



# STRAUMMÅLING

NS 9425-2

## LOKALITET SKAFTÅ

Osterøy kommune





## Resipientanalyse AS

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<i>Lokalitetsnamn, lokalitetsnr.og biomasse tillatelse</i> <b>Skaftå – 18 898 – 3 120 TN</b>	<i>Dato, rapport</i> 21 / 11 – 2012
<i>Kommune</i> Osterøy kommune	<i>Dato, felt</i> Utsett: 28 / 11 – 2012 Opptak: 29 / 12 – 2012
<i>Oppdragsgjevar</i> Sjøtroll Havbruk AS	<i>Rapport nr.</i> 888 – 2012
<i>Oppdragsart</i> Straummåling	<i>Rapportsider</i> 49
<i>Personell feltundersøking</i> Knut I Nicolaysen, Aqua Management AS Personell, Sjøtroll Havbruk AS	<b>Høgste målte vasstraum:</b>  Ved 5 meters djup: <b>0,406 m/s MOT Sør/Søraust.</b>  Ved 15 meters djup: <b>0,390 m/s MOT Sør (180°).</b>
Den gjennomsnittlege <b>Vassutskiftingstraumen</b> i måleperioden:  <b>12 cm/s</b> mellom 5 og 15 meters djup.	Den gjennomsnittlege <b>Spreiingsstraumen</b> i måleperioden:  <b>5 – 8 cm/s</b> mellom 30 og 50 meters djup.
<i>Samandrag</i>  Ein Nortek 400kHz Aquadopp profilerande straummålar blei sett ut på ca. 54 meters djup. Doppler straummålar målte oppover i vassøyla. Straumretninga i vassutskiftingslaget er dominert av ein sørgåande hovudstraumretning. Spreiingslaget går like mykje mot nord som mot sør.  Lokaliteten er eksponert for både tidevasstraum og vindgenerert overflatestraum. Lokaliteten kan og være eksponert for sør gåande oppstuvingsstraum.	
<i>Fagansvarleg i Resipientanalyse</i>  Frode Berge-Haveland <i>Cand. Scient.</i> Marin mikrobiolog Daglegleiar i Resipientanalyse	<i>Kvalitetsansvarleg i Resipientanalyse</i>  Kjetil Aursland <i>Cand. Scient.</i> Mikrobiolog Kvalitetsleiar i Resipientanalyse

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25.10.2010

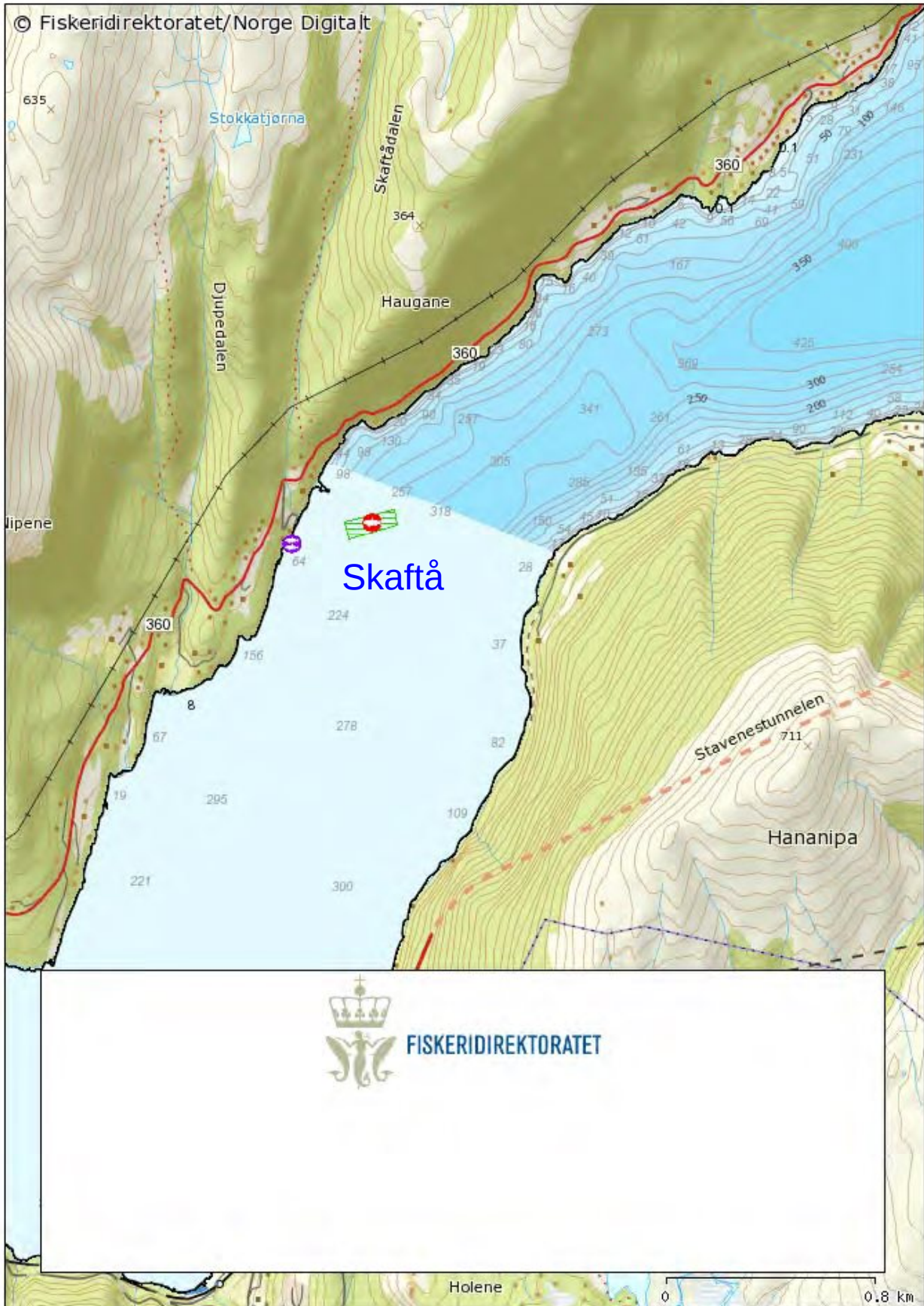
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Målestokk: 1:50 000

25.10.2010

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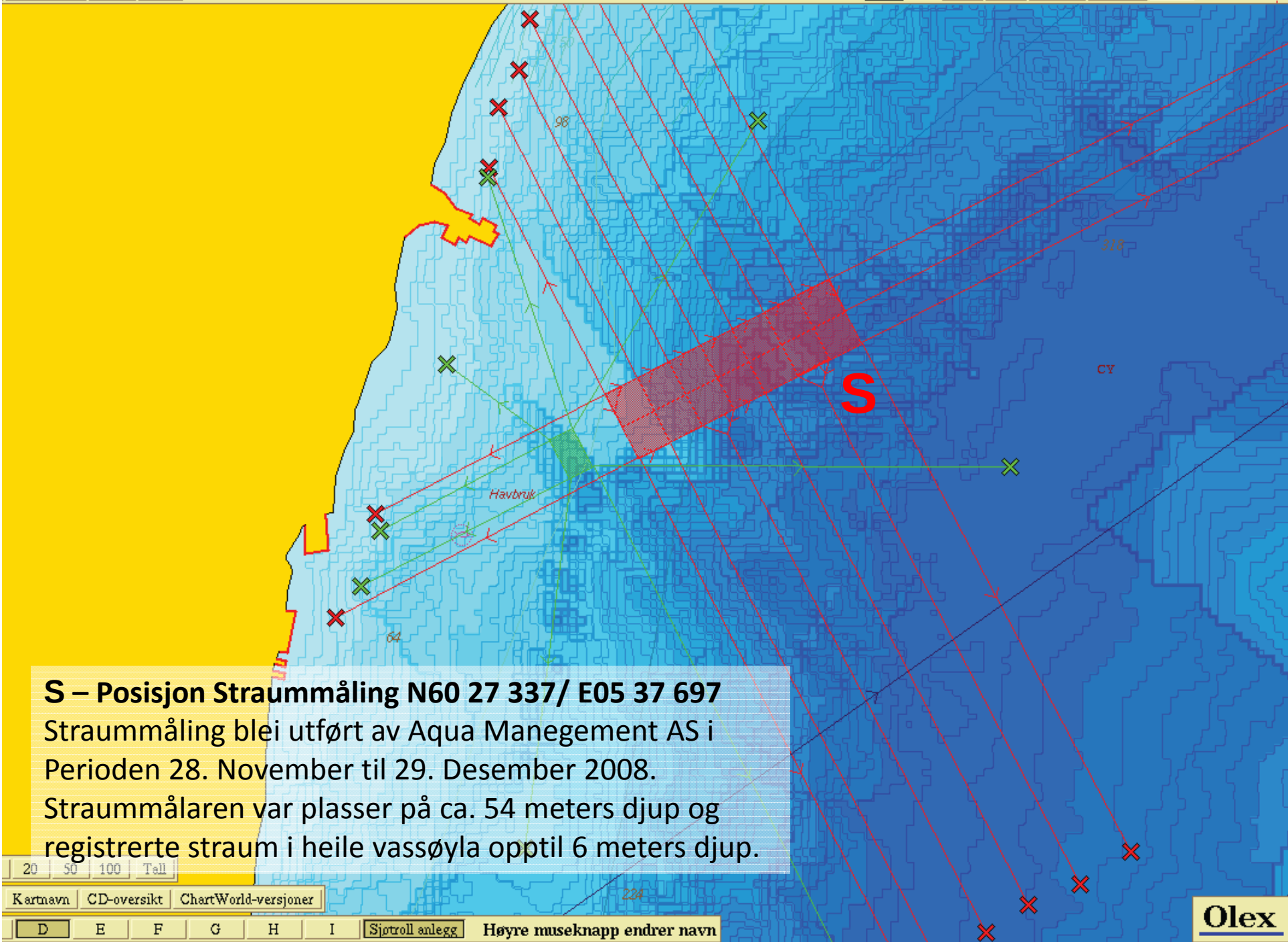
FISKERIDIREKTORATET

Holene

0

0.8 km

Målestokk: 1:20 000



**S – Posisjon Straummåling N60 27 337/ E05 37 697**  
Straummåling blei utført av Aqua Manegement AS i  
Perioden 28. November til 29. Desember 2008.  
Straummålaren var plasser på ca. 54 meters djup og  
registrerte straum i heile vassøyla opptil 6 meters djup.

# Straummåling Skaftå

Vassutskifting

21.11.2012

Resipientanalyse AS

Frode Berge-Haveland

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## Summary

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## Details

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### Instrument

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Head Id	AQP 1726
Board Id	AQD 1909
Frequency	400000

### Configuration

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File	skafta'è01.prf
Start	28.11.2008 12:00
End	05.01.2009 17:00
Data Records	5503
Longitude	5° 37,70'E
Latitude	60° 27,34'N
Orientation	DOWN
Cells	10
Cell Size [m]	5
Blanking Distance [m]	1,01
Average Interval [sec]	60
Measurement Interval [sec]	600

### Quality

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

### Post processing

---

Selected Start	28.11.2008 12:00
Selected End	29.12.2008 13:30
Compass Offset	0
Pressure Offset	0
Selected Records	4474
Reference	Water Surface
Top Depth [m]	7
Top Invalid Data	151
Middle Depth [m]	10
Middle Invalid Data	0
Bottom Depth [m]	15
Bottom Invalid Data	3

## Manually removed data

---

**Start Time**

**End Time**

**Comment**

## Statistics

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### Top [7,0m]

---

Mean current [m/s]	0.12
Max current [m/s]	0.41
Min current [m/s]	0.00
Measurements used/total [#]	4323 / 4474
Std.dev [m/s]	0.07
Significant max velocity [m/s]	0.21
Significant min velocity [m/s]	0.05
10 year return current [m/s]	0.670
50 year return current [m/s]	0.751
Most significant directions [°]	195°, 210°, 180°, 165°
Most significant speeds [m/s]	0.10, 0.15, 0.20, 0.05
Most flow	1239.41m <sup>3</sup> / day at 180-195°
Least flow	127.41m <sup>3</sup> / day at 45-60°
Neumann parameter	0.46
Residue current	0.06 m/s at 180°
Zero current [%] - [HH:mm]	0.53% - 00:20

### Middle [10,0m]

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Mean current [m/s]	0.12
Max current [m/s]	0.37
Min current [m/s]	0.00
Measurements used/total [#]	4474 / 4474
Std.dev [m/s]	0.07
Significant max velocity [m/s]	0.19
Significant min velocity [m/s]	0.05
10 year return current [m/s]	0.609
50 year return current [m/s]	0.683
Most significant directions [°]	195°, 180°, 210°, 225°
Most significant speeds [m/s]	0.10, 0.15, 0.20, 0.05
Most flow	1201.03m <sup>3</sup> / day at 180-195°
Least flow	102.30m <sup>3</sup> / day at 30-45°
Neumann parameter	0.48
Residue current	0.06 m/s at 178°
Zero current [%] - [HH:mm]	0.65% - 00:20

### Bottom [15,0m]

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Mean current [m/s]	0.12
Max current [m/s]	0.39
Min current [m/s]	0.00
Measurements used/total [#]	4471 / 4474
Std.dev [m/s]	0.06
Significant max velocity [m/s]	0.19
Significant min velocity [m/s]	0.05

10 year return current [m/s]	0.643
50 year return current [m/s]	0.721
Most significant directions [°]	195°, 180°, 165°, 210°
Most significant speeds [m/s]	0.10, 0.15, 0.20, 0.05
Most flow	1140.02m <sup>3</sup> / day at 165-180°
Least flow	78.64m <sup>3</sup> / day at 15-30°
Neumann parameter	0.42
Residue current	0.05 m/s at 173°
Zero current [%] - [HH:mm]	0.60% - 00:10

## Direction with return period

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### Top [7,0m]

---

<b>Direction</b>	<b>Mean</b>	<b>Max</b>	<b>Mean 10y</b>	<b>Max 10y</b>	<b>Mean 50y</b>	<b>Max 50y</b>
0	0,104	0,354	0,171	0,585	0,192	0,656
45	0,101	0,343	0,167	0,565	0,188	0,634
90	0,147	0,382	0,242	0,630	0,271	0,707
135	0,131	0,406	0,217	0,670	0,243	0,751
180	0,144	0,402	0,237	0,663	0,266	0,743
225	0,120	0,351	0,199	0,579	0,223	0,649
270	0,090	0,235	0,149	0,388	0,167	0,435
315	0,093	0,275	0,154	0,454	0,173	0,509

### Middle [10,0m]

---

<b>Direction</b>	<b>Mean</b>	<b>Max</b>	<b>Mean 10y</b>	<b>Max 10y</b>	<b>Mean 50y</b>	<b>Max 50y</b>
0	0,078	0,241	0,128	0,398	0,144	0,447
45	0,097	0,289	0,161	0,477	0,180	0,535
90	0,136	0,362	0,224	0,597	0,251	0,670
135	0,129	0,369	0,213	0,609	0,239	0,683
180	0,137	0,368	0,226	0,608	0,254	0,681
225	0,113	0,332	0,187	0,548	0,209	0,614
270	0,084	0,255	0,138	0,420	0,155	0,471
315	0,090	0,250	0,149	0,412	0,167	0,462

### Bottom [15,0m]

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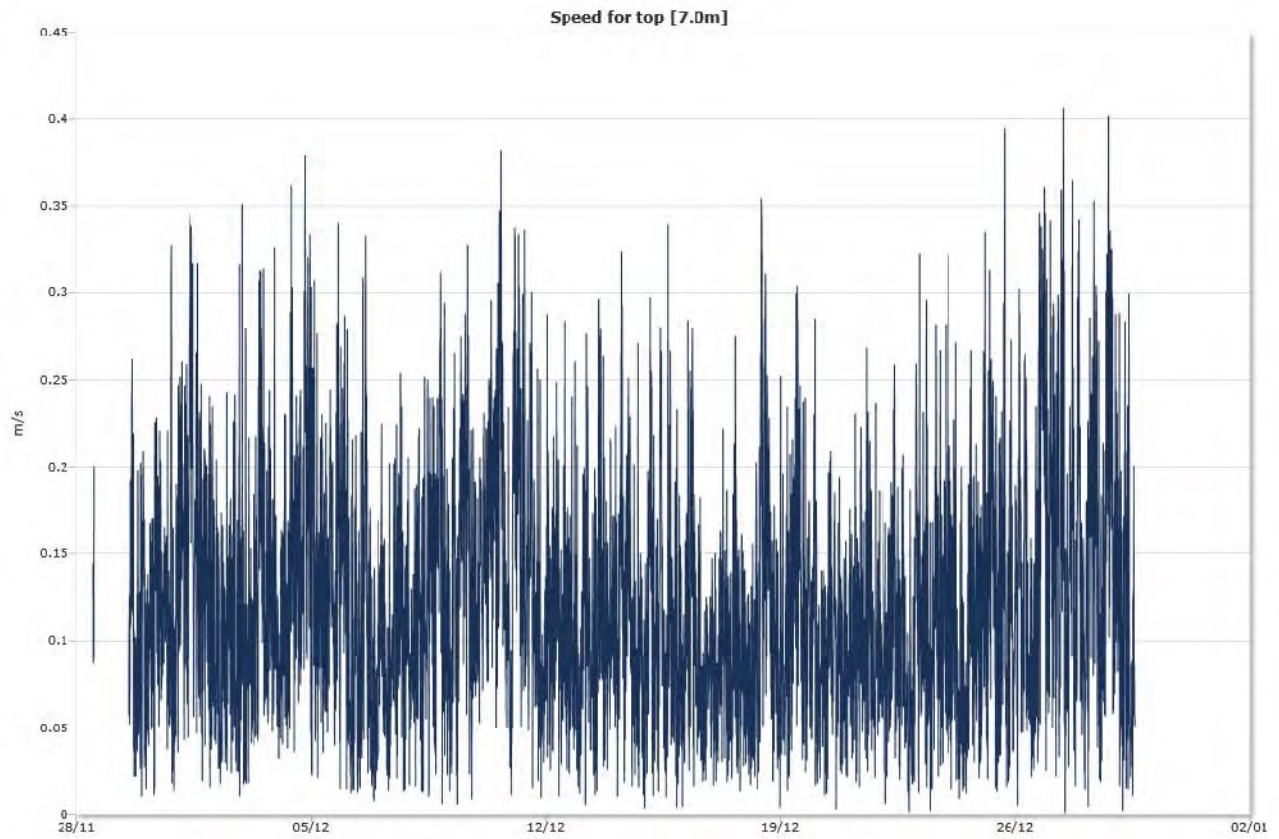
<b>Direction</b>	<b>Mean</b>	<b>Max</b>	<b>Mean 10y</b>	<b>Max 10y</b>	<b>Mean 50y</b>	<b>Max 50y</b>
0	0,088	0,265	0,145	0,438	0,163	0,491
45	0,092	0,340	0,152	0,560	0,171	0,628
90	0,116	0,279	0,191	0,460	0,214	0,515
135	0,133	0,353	0,219	0,583	0,245	0,653
180	0,135	0,390	0,223	0,643	0,250	0,721
225	0,114	0,327	0,188	0,540	0,211	0,605
270	0,097	0,300	0,161	0,495	0,180	0,554
315	0,103	0,307	0,170	0,506	0,191	0,568

## Time series

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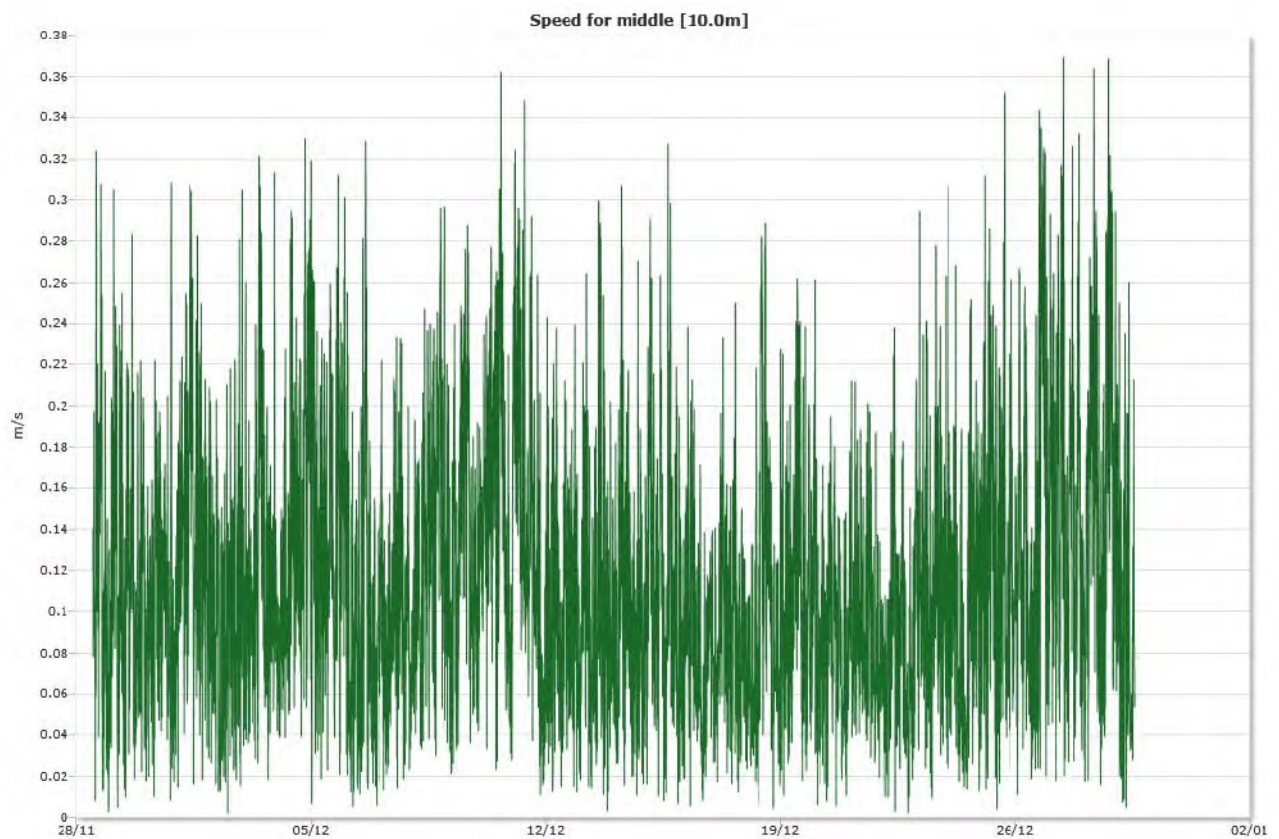
### Top [7,0m]

