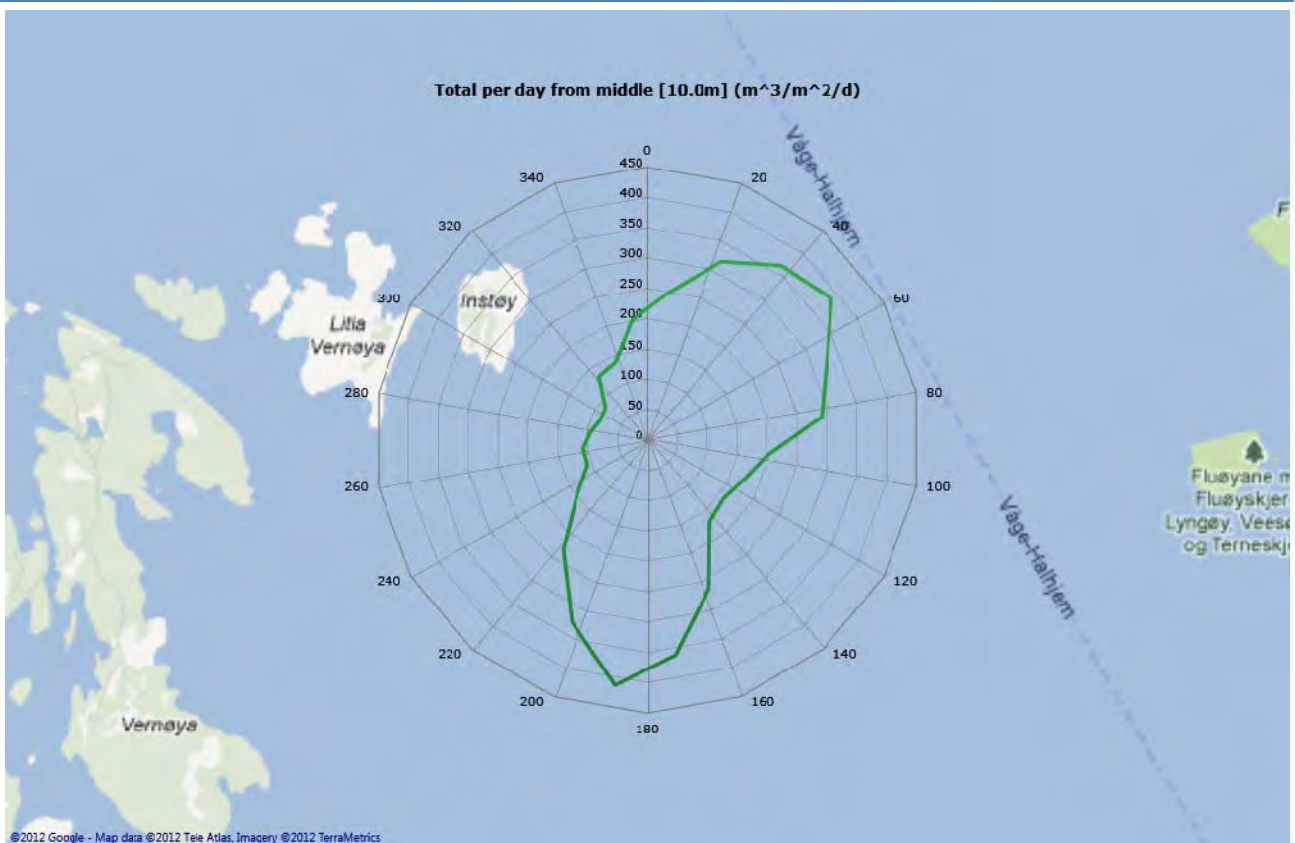
m/s	Direction/speed matrix for bottom [15.0m]																									%	Sum	
	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360				
0.0																												
0.05	134	131	141	181	145	135	115	123	114	112	103	106	97	99	95	78	87	85	83	82	81	98	109	114	45.1	2648		
0.10	135	144	168	162	164	139	115	102	77	82	115	113	120	115	81	64	55	50	38	62	63	73	87	128	41.8	2452		
0.15	33	23	29	26	29	34	25	14	3	27	37	62	71	62	27	20	12	5	4	6	6	7	10	8	10.0	585		
0.20	0	1	2	3	5	11	7	5	0	1	13	36	32	26	6	1	0	0	0	1	0	0	0	0	2.6	154		
0.25	0	0	0	0	0	1	0	0	0	1	6	8	8	4	0	0	0	0	0	0	0	0	0	0	0.5	28		
0.30	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		
0.35	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		
0.40	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		
0.45	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		
0.50	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		
%	5.1	5.1	5.8	6.3	5.9	5.5	4.5	4.2	3.4	3.8	4.7	5.5	5.6	5.2	3.6	2.8	2.6	2.4	2.1	2.6	2.6	3.0	3.5	4.3	100.0	100.0		
Sum	302	299	340	372	347	320	262	244	199	223	274	325	328	306	209	163	154	140	125	151	150	178	206	250	100.0	5857		

Flow

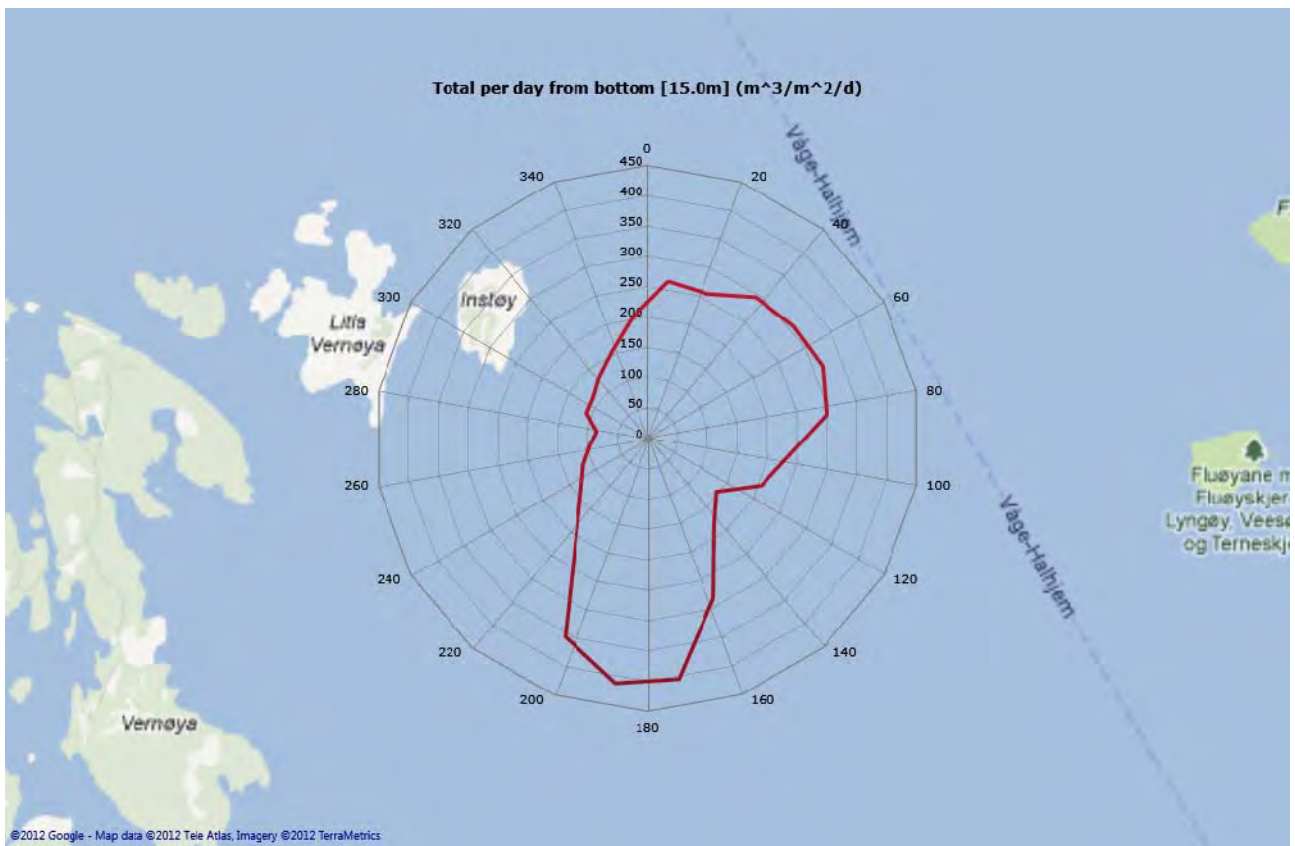
Top [5,0m]



Middle [10,0m]

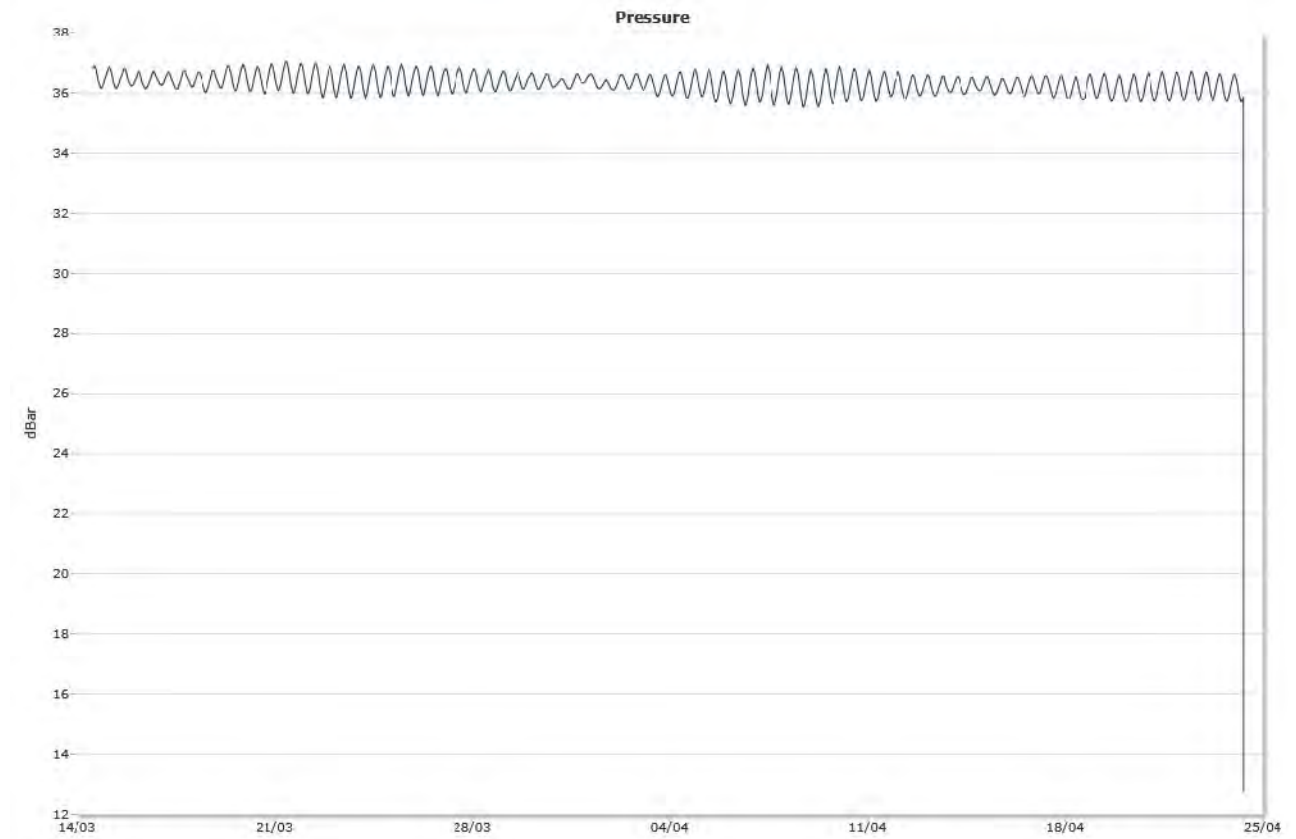


Bottom [15,0m]

