



**Environmental
Protection
Agency**

Cruise report

R/V VĖJŪNAS
Cruise No. 16/V3(3-5)

Date 2016.08.24-26



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.:
24th August 2016 – 16/V3(3)
25th August 2016 – 16/V3(4)
26th August 2016 – 16/V3(5)
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 stuff

Table 2.

1.	Ignas Vyšniauskas	Hydrologist
2.	Paulius Petrošius	Hydrologist
3.	Albertas Kvietkus	Hydrologist
4.	Galina Garnaga-Budrė	Chemist
5.	Jolanta Mitrulevičiūtė	Chemist
6.	Ernesta Butiškytė	Chemist
7.	Jūratė Brazaitienė	Chemist
8.	Grasilda Gudžiūnaitė	Biologist
9.	Sabina Solovjova	Biologist
10.	Rima Kavolė	Biologist
11.	Rūta Potapkina	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>).

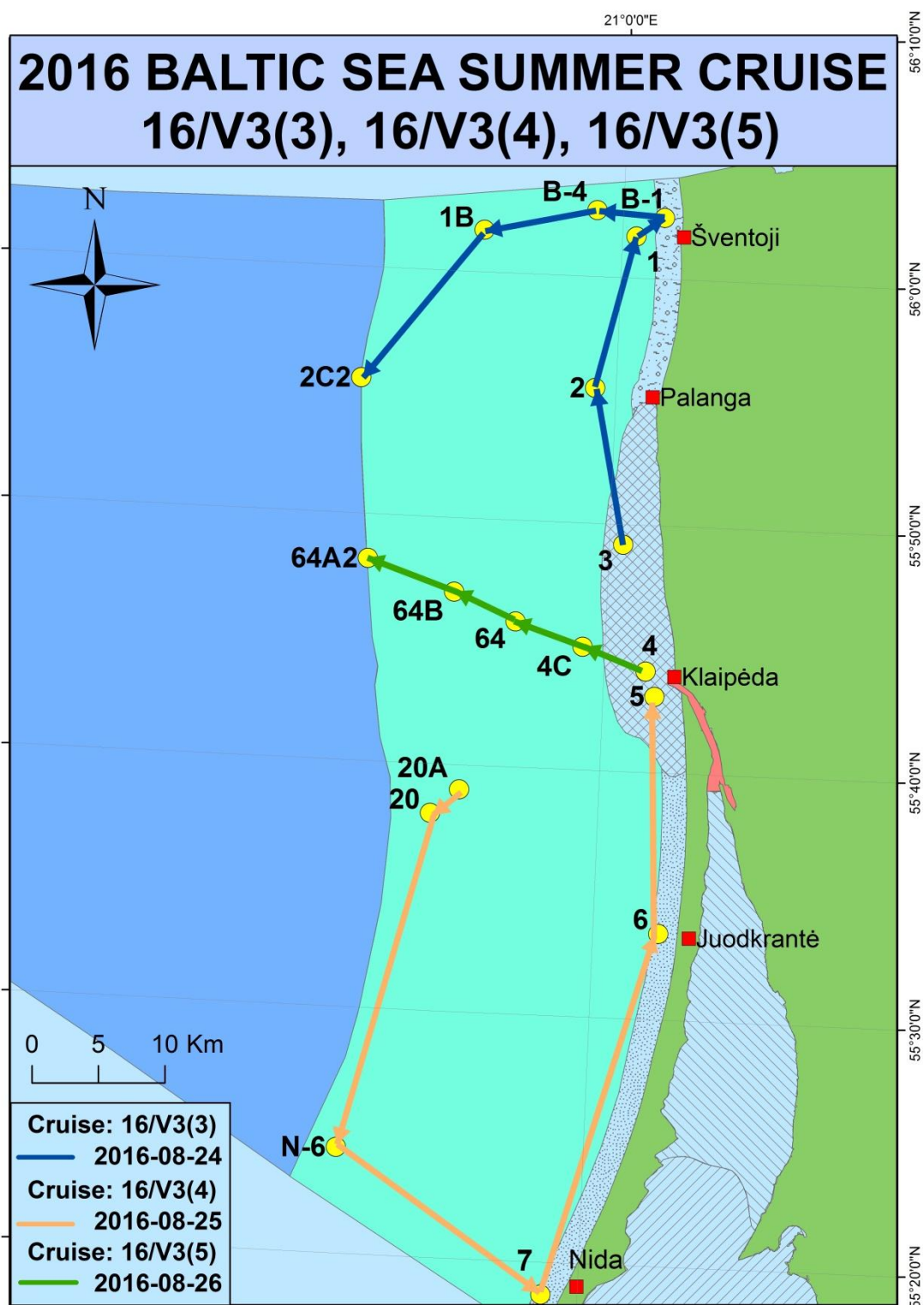


Fig. 1 Routes of the cruise

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, filtration equipment, sample flushing mesh (1 mm mesh hole size).

