



**Environmental  
Protection  
Agency**

# Cruise report

*R/V VĖJŪNAS*  
*Cruise No. 17/V1(1-2)*

**Date 2017.01.31-02.01**



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.:  
31<sup>st</sup> January 2017 – 17/V1 (1)  
1<sup>st</sup> February 2017 – 17/V2 (2)
3. Operating Authority: Environmental Protection Agency Marine Research Department  
Taikos avenue 26, LT-91222, Klaipėda, Lithuania  
Phone: +370 46 410 450  
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4. Owner: Environmental Protection Agency

**Table 1.** Particulars of the ship

Name	VĖJŪNAS
Year of building	2012 m.
Water capacity	424 m <sup>3</sup>
Length	23,90 m
Width	8 m
Draught	1,30 m
Average speed	11 knots
Call sign	LYTN
IMO No.	9640346

5. Crew:  
Name of captain: Gintautas Morkevičius and crew members

6. Scientific personal

**Table 2.** 1<sup>st</sup> and 2<sup>nd</sup> scientific personal

1.	Ignas Vyšniauskas	Hydrologist
2.	Vitalijus Malejevas	Hydrologist
3.	Paulius Petrošius	Hydrologist
4.	Galina Garnaga-Budrė	Chemist
5.	Agnė Vasiljevė	Chemist
6.	Eglė Šupinienė	Biologist
7.	Grasilda Gudžiūnaitė	Biologist
8.	Rūta Potapkina	Biologist
9.	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 according to the 2017 monitoring plan, which is based on National environment monitoring program of 2011-2017 years (<http://gamta.lt>).

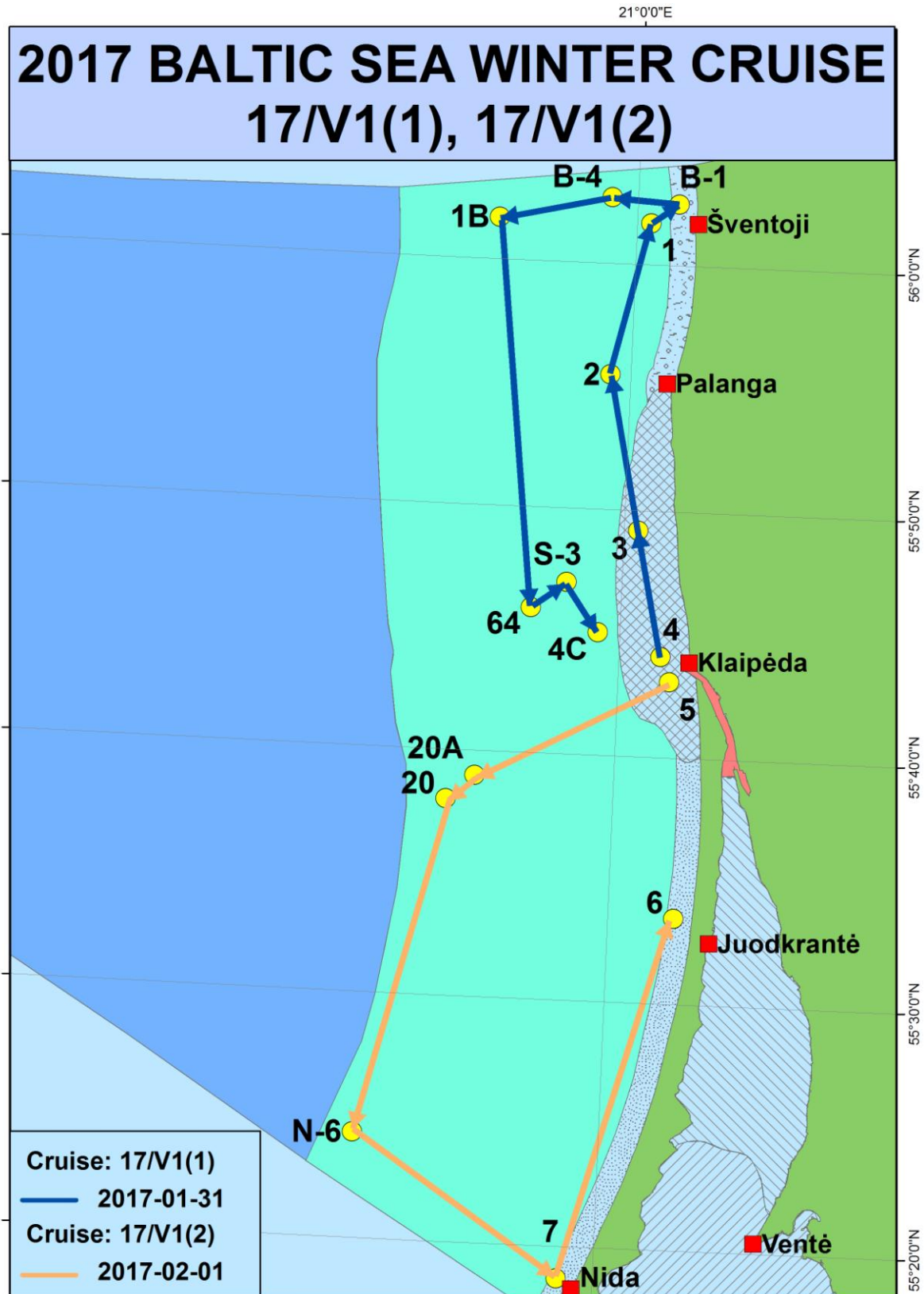


Fig. 1 Routes of the cruise 17/V1(1-2)

### **General information (used equipment)**

Water sampling system “Hydro - Bios” PRS 12, Sea & Sun probe CTD 90, automatic meteorological station MAWS 420, Seccki disk, filtrating equipment and integrated samples sampler “Hydro-Bios” were used during the cruise.



