



MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION  
federal state budgetary educational institution of higher education  
«RUSSIAN STATE HYDROMETEOROLOGICAL UNIVERSITY»



**SELF-ASSESSMENT REPORT  
ON CLUSTER OF EDUCATIONAL PROGRAMS:  
05.03.05 APPLIED HYDROMETEOROLOGY  
05.03.06 ECOLOGY AND ENVIRONMENTAL  
MANAGEMENT  
35.03.08 AQUATIC BIORESOURCES AND AQUACULTURE**

Saint-Petersburg, 2019

**Contents**

NORMATIVE REFERENCES .....3

INTRODUCTION.....3

GENERAL INFORMATION ABOUT THE EDUCATIONAL INSTITUTION .....3

Information about Educational Programs Submitted for International Accreditation.....4

1. Strategic Objectives of RSHU Development .....14

2. Departments that Implement Educational Programs Submitted for International Accreditation.....14

3. Legal and Institutional Framework of RSHU activity .....19

4. Interaction of RSHU with Educational, Research, Professional Organizations on Local, Regional and National Levels .....19

5. International Activity of RSHU .....19

2. COMPLIANCE WITH THE INTERNATIONAL STANDARDS OF ACCREDITATION .....21

    ESG Part 1. Standard 1.1: Quality Assurance Policy.....21

    ESG Part 1. Standard 1.2: Program Development and Approval.....23

    ESG Part 1. Standard 1.3: Student-Centered Learning and Performance Assessment .....26

    ESG Part 1. Standard 1.4: Student Admission, Achievement, Recognition and Certification .....29

    ESG Part 1. Standard 1.5: Academic Staff.....31

    ESG Part 1. Standard 1.6: Educational Resources and Student Support System.....33

    ESG Part 1. Standard 1.7: Information Management.....38

    ESG Part 1. Standard 1.8: Public Information .....40

    ESG Part 1. Standard 1.9: Ongoing Monitoring and Periodic Assessment of the Programs .....41

    ESG Part 1. Standard 1.10: Periodic External Quality Assurance Procedures .....42

    SWOT-Analysis .....44

CONCLUSIONS .....44

    The Conclusion of the Self-Assessment Committee .....45

GLOSSARY.....46

## NORMATIVE REFERENCES

Russian State Hydrometeorological University undertakes its educational activities in compliance with:

1. The Federal Law of December 29, 2012 № 273-ФЗ "On the Education in the Russian Federation".
2. The Federal State Educational Standards (FSES) of Higher Education (HE) for the areas of professional training.
3. The Order of the Ministry of Science and Higher Education of April 5, 2017 №301 "About the Organization and Implementation of Educational Activity in the Sphere of Higher Education (Bachelor, Specialist, Master Programs)".
- 4 Normative and methodological documents of the Ministry of Science and Higher Education of the Russian Federation.
5. Charter of RSHU.
6. Regulations of RSHU.

## INTRODUCTION

RSHU is a federally regulated higher education institution.

It is the only university in Russia that offers courses in the field of hydrometeorology, sustainable natural resources management and environmental studies aiming at the training of highly qualified specialists for the regions of the North, Siberia, and the Far East. RSHU claims for the status of a multicultural organization that plays an important role in the development of Russian education, science, economy and culture, especially in the North of the Russian Federation, in Siberia and in the Far East.

While preparing self-assessment report, RSHU evaluated the major characteristics of its educational activity, its management system, the content and quality of professional training courses, management of educational process, demand for its graduates in the labor market, personnel qualifications, the quality of methodical and information support, the infrastructure, functioning of the inner system of education quality assessment. The analysis of performance indicators was also carried out.

The report consists of two parts (covering the general information, review of the indicators of adherence to the standards of international accreditation) and supplements.

## GENERAL INFORMATION ABOUT THE EDUCATIONAL INSTITUTION

Table 1

<b>Full name of the educational institution</b>	Federal state budget educational institution of higher education "Russian State Hydrometeorological University"
<b>Founders</b>	The Ministry of Science and Higher Education of the Russian Federation
<b>Year of foundation (naming and renaming, if applicable)</b>	1930, name: Moscow Hydrometeorological Institute Renaming: 1941 – Higher Military Hydrometeorological Institute 1945 – Leningrad Hydrometeorological Institute (civic) 1992 – Russian State Hydrometeorological Institute 1998 – Russian State Hydrometeorological University 2002 – State educational institution of higher professional education "Russian State Hydrometeorological University" 2011 – Federal state budgetary educational institution of higher professional education "Russian State Hydrometeorological University" 2015 – Federal state budget educational institution of higher education "Russian State Hydrometeorological University"

<b>Current status of accreditation</b>	Accredited. Accreditation certificate of December 26, 2018, registration number 2971, series 90A01 № 0003116 (valid until December 26, 2024)
<b>Location</b>	79, Voronezhskaya St., Saint Petersburg, Russia 192007
<b>Rector</b>	Valery Leonidovich Mikheev
<b>License (title document)</b>	Educational activity license of October 19, 2017; registration number 2664, series 90JI01 № 0009756 (valid infinitely)
<b>Number of students (full-time, part-time, correspondence form)</b>	For the date 19.09.2019 г. (over all educational programs): full-time students -3101; part-time – 286; correspondence students - 919.

**Information about Educational Programs Submitted for International accreditation**

Table 2

<b>PART I</b>	
<b>Educational Programs</b>	05.03.05 Applied Hydrometeorology (profile “Applied Oceanology”) 05.03.06 Ecology and Environmental Management (profile “Ecological Problems of Big Cities, Industrial Zones and Polar Regions”) 35.03.08 Aquatic Bioresources and Aquaculture (profile “Aquatic Bioresources Management and Aquaculture”)
<b>Degree level / duration of course</b>	Bachelor / 4 years
<b>Structural units (heads)</b>	The Institute of Hydrology and Oceanology (Eremina Tatiana Removna., PhD in Physico-Mathematical Sciences, Associate Professor ); Ecological Faculty (Lekomtsev Petr Valentinovich, PhD in biology)
<b>departments (heads of the departments)</b>	The Department of Oceanology (Luk’ianov Sergey Vasil’evich, PhD in Physico-Mathematical Sciences, Associate Professor ) The Department of Applied and Systems Ecology (Aleksseev Denis Konstantinovich, PhD in Geographical Sciences, Associate Professor ). The Department of Aquatic Bioresources, Aquaculture and Hydrochemistry (Korol'kova Svetlana Vital’evna, PhD in Technical Sciences)
<b>Dates of EEC’s visit</b>	04.12.2019 -06.12.2019
<b>Person in charge of accreditation</b>	First Vice-rector Palkin Ivan Ivanovich, <i>PhD in Military Sciences</i> , Associate Professor . tel. +7(812) 409-13-40; fax: +7 (812) 712-80-77; e-mail: palkin@rshu.ru.

<b>PART II</b>	<b>EP 05.03.05 Applied Hydrometeorology (profile “Applied Oceanology”)</b>
<b>Number of credits ECTS</b>	240
<b>Course length (number of terms), form of education</b>	4 years (8 terms), full-time course; 5 years, correspondence course
<b>Date of the beginning (winter term / summer term)</b>	Full-time form: September 1 <sup>st</sup> / January 19 <sup>th</sup> (for first year students), September 1 <sup>st</sup> / February 9 <sup>th</sup> (for second, third, fourth year students) Correspondence form: October 1 <sup>st</sup>
<b>date of the EP introduction</b>	1930
<b>latest accreditation (date, valid to, accreditation agency)</b>	26.12.2018, valid to 26.12.2024 (6 years), Federal Education and Science Supervision Agency (Rosobrnadzor)
<b>Admission requirements</b>	general secondary education

Further education opportunities (after graduation)	Master's Degree programs at RSHU
EP aim and objectives	<p>AIM</p> <ul style="list-style-type: none"> <li>- to train professionals with higher education in the field of applied oceanology for enterprises and organizations engaged in marine activities, as well as scientific institutions, and institutions of higher education;</li> <li>- to form high level of theoretical and professional knowledge of the main concepts and methodological issues in the field of oceanology, development of the ability to apply the acquired knowledge to solve research and practical problems that allows graduates to succeed in research work and project development;</li> <li>- to provide students with opportunities and conditions to acquire the necessary level of professional knowledge, skills and experience necessary to prepare and present their graduation work.</li> </ul> <p>OBJECTIVES</p> <ul style="list-style-type: none"> <li>- to form general cultural, professional, and relevant professional competences according to the requirements of FSES of HE;</li> <li>- to enable students to gain skills and expertise in modern methods of searching, acquiring and processing information;</li> <li>- to provide students with proper level of expertise in technologies and technical means to solve professional and scientific problems in the field of applied oceanology;</li> <li>- to form students' social skills and personal qualities such as dedication, self-discipline, motivation, ability to work hard, social and civil responsibility, sociability and tolerance.</li> </ul>
EP short description	<p>The peculiarity of the educational program is that it is realized in accordance with the RHMU's mission concerning the Russian Arctic, strategic priorities of its development, including the priority of rational use, protection and reproduction of water biological resources of the European North of the Russian Federation, Siberia and the Far East. EP is sets of documents developed and approved by the RSHU Academic Council in line with the requirements of the labor market and on the basis of FSES of HE for 05.03.05 Applied Hydrometeorology.</p> <p>Educational program is a set of main characteristics of education (volume, content, planned results), organizational and pedagogical conditions, forms of certification. It includes the curriculum, academic schedule, subject syllabi, and apprenticeship programs, including research work, final state certification, evaluation and methodological materials, which ensure the proper standard of education.</p> <p>EP specifies: EP aims and objectives; length of the course of education; the level of higher education; professional activities the graduates are prepared for; planned results of EP, etc. The program is delivered in the Russian language.</p> <p>The content of the EP complies with the legislation of the Russian Federation and meets modern education standards. Characteristics of qualification level and educational program profile are properly presented in educational programs in sufficient details.</p> <p>The curriculum consists of the main (compulsory) part and the concentration (profile) part. The concentration (profile) part gives the opportunity to expand and advance the knowledge, abilities, skills and competences provided within the content of the compulsory disciplines, allows the students to gain profound knowledge, skills and competences for successful professional activity and (or) training at Master's courses.</p> <p>The EP curriculum reveals the essence of current objectives of applied oceanology.</p> <p>The EP curriculum forms the whole necessary list of general cultural, general professional and professional competences. Active and interactive forms of teaching are used in the educational process. Methodological materials have been developed to support the realization of the EP. The programs are delivered by a professionally experienced faculty. The syllabi and apprenticeship programs are of high quality and are methodologically supported, which ensures sufficient standard of education. The content of the subject syllabi corresponds to competence-oriented curriculum.</p> <p>Methodological support of the assessment system of the EP acquisition is represented</p>

	by the assessment tools (for current monitoring, interim assessment and final certification), which allow to assess the degree of formation of students' competences throughout the educational program realization period.
Training results	<p><i>General cultural competences</i> To be capable of logical thinking, generalizing information, performing analysis, systematizing of professional knowledge and skills, as well as systematizing patterns of historical, economic and socio-political development; to be able to solve generic professional tasks upon information and bibliographic skills using information and communication technologies and taking into account the requirements of information safety; to be able to communicate effectively, orally and in writing, in both native and foreign language; to be willing to work in a team, to be tolerant to social, ethnic, religious and cultural differences; to be able to organize self-education, self-development and self-control, to acquire new knowledge, and improve skills; to be able to use normative documents in different spheres of life, to act in accordance with the principles of social and legal responsibility; to be able to maintain the adequate level of physical fitness to be able to perform social and professional activities at an adequate level;</p> <p><i>General professional competence</i> To be able to present a modern picture of the world based on the knowledge of basic provisions, laws and methods of natural sciences, physics and mathematics; to be able to measure and observe, to describe research, to produce data for reviews, reports and scientific publications, to report on the solved problem, to participate in the implementation of research and development results; to be able to analyze and interpret data of natural and laboratory observations, theoretical calculations and modeling; to be able to provide a qualitative assessment of the facts, phenomena and processes occurring in the natural environment, possible risks and damage in case of adverse conditions; to be ready to learn how to use new equipment, new methods and new technologies; to be able to communicate and maintain communication with internal and external users of hydrometeorological data on air, ocean and terrestrial waters; to understand and be able to use basic methods to prevent and protect the stuff and population from the possible consequences of natural and man-induced disasters.</p> <p><i>Professional competencies</i> corresponding to the types of professional activity the bachelor's program is intended for: <i>Research activities:</i> To be able to understand phenomena and processes in the atmosphere, ocean and terrestrial waters of different scales and to be able to identify the anthropogenic component of them; to be able to analyze phenomena and processes occurring in the natural environment on the basis of experimental data and hydrometeorological information, to identify patterns and deviations in the latter; to be able to predict the basic parameters of the atmosphere, ocean and terrestrial waters based on the analysis of available information.</p> <p><i>Project development activities:</i> To be able to solve hydrometeorological tasks, achieve the established criteria and indicators; to be able to implement hydrometeorological problem solving and analysis of obtained results.</p> <p><i>Specialized professional competencies</i> corresponding to the types of professional activity the bachelor's program is intended for: To be ready to use professional knowledge to provide consumers with real marine hydrometeorological information; to be able to participate in providing consumers with predictive marine hydrometeorological information.</p>
Specialization (profile)	Applied oceanology
Additional features	none
number of accepted students	2019: Full-time education – 215, correspondence form – 88. 2018: Full-time education – 198, correspondence form – 90. 2017: Full-time education – 188, correspondence form – 92.

Tuition fees	Full-time education: 808 000,00 rub. for Russian Federation citizens, 832 000,00 rub. for foreigners correspondence form: 225 000,00 rub. for Russian Federation citizens, 240 000,00 pyб. – for foreigners
Opportunities for employment, possible career paths	<p>Area of professional activity for the graduates, who have completed the program, includes: engineering, technological and scientific aspects of operational hydrometeorological services for the sectors of the national economy to achieve the goals and objectives of the socio-economic development of the state as well as for national safety and security purposes; modern engineering and technological methods and techniques of monitoring the environment; analysis and forecasting of the condition of atmosphere, ocean and inland waters, assessment of the possible change caused by natural and anthropogenic reasons; provision of operational and environmental security and reasonable environmental management on the basis of assessment of hydrometeorological conditions and climate factors; engineering and technological methods and techniques of monitoring the environment. The educational program is aimed at scientific and research area of professional activity as the main sphere.</p> <p>Upon completion of the educational program graduates are employed in companies, facilities and institutions of the Russian Federal Service for Hydrometeorology and Environment Monitoring (Roshydromet), the Ministry of Defence of the Russian Federation (Administration of navigation and oceanography of RF MoDetc.), the Ministry of Science and Higher Education of the Russian Federation, the State Oceanographic Institution named after N.N. Zubov, Arctic and Antarctic Research Institution, All-Russian Research Institution of Fishery and Oceanography (VNIRO), VNIRO branches (AtlantNIRO, PINRO, NorthPINRO, ChukotNIRO, KamchatNIRO, SakhNIRO, SouthNIRO), the branches of the Russian Academy of Science (the Russian Academy of Science P.P. Shirshov Institute of Oceanology etc.), commercial enterprises dealing with design and scientific support of off-shore hydrotechnical constructions (Lenmorniiiproekt, Baltmorproekt, Eco-Express-Service etc.)</p>

PART II	<b>EP 05.03.06 Ecology and Environmental Management (profile “Ecological Problems of Big Cities, Industrial Zones and Polar Regions”)</b>
Number of credits ECTS	240
Course length (number of terms), form of education	4 years (8 terms), full-time course; 5 years, correspondence course
Date of the beginning (winter term / summer term)	Full-time form: September 1 <sup>st</sup> / January 19 <sup>th</sup> , Correspondence form: October 1 <sup>st</sup>
date of the EP introduction	1994
latest accreditation (date, valid to, accreditation agency)	26.12.2018, valid to 26.12.2024 (6 years), Federal Education and Science Supervision Agency (Rosobrnadzor)
Admission requirements	general secondary education
Further education opportunities (after graduation)	Master's Degree programs at RSHU
EP aim and objectives	<p>AIM</p> <ul style="list-style-type: none"> <li>- to train qualified specialists who are able to solve professional problems;</li> <li>- to form competences in compliance with the requirements of FSES of HE.</li> </ul>

	<p><b>OBJECTIVES</b></p> <p>To form competences essential for the following types of professional tasks:</p> <p><i>control and audit activities:</i> preparing environmental expertise documentation for various types of project analysis; participating in control and audit procedures, environmental audit and environmental regulation and monitoring activities; implementing tasks related to industrial ecological control in organizations; supervising conditions of meliorative lands and regulating water and air conditions of meliorative lands; conducting engineering and environmental research to assess the environmental impact of various economic activities;</p> <p><i>organizational and management activities:</i> participating in work of administrative authorities; ensuring environmental safety of the national economy and other spheres of human activity; ensuring environmental safety of production technologies, implementation of environmental policy at the enterprises; developing preventive measures to protect public health from negative impacts of economic activities;</p> <p><i>scientific research activities:</i> participating in scientific research in the field of ecology, nature conservation and other environmental sciences, working for educational organizations; conducting laboratory studies; collecting and primary processing data; participating in field research;</p> <p><i>project development activities:</i> gathering and processing data for environmental impact assessment; participating in development of framework measures for environment protection; developing and evaluating socio-economic activities in territories of different hierarchical levels; developing practical guidelines for environment conservation.</p>
EP short description	<p>The peculiarity of the educational program is that it is realized in accordance with the RHMU's mission concerning the Russian Arctic, strategic priorities of its development, including the priority of rational use, protection and reproduction of water biological resources of the European North of the Russian Federation, Siberia and the Far East.</p> <p>EP is sets of documents developed and approved by the RSHU Academic Council in line with the requirements of the labor market and on the basis of FSES of HE for 05.03.06 Ecology and Environmental Management.</p> <p>Educational program is a set of main characteristics of education (volume, content, planned results), organizational and pedagogical conditions, forms of certification. It includes the curriculum, academic schedule, subject syllabi, and apprenticeship programs, including research work, final state certification, evaluation and methodological materials, which ensure the proper standard of education.</p> <p>EP specifies: EP aims and objectives; length of the course of education; the level of higher education; professional activities the graduates are prepared for; planned results of EP, etc. The program is delivered in the Russian language.</p> <p>The content of the EP complies with the legislation of the Russian Federation and meets modern education standards. Characteristics of qualification level and educational program profile are properly presented in educational programs in sufficient details.</p> <p>The curriculum consists of the main (compulsory) part and the concentration (profile) part. The concentration (profile) part gives the opportunity to expand and advance the knowledge, abilities, skills and competences provided within the content of the compulsory disciplines, allows the students to gain profound knowledge, skills and competences for successful professional activity and (or) training at Master's courses.</p> <p>The EP curriculum reveals the essence of current issues in the area of Ecology of Big Cities, Industrial Zones and Polar Regions.</p> <p>The EP curriculum forms the whole necessary list of general cultural, general professional and professional competences. Active and interactive forms of teaching are used in the educational process. Methodological materials have been developed to support the realization of the EP. The programs are delivered by a professionally experienced faculty. The syllabi and apprenticeship programs are of high quality and are methodologically supported, which ensures sufficient standard of education. The content of the subject syllabi corresponds to competence-oriented curriculum.</p> <p>Methodological support of the assessment system of the EP acquisition is represented by the assessment tools (for current monitoring, interim assessment and final certification), which allow to assess the degree of formation of students' competences throughout the</p>



<p>Training results</p>	<p>educational program realization period.</p> <p><i>general cultural competences:</i>  to be able to use the foundations of philosophical knowledge to form a worldview; to be able to analyze the main stages and patterns of the historical development of society for the formation of a civic position; to be able to use the basics of economic knowledge in various spheres of life; to be able to use the basic knowledge of law in different areas of activity; to be able to communicate orally and in the writing in Russian and foreign languages in order to solve problems of interpersonal and intercultural interactions; to be able to work in a team, to be tolerant to social, ethnic, religious and cultural differences; to be capable of self-organization and self-education; to be able to use physical fitness methods and tools to ensure full social and professional activity; to be able to use initial care techniques, emergency protection techniques in emergency situations;</p> <p><i>general professional competences:</i>  to possess the basic knowledge in the field of fundamental parts of mathematics to the extent necessary to be able to use the mathematical apparatus of environmental sciences, process information and analyze environmental management data; to possess basic knowledge of fundamentals of physics, chemistry and biology to the extent necessary for the development of physical, chemical and biological foundations in ecology and environmental management; chemical analysis methods, to possess knowledge of modern dynamic processes in nature and the technosphere, the state of the Earth 's geosphere, the ecology and evolution of the biosphere, global environmental problems, methods of sampling and analysis of geological and biological samples, as well as skills in the identification and description of biological diversity, its evaluation by modern methods of quantitative information processing; to possess professionally profiled knowledge and practical skills in general geology, theoretical and practical geography, general soil science and using them in the field of ecology and environmental management; to possess knowledge of the basic general professional (general ecological) ideas on theoretical foundations of general ecology, geoecology, human ecology, social ecology, environmental protection; to possess knowledge of the foundations of the teaching on atmosphere, hydrosphere, biosphere and landscape science; to possess knowledge of environmental management frameworks, environmental management economics, sustainable development, to be able to assess the environmental impact, environmental management legal frameworks and environmental protection; to be able to understand, present and critically analyze the basic environmental and management information; to possess knowledge of theoretical basics for environmental monitoring, regulation and reduction of environmental pollution, man-induced systems and environmental risk, and the ability to use theoretical knowledge in practical activities; to be able to perform standard tasks of professional activity on the basis of information and bibliographic culture with the application of information and communication technologies and taking into account the basic requirements of information security;</p> <p><i>Professional competences</i>  <i>Audit and monitoring activities:</i>  to possess knowledge of the theoretical basics of environmental monitoring, environmental expertise, environmental management and audit, regulation and reduction of environmental pollution, the basics of man-made systems and environmental risks; to be able to apply methods for preparing documentation for environmental assessment of various types of project analysis, for engineering and environmental studies in order to assess the impact on the environment of different types of economic activities, to be able to apply methods for assessing the impact of economic activities on the environment and health of the population, assessment of economic damage and risks to the natural environment, economic efficiency of environmental measures, payment for the use of natural resources; to be able to carry out control and audit activities, environmental audit, environmental standardization, development of preventive measures to protect public health from negative impacts of economic activities, to carry out recultivation of man-made landscapes, to know the principles of habitat optimization; to be able to carry out measures and monitoring to protect the environment from harmful effects; perform the</p>
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	<p>industrial environmental control.</p> <p><i>Organizational and management activities:</i> to possess work skills in the administrative departments of enterprises, firms and other organizations; to be able to implement environmental policy in enterprises (PC-12); to possess skills in planning and organizing field and office work, as well as participation in the work of control bodies;</p> <p><i>Research activities:</i> to possess knowledge of the foundations of geosciences, climatology, hydrology, landscape science, socio-economic geography and cartography; to possess knowledge of the theoretical foundations of biogeography, ecology of animals, plants and microorganisms; to possess knowledge in the field of general resource science, regional environmental management, cartography; to be able to address global and regional geological issues; to possess knowledge in the field of theoretical fundamentals of geochemistry and geophysics of the environment, bases of environmental management, economy of environmental management, sustainable development;</p> <p><i>Project activities:</i> to possess knowledge of environmental impact assessment, the legal framework for environmental management and protection; to be able to present and critically analyze the basic ecological and environmental information; to possess knowledge of methods of geochemical and geophysical research, general and geocological mapping, processing, analysis and synthesis of field and laboratory geocological information, methods of processing, analysis and synthesis of field and laboratory environmental information.</p>
Specialization (profile)	Ecological Problems of Big Cities, Industrial Zones and Polar Regions
Additional features	None
number of accepted students	2019: Full-time education – 436, correspondence form – 84. 2018: Full-time education – 515, correspondence form – 69. 2017: Full-time education – 522, correspondence form – 79.
Tuition fees	Full-time education: 808 000,00 rub. for Russian Federation citizens, 832 000,00 rub. for foreigners. Correspondence form: 274 500,00 rub. for Russian Federation citizens, 300 000,00 rub. for foreigners
Opportunities for employment, possible career paths	<p>Area of professional activity of the graduates who have completed the program, includes: design, exploratory, scientific and research, production, marketing, consulting, economic, law, educational, expert departments, facilities, companies, institutions, centers dealing with provision environmental safety and security; the federal executive authorities, the State authorities of constituent entities of the Russian Federation; the Federal State authorities and the State authorities of constituent entities of the Russian Federation providing state control and management of environmental monitoring; services for hydrometeorology and environmental monitoring, ecological security and ecological policy, services for environment monitoring systems, ecological services for industries and local authorities, services for treatment facilities, chemical-analytical laboratories, farms, facilities of systems of protected natural areas of different levels and administration and environmental management; facilities of environmental security of manufacturing plants; scientific and research companies; educational organizations carrying out educational activity; mass media; social organizations and funds; foreign companies representatives.</p> <p>Upon completion of the education the graduates are employed in companies, facilities and institutions of the Ministry of Science and Higher Education of the Russian Federation, the Ministry of Natural Resources and Ecology of the Russian Federation, different commercial and federal companies, such as “Yamalneftegaz”, “Lukoil”, “Lukoil – Western Syberia”, “VodokanalSPb”, the RF Emercom in Leningrad region, the Committee on the State Ecological Control in Leningrad region, “Gazprom engineering”, the Committee on environmental management, protection and security, Y. Samoilov Research Institute of Fertilizers and Insectofungicides, “Russian Federal</p>