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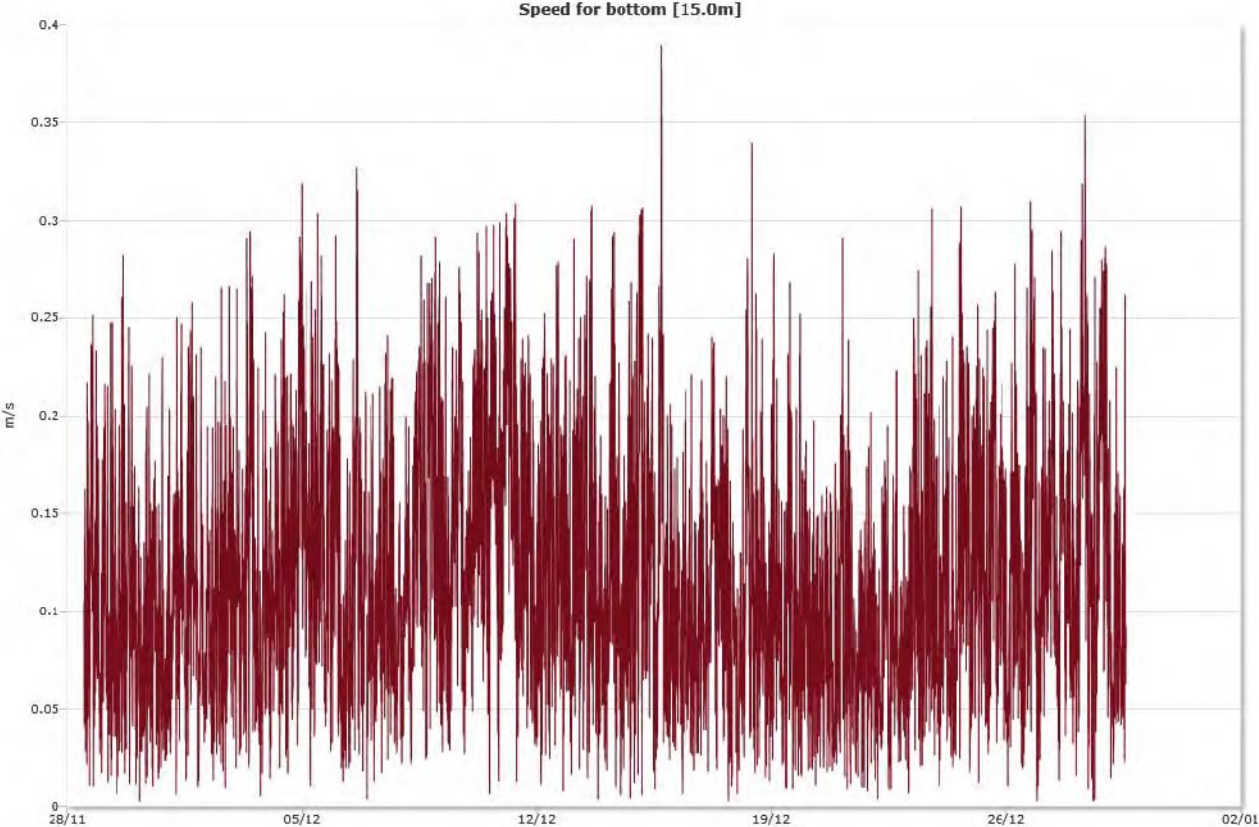
### Middle [10,0m]

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Bottom [15,0m]

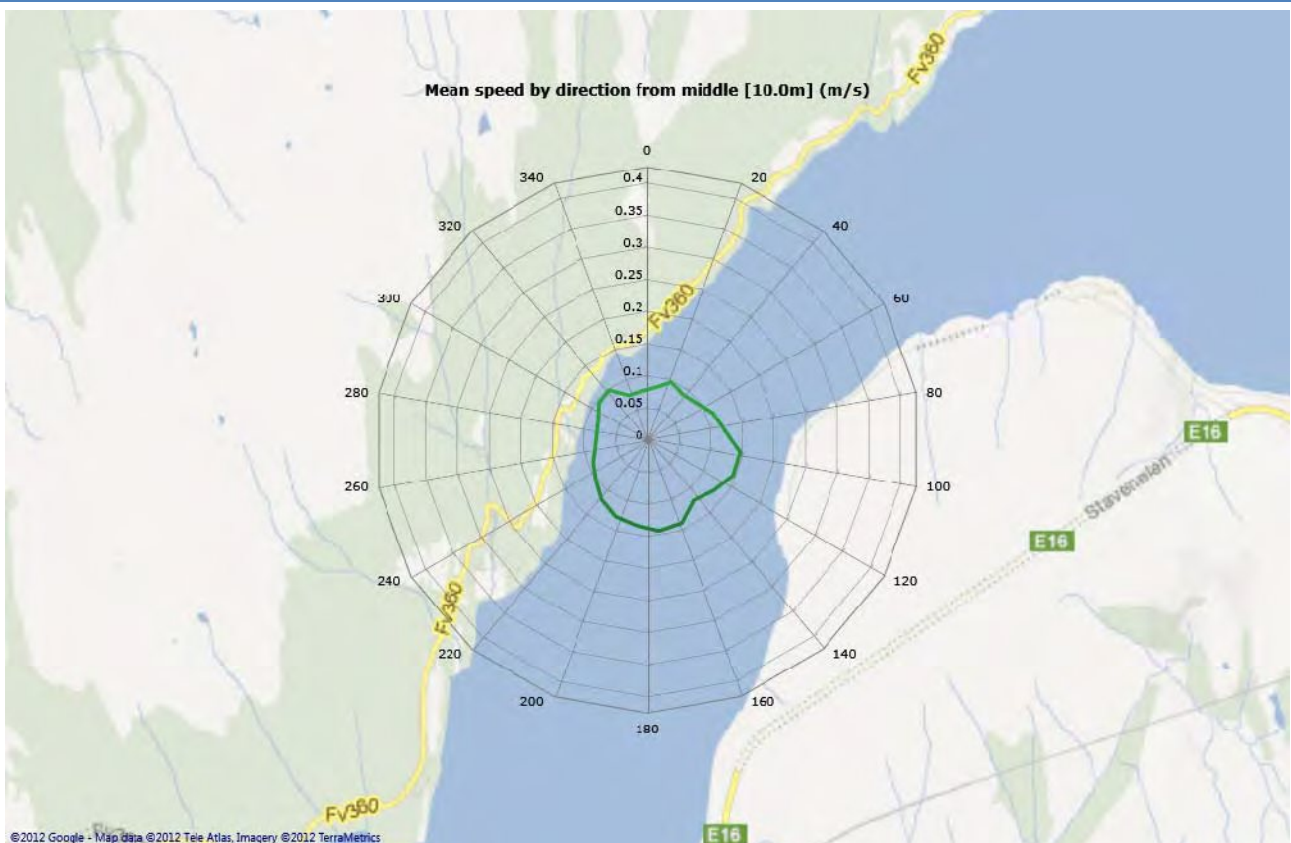


## Mean speed - roseplot

Top [7,0m]



Middle [10,0m]



Bottom [15,0m]



# Max speed - roseplot

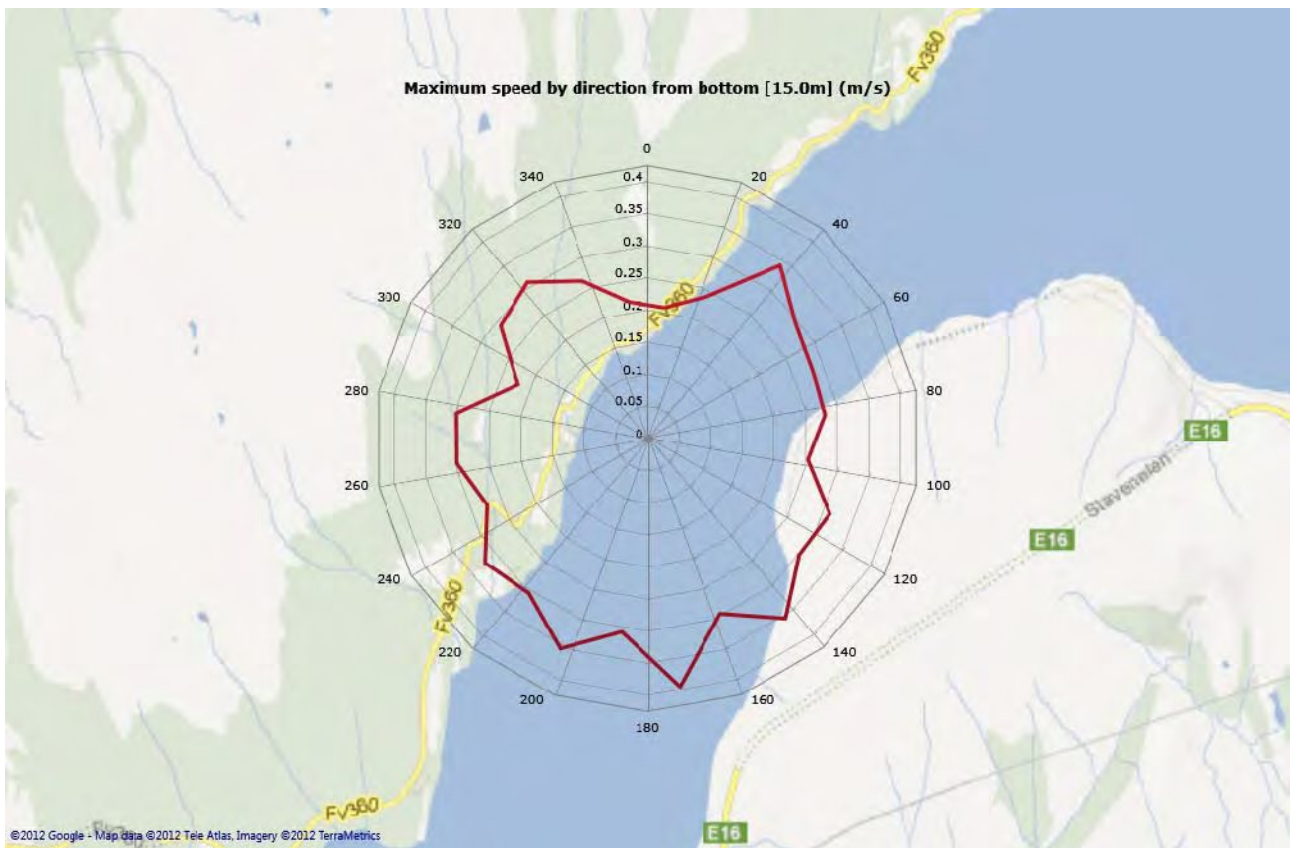
## Top [7,0m]



## Middle [10,0m]

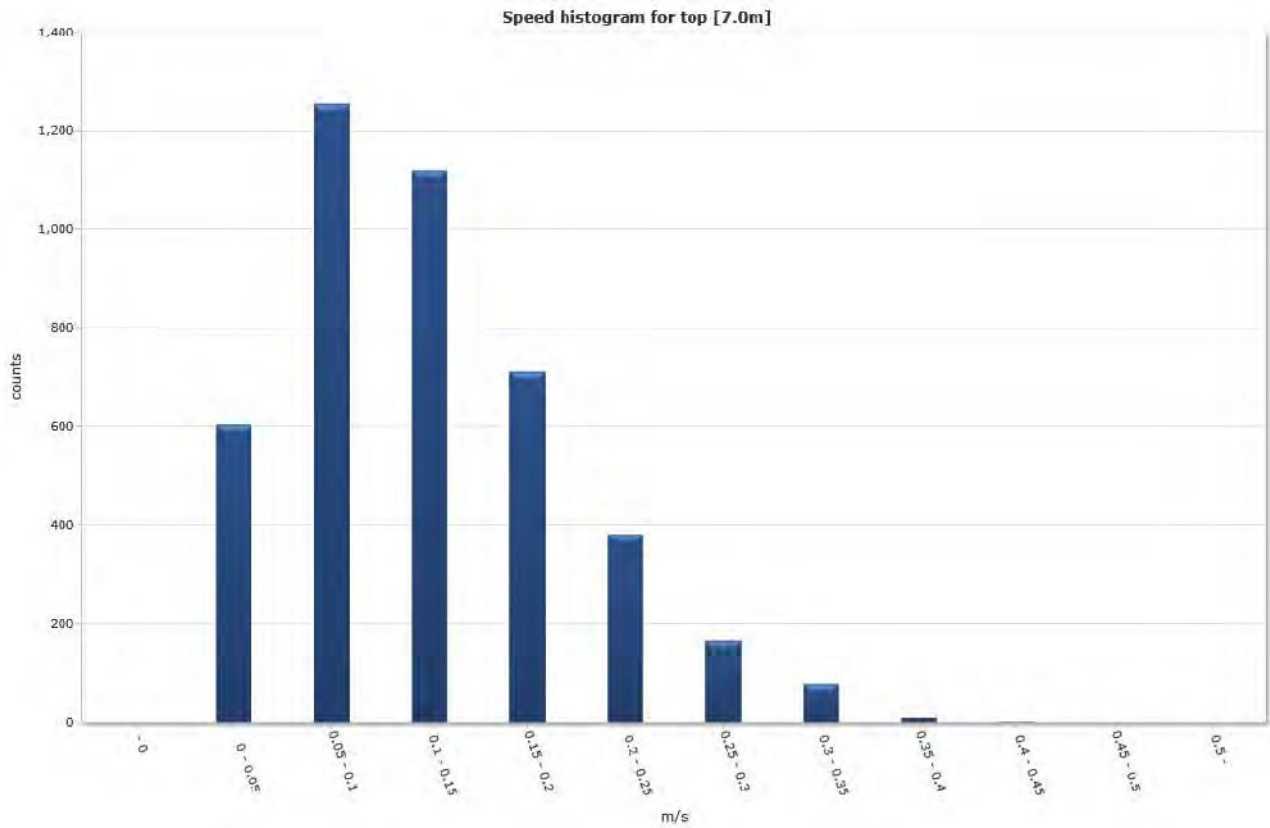


# Bottom [15,0m]

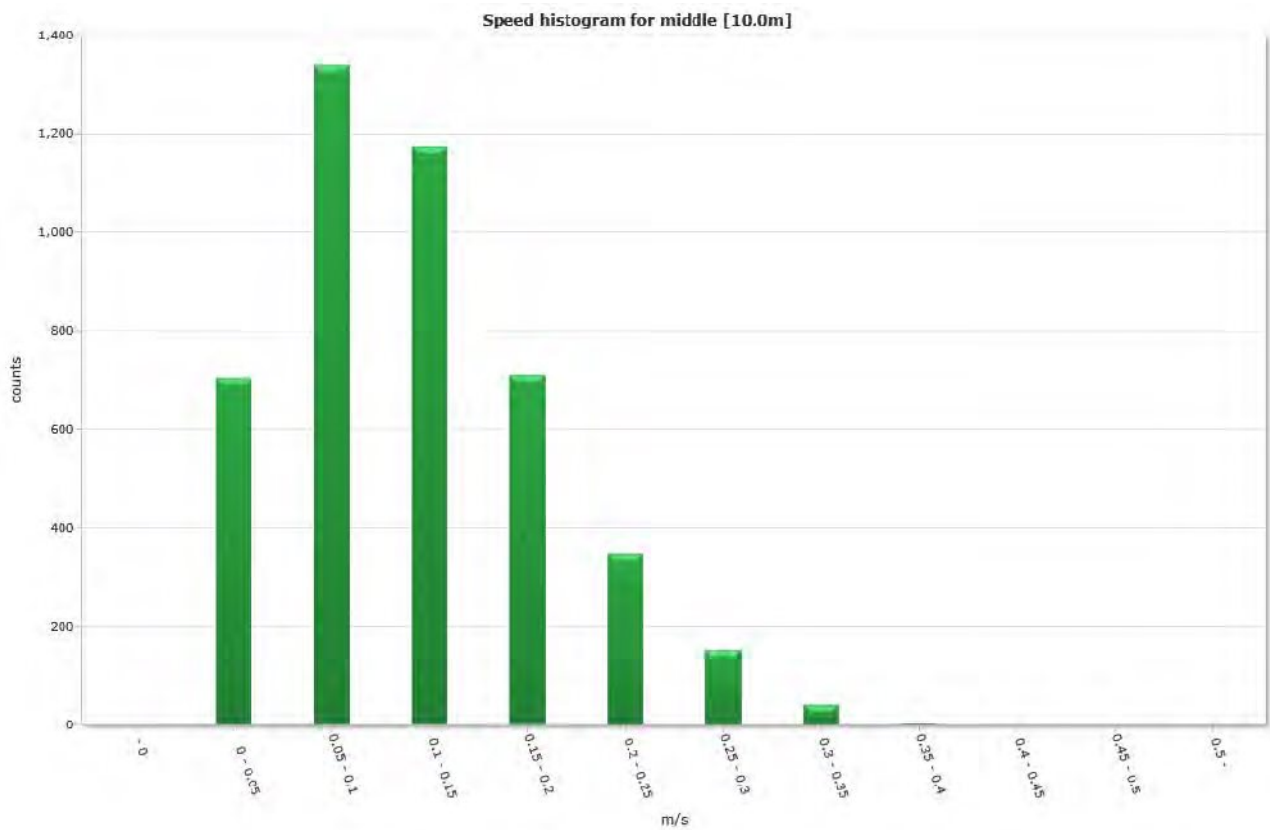


## Speed histogram

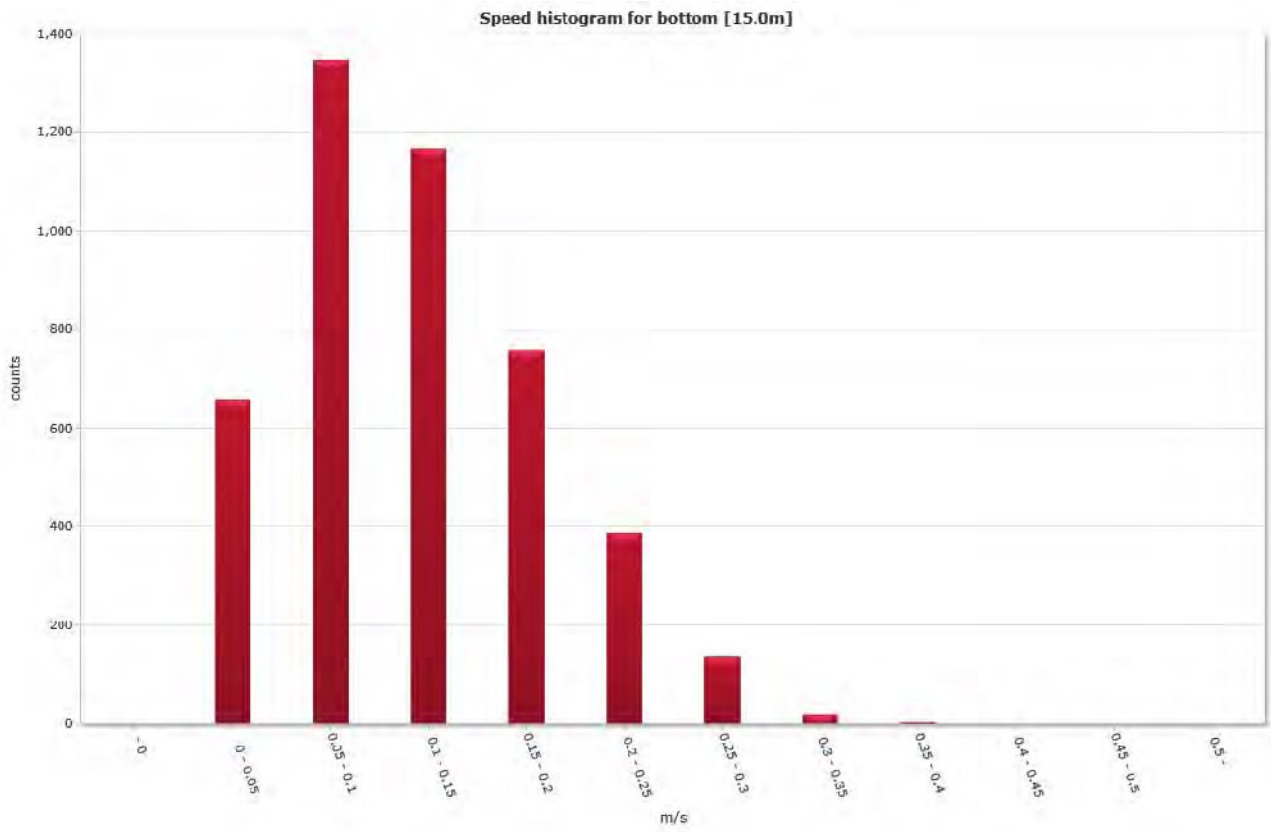
### Top [7,0m]