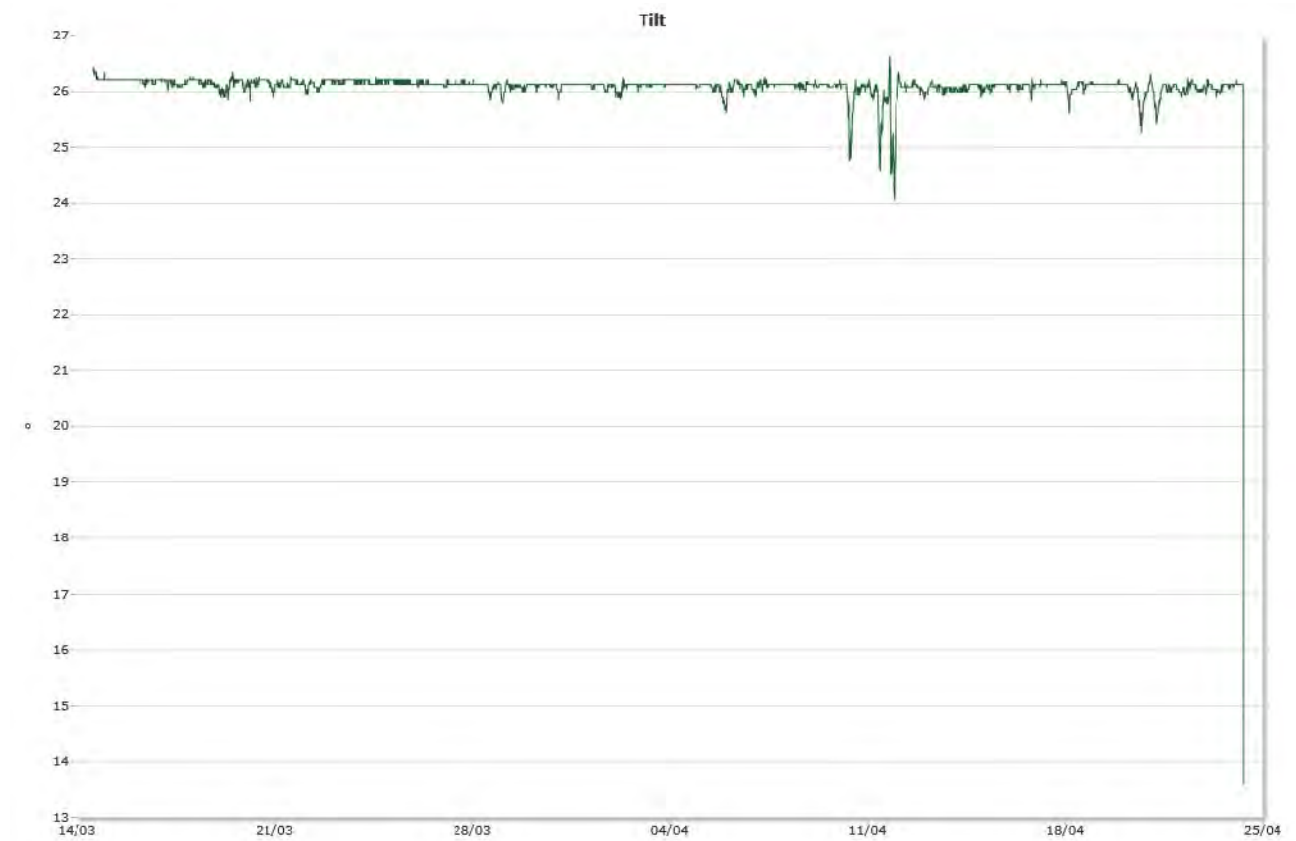


Sensors

Pressure



Tilt



Temperature



Straummåling Midtflua

Spreiingsstraum

24.04.2012

Resipientanalyse AS

Frode Berge-Haveland

Content

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Summary

Details

Instrument

Head Id	AQP 3645
Board Id	AQD 5627
Frequency	400000

Configuration

Start	14.03.2012 14:00
End	24.04.2012 08:30
Data records	5872
Longitude	5° 28,28'E
Latitude	60° 4,64'N
Orientation	DOWN
Cells	40
Cell size(m)	2
Blanking distance(m)	0,99
Average interval(sec)	60
Measurement interval(sec)	600

Quality

Low Pressure Threshold	0
HighTilt Threshold	30
Expected Orientation	UP
Amplitude Spike Threshold	70
Velocity Spike Threshold	5
SNR Threshold	3

Post processing

Selected Start	14.03.2012 14:00
Selected End	24.04.2012 07:50
Compass Offset	0
Pressure Offset	0
Selected Records	5868
Reference	Water Surface
Top Depth(m)	20
Top invalid data	1
Middle Depth(m)	25
Middle invalid data	1
Bottom Depth(m)	30
Bottom invalid data	1

Statistics

Top [20,0m]

Mean current [m/s]	0.06
Max current [m/s]	0.30
Min current [m/s]	0.00
Measurements [#]	5867
Std.dev [m/s]	0.03
Significant max velocity [m/s]	0.09
Significant min velocity [m/s]	0.02
10 year return current [m/s]	0.492
50 year return current [m/s]	0.552
Most significant directions [°]	60.00, 30.00, 45.00, 15.00
Most significant speeds [m/s]	0.05, 0.10, 0.15, 0.20
Most flow	14186.81m ³ by 45-60°.
Least flow	3299.00m ³ by 255-270°.

Middle [25,0m]

Mean current [m/s]	0.07
Max current [m/s]	0.25
Min current [m/s]	0.00
Measurements [#]	5867
Std.dev [m/s]	0.04
Significant max velocity [m/s]	0.12
Significant min velocity [m/s]	0.03
10 year return current [m/s]	0.406
50 year return current [m/s]	0.455
Most significant directions [°]	30.00, 45.00, 15.00, 60.00
Most significant speeds [m/s]	0.10, 0.05, 0.15, 0.20
Most flow	33293.81m ³ by 15-30°.
Least flow	3234.46m ³ by 285-300°.

Bottom [30,0m]

Mean current [m/s]	0.05
Max current [m/s]	0.17
Min current [m/s]	0.00
Measurements [#]	5867
Std.dev [m/s]	0.03
Significant max velocity [m/s]	0.08
Significant min velocity [m/s]	0.02
10 year return current [m/s]	0.282
50 year return current [m/s]	0.316
Most significant directions [°]	30.00, 45.00, 15.00, 60.00
Most significant speeds [m/s]	0.05, 0.10, 0.15, 0.20
Most flow	17586.20m ³ by 15-30°.
Least flow	2666.67m ³ by 270-285°.

Direction with return period

Top [20,0m]

Direction	Mean	Max	Mean 10y	Max 10y	Mean 50y	Max 50y
0	0,054	0,168	0,090	0,278	0,100	0,311
45	0,058	0,162	0,096	0,267	0,108	0,299
90	0,055	0,167	0,090	0,276	0,101	0,309
135	0,050	0,298	0,082	0,492	0,092	0,552
180	0,075	0,269	0,124	0,444	0,139	0,498
225	0,058	0,203	0,096	0,334	0,108	0,375
270	0,044	0,168	0,073	0,277	0,082	0,311
315	0,042	0,130	0,068	0,214	0,077	0,240

Middle [25,0m]

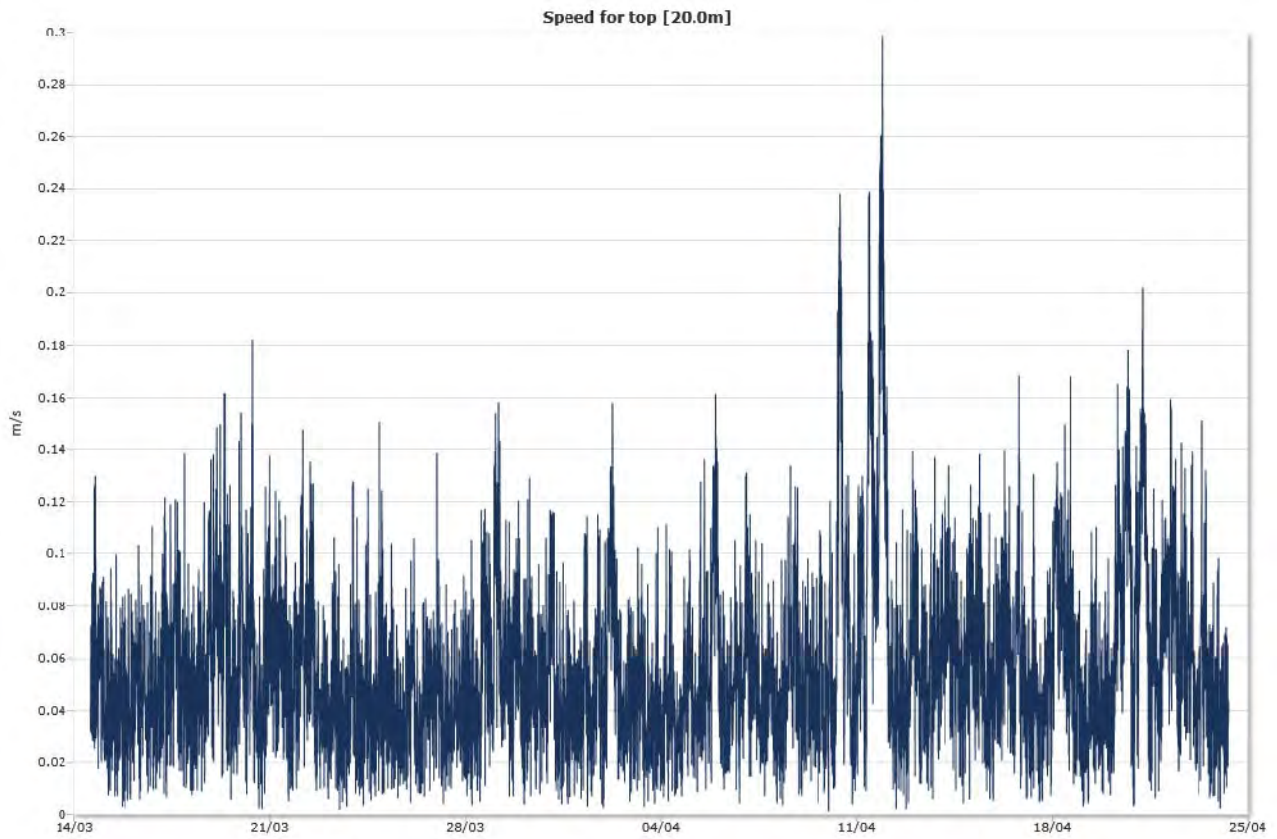
Direction	Mean	Max	Mean 10y	Max 10y	Mean 50y	Max 50y
0	0,078	0,246	0,128	0,406	0,143	0,455
45	0,086	0,236	0,141	0,389	0,158	0,437
90	0,065	0,195	0,108	0,322	0,121	0,361
135	0,063	0,183	0,103	0,301	0,116	0,338
180	0,076	0,237	0,126	0,391	0,141	0,438
225	0,078	0,200	0,128	0,330	0,144	0,369
270	0,054	0,160	0,090	0,263	0,100	0,295
315	0,057	0,141	0,094	0,232	0,105	0,260