	Research Institute of Fisheries and Oceanography named after L.S. Berg”, Transneft Baltic LLC, the Committee on natural resources of Leningrad region, Geolocation platform HERE Technologies, LiK LLC, Atomproekt, JSC, North-West Authority on hydrometeorology and Environmental Monitoring, the Department of the Authority on Environmental Management Control, Resource center, Non-profit organization “Round Table”, North-West Construction company, Arctic and Antarctic Research Institution, Agrophysical Scientific and Research Institution, LLC «ATOMPROEKT» and many others.
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<b>PART II</b>	<b>EP 35.03.08 Aquatic Bioresources and Aquaculture (profile “Aquatic Bioresources Management and Aquaculture”)</b>
Number of credits ECTS	240
Course length (number of terms), form of education	4 years (8 terms), full-time course; 5 years, correspondence course
Date of the beginning (winter term / summer term)	Full-time form: September 1 <sup>st</sup> / January 19 <sup>th</sup> (for first year students), September 1 <sup>st</sup> / February 2 <sup>th</sup> (for second, third, fourth year students) Correspondence form: October 1 <sup>st</sup>
date of the EP introduction	2015
latest accreditation (date, valid to, accreditation agency)	26.12.2018, valid to 26.12.2024 (6 years), Federal Education and Science Supervision Agency (Rosobrnadzor)
Admission requirements	general secondary education
Further education opportunities (after graduation)	Master's Degree programs at RSHU
EP aim and objectives	<p>The educational program aims at development of students’ personal qualities, formation of general cultural (universal) and professional competences in accordance with the requirements of FSES of HE for educational programs in the sphere of aquatic biological resources and aquaculture.</p> <p>The core of bachelor's professional training is theoretical knowledge in ichthyology, fish's anatomy and physiology, genetics, histology and embryology, zoology of invertebrates and vertebrate hydrobionts, general biology, as well as practical knowledge and skills in rational use, protection and reproduction of aquatic biological resources of the Russian Federation, methods of artificial cultivation of hydrobionts, methods for the study of the ecological status and fish stocks of water bodies as a habitat for aquatic biological resources, ensuring operation of fish-growing enterprises and ensuring ecological safety of hydrobiont products. The ultimate goal of bachelor's education within the framework of this EP is to enable the graduates to perform professional activities, to develop personal and behavioral skills that meet community expectations. The achievement of the ultimate goal appears to be not only acquisition of comprehensive knowledge, abilities, skills, cultural experience, but also it should be the development of holistic and critical thinking that suggests the correct perception of the main spiritual values and understanding of need of personal participation in the solution of a difficult task to achieve balance and harmony in personal life and society's economic activity for preservation of life on Earth.</p> <p>On completing of educational program 35.03.08 "Aquatic Bioresources and Aquaculture" graduates are prepared to solve the following professional tasks: <i>production and technical activities:</i> participation in the assessment of ecological condition and fishery value of natural and artificial water bodies; application of methods and technologies for artificial reproduction and cultivation of hydrobionts, the control of</p>

	<p>infectious and invasion diseases of hydrobionts; operation of technological equipment in aquaculture; ensuring ecological safety of fisheries, hydrobionts, processes, objects and products of aquaculture, quality management of cultivated organisms; supervision of fisheries management, protection of aquatic biological resources;</p> <p><i>organizational and management activities:</i> participation in the preparation of technical documentation (work schedules, instructions, plans, budgets, requests for materials, equipment), as well as established reporting on approved forms; technological process management at the enterprise; the organization of small teams' work; development of operational work plans of primary production units; environmental management of the enterprise;</p> <p><i>project development activities:</i> participation in the development of biological feasibility of fish plant projects; participation in design and exploration works for engineering of fishing enterprises.</p>
<p>EP short description</p>	<p>The peculiarity of the educational program is that it is realized in accordance with the RHMU's mission concerning the Russian Arctic, strategic priorities of its development, including the priority of rational use, protection and reproduction of water biological resources of the European North of the Russian Federation, Siberia and the Far East. EP is sets of documents developed and approved by the RSHU Academic Council in line with the requirements of the labor market and on the basis of FSES of HE for 35.03.08 Aquatic Bioresources and Aquaculture.</p> <p>Educational program is a set of main characteristics of education (volume, content, planned results), organizational and pedagogical conditions, forms of certification. It includes the curriculum, academic schedule, subject syllabi, and apprenticeship programs, including research work, final state certification, evaluation and methodological materials, which ensure the proper standard of education.</p> <p>EP specifies: EP aims and objectives; length of the course of education; the level of higher education; professional activities the graduates are prepared for; planned results of EP, etc. The program is delivered in the Russian language.</p> <p>The content of the EP complies with the legislation of the Russian Federation and meets modern education standards. Characteristics of qualification level and educational program profile are properly presented in educational programs in sufficient details.</p> <p>The curriculum consists of the main (compulsory) part and the concentration (profile) part. The concentration (profile) part gives the opportunity to expand and advance the knowledge, abilities, skills and competences provided within the content of the compulsory disciplines, allows the students to gain profound knowledge, skills and competences for successful professional activity and (or) training at Master's courses.</p> <p>The EP curriculum reveals the essence of current issues in the area of Aquatic Bioresources Management and Aquaculture.</p> <p>The EP curriculum forms the whole necessary list of general cultural, general professional and professional competences. Active and interactive forms of teaching are used in the educational process. Methodological materials have been developed to support the realization of the EP. The programs are delivered by a professionally experienced faculty. The syllabi and apprenticeship programs are of high quality and are methodologically supported, which ensures sufficient standard of education. The content of the subject syllabi corresponds to competence-oriented curriculum.</p> <p>Methodological support of the assessment system of the EP acquisition is represented by the assessment tools (for current monitoring, interim assessment and final certification), which allow to assess the degree of formation of students' competences throughout the educational program realization period.</p>
<p>Training results</p>	<p><i>General cultural competences:</i></p> <p>to be able to use the foundations of philosophical knowledge to form a worldview; to be able to analyze the main stages and patterns of the historical development of society for the formation of a civic position; to be able to use the basics of economic knowledge in various spheres of life; to be able to use legal knowledge in various areas of life; to be able to communicate orally and in writing in Russian and foreign languages in order to solve problems of interpersonal and intercultural interaction; to be able to work in a team, to be tolerant to social, ethnic, religious and</p>

	<p>cultural differences; to be capable of self-organization and self-education; to be able to use physical fitness methods and tools to ensure full social and professional activity; to be able to use initial care techniques, emergency protection techniques;</p> <p><i>General professional competences:</i> to be able to use professional knowledge in the spheres of ichthyology, aquaculture, environmental protection, fisheries monitoring and expertise; to be ready for organizational and management work with small teams; to be able to provide efficient use of materials, equipment; to possess knowledge of documentation in the field of fisheries observations, experimental and production works; to be able to use basic economic knowledge in fisheries; to be able to understand, present and critically analyze basic fisheries information; to be able to use basic laws of natural science disciplines and mathematical apparatus in professional activity, to apply methods of theoretical and experimental research; to be able to meet the standard problems of professional activity on the basis of information and bibliographic culture using information and communication technologies.</p> <p><i>Professional competencies</i> corresponding to applied Bachelor's Degree program: <i>Industrial and technological activity:</i> To be capable to assess fisheries value and ecological condition of natural and artificial reservoirs; to be capable to assess the condition of population of fishing stocks and other hydrobionts, and water biotic community, to participate in development of biological argument of optimum parameters of fisheries, general and reasonable catch, yield prospects, fishing regulations, fisheries monitoring; to be capable to perform fisheries monitoring and secure water bioresources; to be capable to implement methods and technologies of artificial reproduction and cultivation of hydrobionts, fight against infectious and invasive diseases of hydrobionts; to be ready to maintain technological equipment in aquaculture; to be capable to participate in providing ecological safety of fishing reservoirs, processes and production of aquaculture, managing quality of cultivated products;</p> <p><i>Organizational and management activity:</i> to be capable to arrange technological processes in aquaculture; to be capable to participate in scientific and research field operations, experiments, water bioresources protection, cultivation processes in fisheries;</p> <p><i>Project activity:</i> To be ready to develop biological argumentation of fishing, spawn cultivation and production farms; to be ready to participate in performance of project and research operations using modern equipment.</p>
Specialization (profile)	Aquatic Bioresources Management and Aquaculture
Additional features	none
number of accepted students	2019: Full-time education – 46, correspondence form – 36. 2018: Full-time education – 43, correspondence form – 19. 2016: Full-time education – 8.
Tuition fees	Full-time education: 808 000,00 rub. – for Russian Federation citizens, 832 000,00 rub. – for foreigners correspondence form: 274 500,00 rub. – for Russian Federation citizens
Opportunities for employment, possible career paths	Area of professional activity of the graduates who have completed the program includes: area of science and technology dealing with reasonable utilizing and security of water bio resources including the area of their habitat, artificial cultivation and production of hydrobionts, provision of ecological security of fishing and aquaculture production, including: assessment of fisheries value and ecological condition of natural and artificial reservoirs; assessment of the condition of population of fishing stocks and other hydrobionts; peculiarities of functioning of water ecosystems and biological productivity of reservoirs; artificial reproduction and cultivation of fish, fodder and nutritional invertebrate, weeds; fisheries design; provision of ecological safety of fisheries, hydrobionts, processes, objects and production of aquaculture, cultivated objects quality

	<p>control; organization of operation of enterprises and companies of fishing industry; fisheries and ecological monitoring of anthropogenic impact to water bioresources, fishing reservoirs; fisheries and ecological expertise; fishing control; water bioresources security; ecological and fisheries legislation.</p> <p>Upon completion of the education the graduates are employed in companies, facilities and institutions of Glavrybvod, Federal Agency of Fishing and All-Russian Research Institution of Fishery and Oceanography (VNIRO); different industrial fisheries cultivating valuable fish species: sturgeon, salmon, carp etc.; maritime enterprises using bays and gulfs as well as fresh water fisheries using ponds, lakes, closed water circulation reservoirs; fisheries specializing in cultivating for the purpose of amateur and sport fishing; engineering companies dealing with design and construction of fisheries including closed water circulation reservoirs; fisheries security in specially protected areas; Zoo, dolphinariums, oceanariums. The Russian Arctic development is of particular interest; participation of students in Arctic expeditions and employment to fisheries situated beyond the Arctic Circle is also possible.</p>
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## 1. Strategic Objectives of RSHU development

The strategic objective of the University is formation of progressive scientific and educational, analytic, consulting and engineering center of the international level in the sphere of environmental science that would become one of the leading world Universities in terms of level of expertise and quality of development products. This will make considerable practical contribution to innovative development and global competitiveness of Russia.

To achieve the set objective it is necessary to solve a number of tasks:

- goal-oriented training of highly qualified graduates who are competent in providing safety of life and finding solutions to environmental problems;
- carrying out fundamental and applied scientific research, developing knowledge and technologies competitive world-wide;
- organization of university-based center of environmental protection as a component of innovative economy of Russia;
- participation of the University in building up a new technological platform on the territory of Russia as well as in technological modernization of environmental protection component of economy of Russia and the region;
- improving the mechanisms of quality assessment and competitiveness of RSHU's educational services via socio-professional accreditation;
- increasing financial stability of the University.

## 2. Departments that Implement Educational Programs Submitted for International Accreditation

**The Department of Oceanology** (<http://ocean.rshu.ru/ocean.html>) realizes the EP **05.03.05 Applied Hydrometeorology** (profile "Applied Oceanology")

The department is a structural unit of The Institute of Hydrology and Oceanology (<http://dovus.rshu.ru/content/priemkom/facultet/gidro>, <http://ocean.rshu.ru/oof.html>), which implements the educational programs of hydrometeorological field of study. The structure of the Institute includes the Directorate and the four departments: the Department of Engineering Hydrology, the Department of Water-Technical Research, the Department of Applied Oceanography UNESCO-IOC and Complex Management of Coastal Areas, the Department of Oceanology. In order to implement practical and laboratory assignments at the departments of the Institute there are training laboratories. The Department of Engineering Hydrology has a training laboratory of hydrological calculations and a training office of hydrological forecasts. The Department of Water-Technical Research has a training laboratory of geo filtering and geodesics, a training laboratory of geometrics and a training laboratory of water research. The Department of Oceanology has a training laboratory of modeling hydrological processes, intradepartmental training and research laboratory of measuring oceanology facilities. The Department of Applied Oceanography IOC-UNESCO and Complex

Management of Coastal Areas has a training office of maritime forecasts. The high quality level of education in the Institute is also provided by the specialized department established in 2018 in association with the Marine Hydrophysical Institution of the Russian Academy of Science.

Currently, Sergey Vasil'evich Lukianov, Associate Professor, Candidate of Physical and Mathematical Sciences heads the Department.

The Department of Oceanology was established in June 1930 at Moscow Hydrometeorological Institute (MGMI) – the world's first University to hold training of hydrometeorological engineers.

Special educational laboratories were created within the Department: Ice-Thermal, Physics of the Ocean, Experimental Oceanologic Measurements of Underwater Exploration. For carrying out educational and industrial practices, as well as for making expeditionary researches the Department used training and expeditionary ships "Nereus", "Professor Sergey Dorofeev" and two sailing catamarans belonging to RSHU.

After the reorganization of Oceanologic Faculty in 2002, Doctor of Physical and Mathematical Sciences, Professor (2003) Valeriy Anatolyevich Tsarev was elected the Head of the Department of Oceanology.

### **Research work and international activity**

The traditional direction of the department's scientific work is the study of the upper quasi-single layer formation; tides in the margin seas; seasonal processes of ice sheet evolution in offshore seas; advection of deep and near-bottom waters, processes of deep waters formation in the area of deep-water cavities, mathematical modeling of hydrological and ice processes. According to the results of the works, more than 20 candidate and 2 doctoral theses were defended, more than 200 articles and 5 monographs were published, and teachers of the department wrote textbooks and teaching manuals.

The important area of scientific work of the Department was also the research in the field of technical oceanology, headed by Professor, Doctor of Physical and Mathematical Sciences I.A. Stepanyuk, such as marine biophysics and marine technologies, information and measurement systems in hydrometeorology. As part of the investigating the influence of cosmogeophysical factors on marine hydrobionts, studies were carried out on the characteristics of low-frequency electromagnetic oscillations on the behavioral activity of mussels, fish and crustaceans. During the research, unique methods of recording behavioral activity of aquatic species were developed. The results of the studies are reflected in 4 monographs and 50 articles. The results also represented in 5 candidate's theses and a large number of master's theses and graduation projects.

The department has developed new directions in the field of methods of studying the world ocean. One of the directions was satellite oceanography. Thanks to the efforts of V.I. Sychev, Associate Professor of the Department, to promote satellite research and mathematical modeling methods, in 2007 the Department of Remote Sensing and Modeling in Oceanography of UNESCO, headed by V.I. Sychev, was established.

Stages of oceanology development in the USSR and Russia are described in the monograph of Assistant Professor V.P. Korovin "History of Oceanographic Research" (2000), as well as in the book of A.I. Ugryumov, V.P. Korovin "On the Ice to the North Pole (History of Polar Drifting Stations)" 2004. – 126 pages.

Students of the department are actively involved in scientific work, participate in competitions for young scientists organized by scientific foundations, specialized scientific organizations in St. Petersburg, the Government of St. Petersburg, the scholarship fund of the President of the Russian Federation. Students practice in such organizations as the Research Institute of the Arctic and Antarctica, Institutes of the Russian Academy of Sciences (St. Petersburg and Atlantic branches of the Institute of Oceanology named after P.P. Shirshova RAS, Marine Hydrophysical Institute of the Russian Academy of Sciences), participate in marine expeditions of the IMF of the Russian Federation and others hydrographic service.

The highly skilled academic staff having degrees of doctors and candidates of science carries out training of specialists in the field of theoretical and applied oceanologic studies.

### **The Department of Applied and Systems Ecology realizes EP 05.03.06 Ecology and Environmental Management (profile “Ecological Problems of Big Cities, Industrial Zones and Polar Regions”)**

The department is a structural unit of Ecological Faculty (<http://dovus.rshu.ru/content/priemkom/facultet/eco>).

Ecological Faculty Includes the Dean's office, the Department of Applied and System Ecology, the Department of Geoecology, Environmental Management and Ecological Security, the Department of Aquatic Bioresources, Aquaculture and Hydrochemistry. In order to perform scientific work with the students as well as practical training on the faculty there are the training office of ecological monitoring, the training laboratory of ecology, the training laboratory of general biology, zoology and hydrobiology, the training laboratory of

ecological security and environmental monitoring, the training laboratory of environmental chemistry and training scientific station in Valaam Island, enabling students to have practice in the field.

The head of the Department of Applied and Systems Ecology is Alekseev Denis Konstantinovich, PhD in Geographical sciences, Associate Professor .

The history of the department begins in 1994 when Ecology Faculty at RSHU was founded and ecological education at RSHU began.

Nowadays the main objectives of the department are:

- conducting educational activity in the field of applied ecology, monitoring of the environment, environmental assessment and design, mathematical modeling, the geo-informational technologies in ecology and environmental management,
- conducting research studies in the field of protection and quality of the environment,
- performing research work of masters on two programs "Environmental Problems of Big Cities and Industrial Zones" and "Management of Ecosystems", and also providing apprenticeship for bachelors and masters in the field of "Ecology and Environmental Management".

#### **Research and international activities**

The general subject of scientific research of the Department was the study of variability of biotic and abiotic components of aquatic and terrestrial ecosystems under the influence of natural and anthropogenic factors. In 1999, the department of Applied Ecology organized and held the all-Russian scientific conference "Environmental and Meteorological Problems of Big Cities and Industrial Zones". At the beginning of the new century, a number of major international projects were implemented. In 2004-2005 Russian-Finnish cooperation was carried out in preparation of ecological justification of dredging and sanitary cleaning of Ohtin reservoir. This work was carried out jointly with the Committee on Environmental Management, Environmental Protection and Environmental Safety.

In 2006-2008, the staff of the Department of Applied and Systems Ecology implemented the project "Scientific and methodical ensuring of scientific and educational cooperation with the National Autonomous University of Mexico on the subject "Environmental and Hydrometeorological Problems of Big Cities and Industrial Zones and Quality Management of the Urban Environment" in which geographers and hydrologists of St. Petersburg State University took part. A result of works on cooperation with the universities of Mexico was the publication of 6 volumes of the monograph "Ecology and Hydrometeorology of Big Cities and Industrial Zones [Russia-Mexico]" released by RSHU in 2009-2011 in the Russian and English languages, and the beginning of implementation of the master program "Environmental Problems of Big Cities and Industrial Zones".

In 2012, the VI International Conference entitled "Environmental Problems of Large Cities and Industrial Zones" finished successfully, it has been held regularly since 1999 on the basis of the Russian State Hydrometeorological University.

Consecutive extension was carrying out on April 11, 2017 in RSHU by the staff of Department of Applied and System Ecology of the I all-Russian Youth Scientific and Practical Conference with the international participation "Environmental and hydrometeorological problems of big cities and industrial zones", "Ekogidromet — the new horizons of 2017". The main idea of this youth conference consisted in creation of the platform for exchange of experience in the area of solving modern environmental problems between students, graduates, young erudite specialists aged up to 35 years old.

In 2018, the School of Young Scientists "Ecogidromet - New Horizons 2019" was successfully held within the framework of the all-Russian Scientific and Practical Conference "Modern Problems of Hydrometeorology and Sustainable Development of the Russian Federation."

At the Department of Applied and System Ecology the great value was always attached to the field educational apprenticeship s on the basis of implementing a modern approach "training through a research". Field practices for students-ecologists began in the late nineties of the last century.

Since 1997, the educational and production practice for students of bachelor and master 's courses of the Ecological Faculty has been carried out on the river Ohta and Ohtin reservoir. Over 20 years, a range of relevant scientific, theoretical and practical tasks and directions, jointly solved by the academic staff and students, has been formed.

As part of the practice, students carry out a comprehensive study of water bodies - the Ohta River, its tributaries and the Ohtin Reservoir, which are under conditions of high anthropogenic impact. A network of environmental monitoring points on water bodies has been established. The results of these works were the basis of more than 100 scientific publications.

Important separate division in the structure of ecology faculty, which has been carrying out the work since the late 90s in close interaction with the department of Applied and System Ecology, is the Educational



and scientific station "Valaam" (USC "Valaam" of RSHU).

The location of the Station on the cape Red of Valaam Island, on the bank of Ladoga Lake, allows to investigate both a coastal zone of Ladoga, and land ecosystems and internal lakes of the Valaam archipelago.

In 2010, the summer school "Freshwater Ecosystems in Natural and Anthropogenic Conditions" was organized and hosted with financial support of the Ministry of Education and Science of the Russian Federation within the FCP "Scientific, research and educational personnel of the innovative Russia" for 2009-2013.

In 2015 - 2016, studies were carried out on the basis of the USC "Valaam" on the grant of the Russian Geographical Society "Ecosystems of the Valaam Archipelago (Ladoga Lake) at the turn of the 20 and 21 centuries: features of uniqueness and modern state". One of the results of the project was the creation of an illustrated Atlas, which includes both new materials obtained during the work on the project and data from many years of research of the Valaam Archipelago on the basis of the RSHMU Training and Scientific Station on Valaam Island.

At present, Valaam Station provides the apprenticeships for students of natural science departments of the University and scientific research of the Valaam Archipelago, Lake Ladoga and northern Preladoga with the participation of students and postgraduates.

Students of biological and geographical faculties of SPbSU, students of South Czech University (Czech Budeevica, Czech Republic) and University of Nicholas Copernicus (Torun, Poland), Yerevan State University (Faculty of Geography and Geology, Department of Physical Geography) and the University of Helsinki took part in the University's apprenticeship.

During the period from 2016 to 2018, the Department implemented the project "Integral Assessment of Sustainability and Ecological Well-being of Aquatic Ecosystems" within the framework of the grant of the Russian Foundation for Fundamental Researchers, the head of the grant was Associate Professor N.V. Zueva. The result of the department's work on the declared topics at field polygons was the implementation of a new master's program "Ecosystem Management" in 2019, under Associate Professor N.V. Zueva's supervision.

Currently, the staff of the department takes part in the international project "Sustainable Environmental Management in Arctic and Highland Areas" (SUNRAISE).

Within the work of the department the employees defended two doctoral theses: V.V. Dmitriev "Ecological-geographical assessment of the state of internal water bodies" (2002), E.S. Andreeva "Concept of probability-geographical forecasting of weather hazards of southern Russia" (2008); and 5 candidate theses: D. Alexeev "Assessment of the ecological state of the shelf zone of Arctic Seas of Russia" (2006): On the example of Leningrad Region"(2007), E.V. Kolesnikov "Development of Theory and Methods of Assessment of River Water Pollution" (2008), E.A. Primak "Integral Assessment of Stability and Ecological Well-Being of Water Bodies" (2009), E.S. Urusova "Assessment of Nutrient Runoff Taking into Account the Peculiarities of Hydro" (2010). 17 candidate's (PhD equivalent) theses have been defended since the creation of the department under the guidance of the employees.

