



**Environmental
Protection
Agency**

Cruise report

R/V VĖJŪNAS
Cruise No. 15/V2 (1-3)

Date 2015.05.20; 2015.05.25-26



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.:

20th May 2015 – 15/V2(1)

25th May 2015 – 15/V2(2)

26th May 2015 – 15/V3(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 ship:

Table 1. Particulars of ship

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 + 3 crew members

7. Scientific personal:

Table 2. Scientific personal

1.	Ignas Vyšniauskas	Hydrologist
2.	Paulius Petrošius	Hydrologist
3.	Vitalijus Malejevas	Hydrologist
4.	Albertas Kvietkus	Hydrologist
5.	Marija Volkova	Chemist
6.	Liudmila Kondratjeva	Chemist
7.	Grasilda Gudžiūnaitė	Biologist
8.	Sabina Solovjova	Biologist
9.	Aleksandra Korž	Biologist
10.	Natalja Demereckienė	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 (Lithuanian economic zone) according to the 2015 monitoring plan, which is based on National environment monitoring program of 2011-2017 (<http://gamta.lt>).

Geographic area of investigations (station numbers):

Transitional waters, plume of the lagoon: 3, 4, 5;

Coastal waters: B-1, 6, 7, N-5;

Territorial sea: 1, 1B, S-1, 2, B-4, 4C, 20, 20A, S-3, N-6, 64, 64B;

Exclusive economic zone: 2C2, 64A2.