Bottom [30,0m]

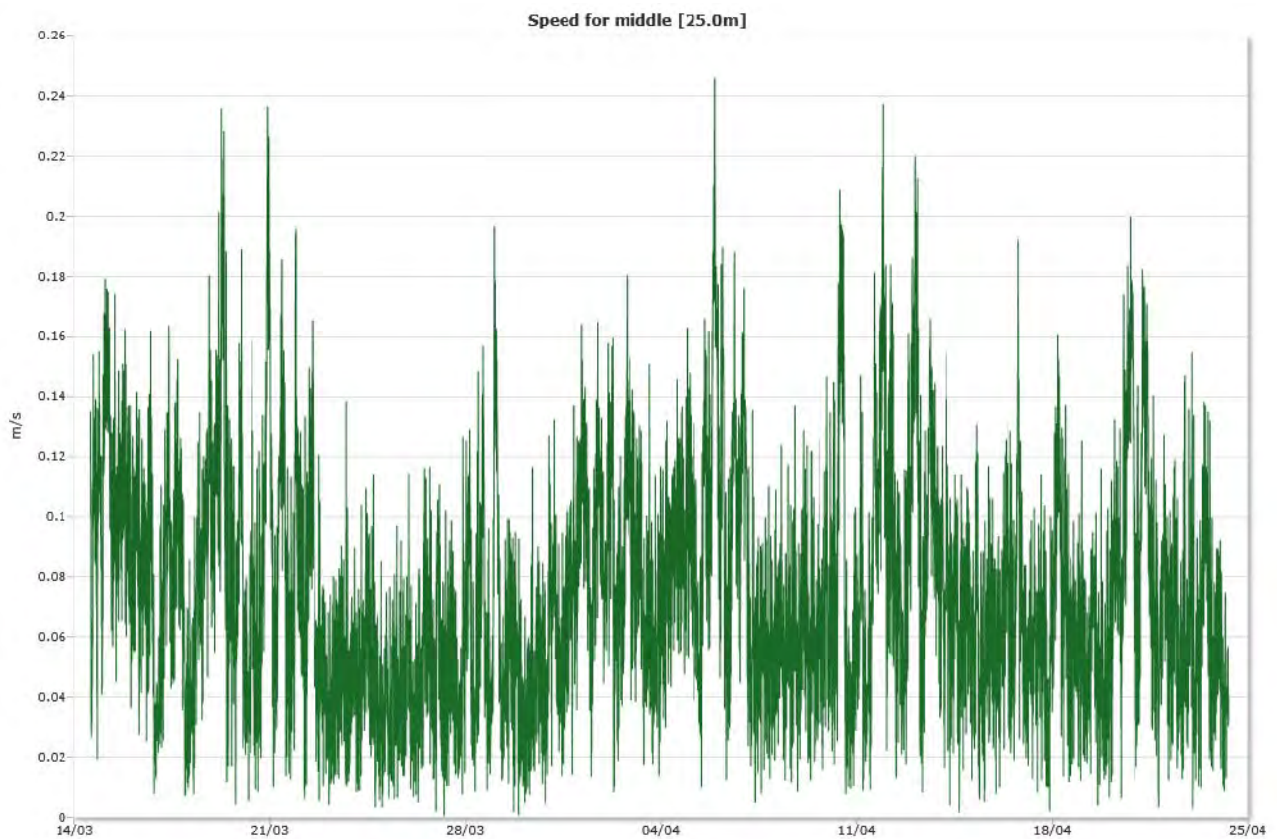
Direction	Mean	Max	Mean 10y	Max 10y	Mean 50y	Max 50y
0	0,051	0,156	0,084	0,258	0,095	0,289
45	0,057	0,167	0,094	0,276	0,105	0,309
90	0,046	0,148	0,076	0,244	0,086	0,274
135	0,041	0,146	0,068	0,241	0,077	0,271
180	0,051	0,157	0,084	0,259	0,095	0,291
225	0,050	0,171	0,083	0,282	0,093	0,316
270	0,035	0,155	0,057	0,256	0,064	0,287
315	0,040	0,124	0,066	0,204	0,074	0,229

Time series

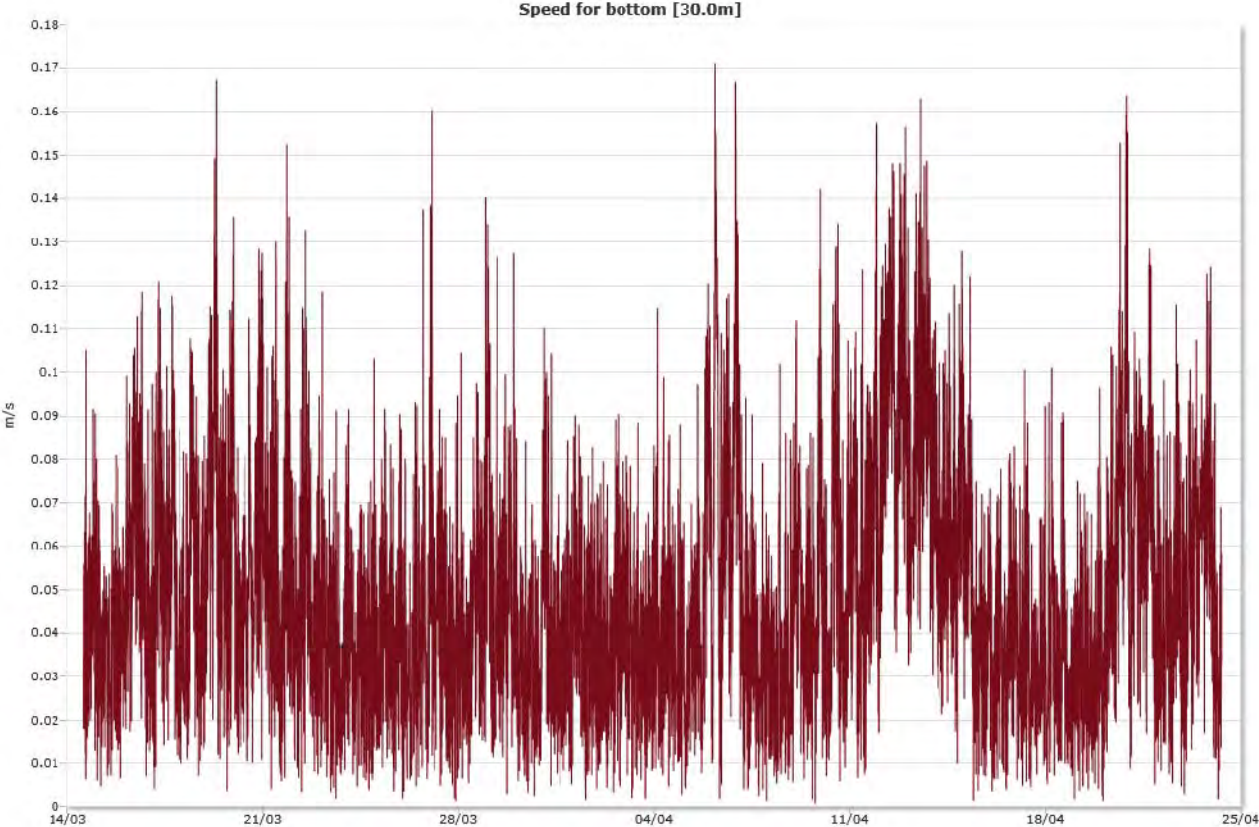
Top [20,0m]



Middle [25,0m]

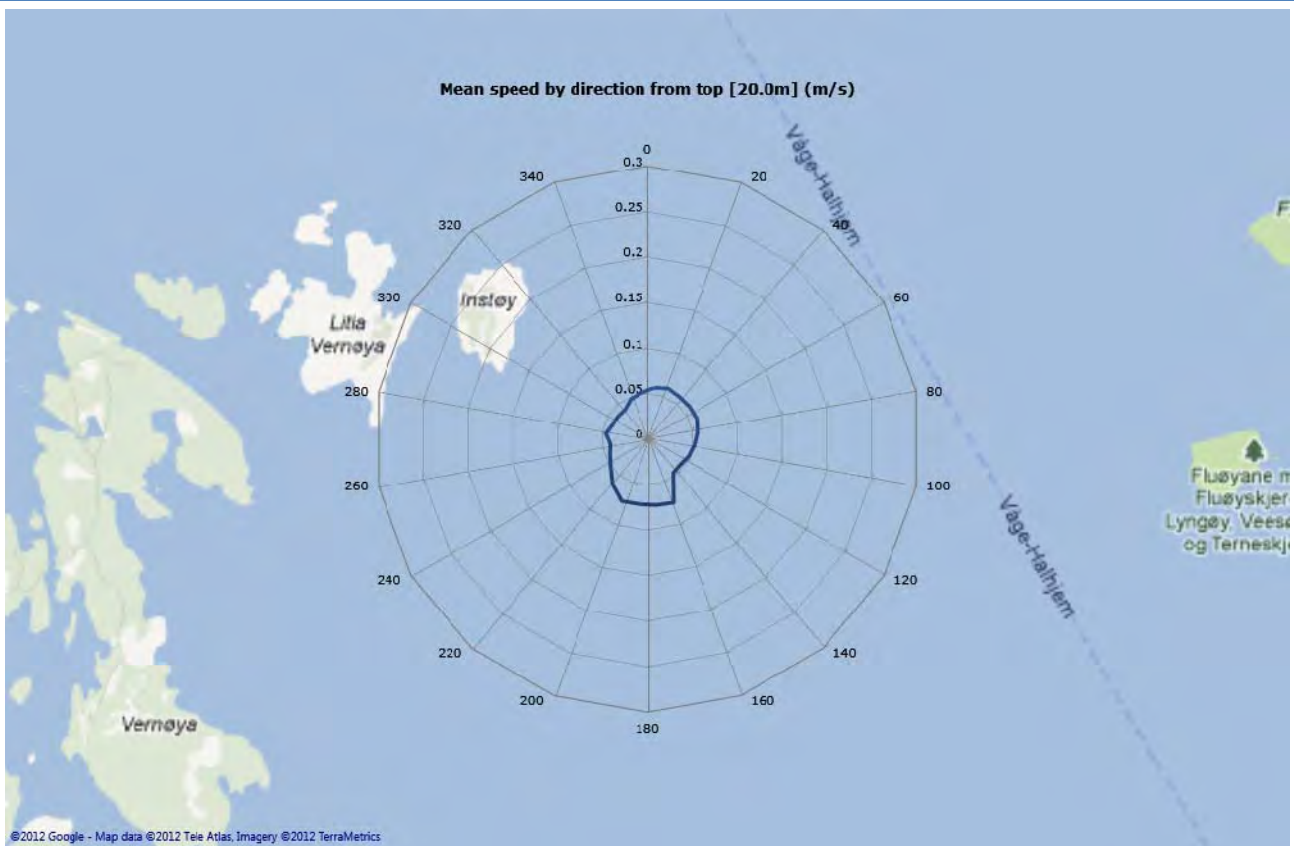


Bottom [30,0m]

