



RV Aranda

CRUISE PLAN

VIMMA2019

28.8. - 7.9.2019

Description of the cruise

The cruise collects data from small deep trenches in the western Gulf of Finland to study currents near the bottom and their effects to sedimentation, erosion and oxygen conditions at the bottom.

Scientific staff:

Chief scientist:	Laura Tuomi	-	28.08.2019 - 07.09.2019
Chief chemist:	Harri Kankaanpää	-	28.08.2019 - 07.09.2019
IT chief:	Kimmo Tikka	-	28.08.2019 - 07.09.2019
	Jonas Hjort	-	28.08.2019 - 07.09.2019
	Sigvard Jansson	-	28.08.2019 - 07.09.2019
	Hedi Kanarik	-	28.08.2019 - 07.09.2019
	Mikko Kinnunen	-	28.08.2019 - 07.09.2019
	Pekka Kosloff	-	28.08.2019 - 07.09.2019
	Tuomas Kärnä	-	28.08.2019 - 07.09.2019
	Henri Lukkari	-	28.08.2019 - 07.09.2019
	Jouko Nuorteva	-	28.08.2019 - 07.09.2019
	Tuomo Roine	-	28.08.2019 - 07.09.2019
	Joonas Virtasalo	-	28.08.2019 - 07.09.2019

Altogether 13 persons in scientific staff.

Departure from: Helsinki
Departure time: Wednesday 28.08.2019 at 10:00

Cruising speed: 10,0 knots
 Average station time: 0 h 30 min.

Arrival to: HELSINKI
Arrival time: Saturday 07.09.2019 at 03:20

Duration of the cruise: 9 days 17 h 20 min
 Length of the cruise: 515,91 nautical miles
 Number of stations 186.

Route:

Nro	Station	Lat.	Long.	Depth [m]	Arrival	Durat. hh:mm	Country
					hh:mm dy dd.mm.yyyy		
0	Helsinki	60°10.00'	24°57.00'	0	10:00 We	0:00	FIN
1	FLATHÄLLGRUN	60°05.39'	24°58.69'	28	10:27 We	0:15	FIN
2	39A	60°04.01'	24°58.81'	41	10:50 We	0:15	FIN
3	59H	60°00.70'	24°57.60'	59	11:25 We	0:15	FIN
4	SLSJHP0	60°01.51'	25°02.30'	42	11:45 We	0:15	FIN
5	SL_13_5_6	59°52.51'	25°05.57'	50	12:54 We	0:15	EST
6	SL_13_6	59°57.01'	25°03.96'	62	13:36 We	0:15	FIN
7	SL_13_5	59°48.02'	25°07.24'	66	14:45 We	0:15	EST
8	SLSJHP4	59°43.51'	25°08.82'	82	15:27 We	0:15	EST
9	SLHP4	59°44.01'	24°51.81'	80	15:45 We	0:15	EST
10	SLHP3	59°46.01'	24°50.81'	71	16:12 We	0:15	EST
11	SLHP2	59°50.01'	24°49.31'	80	16:51 We	0:15	EST
12	SLHP1	59°54.01'	24°47.81'	67	17:30 We	0:15	FIN
13	SLHP0	59°58.01'	24°46.31'	70	18:09 We	0:15	FIN
14	SLPNHP0	59°55.56'	24°31.27'	14	18:39 We	0:15	FIN
15	SL_13_8	59°51.30'	24°32.90'	44	19:19 We	0:15	FIN
16	SLX4	59°47.04'	24°34.53'	57	20:00 We	0:15	FIN
17	SL_13_7	59°42.78'	24°36.15'	82	20:41 We	0:15	EST
18	SLHPPN45	59°38.52'	24°37.78'	47	21:21 We	0:15	EST
19	SLPN5	59°33.01'	24°23.81'	65	22:09 We	0:15	EST
20	SLPN4	59°37.01'	24°22.31'	84	22:48 We	0:15	EST
21	SLPN3	59°41.01'	24°20.81'	79	23:27 We	0:15	EST
22	SLPN2	59°45.01'	24°19.31'	46	00:06 Th	0:15	FIN
23	SLPN1	59°49.51'	24°17.81'	54	00:48 Th	0:15	FIN
24	SLPN0	59°53.01'	24°16.31'	30	01:24 Th	0:15	FIN
25	SLPN_1	59°57.00'	24°15.01'	33	02:03 Th	0:15	FIN
26	SLPNJP1	59°52.48'	23°59.67'	11	02:45 Th	0:15	FIN
27	SL_13_10	59°47.01'	24°01.73'	52	03:33 Th	0:15	FIN
28	SLX5	59°41.54'	24°03.81'	71	04:21 Th	0:15	FIN
29	SL_13_9	59°36.06'	24°05.74'	62	05:09 Th	0:15	EST
30	SLJPPN5	59°30.58'	24°07.76'	89	05:57 Th	0:15	EST
31	SLJP5	59°28.01'	23°51.81'	88	06:27 Th	0:15	EST
32	SLJP4	59°32.01'	23°50.31'	83	07:06 Th	0:15	EST
33	SLJP3	59°36.01'	23°48.81'	72	07:45 Th	0:15	FIN
34	SLJP2	59°40.01'	23°47.31'	70	08:24 Th	0:15	FIN
35	SLJP1B	59°44.01'	23°45.81'	45	09:03 Th	0:15	FIN
36	SLJP1A	59°48.01'	23°44.31'	45	09:42 Th	0:15	FIN
37	SLLOJP1	59°46.08'	23°28.52'	16	10:09 Th	0:15	FIN
38	SL_13_12	59°40.94'	23°30.62'	53	10:54 Th	0:15	FIN
39	SLX6	59°35.81'	23°32.74'	71	11:40 Th	0:15	FIN
40	SL_13_11	59°30.67'	23°34.71'	85	12:26 Th	0:15	EST
41	SLJPLO5	59°25.53'	23°36.78'	90	13:12 Th	0:15	EST
42	SLLO5	59°23.01'	23°21.81'	106	13:42 Th	0:15	EST
43	SLLO4	59°27.01'	23°18.81'	98	14:21 Th	0:15	EST
44	SLLO3	59°32.01'	23°17.31'	82	15:06 Th	0:15	FIN
45	SLLO2	59°36.01'	23°15.81'	68	15:45 Th	0:15	FIN
46	SLLO1	59°40.01'	23°14.31'	48	16:24 Th	0:15	FIN
47	SLLO_1	59°44.01'	23°12.81'	77	17:03 Th	0:15	FIN
48	SLBLO1	59°43.57'	22°51.30'	28	17:21 Th	0:15	FIN
49	SL_13_14	59°37.47'	22°52.44'	47	18:12 Th	0:15	FIN
50	SLX7	59°31.38'	22°53.64'	78	19:04 Th	0:15	FIN
51	SL_13_13	59°25.27'	22°54.66'	85	19:55 Th	0:15	EST
52	SLBTLO6	59°19.17'	22°55.69'	120	20:47 Th	0:15	EST
53	SLBT7	59°15.00'	22°29.81'	98	21:27 Th	0:15	EST
54	SLBT6	59°20.00'	22°29.81'	102	22:12 Th	0:15	EST
55	SLBT5	59°25.01'	22°29.81'	84	22:57 Th	0:15	FIN
56	SLBT4	59°30.00'	22°29.81'	55	23:42 Th	0:15	FIN
57	SLBT3	59°35.01'	22°29.81'	49	00:27 Fr	0:15	FIN
58	SLBT2	59°40.01'	22°29.81'	38	01:12 Fr	0:15	FIN
59	SLBT1	59°43.01'	22°29.81'	50	01:45 Fr	0:15	FIN
60	SLLO_1	59°44.01'	23°12.81'	77	02:06 Fr	0:15	FIN