### **The Department of Aquatic Bioresources, Aquaculture and Hydrochemistry realizes EP 35.03.08 Aquatic Bioresources and Aquaculture (profile "Aquatic Bioresources Management and Aquaculture")**

The department is a structural unit of Ecological Faculty (<http://dovus.rshu.ru/content/priemkom/facultet/eco>).

Head of the department is Korol'kova Svetlana Vital'evna, PhD in Technical sciences, who has been in this position since the department was established.

The Department was founded in 2014 at State Polar Academy, at the Faculty of Ecology and Nature Management for implementing the EP 35.03.08 "Aquatic Bioresources and Aquaculture" for bachelor students.

In December 2015, after the integration of the State Polar Academy with Russian State Hydrometeorological University, the department, retaining its name "Department of Aquatic Bioresources and Aquaculture" and the training direction, became part of the Environmental Faculty of the RSHMU. Since 2017, the name of the Department has been the department of Aquatic Biological Resources, Aquaculture and Hydrochemistry.

*The mission of the department* is to train highly qualified specialists in the field of fisheries, ready to solve two important national economic tasks in the Russian Federation:

- saving and reproduction of valuable trade types of hydrobionts, including fishes;
- solving the problem of import substitution and saturation of the market of food products qualitative fresh fish and products from hydrobionts through development of a commodity aquaculture.

The intellectual potential of the department allows to create a complex of the professional competences necessary at graduates carrying out basic and application studies in the field of ichthyology and

an aquaculture. The department has modern laboratories of ichthyology, microbiology and methods of fishery researches and the general biology, zoology and hydrobiology which are its structural divisions. The staff of the department teaches subject matters of chemical and hydrochemical orientation in laboratory of chemistry of environments.

#### **Educational and methodical activity of the department**

As a regional component of training, the department provides special educational disciplines of regional importance and close to the conditions of the North and North-West of the Russian Federation – problems of salmon and whitefish reproduction (sturgeon fish, in case of selection by students), Water biological resources of the Gulf of Finland of the Baltic Sea and freshwater water bodies of the North-West of the Russian Federation (In case of choice - Barents and White Sea WBR), Peculiarities of fisheries management activities in the North of the Russian Federation (Natural resources of the North of the Russian Federation).

#### **Scientific research work**

The department carries out SRW on proactive topics of faculty: "Prospects of Aquaculture Development in the North and North-West Region of the Russian Federation," Fodder and Fodder Additives for Fish Cultivation, "Assessment of the Modern State of Freshwater Ecosystems of Russia in Conditions of Climate Change and Anthropogenic Impacts," Ecological State of Small Water Bodies of St. Petersburg and the Coast of the Gulf of Finland "- all topics.

The Department is planning to develop new directions of SRW taking into account the expansion of the list of developed programs of scientific research related to the impact of pollution of natural and artificial habitat of hydrobionts on their condition, development of the feed base of hydrobionts, especially in the North-West region of the Russian Federation, introduction of new fish species into aquaculture in the North-West region of the Russian Federation, ichthyopatoresearch with students participation.

Within the department functions the Student Science Society, consisting of talented and active students and teachers (as leaders). Organizations are involved as partners, including State Scientific Institute of Defending Fisheries, Zoological Institute of RAS, Institute of Evolutionary Physiology of RAS, Institute of Lake Science of RAS, Federal Breeding and Genetic Center of Fisheries, North-West Branch of Glavrybvoda, North-West Territorial Department of Federal Fisheries Agency, fisheries farms of St. Petersburg and Leningrad region, such as LLC "Akva Interio", LLC "Forwat" to lead students' research activities.

The results of scientific research are published in scientific journals and collections peer-reviewed by RSCI (RINTS), including "Scientific Notes of the WGGMU," Fishing Farm", etc.

As part of the scientific activity of students, the department organizes and participates in the annual Inter-University Scientific and Practical Conference of Students and Young Scientists "Issues of Aquaculture Development". In 2017, the Department organized the first Inter-University Conference, in 2018 and 2019 took part in the 2nd and 3rd Inter-University Conference at SPB State Agrarian University and SPB Marine Fishing. In 2017, the department organized a scientific conference of students and young scientists within the framework of the festival "Morfest-2017". Every year students study in the direction of preparation 35.03.08 "Water Biological Resources and Aquaculture" under the direction of teachers of the department participate in the decade of science of RSHU.

The Department maintains the relations with the partner organizations: State Scientific Institute of Defending Fisheries, Zoological Institute, Institute of Evolutionary Physiology of RAS, Institute of Lake Research of RAS, the Federal Selection and Genetic Center of Fish Breeding, fisheries of St. Petersburg and the Leningrad Region in the sphere:

- creating additional vocational training courses;
- sharing the logistics base;
- involving specialists in all areas of training;
- involving of specialists to guide students 'training and work apprenticeship s;
- attracting specialists for the management of students' research works;
- organizing joint scientific conferences, symposia, including young scientists.

The department develops relations with the schools and colleges of a similar field of study to organize pre-university training for future students. There is a preliminary arrangement with several schools for in-depth study of science cycle subjects, Marine Fishing College and Admiral D.N. Senyavin Marine College.

As part of the development of international relations, the SPA has been cooperating since 2011 with NAC - Network of Aquaculture Centres of Central Eastern Europe (NACCEE). The Department took part in many events of NAC– annual congresses (S.V. Korolkova is a member of the Technical Advisory Council of NASI), publishing educational and methodological literature, articles, etc. Of particular interest in cooperation with NAC there are two projects in which the department participates.

1) International scientific conferences of young scientists of NASI. The WGGMU (GPA) hosted three NASI International Conferences (in 2011, 2014, 2016), each involving young scientists (master 's, postgraduate, young doctoral students) from 7 countries in Europe. It is planned to organize the next conference in 2019.

2) European TAPAS project.

In addition, the Department participates in the Nordic countries international project -INTERREG (project on more complete use of aquaculture products in the Nordic countries).

Also within the framework of international activity, the department recommends and provides assistance to students of the direction 35.03.08 "Aquatic Bioresources and Aquaculture," which showed good and excellent results, in training at the International Summer School for Fish Farming in Vodnyana, South Czech University, Czech Republic. It is planned to expand international contacts of the department with specialized foreign universities and fisheries.

### **3. Legal and Institutional Framework of RSHU activity**

The departments management is carried out in full compliance with the Russian Federation legislation, normative documents issued by the Ministry of Education and Science of Russia, the Charter of the University, local normative acts of RSHU.

### **4. Interaction of RSHU with Educational, Research, Professional Organizations on Local, Regional and National Levels**

RSHU cooperates closely with educational, research, professional organizations on local, regional and national levels; the activity of these organizations is connected with the field of study implemented in the University: territorial Authorities and observatories of Roshydromet, conservation areas and landscape parks of St.-Petersburg suburbs and other cities. At the University the specialized departments are arranged on the basis of the organizations operating on the profile of educational programs implemented: Arctic and Antarctic Scientific and Research Institution, "Mashtab" Scientific and Research Institution, "SPIIRAN" Scientific and Technical Bureau of High Technologies, "OCEANPRIBOR" Concern, "Marine Hydro physical Institution of Russian Academy of Science", National Research Center "Kurchatov Institute".

The University negotiates on targeted admission program with the organizations, and this allows performing targeted training and subsequent employment of the graduates in accordance with their field of studies. The "Day of Career" is held annually, during the event students meet potential employers. The representatives of the employers are involved in providing assignments and issuing personal work placement papers to the current-year graduates. More than 100 contracts and agreements on the RSHU graduates employment were signed.

The most important strategic partner of the University in Russia is the Federal Service for Hydrometeorology and Environment Monitoring of the Russian Federation (Roshydromet). RSHU provides training of more than 80 % of all the specialists of hydrometeorological specialization. Such interaction is accomplished by means of signing contracts and agreements with the territorial Authorities of Roshydromet. In the framework of these contracts, mutual responsibilities on career guidance, training and re-training of the personnel including arrangement of practice and apprenticeship s exist.

RSHU strategic partners are the Ministry of Emergency Situations, the Ministry of Natural Resources. RSHU cooperates with them on different spheres of activities including the training of specialists, skill development, carrying out scientific research in the sphere of urban interest. Training reserve officers for hydrometeorological provision of various branches of military has been held by the university since its very establishment that allows effective cooperation with the Ministry of Defense of the Russian Federation.

### **5. International Activity of RSHU**

RSHU is the member of the Magna Charta Universitatum which proves the compliance of the University with the international standards of education and offers the prospects of cooperation with foreign partners on the number of directions of internationalization of higher education.

The training department for foreign students has been operating since 1990 based on the Institute of International Education at RSHU. For the years of its functioning more than 19 000 students from more than 60 countries of the world have graduated from this department. Currently more than 700 foreign students from more than 45 countries study in the University in bachelors, masters and postgraduate programs.

Since 1971 the RSHU has been conducting the work on providing the Russian Federation (ex. Soviet Union) participation in the Voluntary Cooperation Program of the World Meteorological Organization (WMO)

– special agency of the United Nations Organization.

In accordance with the Agreement between the Government of the Russian Federation and the World Meteorological Organization of January 25, 1995 and upon order No. 30/508 of the Federal service for Hydrometeorology and Environmental Monitoring and the State Committee for Higher Education of the Russian Federation of 24 March 1995, the WMO Regional Training Centre in the Russian Federation (WMO RTC) was established. As a component of the WMO RTC, the RSHU provides professional training in meteorology and hydrology to WMO members; develops educational programs to meet educational standards that meet the necessary international training requirements for WMO member countries and implements long-term and short-term training programs in meteorology and hydrology. The WMO special program for education and training provides competitive scholarships for students from the least developed countries, and the Government of the Russian Federation provides (budget-funded) places for foreign students to study in various training programs in WMO member countries, thus making an annual contribution to the development of hydrometeorological education in the world within the framework of WMO activities.

RSHU is a part of the UNESCO University network (UNITWIN), which unites universities of Portugal (Aveiro), Spain (Cadiz), Latvia (Riga), Italy (Bologna), Russia (RSHU) (<http://www.unesco.ru/ru/?module=news&action=theme&id=90>).

In the 2000s, the University became an active participant of the European academic mobility programs "Erasmus Plus" and "Eranet Mundus". In 2007, the Moscow office of the Tempus program recognized RSHU as the best in the implementation of European academic mobility programs. Today RSHU takes part in the following European academic mobility programs: "Erasmus plus" (University of Poitiers (France), University of Cadiz (Spain) and University of Jena (Germany)); "Direct mobility" programs (University of Lodz (Poland)); North-to-North academic mobility program of the University of the Arctic (more than 100 participating universities from the Arctic and non-Arctic countries). Over 50 faculty members and students participate annually in scientific exchange programs.

The University is an initiator and participant of many international projects; it collaborates with more than 50 leading foreign Universities. In 2011, according to the decision of the Ministry of Education and Science of the Russian Federation, RSHU received a grant to conduct research work together with world's top scientists. The Scientific Director of the project (laboratory of Satellite Oceanography) was a world-renowned scientist Dr. Bertrand Shapron from the Research and Development Institute for the Study and Exploitation of Marine Resources IFREMER. RSHU actively cooperates with national hydrometeorological services and leading research institutes of different countries specializing in carrying out researches in the field of Earth science. Today the University implements international research projects with research institutions of Vietnam, Finland, Germany, Slovakia, Sweden and France.

RSHU scientists participate in the joint projects initiated by the Government of the Russian Federation and the Government of the foreign partner countries. RSHU is a member of the Russian-Vietnamese friendship, UArctic (Canada, USA, Norway, Sweden, Finland, Denmark), is a member of the group of experts of the National Committee for the Promotion of Economic Cooperation with Latin America. Currently, there is close cooperation with research and educational institutions of China, France, Germany, Scandinavian countries, Latin America, BRICS countries, the Republic of Burundi.

## 2. COMPLIANCE WITH THE INTERNATIONAL STANDARDS OF ACCREDITATION

### ESG Part 1. Standard 1.1: Quality Assurance Policy

In its work on quality assurance, Federal State Educational Institution of Higher Education "Russian State Hydrometeorological University" follows the Policy and Strategic Objectives of RSHU in the field of quality assurance approved by the decision of the Academic Council of April 23, 2013 Resolution № 9. The quality assurance policy provides the basis for the development and analysis of the aims in the area of quality. The aims in the area of quality are to be complied with the quality assurance policy and commitment to permanent improvement of all processes defined at the University.

The quality provision manual is focused on the improvement of working conditions, training, and encouragement of a creative initiative of teachers, employees and students on improvement of educational process and scientific research. To assure that the Policy in the field of quality is being implemented, improved, the administration of the University systematically analyzes the results of internal audits, tenders and sociological monitoring. The main functional strategies that allow the University to reach the level of the quality management process approach of training the specialists are formulated in the quality assurance documents.

The quality assurance policy includes the University administration's obligations on the conformity of the QMS (Quality Management System) to the established requirements for permanent improvement and QMS effectiveness increase. The quality assurance policy provides sufficient conditions for development and analysis of the aims in area of quality. In order to introduce the realized policy to RSHU staff, students and all people concerned provides all the documents (the approved copy of the document) discussed by the staff were posted on the website of the University providing free access to them.

The Centre for education quality management and normative support (CEQMNS) was formed and is successfully functioning at the University. Main objectives of CEQMNS are as follows:

- carrying out University's policy in the field of quality of education, developing the proposals and implementing of the resolutions of the RSHU administration on education quality improvement and University competitiveness of the according to the requirements of modern community and participants of educational process;

- ensuring effective functioning of the education quality management system, timely planning, coordination of methodical support and performance monitoring conducted by all RSHU subdivisions in the field of ensuring education quality;

- organizing work on the education quality management system improvement according to current trends in the field of quality management;

- arranging and coordinating the work on creation, change, amendments making to the documents in the field of quality, development of the new and revision of the existing documents of the quality system of education;

- ensuring compliance of the quality system of the University to the requirements of RSNS (Russian State National Standards) ISO 9001 - 2011 Quality management system: rational organization and effective holding of all necessary actions with its education quality control, acceptance of the results of the adjusting and warning actions developed to improve quality of education process.

To ensure educational activity, University regulatory documents are developed according to the requirements of RSNS ISO 9001-2011. These documents are included into quality management system of a FSEI HE (Federal State Educational Institution of Higher Education) "RSHU" and are published on the website of RSHU.

Development of the university normative acts affecting the interests of external agents is carried out in regulations of the main departments, agreements on apprenticeship , rendering educational services' agreements (with individuals or organizations) in the framework of:

- regional meteorological training center of WMO (World Meteorological Organization);
- trainings according to the military training programs for reserve officers of military fields of study in the sphere of meteorology;

- accomplishment of the state targets for provision of public services (accomplishment of works) on implementation of educational programs of higher education (at all levels);

- delivering educational services of all forms and types.

Annually the institutes, schools and departments of the University develop and approve annual work plans in which the goals and tasks are set to be accomplished via the fulfillment of the mission, the strategic plan and the purposes on quality. The plans of work are adopted at meetings of the corresponding departments, councils of institutes and faculties, at meetings of the Academic council and Training and methodological council where the members are the heads of divisions, academic staff and students. The most experienced academic staff and active students are involved as members of working groups to organize work in various areas of activity.

Internal quality control of students' training is provided in accordance with the QMS-OND-23/18 Regulations on the Internal System of Independent Assessment of the Education Quality.

The University internal independent assessment of education quality has the three-tiered hierarchical structure and is carried out:

at the University level according to the plan of audit, testing, and questionnaire approved by the rector or the first vice-rector;

at the Institute/Faculty level, within the framework of an ongoing and systematic basis, on the basis of an educational quality assessment plan approved by the Director of the Institute/Dean of the Faculty;

at the Department level, to evaluate education quality on a continuous systematic basis according to the plan of actions approved by the Head of the Department.

The main methods of internal education quality assessment in RSHU include observation, testing, analysis and result processing, surveys in the form of questionnaires for students, employees, employers, or in the form of self-control, audit for compliance with the requirements of the law, audit of documentation prepared by educational units for the procedure of state accreditation, post-licensing control, establishment of an effective contract, etc.

For the last year and a half CEQMNS updated the University regulatory framework: new provisions, instructions, regulations and collections were accepted and approved – 85 units (49 units (57%) of them were revised and approved by the Academic Council of the University, 45 units are on educational activities); 4 provisions were correspondingly adjusted with the change of the regulatory framework of the Ministry of Education and Science of the Russian Federation; 76 units of job description were accepted and approved; the database of polls of students and teachers concerning education quality and provision was created in the University MOODLE system; besides, the diagnostic test system was created and approved. The results were discussed at the meetings of Training and Methodological Council of the University. Within the framework of effective contract indicators implementation, the analysis of faculty efficiency in 2017-2018 academic year was carried out. In 2019 RSHU received the status "The basic platform of the Federal Internet Examination for Bachelors (FIEB)".

Today, the policy of the University in the field of quality assessment corresponds to the University objectives, purposes and status, and includes the obligation to constantly improve the processes and QMS while taking into account the requirements and wishes of the stakeholders.

The areas demanding improvement. To update Policy in the field of education quality, "Quality Policy Manual" and passports of processes. To improve interactions with business community in the sphere of educational process improvement, while collaborating with the Joint Students' Council to improve education quality provision. Expand the experience of carrying out the internal independent education quality assessment while holding the Olympiads and competitions in various fields of educational.

One of the main factors in successful functioning of quality management system is systematic feedback that RSHU gets from internal and external consumers, partners and other categories of stakeholders. This allows to determine which areas need improvements and in which areas there are possibilities for growth and development.

Information about the educational programs and all University's achievements related to these programs is available at RSHU site and the public can have access to this information. Yet brochures, corporative newsletters and magazines, premium releases issued by RSHU as well as reference releases on educational institutions cover this information.

The procedure of involving RSHU administration, academic staff, students, alumni, representatives of the professional community in the process of EP aims and strategy formation is as follows. A Dean or Director issues an order to create a permanent or temporary working group, which develops a program draft project. The draft is disseminated to all structural units involved and it is subject to further consideration. All the suggestions concerning the project are considered by the working group and the decision is communicated to all parties. The Academic Council considers and approves the document, which is after that is placed at the faculty's Internet site. Each structural unit holds meetings to consider the document.

To take an example, temporary working groups were created to develop Program of strategic

development and faculties' competitiveness advance for the period 2018 – 2022 and in other cases. There are also a number of permanent working groups.

To gain opinions from the staff and students the following steps are taken annually.

1. Meetings with academic staff, students and postgraduate students are held.
2. There are polls, whose results are analyzed and taken into account to project corrections in the educational work and extra-class activities. For example, one of the polls for students and employers concerns EP content, forms of realization and curriculums.
3. RSHU Rector holds open meetings with students. All the issues raised by students are properly considered, all the questions are answered, measures are taken to improve educational process, research work and extra-class activities.

To study the opinions of the professional groups heads and leading specialists from appropriate enterprises and organizations are involved in EP development. They also take part in State Certification Commissions.

When realizing cluster educational programs federal and regional quality assurance requirements are met, which implies:

- formation of RSHU development program on the basis of Federal and Regional normative documents;
- adoption of internal regulations on various aspects of educational process on the basis of Federal and Regional normative documents (for example, QMS-OND-18/18 Regulations on the Final State Certification of the Student Trained in Higher Education Programs - Bachelor, Specialist, Master was developed in compliance with FSES HE, guidelines issued by associations for curriculum and methodology, and other documents);
- monitoring quality of education (ongoing control, mid-term assessment, final state certification, on-line testing);
- State accreditation.

A notable example of measures aiming at EP annual improvement of apprenticeship syllabi and topics for graduation thesis which involve formulating individual tasks to meet potential employers' expectations and requests from governmental bodies. All the listed measures allow RSHU to create innovative, competitive educational programs.

In order to efficiently manage EP there are special procedures that allow to make necessary amendments and improve EP. (QMS-PP 4.4/13 and QMS-PP 4.5/13). These procedures involve revealing and registration of drawbacks with their further analysis, correction planning, preventive actions, taking decision about the further realization or termination of EP)

Today, the policy of the University in the field of quality assessment corresponds to the University objectives, purposes and status, and includes the obligation to constantly improve the processes and QMS while taking into account the requirements and wishes of the stakeholders.

The areas demanding improvement. To update Policy in the field of education quality, "Quality Policy Manual" and passports of processes. To improve interactions with business community in the sphere of educational process improvement, while collaborating with the Joint Students' Council to improve education quality provision. Expand the experience of carrying out the internal independent education quality assessment while holding the Olympiads and competitions in various fields of educational subjects.

## **ESG Part 1. Standard 1.2: Program Development and Approval**

Educational programs implemented in RSHU are developed in accordance with the Federal State Educational Standards of Higher Education (FSES of HE).

The educational program has its focus (profile) characterizing on specific areas of knowledge and activities and defines its subject and thematic content, prevailing types of educational activities and requirements to the results of its implementation. The educational program is the set of documents being updated in accordance with the development of science, culture, economy, technology, and social sphere.

In accordance with the QMS-OND-27/17 Procedure of Implementation of Educational Activities for Higher Education Programs of FSBEI HE "RSHU" - Bachelor, Specialist, Master the developers of educational programs are the departments of Institutes/Faculties of the University, where these new educational programs are to be implemented. To develop the basic educational program, a working group is appointed from among the teachers of the producing Department whose work is coordinated by the head of

the educational program.

The head of the educational program in 05.03.05 Applied Hydrometeorology is V.A. Tsarev, Professor of the Department of Oceanology, Doctor of Physical and Mathematical Sciences.

The head of the educational program in 05.03.06 Ecology and Environment Management is D.K. Alekseev, the head of the Department of Applied and System Ecology, PhD (equivalent) in Geographical Sciences, Associate Professor.

The head of the educational program in 35.03.08 Aquatic Bioresources and Aquaculture is S.V. Korolkova, Associate Professor of the Department of Aquatic Bioresources, Aquaculture and Hydrochemistry, PhD.

The stages of educational program (EP) design:

the first step is to define the ultimate goals (competence-based design of a graduate) that must be achieved as a result of the EP implementation;

the second stage develops the curriculum, academic schedule curriculum, syllabi (modules), apprenticeship and research programs. The structure of the curriculum should meet the requirements of the FSES HE;

at the third stage, the assessment tools of the EP and the program of the state final certification (SFC) are to be developed;

at the fourth stage, the general requirements for EP implementation are formulated.

Stakeholders (teachers, employers) are directly involved in all stages of EP design.

The EP defines:

expected learning outcomes of educational program acquisition – competence-based design of a graduate while considering the requirements of the FSES HE;

planned subject (module) and apprenticeship acquisition, ensuring the achievement of expected learning outcomes of the educational programs.

While developing a design of a graduate, the opinion of employers and modern labor market needs are taken into account. As the result of educational program acquisition general cultural and professional competences must be formed.

Employees from among the administrators and professionals of organizations who have experience related to the area of studying (profile) are involved in the development and implementation of educational programs. All of these categories of participants have a higher education degree in the related specialty, possession of a PhD being preferred when involving an external participant, they have to have minimum 5 years of professional experience and scientific publications in the sphere related to the EP profile. As a rule organizations that are prepared to provide places for students's apprenticeship and even potentially employ RHSU graduates are chosen for collaboration in the process of EP development.

#### ***05.03.05 Applied Hydrometeorology***

- V.A. Ryabchenko, the head of the Laboratory of Modeling of Ocean Biogeochemical Cycles of the St. Petersburg Branch of P.P. Shirshova Institute of Oceanology of the Russian Academy of Sciences, Doctor of Physical and Mathematical Sciences;

- K.A. Klevanny, the leading engineer of Cardinal Soft, LLC, Doctor of Physical and Mathematical Sciences;

- V.V. Guzenko, director of AlfeusFit, LLC, PhD (equivalent) in Geographical Sciences.