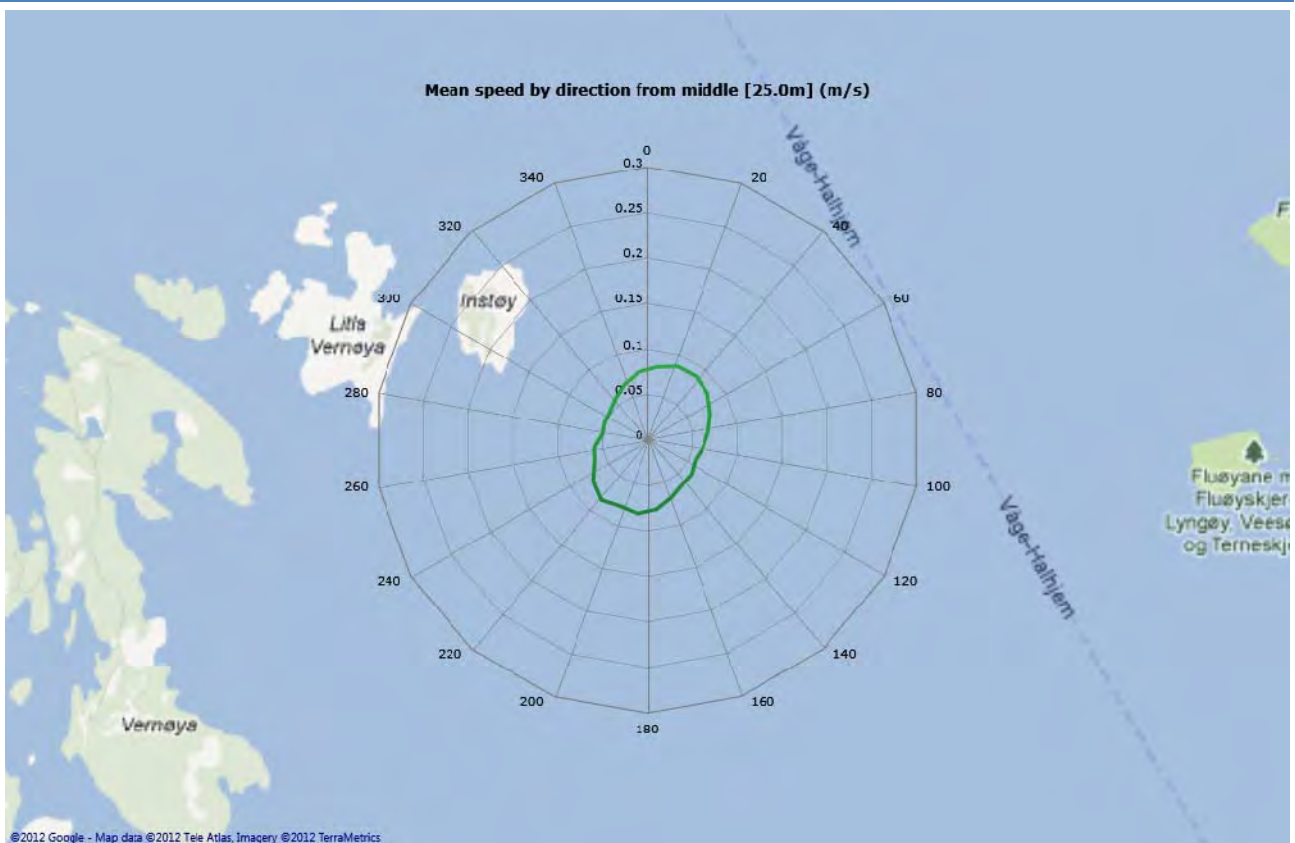


Mean speed - roseplot

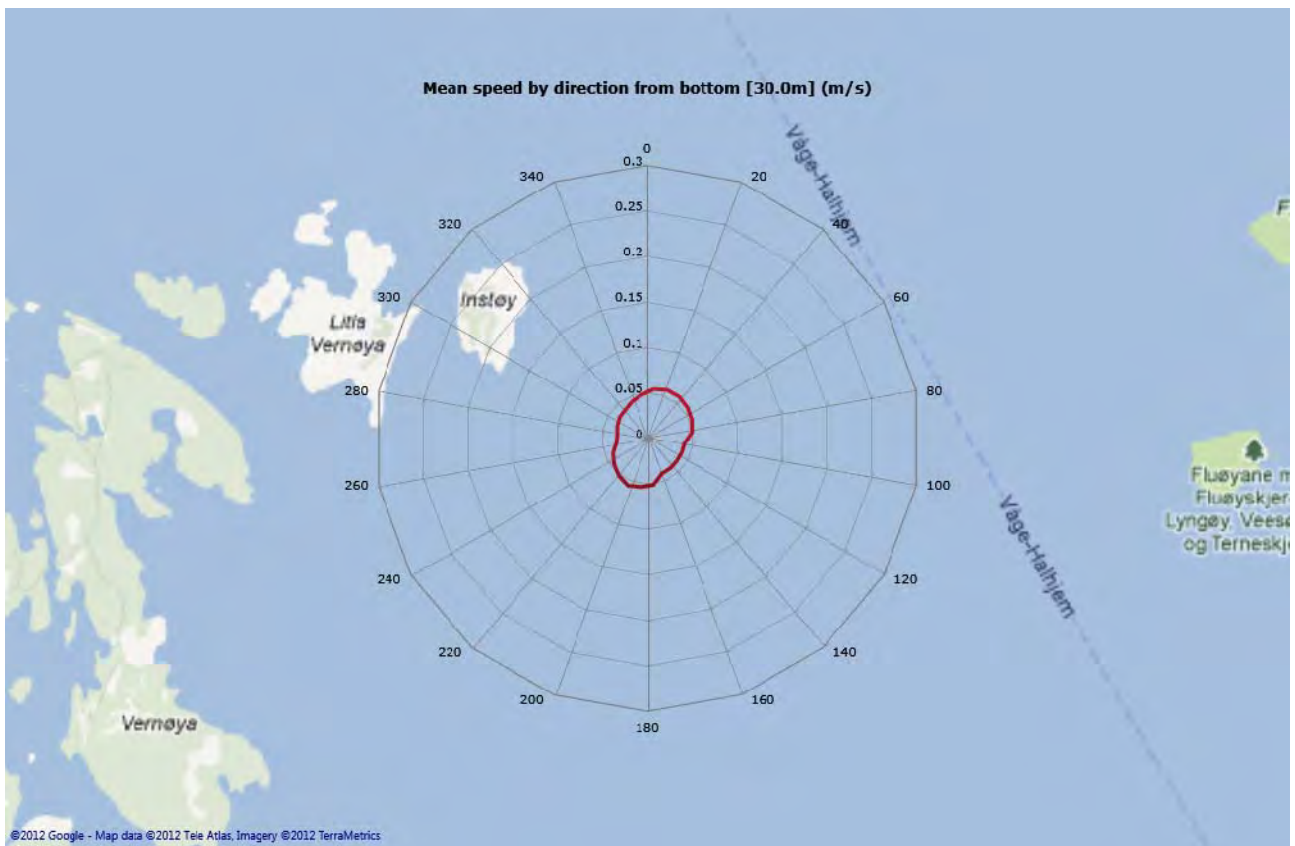
Top [20,0m]



Middle [25,0m]

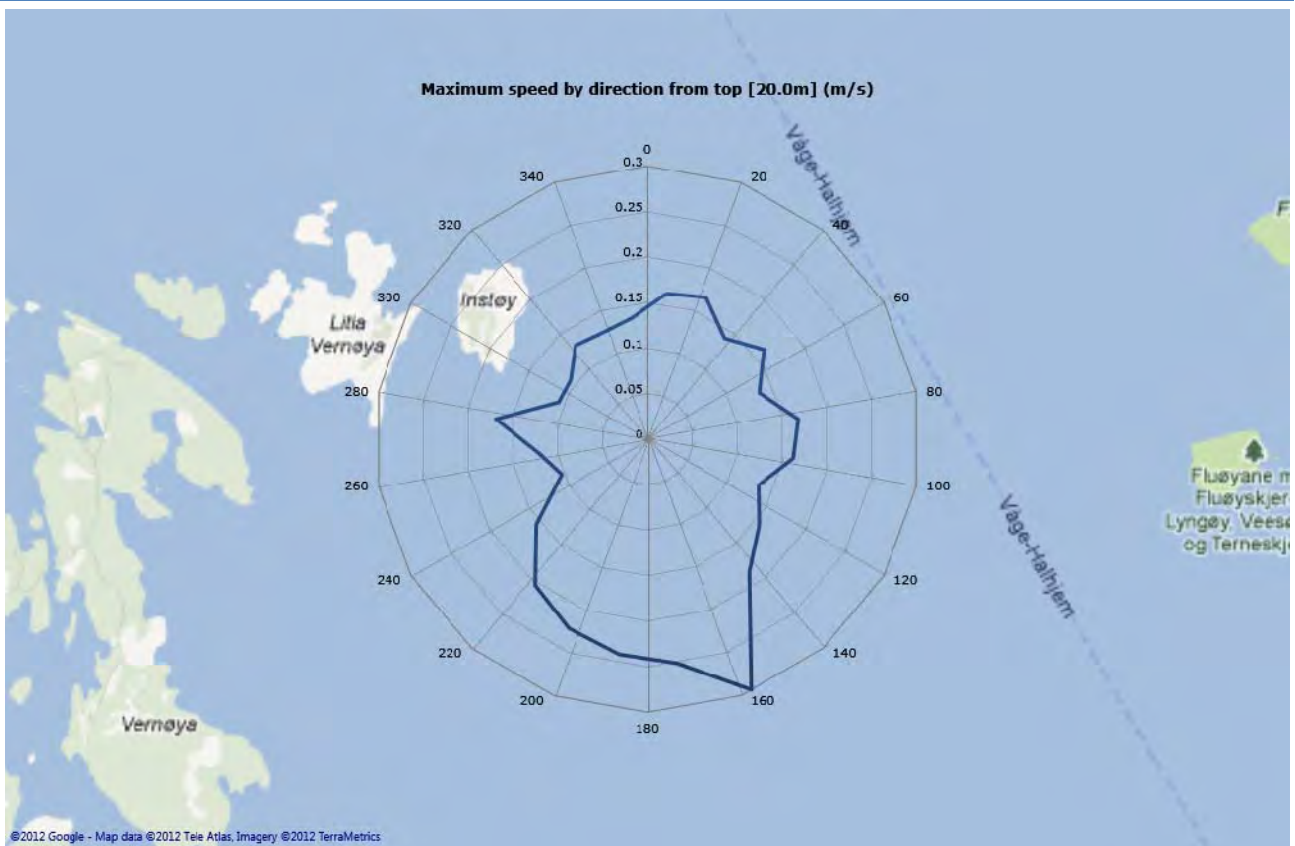


Bottom [30,0m]