### Middle [10,0m]

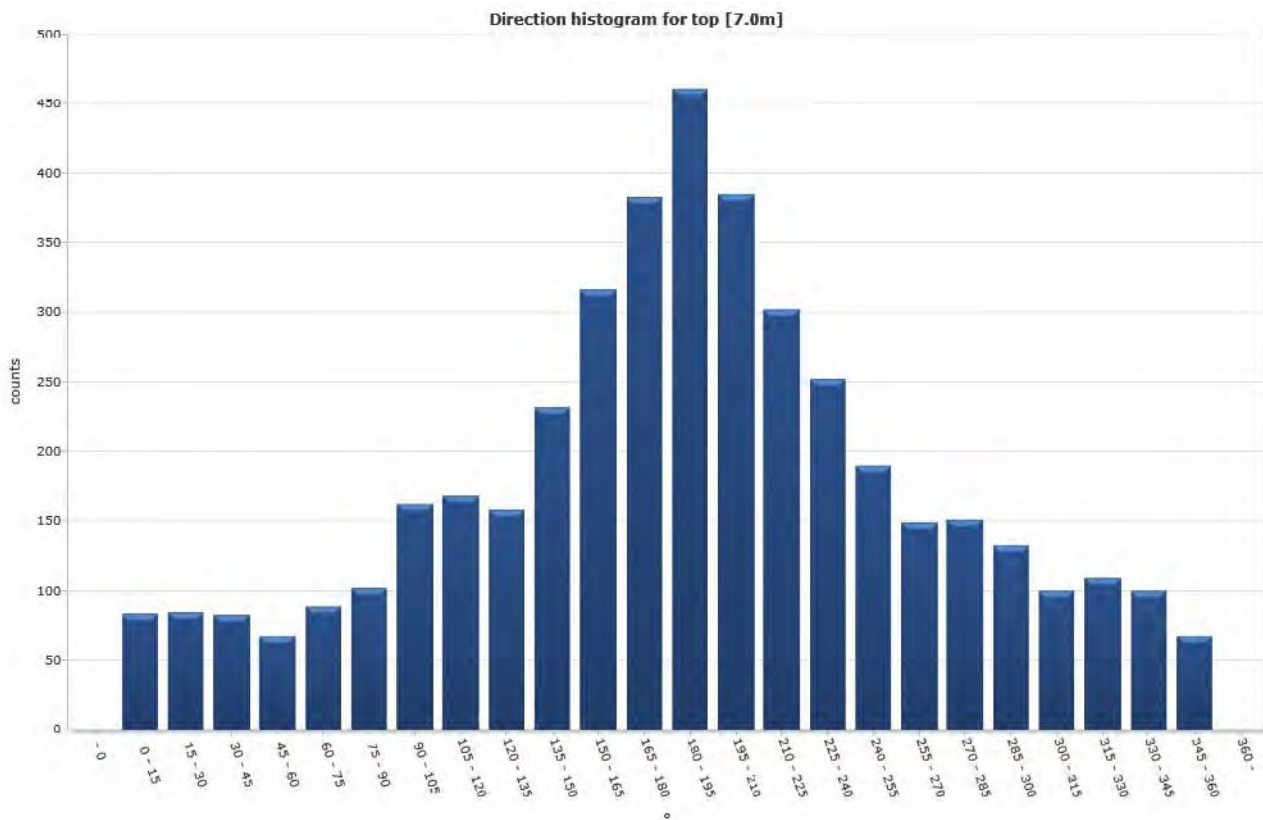


# Bottom [15,0m]

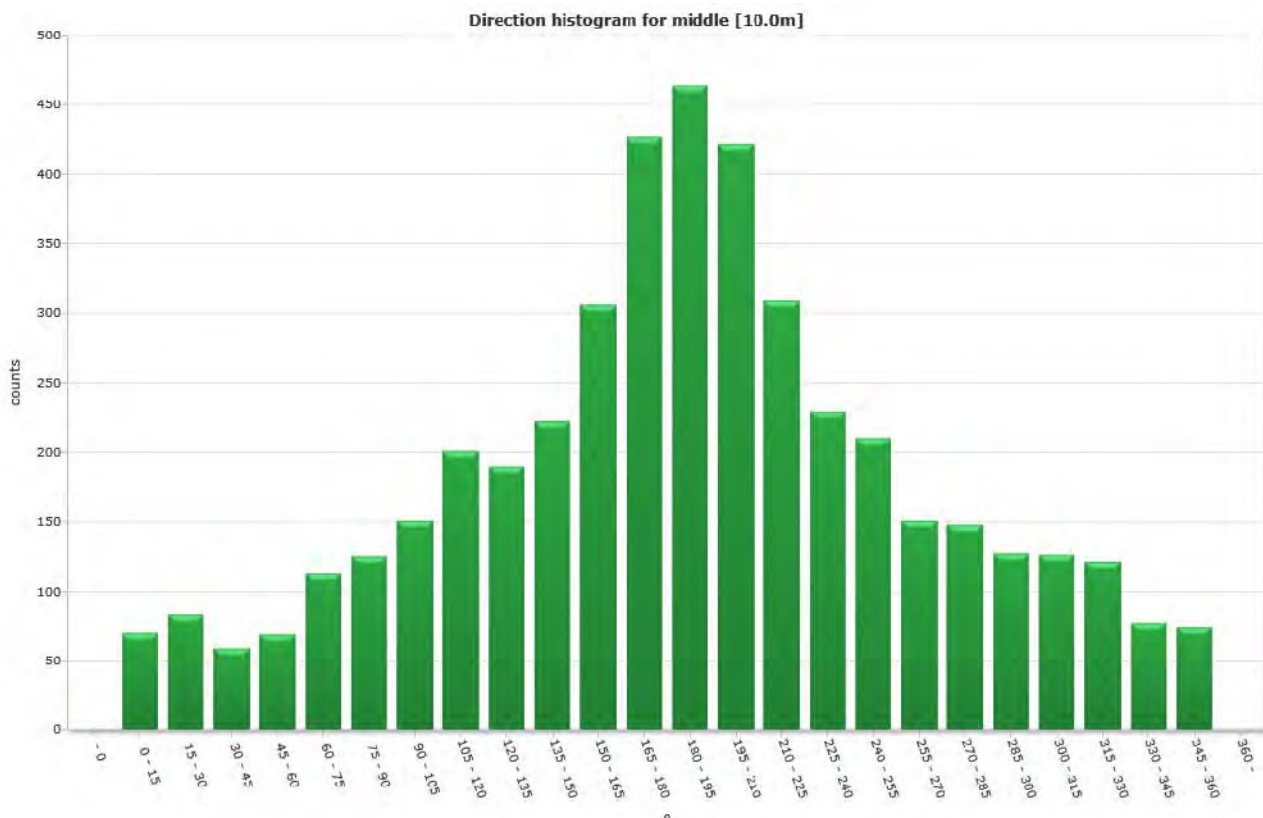


## Direction histogram

Top [7,0m]

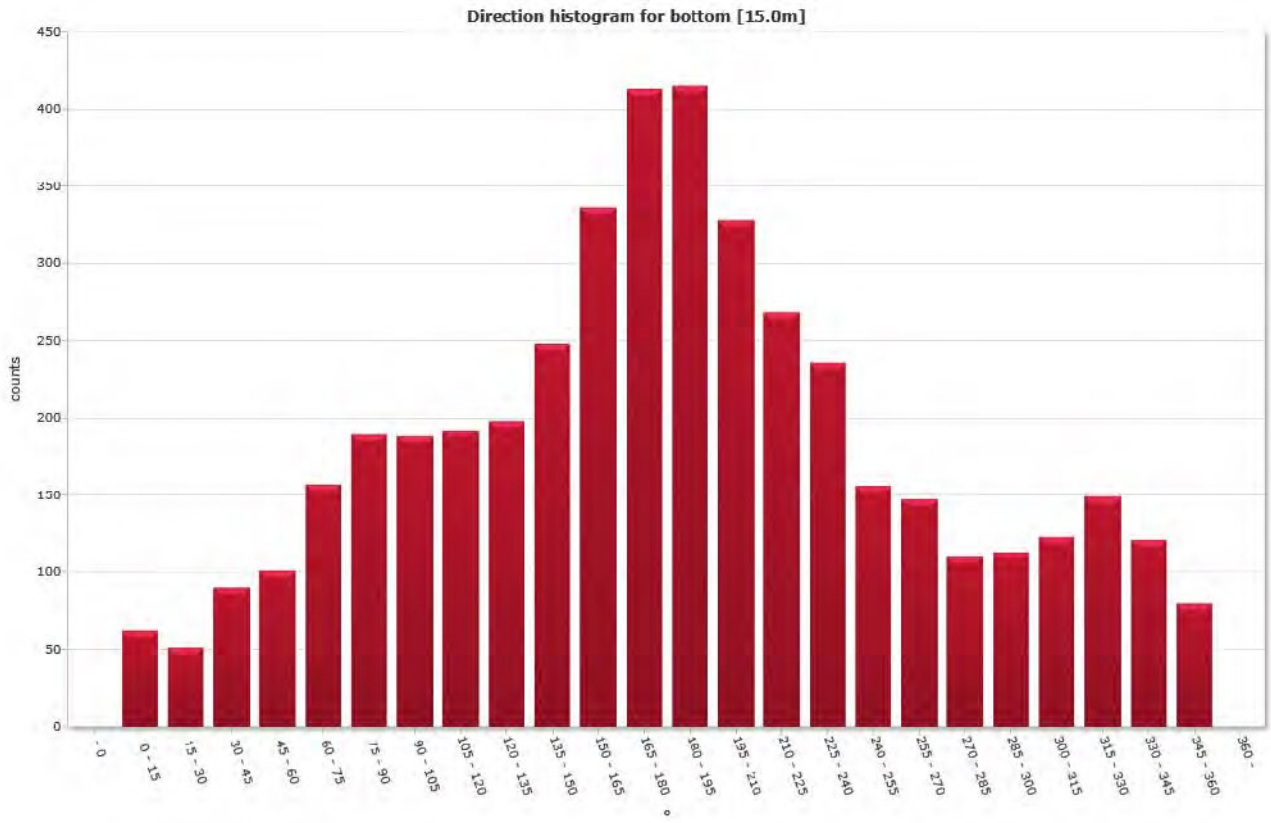


Middle [10,0m]





# Bottom [15,0m]



## Direction/Speed histogram

### Top [7,0m]

		Direction/speed matrix for top [7.0m]																									
°	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	18	14	16	19	21	10	18	24	22	27	23	34	41	33	36	44	40	24	41	27	17	22	21	11	13.9	603
	0.10	27	31	31	22	19	24	29	26	37	67	69	81	116	105	91	73	66	62	59	62	39	39	53	26	29.0	1254
	0.15	20	20	17	16	17	28	31	36	47	57	96	95	148	97	71	75	50	46	33	27	28	32	16	16	25.9	1119
	0.20	9	8	11	4	17	24	33	42	29	44	59	80	75	76	58	40	23	14	15	13	11	8	7	11	16.4	711
	0.25	5	3	4	4	13	13	31	17	11	26	38	45	46	43	33	13	11	3	3	3	5	8	2	1	8.8	381
	0.30	2	7	2	2	1	1	10	16	9	5	22	26	22	23	9	6	0	0	0	0	0	0	1	2	3.8	166
	0.35	1	1	1	0	0	2	10	6	3	3	7	21	10	8	3	1	0	0	0	0	0	0	0	0	1.8	77
	0.40	1	0	0	0	0	0	0	1	0	2	2	1	2	0	1	0	0	0	0	0	0	0	0	0	0.2	10
	0.45	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.0	2
	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
	%	1.9	1.9	1.9	1.5	2.0	2.4	3.7	3.9	3.7	5.4	7.3	8.9	10.7	8.9	7.0	5.8	4.4	3.4	3.5	3.1	2.3	2.5	2.3	1.5	100.0	100.0
	Sum	83	84	82	67	88	102	162	168	158	232	316	383	461	385	302	252	190	149	151	132	100	109	100	67	100.0	4323

### 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	19	25	19	20	20	19	14	22	25	35	25	30	38	58	41	37	42	39	38	42	26	18	27	25	15.7	704
	0.10	31	28	18	17	32	34	29	44	46	62	71	104	114	113	91	81	85	65	71	48	45	52	29	29	29.9	1339
	0.15	13	15	16	18	32	31	35	45	53	60	77	113	147	104	92	70	62	36	30	21	38	35	17	15	26.3	1175
	0.20	7	6	3	9	20	26	38	46	32	35	76	90	91	68	54	34	17	9	9	13	12	8	3	4	15.9	710
	0.25	0	3	1	4	7	10	23	24	17	20	36	50	52	53	22	2	4	2	0	2	5	8	1	1	7.8	347
	0.30	0	6	2	1	2	4	10	14	14	8	17	28	15	18	8	5	0	0	0	1	0	0	0	0	3.4	153
	0.35	0	0	0	0	0	1	2	5	3	0	3	12	6	8	1	0	0	0	0	0	0	0	0	0	0.9	41
	0.40	0	0	0	0	0	0	0	1	0	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1	5
	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
	%	1.6	1.9	1.3	1.5	2.5	2.8	3.4	4.5	4.2	5.0	6.8	9.5	10.4	9.4	6.9	5.1	4.7	3.4	3.3	2.8	2.8	2.7	1.7	1.7	100.0	100.0
	Sum	70	83	59	69	113	125	151	201	190	222	306	427	464	422	309	229	210	151	148	127	126	121	77	74	100.0	4474

## 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	20	19	23	21	24	33	25	21	27	21	34	35	33	37	31	43	35	31	18	27	24	23	30	22	14.7	657	
0.05	23	18	35	36	33	60	55	57	53	73	97	80	102	87	82	103	53	51	43	50	49	40	38	28	30.1	1346	
0.10	15	6	23	26	55	51	52	52	40	60	79	111	129	93	84	45	41	38	27	21	26	41	30	21	26.1	1156	
0.15	3	7	7	14	27	27	43	41	33	48	68	101	84	56	41	31	16	20	15	13	14	28	13	8	17.0	758	
0.20	1	1	1	3	14	13	12	15	28	27	49	65	47	33	20	8	10	6	4	2	8	11	8	1	8.7	387	
0.25	0	0	0	1	4	5	1	4	17	15	9	17	18	17	9	5	1	1	3	0	2	5	2	0	3.0	136	
0.30	0	0	1	0	0	0	0	2	0	3	0	3	2	4	1	1	0	0	0	0	0	1	0	0	0.4	18	
0.35	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0.1	3	
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	
%	1.4	1.1	2.0	2.3	3.5	4.2	4.2	4.3	4.4	5.5	7.5	9.2	9.3	7.3	6.0	5.3	3.5	3.3	2.5	2.5	2.8	3.3	2.7	1.8	100.0	100.0	
Sum	62	51	90	101	157	189	188	192	198	248	336	413	415	328	268	236	156	147	110	113	123	149	121	80	100.0	4471	

# Flow

## Top [7,0m]



## Middle [10,0m]



Bottom [15,0m]

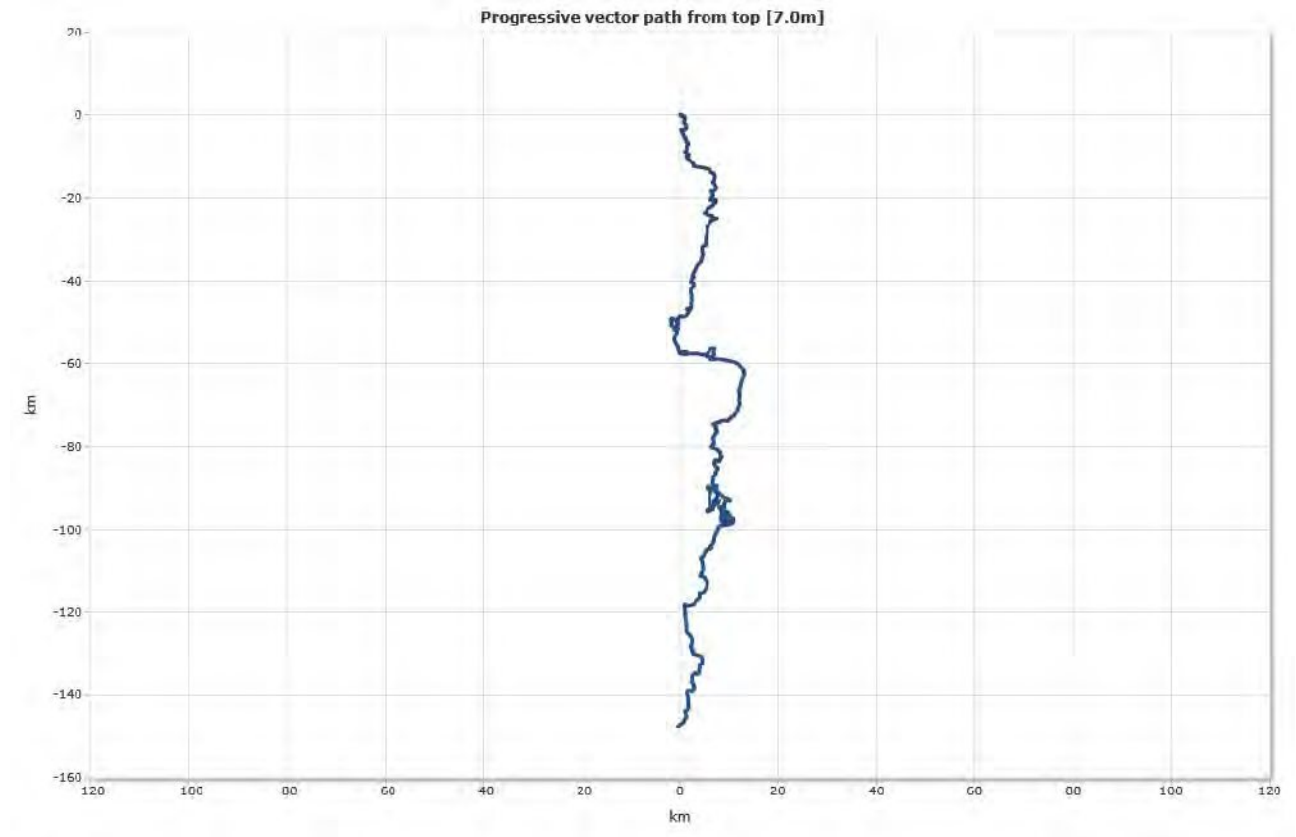


## Progressive vector

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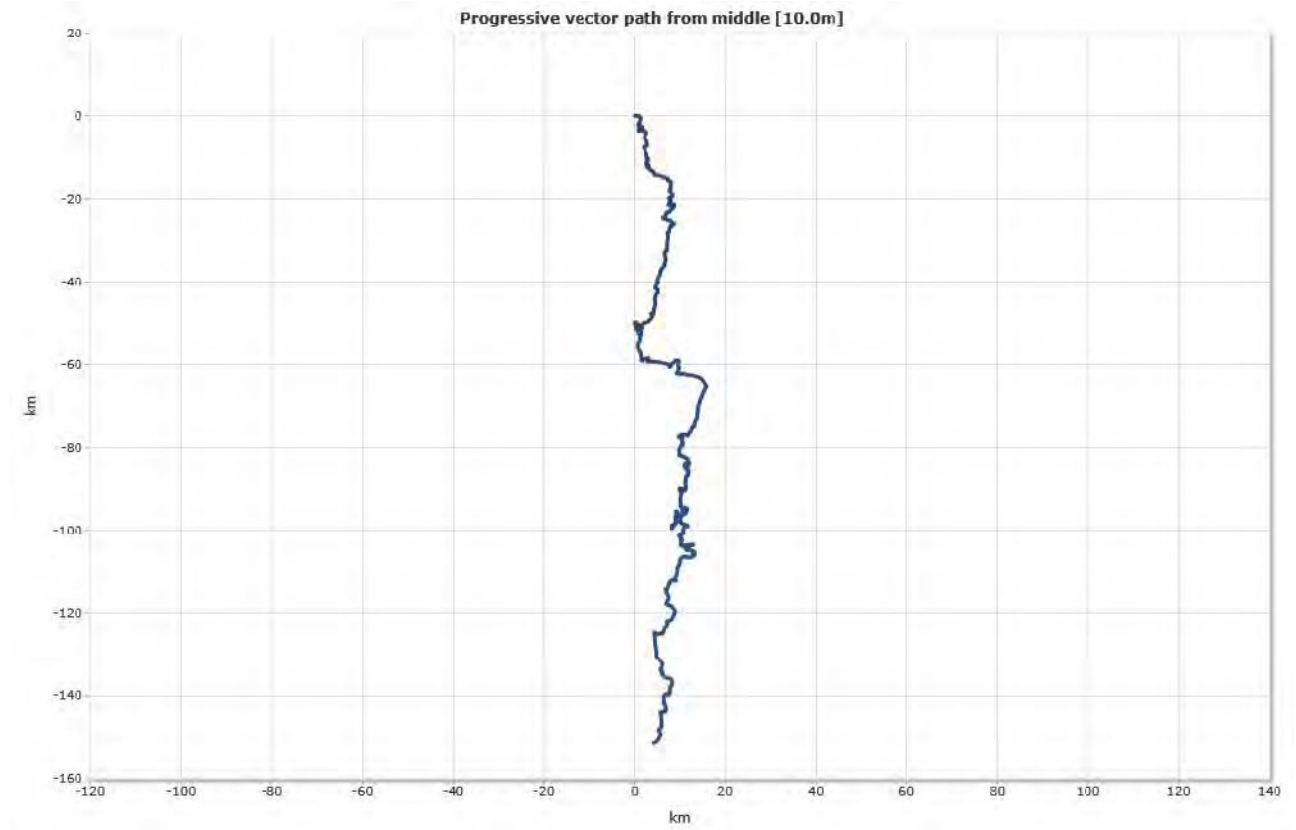
### Top [7,0m]

