УТВЕРЖДАЮ

Заведующий кафедрой

общего землеведения и гидрометеорологии

факультета географии и геоинформатики БГУ

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Ю.А. Гледко

21 ноября 2023 г., протокол №\_5\_

**Вопросы**

**к зачету по учебной дисциплине**

**«GIS Technologies in Hydrometeorological Researches» / Геоинформационное обеспечение гидрометеорологических исследований (магистратура англоязычная)**

1. Concept and main types of GIS. GIS structure. Data sources for GIS.

2. Advantages of GIS QGIS in editing satellite data.

3. Definition of OVR methods, spline and kriging, TIN models in GIS QGIS.

4. Giovanni system. Geoscience Data Clearing Center GES DISC.

5. Main types of data analysis and visualization in Giovanni.

6. Satellite systems for monitoring the atmosphere.

7. The concept of reanalysis and its functions

8. Types and data of reanalysis in Giovanni and GES DISC.

9. Hydrometeorological data formats: NetCDF, nc, HDF and GRIB Data. Difference and application.

10. Methodology for recording data entry into the RayMan bioclimatic model.

11. Thermal indices of climate comfort.

12. Climatic indices of climate comfort.

13. Overview of Origin Pro data processing methods.

14. Databases of geoinformation support for users.

15. Methodology for determining correlation dependencies using GIS systems – Origin Pro, Giovanni.

16. Principles of analyzing long-term data using GIS Giovanni.

17. Algorithm for obtaining the temperature of the earth's surface in QGIS using Landsat-8 satellite data.

18. Algorithm for assessing the burned earth's surface in QGIS using Landsat-8 satellite data.

19. Scheme for obtaining the temperature of the earth's surface in QGIS using Sentinel-3 satellite data.

20. Algorithm for constructing spatial maps using hydrometeorological data in QGIS.

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