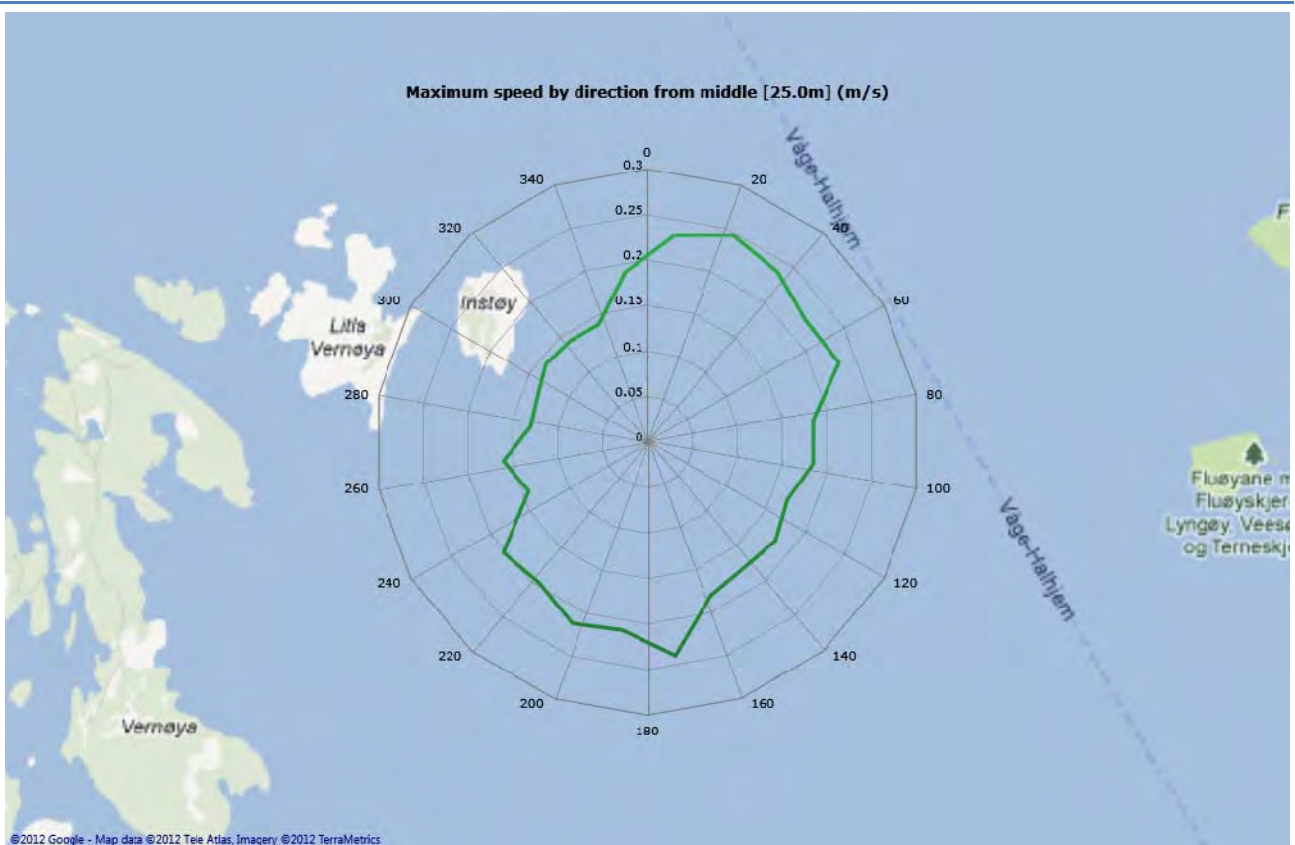


Max speed - roseplot

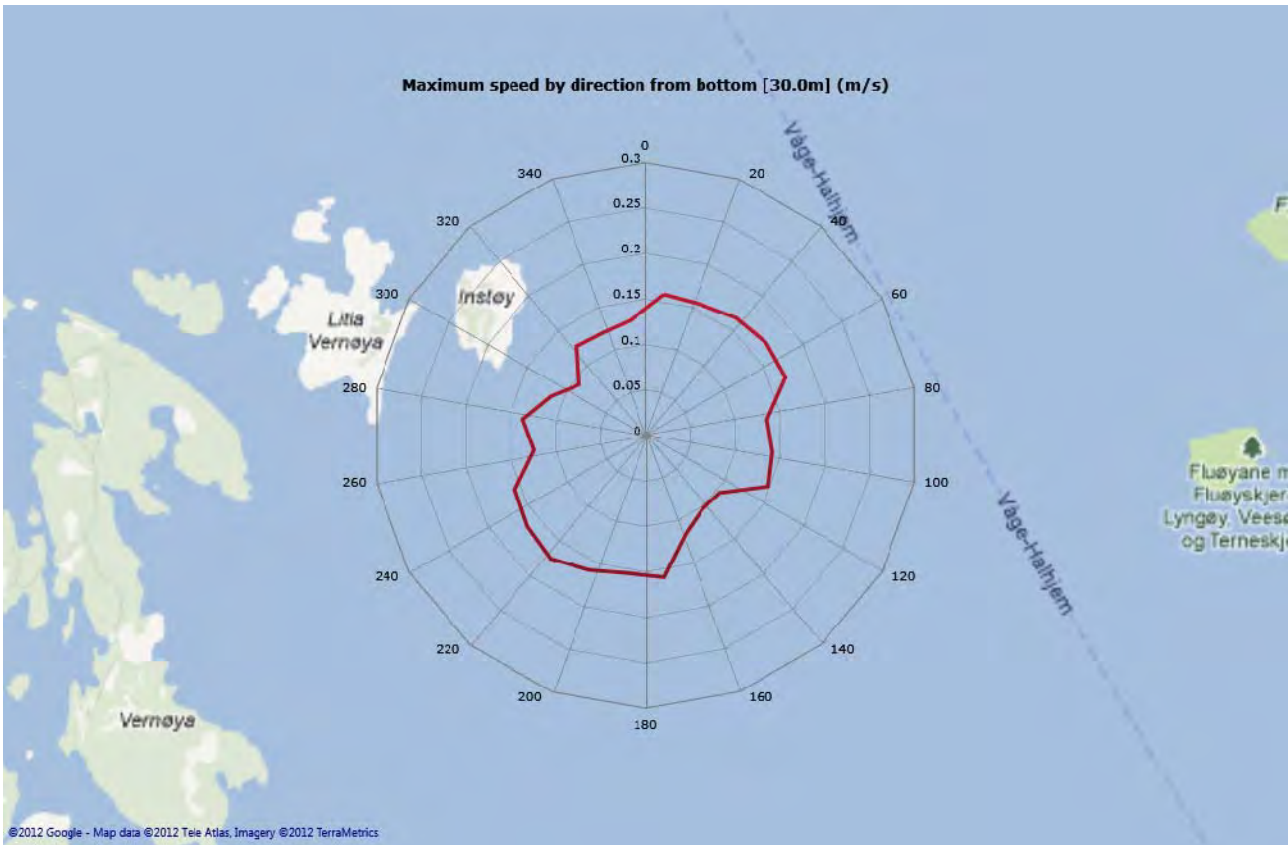
Top [20,0m]



Middle [25,0m]

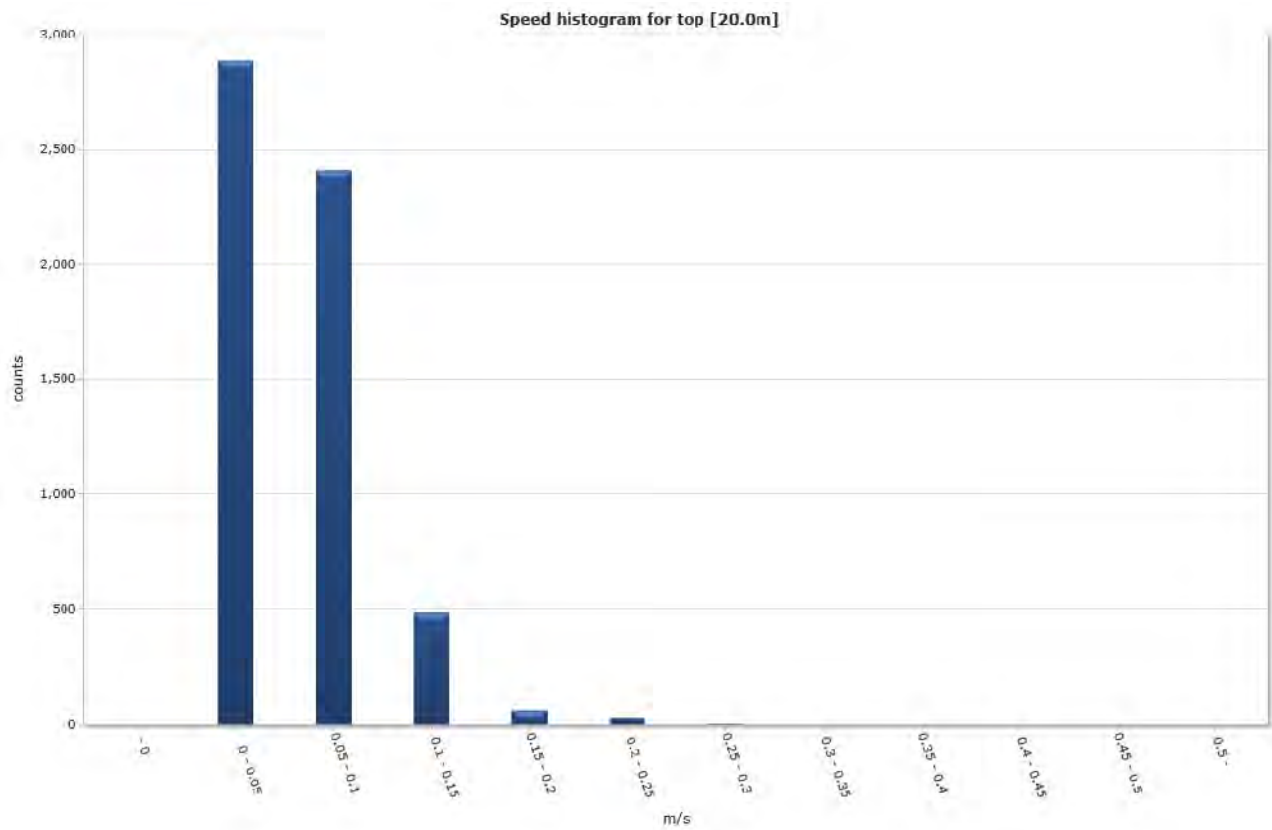


Bottom [30,0m]