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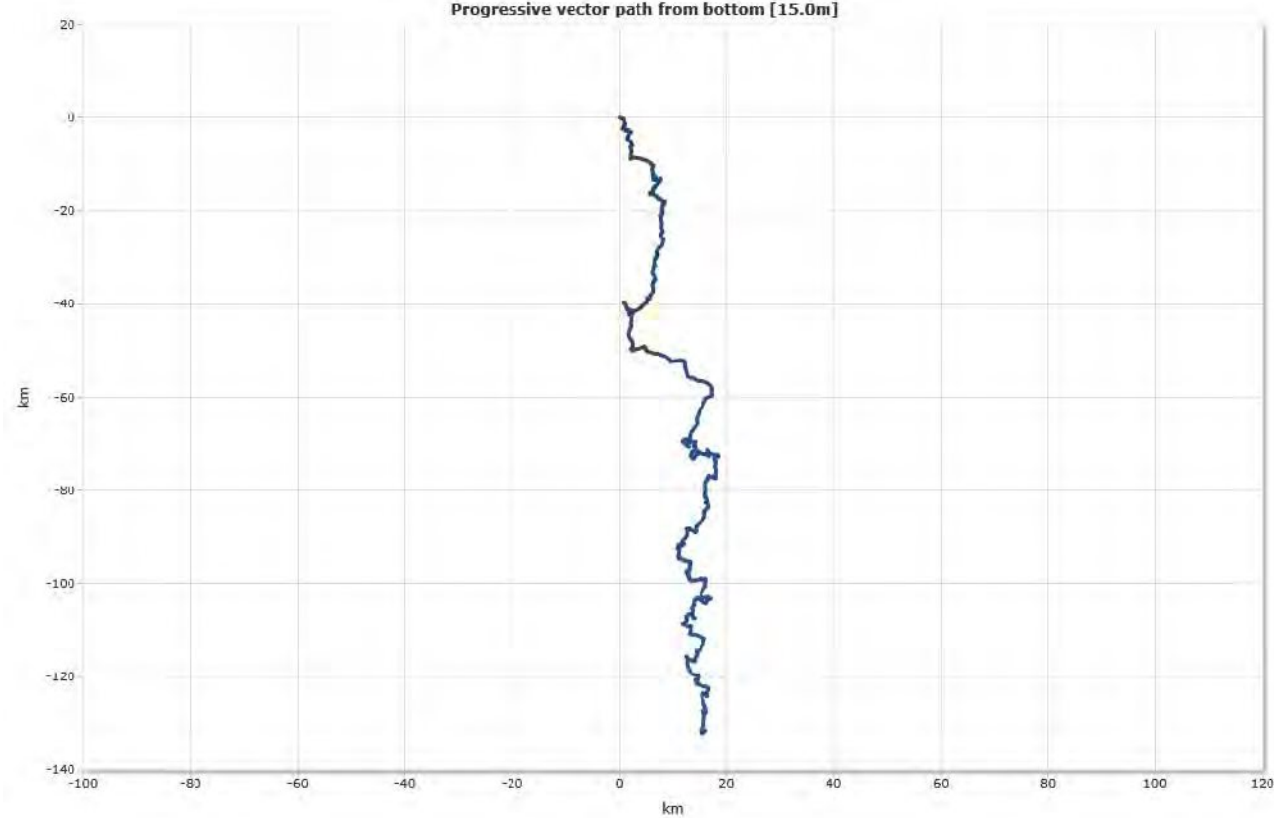


### Middle [10,0m]

---



Bottom [15,0m]

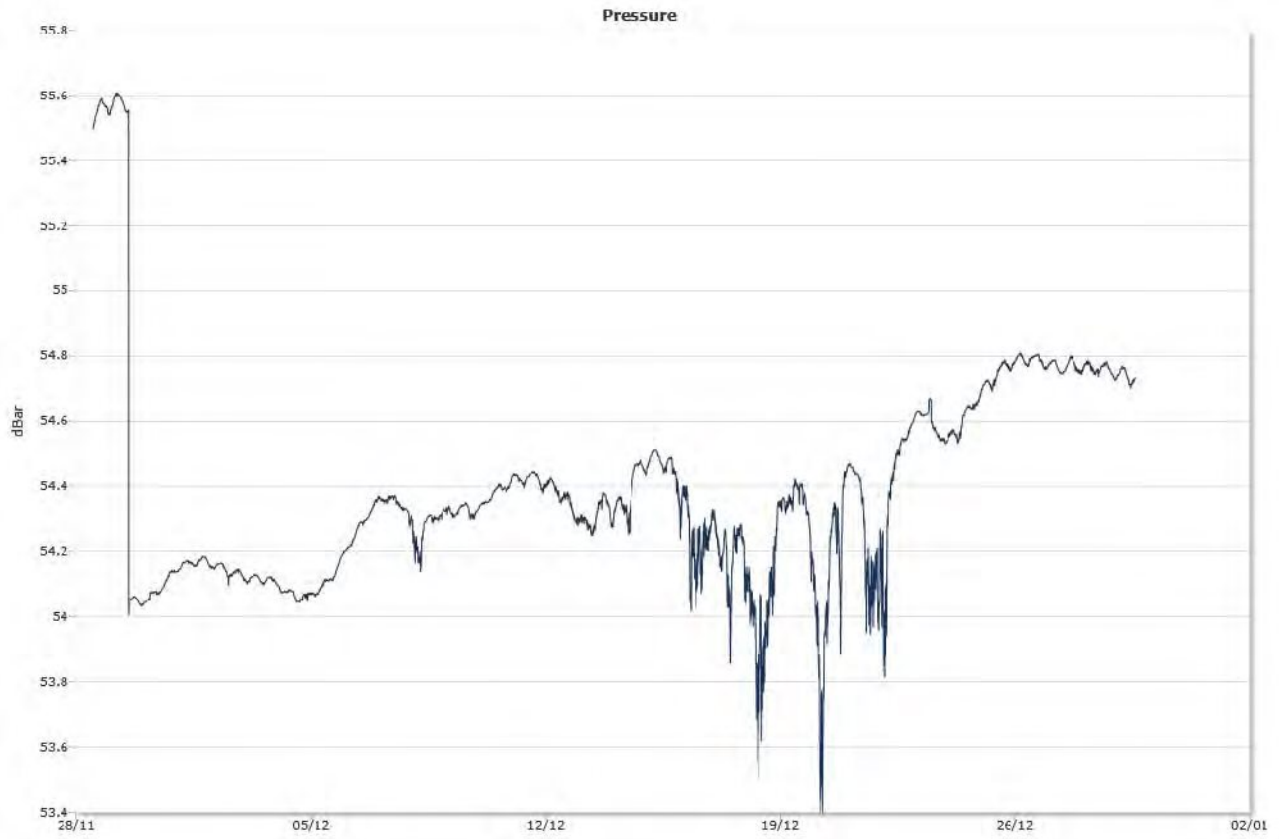


## Sensors

---

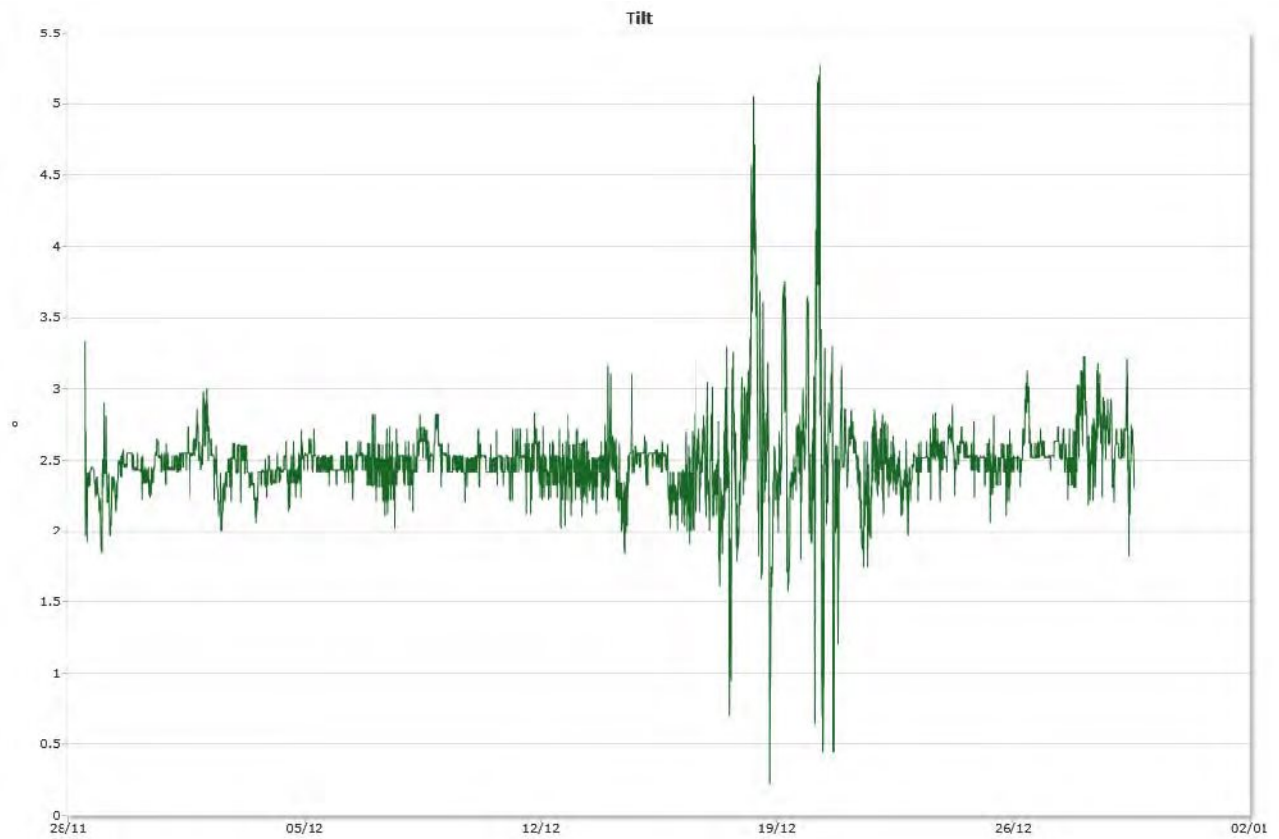
### Pressure

---



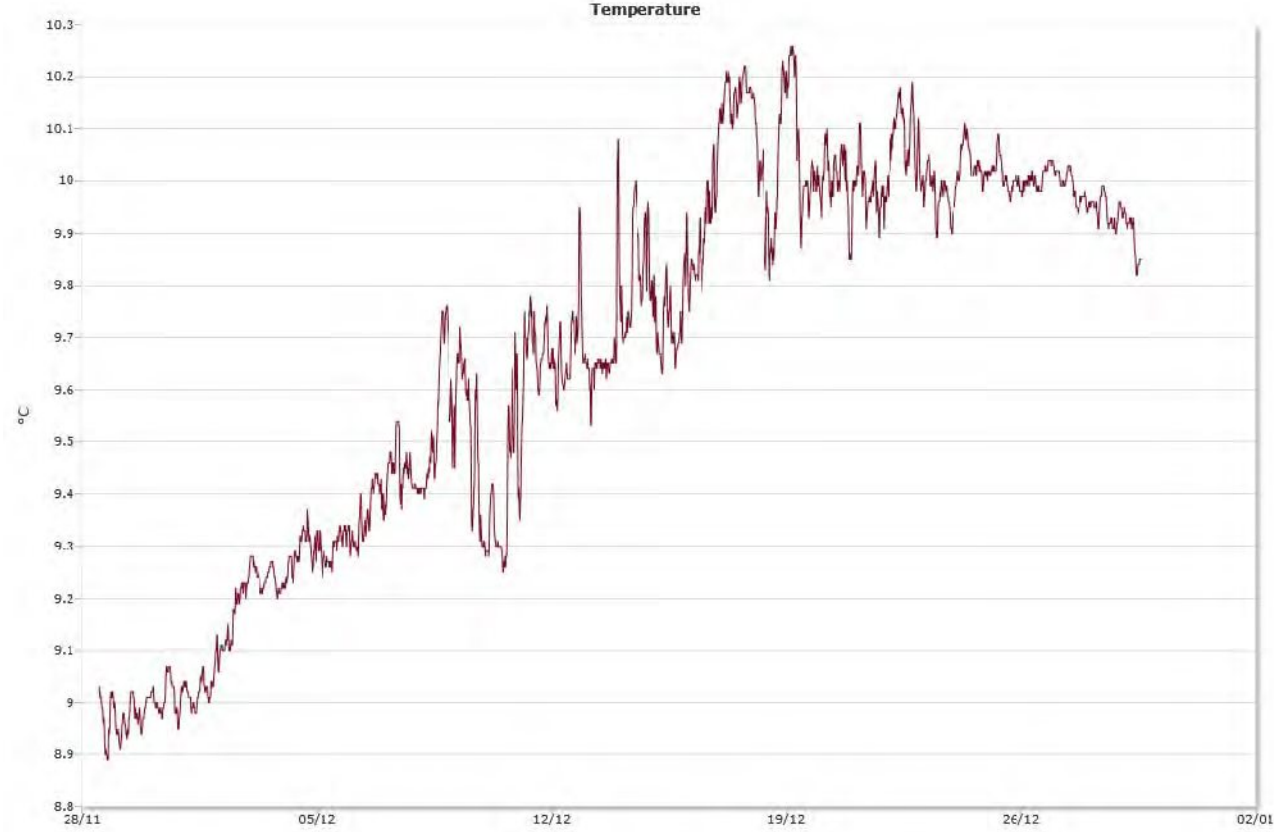
### Tilt

---





# Temperature



# Straummåling Skaftå

Spreiingsstraum

21.11.2012

Resipientanalyse AS

Frode Berge-Haveland

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## Summary

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## Details

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### Instrument

---

Head Id	AQP 1726
Board Id	AQD 1909
Frequency	400000

### Configuration

---

File	skafta'è01.prf
Start	28.11.2008 12:00
End	05.01.2009 17:00
Data Records	5503
Longitude	5° 37,70'E
Latitude	60° 27,34'N
Orientation	DOWN
Cells	10
Cell Size [m]	5
Blanking Distance [m]	1,01
Average Interval [sec]	60
Measurement Interval [sec]	600

### Quality

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

### Post processing

---

Selected Start	28.11.2008 12:00
Selected End	29.12.2008 13:30
Compass Offset	0
Pressure Offset	0
Selected Records	4474
Reference	Water Surface
Top Depth [m]	30
Top Invalid Data	0
Middle Depth [m]	40
Middle Invalid Data	1
Bottom Depth [m]	50
Bottom Invalid Data	9

## Manually removed data

---

**Start Time**

**End Time**

**Comment**

## Statistics

---

### Top [30,0m]

---

Mean current [m/s]	0.08
Max current [m/s]	0.30
Min current [m/s]	0.00
Measurements used/total [#]	4474 / 4474
Std.dev [m/s]	0.05
Significant max velocity [m/s]	0.14
Significant min velocity [m/s]	0.03
10 year return current [m/s]	0.498
50 year return current [m/s]	0.558
Most significant directions [°]	135°, 120°, 150°, 75°
Most significant speeds [m/s]	0.10, 0.05, 0.15, 0.20
Most flow	505.96m <sup>3</sup> / day at 120-135°
Least flow	115.57m <sup>3</sup> / day at 270-285°
Neumann parameter	0.31
Residue current	0.02 m/s at 110°
Zero current [%] - [HH:mm]	1.94% - 00:20

### Middle [40,0m]

---

Mean current [m/s]	0.06
Max current [m/s]	0.34
Min current [m/s]	0.00
Measurements used/total [#]	4473 / 4474
Std.dev [m/s]	0.04
Significant max velocity [m/s]	0.11
Significant min velocity [m/s]	0.02
10 year return current [m/s]	0.563
50 year return current [m/s]	0.632
Most significant directions [°]	30°, 60°, 45°, 75°
Most significant speeds [m/s]	0.05, 0.10, 0.15, 0.20
Most flow	367.46m <sup>3</sup> / day at 15-30°
Least flow	111.16m <sup>3</sup> / day at 255-270°
Neumann parameter	0.16
Residue current	0.01 m/s at 54°
Zero current [%] - [HH:mm]	3.29% - 00:20

### Bottom [50,0m]

---

Mean current [m/s]	0.05
Max current [m/s]	0.30
Min current [m/s]	0.00
Measurements used/total [#]	4465 / 4474
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]	0.494
50 year return current [m/s]	0.554
Most significant directions [°]	15°, 45°, 30°, 60°
Most significant speeds [m/s]	0.05, 0.10, 0.15, 0.20
Most flow	304.52m <sup>3</sup> / day at 15-30°
Least flow	95.67m <sup>3</sup> / day at 105-120°
Neumann parameter	0.12
Residue current	0.01 m/s at 24°
Zero current [%] - [HH:mm]	4.32% - 00:30

## Direction with return period

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### Top [30,0m]

---

<b>Direction</b>	<b>Mean</b>	<b>Max</b>	<b>Mean 10y</b>	<b>Max 10y</b>	<b>Mean 50y</b>	<b>Max 50y</b>
0	0,072	0,286	0,118	0,471	0,133	0,528
45	0,079	0,274	0,131	0,452	0,146	0,507
90	0,089	0,279	0,147	0,460	0,165	0,515
135	0,091	0,302	0,150	0,498	0,168	0,558
180	0,084	0,298	0,138	0,492	0,155	0,552
225	0,070	0,237	0,116	0,391	0,130	0,438
270	0,058	0,204	0,096	0,336	0,108	0,377
315	0,060	0,255	0,099	0,421	0,111	0,472

### Middle [40,0m]

---

<b>Direction</b>	<b>Mean</b>	<b>Max</b>	<b>Mean 10y</b>	<b>Max 10y</b>	<b>Mean 50y</b>	<b>Max 50y</b>
0	0,068	0,238	0,112	0,392	0,125	0,440
45	0,063	0,229	0,104	0,378	0,117	0,424
90	0,057	0,212	0,094	0,350	0,106	0,393
135	0,057	0,206	0,094	0,339	0,105	0,380
180	0,061	0,250	0,101	0,412	0,113	0,462
225	0,057	0,223	0,095	0,368	0,106	0,413
270	0,052	0,225	0,086	0,372	0,097	0,417
315	0,059	0,342	0,097	0,563	0,109	0,632

