



RV Aranda

CRUISE PLAN

COMBINE 1 leg 2, 1/2019 25. - 31.1.2019

Description of the cruise

The COMBINE 1 2nd leg winter cruise is based on the HELCOM monitoring programme and will be carried out in co-operation with SMHI, Sweden. The monitoring programme includes sampling on hydrography, water chemistry and oil samples.

Additionally, some sampling of EU marine strategy framework directive will be carried out. Samples will be taken on sea surface sediment and in water in order to analyze PAH compounds.

Additional sampling of microplastics in biota will be carried out for NIVA.

Maintenance of the FMI wave buoys in the Northern Baltic Proper and Bothnian Sea as well as work horse anchoring in the Bothnian Bay will be carried out.

The monitoring will be conducted in the Northern Baltic Proper, Bay of Bothnian Sea and the Archipelago Sea.

Scientific staff:

Chief scientist:	Kotilainen Pekka	SYKE	25.01.2019 - 31.01.2019
CTD chief:		FMI	25.01.2019 - 31.01.2019
Chief chemist:		SYKE	25.01.2019 - 31.01.2019
		SYKE	25.01.2019 - 31.01.2019
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		SYKE	25.01.2019 - 31.01.2019
		FMI	25.01.2019 - 31.01.2019
		SYKE	25.01.2019 - 31.01.2019

Altogether 10 persons in scientific staff.

Departure from: HANKO
Departure time: Friday 25.01.2019 at 16:00

Cruising speed: 10,0 knots
Average station time: 2 h 0 min.

Arrival to: HELSINKI
Arrival time: Thursday 31.01.2019 at 13:37

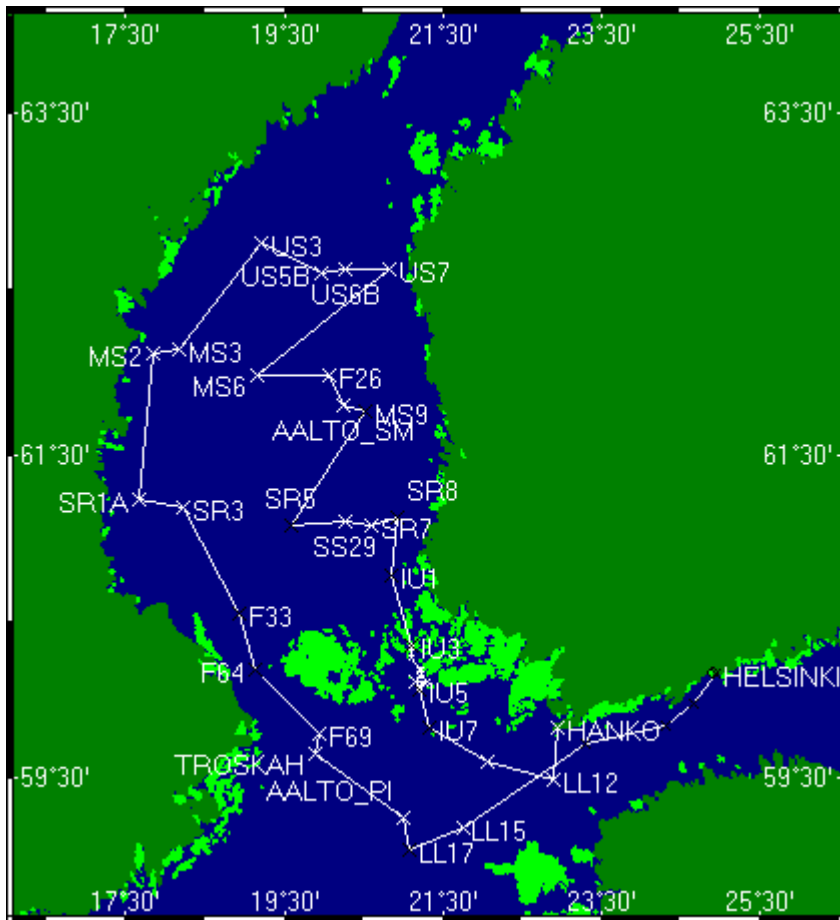
Duration of the cruise: 5 days 21 h 37 min
Length of the cruise: 833,56 nautical miles

Number of stations 28. Points with name "P" are just route points without observations.