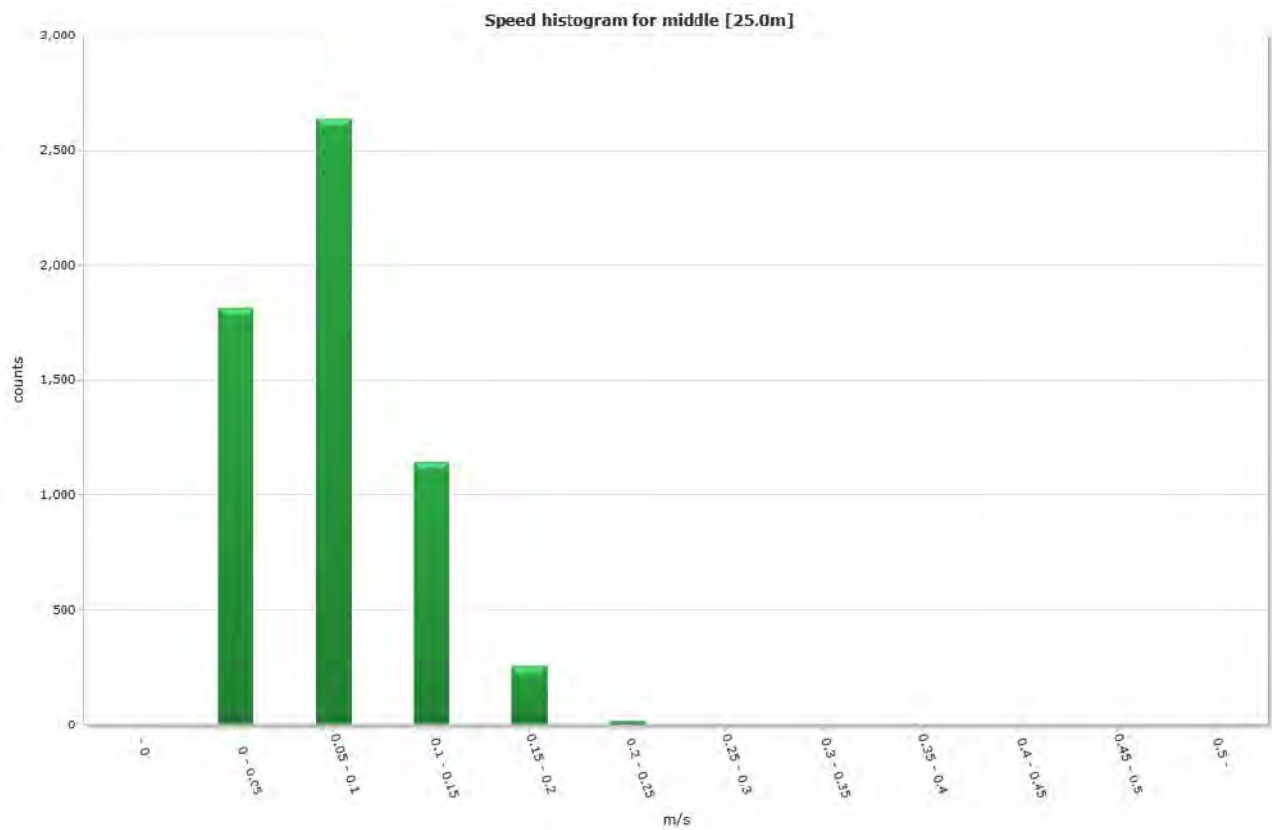


Speed histogram

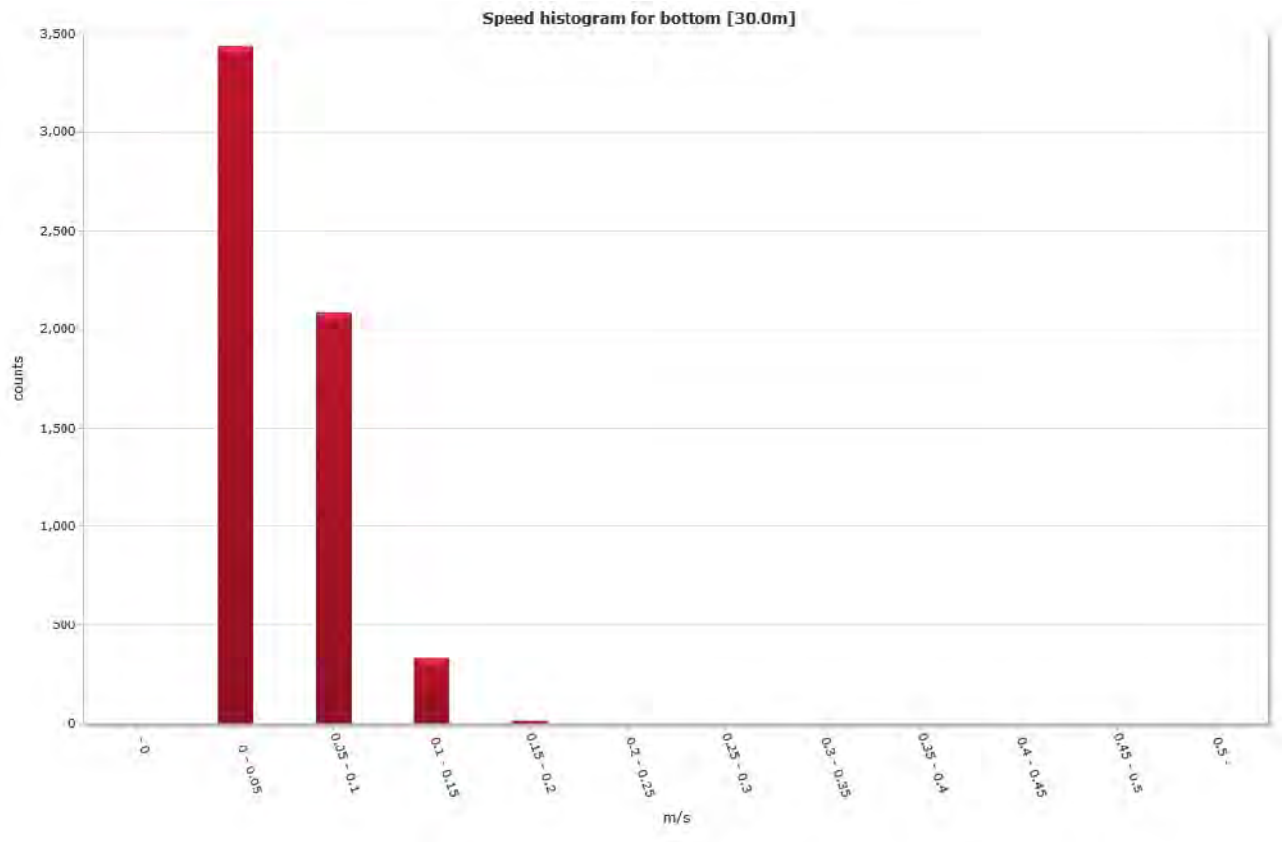
Top [20,0m]



Middle [25,0m]

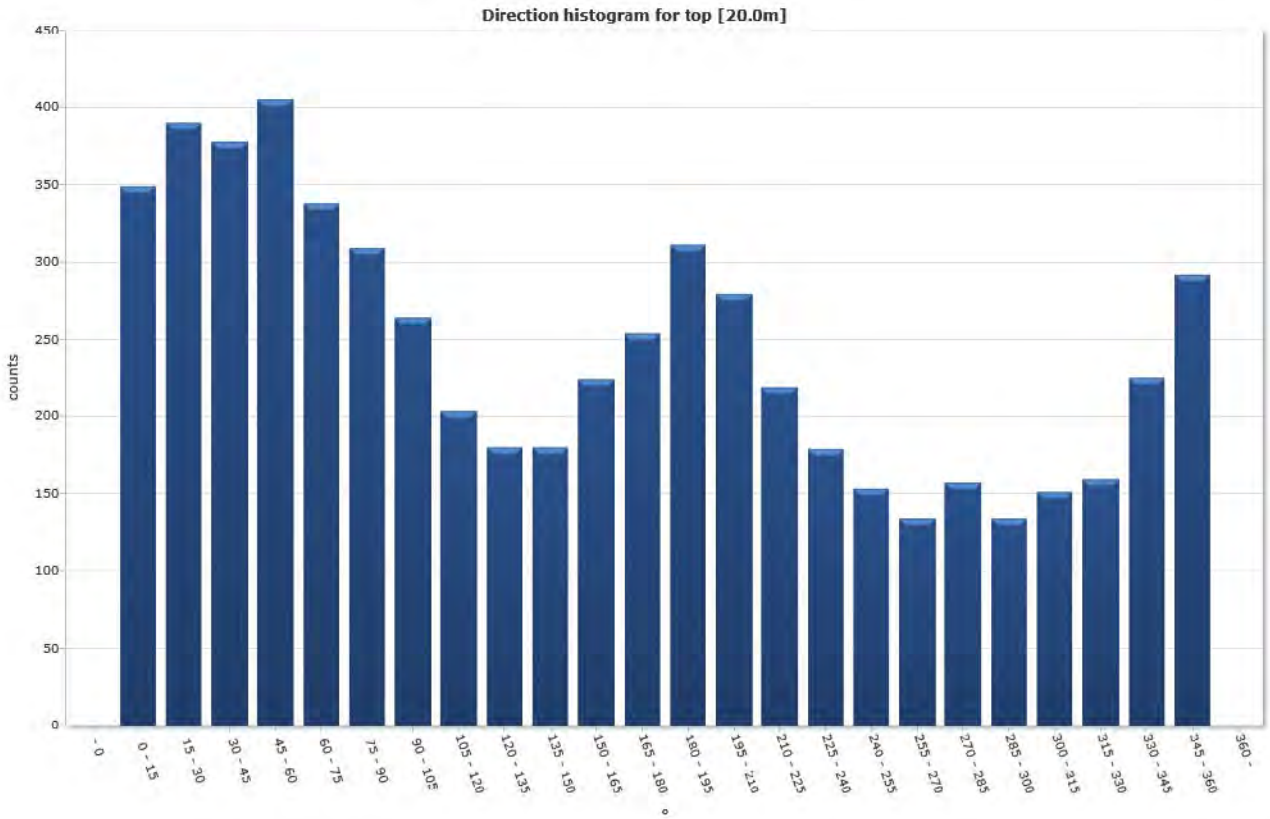


Bottom [30,0m]

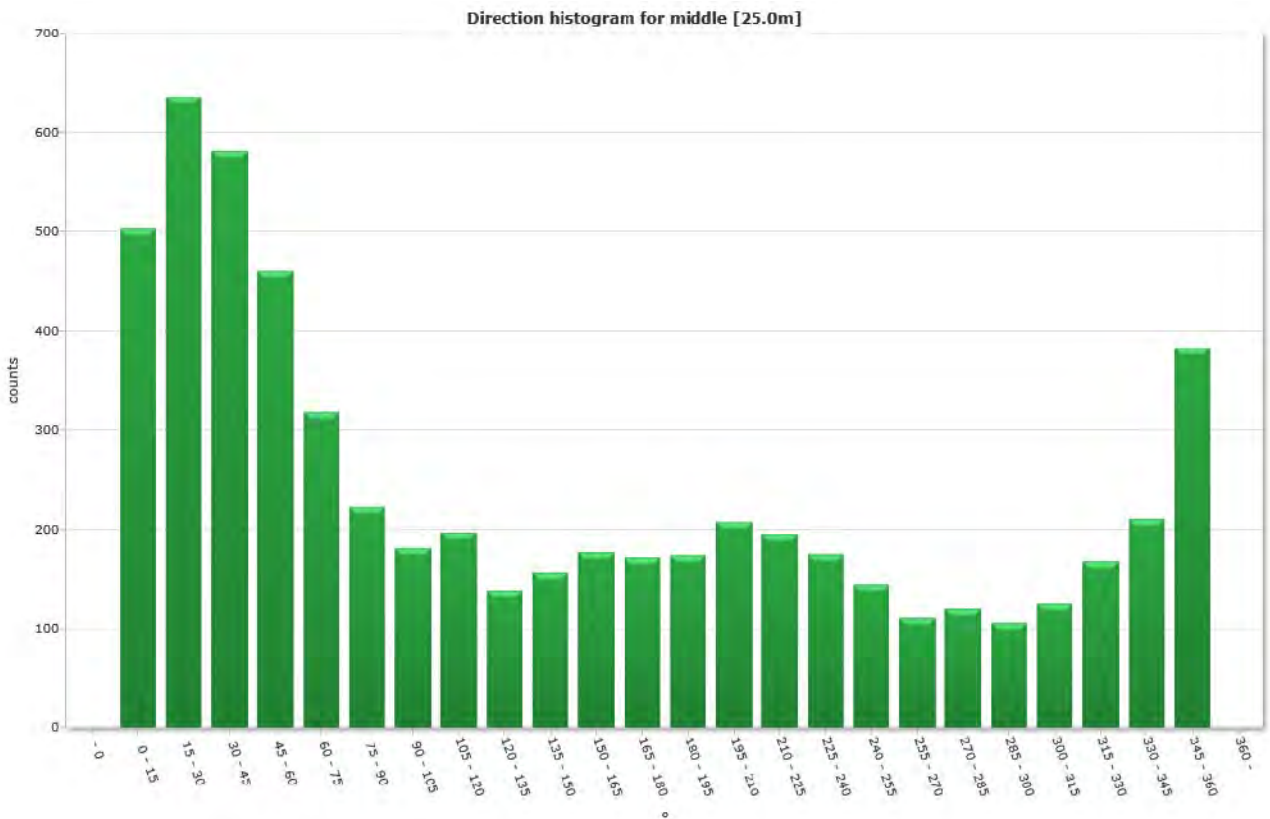


Direction histogram

Top [20,0m]