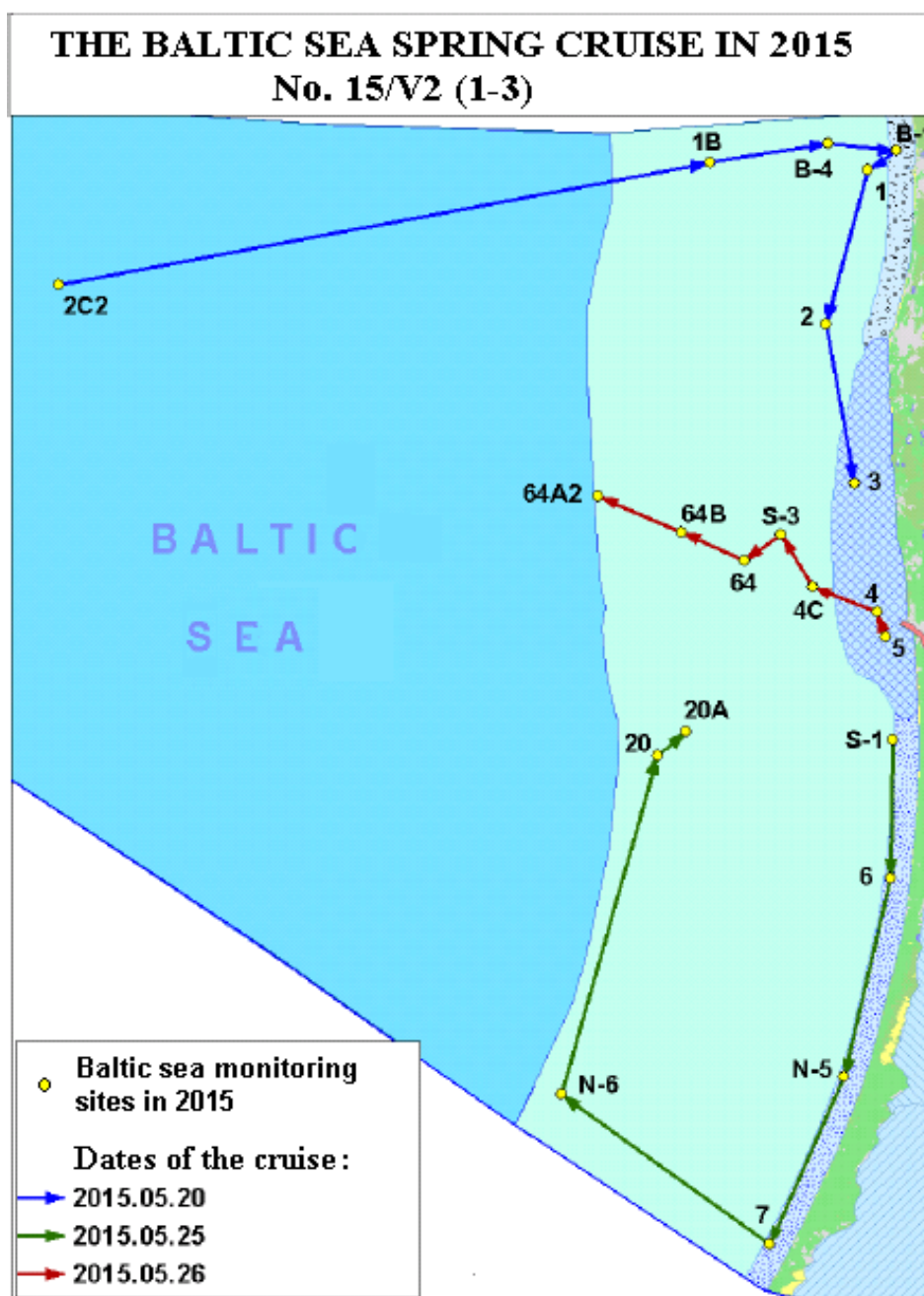


Fig. 1 Routes of the cruise 15/V2 (1-3)

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), sediments and zoobenthos sampler Van Veen grab (0,1 m², 75 kg), zooplankton sampler WP-2 net (100 µm mesh hole size), integrated sampler “Hydro-Bios” which is used to take water samples from vertical water layer (from 0 to 10 m depth), zooplankton sieves (500 µm mesh hole size) for benthic invertebrates selection and modified Zobel bathometer for taking bacterioplankton samples.