Route:

Nro	Station	Lat.	Long.	Depth [m]	Arrival		Durat. hh:mm	Speed knots	
					hh:mm	dy dd.mm.yyyy			
0	HANKO	59°49.01'	22°56.81'	0	16:00	Fr	25.01.2019	0:00	S 9,0
1	LL12	59°29.01'	22°53.81'	82	18:13	Fr	25.01.2019	2:00	S 9,0
2	P	59°36.52'	22°03.10'	-	23:12	Fr	25.01.2019	0:00	S 9,0
3	IU7	59°48.91'	21°20.20'	92	01:58	Sa	26.01.2019	2:00	S 9,0
4	IU5	60°03.49'	21°11.90'	89	05:39	Sa	26.01.2019	2:00	S 9,0
5	P	60°04.55'	21°12.80'	-	07:47	Sa	26.01.2019	0:00	S 9,0
6	P	60°06.25'	21°17.20'	-	08:05	Sa	26.01.2019	0:00	S 9,0
7	P	60°06.68'	21°09.68'	-	08:30	Sa	26.01.2019	0:00	S 9,0
8	P	60°07.00'	21°18.00'	-	08:58	Sa	26.01.2019	0:00	S 9,0
9	P	60°09.20'	21°12.75'	-	09:21	Sa	26.01.2019	0:00	S 9,0
10	P	60°09.40'	21°13.75'	-	09:24	Sa	26.01.2019	0:00	S 9,0
11	P	60°11.10'	21°13.80'	-	09:36	Sa	26.01.2019	0:00	S 9,0
12	P	60°11.30'	21°12.40'	-	09:41	Sa	26.01.2019	0:00	S 9,0
13	P	60°15.60'	21°05.50'	-	10:17	Sa	26.01.2019	0:00	S 9,0
14	P	60°15.60'	21°05.50'	-	10:17	Sa	26.01.2019	0:00	S 9,0
15	P	60°19.20'	21°06.25'	-	10:41	Sa	26.01.2019	0:00	S 9,0
16	P	60°19.40'	21°05.50'	-	10:44	Sa	26.01.2019	0:00	S 9,0
17	IU3	60°20.00'	21°06.80'	48	10:50	Sa	26.01.2019	1:00	S 9,0
18	IU1	60°46.01'	20°50.80'	33	14:51	Sa	26.01.2019	1:00	S 9,0
19	SR8	61°07.59'	20°55.80'	46	18:16	Sa	26.01.2019	1:00	S 9,0
20	SR7	61°05.01'	20°35.79'	78	20:23	Sa	26.01.2019	1:00	S 9,0
21	SS29	61°06.50'	20°16.00'	114	22:27	Sa	26.01.2019	2:00	S 9,0
22	SR5	61°05.00'	19°34.78'	126	02:40	Su	27.01.2019	2:00	S 9,0
23	MS9	61°46.01'	20°31.83'	101	10:09	Su	27.01.2019	2:00	S 9,0
24	AALTO_SM	61°48.00'	20°14.00'	120	13:07	Su	27.01.2019	2:00	S 9,0
25	F26	61°59.01'	20°03.78'	140	16:27	Su	27.01.2019	2:00	S 9,0
26	MS6	61°59.02'	19°09.81'	72	21:16	Su	27.01.2019	1:00	S 9,0
27	US7	62°36.01'	20°49.78'	23	04:52	Mo	28.01.2019	1:00	S 9,0
28	US6B	62°36.01'	20°15.78'	83	07:36	Mo	28.01.2019	2:00	S 9,0
29	US5B	62°35.17'	19°58.13'	214	10:30	Mo	28.01.2019	3:00	S 9,0
30	US3	62°45.53'	19°11.74'	182	16:08	Mo	28.01.2019	2:00	S 9,0
31	MS3	62°08.07'	18°09.78'	84	23:23	Mo	28.01.2019	2:00	S 9,0
32	MS2	62°07.00'	17°50.78'	72	02:22	Tu	29.01.2019	1:00	S 9,0
33	SR1A	61°14.00'	17°39.79'	61	09:17	Tu	29.01.2019	1:00	S 9,0
34	SR3	61°11.00'	18°13.80'	72	12:08	Tu	29.01.2019	1:00	S 9,0
35	F33	60°31.99'	18°56.26'	135	18:03	Tu	29.01.2019	2:00	S 9,0
36	F64	60°11.34'	19°08.55'	285	22:26	Tu	29.01.2019	3:00	S 9,0
37	F69	59°47.00'	19°55.80'	189	05:12	We	30.01.2019	3:00	S 9,0
38	TROSKAH	59°39.60'	19°53.00'	59	09:03	We	30.01.2019	1:00	S 9,0
39	AALTO_PI	59°15.00'	20°59.81'	98	14:42	We	30.01.2019	2:00	S 9,0
40	LL17	59°02.00'	21°04.77'	171	18:11	We	30.01.2019	2:00	S 9,0
41	LL15	59°11.00'	21°44.81'	126	22:40	We	30.01.2019	2:00	S 9,0
42	P	59°43.34'	23°18.12'	-	07:03	Th	31.01.2019	0:00	S 9,0
43	P	59°50.05'	24°18.09'	-	10:29	Th	31.01.2019	0:00	S 9,0
44	P	59°58.40'	24°39.75'	-	12:00	Th	31.01.2019	0:00	S 9,0
45	P	60°09.87'	24°55.91'	-	13:34	Th	31.01.2019	0:00	S 9,0
46	HELSINKI	60°09.55'	24°55.37'	0	13:37	Th	31.01.2019	0:00	S 9,0

Route map:



Cruise plan is printed at 25.01.2019 a 09:07.