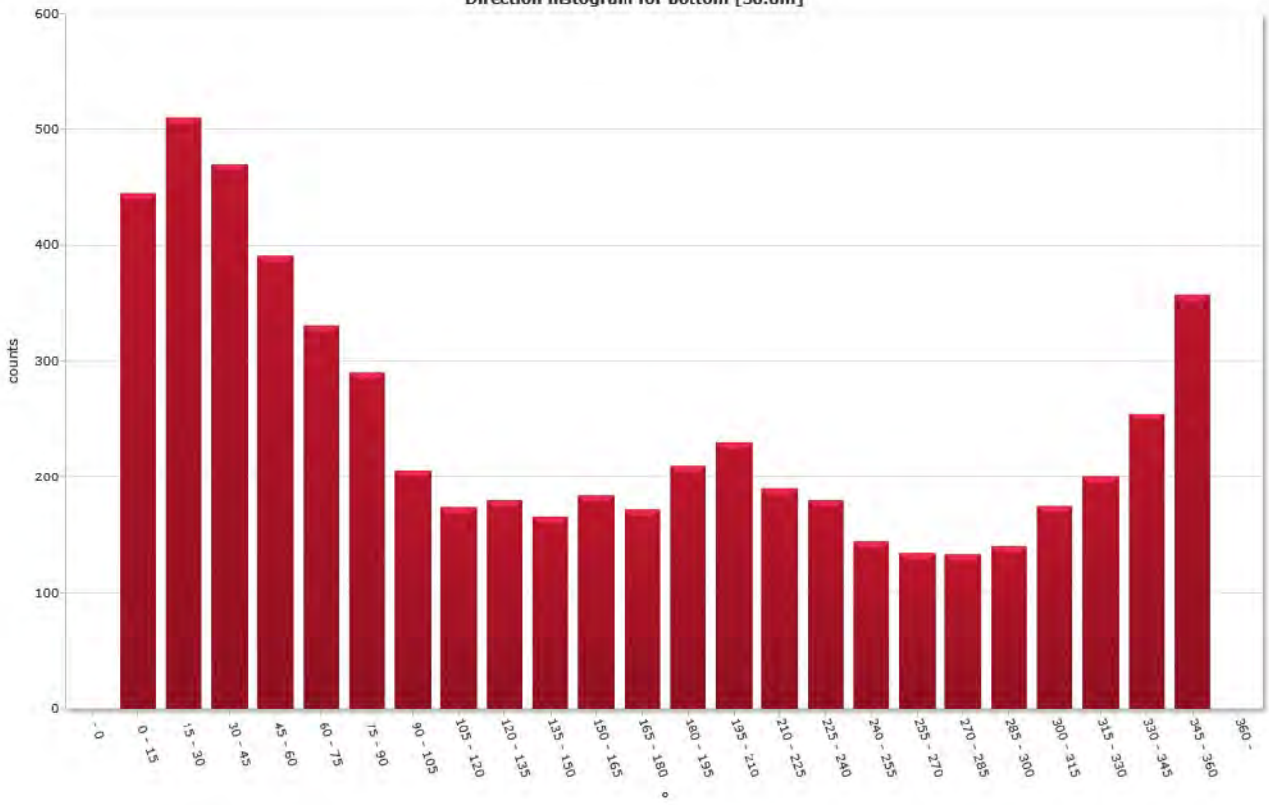


Middle [25,0m]



Bottom [30,0m]

Direction histogram for bottom [30.0m]



Direction/Speed histogram

Top [20,0m]

		Direction/speed matrix for top [20.0m]																									
m/s		15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360	%	Sum
0.0																											
0.05		165	153	153	174	134	152	143	110	112	115	99	98	117	90	89	103	102	95	101	93	103	107	133	143	49.2	2884
0.10		150	196	199	192	169	130	105	82	59	55	70	97	123	127	98	62	48	36	50	39	47	50	86	136	41.0	2406
0.15		33	39	26	38	35	26	15	11	7	7	26	41	53	49	29	13	3	3	5	2	1	2	6	13	8.2	483
0.20		1	2	0	1	0	1	1	0	2	3	13	12	12	9	2	1	0	0	1	0	0	0	0	0	1.0	61
0.25		0	0	0	0	0	0	0	0	0	0	13	6	6	4	1	0	0	0	0	0	0	0	0	0	0.5	30
0.30		0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	3
0.35		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
0.40		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
0.45		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
0.50		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
%		5.9	6.6	6.4	6.9	5.8	5.3	4.5	3.5	3.1	3.1	3.8	4.3	5.3	4.8	3.7	3.1	2.6	2.3	2.7	2.3	2.6	2.7	3.8	5.0	100.0	100.0
Sum		349	390	378	405	338	309	264	203	130	180	224	254	311	279	219	179	153	134	157	134	151	159	225	292	100.0	5857

Middle [25,0m]

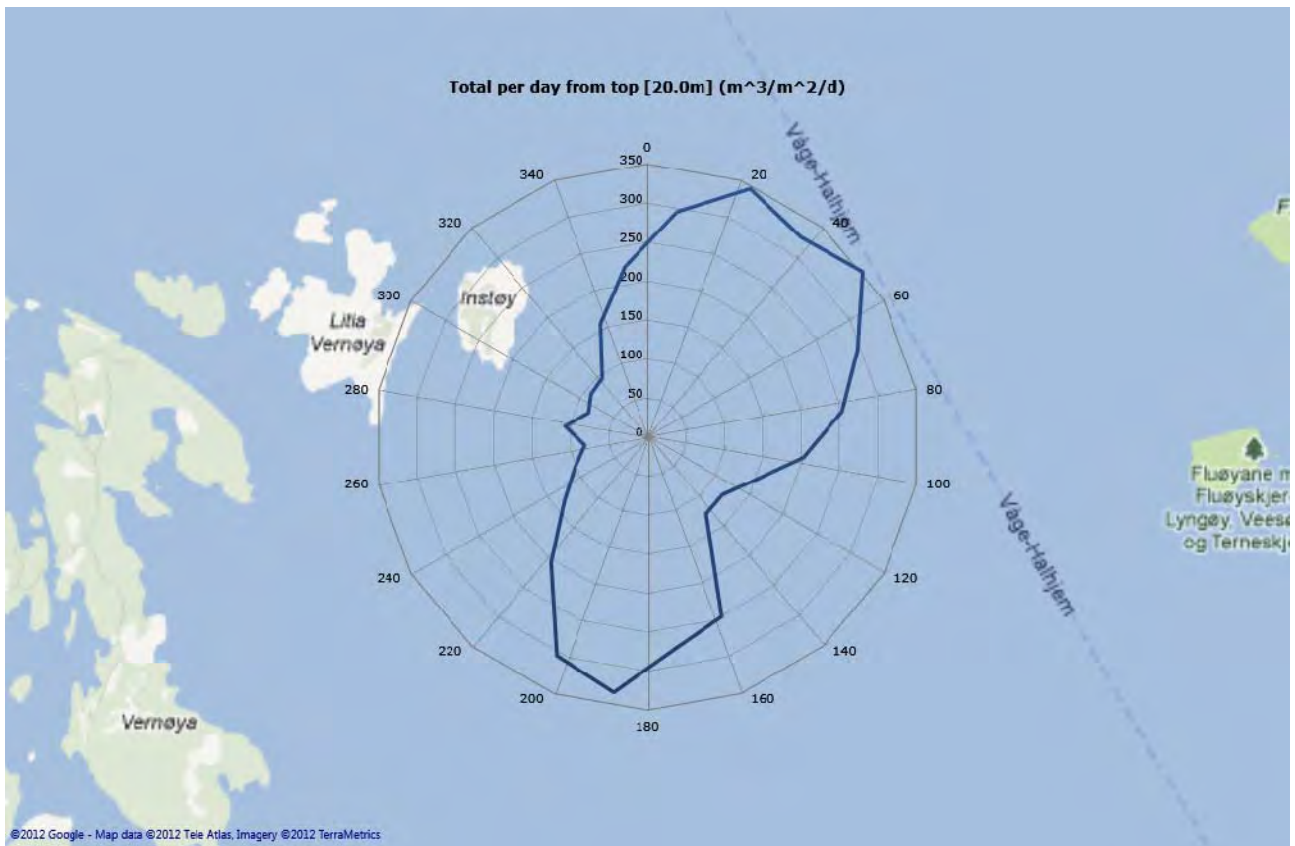
		Direction/speed matrix for middle [25.0m]																									
m/s		15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360	%	Sum
0.0																											
0.05		115	134	107	99	93	75	72	88	60	68	66	70	63	61	53	52	61	42	60	54	64	74	75	102	30.9	1813
0.10		239	274	267	216	131	112	88	93	66	70	81	55	55	88	70	83	63	60	56	46	55	82	101	184	44.9	2635
0.15		128	183	162	118	80	31	20	14	12	13	17	28	35	40	53	33	21	8	4	6	6	12	35	86	19.5	1145
0.20		20	40	40	24	8	5	1	2	1	6	13	18	20	18	19	7	0	1	0	0	0	0	0	11	4.3	254
0.25		1	5	6	4	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0.3	20
0.30		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
0.35		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
0.40		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
0.45		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
0.50		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
%		8.6	10.8	9.9	7.9	5.4	3.8	3.1	3.4	2.4	2.7	3.0	2.9	3.0	3.5	3.3	3.0	2.5	1.9	2.0	1.8	2.1	2.9	3.6	6.5	100.0	100.0
Sum		503	636	582	461	318	223	181	197	139	157	177	172	174	208	195	175	145	111	120	106	125	168	211	383	100.0	5857

Bottom [30,0m]