### Bottom [50,0m]

---

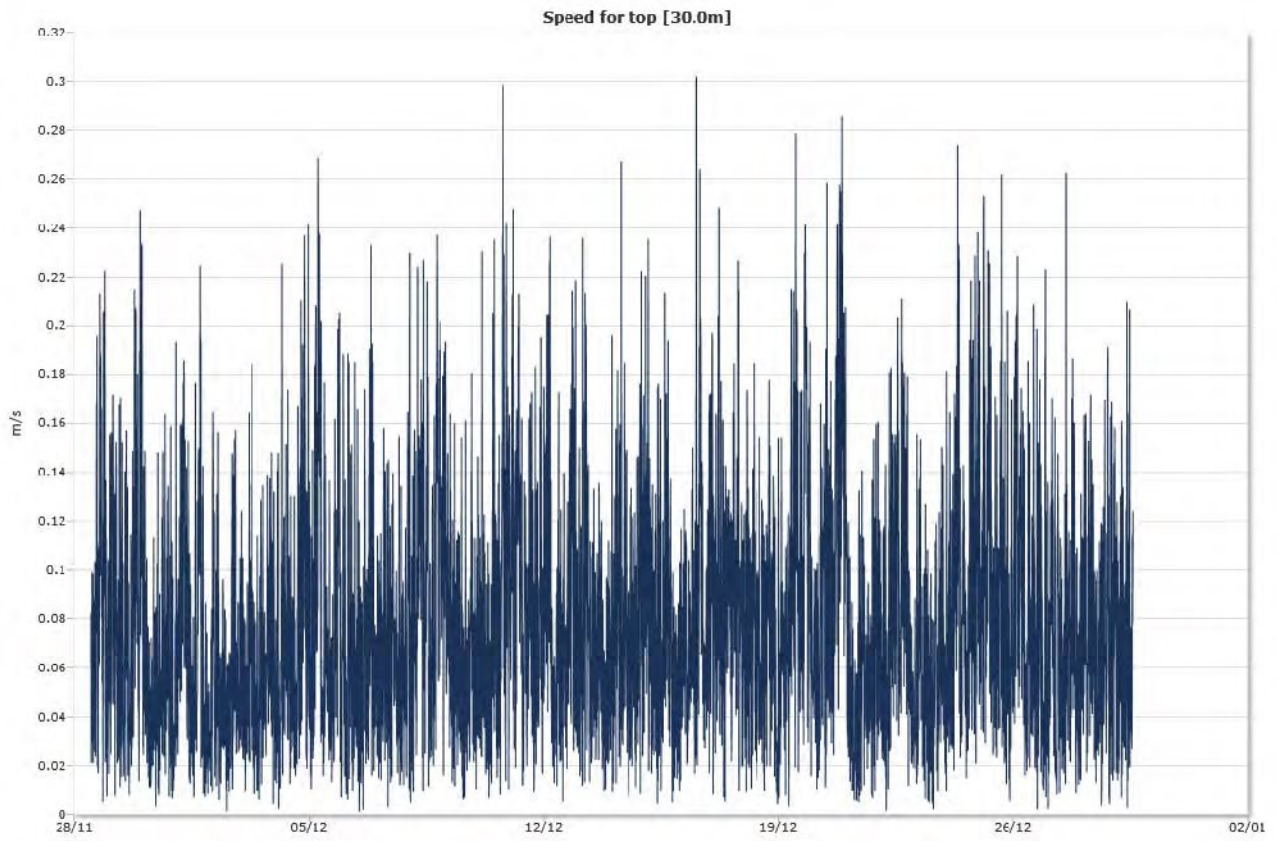
<b>Direction</b>	<b>Mean</b>	<b>Max</b>	<b>Mean 10y</b>	<b>Max 10y</b>	<b>Mean 50y</b>	<b>Max 50y</b>
0	0,052	0,300	0,086	0,494	0,096	0,554
45	0,054	0,196	0,089	0,323	0,100	0,363
90	0,042	0,160	0,070	0,264	0,078	0,296
135	0,043	0,184	0,070	0,304	0,079	0,341
180	0,050	0,212	0,083	0,350	0,093	0,392
225	0,054	0,188	0,089	0,311	0,100	0,348
270	0,048	0,214	0,079	0,354	0,088	0,397
315	0,044	0,241	0,072	0,397	0,081	0,445

## Time series

---

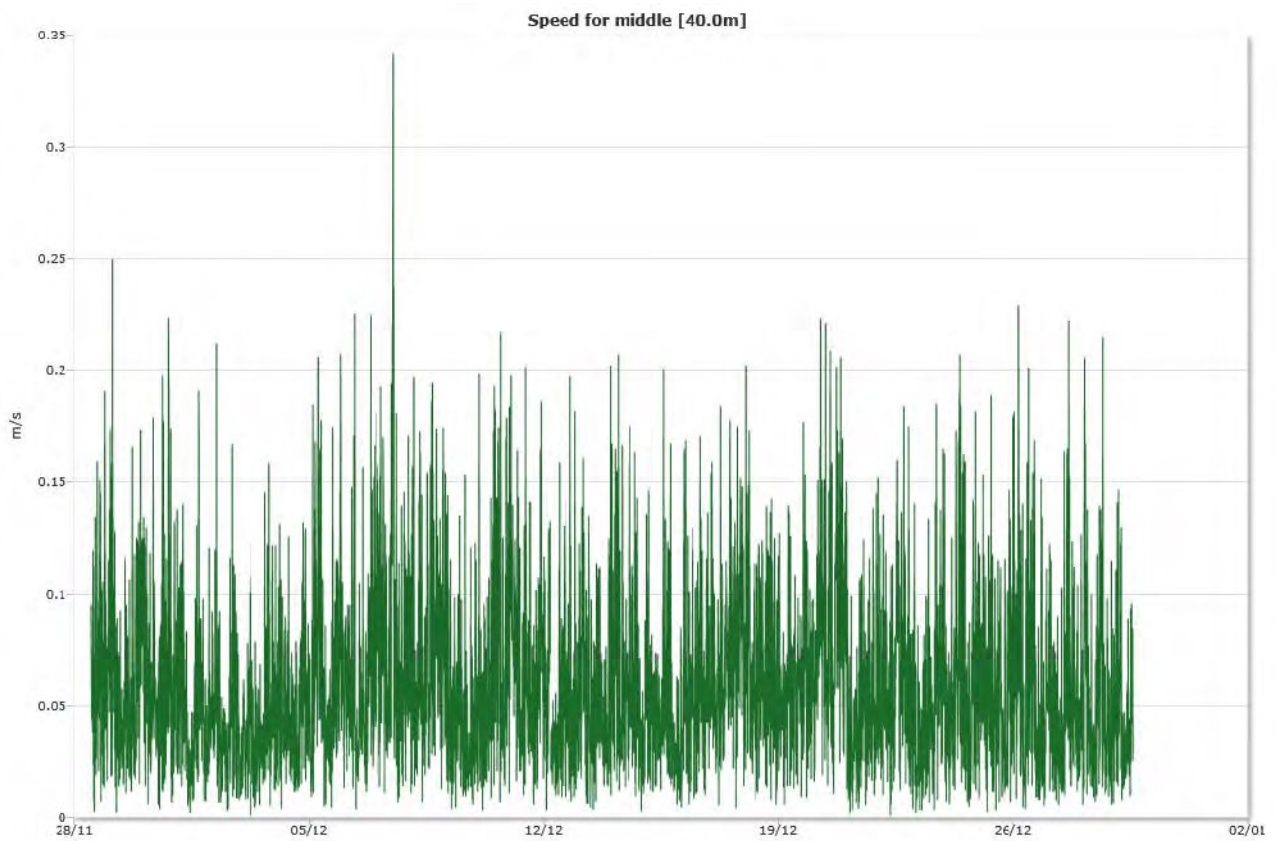
### Top [30,0m]

---

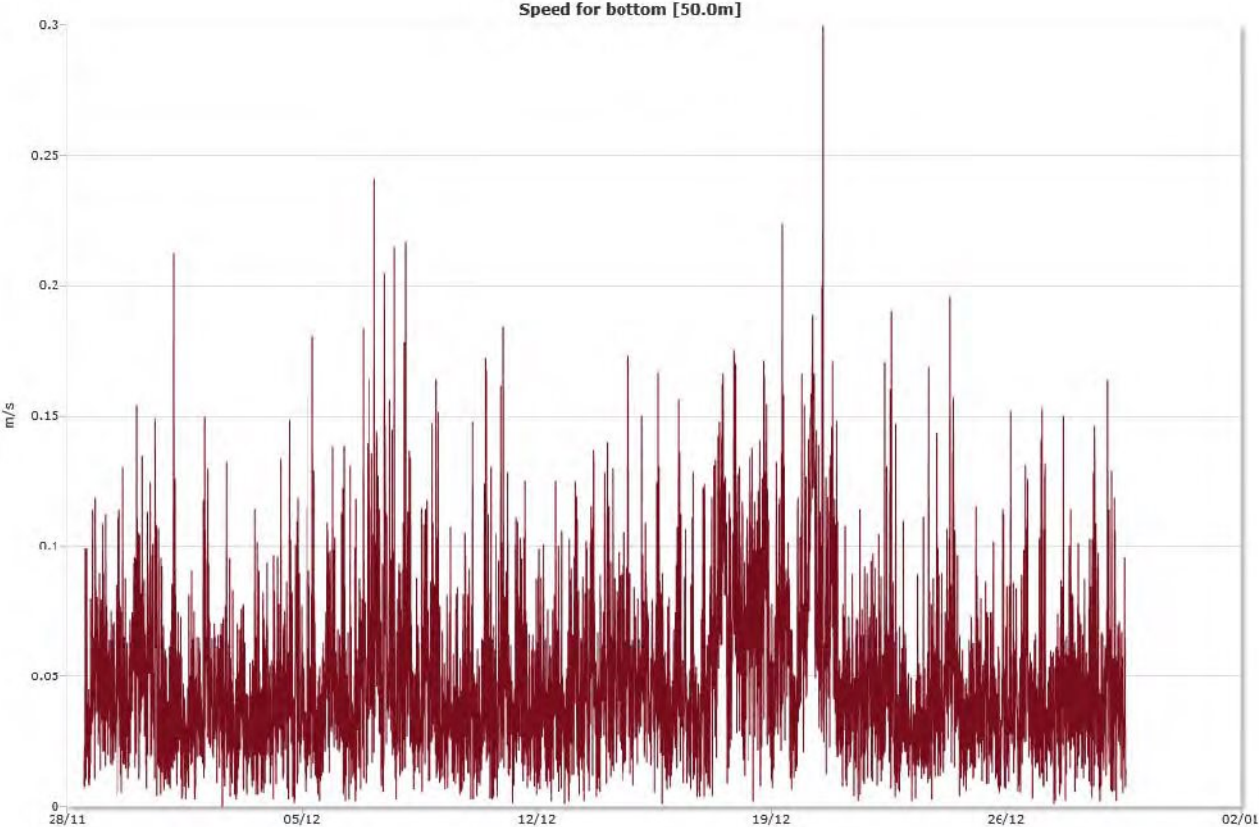


### Middle [40,0m]

---

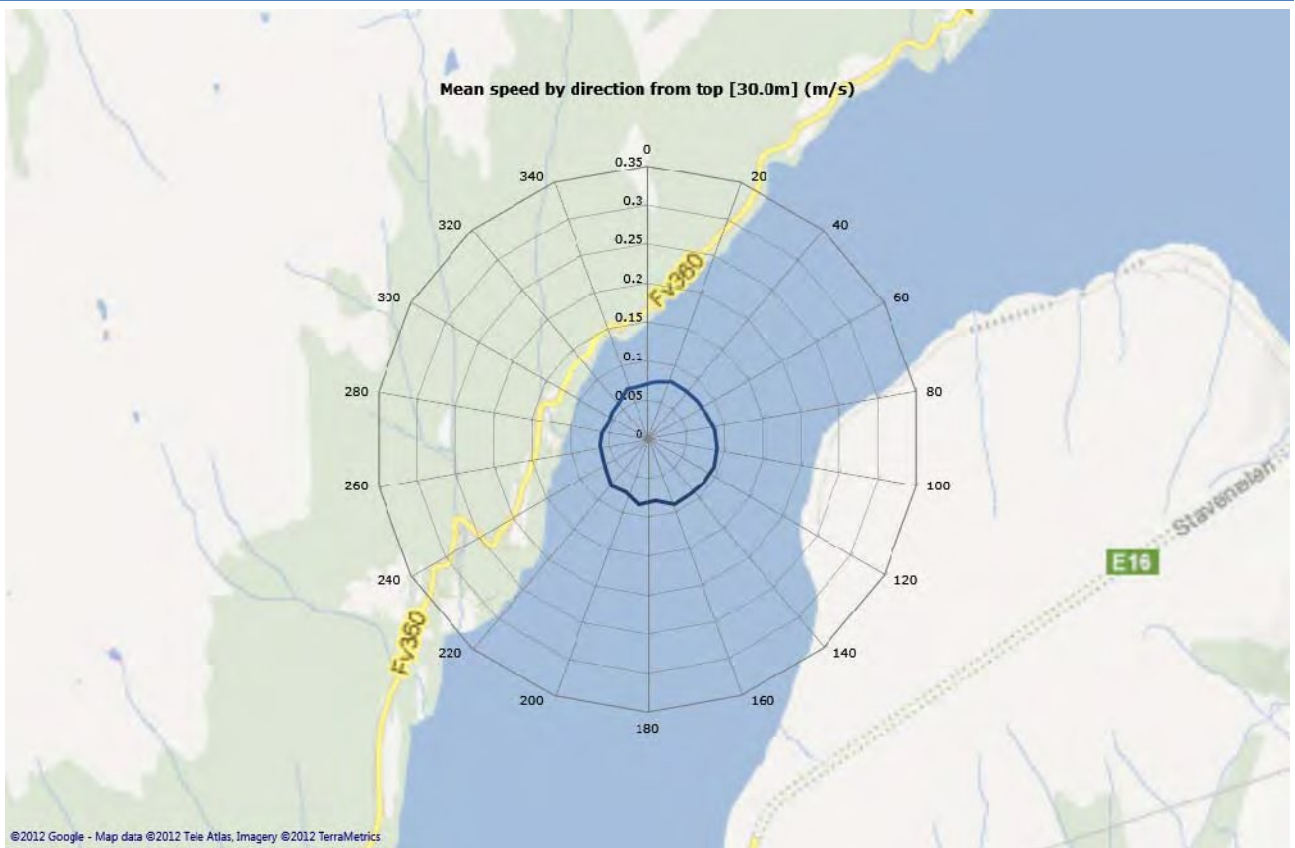


Bottom [50,0m]

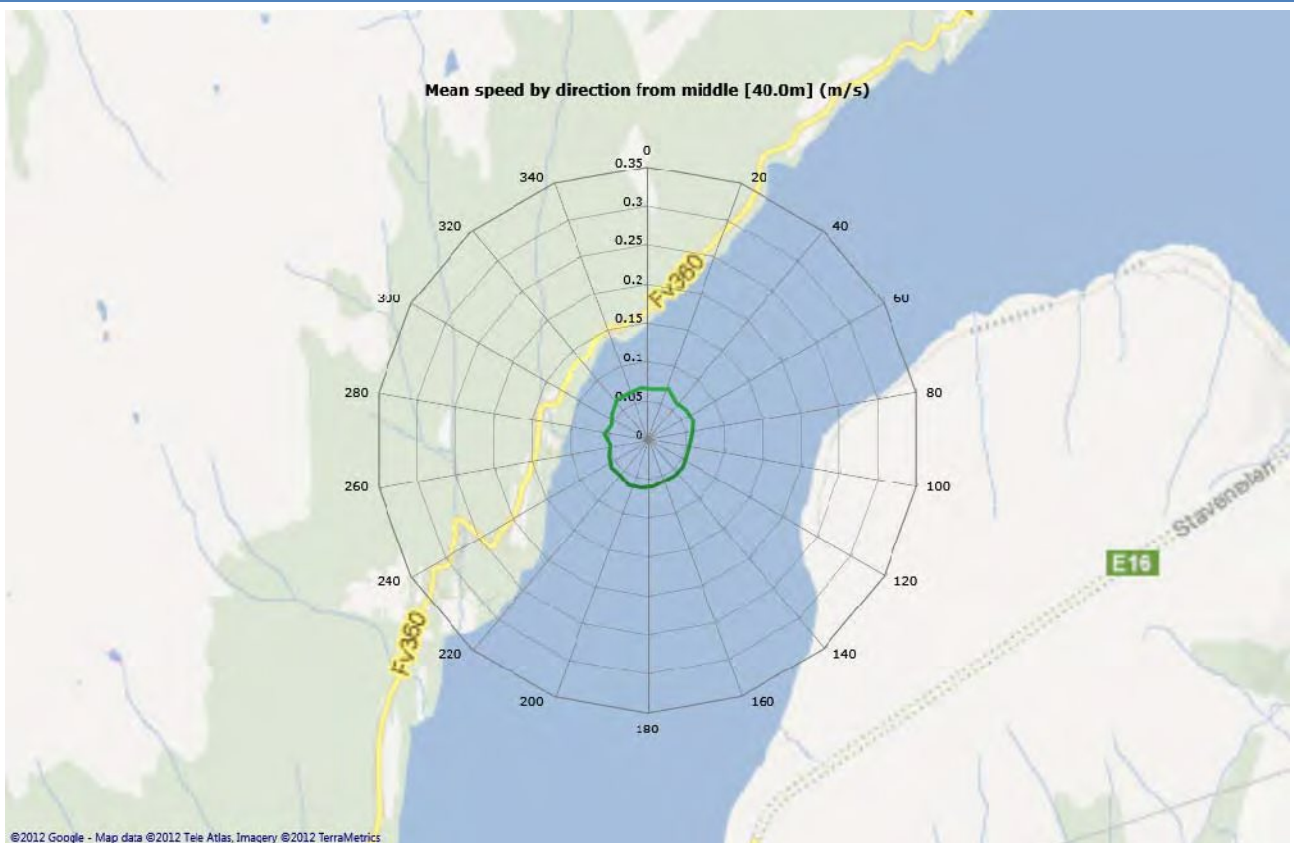


## Mean speed - roseplot

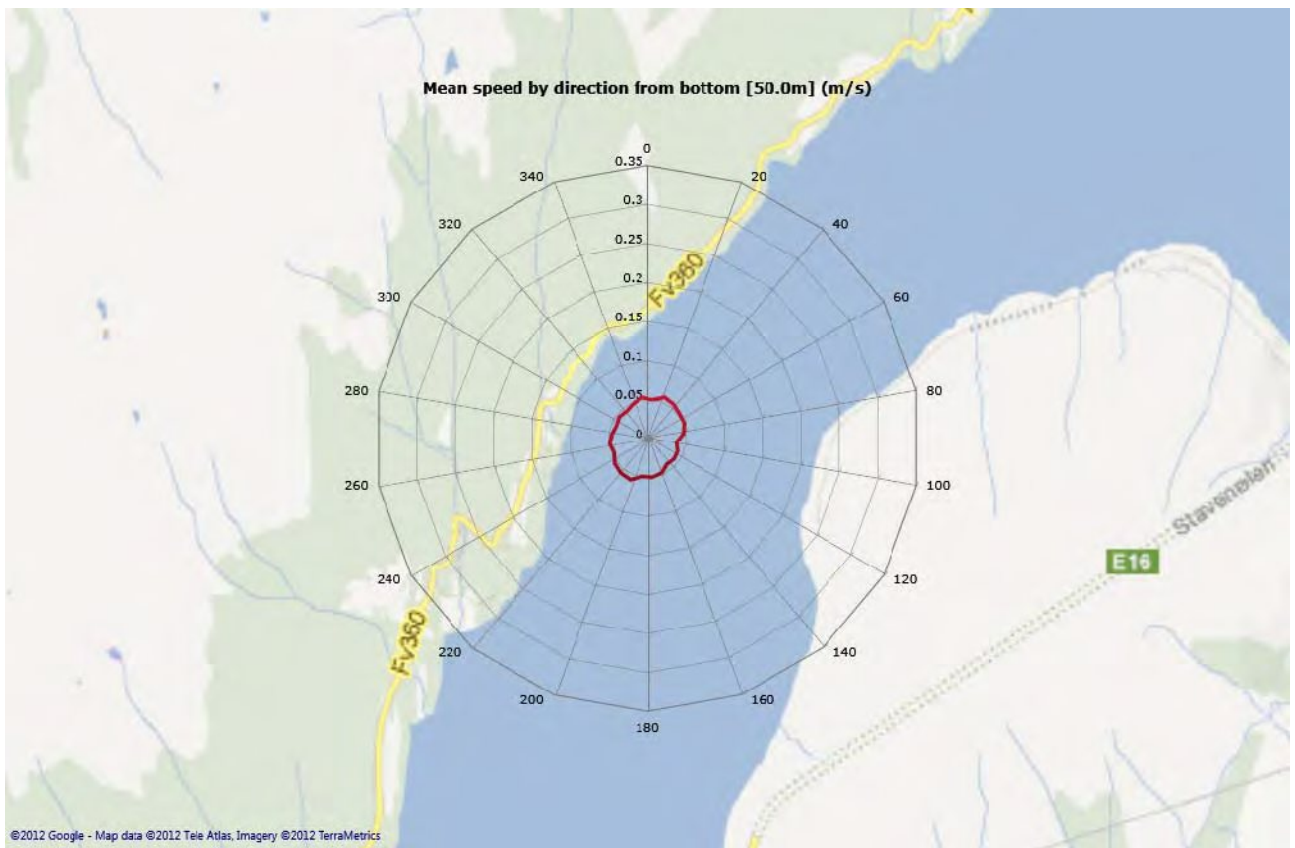
Top [30,0m]



