



RV Aranda

## CRUISE PLAN

### Water exchange and instrument validation, 0/2020

7. - 16.10.2020

#### Description of the cruise

The main tasks are

- 1) Intercalibration and testing of different CTD instruments and other sensors measuring temperature, conductivity, oxygen content etc.
- 2) Water exchange study between the Baltic Sea Proper and the Bothnian Sea with co-operation with SMHI, Sweden:
  - CTD-soundings and water sampling from the ship
  - Deployments of one CTD+oxygen sensor and a single point ADCP owned by SMHI, Sweden, near Understen
  - Deployment of an ADCP on the Archipelago Sea
- 3) Glider and Argo float experiments
- 4) Recovery of wave buoys and current meters on the Rauma fairway

#### Scientific staff:

<b>Chief scientist:</b>	Hietala Riikka	FMI	
CTD chief:		FMI	
		FMI	7.10.2020 - 10.10.2020
		FMI	
		FMI	7.10.2020 - 10.10.2020
		FMI	
		FMI	
		FMI	7.10.2020 - 10.10.2020
		FMI	
		SYKE	

Altogether 10 persons in scientific staff.

**Departure from:** HELSINKI  
**Departure time:** Wednesday 07.10.2020 at 18.30

Cruising speed: 10,0 knots  
Average station time: 1 h 0 min.

**Arrival to:** HELSINKI  
**Arrival time:** Friday 16.10.2020 at 03.37

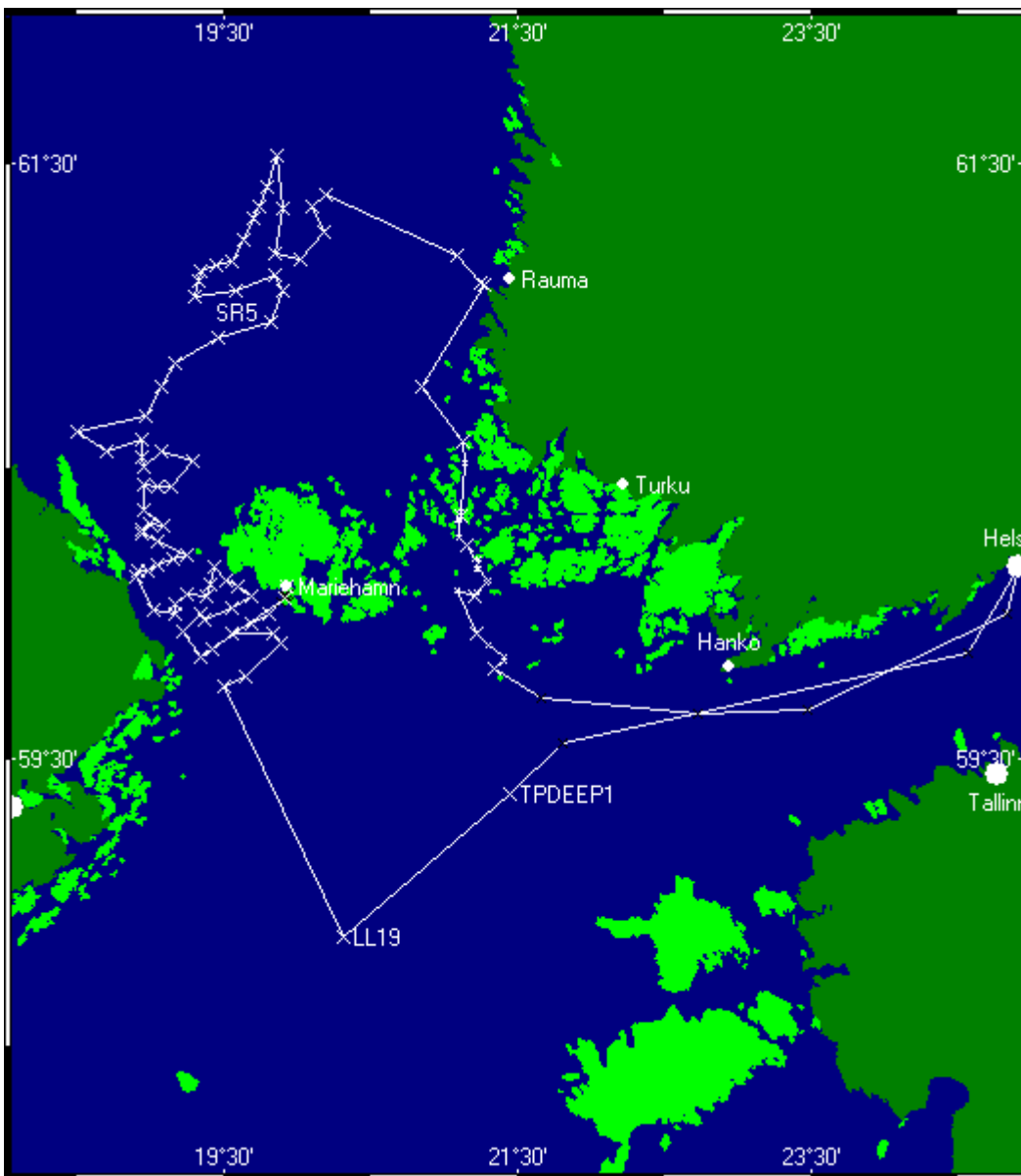
Duration of the cruise: 8 days 9 h 7 min  
Length of the cruise: 824,62 nautical miles  
Number of stations 83.