#### ***05.03.06 Ecology and Environmental Management***

- S.E. Vitkovskaya, the leading researcher of the Federal State Budgetary Scientific Institution "Agrophysical Research Institute", PhD (equivalent) in Biology, Associate Professor;

- E.Yu. Voyakina, senior researcher at Saint-Petersburg Scientific-Research Centre for Ecological Safety, the Institution of Russian Academy of Science, PhD (equivalent) in Biology;

- E.A. Primak, deputy head of the Main Department of the Ministry of Emergency Situations of the Russian Federation in the Leningrad region, PhD (equivalent) in Geography;

- V.Yu. Tretyakov, senior researcher at the Arctic and Antarctic Research Institute, of the State Scientific Center of the Russian Federation, PhD (equivalent) in Geography.

#### ***35.03.08 Aquatic Bioresources and Aquaculture***

- A.P. Pedchenko, advisor to the first deputy director of the Russian Federal Research Institute Of Fisheries and Oceanography (VNIRO), senior researcher;

- N. V. Popov, advisor to the director of the North-Western Branch of the Federal State Budgetary Institution «The Main Basin Department for Fisheries and Conservation of Aquatic Biological Resources»



(FSBI «Glavrybvod»);

- chief specialist at "Aquainterio Company", LLC, PhD (equivalent) in Biology.

The volume of each educational program composes 240 credits, regardless of the form of education, technologies used, or the program implementation according to the individual curriculum. It is possible to study according to an individual curriculum.

The period of getting education according to the individual curriculum is not more than the period of education specified for the appropriate form of education. When individual curriculum is designed for the persons with disabilities may be increased by their desire, but for not more than 1 year if compared with the usual period for this form of training.

When implementing the EP, the content and organization of the educational process are regulated by the curriculum, academic schedule, syllabi (modules), apprenticeship programs, and state final certification, as well as by teaching materials.

General Academic Curriculum sets the sequence and duration of theoretical training, interim assessment and final state certification, as well as students' apprenticeship and vacation. Academic curriculum for each academic year is developed on the base of General Academic Curriculum taking into account the actual date of the beginning the academic year.

The curriculum contains a list of subjects (modules), apprenticeship, certification tests of the state final certification, other types of educational activities with the indication of their volume in credits, sequence and distribution through the training period. The curriculum highlights the study load of students in cooperation with a teacher (by the types of classes) and self-guided work of the students. For each subject (module) and apprenticeship a specified form of interim certification is provided.

The structure of the educational program includes mandatory (basic) and variable parts. The educational program consists of three blocks:

- Block 1 "Subjects (modules)", which includes the disciplines (modules) related to the basic part of the program, and disciplines (modules) related to its variable part;

- Block 2 "Apprenticeship", which fully refers to the variable part of the program;

- Block 3 "Final State Certification", which fully relates to the basic part of the program.

The subjects (modules) related to the basic part of the program are mandatory for the students' development of all profiles in the relevant field of studying. Within the framework of the basic part, such subjects (modules), as: philosophy, history, foreign language, life safety are mandatory implemented.

The subjects (modules) in Physical Education and Sport are implemented within the framework of:

- the basic part of Block 1 of the educational program with the number of hours not fewer than 72 academic hours (2 credits) in full-time education;

- elective subjects (modules) with the number of hours not fewer than 328 academic hours (required for mastering and are not translated in credits).

The subjects (modules) related to the variable part of the program and apprenticeship determine the focus (profile) of the EP.

Students are provided with the opportunity to study the elective subjects (modules), including special conditions for people with disabilities, with the amount of at least 30 percent of the volume of the variable part of Block 1 "Subjects (modules)": 05.03.05 Applied Hydrometeorology - 31.4%; 05.03.06 Ecology and Environmental Management - 30.3%; 35.03.08 Aquatic Bioresources and Aquaculture - 31.3%.

The curriculum (subjects and apprenticeship) for the educational programs under accreditation form the entire list of general cultural and professional competencies. Active and interactive forms of training are used for the EP implementation. Educational and methodological support, including teaching materials and assessment tools are designed to implement the EP.

In accordance with the requirements of the FSES of HE Block 2 "Apprenticeship" of the EP includes hand-on training, professional traineeship and pre-graduate apprenticeship. Hand-on training is the practice to obtain primary professional skills, including primary skills for research activities. Professional traineeship is the practice to obtain professional skills and work experience at the enterprises. Pre-graduate apprenticeship is compulsory and is carried out to perform the graduation qualification work.

Block 3 "Final State Certification" includes the defense of the graduation qualification work, including preparation for the defense procedure and the defense procedure itself.

Educational activities within educational programs are carried out in the form of:

contact hours in cooperation with the university academic staff and/or with the representatives of organizations whose activities are related to the field of studying and profile of the educational program;

self-guided work of students.

Contact hours can be held in the classroom, or carried out as extracurricular work, performed in the

electronic information and educational environment of the University. The share of contact work from the total study load for full-time training composes: 55.5% for 05.03.05 Applied Hydrometeorology; 51.3 % for 05.03.06 Ecology and Environmental management; 47.5% for 35.03.08 Aquatic Bioresources and Aquaculture. For studying by correspondence, the share of contact work for all areas of training is not less than 9.5%.

To assess the results of self-guided work of students there is an ongoing control procedure regulated under QMS-OND-32/18 Regulations on the Ongoing Monitoring of Academic Performance and Students Interim Assessment in Higher Education Programs - Bachelor, Specialist, Master. Forms, types, procedures, and methods of ongoing control and mid-term assessment, as well as assessment tools and criteria are developed by teachers and described in subject and apprenticeship syllabi and assessment tools funds.

Over the past five years in connection with the introduction of the FSES of HE and, in accordance with the Order of the Ministry of Education of Russia dated April 05, 2017 №.301 "On Approval of the Procedure of Organization and Implementation of Educational Activities of educational programs of higher education - Bachelor, Specialist, Master", university regulations governing the development and approval of educational programs were fully updated. Due to the introduction of updated FSES of HE all educational programs have been revised and re-approved.

In the area of curriculum development and approval, the ability to involve stakeholders more widely into the curriculum development stages needs improving. It is necessary to consider the possibility of inclusion mobility gaps for all students into the curriculum. At present only a small number of students are able to study at other universities.

Currently the educational programs under accreditation a not net programs and they are not included into double degree programs. RSHU is considering possibilities and perspectives of collaboration with leading Russian and foreign universities.

### **ESG Part 1. Standard 1.3: Student-Centered Learning and Performance Assessment**

Federal Law "On Education in the Russian Federation" No. 273-FL of 29.12.2012 defines education as "a purposeful process of tuition and training in the interests of a person, community and state." In accordance with the general goal of education, RSHU adopted the following education areas as the main ones: formation of professional competences, spiritual, moral, cultural and aesthetic spheres, as well as civil-patriotic, sports and health areas.

The realization of the goals and objectives of all educational programs of the University is imbued with respect and attention towards various groups of students, which is laid down in the mission of the University, which involves the education of highly qualified specialists and fully developed personalities.

The initial stage in student-centered learning, in our opinion, is conducting a number of orientation sessions for the freshmen, such as: a team building quest "Storming RSHU", questioning "I can, I am able to, I want to", the organization of interactive platforms for the Freshmen Fest, the presentation of the freshmen groups. As a result, the basic characteristics of groups and individual students are determined with regard to their level of training, social status, creativity, physical abilities, their expectations of studying at the University. In the future, the educational process, socio-economic and moral support for the students and the provision of flexible training paths are carried out on the basis of the obtained data, which are adjusted as the student develops.

Ensuring equal opportunities for all the students is achieved by the complete educational-methodological, organizational-methodical and informational support for the educational process. Gender equality applies to all students. There is equal accessibility to educatory activities

The content of subject syllabi and learning conditions for persons with disabilities are defined in compliance with individual programs of health rehabilitation (if available), for students with special needs educational programs are adapted if necessary.

Mechanisms of assessment of students' knowledge, skills and professional competences, including ones for persons with disabilities and special needs includes procedures of ongoing control, mid-term assessment and final state certification. It is regulated under QMS-OND-32/18 Regulations on the Ongoing Monitoring of Academic Performance and Students Interim Assessment in Higher Education Programs - Bachelor, Specialist, Master, QMS-OND-18/18 Regulations on Final State Certification of Students of Higher Education Educational Programs – Bachelor, Specialist, Master, and QMS-OND-14/18 Regulation Act on Final State Certification of Students of Higher Education Educational Programs – Bachelor, Master, Specialist Programs without State Accreditation (all educational programs at RSHU have been accredited).

Each student of international research and RSHU has the right to form an individual curriculum that determines their individual training path. The student's assistant in the selection of the training path is the mentor who, if necessary, gives advice on the choice of elective and optional subjects of the educational program for the students in accordance with QMS-OND41/16 Procedure of Mastering Elective and Optional Subjects (modules) mastering within implementation of the basic educational programs of higher education (with Amendments to Order № 475 of 19.07.2018). Students have the right to make offers on adjustment of the educational program regarding the subjects and syllabi. Students have the right to choose the place of taking their internship including pre-graduate internship and also can offer a theme for their final research - graduation qualifying work. There are possibilities for the students to have quick exchange of information with domestic and foreign educational institutions, enterprises and companies, access to the modern professional databases, information references and search engines which are available on the Internet according to the educational program.

In 2017, the system of internal testing of residual knowledge of students was launched using the electronic information and educational environment of the University. The results of internal testing are communicated to teachers and students at the meetings of the Teaching and Methodical Council, Councils of Institutes and Faculties, Joint of Students' Council. Test results in the past academic year (subject, group, result, turnout) are as follows:

*05.03.05 Applied Hydrometeorology*

Physics of Ocean, PO-B15-1(2)-5, 55%, 75%. General Oceanology, PO-B16-1(2)-5, 84.4%, 80%.

*05.03.06 Ecology and Environmental Management*

Soil Science and Ecology of Soils, E-B15-2-8, 66%, 81%. Biology, E-B16-1(2)-8, 79%, 76%. Geography, E-B16-3-8, 82%, 100%. Jurisprudence, E-B16-4(5)-8, 100%, 100%.

*35.03.08 Aquatic Bioresources and Aquaculture*

Genetics and Selection, ABR-B15-1, 79%, 64%. Hydrobiology, ABR-B15-1, 89%, 61%. Theory of evolution, ABR-B16-1, 86%, 100%.

In order to attract students to research activities, to participate in RSHU scientific investigation, Student Scientific Society (SSS) is arranged and working at the university. The work of SSS is aimed at increasing scientific activity and professional growth of students. SSS represents the interests of students in scientific (research) organizations and associations of various levels, provides them with the methodological and organizational support in the publication of research works' results. SSS operates on the basis of the Regulations on the student scientific society of RSHU. Over the past five years, the students of the University actively participated in research work:

*05.03.05 Applied Hydrometeorology*

participation at the international level – 27, all-Russian-31, regional-19; intra-University-4; the articles are indexed in Russian science citation index-20; publication in Supreme Certifying Commission's journals-6; receiving the Prize or Diploma of Winner-23.

*05.03.06 Ecology and Environmental Management*

participation at the international level – 8 students, all-Russian – 6, regional – 7; the articles are indexed in Russian science citation index – 2; receiving the Prize or Diploma of Winner – 3.

*35.03.08 Aquatic Bioresources and Aquaculture*

participation at the international level – 1, all-Russian – 3, regional – 20; intra-University – 2; publication in higher attestation commission's journals – 2; receiving the Prize or Diploma of the winner – 1.

The University supports the work of the Regional Meteorological Training Centre (MTC) of the World Meteorological Organization (WMO) in disseminating the Russian-translated version of the computer-based training modules in Meteorology, available on the WMO web-server, among hydrometeorological institutions in Russia. "On-line" access to students and staff to the WMO training library is provided. Within the UNESCO program "Floating University" and in cooperation with Intergovernmental Oceanographic Committee training in the field of Oceanography (for the open ocean territories) is provided, field data are being collected for training purposes, the distribution of these data and other information on the program of the Baltic Floating University (BFU) is delivered, and the basic idea of the Baltic Floating University (BFU) - training through research is promoted. In 2019, the students of RSHU took part in the expeditions of "TRANSARCTICA-2019" on the research vessel "Professor Multanovsky" (Yu.Yu. Smirnov), and on the research vessel "Professor Molchanov" (M.M. Teider, E.I. Harhordina, A.A. Kirilova, M.O. Ivlev, V.V. Petrov, M.A. Usacheva).

Monitoring of the effectiveness and efficiency of innovations and the use of active teaching methods is carried out through discussions at departments' meetings, and via students' progress analysis. Training and Methodological Council of the University (TMC) summarizes the best international and domestic experience, as well as the best practices of methodological work of the departments of this University and other educational

institutions and promotes their implementation into the educational process. At meetings of the TMC, the analysis of the activities of departments of the University to ensure the quality of the educational process is held. The TMC members consider the ways of improvement of methodological support for autonomous work of students, development of rational forms of planning, organization, implementation and control. The Chairman of the TMC is the first Vice-rector of the University I.I. Palkin. Current issues of the organizational and educational work are discussed at the weekly meetings of Directors of the Institutes, Deans of Faculties, teaching management department, management of additional education, admission and employment of students and center for quality and regulatory support of educational process with the first Vice-rector of the University.

The students of the educational programs under accreditation can enroll in the military training center (MTC) of the University for military training program of reserve officers: 200100 Organization of Hydrometeorological (Meteorological) and Geophysical Support and 600100 Processing of Hydrometeorological (Meteorological) and Geophysical Information. In the military training center of RSHU 15 students are trained for the study field of 05.03.05 Applied Hydrometeorology and 36 students are trained for 05.03.06 Ecology and Environmental Management.

Feedback system and evaluation of learning outcomes is carried out by conducting the survey of the students and teaching staff in their personal accounts on the website of RSHU. Systematic work on feedback is conducted at meetings of departments, councils of institutes and schools, and rector's office. The University has an effective information system: the website of RSHU (<http://www.rshu.ru/>), web-page for the university applicants (<http://dovus.rshu.ru/content/priemkom/abit2019>), history page (<http://www.rshu.ru/university/history/>) and University events page, electronic library, student forum, etc.

Based on the analysis of the 2018/2019 academic year results of the survey (feedback) on implementation of student-centered learning in the EP, the change in teaching methodology was provided: there is a shift with the emphasis on self-guided activities and reflection, and increasing personal responsibility for learning results.

Teachers use their own teaching materials, which allow them to adapt the content of subject syllabi and apprenticeship syllabi to the specific features of EP. For example, associate professor Gustoev D.V. has developed “Manual for users of software package “statistical and probabilistic forecasting of hydrometeorological elements” which is used in the course “Theory of oceanic processes forecasts”. Eremina T.R., Voloschuk E.V., Khaimina O.V. have issued “Ecosystems modelling. Workbook”. Korol’kova S.V. has designed “Self-guided Learning and Classroom Work Manual for Students of EP Aquatic Bioresources and Aquaculture (profile “Aquatic Bioresources Management and Aquaculture”)”. Alekseev D.K., Gal’tsova V.V., Dmitriev V.V. are the authors of “Ecological monitoring: current state, approaches, methods”. Grishankov A.V., Stepanova A.B. have compiled “Overview of freshwater zooplankton of the North-West of Russia”. Furthermore, RSHU teachers have published a number of works in the English language. To mention a few: Ershova A., Alexeev D., Shilin M., Bagrova T. (2019) Design of Study Programs on Sustainable Development. In: Leal Filho W. (eds) Encyclopedia of Sustainability in Higher Education. Springer, Cham; Ershova A., Eremina T., Shilin M., Khaimina O. (2019) Research-Based Teaching Methods for Sustainable Development. In: Leal Filho W. (eds) Encyclopedia of Sustainability in Higher Education. Springer, Cham.

RSHU has its own electronic library system “HydroMeteoOn-line”, which is included into the RSHU library’s fund. The system contains scientific research, methodological and educational publications developed by RSHU employees (teachers and researchers).

Those students who do not agree with the results or are not satisfied with the procedure of final state certification can apply an appeal. The appeal procedure and form comply with QMS-OND-18/18 Regulations on Final State Certification of Students of Higher Education Educational Programs – Bachelor, Specialist, Master and QMS-OND-14/18 Regulation Act on Final State Certification of Students of Higher Education Educational Programs – Bachelor, Master, Specialist Programs without State Accreditation (all educational programs at RSHU have been accredited).

Any student has a right to address an enquiry in a written form or to ask a question in person as well as via e-mail. E-mail addresses of dean’s offices, directorates and the rectorate members are specified at RSHU Internet site. All enquiries are considered by RSHU administration and written answers are provided.

Each term meetings with rectorate members, representatives of RSHU administration and United Student Council (RSHU students’ representative body) are held. Issues of teaching-learning process organization are in the agenda along with other questions.

Areas for improvement:

Low proportion of students with a high level of proficiency in foreign languages, which limits international mobility.

Development of additional supplements to the syllabi that meet the needs of students with disabilities, the introduction of a special approach to students with different levels of abilities.

The existing system of monitoring the progress of students does not allow to properly compare the results of training with the European system of assessment of students' knowledge.

To introduce into permanent practice the formation of the Appeals Commission during the test-examination sessions (interim assessment).

#### **ESG Part 1. Standard 1.4: Student Admission, Achievement, Recognition and Certification**

Department of Additional Education, Admission and Alumni Employment (DAEAAE) is responsible for accepting applicants for the 1st year of education. The rules regarding admission to RSHU can be found on the university website (<http://dovus.rshu.ru/content/priemkom/abit2019>). They are updated every year on the 1st of October. The rules regulate the admission of the citizens of the Russian Federation, foreign students, and stateless persons to get education according to higher education programs at the university. The rules regarding admission is on the website of RSHU including the information on the places financed from the Federal budget and the quota of persons with special rights and the quota of admission to targeted training students, as well as the places providing education on the tuition fee- based. The documents required for admission are to be provided in the following ways:

- by personal (or trustee) incoming to the University Admission Committee ;
- by public mail service providers ;
- by sending the application in the electronic form via personal account.

There is the information for applicants about the procedure for admission to RSHU on the university website:

- Admission Rules with Supplements;
- the enrolment quota;
- documents templates (application, consent to the processing of personal data, consent to enrollment, withdrawal of consent to enrollment, power of attorney for submission of documents by the authorized person);
- instructions for the documents execution in electronic form;
- list, programs and schedule of entrance exams;
- information on special rights and benefits;
- information on the educational credit, etc.

Recognition in the Russian Federation of the education and (or) qualifications received in a foreign state is carried out according to the Federal Law of 29.12.2012 No. 273 –FL "On Education in the Russian Federation". In the Article 107, part 1, 273-FL the recognition of foreign education is carried out in accordance with the international treaties of the Russian Federation, which regulate the recognition and establishment of equivalence of foreign education, and with Russian Federation legislation. Holders of foreign education recognized in the Russian Federation are granted the same academic rights as holders of the relevant education received in the Russian Federation. If the applicant's education does not fall under the international Treaty on mutual recognition, the documents for recognition are sent to them independently to the Main Expert Center (Moscow). The University in accordance with the current legislation does not cooperate on the nostrification of education documents with national centers or other educational organizations.

Foreign citizens and stateless persons have the right to the higher education at the expense of budget allocations in accordance with international treaties of the Russian Federation, Federal laws or through quotas for the education of foreign citizens and stateless persons established by the government of the Russian Federation, as well as at the expense of individuals and legal entities in accordance with the agreements on the provision of paid educational services.

The applicant presents a document certifying the education of the appropriate level:

the document about education or about the education and qualification of the standard form established by the Federal Executive authority responsible for drafting state policy and legal regulatory framework in the sphere of education, or the Federal Executive authority responsible for drafting state policy and legal regulation in the field of healthcare, or the Federal Executive authority responsible for drafting state policy and legal regulation in the sphere of culture;

the nationally recognized document of the education level or the level of education and qualification which was received before January 1, 2014 (document on initial vocational education, confirming general secondary education completion, and the document on initial vocational education based on the general secondary education, are equal to the document of secondary professional education);

the document of education and training of the standard form established by the Federal state budgetary

educational institution of higher education " Lomonosov Moscow State University" and Federal state budgetary educational institution of higher education "Saint-Petersburg State University", or the document of education and qualification of the standard form established by the decision of the governing body of the educational organization, if the document is issued to the person successfully passed the final state certification;

the document of education or of education and qualification issued by a private organization engaged in educational activities on the territory of innovation center "SKOLKOVO".

Admission results for accredited educational programs (full – time/correspondence form):

05.03.05 *Applied Hydrometeorology*: 2015 – 65/28 people; 2016 – 72/19 people; 2017 – 62/14 people; 2018 – 72/12 people; 2019 – 57/16 people;

05.03.06 *Ecology and Environmental Management*: 2015 – 173/21 people; 2016 – 157/20 people; 2017 - 112/13 people; 2018 –125/13 people; 2019 – 87/15 people;

35.03.08 *Aquatic Bioresources and Aquaculture*: 2015 – 18/0 people; 2016 – 13/0 people; 2017 - 0/0 people; 2018 – 19/19 people; 2019-19/17 people.

At the educational program 35.03.08 Aquatic Bioresources and Aquaculture, in 2017 the admission was not carried out due to the lack of budget places, the admission to correspondence form of training has been on since 2018.

As for the educational programs under accreditation since 2015 the number of people enrolled and graduated from those fields of study is as follows: 05.03.05 Applied Hydrometeorology - 179 people (+2019); 05.03.06 Ecology and Environmental Management - 563 people (+2019); 35.03.08 Aquatic Bioresources and Aquaculture - 43 people (+2019).

University graduates receive nationally recognized diplomas. These standard forms of documents of education were approved by Order of the Ministry of Education of the Russian Federation of 01.10.2013 № 1100 "On the Approval of the Templates and Descriptions of Documents on Higher Education and Qualifications and Transcripts to them." The procedure for filling in, registering and issuing of the documents on higher education approved by Order of Ministry of Education of Russia of 13.02.2014 № 112 " Procedure for filling in, registering and issuing of the documents on higher education and on qualifications and their duplicates".

Department of Additional Education, Admission and Alumni Employment accompanies the process of students' transfer and readmission, regulated by the QMS-OND-09/18 Regulations of the Transfer and Readmission of Students, developed in accordance with the procedure established by the Ministry of Education and Science of Russia. The Number of vacant places for admission (transfer) published on the website of RSHU: <http://www.rshu.ru/sveden/vacant/>.

The mechanism for the students' results recognition, including those studied in the course of the academic mobility, as well as the results of additional, formal and informal learning is adopted as policy by QMS-OND -39/17 Regulations on Acceptance of the Results of Studying Subjects (Modules), Internships Used in Organizations Engaged in Educational.

In 2018 four students were transferred from other universities to the study field 05.03.06 Ecology and Environmental Management. On the basis of the submitted copies of the certificates for grades, the transfer Committee made the recount of the disciplines studied at the previous University.

Since 2019, diagnostic testing of the first-year students has been introduced, which will further assess the subsequent progress of students. The database of Moodle tests system is being enhanced every year.

Each educational program provides students with an opportunity to take on optional (non-compulsory) subjects and elective subjects. The latter means that there is a set of subjects a student can choose from but they have to complete an obligatory number of credits. This is a voluntary choice and depends on the learner's individual educational needs. It is in Deans' and Institute Directors' competence to form groups of students who take particular optional and elective courses. To take on a course a student writes an application. Procedure of formation of groups of students who attend optional and elective courses is regulated by QMS-OND-41/16 Procedure of Optional and Elective Subjects (modules) Acquisition for Educational Programs of Higher Education (with amendments Order 475 of 19.07.2018)

At the University the quality control of students' educational program acquisition is carried out in the form of ongoing control, mid-term assessment and final state certification.

In accordance with the QMS-OND-32/18 Regulations on the Ongoing Monitoring of Academic Performance and Students Interim Assessment in Higher Education Programs - Bachelor, Specialist, Master, the students are monitored for academic performance during the semester by the teachers by means of assessing the implementation of control events done by the students in accordance with the requirements of the syllabi and assessment tools. The Regulations establish the frequency and procedure for conducting ongoing

monitoring of students' performance and interim assessment of the students, including a system for evaluating its results, as well as the procedure for students to eliminate academic debts. According to the academic schedule, ongoing monitoring is carried out for various subjects in order to obtain the student's performance cut according to the results of the current control. In the case of non-certification, the student is given an opportunity to liquidate the current debts before the beginning of mid-term assessment period.