Middle [40,0m]

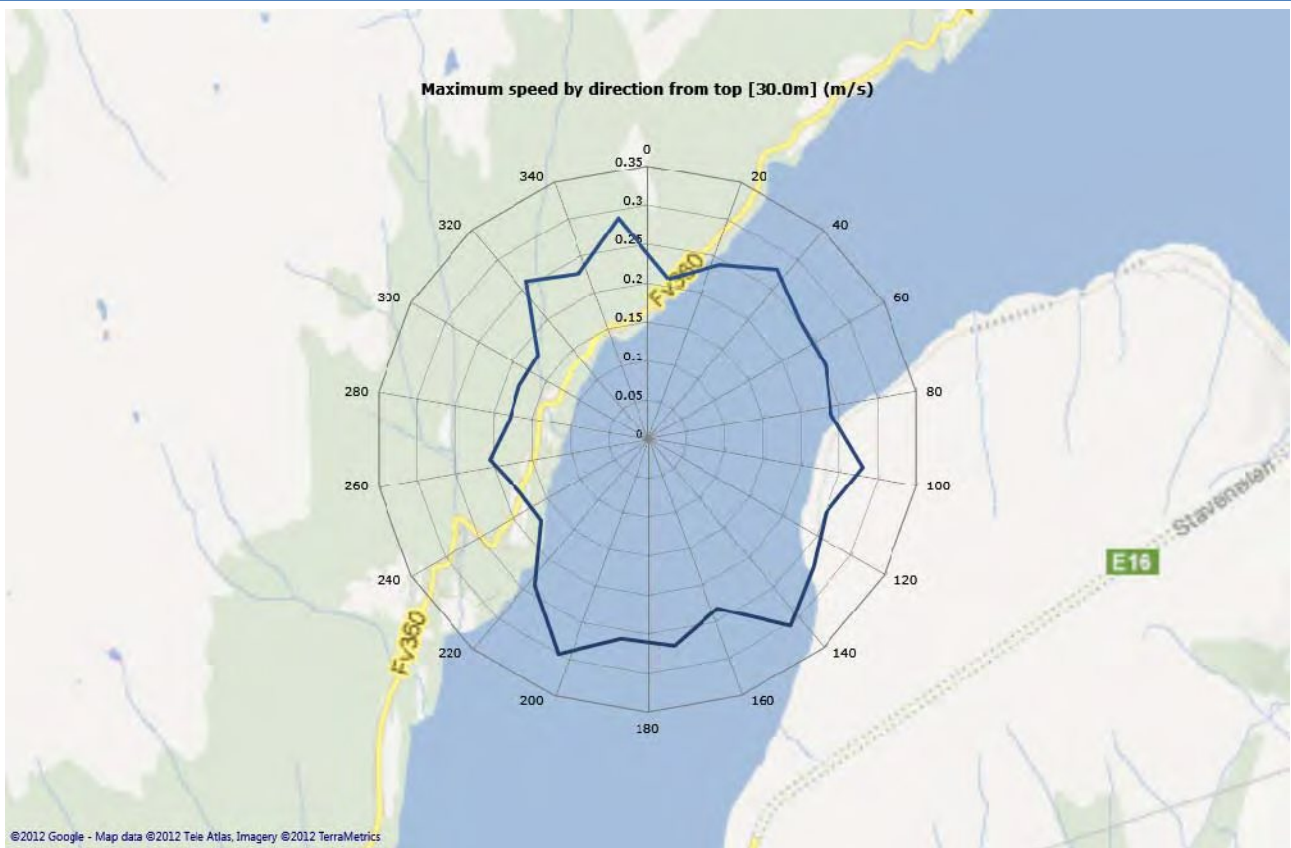


Bottom [50,0m]

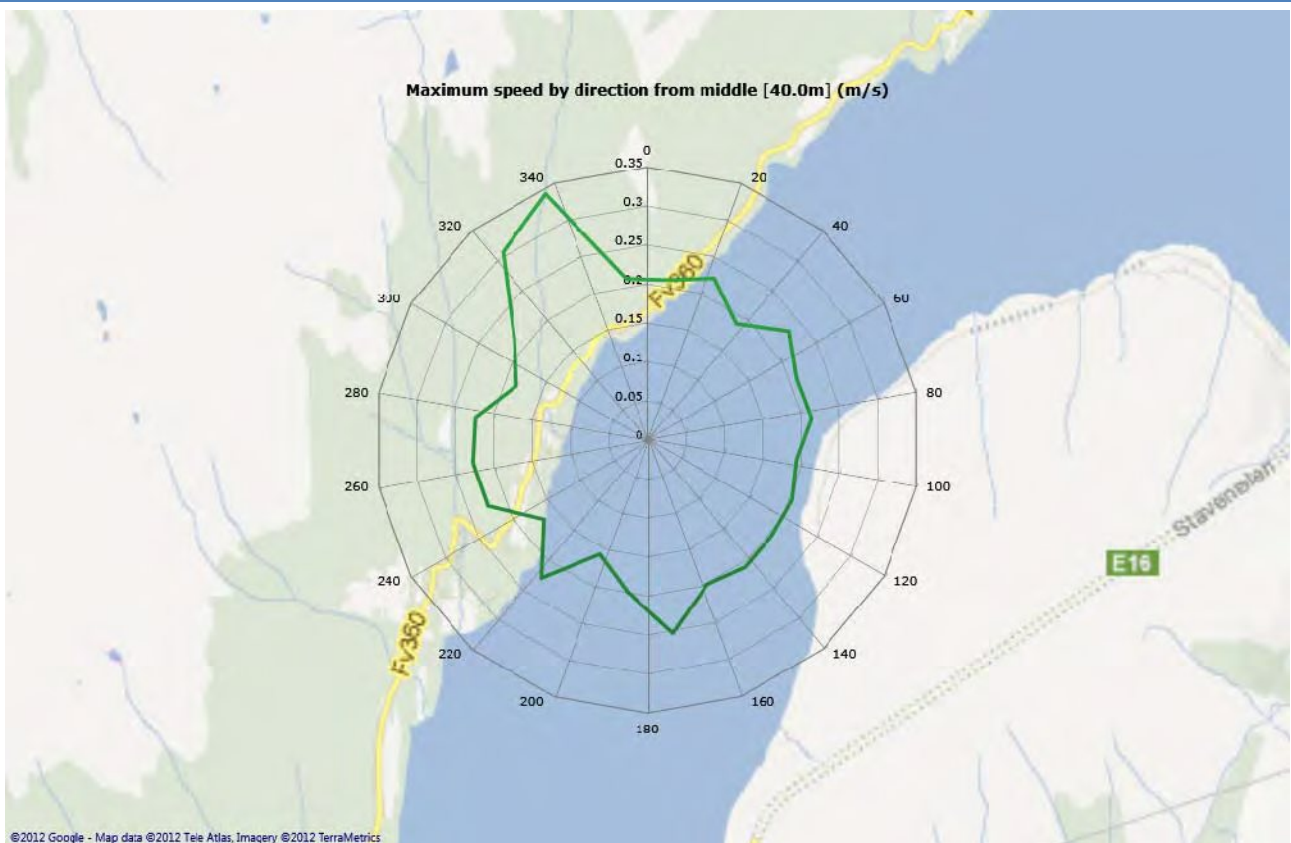


## Max speed - roseplot

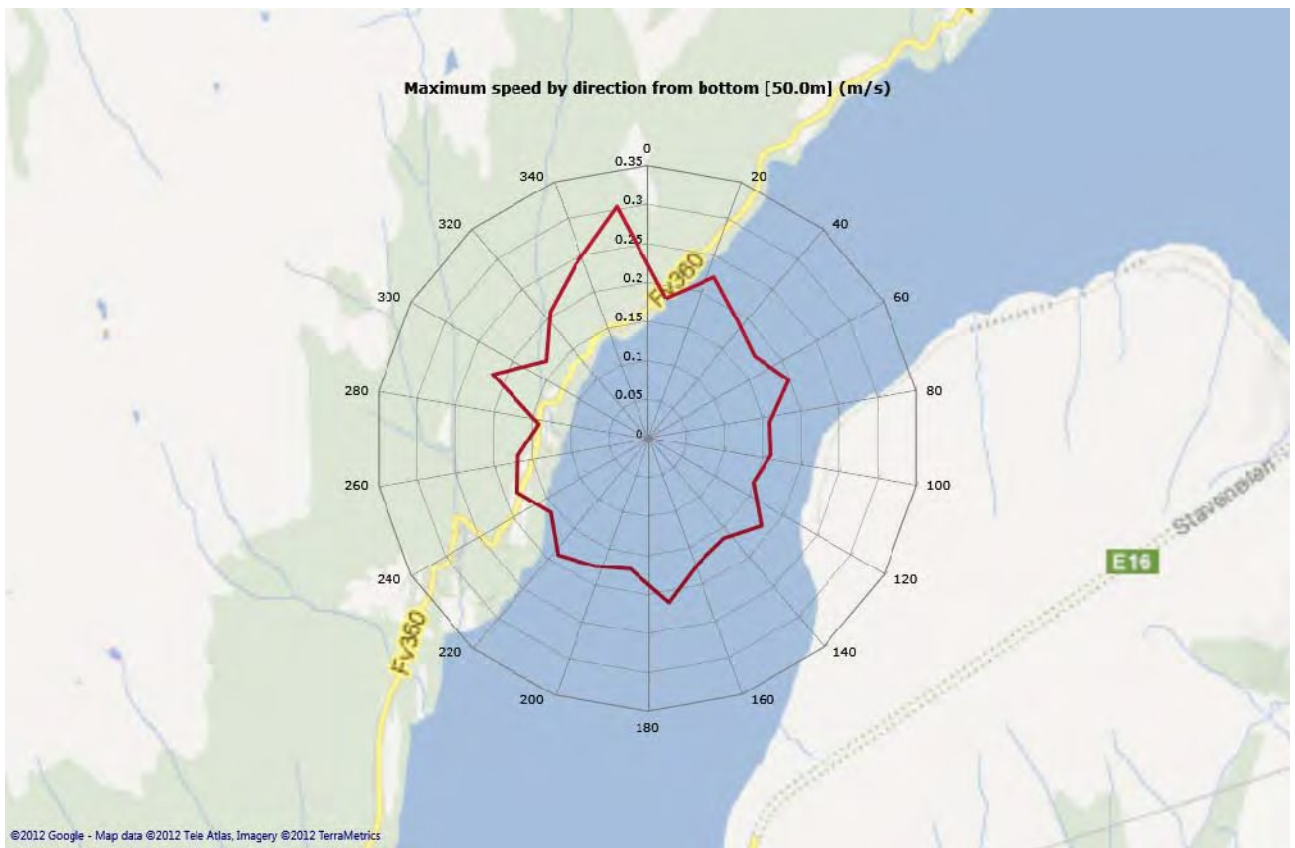
Top [30,0m]



Middle [40,0m]



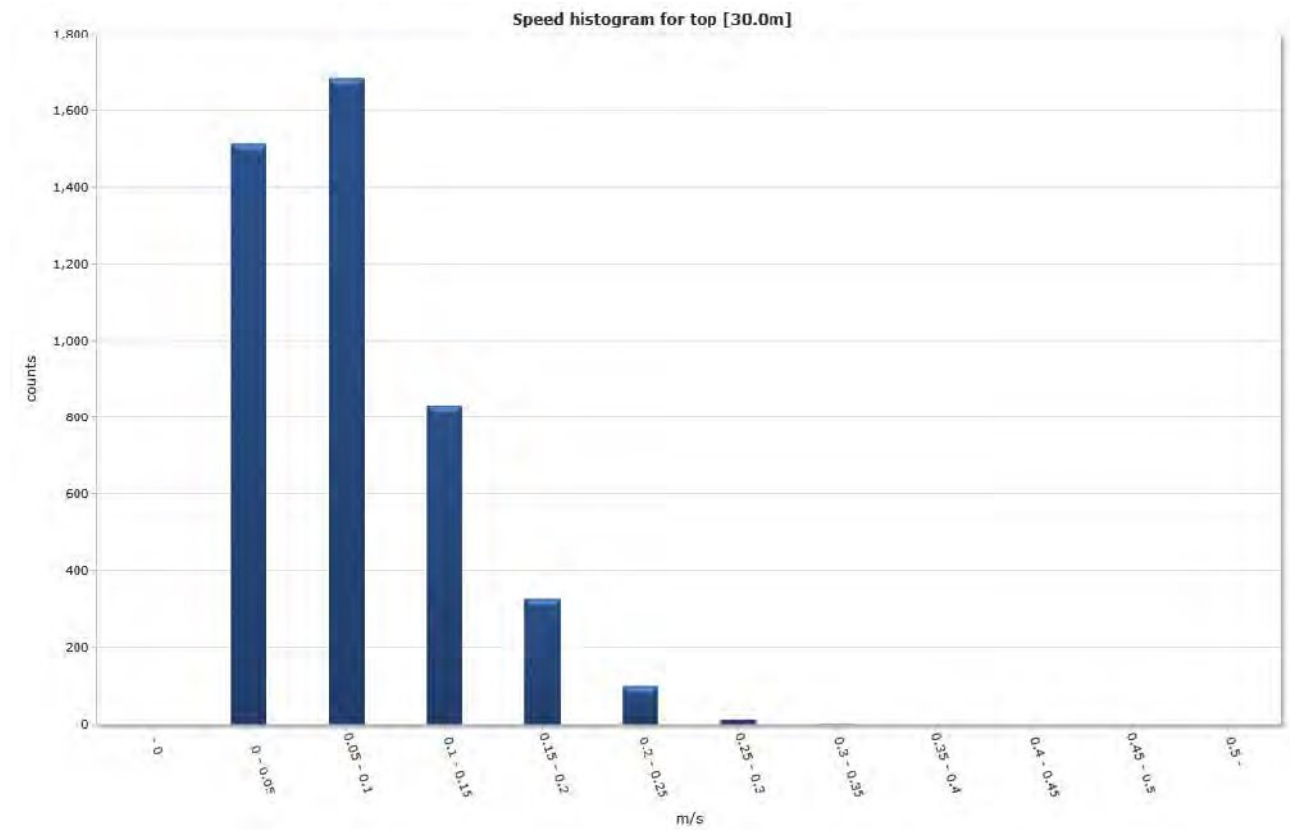
# Bottom [50,0m]



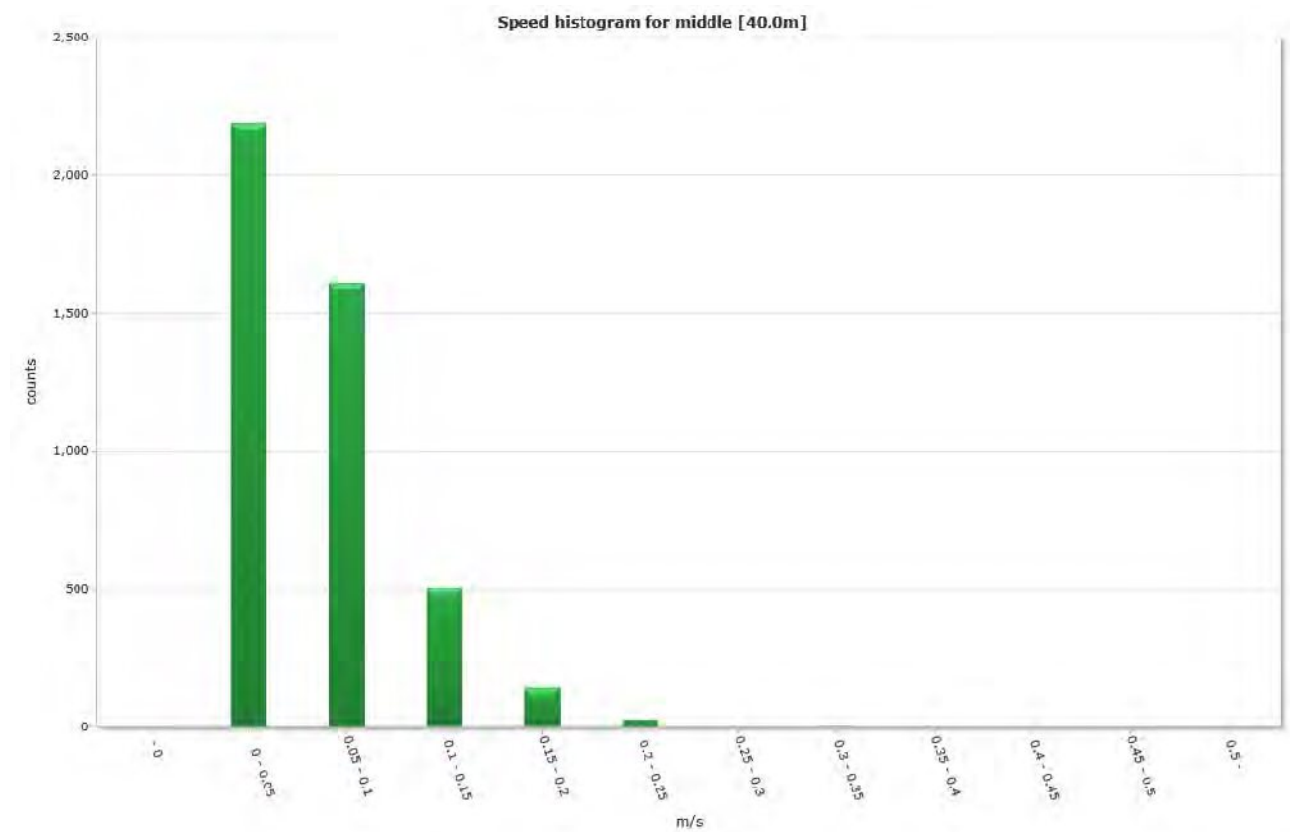


## Speed histogram

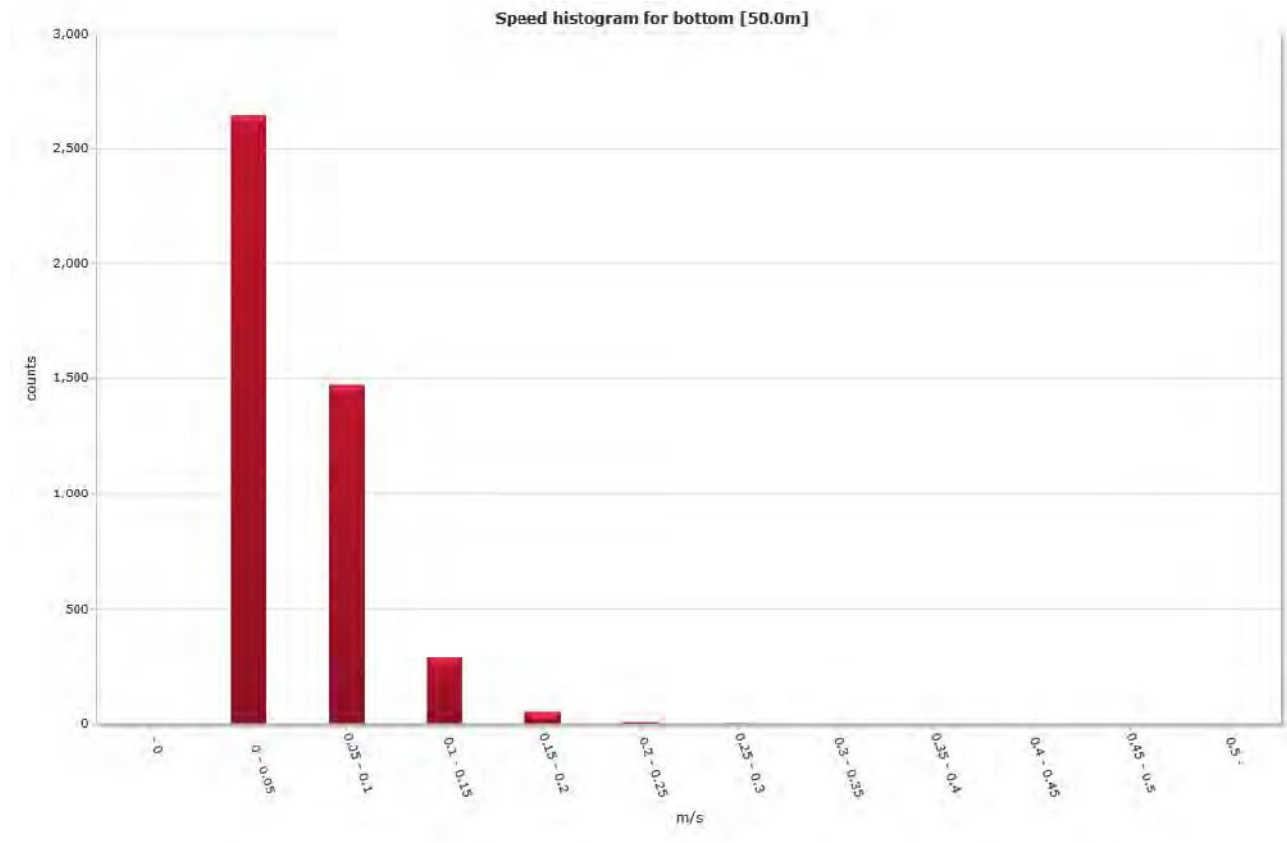
### Top [30,0m]