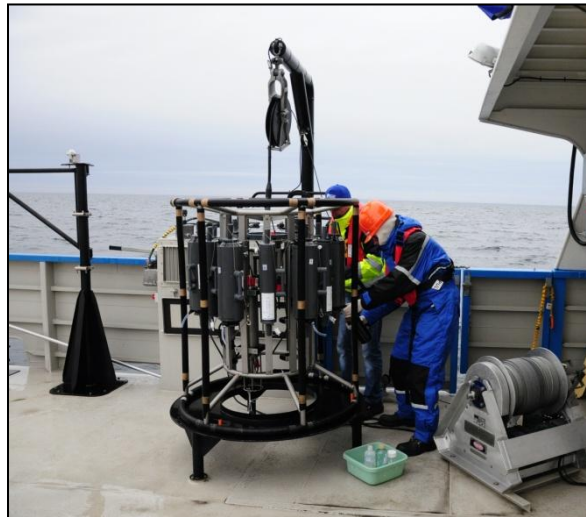


Fig. 2 Probe CTD 90



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	Hydrodynamic regime		Physico-chemical quality elements												Artificial radionuclides		Biological quality elements			
								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, alkylphenols, chlorphenols		Oil hydrocarbons	Heavy metals	Chloro-organic pesticides, pesticides-2, hexachlorbutadien	Heavy metals, chlororganic pesticides	In water	In sediments	Phytoplankton	Chlorophyll „a“	Zooplankton	Bacterioplankton	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
3	21°01.0'	55°49.0'	2016-08-24 7:20	18		-	1	1	4	3												1	4	1	
2	20°58.5'	55°55.5'	2016-08-24 8:30	18		-	1	1	4	3				2								1	2	1	
1	21°01.0'	56°01.7'	2016-08-24 9:35	16		2	1	1	4	3													2	1	
B-1	21°03.0'	56°02.5'	2016-08-24 10:15	12	1	-	1	1	3	2	2	2		2	1	1	1	1				1	2	1	2
B-4	20°58.1'	56°02.7'	2016-08-24 11:25	20		-	1	1	4	3	2											1	2	1	2
1B	20°50.0'	56°01.7'	2016-08-24 12:25	27		2	1	1	5	4				2	1							1	5	1	
2C2	20°41.6'	55°55.5'	2016-08-24 13:45	32		-	1	1	5	2													5	1	
20A	20°50.0'	55°39.0'	2016-08-25 7:30	43		-	1	1	6	5	2												2	1	
20	20°48.0'	55°38.0'	2016-08-25 8:10	46	1	-	1	1	7	2	2				1	1	1	1		1	1	1	2	1	
N-6	20°42.4'	55°24.3'	2016-08-25 10:40	36	1	-	1	1	6	2						1	1	1				1	2	1	
7	20°57.4'	55°18.7'	2016-08-25 12:15	14	1	2	1	1	4	3				2	1	1	1	1	1			1	4	1	2
6	21°04.7'	55°33.5'	2016-08-25 15:55	13		2	1	1	3	2				2						1	1	1	4	1	
5	21°03.7'	55°43.1'	2016-08-25 17:25	15		-	1	1	4	3	2											1	4	1	
4	21°03.0'	55°44.1'	2016-08-26 6:25	17	1	2	1	1	4	3		2		2	2	1	1	1				1	4	1	2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
4C	20°58.4'	55°45.0'	2016-08-26 7:20	27		-	1	1	5																
64	20°53.5'	55°45.9'	2016-08-26 8:00	34		2	1	1	6	5												1	5	1	
64B	20°49.0'	55°47.0'	2016-08-26 8:50	39		-	1	1	6	2															
64A 2	20°42.7'	55°48.2'	2016-08-26 9:50	41		-	1	1	7	7				2	1	1	1	1		1	1	1	5	1	

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

BRIEF REVIEW

Hydrometeorological conditions

During summer expedition usually blew southern and north-western winds and ranged from 1 to 9 m/s. The waves were 0,5-1,0 m high. Air temperature varied from 17 to 20 °C, and the relative humidity ranged from 75 to 88 %. Visibility was 15-20 km. During the expedition prevailed *Cumulus* and *Cirrus* clouds, less than the half of the sky was covered by them.

Hydrological observations

Water temperature. Water surface temperature ranged from 18,6 °C (at the shore from Karklē to Būtingē) to 19,9 °C (at shore near Juodkrantė) during summer expedition in the Baltic Sea. Water temperature decreased with the depth and at sea dumping oceanographic stations bottom layer was only 8-9 °C (minimum was at sea dumping zone – 7,7 °C).

Water salinity. Water surface salinity ranged from 2,9 ‰ (at Klaipėda sea port gate) to 7,2 ‰ (at sea dumping area and western part of explored aquatory) during summer expedition in the Baltic Sea. Water salinity increased with the depth, reaching maximum (7,4 ‰) at sea dumping bottom layer.

Water transparency. During summer seasonal expedition investigated water transparency varied from 1,5 m (at Klaipėda sea port gate) to 7,0 m (at sea dumping area) of studied water area.

Biological observations

During the expedition 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).