Mid-term assessment of students provides the assessment of the intermediate and final studying results of subjects (modules) and internship (including the course works results). The purpose of students' mid-term assessment includes a comprehensive and objective assessment of the quality of students' theoretical knowledge, the ability to synthesize knowledge acquired and apply it to practical problems solving during the studying within the educational program. Interim assessment takes place twice a year in accordance with the academic schedule during the winter and summer examination sessions. In case of receiving unsatisfactory results, the student is given two opportunities to pass the exam and/or tests to the commission during 1 year after.

Final state certification completes the process of internal assessment of the quality of studying. The procedure of the organization and carrying out the state final certification of the students finishing the development of the educational program, the procedure of making and considering appeals is regulated by QMS-OND-18/18 Regulations on the Final State Certification of the Student Trained in Higher Education Programs - Bachelor, Specialist, Master.

The University provides the final certification and defense of final qualifying work in the fields of studying that do not have state accreditation: QMS-OND-14/18 Regulation Act on Final State Certification of Students of Higher Education Educational Programs – Bachelor, Master, Specialist Programs without State Accreditation (all educational programs at RSHU have been accredited). All areas of training in RSHU have state accreditation.

The University participates in various educational programs of international exchange.

For example, from 01.10.15 to 10.02.16, V.I. Polubinsky studied at the University of Lodz, Poland according to the two-way agreement of students' exchange. From 01.09.16 to 31.01.17, E.N. Mnuskina studied at the University of Poitiers, Poitiers, France, in the framework of the academic mobility program Erasmus mobility. V.A Polyakova studied at the University of Poitiers, Poitiers, France, under the Erasmus mobility academic mobility program from 01.09.2018 to 01.06.2019.

Basically, magistrates and postgraduate students are involved in the academic mobility programs.

The University accepts international students for traineeship and internship. From 19.06.2015 to 20.07.2015 student of the South Czech University, Czech Republic, Toman Antonin had internship at the Department of Ecology and Environmental Physics at RSHU. Students of Yerevan state University, Armenia, Saribekyan Serezha Eduardovich, Grigoryan Gaik Gagikovich, Piliposyan Narine Aghvanovna, Tadevosyan Lilit Martunovna, Pogosyan Garik Armenovich, Vardanyan Vardan Traelovich had internship in ecology from 11 to 21.07.2015. The students of the South Czech University, Czech Republic, Teresa Hollikova and Michaela Trnkova had traineeship in Applied Ecology from 21.06.2016 to 24.07.16. Sobirjan Sadirov (Uzbekistan) on the program "Erasmus Mundus Master in Water and Coastal Management" from the University of Cadiz, Spain.

In the 2019/2020 academic year, it is planned to conclude an agreement with the Research Institute for monitoring the quality of education to conduct independent testing of students of the University.

The areas that need improving: increasing the number of educational organizations-partners in international mobility of students; creating a network education scheme. RSHU is planning to cooperate with Research Institute of Education Quality Monitoring in order to implement independent testing of students.

### **ESG Part 1.Standard 1.5: Academic Staff**

RSHU staffing policy is reflected in the Collective Contract, QMS-OND-91/16 Regulations on the Procedure of Succession of Academic Staff, QMS-OND-93/16 Regulations on the Procedure of Academic Staff Certification, QMS-OND-34/17 the Regulations on Procedure of Electing Deans in the Russian State Hydrometeorological University, QMS-OND-35/17 Regulations on Procedure of Electing Heads of Departments in the Russian State Hydrometeorological University, QMS-OND -26/18 Regulations on the Title of Honorary Professor in the Russian State Hydrometeorological University etc. All the documents are available on the web-site of the University (<http://www.rshu.ru/sveden/document/>).

The order of calculation and planning of academic staff working hours, including the relation between all kinds of teaching work (teacher-student contact hours: lectures, seminars, mid-term assessment, consultations, etc.) research work, methodological and organizational work, extra-class social activities, is

regulated by QMS-OND- 19/18 Regulations on the Order of calculation and planning of academic staff working hours.

Qualification requirements to candidates for job positions in RSHU academic staff are in correspondence with Unified Qualification Reference Book of Employees, Managers, Specialists (Section “Qualification Characteristics of Managers and Specialists in Higher Professional Education and Additional Professional Education”) approved by Order of the Ministry of Health and Social Development of RF of 11.01.2011 № 1, and Professional Standard 01.004 “Teacher in the System of Professional Training, Professional Education and Further Professional Education” approved by the Ministry of Health and Social Development of RF of 08.09.2015 №608n.

All the educational programs implemented in RSHU are provided the experienced academic staff. The lecturers have university degree in a related subject area and/or professional training in compliance with the scientific field of study; also all the lecturers regularly have further training in accordance with the requirements of the Ministry of Science and Higher Education of the Russian Federation. The level of competence of lecturers conforms to the requirement of the professional standard 01.004 “Teacher in the System of Professional Training, Professional Education and Further Professional Education” (levels 7 and 8 of European Qualification Framework depending on the position), which is included in the national qualification system.

The share of scientific-pedagogical staff (figured to integer overflow of academic position), having education related to the taught subject (module), in the total number of scientific-pedagogical staff implementing educational program is not less than 70%: 05.03.05 Applied Hydrometeorology – 84,7%, 05.03.06 Ecology and Environmental Management – 92,7%, 35.03.08 Aquatic Bioresources and Aquaculture – 86,3%.

The share of scientific-pedagogical staff (figured to integer overflow of the academic position), having Ph.D. (including Ph.D. obtained abroad and recognized in the Russian Federation) and/or the academic title (including academic title obtained abroad and recognized in the Russian Federation), in the total number of scientific-pedagogical staff implementing educational program is not less than 70%: 05.03.05 Applied Hydrometeorology– 85,4%, 05.03.06 Ecology and Environmental Management– 73,2%, 35.03.08 Aquatic Bioresources and Aquaculture– 71,4%.

The share of staff (figured to integer overflow of the academic position) in the total number of heads and employees of companies the activity of which is connected with the specialty (profile) of the implemented educational program (having appropriate professional experience of not less than 3 years)in the total number of staff implementing educational program is not less than 10%. These employees are leading specialists in their subject areas and they are involved in teaching specialized professional courses that are included in the EP under international accreditation. The criteria for selecting of this category of specialists are university degree in a related subject area, teaching experience, and experience of work in related professional sphere minimum 3 years.

**05.03.05 Applied Hydrometeorology – 11%**

1. Belevich, M., Principal Research Associate of the Russian Academy of Science P.P. Shirshov Institute of Oceanology (Saint-Petersburg branch).
2. Gordeeva, S., Senior Research Specialist of the Russian Academy of Science P.P. Shirshov Institute of Oceanology (Saint-Petersburg branch).
3. Chantcev, V., Senior Research Specialist of Arctic and Antarctic Research Institute.

**05.03.06 Ecology and Environmental Management– 12,3%**

1. Voyakina, E., Senior Research Specialist of the Russian Academy of Science Saint-Petersburg Research Center of Ecological Security.
2. Primak, E., Deputy Head of Division of EMERCOM of Russia for Leningrad region.
3. Tretyakov, V., Senior Research Specialist of Arctic and Antarctic Research Institute.
4. Dmitriyev, A., Principal Researcher of the Russian Scientific Center “Applied Chemistry”.
5. Pryamikov, S., Head of the Division of External Relations of Arctic and Antarctic Research Institute.
6. Vitkovskaya, S., Principal Research Associate of Agrophysical Research Institute.
7. Klyachkin, S., Head of the laboratory of the Division of Ice Conditions and Forecasts of Arctic and Antarctic Research Institute.
8. Semenov, D., Ph.D., Professor, Principal Research Associate the Russian Academy of Science I.P.Pavlov Institute of Physiology.
9. Bagrova, T., Research Specialist of Teberdinsk State Biosphere Reserve.
10. Rihziia I.E. senior researcher, Federal State Budget Research Institution "Agrophysical Scientific Research Institute".



11. Shadurskii A.E., Principal Specialist of AO «ATOMPROEKT».
12. Egorov A.G., Leading Research Specialist of the Department of Ice Regime and Forecasts of Federal State Budget Research Institution “Arctic and Antarctic Research Institute”.
13. Kliachkin S.V., Head of the Laboratory of Quantitative Methods and Automated Proceeding Methods Federal State Budget Research Institution “Arctic and Antarctic Research Institute”.

**35.03.08 Aquatic Bioresources and Aquaculture – 15,1%.**

1. Pedchenko, A., Advisor to the Principal Deputy Director of All-Russian Research Institute of Fishing and Oceanography.
2. Popov, N., Advisor to the Director of the North-West Branch of the Main Authority on Fishing and Preserving Aquatic Bioresources.
3. Kovalyov, V., Principal Specialist of AquaInterio Company.
4. Golod V.M., Deputy Director for Research work of Federal State Budget Organisation «Federal breeding and genetic center of fish farming», branch of FSBO «Glavyrbvod».

RSHU regularly performs scientific projects involving lecturers of the University on the basis of the Institute of Geo Ecological Engineering RSHU. For example,

- Code "Ecobalt". The state assignment of the Ministry of Science and Higher Education (2017-2019).

The assessment of the climatic and biological factors influence on the evolution of coastal ecosystems of the Baltic Sea. The project is performed under the guidance of Yeremina, T., the director of the Institute of Hydrology and Oceanology, Ph.D.

- Code "Aquacultures". Development and implementation of the project of aquaculture objects in Tsemes bay of the Black Sea. The contract has been signed with the Scientific and Research Institute of Oil and Oil Products Transportation. The project is performed under the guidance of Shilin, M., professor, Ph.D.

In order to implement scientific achievements and developments of RSHU scientists, the journal «RSHU Studies» headed by the chief editor Malinin, V., Ph.D., referred by the Higher Certification Commission and currently being prepared to be indexed in Scopus, is regularly published.

Average annual volume of financing scientific research per one lecturer (figured to integer overflow of the academic position) of the organization implementing the main educational program in 2018/2019 on each educational program under accreditation is 270,70 thousand rubles.

Every 3 years the academic staff take further training: in 2015 – 271 people, in 2016 – 95 people, in 2017 – 108 people, in 2018 – 599 people, since the beginning of 2019 – 48 people. Since 2018 for the academic staff the Effective Contract has been introduced, which considers all the achievements of the lecturer for the previous reported period: educational and scientific work, publications, further training etc.

The Leading RSHU lecturers are invited to conduct lectures.

**05.03.05 Applied Hydrometeorology**

Yeremina, T., the director of the Institute of Hydrology and Oceanology, Ph.D. was invited to the University of Klaipeda, Lithuania (2009 - 2010); II International Youth Summer School «Sea Coastline: research, management and prospects» on board research vessel «Academic Sergey Vavilov» from August 29, 2019 to September 07, 2019 in the Baltic Sea in exclusive economic zones of Russia, Sweden, Poland. Gordeeva, S., Associate Professor, Ph.D. - to the University of Klaipeda, Lithuania (2014). Plink, N., Associate Professor, Ph.D. - to the University of Cadiz, Spain (2013-2017). Yershova, A., Associate Professor - to the University of Cadiz, Spain (2015). Semeoshenkova, V., Associate Professor – to the University of Cadiz, Spain (2019)

Taking into consideration special features of the educational programs under accreditation (training highly qualified staff for the sphere of rational environmental management in Russian Arctic regions) educational process is realized by speakers of the Russian language and in the Russian language only. The English language is used only for teaching subjects “Foreign Language” and “Foreign Language in Professional sphere”.

The areas for improvement are as follows: increasing the share of academic staff knowing English in order to increase academic mobility, the number of international projects as well as scientific activity and decreasing average age of academic staff.

**ESG Part 1. Standard 1.6: Educational Resources and Student Support System**

The logistic support for all the educational programs of the University conforms to the Federal State Standard of the field of study.

The University has the necessary material resources to achieve the set goal and to solve the following

tasks: educational, scientific, socio-cultural and sport-sanitary. The total area of the University premises is 57045 sq. m. The area of training and laboratory premises is 27237sq.m.including the area of indoor sport facilities of 891sq.m. The area of scientific and research premises is 845 sq.m.

The network of informational and communicational equipment is widely developed in the University:

Name of the item	Total	Including those used in educational purposes	
		Total	available items (out of total) for students' use in their free time
Personal computers (PCs) – total	1181	858	98
including:			
notebooks and other portable personal computers (besides tablet computers)	252	40	40
tablet computers	21	0	0
Which are a part of LAN	1155	858	98
With Internet access	1155	858	98
With access to Intranet-portal of the University	1155	858	98
Which came into service in the reported year	33	30	0
Multimedia projectors	97	97	
Interactive boards	4	4	
Printers	194	112	
Scanners	38	31	
Multi-functional units	153	68	

For the period 2017-2018 the equipment for more than 9 mln. rubles was purchased.

All the buildings of the RSHU including its own bases to hold internship are connected in one communication network. Optical fiber channels of communication provide rapid and trouble-free access to all the resources at a speed of up to 1Gbit/s. A part of working stations operates in the domain under the guidance of two Windows Server 2003R2 controllers. Modern controllable active network communication enables to unite customers from different buildings of the University in working groups. The total number of logged in working stations is: 1 078 (without considering wireless customers and training classrooms). The average volume of consumed internet traffic per month is about 3Tbite (3 000 Gbite).

At the University different special programming means for the educational and scientific processes aimed at various groups of students such as computer-based training programs on specific subjects and topics, program packages for different field of studying, computer-based testing programs, e-versions of references, encyclopedias, dictionaries as well as teaching and learning aids, e-library systems, special programming aids for scientific research, electronic law and reference systems, electronic document management system etc. are actively used.

The University has own library of the total area of 789,93 sq.m., including the library of Building № 1 (98, Malookhtinsky Pr.) - 385,53 sq.m., the library of Building № 2 (3, Metallistov Pr.) - 141,4 sq.m., the library of Building № 4 (11, Ryzhsky Pr.) - 263 sq.m. There are two reading rooms in two campuses where 150 seats are provided, including 23 seats equipped with PCs. In the premises of the reading rooms there are terminals connected to the National E-Library providing access to e-copies with limited copyright from the funds of the Russian National Library and other federal libraries of Russia. Books with no copyright are accessible for reading in the University network as well as remotely.

The library holding comes complete with printed and electronic textbooks, teaching aids, scientific official, and reference, specialized national and foreign periodicals on all the programs, courses and subjects of the University. The volume of the library holding on physical (material) carriers is 390 922 pieces, including textbooks - 242 629 pieces, scientific publications – 87 833 pieces, literary and art publications – 14 634 pieces. The library annually obtains about 3 000 pieces on physical (material) carriers. The library receives about 80 pieces of newspapers and journals on subscription.

For the period from 01.01.2016 to 01.09.2019 the library obtained publications on physical (material) carriers: in 2016 – 3347 pieces, in 2017 – 3022 pieces, in 2018 – 4046 pieces, in 2019 – 570 pieces.

In order to develop and implement alternative educational technologies, since 2007 the operations on implementing module object-oriented distant education system with MOODLE open programming code into the educational process of RSHU have been carried out. Implementation of web-technologies in the educational process takes place on the basis of outsourcing and acquiring licensed versions, as well as the use of webinar platforms. The departments of the University in cooperation with the Specialized Center of New

Informational Technologies (SCNIT) develop e-teaching materials containing lectures and automatic tests, e.g. webcasts of lectures of leading specialists in hydrometeorology, text files for holding Russian Olympiads for Students on science and technology etc.

RSHU video library holding is supplied with a vast number of materials on science and technology and contains about 140 pieces. Around 30 multimedia lectures in Russian prepared by the specialists of the Specialized Center of New Informational Technologies as well as specialists in hydrometeorology, who completed training in the department of pedagogical technology of open (remote education), are easily accessible in the Internet. On the basis of the Specialized Center of New Informational Technologies the Federal Innovation Platform (FIP) was registered in April 2012 and has been functioning (<http://fip.rshu.ru/>). The FIP activity is aimed at innovation educational infrastructure development particularly by means of involving professional and teaching staff and students in the activity of the pedagogical workshop.

Great attention is paid to the awareness of the students and lecturers via web-site of the University and libraries (<http://lib.rshu.ru/>). The web-site of the library performs informational and educational functions. On the web-site up-to-date information on all the scientific and educational resources provided to students and employees of the University is placed. The head of Information and Bibliography Department communicates actively with users on-line by means of social networks, informs about all library events and answers questions.

Constant operation on the development and implementation of different information resources in RSHU activity is carried out. Main directions of these developments are as follows:

- Web-portal of RSHU ([www.rshu.ru](http://www.rshu.ru)) – the main information resource of the University, it is constantly updated and actualized. All the official information on RSHU activities, educational and scientific activities, structure of the University, departments section and the section of scientific laboratories, news etc. is provided. The site fully complies with the requirements of regulating documents on the structure and content of the official site of an educational organization of the Russian Federation.

- The portal of the Department of Additional Education, Admission and Employment of Students ([dovus.rshu.ru](http://dovus.rshu.ru)). This resource provides and updates information for the RSHU applicants, students, and post-graduates. Another aim of this resource is to provide information on vacancies to employ specialists in the RSHU study areas.

- The Server of Remote Testing ([quest.rshu.ru](http://quest.rshu.ru)). The resource has been developed and used to hold Olympiads remotely for applicants and students in the main RSHU subjects.

- The site of meteorological forecasts ([weather.rshu.ru](http://weather.rshu.ru)). The site has been developed to provide scientific and educational activities of RSHU in the sphere of meteorological forecasting. It contains different types of forecasts which are constantly updated by RSHU lecturers and students.

- The website for the RSHU applicants ([abit.rshu.ru](http://abit.rshu.ru)). The website has been developed for automatic filling in applications, automatic loading data to the University system in order to facilitate the work of admission committee.

- The internal Web-portal of the educational organization on the basis of which the personal accounts of lecturers and students were arranged. The internal Web-portal complies with the requirements of Electronic informational and educational environment, such as:

- fixing the process of education, progress and results of the main educational program acquiring;
- forming electronic portfolio of students including storage of projects, reviews and assessments for these projects by any participant of the educational process;
- interaction of participants of the educational process, including synchronous and (or) asynchronous interaction by means of Internet.

Currently the University management system is being replaced with the new and more perspective automatized management system on the basis of 1C: University PROF, including automatization of conducting the admission campaign, curriculum composition, distribution of educational loads, holding examination periods and estimation of its results, storage of personal information as well as results of education of students, electronic documentation management of orders and information of the number of students.

Social support is provided for the students (<http://www.rshu.ru/university/education/social/>). Students of certain categories (orphans, children deprived of parental care, children receiving pension for the loss of a breadwinner) are provided with free transport passes. Other students are provided with subsidized transport passes. Scholarship is provided in accordance with Regulations on the Scholarship for Students QMS-OND-07/17, material support for students is provided in accordance with Regulations on the Provision of Material Support for Students.

Tutorship plays important role in the University. Tutorship in groups is carried out by the departments. The groups being provided with tutorships are regulated by the Rector's order.

The tutoring department in cooperation with the groups arranges and controls studying, social and

cultural life in groups contributing to formation of friendly groups for the purpose of preparing comprehensively educated professionals obtaining higher education. The activity of departments with the tutored groups is one of the main indicators of pedagogical work of the departments.

To assist tutors of groups, student-tutors are assigned from among undergraduates in accordance with QMS-OND-88/16 Regulations on a Student-Tutor of a Group.

Due to the steady growth of the number of foreign students, a lot of attention is paid to consideration of ethnic and ethnic factors. RSHU students from other countries are rendered assistance in adaptation to new language environment connected with overcoming language barrier and psychological stress. Excursions to familiarize with Saint-Petersburg sightseeing are arranged. All this contributes more comfortable feeling of foreign students in the environment of new unknown city. For foreign students taking a Russian language course the lecturers of the Department of the Russian Language and Pre-University Training have developed the special course "Socio-Psychological Adaptation of Foreign Students". In RSHU pedagogical work with foreign students is performed in close contact with the Association of Foreign Students of Saint-Petersburg. The results of survey among the students showed the necessity to conduct such adaptation courses aimed at decreasing stress of foreign students in new sociocultural environment.

For RSHU students the work of sport clubs on football, volleyball, basketball, sambo, judo, kendo, swimming, table tennis, cheerleading is arranged. RSHU sport teams participate in the championships of universities in 33 kinds of sports, such as: judo, sambo, water polo, football etc. Among the students of sport clubs there are 4 masters of sports and 22 candidates of masters. Annually students become winners and prizewinners in such sports as freestyle wrestling, Thai boxing, boxing, kickboxing, judo, sambo, belt wrestling and others.

During vacation, RSHU students can spend time in sport and health camp on the practice base in Daimische, where different competitions in football, volleyball, combination relay, table tennis, skiing are arranged. In summer recreational travelling to the Black sea coast is organized.

The recreational activity and medical service of the students are the main purposes of the University on providing favorable conditions for study, work and leisure in the framework of the educational process. For the purpose of provision of medical service in Building №1 (17, Stakhanovtsev St., Saint-Petersburg) medicine office is equipped with all the necessary facilities.

Social and living conditions of students comply with all the necessary requirements. The University has 5 campuses with total capacity of up to 2190 people that allows providing with accommodation all the students who need it including the students who study on a commercial basis. All the accommodations are equipped with the access monitoring system using video cameras. Internet access is also arranged there. In the University there are for canteens in campuses and accommodations the summer canteen is arranged on the bases of practice.

In order to arrange and maintain sport and recreational activity the University has gyms in studying buildings and dormitories.

In the structure of the necessary financial resources the expenditures for modernization and equipping scientific and research laboratories, creation of the scientific-educational infrastructure, development of applied research, provision of high-quality educational process, creation of modern information and communication infrastructure, implementation of advanced training programs for personnel are prevailing. The strategy of development of the University is the basis for creation of the effective system of social support of students, lectures and employees aimed at complying with their requirements. The programs for healthy way of life formation, tolerance as well as religious tolerance development, scientific lookout, corruption rejection have been implemented.

The premises are the studying classrooms for conducting lectures, seminars, performing research, group and individual consultations, progress monitoring and mid-term assessment as well as premises for self-education and premises for storage and maintenance of the equipment for educational purposes. The premises are equipped with specialized furniture and technical means of education to provide information to big auditorium. All the premises conform to the current fire-fighting rules and regulations and provide conduction of all kinds of classes, practical, scientific and research works of students in accordance with the curriculum.

The premises for self-education of the students are equipped with computers with Internet access as well as access to electronic information and education environment of the University.

In order to arrange practice on acquiring primary professional skills and experience there are specialized classes, laboratories and training areas.

When conducting work-based practice the contracts with lead organizations and enterprises are signed. If internship requires leaving the region, travelling, accommodation and living expenses are remunerated for a student in accordance with QMS-OND-28/18 Regulations on Internship of the Students Mastering Higher

Education Programs - Bachelor, Specialist, Master, Post-Graduate, QMS-OND-97/16 Regulations on Remuneration of Travelling and Other Expenses when Conducting Traineeship in FSBEI HE «RSHU» and Regulations on Rendering Financial Support to RSHU Students CMK-ОИД-87/16.

The university has its own educational base for conducting internship situated in the village of Daymishche of the Leningrad Region and the educational and scientific station (ESS) on the island of Valaam, giving an opportunity to students to have practice in field conditions (<http://valaam.rshu.ru/>). Here students in the directions of preparation do practical training: 05.03.05 Applied hydrometeorology, 05.03.06 Ecology and environmental management. The base of internship and ESS are equipped with necessary computing and measuring equipment according to internship programs. During conducting of practice on the base and ESS accommodation for students is provided. On the base of practice the first-aid post and a dining room is arranged. In addition, RSHU signs short-term and long-term contracts with specialized organizations to organize apprenticeship for RSHU students.

The library provides each student of the University with individual unlimited access to training materials of the following electronic and library systems (ELS) from any point that has access to the Internet.

All information on available electronic and library systems and conditions of access can be received in the section "Electronic and Library Systems" on the website of library.