## Route:

Nro	Station	Lat.	Long.	Depth [m]	Arrival		Durat. hh:mm	Speed knots	
					hh:mm	dy dd.mm.yyyy			
0	HELSINKI	60°09.55'	24°55.37'	0	18.30	We	07.10.2020	0:00	S 10,0
1	P	59°51.89'	24°34.08'	-	20.33	We	07.10.2020	0:00	S 11,0
2	P	59°33.32'	21°48.42'	-	04.20	Th	08.10.2020	0:00	S 11,0
3	TPDEEP1	59°22.70'	21°26.47'	215	05.44	Th	08.10.2020	13:00	S 11,0
4	LL19	58°52.84'	20°18.65'	169	22.54	Th	08.10.2020	2:00	S 10,0
5	FÅ1	59°45.00'	19°30.00'	40	06.41	Fr	09.10.2020	1:00	S 10,0
6	FÅ2	59°47.00'	19°38.80'	72	08.10	Fr	09.10.2020	1:00	S 10,0
7	FÅ3B	59°54.00'	19°52.80'	205	10.09	Fr	09.10.2020	1:00	S 10,0
8	F67	59°56.00'	19°49.80'	205	11.24	Fr	09.10.2020	1:00	S 10,0
9	FÅ6	59°56.00'	19°32.80'	66	13.16	Fr	09.10.2020	0:45	S 10,0
10	FÅ7	59°58.00'	19°40.80'	214	14.27	Fr	09.10.2020	1:00	S 10,0
11	FÅ8	60°00.00'	19°47.80'	189	15.52	Fr	09.10.2020	1:00	S 10,0
12	P	60°02.54'	19°53.19'	-	17.14	Fr	09.10.2020	0:00	S 10,0
13	P	60°03.76'	19°55.56'	-	17.24	Fr	09.10.2020	0:00	S 10,0
14	MARIEHAMN	60°05.70'	19°55.30'	0	17.36	Fr	09.10.2020	3:00	S 10,0
15	P	60°04.19'	19°55.79'	-	20.45	Fr	09.10.2020	0:00	S 10,0
16	P	60°03.54'	19°54.89'	-	20.50	Fr	09.10.2020	0:00	S 10,0
17	P	60°03.11'	19°54.21'	-	20.53	Fr	09.10.2020	0:00	S 10,0
18	FÅ5	59°53.00'	19°24.80'	77	22.40	Fr	09.10.2020	0:45	S 10,0
19	FÅ4	59°51.00'	19°19.80'	105	23.44	Fr	09.10.2020	1:00	S 10,0
20	FÅ5_9	59°56.27'	19°12.89'	?	01.22	Sa	10.10.2020	1:00	S 10,0
21	AE8	60°00.00'	19°19.80'	105	02.53	Sa	10.10.2020	1:00	S 10,0
22	FÅ3_13	59°58.84'	19°21.89'	?	04.02	Sa	10.10.2020	1:00	S 10,0
23	ALAND_SEA	60°01.30'	19°32.80'	214	05.38	Sa	10.10.2020	1:00	S 10,0
24	FÅ8_13	60°03.72'	19°40.90'	?	07.06	Sa	10.10.2020	1:00	S 10,0
25	ECKERÖ/S5	60°05.60'	19°35.10'	100	08.27	Sa	10.10.2020	1:00	S 10,0
26	FÅ13	60°07.00'	19°30.80'	124	09.42	Sa	10.10.2020	1:00	S 10,0
27	F64C	60°09.50'	19°25.80'	265	11.03	Sa	10.10.2020	1:00	S 10,0
28	FÅ12	60°06.00'	19°23.80'	255	12.25	Sa	10.10.2020	1:00	S 10,0
29	S4B	60°03.80'	19°22.50'	218	13.39	Sa	10.10.2020	1:00	S 10,0