61	SLVIMMA5	59°42.01'	23°13.56'	39	02:33	Fr	30.08.2019	0:15	FIN
62	SLLO1	59°40.01'	23°14.31'	48	03:00	Fr	30.08.2019	0:15	FIN
63	SLVIMMA4	59°38.01'	23°15.06'	52	03:27	Fr	30.08.2019	0:15	FIN
64	SLLO2	59°36.01'	23°15.81'	68	03:54	Fr	30.08.2019	0:15	FIN
65	SLVIMMA3	59°34.01'	23°16.56'	74	04:21	Fr	30.08.2019	0:15	FIN
66	SLLO3	59°32.01'	23°17.31'	82	04:48	Fr	30.08.2019	0:15	FIN
67	SLVIMMA2	59°29.51'	23°18.06'	88	05:18	Fr	30.08.2019	0:15	EST
68	SLLO4	59°27.01'	23°18.81'	98	05:48	Fr	30.08.2019	0:15	EST
69	SLVIMMA1	59°25.01'	23°20.31'	100	06:15	Fr	30.08.2019	0:15	EST
70	SLLO5	59°23.01'	23°21.81'	106	06:42	Fr	30.08.2019	0:15	EST
71	SLVIMMAC12	59°24.20'	23°29.30'	95	07:04	Fr	30.08.2019	0:15	EST
72	SLVIMMAC11	59°26.09'	23°28.53'	96	07:31	Fr	30.08.2019	0:15	EST
73	SLVIMMAC10	59°27.98'	23°27.75'	93	07:57	Fr	30.08.2019	0:15	EST
74	SLVIMMAC9	59°29.87'	23°26.98'	89	08:23	Fr	30.08.2019	0:15	EST
75	SLVIMMAC8	59°31.76'	23°26.20'	89	08:50	Fr	30.08.2019	0:15	FIN
76	JONTKA	59°31.87'	23°29.38'	121	09:05	Fr	30.08.2019	1:00	FIN
77	SLVIMMAC7	59°33.65'	23°25.42'	75	10:16	Fr	30.08.2019	0:15	FIN
78	SLVIMMAC6	59°35.55'	23°24.65'	69	10:42	Fr	30.08.2019	0:15	FIN
79	SLVIMMAC5	59°37.44'	23°23.87'	53	11:09	Fr	30.08.2019	0:15	FIN
80	SLVIMMAC4	59°39.33'	23°23.09'	40	11:35	Fr	30.08.2019	0:15	FIN
81	SLVIMMAC3	59°41.22'	23°22.31'	26	12:01	Fr	30.08.2019	0:15	FIN
82	SLVIMMAC2	59°43.11'	23°21.53'	23	12:28	Fr	30.08.2019	0:15	FIN
83	SLVIMMAC1	59°45.00'	23°20.75'	28	12:54	Fr	30.08.2019	0:15	FIN
84	SLVIMMAD1	59°46.08'	23°28.52'	16	13:16	Fr	30.08.2019	0:15	FIN
85	SLVIMMAD2	59°43.80'	23°29.44'	33	13:44	Fr	30.08.2019	0:15	FIN
86	SLVIMMAD3	59°41.51'	23°30.36'	46	14:13	Fr	30.08.2019	0:15	FIN
87	SLVIMMAD4	59°39.23'	23°31.28'	58	14:42	Fr	30.08.2019	0:15	FIN
88	SLVIMMAD5	59°36.95'	23°32.20'	62	15:10	Fr	30.08.2019	0:15	FIN
89	SLVIMMAD6	59°34.66'	23°33.12'	80	15:39	Fr	30.08.2019	0:15	FIN
90	SLVIMMAD7	59°32.38'	23°34.04'	84	16:08	Fr	30.08.2019	0:15	EST
91	SLVIMMAD8	59°30.10'	23°34.95'	85	16:36	Fr	30.08.2019	0:15	EST
92	SLVIMMAD9	59°27.81'	23°35.87'	90	17:05	Fr	30.08.2019	0:15	EST