The educational literature which is a part of electronic and library systems provides the majority of subjects of implementable main educational programs.

The library has three electronic reading rooms in two building. The reading rooms have terminals connected to the portal of Electronic Scientific Library eLIBRARY.RU, where readers can use electronic copies limited by copyright from the funds of the Russian State Library, the Russian National Library and other federal libraries of Russia. Books that are not copyrighted are available for reading on the University's network and remotely.

CMK-ОИД-32/16 Положение о выпускной квалификационной работе (ВКР) устанавливает QMS-OND-32/16 Regulations on Graduation Qualification Work (GQW) establishes the requirements for GQW, the procedure for its implementation and the evaluation criteria with one of which is the check in the Antiplagiat system.

The university meets all fire safety, sanitary and epidemiological standards for educational organizations. There is sanitary and epidemiologic assessment No. 78.01.05.000.M.002121.08.16 of 15.08.2016 and the conclusion about compliance of the subject for protection by mandatory requirements of fire safety No. 39-2-3-16 of 01.03.2017. Each educational program includes obligatory subject "Health and Safety". Before internship, a meeting is held with the students to discuss all organizational issues related to the practice.

Since 2017 the University has introduced an electronic information and education environment (EIEE). The purpose of EIEE operation is to provide the possibility of remote interactive access to information and educational resources of the University, creation of a unified educational space and information openness of the University on the basis of modern information technologies.

The main objectives of EIEE are:

- ensuring access to curricula, syllabi of subjects (modules) and internship programs, to editions of the electronic library system and electronic educational resources;
- fixing of the course of educational process, results of intermediate certification and results of mastering of the educational program;
- carrying out all types of occupations, assessment procedures of results of training which implementation provides application of the e-learning (EL), the distance educational technologies (DET);
- forming of an electronic portfolio of the student, including saving of works of the student, reviews and estimates for these works from any participants of educational process;
- testing of students;
- creation of the conditions for the organization of interaction between participants of educational process, including both synchronous, and (or) asynchronous, by means of information and telecommunication network of the Internet.

Contact work can be carried out in EIEE. Each student has the EIEE personal account, login and password from which the students receive in directorate of the institute/dean's office. Access to personal account is posted on the website of the University. Training courses are placed on the basis of the modular object-oriented dynamic training MOODLE environment with the built-in subsystem of testing. Represents free (extending according to the license GNU GPL) the web application giving an opportunity to create the websites for online training.

As feedback actively use social networks are: JSC page ([https://vk.com/studsovet\\_rshu](https://vk.com/studsovet_rshu)), page of

material support by the student of Materialochk (<https://vk.com/club169543358>), cultural and leisure club "Bravo" (<https://vk.com/kdkbravo>), "Theatrical Gidromet" (<https://vk.com/hydrometttheatre>), Association of Foreign Students of Russia, St. Petersburg branch (<https://vk.com/spbais>), bus excursions of RSHU (<https://vk.com/rshutours>), etc.

In order to strengthen the material and technical base, an auction is currently being held for the purchase of computer equipment worth more than 6 million rubles. This year, one residential building and three cameras were reconstructed on the premises of internship in the village of Daimishe.

Regular analysis that would reveal if there are enough classrooms, laboratories, computers, software, financial resources and they are up to the standard is carried out twice a year by the services in charge and the University administration. At the end of each year departments and laboratories compile a list of equipment and materials that are to be purchased, replaced or repaired and upgraded. These items are taken into account when RSHU Financial Plan is developed, which forms the registry of all expenses for the upcoming year. These needs are also reflected in departments' and faculties' annual working plans. Annual stocktaking allows to analyze and forecast all needs of the University structural units.

Regular surveys carried out in the form of questionnaires for students and academic staff allow to reveal whether all the stockholders involved are satisfied with the teaching and learning conditions and shows if the material and information resources are sufficient.

At the moment it is necessary to reconstruct two of residential buildings, ten cameras, the building of a dining room, a club, a sports platform on the premises of internship. It is desirable to have the University own vessel to conduct practice for oceanologists. It is necessary to systematically implement a set of measures to improve the adaptation conditions of students with disabilities.

### **ESG Part 1. Standard 1.7: Information Management**

Now the planned transition from the automated control system for higher education institution to the new automated control system (ACS) "IC University" in connection with changes of requirements in the field of the higher education and updating of FSES of HE is conducted. All information about students is uploaded in the system: personal data, data on progress, curriculum, schedule, list of orders, etc. From the system the Dean's offices can print out test and examination sheets, lists of students, certificates about training, etc. Besides, ACS allows to store the student's portfolio, to browse educational and methodical complexes, to carry out record on elective courses, gives the opportunities to communicate via forum. The persons having access to personal data are allowed to work with the ACS database. Control is exercised by the department of maintenance of educational process of educational and methodical management to which the obligation to form statistical reports of the University is assigned.

Being a part of the education quality management system, the internal education quality assessment system of RSHU is aimed at ensuring the management of prompt, objective and reliable information on the educational system state and development, as well as the development of educational processes, accompanying and supporting processes, and data on compliance of interim assessment and final results with the target settings and regulatory requirements. It forms an inextricable integrity with the external evaluation system, as it is focused on maximizing the quality of education and finding reserves to increase it.

The main methods of internal assessment of the quality of education of RSHU include observation, testing and rating evaluation, analysis and processing of the obtained results, surveys in the form of questionnaires of students, employees, employers, self-control, audit for compliance with the requirements of legislation, audit of documentation prepared by educational units for state accreditation procedures, post-licensing control, etc.

Internal quality control of students' training is provided in accordance with the QMS-OND-23/18 Regulation on the Internal System of Independent Assessment of the Quality of Education.

The University's internal independent assessment of the quality of education has a three-tiered hierarchical structure and is carried out by:

at the level of the University centrally according to the audit, testing, questionnaire plan approved by the rector or the first vice-rector;

at the Institute/School level, on an ongoing systematic basis, in accordance with the plan of activities to assess the quality of education, approved by the Director of the Institute/the Dean;

at the level of the Department on a continuous systematic basis according to the plan of measures to assess the quality of education approved plan of the Head of the Department.

At the University, internal assessment of the quality of education is continuous, systematic, so it is more appropriate to talk about monitoring the quality of education. Thus, a monitoring system is used to monitor students' academic performance, which includes ongoing, interim and final monitoring. Methods of ongoing,

interim and final control by disciplines are established in assessment tools descriptions by subjects.

The objectivity of the procedure for assessing the quality of training on the main educational programs implemented at the University is ensured by the use of assessment tools developed by the departments for the ongoing and interim monitoring of student performance, state final certification of graduates.

The schedule of peer reviews and classes control is compiled for a semester and is approved by the head of the department. The classes of each teacher are checked at least once a semester.

Increasing efficiency and ensuring monitoring of employment of graduates, carrying out vocational guidance work, including development and distribution of vocational guidance products - all these issues are under the responsibility of the Department of additional education, admission and employment of students (DAEAE). The University's website provides information on proposed vacancies (<http://www.rshu.ru/university/education/work>) and employment of graduates (<http://www.rshu.ru/sveden/grants>). Every year, institutes and faculties assist in the employment of graduates by holding graduate meetings, within this meeting a survey of satisfaction with the education received (<http://dovus.rshu.ru/content/czm/graduate>) is conducted.

Issues of competence of teaching staff, quality of educational work (organization of training sessions, results of interim assessment, final state certification) are regularly considered at meetings of the University's Training and Methodological Council, Academic Councils of faculties/institutes, meetings of departments.

As part of an external quality assessment, each educational program is reviewed by employers. Students carry out research works at the request of employers. For example, by the request of the Committee on Power and Engineering Support (A.V. Vanichev, the research supervisor, was F.A. Dmitriyev, PhD, 2016), the Committee for St. Petersburg City Improvement (N.A. Moroz, the research supervisor was N.B. Glushkovskaya; V.V. Serova, the research supervisor was Rozenkova I.V., PhD, 2017), on the grant of RNF No. 17-77-30019 (2017-2020) "Support for World-Class Laboratories", code "System", the supervisor is Bertrán Shapron, France (2019). D. Pivayev P, the research supervisor is S.V. Lukyanov, the scientific consultant is V.N. Kudryavtsev, 2019).

The evaluation of educational and methodical support for educational programs is carried out by means of an automated workplace of "Knigoobespechennost (book endowment)" of a system of automation of IRBIS libraries 64. The automated workplace of "Knigoobespechennost (book endowment)" allows to display all options of correlations between the subjects, students and educational literature from base of the directory for the current semester, to display coefficients of a knigoobespechennost for both the separate book, and any set of books (on the subject, field of study, faculty/institute, etc.).

As part of the evaluation of the efficiency and effectiveness of its activities, every year the University carries out Monitoring and self-assessment procedure. The self-assessment report is posted on the website of RSHU, the results of monitoring are sent to the Ministry of Education and Science of the Russian Federation. The self-examination procedure involves all educational programs implemented at the University and all structural divisions of RSHU. In addition, every year the Ministry of Education and Science of the Russian Federation and the Committee of Science and Higher Education (KNVSH) send reports on the execution of the state task, scientific activities, advanced training, financial and economic activities, etc. Since 2019, monitoring of international activities has been introduced.

In order to improve the quality of educational programs RSHU constantly polls the students, the academic staff, and representatives of enterprises. The polling results are considered at weekly meetings with deans, directors and heads of EPs, at department meetings, Faculty Academic Councils, academic and methodological commissions, meetings with students and parents.

Information about educational programs is available at RSHU site, and publications RSHU's for school-leavers. It is constantly renewed. Information is actively communicated by the Department of Additional Education, Admission and Alumni Employment. The mission of the Department is to promote RSHU, create a positive image of RSHU and positioning RSHU as a competitive institution in the world system of higher education, which possesses cutting edge scientific technologies and capable of training highly qualified specialists.

The second but not less important function of RSHU management is assisting students graduates with employment. The main objectives in this area are the following:

- searching for vacancies;
- CV writing assisting, job search recommendations;
- holding training seminars, etc.;
- presentations of companies and organizations;
- graduates employment rate analysis.

Many of our graduates are have successful career, take high positions in state and commercial

institutions.

Our students' and teachers' achievements are covered at the news page at (<http://rshu.ru>), in videos about different events in the life of the University. All these pieces are placed at RSHU Internet site and in YouTube. In 2019 the overall number of views of such materials exceeded.

In order to implement the education quality policy and strategy, the University ensures that all teachers, employees and students have access to the necessary information resources for work and training. For example, there is continuous Internet access, including WI-FI in all educational buildings and dormitories. Access to the internal network - teaching or educational, depending on the category of contingent in which the syllabi and internship programs, the program of state final certification, assessment tools and methodological recommendations to students are located.

In order to ensure the prompt preparation of documents, there is a need to introduce an automated document management system. It is necessary to develop and implement a system of copyright protection when publishing the materials of teachers freely. To update the English-language version of the University website. To improve the mechanism of monitoring the professional path of the graduate.

### **ESG Part 1. Standard 1.8: Public Information**

Information about educational programs is available at RSHU official Internet Site ([www.rshu.ru](http://www.rshu.ru)).

In compliance with Resolution of RF Government of 10.07.2013 № 582 (editions of Resolutions of RF Government of 20.10.2015 № 1120, of 17.05.2017 № 575, of 07.08.2017 № 944, of 29.11.2018 № 1439, of 21.03.2019 № 292) " On Approval of the Rules of Placement and Updating of the Information on the Educational Organization on the Official Website of the Educational Organization in the Information and Telecommunication Network "The Internet"," and Order of "Rosobrnadzor" of 29.05.2014 № 785 (edition of Order of "Rosobrnadzor" of 02.02.2016 № 134, of 27.11.2017 № 1968, of 14.05.2019 № 631) "On Requirements to the structure of the official Site of an Educational Institution in Information and Telecommunication Network "Internet" and the Format of Information Layout" on the website of the University (<http://www.rshu.ru/sveden/>), the following information about the educational organization is posted:

- Basic Information (name, date of creation, legal address, contact details, founder, availability of branch);
- Structure and management bodies of the educational organization;
- Documents (RSHU Charter, License to carry out educational activities (with appendices),
- State Accreditation Certificate (with appendices), Social and Professional Accreditation Certificates, etc.);
- Education (information on educational programs implemented at the University; documents regulating the educational process; Number of students; Information on the results of admission, transfer, restoration and payment; areas of research and its results);
  - Educational standards according to which training is implemented at the University;
  - Pedagogical (scientific and pedagogical) composition (<http://www.rshu.ru/sveden/employees/>);
  - Material and technical support and equipment for the educational process (information on the availability of equipped training rooms and facilities for practical classes, on the availability of libraries, on the availability of sports facilities, on the conditions of nutrition and health protection of students, on access to information systems and information and telecommunication networks, information for people with disabilities, a list of electronic educational resources);
  - Scholarships and other types of material support (information on the procedure of appointment and payment of scholarships, provision of material assistance to students, university regulatory documents, orders);
  - Fee-based educational services (information on the procedure for providing paid educational services);
  - Combating corruption;
  - Financial and economic activities (financial and economic activity plan for 2019-2021, etc.);
  - Vacant places for admission (transition) (information on the procedure of admission (transition) in the RSHU and on vacant places for admission (transition));
  - The current semester academic schedule for students (<http://www.rshu.ru/university/stud/>).

In addition to posting information on its website, the University informs the public about the results of its activities, plans and innovations during open days, participation in educational exhibitions, through media, etc. Congresses, symposiums, fairs and conferences held in cooperation with potential employers allows all the parties to interact and communicate effectively. These events allows to evaluate all stakeholders'



satisfaction with information provided by RSHU.

Information from employers on the availability of vacant places for employment of specialists in the areas of training of RSHU is available on the portal of the Department of Additional Education, Admission and Employment of Students (<http://dovus.rshu.ru>).

In order to strengthen the activities in the field of informing the public, it is necessary to improve the marketing policy of the University, publish a new website, update information in a timely manner on information stands in the premises of RSHU, return to a permanent basis the participation of leading workers in media projects (maintenance of columns, participation in television broadcasts, etc.), increase the efficiency of the Graduate-University feedback channel, hold Olympiads and conferences for schoolchildren at the regional and all-Russian level.

### **ESG Part 1. Standard 1.9: Ongoing Monitoring and Periodic Assessment of the Programs**

In the response to the development of science, culture, economy, technologies and social sphere as well as the updating of the federal state educational standards, changing employer's demands, labor market and in accordance with QMS-OND-36/18 "Procedure of Development, Approval and Execution of Educational Programs of Higher Education in RSHU" ([http://www.rshu.ru/sveden/document/smk-ond-36\\_188.pdf](http://www.rshu.ru/sveden/document/smk-ond-36_188.pdf)) educational programs are updated annually by stakeholders (employers, students, teachers) and readopted by the Academic Council of the University with regard to syllabi, assessment tools, and methodical materials, etc.

Each educational program has employer's review. They are signed by:

#### ***05.03.05 Applied Hydrometeorology***

The Research Director of the State Researching Navigation and Hydrogeographic Institute, V.A. Tutlyanov, PhD.

#### ***05.03.06 Ecology and Environmental Management***

The General Director of PK «MAKIS» Ltd, S.V. Martynov; the Senior Research Officer of the Federal state budgetary scientific organization «Saint-Petersburg Researching Center of Environmental Security» of the Russian Academy of Sciences Y.V. Russkih, PhD;

The Head of the Group of Engineering Research, the Deputy Director of the Ecological Design Department «IPE&G», Ltd, A.V. Smirnova

The ecologist of «the North-West Constructing Company», Ltd, O.A. Sverdlova

#### ***35.03.08 Aquatic Bioresources and Aquaculture***

The Deputy Director of the North-West Subsidiary of the FSBO «Glavrybvod» S.V. Soloviev ;

the Head of the Fishery Department of the FSBO «Glavrybvod» Y.H. Bulyakulova;

the Director of the Laboratory «KHIMEKS» Ltd., A.R. Dalin;

the Head of the Aquatic Bioresources and Aquaculture Department of the FSBEI HE «Saint-Petersburg University of Aquaculture», Associate Professor H.B. Rybakova, PhD.

In the context of monitoring and assessment of the educational programs «the best presentation of educational program» contest has been run this year.

The winners of the contest have been awarded special certificates.

The Joint Students' Council works in RSHU in order to take into account the students' opinions about the university management and university regulatory documents of students' rights and legal interests.

The JSC is the collegial body of the students' management of the university. The chairperson of the JSC is the member of RSHU's Academic Council, he takes part in the rector's meetings.

Besides, the JSC oversees the matters of social and financial support for students. The students' representatives form the part of the scholarship committees of the schools and institutes of RSHU.

The goals achievement within the educational programs is supervised during all training period. The assessment tools are provided in the form of competence-oriented assessment tools for ongoing monitoring, interim assessment and final state certification developed by the university's departments.

Assessment tools for ongoing monitoring are used to real-time evaluation and permanent management of the training activities. Assessment tools for interim control for a certain subject (module) and internship are aimed at the evaluation of the achievement level of the expected results at the end of the course in an established form: a credit test, a differentiated credit, an examination. Assessment tools for the final state certification are aimed at evaluating the degree of graduates' achieved competences according to the FSES HE in the corresponding field of studies. These assessment tools allow estimating the competence level of students under training.

Monitoring of student's satisfaction of the organization of traineeship and its results is done by means of practice report and at the final conferences. The traineeship is organized in companies of corresponding

profiles, which enables students to plunge into future professional activities.

The satisfaction of students' needs is reflected in the growth of the average score of school leavers' final examinations:

*05.03.05 Applied Hydrometeorology:* 2017 – 56,43; 2018 – 57,48; 2019 – 65,64.

*05.03.06. Ecology and Environmental Management:* 2017 – 57,2; 2018 – 63,27; 2019 – 73,33.

*35.03.08. Aquatic Bioresources and Aquaculture:* 2017 – 60,04; 2018 – 65,4; 2019 – 69,93.

The personal development of a student in the process of training is checked through ongoing and interim control, diagnostic and residual knowledge tests and portfolio collecting.

The areas of further improvement: working out an employers' questionnaire, reflecting their feedback on the quality of students' training; working out mechanism of deeper student involvement in the procedure of quality management of the educational programs; perfecting the mechanism of stakeholders' cooperation during the annual analysis and updating of academic plans and educational programs and internships; increasing feedback from the university graduates. It is necessary to continue working on creating new departments, providing practice-oriented professional training for closer cooperation with potential employers.

### **ESG Part 1. Standard 1.10: Periodic External Quality Assurance Procedures**

In realization of EP there are several mechanisms of functioning of the quality management system, such as: monitoring and reviewing of EPs; maintaining the teaching staff competence; conducting self-assessment procedures according to the agreed criteria; the system of external assessment of the quality of EP implementation; recording and analyzing of employers' and graduates' opinions; arranging student and teacher mobility programs with foreign partners, etc.

The external assessment of the EP realization quality is manifested through the following procedures: State accreditation (every 6 years).

Professional Public Accreditation (held by an educational institution application).

Independent education quality assessment (by a voluntary initiative of the educational process participants).

In 2018 Professional Public Accreditation expertise was conducted in RSHU as a part of a voluntary certification system «Arctic» ROSS RU.I1731.04ARKO. Professional Public Accreditation Certificates were granted to all the Educational Programs that had applied for accreditation (<http://www.rshu.ru/sveden/document>)

In the period from November 26 - December 25, 2018 the state accreditation expertise was conducted in RSHU. It resulted in establishing the conformity of the content and quality of student training at the university to the state educational standards. The State Accreditation certificate was obtained on December 26, 2018; the register number 2971 series 90A01 № 0003116 (valid until December, 26, 2024) ([http://www.rshu.ru/sveden/document/Akkr\\_2019.pdf](http://www.rshu.ru/sveden/document/Akkr_2019.pdf)). As a result, the accreditation commission produced a conclusion statement specifying that all Educational Programs at RSHU meet the requirements of The Federal State Educational Standards (FSSES) of Higher Education (HE) for the areas of professional training, with no negative remarks. RSHU was granted with Accreditation certificate of December 26, 2018, registration number 2971, series 90A01 № 0003116 (valid until December 26, 2024).

Since 2014 the Federal Internet Examination for Bachelors (FIEB) has been conducted as voluntary graduate certification, comparing their level of training with the requirements of FSSES HE. The relevance of the project is due to changes in the Federal Law «On Education in the Russian Federation», which was complemented by Article 95.1 (put into effect 21.07.2014 г. N 256-FZ): «The independent assessment of the quality of student training is conducted at the initiative of stakeholders with the purpose of collecting information about the level of students acquisition of EPs and it aims at providing stakeholders with the information on quality of students' training». Carrying out FIEB corresponds with the implementation of measures, targets and indicators set in subprogram 2 «Ensuring Global Competitiveness of Russian Higher Education» of the state program of the RF «Scientific and Technological Development of the Russian Federation» (Order of the Government of Russia of March 29, 2019, № 377).

RSHU has a status «The Base Platform of FIEB» (<https://bakalavr.i-exam.ru/node/957>). Nine students of 05.03.06 Ecology and Environmental Management of RSHU took part in the Federal Internet Examination for Bachelors (FIEB) in 2019.

Students from other educational programs under accreditation were not able to take part in FIEB because these programs are not included into FIEB list ([https://bakalavr.i-exam.ru/sites/default/files/broshura\\_fieb-](https://bakalavr.i-exam.ru/sites/default/files/broshura_fieb-)

2020.pdf).

The results of testing of RSHU students in comparison with other universities' students - the participants of FIEB (05.03.06 Ecology and Environmental Management) is shown in Figure 1.10.1. The indicator is «The share of students and their scores in percentage on completion of PMM (pedagogical measuring materials)».

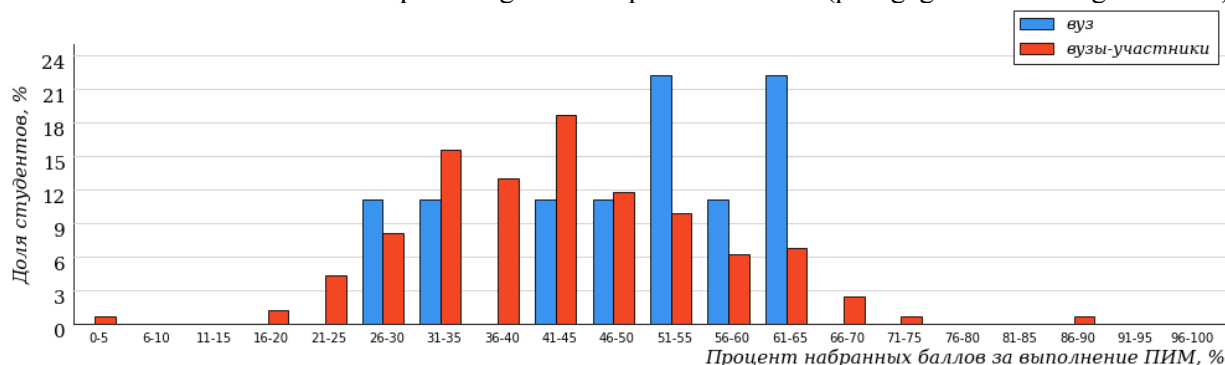
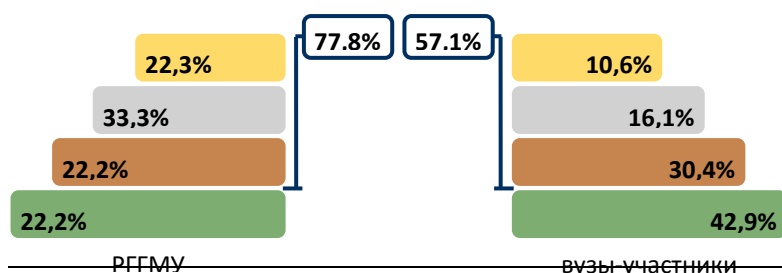
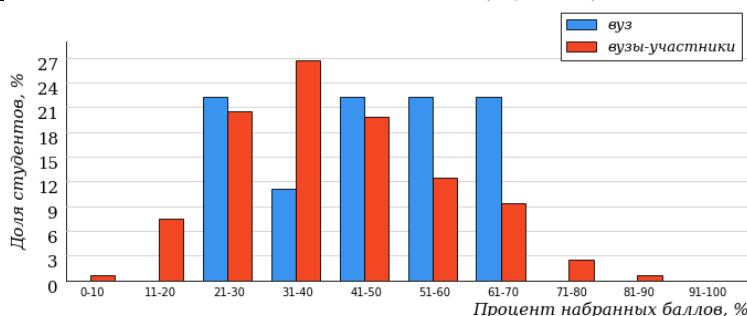
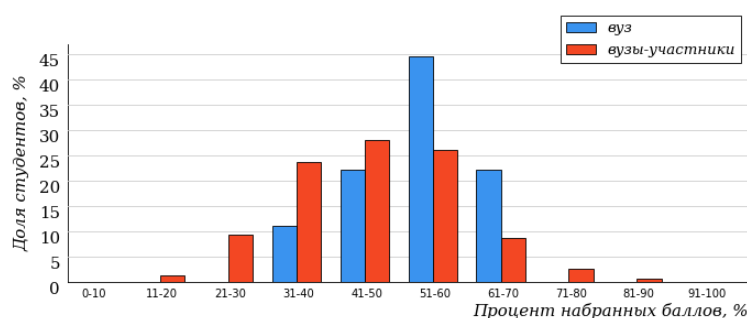


Рисунок 1.10.1 – Распределение результатов тестирования обучающихся РГГМУ (вуз) с наложением на общий результат вузов-участников Экология и природопользование



According to Figure 1.10.1, RSHU students demonstrated good results in testing. It confirms the fulfillment of the FSES HE demands concerning the quality of Bachelors' training in the field of study 05.03.06 Ecology and Environmental Management in RSHU.

Results of Independent monitoring of quality assessment are discussed at meetings with the deans of the faculties, the directors of the institutes and the heads of the departments. These results are also sent to all university units to be considered in the decision making process.

The areas of further improvement: to strengthen work on upgrading EPs contents with regards to international experience; to continue work on participation of EPs in the procedures of independent external expertise (professional and public accreditation, internet-testing, rating, etc.); to elaborate on the program of correcting activities on the result of the external expertise of EPs with employers' participation.

## **SWOT-analysis**

### **Strengths**

- Status of Russian state federal educational Institution;
- All necessary for educational activity licenses and Accreditation certificate are available;
- Recognition in Russia and abroad;
- Highly qualified experienced staff;
- Experience in practical and research work;
- Complex training of highly qualified specialists at different levels: bachelor, specialist, master, postgraduate;
- International relations and partnership;
- Academic staff wages (compared to other Institutions);
- Interaction and cooperation with employers representatives;
- Board of trustees;
- Own base of apprenticeship and educational scientific station;
- Location (buildings and dormitories are reachable);
- Social and financial support for students.

### **Weaknesses**

- Academic staff average age;
- Number of professors' and associate professors' teaching hours is considerable, consequently research work efficiency is decreasing;
- Non academic staff low wages;
- Some buildings and dormitories need renovation;
- Weak marketing policy;
- Insufficient multimedia equipment;

### **Opportunities**

- School leavers, schools, employers demonstrate growing interest to professional education;
- Alterations in Russian legislation;
- Realization of state programs in social and economic spheres concerning the professional areas that RSHU is training specialists;
- Educational programs combine fundamental education and practical professional training, which is unique for higher education in Russia;
- Active participation in research and educational project related to Arctic studies;
- Development of research and educational centers.

### **Threats**

- School leavers with high final examinations results prefer higher education institutions that participate in Project 5/100;
- Not sufficient state budgeting;
- Not sufficient number of budget places at postgraduate courses, which will lead to lack of younger academic staff;
- Changes in demographic situation;
- Economic stagnation;
- Low wages at the spheres where RSHU graduates work;
- Too low quality of general secondary education, which contradicts high requirements of higher education.

## **CONCLUSIONS**

As a result of self-assessment on the cluster of educational programs implemented in RSHU in the fields of training 05.03.05 Applied Hydrometeorology, 05.03.06 Ecology and Environmental Management, 35.03.08 Aquatic Bioresources and Aquaculture the Expert Committee made the following conclusions.

The development of the educational programs under accreditation is carried out within the Mission and Development Strategy of the University. The goals and objectives of educational programs are determined, evaluated and modified in the process of studying teachers' and students' opinions, as well as opinions of internship mentors from enterprises and institutions, opinions of employers about the quality of training of graduates, and graduates' reviews about their abilities for professional activities. The educational activities are oriented on the needs of the region.

The revision of existing curricula and programs of academic subjects is carried out annually in accordance with the goals and outcomes of educational programs: the contents of syllabi of training courses, methodical materials and assessment tools are updated. It provides the implementation of appropriate educational technology, taking into account the development of science, technology, information technology, economics, culture and social policy. While making the curricula we take into account the consistency of the content of subjects and create a logical sequence of their study. The order of assessment of students and postgraduates' knowledge/competences during process ongoing monitoring and final state certification is regulated by the developed and approved documents. Quality control of students and postgraduates is carried out during the entire period of study. The conclusions about quality of training are drawn basing on the results in educational and research activities. The research work of students is organized at the departments.

The programs are implemented by the competent teaching staff in the fields of studying covered by the educational program (research and practical activities of teachers, RSCI), as well as providing a close connection of the educational process with scientific research, taking part in various international, national, regional and internal university conferences, seminars, etc.

Educational programs are provided with the appropriate classrooms, laboratories, equipment. Laboratories are equipped with modern devices necessary for laboratory and practical work. The equipment and devices are used not only in the educational process, but also in carrying out research work and while preparing graduation qualification work. There is a University own base for internship and educational and research workstation. In order to optimize the process of training Internet resources and learning multimedia classrooms that contain all the information for students are actively used. Academic subjects are provided with the necessary electronic educational resources placed in the educational environment of the University. To provide students' independent work on various subjects and carry out their research work, term papers and graduation projects the University allocates time for work in computer classes, laboratories, reading rooms of the library.

The administration of the University, institutes and faculties regularly collects information on participation of students and teachers in the conferences, competitions, contests. Information about these achievements is posted on the University's website and in social networks. Public information is provided through the University website, social network "VKontakte", media, brochures, memos, and books about the University. Teachers hold career guidance meetings according to the annual schedule. Public is informed on the traditional Open Days of the schools and institutes and the University, and meetings with graduates. Monitoring studies are conducted on the employment of graduates and demand in the labor market. Information on employment and demand for graduates is carried out on the UDOPTS page posted on the University website. The results of graduate employment analysis are considered at meetings of Academic councils of institutes and faculties, and the meetings of the departments.

### The Conclusion of the Self-Assessment Committee

№	International standards HAAP ESG Part 1.	The position of the organization of education			
		Strong	Satisfactory	Improvement implied	Unsatisfactory
<b>Standard 1.1: QUALITY ASSURANCE POLICY</b>					
1	The educational organization should have a published quality assurance policy which is a part of its strategic management. Internal stakeholders should develop and implement this policy by means of appropriate structures and processes		+		

№	International standards HAAP ESG Part 1.	The position of the organization of education			
		Strong	Satisfactory	Improvement implied	Unsatisfactory
	involving external stakeholders.				
<b>Standard 1.2: PROGRAM DEVELOPMENT AND APPROVAL</b>					
2	The educational organization should have mechanisms for development and approval of its programs. Programs should be developed in accordance with established objectives, including expected educational results. The qualifications obtained as a result of the development of the program should be clearly defined and explained and should correspond to a certain level of the national qualifications framework in higher education and therefore to the qualifications framework in the European higher education area.	+			
<b>Standard 1.3: STUDENT-CENTERED LEARNING AND PERFORMANCE ASSESSMENT</b>					
3	The educational organization should provide the implementation of the program in such a way as to encourage students to play an active role in the collaborative making of the educational process, and the assessment of students should reflect this approach.		+		
<b>Standard 1.4: STUDENT ADMISSION, ACHIEVEMENT, RECOGNITION AND CERTIFICATION</b>					
4	The educational organization should have pre-defined, published and consistently applied rules governing all periods of the student "life cycle", i.e. admission, academic achievement, recognition and certification.	+			
<b>Standard 1.5: ACADEMIC STAFF</b>					
5	The educational organization should have objective and transparent processes of recruitment and professional growth and development of all staff which allow them to ensure the competence of their teachers.	+			
<b>Standard 1.6: EDUCATIONAL RESOURCES AND STUDENT SUPPORT SYSTEM</b>					
6	The educational organization should provide sufficient, accessible and appropriate learning resources and student support service.		+		
<b>Standard 1.7: INFORMATION MANAGEMENT</b>					
7	The educational organization should ensure that it collects, analyses and uses relevant information to manage effectively its activities and its educational programs.		+		
<b>Standard 1.8: PUBLIC INFORMATION</b>					
8	The educational organization should inform the public about its activities (including programs). The information provided must be clear, reliable, objective, relevant and accessible.	+			
<b>Standard 1.9: ONGOING MONITORING AND PERIODIC EVALUATION OF THE PROGRAMMES</b>					
9	The educational organization should monitor and periodically evaluate the programs to ensure that they achieve their goals and meet the needs of students and community. The results of these processes should lead to continuous improvement of programs. All stakeholders should be informed of any planned or undertaken actions in relation to the programs.	+			
<b>Standard 1.10: PERIODIC EXTERNAL QUALITY ASSUARANCE PROCEDURES</b>					
10	The educational organization should undergo external quality assurance procedures in accordance with European standards and guidelines (ESG) on a regular basis.			+	
<b>Total</b>		<b>6</b>	<b>3</b>	<b>1</b>	

### GLOSSARY

**ABEP (POOP)** - approximate basic educational program– training and teaching documentation (approximate

curriculum, academic calendar, approximate schedule, approximate working programs on subjects, courses, disciplines (modules) and other components) defining the recommended amount and content of education of a certain level and (or) a certain direction, the expected results of mastering the educational programs, the approximate conditions of educational activities, including a rough calculation of normative costs of public services for providing the educational program.

**ACS** - automated control system

**AO (AO)** - Joint-Stock Company (JSC).

**AORMI (AOPMI)** - automatic processing of the results of meteorological measurements (APRMM).

**Candidates of Sciences Degrees (PhD equivalent)** - an advanced university qualification, or a person who has this qualification; the degree is got during post-graduate studies, this degree can be obtained in various fields of studying, e.g.:

PhD in Agriculture

PhD in Biology

PhD in Chemistry

PhD in Geography

PhD in Physics and Mathematics

PhD in Engineering.

**CQSEEP** - Center of quality and standard ensuring educational process in RSHU.

**Competence design of a University graduate in the field of studying** is a complex integrated image of the final result of education at the University in the direction of training (qualification).

**DET (DOT)** - distance educational technologies.

**Educational program (EP)** - a set of basic characteristics of education (amount, content, planned results), organizational and pedagogical conditions and forms of final assessment if provided by this Federal law, which is presented in the form of a curriculum, schedule, working programs on subjects, courses, disciplines (modules), other components, as well as evaluation and methodological materials.

**EGS (UGS)** - An enlarged group of specialties (UGS)

**EIEE (EIOS)** - Electronic information and educational environment.

**EL** - Electronic learning.

**ELS** - electronic and library systems.

**Faculty** (in this paper) is a group of departments in a college that specialize in a particular subject or group of subjects.

**Federal law** - a binding, official rule or body of rules established by a government that has been constituted as a union of independent political units

**Federal state educational standard (FSES, FSES of HE)** - a set of mandatory requirements for a certain level of education and (or) profession and specialty approved by the Federal Executive authorities depending on the level of education. These Federal Executive authorities are responsible for drafting and implementing state policy and normative legal regulation in the sphere of General education, or Federal Executive body, responsible for drafting and implementing state policy and normative legal regulation in the sphere of higher education (HE).

**FIE (FIEB)** - Federal Internet-exam.

**FIP** - Federal innovative platform.

**FOS** - assessment tools (fund of assessment tools).

**FSC (GIA)** - Final state certification

**FSFI (FGBU)** - Federal state-funded institution.

**FSFIS** - Federal state-funded institution of science.

**Glavrybvod** - Federal state budgetary institution the "Main basin management on fishery and preservation of aquatic biological resources".

**GosNIORPH** - L.S. Berg State Research Institute of Lake and River Fisheries.

**GQW** - Graduation Qualification Work

**Head of the educational program** - a person responsible for the organization of activities for the development, implementation, monitoring and updating of the educational program.

**IIE (IMO)** - Institute of International Education at RSHU.

**Individual curriculum** - a curriculum that provides mastering an educational program on the basis of individualization of its content, taking into account the characteristics and educational needs of a particular student.

**Internship (Practice)** - a type of educational activity aimed at formation, revision, development of practical skills and competence in the process of performing particular kinds of work related to future professional activities.

**ISO** - The International Organization for Standardization.

**JSC (OSO)** - Joint Students' Council.

**KNVSH (CSHEG of SPb)** - Committee on Science and Higher Education of the Government of St. Petersburg.

**KSU** - Kaliningrad State University.

**LGMI** - Leningrad Hydrometeorological Institute (\*former name of RSHU).

**LSU (LGU)** - Leningrad State University.

**Matrix management structure** — a structure built on the functional principle; management "by function", arranged in such a way that the management system is divided into functional groups and services, with a certain range of work or project assigned for each of them.

## RSHU. Self-Assessment Report

**MGMI** - Moscow Hydrometeorological Institute.

**MIME (MIIT)** - meteorological information and measuring equipment.

**MSU (MGU)** - Moscow State University.

**MTC** - Military training center of RSHU.

**MVMU** - Murmansk State Maritime School.

**NACEE** - Network of Aquaculture Centers of Central and Eastern Europe.

**NII (RDI)** – Research and Development Institute.

**NP (FS)** – The field of study.

**OdGMI** - Odessa Hydrometeorological Institute.

**ONS (ERW)** – Educational and Research workstation.

**OOO (LLC)** – a limited liability company.

**PhD in Biology (D.B.N)** - Doctor of Biology (\*Doctor's Degree is awarded after the Degree of Candidate of Sciences is obtained – see above).

**PhD in Chemistry (D.Kh.N)** - Doctor of Chemistry

**PhD in Geography (D.G.N)** - Doctor of Geography

**PPS** – teaching staff.

**Project 5/100** - a project of increasing the competitiveness of leading Russian universities among the world leading research and educational centers is designed to enlarge the research potential of Russian universities, strengthen their competitive position in the global market of educational services.

**QMS (SMK)** - Quality management system.

**R&D** - Research work.

**RAN** - Russian Academy of Sciences (RAS).

**RF** - Russian Federation.

**RGNF** - Russian Humanitarian Scientific Foundation.

**RMUTS WMO** - Regional training centre of the World meteorological organization (WMO).

**Roshydromet** - the Federal service for hydrometeorology and environmental monitoring of the Russian Federation.

**RSCI (RINTS)** - Russian Science Citation Index.

**SCNIT** - Specialized centre of new information technologies in RSHU.

**Scopus** - a bibliographic and referral database and tool for tracking the citation of articles published in scientific journals.

**SPA (GPA)** - State Polar Academy.

**SPbGU** - St. Petersburg State University (\*former LSU/LGU).

**Stakeholders** - organizations, groups of people influencing the work of the University. They are divided into internal and external. They include all participants who get an impact on the development of the University.

**Student** - an individual who masters the educational program.

**The curriculum** - the document which defines the list, labor input, sequence and periodical distribution of subjects, courses, disciplines (modules), practice, other types of educational activity and, if other is not established by this Federal law, forms of current and final assessment of student.

**TMC (UMS)** - Training and Methodical Council.

**DAEAES** - the Department of additional education, admission and employment of students; responsible for management of further education, admission and employment of RSHU students

**UNESCO IOC (MOK)** - Intergovernmental Oceanographic Commission of UNESCO.

**UPS (APC)** - an uninterrupted power supply

**UZW** - Settings closed-circuit water supply.

**VAK** - Higher Certification Commission under the Ministry of Science and Higher Education of the Russian Federation.

**WMO** - World Meteorological Organization.

**ZET**- credits.



## APPENDICES

### Rules of Training and Examination Procedures

1. QMS-OND -27/17 Procedure of Implementation of Educational Activities for Higher Education Programs of FSBEI HE "RSHU" - Bachelor, Specialist, Master ([http://www.rshu.ru/sveden/document/smk-ond-27\\_17.pdf](http://www.rshu.ru/sveden/document/smk-ond-27_17.pdf))
2. QMS-OND -51/18 Internal Regulations for Students ([http://www.rshu.ru/sveden/document/smk-ond-51\\_18.pdf](http://www.rshu.ru/sveden/document/smk-ond-51_18.pdf))
3. Students' Study Routine ([http://www.rshu.ru/sveden/document/15.12.2016/Rezhim\\_zanyat\\_rshu\\_27.07.2016.pdf](http://www.rshu.ru/sveden/document/15.12.2016/Rezhim_zanyat_rshu_27.07.2016.pdf))
4. QMS-OND-41/16 Procedure of Mastering Elective and Optional Subjects ([http://www.rshu.ru/sveden/document/smk-ond-41\\_16.pdf](http://www.rshu.ru/sveden/document/smk-ond-41_16.pdf))
5. QMS-OND-38/18 The Regulation of the Organization of Educational Process under Individual Academic Plan (Including Intense Program) ([http://www.rshu.ru/sveden/document/smk-ond-38\\_18.pdf](http://www.rshu.ru/sveden/document/smk-ond-38_18.pdf))
6. QMS-OND -32/18 Regulations on the Ongoing Monitoring of Academic Performance and Students' Interim Assessment in Higher Education Programs - Bachelor, Specialist, Master ([http://www.rshu.ru/sveden/document/smk-ond-32\\_18.pdf](http://www.rshu.ru/sveden/document/smk-ond-32_18.pdf))
7. QMS-OND-41/18 Regulations on Conducting Final State Certification in Unaccredited Higher Education Programs - Bachelor, Specialist, Master ([http://www.rshu.ru/sveden/document/smk-ond-41\\_18.pdf](http://www.rshu.ru/sveden/document/smk-ond-41_18.pdf))
8. QMS-OND-18/18 Regulations on the Final State Certification of the Student Trained in Higher Education Programs - Bachelor, Specialist, Master (<http://www.rshu.ru/sveden/document/smk-ond-18-18.pdf>)
9. QMS-OND-32/16 Regulations on Graduation Qualification Work (GQW) ([http://www.rshu.ru/sveden/document/smk-ond-32\\_16\\_426.pdf](http://www.rshu.ru/sveden/document/smk-ond-32_16_426.pdf))
10. QMS-OND -29/18 Regulations on Organization of Fee-Based Educational Services (<http://www.rshu.ru/sveden/document/smk-ond-29-18.pdf>)
11. QMS-OND -33/18 Regulations on Students' Expulsion ([http://www.rshu.ru/sveden/document/smk-ond-33\\_18.pdf](http://www.rshu.ru/sveden/document/smk-ond-33_18.pdf))
12. QMS-OND -09/18 Regulations on the Transfer and Readmission of Students ([http://www.rshu.ru/sveden/document/2018/O\\_Perevode\\_i\\_Vosstanovlenii.pdf](http://www.rshu.ru/sveden/document/2018/O_Perevode_i_Vosstanovlenii.pdf))
13. QMS-OND-39/17 Regulations on Acceptance of the Results of Studying Subjects (Modules), Internships Used in Organizations Engaged in Educational Activities ([http://www.rshu.ru/sveden/document/smk-ond-39\\_17.pdf](http://www.rshu.ru/sveden/document/smk-ond-39_17.pdf))
14. QMS-OND-101/16 Procedure of Implementation of Educational Programs and Their Parts Using E-learning, Distance Educational Technologies at RSHU ([http://www.rshu.ru/sveden/document/smk-ond-39\\_18.pdf](http://www.rshu.ru/sveden/document/smk-ond-39_18.pdf))
15. QMS-OND-30/18 Regulations on External Studies ([http://www.rshu.ru/sveden/document/smk-ond-30\\_18.pdf](http://www.rshu.ru/sveden/document/smk-ond-30_18.pdf))
16. QMS-OND-40/18 Procedure of Preparing and Conducting Physical Education (Physical Training) Classes According to the Bachelor and/or Specialist Educational Programs when Implementing E-Learning and Distance Educational Technologies within Part-Time and Correspondence Forms of Studying and Curriculum Mastering by People with Disabilities ([http://www.rshu.ru/sveden/document/smk-ond-40\\_182.pdf](http://www.rshu.ru/sveden/document/smk-ond-40_182.pdf))

### Rules of Admission

17. Rules of Admission to RSHU (<http://dovus.rshu.ru/file2665.pdf>)

### Regulations on Internship Arrangement and Performance

18. QMS-OND-28/18 Regulations on Internship of the Students Mastering Higher Education Programs - Bachelor, Specialist, Master, Post-Graduate (<http://www.rshu.ru/sveden/document/smk-ond-28-18.pdf>)
19. QMS-OND-97/16 Regulations on Remuneration of Travelling and Other Expenses when Conducting Traineeship in FSBEI HE «RSHU»

[http://www.rshu.ru/sveden/document/24.03.2017/2.Poryadok\\_oplaty\\_proezda\\_i\\_drugih\\_raskhodov\\_prilozhenie\\_2\\_k\\_prikazu\\_39\\_ot\\_25.01.2017.pdf](http://www.rshu.ru/sveden/document/24.03.2017/2.Poryadok_oplaty_proezda_i_drugih_raskhodov_prilozhenie_2_k_prikazu_39_ot_25.01.2017.pdf).

### **Requirements to Educational Program and Curriculum Development**

20. QMS-OND -36/18 Procedure of Development, Approval and Execution of Educational Programs of Higher Education in RSHU ([http://www.rshu.ru/sveden/document/smk-ond-36\\_188.pdf](http://www.rshu.ru/sveden/document/smk-ond-36_188.pdf)).

### **Strategic Plans of Educational Program Development**

21. *05.03.05 Applied Hydrometeorology*  
([http://www.rshu.ru/sveden/document/plan\\_sp\\_05.03.05.pdf](http://www.rshu.ru/sveden/document/plan_sp_05.03.05.pdf))
22. *05.03.06 Ecology and Environmental Management*  
([http://www.rshu.ru/sveden/document/plan\\_sp\\_05.03.06.pdf](http://www.rshu.ru/sveden/document/plan_sp_05.03.06.pdf))
23. *35.03.08 Aquatic Bioresources and Aquaculture*  
([http://www.rshu.ru/sveden/document/plan\\_sp\\_35.03.08.pdf](http://www.rshu.ru/sveden/document/plan_sp_35.03.08.pdf))

### **The Main Educational Professional Programs**

*05.03.05 Applied Hydrometeorology*

Description:

[http://www.rshu.ru/sveden/education/program/download/6009/05.03.05\\_PO\\_OPOI\\_2018\\_O.pdf](http://www.rshu.ru/sveden/education/program/download/6009/05.03.05_PO_OPOI_2018_O.pdf)

Curriculum:

<http://www.rshu.ru/sveden/education/program/download/6297/05.03.05%20%D0%9F%D0%9E%202018%20%D0%BE%D1%87%D0%BD%D0%BE%D0%B5.pdf>

*05.03.06 Ecology and Environmental Management*

Description:

<http://www.rshu.ru/sveden/education/program/download/3332/05.03.06%20%D0%AD%D0%9F%20%D0%9E%D0%9F%D0%9E%D0%9F%202018.pdf>

Curriculum:

[http://www.rshu.ru/sveden/education/program/download/6177/PYI\\_05.03.06%202018%20Oчное.pdf](http://www.rshu.ru/sveden/education/program/download/6177/PYI_05.03.06%202018%20Oчное.pdf)

*35.03.08 Aquatic Bioresources and Aquaculture*

Description:

<http://www.rshu.ru/sveden/education/program/download/5853/35.03.08%20%D0%92%D0%91%D0%A0%20%D0%9E%D0%9F%D0%9E%D0%9F%202018.pdf>

Curriculum:

[http://www.rshu.ru/sveden/education/program/download/6231/%D0%A0%D0%A3%D0%9F\\_35.03.08%202018%20%D0%9E%D1%87%D0%BD%D0%BE%D0%B5.pdf](http://www.rshu.ru/sveden/education/program/download/6231/%D0%A0%D0%A3%D0%9F_35.03.08%202018%20%D0%9E%D1%87%D0%BD%D0%BE%D0%B5.pdf)



### **Diplomas and Appendices**

*05.03.05 Applied Hydrometeorology*

*05.03.06 Ecology and Environmental Management*

*35.03.08 Aquatic Bioresources and Aquaculture*

 РОССИЙСКАЯ ФЕДЕРАЦИЯ федеральное государственное бюджетное образовательное учреждение высшего образования «Российский государственный гидрометеорологический университет» Санкт-Петербург	Настоящий диплом свидетельствует о том, что <b>Виноградня</b> <b>Елизавета Сергеевна</b> освои(а) программу бакалавриата по направлению подготовки 05.03.05 Прикладная гидрометеорология и успешно прошел(ла) государственную итоговую аттестацию Решением Государственной экзаменационной комиссии присвоена квалификация бакалавр
<h1 style="margin: 0;">ДИПЛОМ БАКАЛАВРА</h1>	Протокол № _____ от «17» июня 2019 г. Председатель Государственной экзаменационной комиссии / Руководитель образовательной организации
107818 0967943 ДОКУМЕНТ ОБ ОБРАЗОВАНИИ И О КВАЛИФИКАЦИИ Регистрационный номер 1091 Дата выдачи 08 июля 2019 года	Иванова В. В. Палкин И. И.  М.П.