*Fig. 2* Probe CTD 90

**Table 3.** Quantity of taken samples during the cruise

Date	Time, UTM	Monitoring station No.	Monitoring station coordinates		Depth	Hydrodynamic regime		Physico-chemical quality elements							Artificial radionuclides	Biological quality elements		
						Waves	Hydrometeorological elements	General data		Other elements	Specific pollutants in water					In water	Phytoplankton	Chlorophyll <sub>a</sub>
			Longitude east	Latitude north				Water salinity, temperature	O <sub>2</sub> , pH, nutrients	Suspended material	Detergents	Oil hydrocarbons	Heavy metals	Pesticides-2, phthalats, VOCs				
2017-01-31	7:30	<b>4</b>	21°03.0'	55°44.1'	17	1	1	4	3		2	2	2	1		1	4	1
2017-01-31	8:35	<b>3</b>	21°01.0'	55°49.0'	18	1	1	4	3								4	
2017-01-31	9:40	<b>2</b>	20°58.5'	55°55.5'	18	1	1	4	3				2				2	
2017-01-31	10:40	<b>1</b>	21°01.0'	56°01.7'	16	1	1	4	3								2	
2017-01-31	11:10	<b>B-1</b>	21°03.0'	56°02.5'	12	1	1	3	2	2	2	2	2	1		1	2	1
2017-01-31	11:55	<b>B-4</b>	20°58.1'	56°02.7'	20	1	1	4	3	2							2	1
2017-01-31	12:50	<b>1B</b>	20°50.0'	56°01.7'	27	1	1	5	4			2	2	1			5	
2017-01-31	15:05	<b>64</b>	20°53.5'	55°45.9'	34	1	1	6	5								5	
2017-01-31	15:45	<b>S-3</b>	20°56.0'	55°47.0'	28	1	1	5	4	2							2	
2017-01-31	16:30	<b>4C</b>	20°58.4'	55°45.0'	27	1	1	5										
2017-02-01	7:25	<b>5</b>	21°03.7'	55°43.1'	15	1	1	4	3	2							4	
2017-02-01	8:45	<b>20A</b>	20°50.0'	55°39.0'	43	1	1	6	5	2							2	
2017-02-01	9:30	<b>20</b>	20°48.0'	55°38.0'	45	1	1	7	2	2		2		1	1		2	
2017-02-01	11:35	<b>N-6</b>	20°42.4'	55°24.3'	35	1	1	6	2			2					2	
2017-02-01	13:10	<b>7</b>	20°57.4'	55°18.7'	14	1	1	4	3		2	2	2	1		1	4	1
2017-02-01	15:20	<b>6</b>	21°04.7'	55°33.5'	13	1	1	3	2				2		1	1	4	

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

## **BRIEF REVIEW**

### Hydrometeorological conditions

During winter expedition prevailed eastern winds (4-6 m/s), which caused 0,5 – 1,0 meter high waves. Air temperature varied from -5 to -2 °C and a relative humidity was ranging from 85 to 90 %. Visibility varied from 8 km to 12 km. The sky was fully covered by *Stratus* or *Stratocumulus* clouds.

### Hydrological researches

**Water temperature.** Surface water layer temperature investigated in the Baltic Sea during winter expedition ranged from 1,2 °C (at Klaipėda port gates) to 4,1 °C (at western part of investigated Territorial Sea). Average temperature of sea surface was nearly one degree cooler than the last decade during winter seasonal expeditions investigated at oceanographic stations. Water temperature increase about 1 °C with depth in coastal stations where was the influence of inland waters, although the temperature increased by just tenths of a degree at deeper stations.

**Water salinity.** Sea surface water salinity of the Baltic Sea in the winter expedition ranged from 4,0 ‰ (at Klaipėda port gates) to 7,5 ‰ (at western part of investigated Territorial Sea). Average surface water salinity was 0,4 ‰ higher than the last decade of investigated water surface area during winter seasonal expeditions. Water salinity increased 1-2 ‰ with the depth (at Plume of Curonian lagoon), and increased only about 0,1 ‰ further from the shore.

**Water transparency.** During seasonal winter expedition water transparency was 0,2 m more transparent than during the previous year winter expedition. It varied from 2 m (at Klaipėda port gates) up to 10 m in the southwestern part of the Territorial Sea.

### Hydrochemical and biological research

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