93	SLJPLO5	59°25.53'	23°36.78'	90	17:34	Fr	30.08.2019	0:15	EST
94	SLVIMMAE10	59°26.78'	23°44.29'	84	17:56	Fr	30.08.2019	0:15	EST
95	SLVIMMAE9	59°29.03'	23°43.42'	83	18:25	Fr	30.08.2019	0:15	EST
96	SLVIMMAE8	59°31.28'	23°42.55'	80	18:53	Fr	30.08.2019	0:15	EST
97	SLVIMMAE7	59°33.54'	23°41.67'	75	19:22	Fr	30.08.2019	0:15	EST
98	SLVIMMAE6	59°35.79'	23°40.80'	80	19:50	Fr	30.08.2019	0:15	FIN
99	SLVIMMAE5	59°38.04'	23°39.92'	63	20:19	Fr	30.08.2019	0:15	FIN
100	SLVIMMAE4	59°40.29'	23°39.05'	50	20:47	Fr	30.08.2019	0:15	FIN
101	SLVIMMAE3	59°42.55'	23°38.17'	45	21:16	Fr	30.08.2019	0:15	FIN
102	SLVIMMAE2	59°44.80'	23°37.29'	45	21:45	Fr	30.08.2019	0:15	FIN
103	SLVIMMAE1	59°47.05'	23°36.41'	13	22:13	Fr	30.08.2019	0:15	FIN
104	JONTKA	59°31.87'	23°29.38'	121	23:59	Fr	30.08.2019	5:00	FIN
105	V4	59°32.33'	23°29.66'	84	05:02	Sa	31.08.2019	0:15	FIN
106	TR_A_F4	59°32.33'	23°29.66'	84	05:17	Sa	31.08.2019	0:15	FIN
107	TR_A_V5	59°32.38'	23°29.45'	84	05:32	Sa	31.08.2019	0:15	FIN
108	TR_A_V6	59°32.43'	23°29.25'	84	05:47	Sa	31.08.2019	0:15	FIN
109	FULL1	59°33.33'	23°32.30'	85	06:08	Sa	31.08.2019	8:00	FIN
110	VIMMA0	59°31.87'	23°29.35'	89	14:17	Sa	31.08.2019	5:00	FIN
111	VIMMA1	59°33.17'	23°30.12'	83	19:24	Sa	31.08.2019	5:00	FIN
112	JONTKA	59°31.87'	23°29.38'	121	00:32	Su	01.09.2019	4:30	FIN
113	TR_B_V3B	59°32.43'	23°29.89'	84	05:06	Su	01.09.2019	0:15	FIN
114	TR_B_F4B	59°32.43'	23°30.09'	85	05:21	Su	01.09.2019	0:15	FIN
115	TR_B_V4B	59°32.43'	23°30.33'	85	05:36	Su	01.09.2019	0:15	FIN
116	TR_B_V5B	59°32.43'	23°30.33'	85	05:51	Su	01.09.2019	0:15	FIN
117	FULL2	59°32.02'	23°29.20'	84	06:08	Su	01.09.2019	8:00	FIN
118	VIMMA2	59°32.74'	23°30.04'	85	14:12	Su	01.09.2019	5:00	FIN
119	VIMMA3	59°32.31'	23°29.77'	84	19:15	Su	01.09.2019	5:00	FIN
120	JONTKA	59°31.87'	23°29.38'	121	00:18	Mo	02.09.2019	5:00	FIN
121	FULL3	59°33.58'	23°30.14'	83	05:28	Mo	02.09.2019	8:00	FIN
122	VIMMA4	59°32.33'	23°29.66'	84	13:35	Mo	02.09.2019	5:00	FIN
123	VIMMA5	59°32.38'	23°29.45'	84	18:36	Mo	02.09.2019	5:00	FIN
124	JONTKA	59°31.87'	23°29.38'	121	23:39	Mo	02.09.2019	6:00	FIN
125	FULL4	59°32.33'	23°29.66'	84	05:41	Tu	03.09.2019	8:00	FIN