4. КУРСОВЫЕ РАБОТЫ (ПРОЕКТЫ)	ОЦЕНКА	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">                     Введение в сферу профессиональной деятельности                      Динамика океана                      Общая океанология                      Статистические методы анализа гидрометеорологической информации                 </td> <td style="width: 50%; text-align: center; padding: 5px;">                     отлично                      отлично                      отлично                      отлично                 </td> </tr> </table>	Введение в сферу профессиональной деятельности Динамика океана Общая океанология Статистические методы анализа гидрометеорологической информации	отлично отлично отлично отлично
Введение в сферу профессиональной деятельности Динамика океана Общая океанология Статистические методы анализа гидрометеорологической информации	отлично отлично отлично отлично			
5. ДОПОЛНИТЕЛЬНЫЕ СВЕДЕНИЯ Наименование образовательной организации изменилось в 2015 году. Прежнее наименование образовательной организации - федеральное государственное бюджетное образовательное учреждение высшего профессионального образования "Российский государственный гидрометеорологический университет". Форма обучения: очная. Направленность (профиль) образовательной программы: Прикладная океанология		РОССИЙСКАЯ ФЕДЕРАЦИЯ  федеральное государственное бюджетное образовательное учреждение высшего образования «Российский государственный гидрометеорологический университет» Санкт-Петербург		
/ Руководитель образовательной организации  М.П. Палкин И. И.		1. СВЕДЕНИЯ О ЛИЧНОСТИ ОБЛАДАТЕЛЯ ДИПЛОМА Фамилия Виноградня Имя Елизавета Отчество Сергеевна Дата рождения 25 февраля 1998 года Предыдущий документ об образовании или об образовании и о квалификации Аттестат о среднем общем образовании 2015 год		
ПРИЛОЖЕНИЕ К ДИПЛОМУ 107818 0668105 бакалавра Регистрационный номер 1091 Дата выдачи 08 июля 2019 года		2. СВЕДЕНИЯ О КВАЛИФИКАЦИИ Решением Государственной экзаменационной комиссии присвоена квалификация бакалавр 05.03.05 Прикладная гидрометеорология Срок освоения программы бакалавриата/специалитета в очной форме обучения 4 года		

1 ИЗ ДИПЛОМА НЕВЫПУСКАЕМО

3. СВЕДЕНИЯ О СОДЕРЖАНИИ И РЕЗУЛЬТАТАХ ОСВОЕНИЯ ПРОГРАММЫ БАКАЛАВРИАТА/СПЕЦИАЛИТЕТА

Наименование дисциплины (модулей) программ, вид практики	Количество зачетных единиц/ академических часов	Оценка
Безопасность жизнедеятельности	2 з.е.	зачтено
Введение в сферу профессиональной деятельности	3 з.е.	зачтено
Вычислительная математика	2 з.е.	зачтено
Геоинформационные системы (ГИС)	2 з.е.	зачтено
Геофизика	3 з.е.	хорошо
Геофизическая гидродинамика	3 з.е.	зачтено
Гидрохимия	2 з.е.	зачтено
Динамика океана	5 з.е.	хорошо
Динамическая метеорология	4 з.е.	хорошо
Инженерная океанология	3 з.е.	зачтено
Иностранный язык	8 з.е.	хорошо
Информатика	7 з.е.	отлично
Информационно-измерительные системы в гидрометеорологии	6 з.е.	удовлетворительно
История	4 з.е.	отлично
История океанографических исследований	3 з.е.	зачтено
Климатология	3 з.е.	зачтено
Контроль загрязнения природной среды	4 з.е.	хорошо
Математика	16 з.е.	отлично
Математические методы решения океанологических задач	3 з.е.	зачтено
Международное морское право	3 з.е.	отлично
Методы и средства гидрометеорологических измерений	6 з.е.	хорошо
Метрология, стандартизация и сертификация	2 з.е.	зачтено
Механика жидкости и газа	2 з.е.	зачтено
Моделирование экосистем	3 з.е.	зачтено
Морские гидрологические прогнозы	4 з.е.	хорошо
Морское дело, навигация, картография	2 з.е.	зачтено
Неконтактные методы в гидрометеорологии	2 з.е.	зачтено
Обработка спутниковой информации	4 з.е.	отлично
Общая океанология	6 з.е.	отлично
Оперативная океанография	2 з.е.	зачтено
Основы аквакультуры	3 з.е.	зачтено
Основы промысловой океанологии	3 з.е.	удовлетворительно
Правоведение	2 з.е.	зачтено
Региональная океанология	3 з.е.	хорошо
Русский язык и культура речи	3 з.е.	зачтено
Синоптическая метеорология	3 з.е.	зачтено
Статистические методы анализа гидрометеорологической информации	7 з.е.	хорошо
Теоретическая механика	2 з.е.	зачтено
Теория вероятностей и математическая статистика	2 з.е.	зачтено
Физика	15 з.е.	хорошо
Физика атмосферы	2 з.е.	зачтено
Физика вод суши	2 з.е.	зачтено
Физика океана	9 з.е.	хорошо
Физическая культура и спорт	2 з.е.	зачтено
Философия	4 з.е.	отлично
Химия	6 з.е.	отлично
Химия океана	2 з.е.	зачтено

Наименование дисциплины (модулей) программ, вид практики	Количество зачетных единиц/ академических часов	Оценка
Численные методы математического моделирования	2 з.е.	зачтено
Экология	4 з.е.	отлично
Экономика гидрометеорологического обеспечения хозяйственной деятельности	3 з.е.	хорошо
Экономика и управление производством	2 з.е.	зачтено
Электротехника и электроника	2 з.е.	зачтено
Практики в том числе:	33 з.е.	х
Производственная практика, научно-исследовательская работа	3 з.е.	зачтено
Учебная практика, практика по получению первичных профессиональных умений и навыков на учебной метеостанции	3 з.е.	отлично
Учебная практика, практика по получению первичных профессиональных умений и навыков (Ледовая практика)	3 з.е.	отлично
Учебная практика, практика по получению первичных профессиональных умений и навыков в Бюро морских прогнозов	3 з.е.	отлично
Учебная практика, практика по получению первичных профессиональных умений и навыков научно-исследовательской деятельности в морских экспедиционных исследованиях	6 з.е.	отлично
Учебная практика, практика по получению первичных профессиональных умений и навыков по морскому делу, навигации, картографии	6 з.е.	отлично
Производственная практика, практика по получению профессиональных умений и опыта профессиональной деятельности	6 з.е.	отлично
Преддипломная практика	3 з.е.	отлично
Государственная итоговая аттестация в том числе:	6 з.е.	х
Выпускная квалификационная работа (бакалаврская работа) "Исследование изменчивости наложения границы старых льдов в Северном Ледовитом океане в различные климатические периоды"	х	отлично
Объем образовательной программы в том числе объем работы обучающихся во взаимодействии с преподавателем:	240 з.е.	х
	4 684 час.	х





РОССИЙСКАЯ ФЕДЕРАЦИЯ  
федеральное государственное бюджетное образовательное учреждение высшего образования «Российский государственный гидрометеорологический университет»  
Санкт-Петербург

## ДИПЛОМ БАКАЛАВРА

107818 1077676  
ДОКУМЕНТ ОБ ОБРАЗОВАНИИ И О КВАЛИФИКАЦИИ

Регистрационный номер  
1458

Дата выдачи  
09 июля 2019 года

Настоящий диплом свидетельствует о том, что

**Бахаманов  
Виталий Леонидович**

освоил(а) программу бакалавриата по направлению подготовки  
05.03.06 Экология и природопользование

и успешно прошел(ла) государственную итоговую аттестацию

Решением Государственной экзаменационной комиссии  
присвоена квалификация  
бакалавр

Протокол № \_\_\_\_\_ июня 2019 г.

Председатель  
Государственной  
экзаменационной комиссии  
/ Руководитель образовательной  
организации



Егоров А. Н.  
Палкин И. И.

М.П.



4. КУРСОВЫЕ РАБОТЫ (ПРОЕКТЫ)	ОЦЕНКА
Биология Методы обработки и анализ геоэкологической информации Почвоведение и экология почв Экологический мониторинг	хорошо отлично хорошо отлично

5. ДОПОЛНИТЕЛЬНЫЕ СВЕДЕНИЯ  
Наименование образовательной организации изменилось в 2015 году.  
Прежнее наименование образовательной организации - федеральное государственное бюджетное образовательное учреждение высшего профессионального образования "Государственная полярная академия".  
Форма обучения: очная.  
Направленность (профиль) образовательной программы: Экологические проблемы больших городов, промышленных зон и полярных областей

/ Руководитель образовательной организации



Палкин И. И.

БЕЗ ДИПЛОМА НЕДЕЙСТВИТЕЛЬНО



федеральное государственное бюджетное образовательное учреждение высшего образования «Российский государственный гидрометеорологический университет»  
Санкт-Петербург

ПРИЛОЖЕНИЕ  
К ДИПЛОМУ  
107818 1083589  
бакалавра  
Регистрационный номер  
1458  
Дата выдачи  
09 июля 2019 года

1. СВЕДЕНИЯ О ЛИЧНОСТИ ОБЛАДАТЕЛЯ ДИПЛОМА

Фамилия Бахаманов  
Имя Виталий  
Отчество Леонидович  
Дата рождения 15 сентября 1997 года  
Предшествующий документ об образовании или об образовании и о квалификации  
Аттестат о среднем общем образовании 2015 год

2. СВЕДЕНИЯ О КВАЛИФИКАЦИИ

Решением Государственной экзаменационной комиссии присвоена квалификация  
бакалавр  
05.03.06 Экология и природопользование

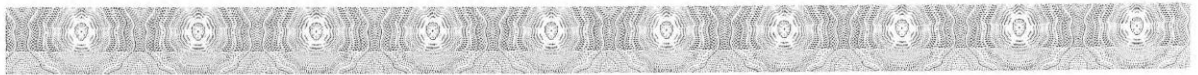
Срок освоения программы бакалавриата/специалитета в очной форме обучения  
4 года

БЕЗ ДИПЛОМА НЕДЕЙСТВИТЕЛЬНО

3. СВЕДЕНИЯ О СОДЕРЖАНИИ И РЕЗУЛЬТАТАХ ОСВОЕНИЯ ПРОГРАММЫ БАКАЛАВРИАТА/СПЕЦИАЛИТЕТА

Наименование дисциплины (модулей) программы, вида практики	Количество зачетных единиц/ академических часов	Оценка
Аналитическая химия	2 з.е.	зачтено
Банки и базы данных в геоэкологии	3 з.е.	зачтено
Безопасность жизнедеятельности	2 з.е.	зачтено
Биология	6 з.е.	хорошо
Биоразнообразие	2 з.е.	зачтено
География	3 з.е.	зачтено
Геодезия и картография	4 з.е.	хорошо
Геоинформационные системы в экологии и природопользовании	6 з.е.	хорошо
Геокирпология и гляциология	2 з.е.	зачтено
Геология	2 з.е.	зачтено
Геохимия окружающей среды	3 з.е.	зачтено
Геоэкология	3 з.е.	хорошо
Гидрология вод суши	3 з.е.	хорошо
Гидрохимия	4 з.е.	хорошо
Глобальные и региональные экологические проблемы	4 з.е.	отлично
Инженерия геология	2 з.е.	зачтено
Инженерия экология	3 з.е.	зачтено
Иностранный язык	9 з.е.	отлично
Информатика	6 з.е.	отлично
История	2 з.е.	зачтено
Ландшафтоведение	2 з.е.	зачтено
Математика	9 з.е.	отлично
Математическое моделирование антропогенных воздействий на атмосферу	3 з.е.	зачтено
Методы обработки и анализ геоэкологической информации	6 з.е.	хорошо
Нетрадиционные виды энергетики	3 з.е.	зачтено
Нормирование и снижение загрязнения окружающей среды	3 з.е.	зачтено
Основы метеорологии и климатологии	3 з.е.	зачтено
Основы природопользования	3 з.е.	отлично
Охрана окружающей среды	4 з.е.	отлично
Оценка воздействия на окружающую среду	3 з.е.	зачтено
Почвоведение и экология почв	6 з.е.	хорошо
Правоведение	3 з.е.	зачтено
Правовые основы природопользования и охраны окружающей среды	2 з.е.	зачтено
Прикладные программные системы в экологии	2 з.е.	зачтено
Психология и педагогика	3 з.е.	зачтено
Радиационная экология	2 з.е.	зачтено
Рекультивация земель	3 з.е.	зачтено
Русский язык и культура речи	3 з.е.	зачтено
Социальная экология	3 з.е.	отлично
Социология	2 з.е.	зачтено
Теория вероятностей и математическая статистика	3 з.е.	зачтено
Техногенные системы и экологический риск	3 з.е.	отлично
Управление природопользованием	2 з.е.	зачтено
Управление природопользованием в Арктике	2 з.е.	зачтено
Устойчивое развитие	2 з.е.	зачтено
Устойчивое управление экосистемами	3 з.е.	зачтено

Наименование дисциплины (модулей) программы, вида практики	Количество зачетных единиц/ академических часов	Оценка
Физика	11 з.е.	хорошо
Физика атмосферы	2 з.е.	зачтено
Физическая культура и спорт	2 з.е.	зачтено
Философия	2 з.е.	зачтено
Химические основы экологического мониторинга	3 з.е.	хорошо
Химия	7 з.е.	хорошо
Экологический менеджмент	4 з.е.	отлично
Экологический мониторинг	4 з.е.	отлично
Экологическое страноведение	2 з.е.	зачтено
Экология и эволюция биосферы	6 з.е.	хорошо
Экология человека	2 з.е.	зачтено
Экономика	2 з.е.	зачтено
Экономика природопользования	3 з.е.	отлично
Практики в том числе:	30 з.е.	x
Учебная практика, практика по получению первичных профессиональных умений и навыков (Геодезия)	3 з.е.	отлично
Учебная практика, практика по получению первичных профессиональных умений и навыков (Геология)	3 з.е.	отлично
Учебная практика, практика по получению первичных профессиональных умений и навыков(Биология)	6 з.е.	отлично
Учебная практика, практика по получению первичных профессиональных умений и навыков(Гидрохимия)	3 з.е.	хорошо
Учебная практика, практика по получению первичных профессиональных умений и навыков(Почвоведение и ландшафтоведение)	6 з.е.	удовлетворительно
Производственная практика, практика по получению профессиональных умений и опыта профессиональной деятельности	6 з.е.	хорошо
Преддипломная практика	3 з.е.	зачтено
Государственная итоговая аттестация в том числе:	6 з.е.	x
Выпускная квалификационная работа (бакалаврская работа) "Система управления твердыми коммунальными отходами в Республике Коми"	x	отлично
Объем образовательной программы в том числе объем работы обучающихся во взаимодействии с преподавателем:	240 з.е.	x
	3 604 час.	x



РОССИЙСКАЯ ФЕДЕРАЦИЯ  
федеральное государственное бюджетное образовательное учреждение высшего образования «Российский государственный гидрометеорологический университет»  
Санкт-Петербург

ДИПЛОМ  
БАКАЛАВРА

107818 0968148

ДОКУМЕНТ ОБ ОБРАЗОВАНИИ И О КВАЛИФИКАЦИИ

Регистрационный номер  
1410

Дата выдачи  
09 июля 2019 года

Настоящий диплом свидетельствует о том, что

Ахмадеева  
Арина Станиславовна

освоил(а) программу бакалавриата по направлению подготовки

35.03.08 Водные биоресурсы и аквакультура

и успешно прошел(ла) государственную итоговую аттестацию

Решением Государственной экзаменационной комиссии  
присвоена квалификация  
бакалавр

Протокол № 1 от «27» июня 2019 г.

Председатель  
Государственной  
экзаменационной комиссии

/ Руководитель образовательной  
организации



Голод В. М.

Палкин И. И.

М.П.



4. КУРСОВЫЕ РАБОТЫ (ПРОЕКТЫ)	ОЦЕНКА
Биологические основы рыбоводства Биология Искусственное воспроизводство рыб	отлично хорошо хорошо

5. ДОПОЛНИТЕЛЬНЫЕ СВЕДЕНИЯ  
Наименование образовательной организации изменилось в 2015 году.  
Прежнее наименование образовательной организации - федеральное государственное бюджетное образовательное учреждение высшего профессионального образования "Государственная полярная академия".  
Форма обучения: очная.  
Направленность (профиль) образовательной программы: Управление водными биоресурсами и аквакультура

/ Руководитель образовательной  
организации



Палкин И. И.

М.П.

РОССИЙСКАЯ  
ФЕДЕРАЦИЯ



федеральное государственное  
бюджетное образовательное  
учреждение высшего образования  
«Российский государственный  
гидрометеорологический  
университет»  
Санкт-Петербург

ПРИЛОЖЕНИЕ  
К ДИПЛОМУ

107818 1083578

бакалавра

Регистрационный  
номер

1410

Дата выдачи

09 июля 2019 года

1. СВЕДЕНИЯ О ЛИЧНОСТИ ОБЛАДАТЕЛЯ ДИПЛОМА

Фамилия Ахмадеева

Имя Арина

Отчество Станиславовна

Дата рождения 07 июня 1997 года

Предшествующий документ об образовании или  
об образовании и о квалификации

Аттестат о среднем общем образовании 2015 год

2. СВЕДЕНИЯ О КВАЛИФИКАЦИИ

Решением Государственной экзаменационной  
комиссии присвоена квалификация

бакалавр

35.03.08 Водные биоресурсы и аквакультура

Срок освоения программы бакалавриата/специалитета  
в очной форме обучения

4 года

3. СВЕДЕНИЯ О СОДЕРЖАНИИ И РЕЗУЛЬТАТАХ ОСВОЕНИЯ ПРОГРАММЫ БАКАЛАВРИАТА/СПЕЦИАЛИТЕТА

Наименование дисциплины (модулей) программы, вида практики	Количество зачетных единиц/ академических часов	Оценка
Анатомия и физиология рыб	3 з.е.	зачтено
Безопасность жизнедеятельности	2 з.е.	зачтено
Биологические основы рыбоводства	5 з.е.	хорошо
Биология	5 з.е.	хорошо
Биоразнообразие	3 з.е.	зачтено
Введение в специальность	2 з.е.	зачтено
Водные биоресурсы Балтийского моря и пресноводных водоемов Северо-Запада РФ	5 з.е.	отлично
Водные растения	2 з.е.	зачтено
Воспроизводство водных биологических ресурсов и аквакультура	4 з.е.	отлично
Генетика и селекция рыб	4 з.е.	хорошо
География водных ресурсов и рыбохозяйственной деятельности РФ	3 з.е.	зачтено
Гидробиология	5 з.е.	отлично
Гидрометеорологическое обеспечение рыбного хозяйства	4 з.е.	хорошо
Гистология и эмбриология рыб	5 з.е.	хорошо
Декоративное рыбоводство и аквариумистика	6 з.е.	отлично
Зоология	5 з.е.	хорошо
Иностранный язык	10 з.е.	отлично
Иностранный язык в профессиональной сфере	2 з.е.	зачтено
Информатика	3 з.е.	зачтено
Искусственное воспроизводство рыб	4 з.е.	хорошо
История	2 з.е.	зачтено
Ихтиология	7 з.е.	хорошо
Ихтиопатология	4 з.е.	отлично
Ихтиотоксикология	4 з.е.	отлично
Концепции современного естествознания	2 з.е.	зачтено
Культивирование беспозвоночных	5 з.е.	отлично
Культурология	2 з.е.	зачтено
Логика	2 з.е.	зачтено
Математика	7 з.е.	хорошо
Менеджмент и маркетинг	2 з.е.	зачтено
Методы рыбохозяйственных исследований	5 з.е.	хорошо
Микробиология	2 з.е.	зачтено
Обработка данных наблюдений и экспериментов в рыбном хозяйстве	3 з.е.	зачтено
Общая и неорганическая химия	3 з.е.	зачтено
Органическая и биологическая химия	5 з.е.	отлично
Охрана и мониторинг водных объектов рыбохозяйственного значения	3 з.е.	зачтено
Оценка воздействия на окружающую среду	2 з.е.	зачтено
Пищевая химия рыбопродуктов	2 з.е.	зачтено
Правоведение	2 з.е.	зачтено
Практикум по промысловой гидробиологии	2 з.е.	зачтено
Природные ресурсы Севера РФ	3 з.е.	зачтено
Природопользование рек и озер	4 з.е.	отлично
Проблемы воспроизводства лососевых и сиговых рыб	4 з.е.	удовлетворительно
Промысловая гидробиология	4 з.е.	отлично

Наименование дисциплины (модулей) программы, вида практики	Количество зачетных единиц/ академических часов	Оценка
Психология и педагогика	2 з.е.	зачтено
Русский язык и культура речи	2 з.е.	зачтено
Рыбохозяйственная гидротехника	2 з.е.	зачтено
Рыбохозяйственное законодательство	2 з.е.	зачтено
Санитарная гидробиология	3 з.е.	зачтено
Санитарная гидротехника	3 з.е.	зачтено
Сырьевая база рыбной промышленности	2 з.е.	зачтено
Теория эволюции	4 з.е.	хорошо
Товарное рыбоводство	4 з.е.	отлично
Физическая культура и спорт	2 з.е.	зачтено
Философия	2 з.е.	зачтено
Экология и природопользование	4 з.е.	отлично
Экономика	2 з.е.	зачтено
Этика	2 з.е.	зачтено
Практики	27 з.е.	х
в том числе:		
Учебная практика, практика по получению первичных профессиональных умений и навыков № 1 - Изучение водной среды и гидробионтов	6 з.е.	хорошо
Производственная практика, практика по получению профессиональных умений и опыта профессиональной деятельности № 1.1 - Изучение сезонных явлений у рыб	3 з.е.	отлично
Производственная практика, практика по получению профессиональных умений и опыта профессиональной деятельности № 1.2 - работа на предприятии	6 з.е.	отлично
Производственная практика, практика по получению профессиональных умений и опыта профессиональной деятельности № 2 - Отбор половых продуктов у рыб	3 з.е.	отлично
Учебная практика, практика по получению профессиональных умений и опыта профессиональной деятельности №2- Биологические и технологические основы рыбоводства; рыбоохрана	6 з.е.	отлично
Преддипломная практика	3 з.е.	отлично
Государственная итоговая аттестация в том числе:	9 з.е.	х
Выпускная квалификационная работа (бакалаврская работа) "Перспективы разведения креветки <i>Scudocarpus salibroga</i> в условиях установки замкнутого водоснабжения"	х	отлично
Объем образовательной программы в том числе объем работы обучающихся во взаимодействии с преподавателем:	240 з.е.	х
Факультативные дисциплины в том числе:	3 612 час.	х
Латинский язык для биологов	2 з.е.	зачтено