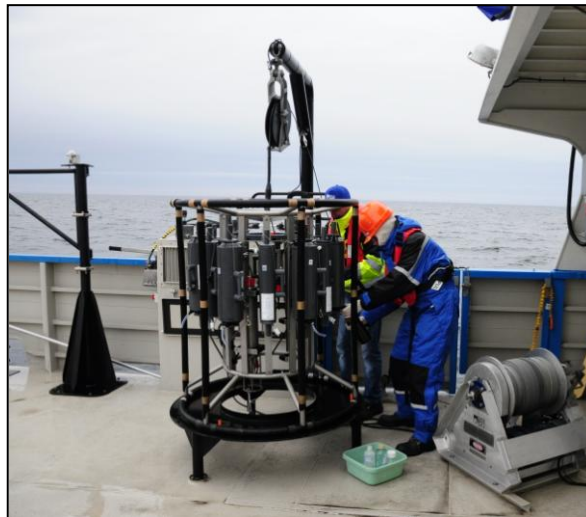


Fig. 2 Probe CTD 90



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	Hydrodynamic regime		Physico-chemical quality elements										Artificial radionuclides		Biological quality elements				
	Longitude	Latitude			Currents	Waves	Hydrometeorological elements	General data		Other elements	Specific pollutants in water				Specific pollutants in sediments		In water	In bottom sediments	Phytoplankton	Chlorophyll „a“	Zooplankton	Zoobenthos	Bacterioplankton
								Water temperature, salinity	O ₂ , pH, nutrients		Detergents	Oil hydrocarbons	Heavy metals, Hg	Pesticides, VOC, PAA, phthalats, phenols	Oil hydrocarbons	Heavy metals, Hg							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
2C2	20°41.6'	55°55.5'	2015-05-20 8:35	32	-	1	1	5	2	-	-	-	-	-	-	-	-	-	-	5	1	-	-
1B	20°50.0'	56°01.7'	2015-05-20 11:00	27	2	1	1	5	4	-	-	2	2	1	1	1	-	-	1	5	1	2	-
B-4	20°58.1'	56°02.7'	2015-05-20 12:35	20	-	1	1	4	3	2	-	-	-	-	1	1	-	-	1	2	1	2	2
B-1	21°03.0'	56°02.5'	2015-05-20 13:55	12	-	1	1	3	2	2	2	2	2	-	1	1	-	-	1	2	1	2	2
1	21°01.0'	56°01.7'	2015-05-20 14:50	16	2	1	1	4	3	-	2	2	2	-	-	-	-	-	-	2	1	2	-
2	20°58.5'	55°55.5'	2015-05-20 16:00	18	-	1	1	4	3	-	2	2	2	-	-	-	-	-	1	2	1	1	-
3	21°01.0'	55°49.0'	2015-05-20 17:10	18	-	1	1	4	3	-	-	2	-	-	-	-	-	-	1	4	1	1	-
S-1	21°04.5'	55°39.0'	2015-05-25 6:55	17	-	1	1	4	3	-	2	2	2	-	1	1	-	-	1	2	-	2	-
6	21°04.7'	55°33.5'	2015-05-25 8:05	13	2	1	1	3	3	-	2	2	2	-	1	1	1	1	1	4	1	3	-
N-5	21°02.1'	55°25.5'	2015-05-25 9:35	13	-	1	1	3	3	2	-	2	-	-	1	1	-	-	-	2	-	2	-
7	20°57.4'	55°18.7'	2015-05-25 10:50	14	2	1	1	4	3	-	2	2	2	1	1	1	-	-	1	4	1	4	2
N-6	20°42.4'	55°24.3'	2015-05-25 15:15	36	-	1	1	6	2	-	-	2	-	-	1	-	-	-	1	2	1	2	-
20	20°48.0'	55°38.0'	2015-05-25 17:15	46	-	1	1	7	2	2	2	2	2	1	1	1	1	1	1	2	1	2	-
20A	20°50.0'	55°39.0'	2015-05-25 18:00	43	-	1	1	6	5	2	-	-	-	-	1	1	-	-	-	2	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
5	21°03.7'	55°43.1'	2015-05-26 06:15	15	-	1	1	4	3	2	-	2	-	-	1	1	-	-	1	4	1	2	-
4	21°03.0'	55°44.1'	2015-05-26 06:45	17	-	1	1	4	3		2	2	2	1	1	1	-	-	1	4	1	2	2
4C	20°58.4'	55°45.0'	2015-05-26 08:05	27	-	1	1	5	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
S-3	20°56.0'	55°47.0'	2015-05-26 08:35	29	-	1	1	5	4	2	2	2	2	-	1	1	-	-	1	2	1	-	-
64	20°53.5'	55°45.9'	2015-05-26 09:10	34	-	1	1	6	5	-	-	2	-	-	1	-	-	-	1	5	1	2	-
64B	20°49.0'	55°47.0'	2015-05-26 10:00	39	-	1	1	6	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
64A2	20°42.7'	55°48.2'	2015-05-26 10:50	41	-	1	1	7	7	-	-	2	2	1	1	1	-	-	1	5	1	2	-

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

BRIEF REVIEW

Hydrometeorological conditions

During spring expedition usually blew easterly wind and speed ranged from 1 to 7 m/s. The waves were 0,5 m height on 20th and 25th May 2015 (waves were not observed on 26th May 2015). Air temperature varied from 10 to 15 °C and a relative humidity ranged from 51 to 95 %. It was raining on the first day of the cruise. Visibility varied from 10 to 25 km. During the expedition dominated *Stratocumulus* and *Cumulus* clouds which covered almost the entire sky.

Hydrological observations

Water temperature. Water surface temperature ranged from 8,5 °C (at north-western part of the observed area) to 13,2 °C (beside Melnragė) during spring expedition in the Baltic Sea. Water temperature decreased with the depth and reached 5-6 °C at the bottom water layer of deeper territorial sea oceanographic stations. The minimum water temperature (4,4 °C) was measured in the southwestern part of the observed area.

Water salinity. Water surface salinity ranged from 4,2 ‰ (at Klaipėda sea port gate) to 7,3 ‰ (in the southwestern part of Lithuanian territorial sea) during summer expedition in the Baltic Sea. Water salinity increased with the depth reaching maximum (7,5 ‰) in the south-western part of the observed area.

Water transparency. Water transparency varied from 1,5 m (at Klaipėda sea port gate) to 6,5 m in the western part of studied water area during seasonal spring expedition.

Hydrochemical and biological observations

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

Special remarks during the cruise.

Tree pollen-spore accumulations were observed on the sea surface, which caused sea surface color change to yellow during the cruise.