126	VIMMA_ADCP0	59°33.56'	23°30.43'	89	13:49	Tu	03.09.2019	1:00	FIN
127	VIMMA_ADCP1	59°33.54'	23°30.40'	91	14:49	Tu	03.09.2019	1:00	FIN
128	VIMMA_ADCP2	59°33.52'	23°30.36'	92	15:49	Tu	03.09.2019	1:00	FIN
129	VIMMA_ADCP3	59°33.50'	23°30.33'	94	16:49	Tu	03.09.2019	1:00	FIN
130	VIMMA_ADCP4	59°33.47'	23°30.29'	96	17:49	Tu	03.09.2019	1:00	FIN
131	VIMMA_ADCP5	59°33.45'	23°30.26'	98	18:49	Tu	03.09.2019	1:00	FIN
132	VIMMA_ADCP6	59°33.43'	23°30.22'	100	19:50	Tu	03.09.2019	1:00	FIN
133	VIMMA_ADCP7	59°33.27'	23°29.83'	87	20:51	Tu	03.09.2019	1:00	FIN
134	VIMMA_ADCP8	59°31.90'	23°29.72'	85	21:59	Tu	03.09.2019	1:00	FIN
135	JONTKA	59°31.87'	23°29.38'	121	22:59	Tu	03.09.2019	6:00	FIN
136	FULL4B	59°32.43'	23°30.09'	85	05:02	We	04.09.2019	24:00	FIN
137	JONTKA	59°31.87'	23°29.38'	121	05:06	Th	05.09.2019	3:00	FIN
138	VIMMA4B	59°32.43'	23°30.22'	85	08:09	Th	05.09.2019	2:00	FIN
139	VIMMA5B	59°32.43'	23°30.33'	85	10:09	Th	05.09.2019	2:00	FIN
140	VIMMA6	59°32.43'	23°29.25'	84	12:09	Th	05.09.2019	1:00	FIN
141	VIMMA3B	59°32.43'	23°29.89'	84	13:09	Th	05.09.2019	1:00	FIN
142	SLLO_1	59°44.01'	23°12.81'	77	15:19	Th	05.09.2019	0:15	FIN
143	SLVIMMA5	59°42.01'	23°13.56'	39	15:46	Th	05.09.2019	0:15	FIN
144	SLLO1	59°40.01'	23°14.31'	48	16:13	Th	05.09.2019	0:15	FIN
145	SLVIMMA4	59°38.01'	23°15.06'	52	16:40	Th	05.09.2019	0:15	FIN
146	SLLO2	59°36.01'	23°15.81'	68	17:07	Th	05.09.2019	0:15	FIN
147	SLVIMMA3	59°34.01'	23°16.56'	74	17:34	Th	05.09.2019	0:15	FIN
148	SLLO3	59°32.01'	23°17.31'	82	18:01	Th	05.09.2019	0:15	FIN
149	SLVIMMA2	59°29.51'	23°18.06'	88	18:31	Th	05.09.2019	0:15	EST
150	SLLO4	59°27.01'	23°18.81'	98	19:01	Th	05.09.2019	0:15	EST
151	SLVIMMA1	59°25.01'	23°20.31'	100	19:28	Th	05.09.2019	0:15	EST
152	SLLO5	59°23.01'	23°21.81'	106	19:55	Th	05.09.2019	0:15	EST
153	SLVIMMAC12	59°24.20'	23°29.30'	95	20:17	Th	05.09.2019	0:15	EST
154	SLVIMMAC11	59°26.09'	23°28.53'	96	20:43	Th	05.09.2019	0:15	EST
155	SLVIMMAC10	59°27.98'	23°27.75'	93	21:09	Th	05.09.2019	0:15	EST
156	SLVIMMAC9	59°29.87'	23°26.98'	89	21:36	Th	05.09.2019	0:15	EST