30	FÅ11	60°04.00'	19°14.80'	147	15.02	Sa	10.10.2020	1:00	S 10,0
31	FÅ10	60°02.00'	19°09.80'	135	16.21	Sa	10.10.2020	1:00	S 10,0
32	AE9	60°00.00'	19°09.80'	117	17.33	Sa	10.10.2020	1:00	S 10,0
33	FÅ9	60°01.00'	19°00.80'	92	19.01	Sa	10.10.2020	1:00	S 10,0
34	ATVB	60°07.50'	18°53.89'	108	20.45	Sa	10.10.2020	1:00	S 10,0
35	FÅ14	60°09.00'	18°54.79'	169	21.55	Sa	10.10.2020	1:00	S 10,0
36	FÅ14A	60°09.00'	18°58.79'	185	23.06	Sa	10.10.2020	1:00	S 10,0
37	FÅ15	60°10.00'	19°02.79'	220	00.20	Su	11.10.2020	1:00	S 10,0
38	F64	60°11.34'	19°08.55'	285	01.39	Su	11.10.2020	1:00	S 10,0
39	FÅ16	60°12.00'	19°14.80'	215	02.58	Su	11.10.2020	1:00	S 10,0
40	ATVD	60°14.80'	19°02.79'	243	04.37	Su	11.10.2020	1:00	S 10,0
41	UNDERSTEN_SMHI	60°16.20'	18°55.80'	220	06.00	Su	11.10.2020	2:00	S 10,0
42	S2_Ambjorn	60°16.60'	18°57.00'	?	08.04	Su	11.10.2020	1:00	S 10,0
43	FÅ17	60°17.00'	18°55.79'	147	09.08	Su	11.10.2020	1:00	S 10,0
44	S3_Ambjorn	60°18.20'	18°59.00'	?	10.20	Su	11.10.2020	1:00	S 10,0
45	S4_Ambjorn	60°17.90'	19°04.70'	?	11.37	Su	11.10.2020	1:00	S 10,0
46	F33A	60°21.06'	18°56.99'	213	13.07	Su	11.10.2020	1:00	S 10,0
47	ATVI	60°26.10'	18°56.59'	68	14.37	Su	11.10.2020	0:45	S 10,0
48	AA21	60°25.90'	19°02.59'	59	15.40	Su	11.10.2020	0:45	S 10,0
49	ATVH	60°26.00'	19°07.89'	58	16.41	Su	11.10.2020	0:45	S 10,0
50	PSM1	60°30.90'	19°16.54'	59	18.05	Su	11.10.2020	0:45	S 10,0
51	G4	60°33.00'	19°03.79'	64	19.30	Su	11.10.2020	0:45	S 10,0
52	MARKET_WH	60°30.00'	18°57.00'	85	20.42	Su	11.10.2020	1:00	S 10,0
53	F33	60°31.99'	18°56.26'	135	21.54	Su	11.10.2020	1:00	S 10,0
54	SQA	60°35.50'	18°56.00'	84	23.15	Su	11.10.2020	1:00	S 10,0
55	SVC1	60°33.10'	18°41.82'	?	00.59	Mo	12.10.2020	1:00	S 10,0
56	SVC2	60°36.94'	18°29.92'	?	02.41	Mo	12.10.2020	0:45	S 10,0
57	KUS2	60°40.00'	18°58.01'	81	04.51	Mo	12.10.2020	0:45	S 10,0
58	SBD1	60°45.89'	19°04.44'	?	06.16	Mo	12.10.2020	1:00	S 10,0
59	SBsD2	60°50.51'	19°09.49'	93	07.47	Mo	12.10.2020	1:00	S 10,0