### Middle [40,0m]

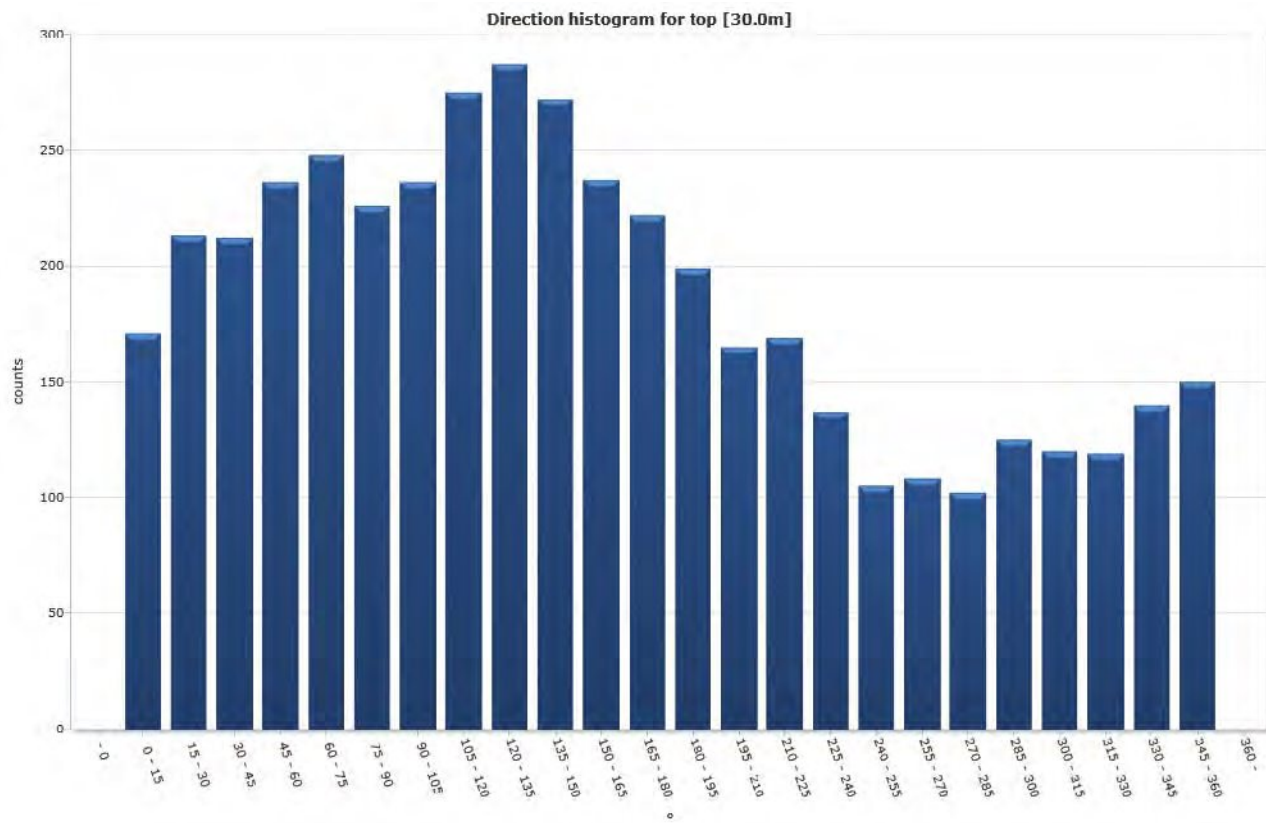


# Bottom [50,0m]

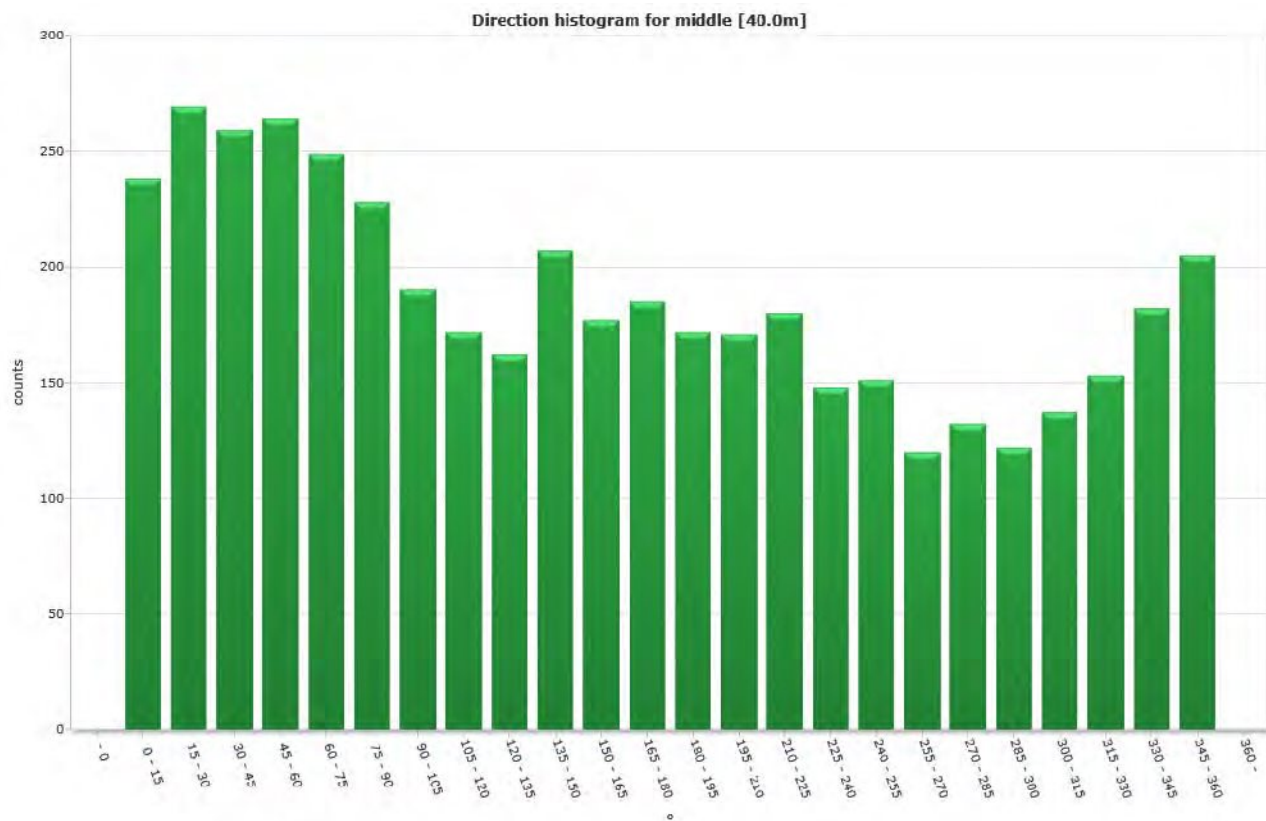


## Direction histogram

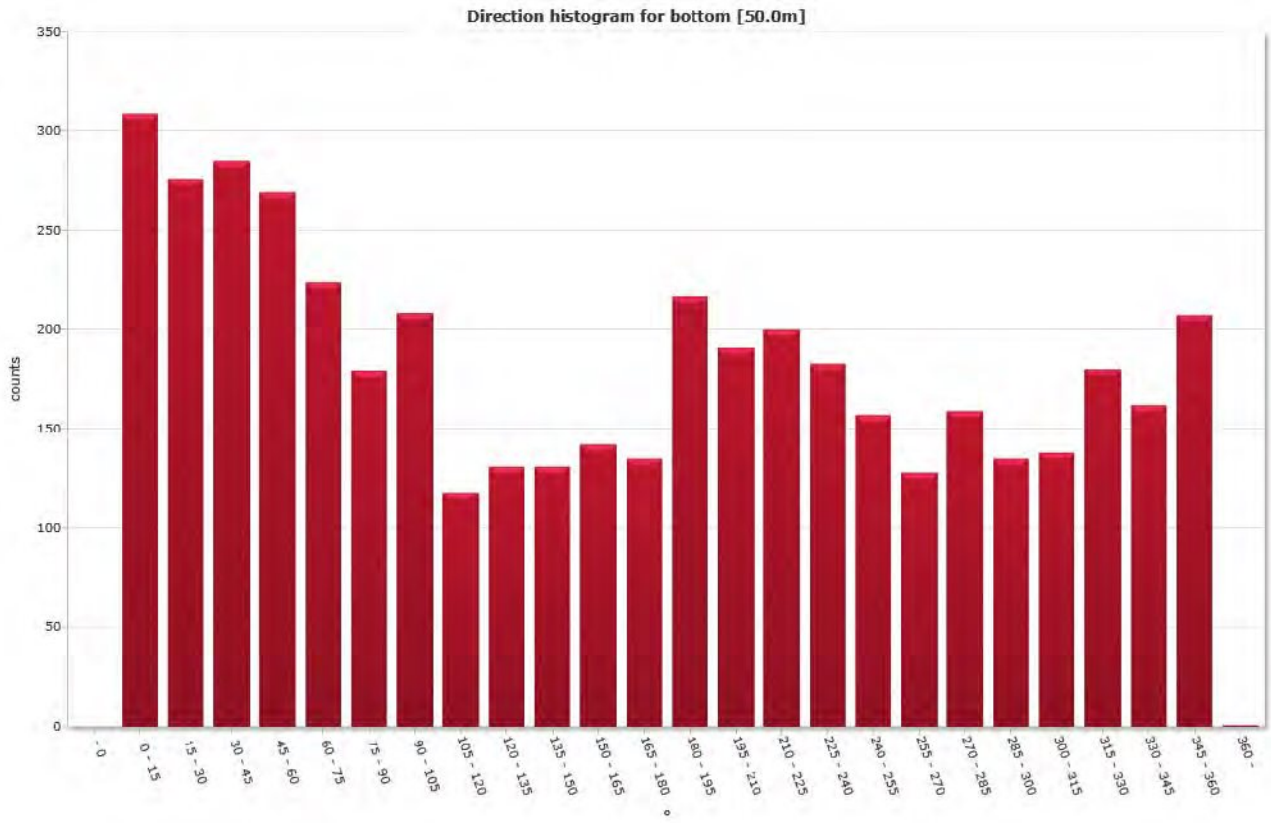
Top [30,0m]



Middle [40,0m]



# Bottom [50,0m]



## Direction/Speed histogram

### Top [30,0m]

		Direction/speed matrix for top [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	61	75	81	70	84	63	65	67	81	65	57	69	53	62	50	56	50	53	47	69	58	57	56	62	33.9	1515
	0.10	73	76	69	102	80	73	84	102	98	106	90	85	80	63	73	52	39	40	43	44	47	48	57	62	37.7	1686
	0.15	20	38	36	38	50	59	55	58	71	67	57	49	46	26	36	23	13	12	10	8	13	10	19	18	18.6	832
	0.20	13	18	16	20	21	23	26	34	21	29	28	13	15	11	7	6	3	2	2	4	2	3	6	5	7.3	328
	0.25	4	6	7	6	9	8	5	14	15	4	5	3	4	2	3	0	0	1	0	0	0	0	2	1	2.2	99
	0.30	0	0	3	0	0	0	1	0	1	0	0	3	1	1	0	0	0	0	0	0	0	1	0	2	0.3	13
	0.35	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	1
	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
	%	3.8	4.8	4.7	5.3	5.5	5.1	5.3	6.1	6.4	6.1	5.3	5.0	4.4	3.7	3.8	3.1	2.3	2.4	2.3	2.8	2.7	2.7	3.1	3.4	100.0	100.0
	Sum	171	213	212	236	248	226	236	275	287	272	237	222	199	165	169	137	105	108	102	125	120	119	140	150	100.0	4474

### Middle [40,0m]

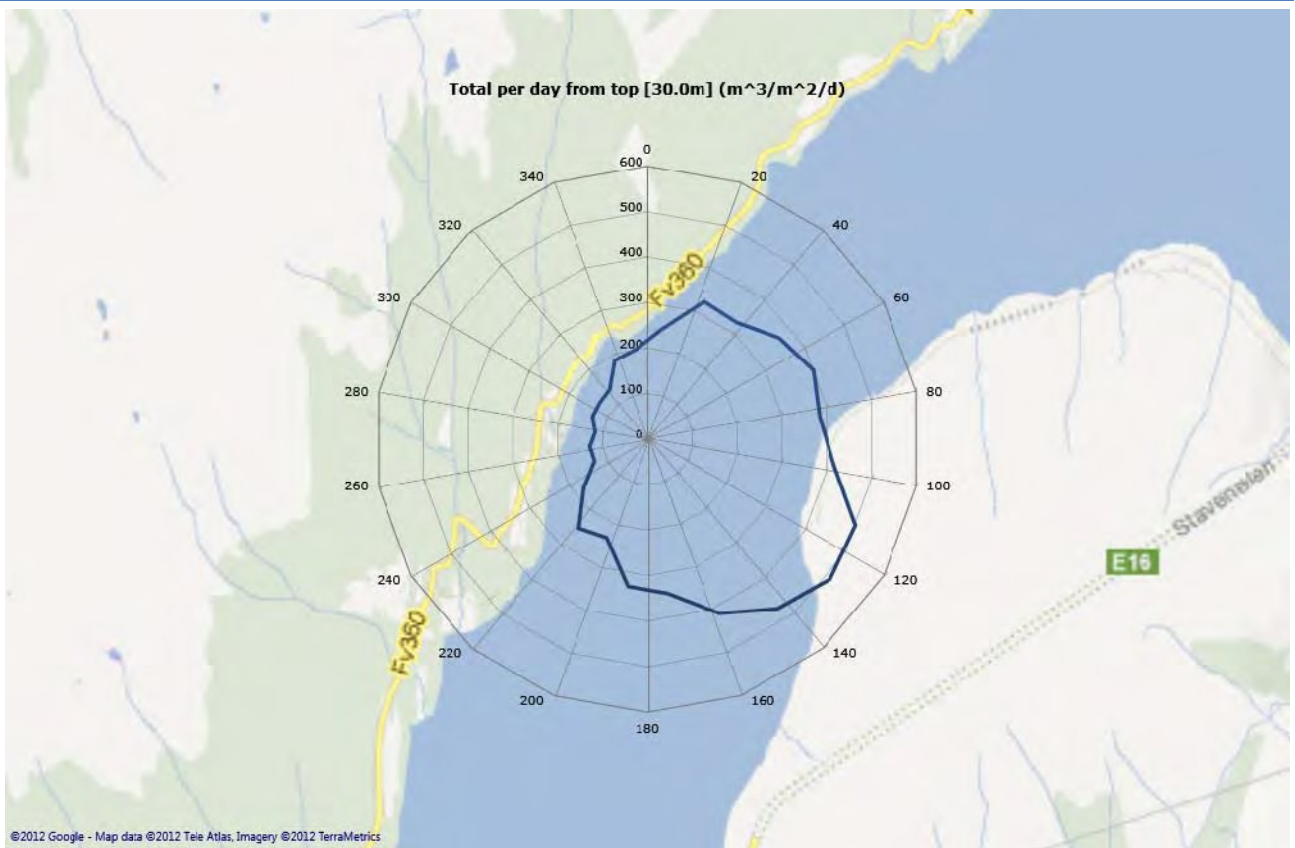
		Direction/speed matrix for middle [40.0m]																									
°	m/s	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360	%	Sum
	0.0																										
	0.05	97	95	124	115	104	115	104	98	84	109	87	90	76	75	91	75	91	79	80	78	73	68	85	94	48.9	2187
	0.10	100	117	97	110	101	82	63	55	60	66	67	68	64	70	67	50	37	30	37	33	44	61	66	65	36.0	1610
	0.15	31	40	31	26	34	26	17	15	13	25	17	22	28	22	13	22	20	9	8	7	17	17	18	27	11.3	505
	0.20	8	13	7	12	8	4	6	3	4	6	5	4	4	4	8	1	2	1	6	4	2	4	8	18	3.2	142
	0.25	2	4	0	1	2	1	0	1	1	1	1	1	0	0	1	0	1	1	1	0	1	2	4	1	0.6	27
	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	1	1	0	0.0	2
	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
	%	5.3	6.0	5.8	5.9	5.6	5.1	4.2	3.8	3.6	4.6	4.0	4.1	3.8	3.8	4.0	3.3	3.4	2.7	3.0	2.7	3.1	3.4	4.1	4.6	100.0	100.0
	Sum	238	269	259	264	249	228	190	172	152	207	177	185	172	171	180	148	151	120	132	122	137	153	182	205	100.0	4473

# Bottom [50,0m]

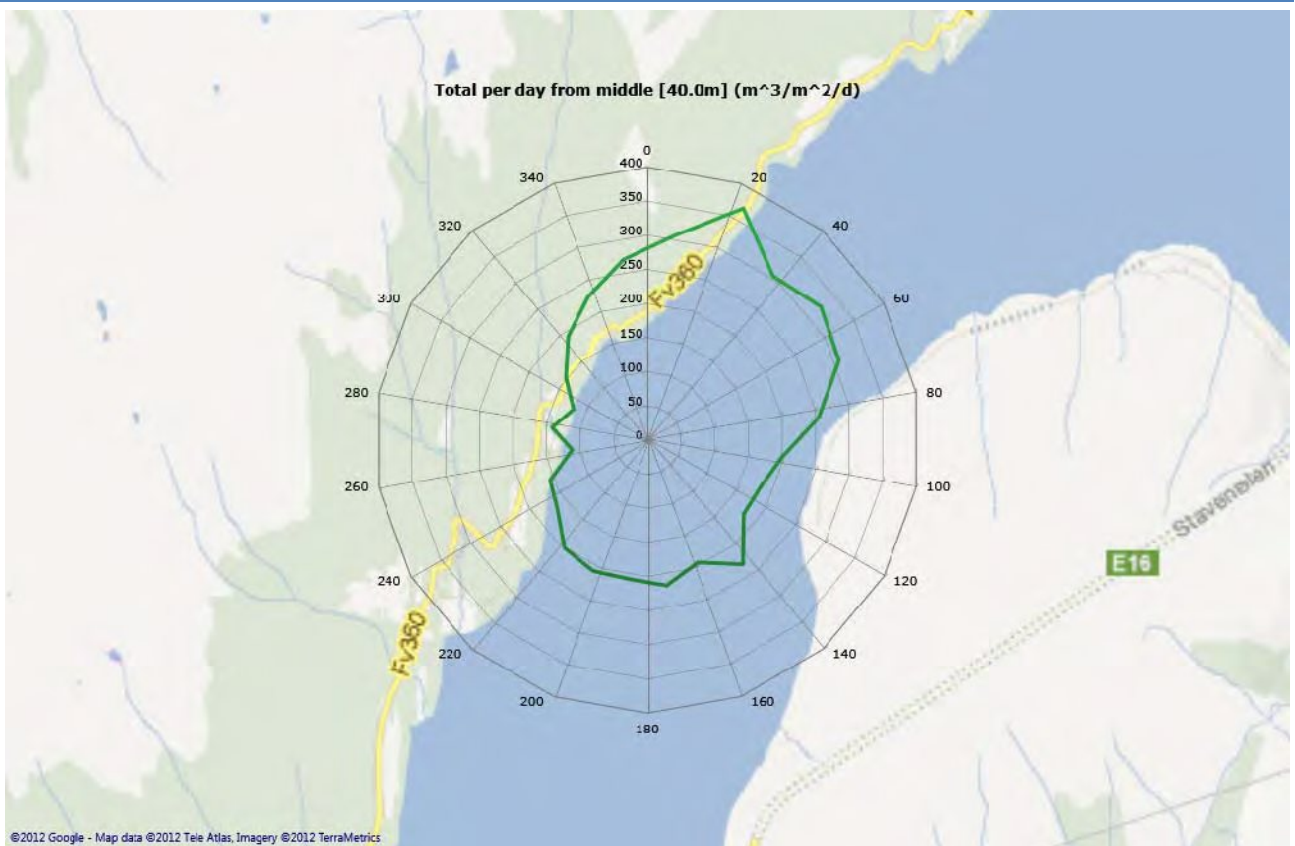
		Direction/speed matrix for bottom [50.0m]																									
m/s		15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360	%	Sum
0.0																											
0.05		173	138	144	149	126	116	147	86	89	86	89	78	132	97	97	97	107	78	108	91	87	118	107	106	59.3	2616
0.10		113	106	110	98	81	50	55	28	38	40	43	50	65	68	81	70	39	42	39	38	42	51	40	84	33.0	1471
0.15		19	26	26	21	14	10	5	4	3	4	8	6	14	22	17	15	8	7	12	3	8	10	11	16	6.5	289
0.20		4	5	5	1	3	3	1	0	1	1	2	0	6	4	5	1	3	1	0	2	1	0	1	0	1.1	50
0.25		0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	3	0	0.2	7
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	1	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
%		6.9	6.2	6.4	6.0	5.0	4.0	4.7	2.6	2.9	2.9	3.2	3.0	4.9	4.3	4.5	4.1	3.5	2.9	3.6	3.0	3.1	4.0	3.6	4.6	100.0	100.0
Sum		309	276	285	269	224	179	208	118	131	131	142	135	217	191	200	183	157	128	159	135	138	180	162	207	100.0	4454