157	SLVIMMAC8	59°31.76'	23°26.20'	89	22:02	Th	05.09.2019	0:15	FIN
158	SLVIMMAC7	59°33.65'	23°25.42'	75	22:28	Th	05.09.2019	0:15	FIN
159	SLVIMMAC6	59°35.55'	23°24.65'	69	22:55	Th	05.09.2019	0:15	FIN
160	SLVIMMAC5	59°37.44'	23°23.87'	53	23:21	Th	05.09.2019	0:15	FIN
161	SLVIMMAC4	59°39.33'	23°23.09'	40	23:47	Th	05.09.2019	0:15	FIN
162	SLVIMMAC3	59°41.22'	23°22.31'	26	00:14	Fr	06.09.2019	0:15	FIN
163	SLVIMMAC2	59°43.11'	23°21.53'	23	00:40	Fr	06.09.2019	0:15	FIN
164	SLVIMMAC1	59°45.00'	23°20.75'	28	01:06	Fr	06.09.2019	0:15	FIN
165	SLVIMMAD1	59°46.08'	23°28.52'	16	01:28	Fr	06.09.2019	0:15	FIN
166	SLVIMMAD2	59°43.80'	23°29.44'	33	01:57	Fr	06.09.2019	0:15	FIN
167	SLVIMMAD3	59°41.51'	23°30.36'	46	02:25	Fr	06.09.2019	0:15	FIN
168	SLVIMMAD4	59°39.23'	23°31.28'	58	02:54	Fr	06.09.2019	0:15	FIN
169	SLVIMMAD5	59°36.95'	23°32.20'	62	03:23	Fr	06.09.2019	0:15	FIN
170	SLVIMMAD6	59°34.66'	23°33.12'	80	03:51	Fr	06.09.2019	0:15	FIN
171	SLVIMMAD7	59°32.38'	23°34.04'	84	04:20	Fr	06.09.2019	0:15	EST
172	SLVIMMAD8	59°30.10'	23°34.95'	85	04:49	Fr	06.09.2019	0:15	EST
173	SLVIMMAD9	59°27.81'	23°35.87'	90	05:18	Fr	06.09.2019	0:15	EST
174	SLJPLO5	59°25.53'	23°36.78'	90	05:46	Fr	06.09.2019	0:15	EST
175	SLVIMMAE10	59°26.78'	23°44.29'	84	06:09	Fr	06.09.2019	0:15	EST
176	SLVIMMAE9	59°29.03'	23°43.42'	83	06:37	Fr	06.09.2019	0:15	EST
177	SLVIMMAE8	59°31.28'	23°42.55'	80	07:06	Fr	06.09.2019	0:15	EST
178	SLVIMMAE7	59°33.54'	23°41.67'	75	07:34	Fr	06.09.2019	0:15	EST
179	SLVIMMAE6	59°35.79'	23°40.80'	80	08:03	Fr	06.09.2019	0:15	FIN
180	SLVIMMAE5	59°38.04'	23°39.92'	63	08:31	Fr	06.09.2019	0:15	FIN
181	SLVIMMAE4	59°40.29'	23°39.05'	50	09:00	Fr	06.09.2019	0:15	FIN
182	SLVIMMAE3	59°42.55'	23°38.17'	45	09:28	Fr	06.09.2019	0:15	FIN
183	SLVIMMAE2	59°44.80'	23°37.29'	45	09:57	Fr	06.09.2019	0:15	FIN
184	SLVIMMAE1	59°47.05'	23°36.41'	13	10:25	Fr	06.09.2019	0:15	FIN
185	A6	59°35.00'	24°16.00'	81	11:53	Fr	06.09.2019	6:00	EST
186	A11	59°46.70'	25°37.60'	75	19:03	Fr	06.09.2019	6:00	EST
187	HELSINKI	60°09.55'	24°55.37'	0	03:20	Sa	07.09.2019	0:15	FIN

Route map:

