



**Environmental
Protection
Agency**

Cruise report

R/V VĒJŪNAS
Cruise No. 16/V2(1-3)

Date 2016.05.02-04



Environmental Protection Agency Marine Research Department
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GENERAL INFORMATION

1. Name of research vessel: **VĖJŪNAS**
2. Dates of cruise and cruise No.:
2nd May 2016 – 16/V2(1)
3rd May 2016 – 16/V2(2)
4th May 2016 – 16/V2(3)
3. Operating Authority:
Environmental Protection Agency Marine Research Department
Taikos avenue 26, LT-91222, Klaipėda, Lithuania
Phone: +370 46 410 450
Fax: +370 46 410 460
4. Owner: Environmental Protection Agency
5. Particulars of the ship:

Table 1.

Name	VĖJŪNAS
Year of building	2012 m.
Water capacity	424 m ³
Length	23,90 m
Width	8 m
Draught	1,30 m
Average speed	11 knots
Call sign	LYTN
IMO Nr.	9640346

6. Crew:
Name of captain: Gintautas Morkevičius and 4 crew members.
7. Scientific staff

Table 2.

1.	Vitalijus Malejevas	Hydrologist
2.	Ignas Vyšniauskas	Hydrologist
3.	Paulius Petrošius	Hydrologist
4.	Jolanta Mitrulevičiūtė	Chemist
5.	Jūratė Brazaitienė	Chemist
6.	Liudmila Kondratjeva	Chemist
7.	Vijolė Papreckienė	Chemist
8.	Eglė Šupinienė	Biologist
9.	Grasilda Gudžiūnaitė	Biologist
10.	Natalja Demereckienė	Biologist
11.	Rima Kavolytė	Biologist
12.	Sabina Solovjova	Biologist

BRIEF DESCRIPTION OF THE CRUISE

Aim of the cruise – collection of factual information about meteorological, hydrological, hydrochemical and biological state of the Baltic Sea according to the 2016 monitoring plan, which is based on National environment monitoring program of 2011-2017 (<http://gamta.lt>).

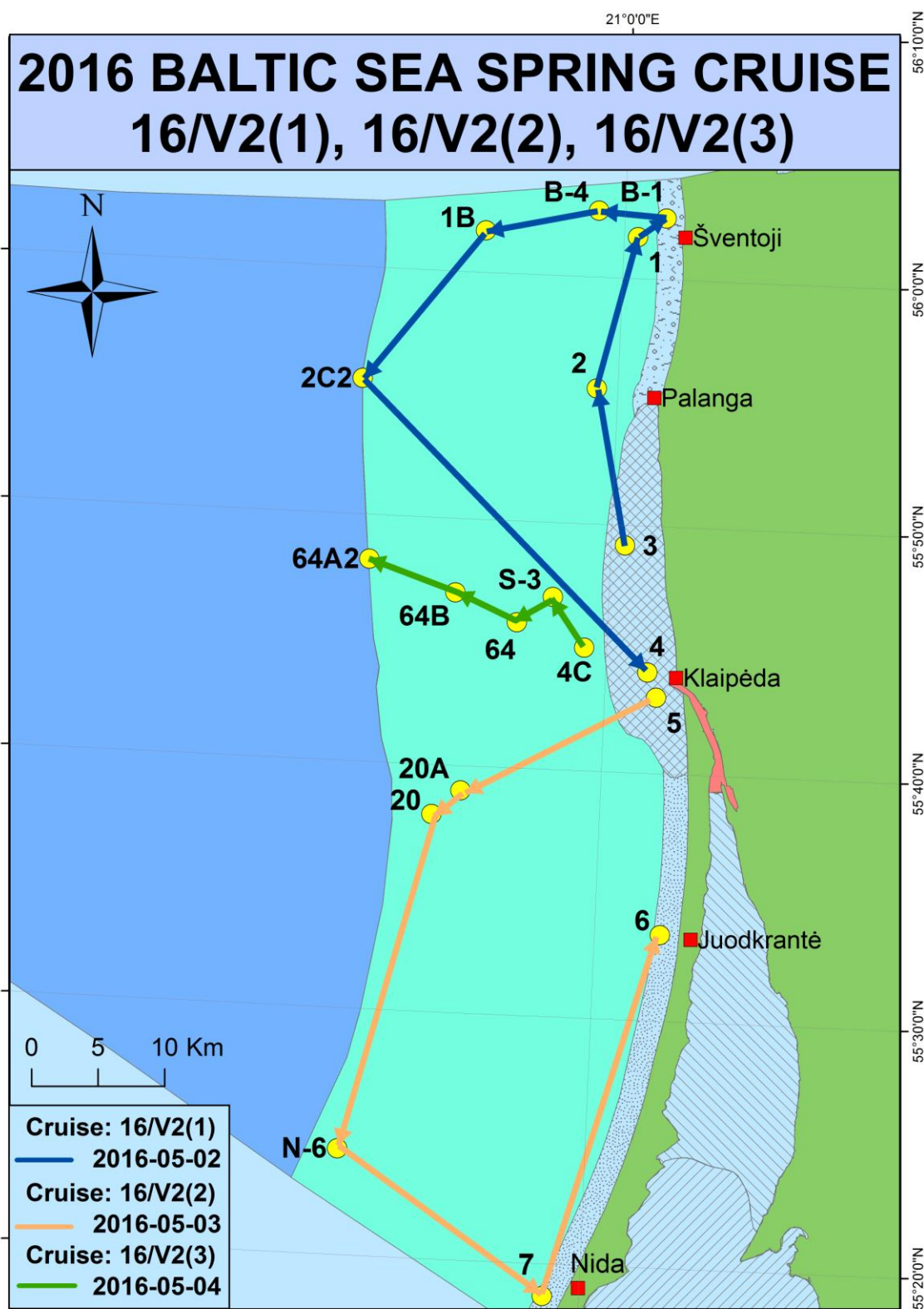


Fig. 1 Routes of the cruise

General information (used equipment)

During the cruise, we used water sampling system “Hydro - Bios” PRS 12, Sea & Sun probe CTD 90 (fig. 2), meteorological station MAWS 420, Secchi disk, ADCP WHM300-I-UG1 current meter (fig.3), sediment sampling Van Veen grab (0,1 m², 71 kg), integrated sampler Hydro-Bios to take water samples in vertical layer from the surface to 10 m depth of water, the WP-2 mesh (100 µm mesh hole size) for zooplankton samples, zoobenthic sieves (500 µm mesh hole size) for benthic invertebrates selection, modified Zobel bathometer for bacterioplankton sampling.