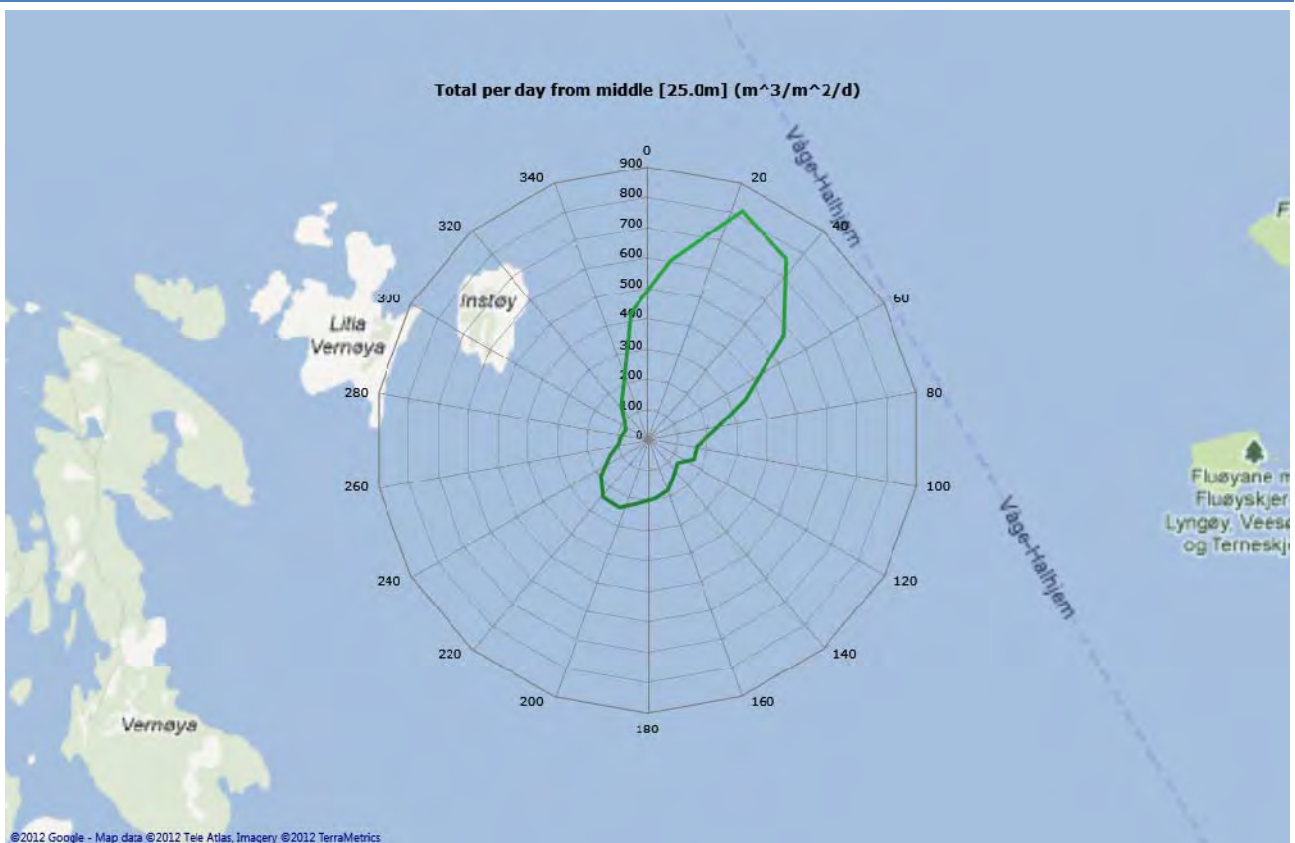
		Direction/speed matrix for bottom [30.0m]																									
m/s		15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360	%	Sum
0.0																											
0.05		217	232	219	181	178	166	143	128	130	109	120	96	111	128	105	122	97	104	108	106	125	145	159	209	58.6	3438
0.10		199	231	190	180	128	106	58	44	46	56	59	59	85	67	67	48	44	29	23	31	50	52	92	138	35.5	2092
0.15		28	46	60	29	24	18	5	2	4	1	5	14	13	34	17	8	2	1	2	3	0	3	4	10	5.7	333
0.20		1	1	1	1	1	0	0	0	0	0	0	3	1	1	1	2	1	0	0	0	0	0	0	0	0.2	14
0.25		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
0.30		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
0.35		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
0.40		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
0.45		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
0.50		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
%		7.6	8.7	8.0	6.7	5.5	4.9	3.5	3.0	3.1	2.8	3.1	2.9	3.6	3.9	3.2	3.1	2.5	2.3	2.3	2.4	3.0	3.4	4.3	6.1	100.0	100.0
Sum		445	510	470	391	331	290	206	174	130	166	184	172	210	230	190	180	144	134	133	140	175	200	255	357	100.0	5857

Flow

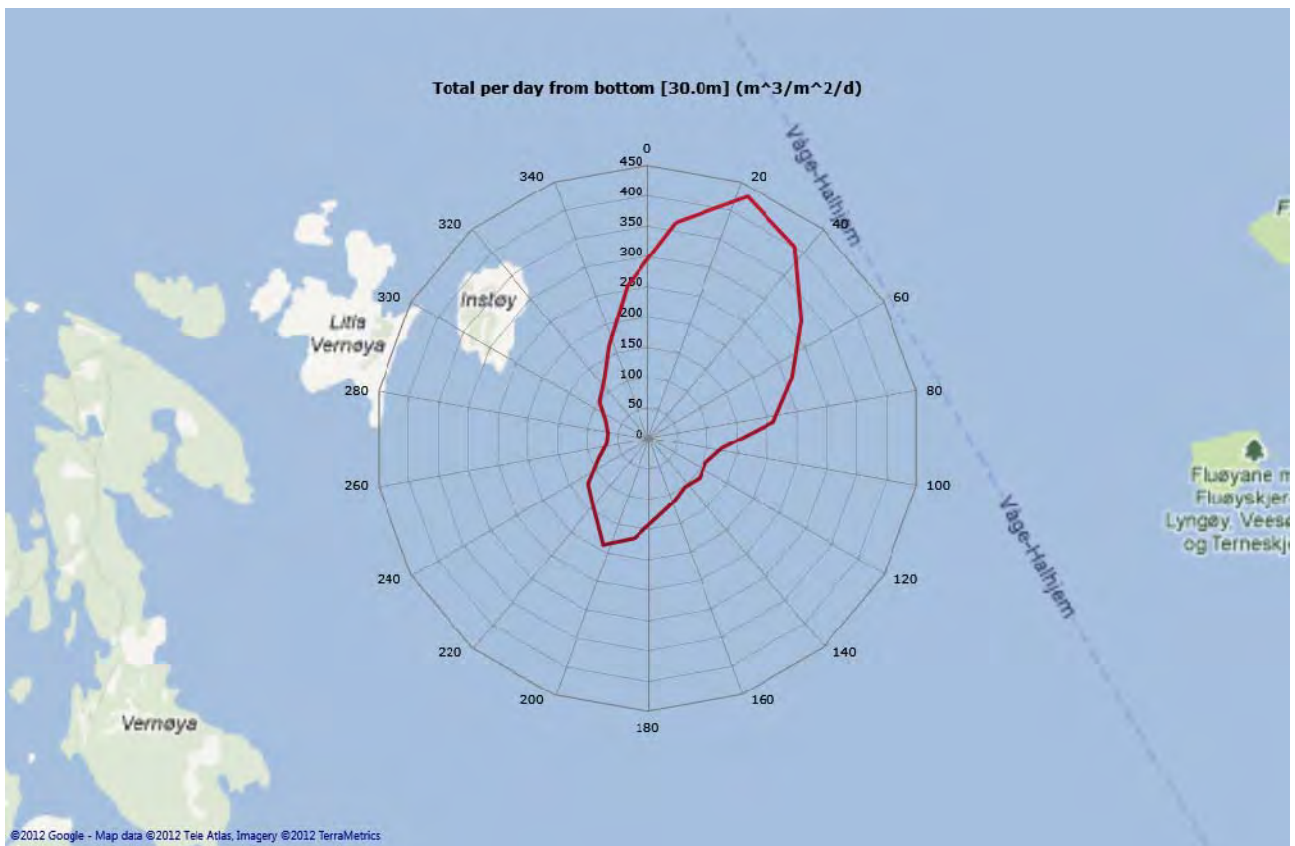
Top [20,0m]



Middle [25,0m]

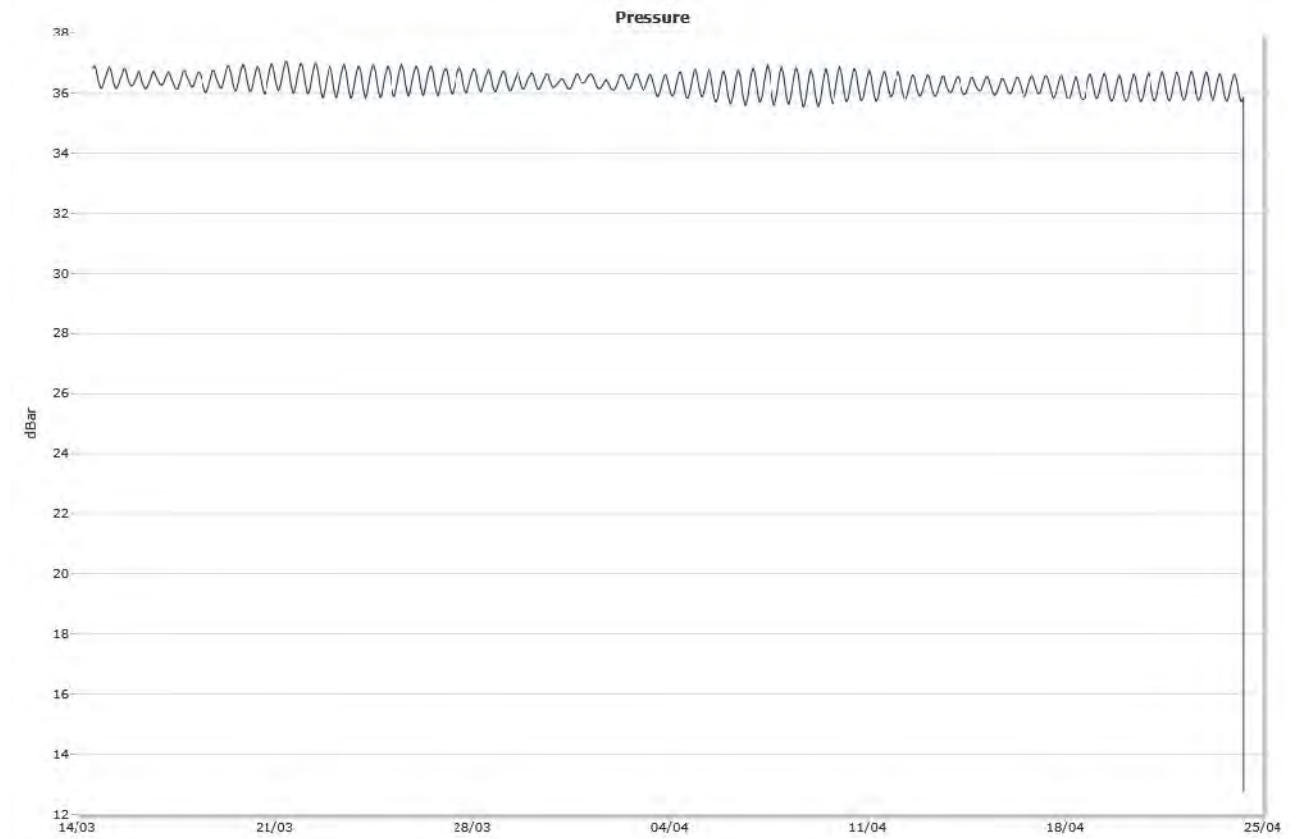


Bottom [30,0m]



Sensors

Pressure



Tilt



Temperature

