

REVIEW OF THE SCIENTIFIC SUPERVISOR OF THE FINAL GRADUATION WORK

Topic of the final graduation work_____ **Modeling of Arctic Lacustrine Ecosystem**

Under Climate Change

Author (student)_____ **Ying Yang**

Educational program Cold Regions Environmental Landscapes Integrated Sciences (CORELIS)

Class Level: Master's program

Scientific Supervisor_ Dr.Fedorova Irina Viktorovna, Associate Professor

Professional Requirements	Corresponds	Mostly correspond	Not correspond
to be able to correctly formulate and set tasks (problems) of their activities in the performance of work, analyze, diagnose the causes of problems, determine their relevance		+	
to be able to use, process and analyze modern scientific, statistical, analytical information;		+	
own modern methods of analyzing and interpreting the information received, to assess their capabilities in addressing the tasks (problems)		+	
to be able to rationally plan the time of work's performance, determine the correct sequence and volume of operations and decisions in the performance of the task;		+	
be able to evaluate objectively the results of calculations and calculations;		+	
to be able to analyze the results of data interpretation;	+		
know and apply methods of system analysis;		+	
be able to implement interdisciplinary research;		+	
to be able to make independent substantiated and reliable conclusions from the work done		+	
to be able to use scientific literature and a professional orientation		+	
to be able to apply modern graphic, cartographic, computer and multimedia technologies in the study		+	
to be able to use cartographic methods using GIS		+	

Noted advantages of work _____

Ying Yang has used modeling in FLAKE in her Master thesis. She is considering 6 arctic lakes from different regions. Using climate scenario give the possibility to predict heat flux change for lakes and to show differences of variation.

Noted disadvantages of work _____

Unfortunately only surface water temperature and ice period duration are modeled in the work. Bottom temperature and hydrophysical dynamic in the lakes could be also quite important for scientific results caring out.

The list of reviews are very shot – only 6 articles! The topic of heat flux and ice covering change for lakes are very significant and discussible in current scientific papers. Author can have more overviews as well.

Supervisor's conclusion _____

Ying Yang is able to work on her tasks detail and carefully. The diploma follows the requirements for the graduate qualification work of the Master, the author can be awarded a Master's qualification on "Ecology and environmental management."



Supervisor _____ Fedorova I.V. «_11_» _____ June _____ 2022 year.