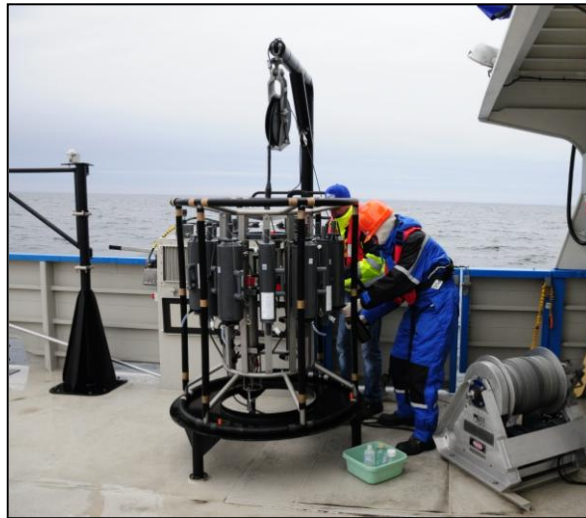


Fig. 2 Probe CTD 90



Fig.3 Current meter WHM300 ADCP-I-UG1

Table 3. Quantity of taken samples during the cruise

Monitoring station No.	Coordinates of monitoring station		Date and time, UTM	Depth	Morphological elements			Physico-chemical quality elements										Artificial radionuclides		Biological quality elements				
					Hydrodynamic regime	Bottom substrate structure	Currents	Waves	Hydrometeorological elements	General data		Other elements	Specific pollutants in water				Specific pollutants in sediments							
	Water temperature, salinity	O ₂ , pH, nutrients								Suspended material	Detergents		Oil hydrocarbons	Heavy metals, Hg	Phthalats, phenols	Heavy metals		In water	In bottom sediments	phytoplankton	Chlorophyll „a“	Zooplankton	Zoobenthos	Bactetrioplankton
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	23	24	25	
3	21°01.0'	55°49.0'	2016-05-02 6:50	18	1	-	1	1	4	3	-	-	-	-	-	-	-	-	1	4	1	2	-	
2	20°58.5'	55°55.5'	2016-05-02 8:15	18	1	-	1	1	4	3	-	-	-	2	-	-	-	-	1	2	1	2	-	
1	21°01.0'	56°01.7'	2016-05-02 9:40	16	1	2	1	1	4	3	-	-	-	-	-	-	-	-	-	2	1	1	-	
B-1	21°03.0'	56°02.5'	2016-05-02 11:00	12	1	-	1	1	3	2	2	2	2	2	1	1	-	-	1	2	1	2	2	
B-4	20°58.1'	56°02.7'	2016-05-02 12:00	20	1	-	1	1	4	3	2	-	-	-	-	-	-	-	1	2	1	1	2	
1B	20°50.0'	56°01.7'	2016-05-02 13:20	27	1	2	1	1	5	4	-	-	2	2	1	-	-	-	1	5	1	2	-	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	23	24	25
2C2	20°41.6'	55°55.5'	2016-05-02 15:00	32	-	-	1	1	5	2	-	-	-	-	-	-	-	-	-	5	1	-	-
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
4	21°03.0'	55°44.1'	2016-05-02 17:15	17	1	2	1	1	4	3	-	2	2	2	1	1	-	-	1	4	1	2	2
5	21°03.7'	55°43.1'	2016-05-03 06:15	15	1	-	1	1	4	3	2	-	-	-	-	-	-	-	1	4	1	2	-
20A	20°50.0'	55°39.0'	2016-05-03 7:45	43	-	-	1	1	6	5	2	-	-	-	-	-	-	-	-	2	1	2	-
20	20°48.0'	55°38.0'	2016-05-03 8:30	46	1	-	1	1	7	2	2	-	2	-	1	1	1	1	1	2	1	2	-
N-6	20°42.4'	55°24.3'	2016-05-03 10:40	36	1	2	1	1	6	2	-	-	2	-	-	1	-	-	1	2	1	3	-
7	20°57.4'	55°18.7'	2016-05-03 12:20	14	1	2	1	1	4	3	-	-	2	2	1	1	-	-	1	4	1	5	2
6	21°04.7'	55°33.5'	2016-05-03 15:00	13	-	-	1	1	3	2	-	-	-	2	-	-	1	1	1	4	1	5	-
4C	20°58.4'	55°45.0'	2016-05-04 6:20	27	-	-	1	1	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S-3	20°56.0'	55°47.0'	2016-05-04 6:55	29	1	-	1	1	5	4	2	-	-	-	-	1	-	-	-	2	1	2	-
64	20°53.5'	55°45.9'	2016-05-04 7:40	34	1	2	1	1	6	5	-	-	-	-	-	-	-	-	1	5	1	3	-
64B	20°49.0'	55°47.0'	2016-05-04 8:30	39	-	-	1	1	6	2	-	-	-	-	-	-	-	-	-	-	-	-	-
64A2	20°42.7'	55°48.2'	2016-05-04 9:20	41	1	-	1	1	7	7	-	-	2	2	1	-	-	-	1	5	1	3	-

Numbers represents in which horizons samples were taken and measurements were carried out.

BRIEF REVIEW

Hydrometeorological conditions

During spring cruise usually blew north-western winds and ranged from 1 to 7 m/s. The waves were 0,5-1,0 m high. Air temperature varied from 10 to 13 °C, and the relative humidity ranged from 65 to 93 %. Visibility was 20 km. Prevailed *Cumulus* clouds, mostly half of the sky was covered.

Hydrological observations

Water temperature. Water surface temperature ranged from 7,4 °C (at southern part of Klaipėda sea port gate) to 10,5 °C (in the western part of the territorial waters) during spring expedition in the Baltic Sea. Water temperature decreased with the depth and at deeper territorial sea oceanographic stations bottom layer was only 4-5 °C (minimum was at sea dumping zone - 4,3 °C).

Water salinity. Water surface salinity ranged from 3,7 ‰ (at Klaipėda sea port gate) to 7,3 ‰ (near Nida) during summer expedition in the Baltic Sea. Water salinity increased with the depth, reaching maximum (7,6 ‰) in the south-west bottom water layer.

Water transparency. During spring seasonal expedition investigated water transparency varied from 1,5 m (at Klaipėda sea port gate) to 6,5 m in the southern and western part of the studied water area. Water transparency boundaries were the same like the last year spring cruise.

Biological observations

During the cruise collected samples were transported to the shore laboratory where the investigations were analyzed. The results will be presented in the Environment integrated management information system (AIVIKS).

Special remarks during the cruise

The southern part of the sea surface has been spotty in places of gathering flowering terrestrial plant pollen, spores.