60	SBS4	60°55.68'	19°27.55'	108	09.48	Mo	12.10.2020	1:00	S	10,0
61	UI2020KUOPPA	60°58.78'	19°48.82'	117	11.53	Mo	12.10.2020	1:00	S	10,0
62	UI2020B	61°05.01'	19°53.88'	109	13.33	Mo	12.10.2020	1:00	S	10,0
63	UI2020M	61°08.14'	19°50.51'	116	14.54	Mo	12.10.2020	1:00	S	10,0
64	SR5	61°05.00'	19°34.78'	126	16.44	Mo	12.10.2020	1:00	S	10,0
65	UI2020A	61°03.88'	19°17.54'	111	18.34	Mo	12.10.2020	1:00	S	10,0
66	UI2020Q	61°06.90'	19°19.14'	83	19.53	Mo	12.10.2020	1:00	S	10,0
67	UI2020C	61°09.09'	19°20.36'	117	21.06	Mo	12.10.2020	1:00	S	10,0
68	UI2020E	61°09.94'	19°26.71'	74	22.25	Mo	12.10.2020	1:00	S	10,0
69	UI2020F	61°10.82'	19°33.06'	89	23.45	Mo	12.10.2020	1:00	S	10,0
70	UI2020G	61°15.13'	19°37.98'	75	01.14	Tu	13.10.2020	2:00	S	10,0
71	UI2020H	61°19.17'	19°41.85'	92	03.41	Tu	13.10.2020	1:00	S	10,0
72	UI2020I	61°21.77'	19°44.00'	96	04.58	Tu	13.10.2020	1:00	S	10,0
73	UI2020J	61°25.36'	19°47.13'	96	06.21	Tu	13.10.2020	1:00	S	10,0
74	UI2020X	61°31.44'	19°51.02'	99	07.59	Tu	13.10.2020	1:00	S	10,0
75	UI2020K	61°21.34'	19°53.97'	121	10.00	Tu	13.10.2020	1:00	S	10,0
76	UI2020L	61°12.30'	19°50.83'	119	11.55	Tu	13.10.2020	1:00	S	10,0
77	UI2020D	61°11.15'	20°00.74'	117	13.25	Tu	13.10.2020	15:00	S	10,0
78	UI2020O	61°16.59'	20°10.78'	125	05.08	We	14.10.2020	1:00	S	10,0
79	UI2020P	61°21.43'	20°05.82'	133	06.41	We	14.10.2020	1:00	S	10,0
80	ARVORC_SM_2020	61°24.08'	20°11.33'	?	08.03	We	14.10.2020	10:00	S	10,0
81	AALTO_Rauma1	61°12.00'	21°05.00'	41	20.54	We	14.10.2020	1:00	S	10,0
82	ADCP_RAUMA1	61°06.75'	21°14.42'	20	22.36	We	14.10.2020	1:00	S	10,0
83	AALTO_RAUMA2	61°06.75'	21°14.70'	21	23.36	We	14.10.2020	1:00	S	10,0
84	AAD_RAUMA	61°06.02'	21°16.64'	10	00.44	Th	15.10.2020	1:00	S	10,0
85	IU1	60°46.01'	20°50.80'	33	04.05	Th	15.10.2020	0:45	S	10,0
86	IU2	60°35.01'	21°07.80'	54	06.13	Th	15.10.2020	0:45	S	10,0
87	P	60°30.80'	21°08.60'	-	07.23	Th	15.10.2020	0:00	S	10,0
88	P	60°20.80'	21°06.50'	-	08.24	Th	15.10.2020	0:00	S	10,0
89	IU3	60°20.00'	21°06.80'	48	08.29	Th	15.10.2020	0:45	S	10,0
90	P	60°19.40'	21°05.50'	-	09.19	Th	15.10.2020	0:00	S	10,0
91	P	60°19.20'	21°06.25'	-	09.21	Th	15.10.2020	0:00	S	10,0
92	P	60°15.60'	21°05.50'	-	09.43	Th	15.10.2020	0:00	S	10,0
93	IU4	60°14.00'	21°08.80'	51	09.57	Th	15.10.2020	0:45	S	10,0
94	P	60°11.30'	21°12.40'	-	11.01	Th	15.10.2020	0:00	S	10,0
95	P	60°11.10'	21°13.80'	-	11.06	Th	15.10.2020	0:00	S	10,0
96	P	60°09.20'	21°12.75'	-	11.17	Th	15.10.2020	0:00	S	10,0
97	P	60°09.40'	21°13.75'	-	11.21	Th	15.10.2020	0:00	S	10,0
98	P	60°07.00'	21°18.00'	-	11.40	Th	15.10.2020	0:00	S	10,0
99	P	60°06.25'	21°17.20'	-	11.45	Th	15.10.2020	0:00	S	10,0
100	P	60°04.55'	21°12.80'	-	12.02	Th	15.10.2020	0:00	S	10,0
101	IU5	60°03.49'	21°11.90'	89	12.09	Th	15.10.2020	0:45	S	10,0
102	P	60°05.00'	21°05.10'	-	13.16	Th	15.10.2020	0:00	S	10,0
103	IU6	59°56.21'	21°13.26'	120	14.14	Th	15.10.2020	0:45	S	10,0
104	P	59°53.50'	21°18.00'	-	15.21	Th	15.10.2020	0:00	S	10,0
105	P	59°51.00'	21°24.20'	-	15.45	Th	15.10.2020	0:00	S	10,0
106	P	59°50.50'	21°24.00'	-	15.48	Th	15.10.2020	0:00	S	10,0
107	IU7	59°48.91'	21°20.20'	92	16.03	Th	15.10.2020	0:45	S	10,0
108	P	59°42.73'	21°39.51'	-	17.57	Th	15.10.2020	0:00	S	10,0
109	P	59°39.50'	22°43.60'	-	21.12	Th	15.10.2020	0:00	S	10,0
110	P	59°40.31'	23°28.47'	-	23.28	Th	15.10.2020	0:00	S	10,0
111	P	60°00.03'	24°50.18'	-	04.01	Fr	16.10.2020	0:00	S	10,0
112	HELSINKI	60°09.55'	24°55.37'	0	05.00	Fr	16.10.2020	1:00	S	10,0

Route map:



Cruise plan is printed at 21.08.2020 ai 01.23.