# Flow

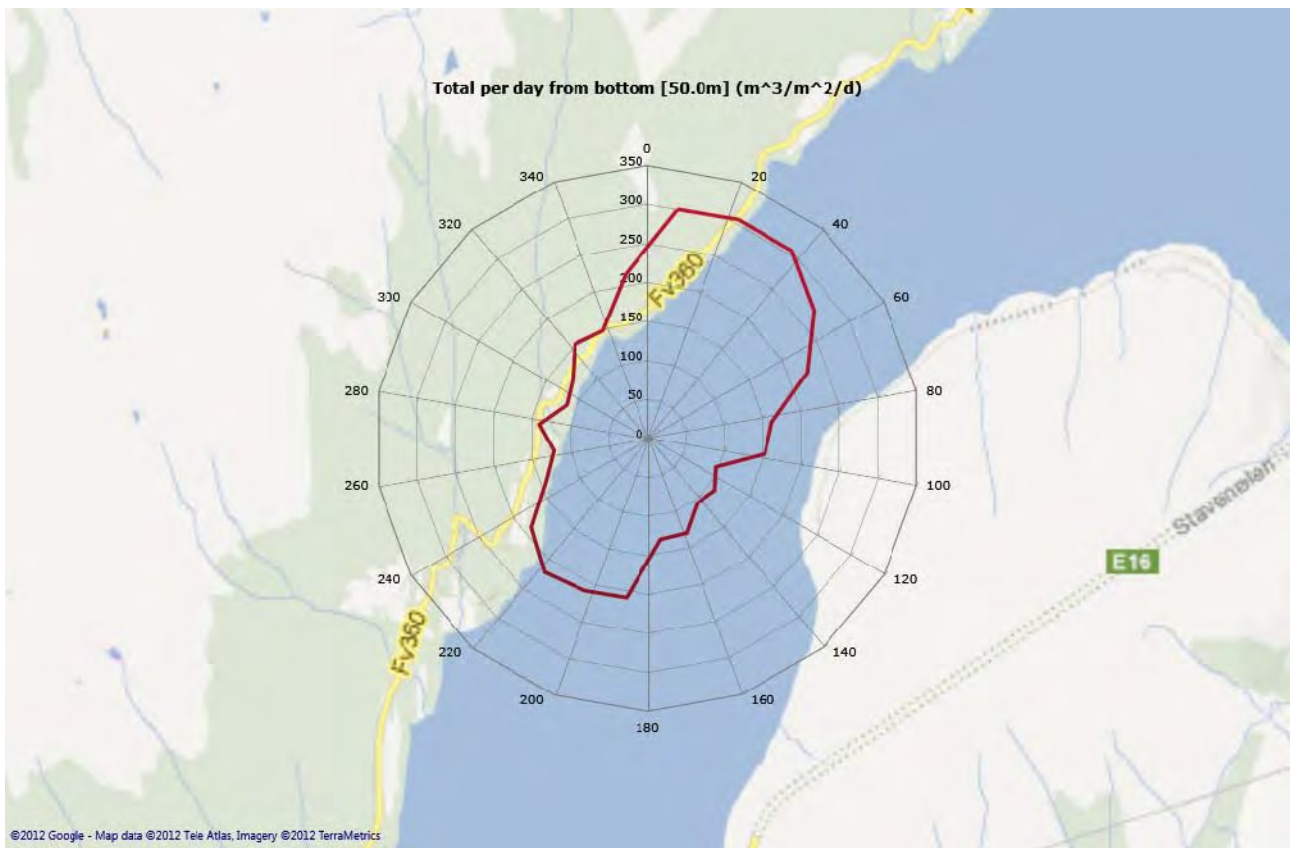
## Top [30,0m]



## Middle [40,0m]



# Bottom [50,0m]



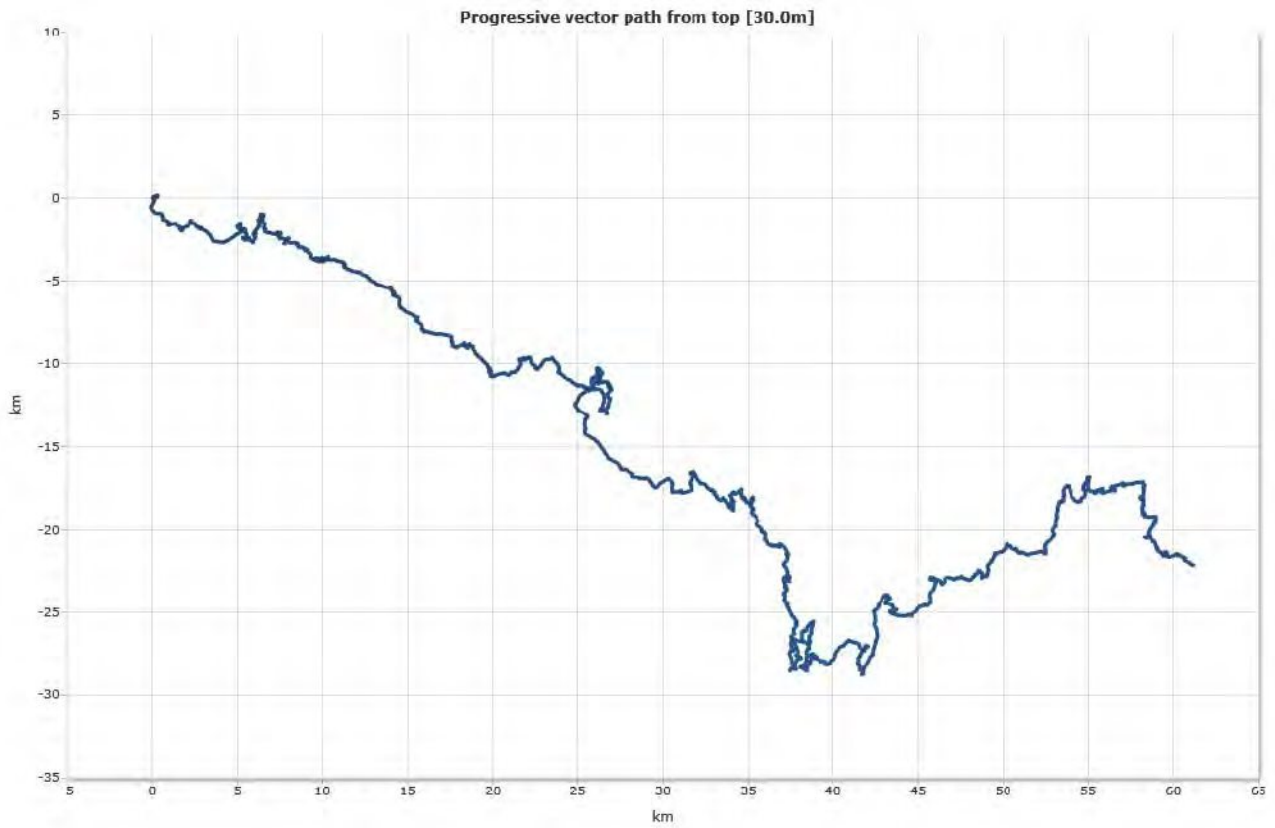


## Progressive vector

---

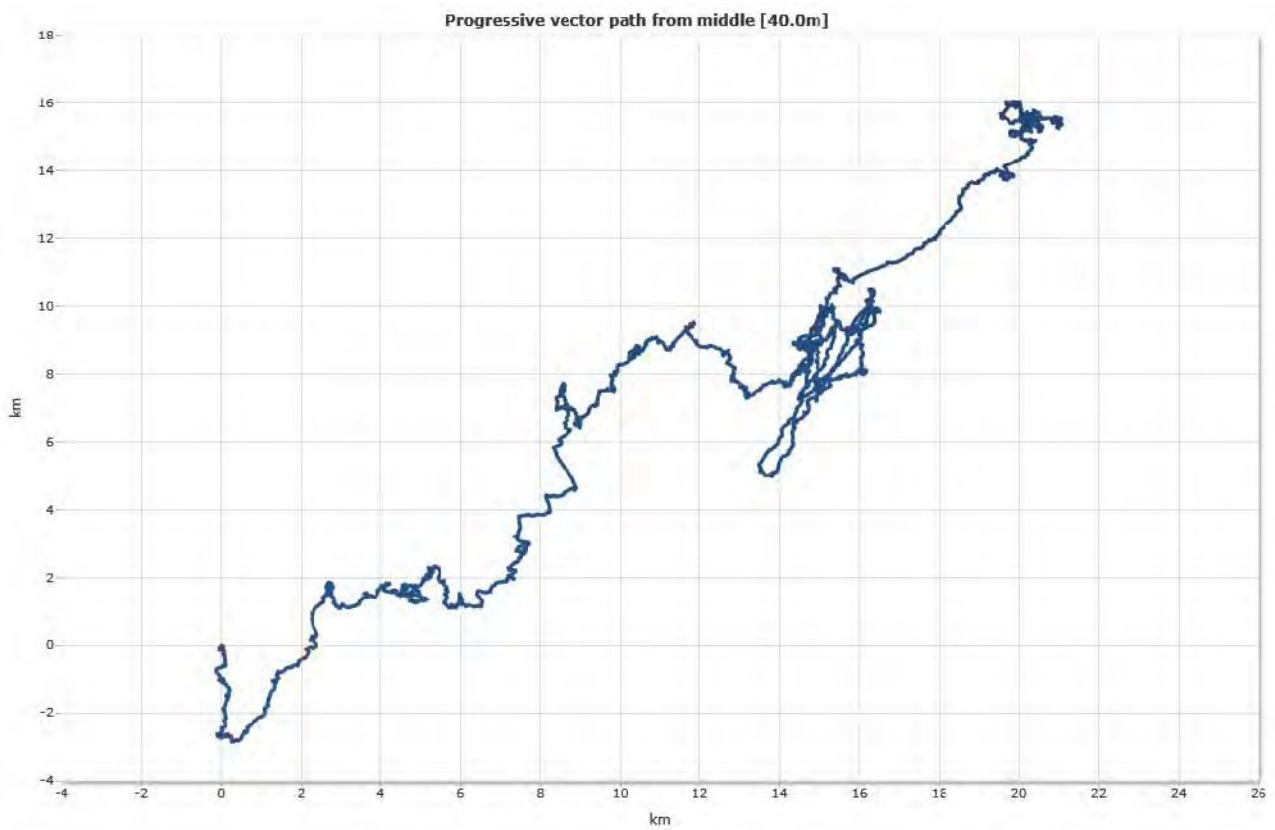
### Top [30,0m]

---

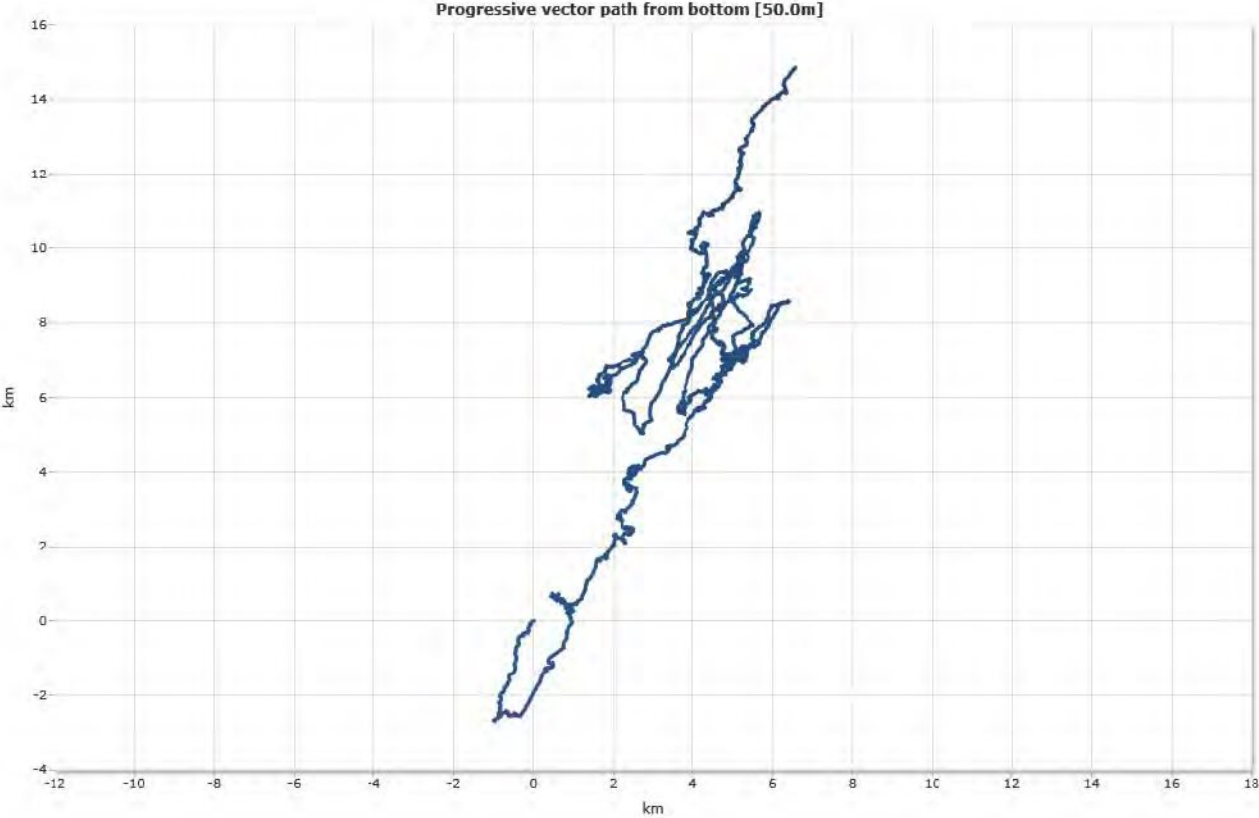


### Middle [40,0m]

---



Bottom [50,0m]

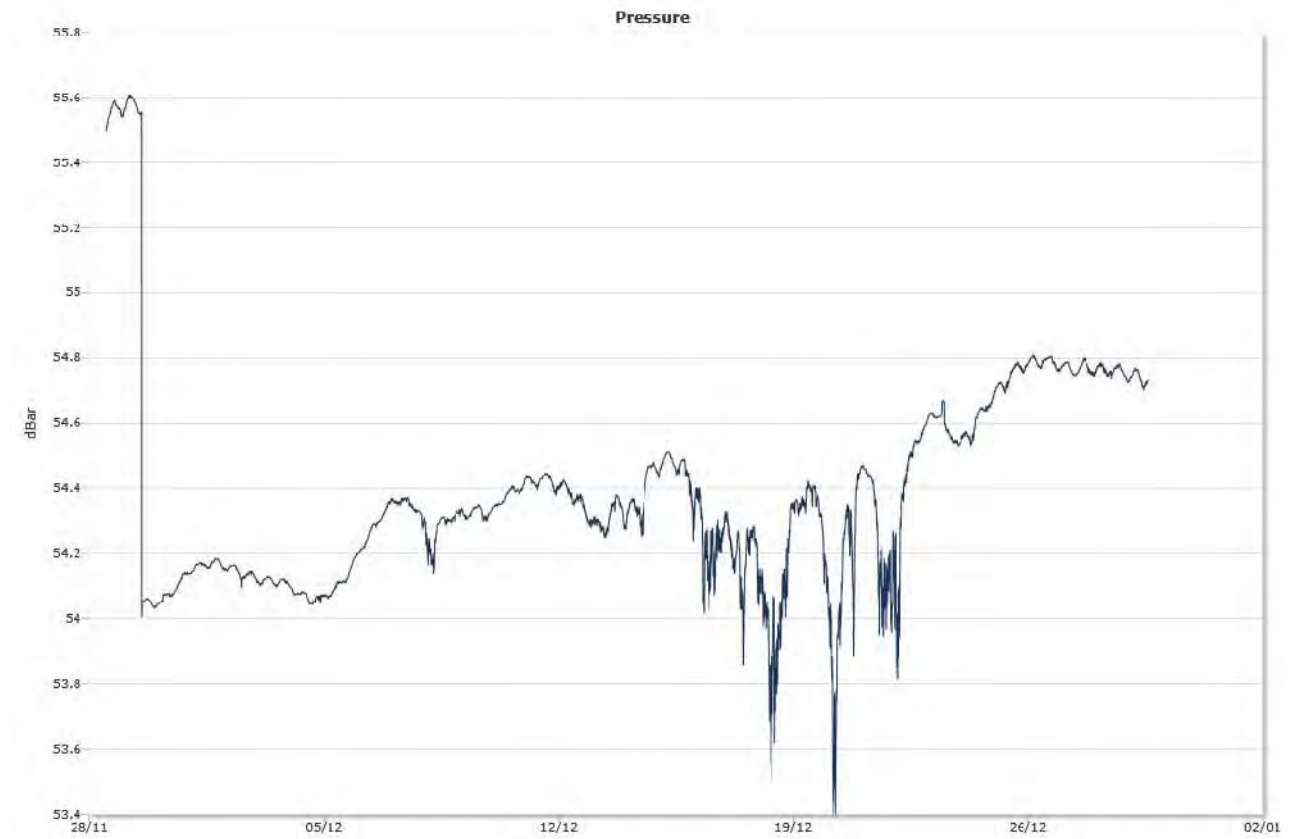


## Sensors

---

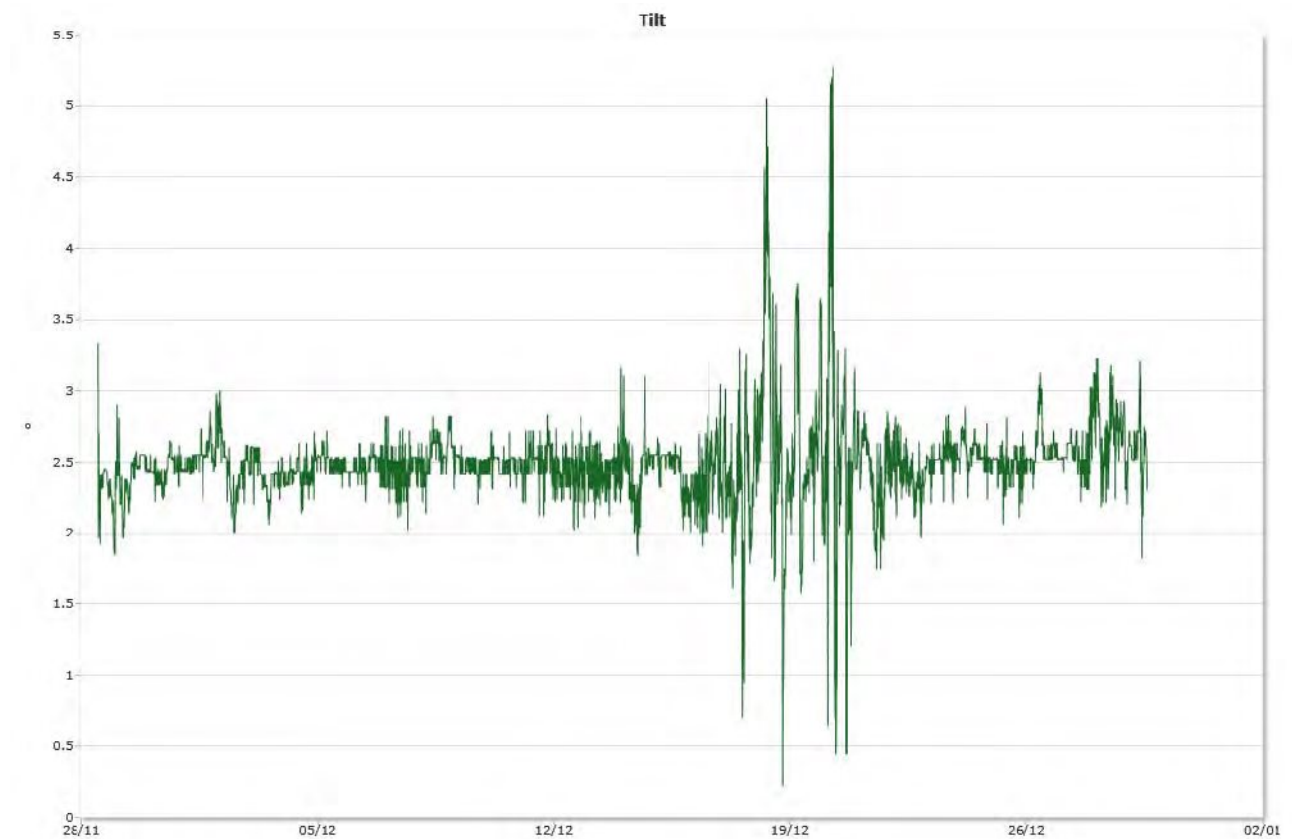
### Pressure

---



### Tilt

---



# Temperature

