УТВЕРЖДЕНО

Решение заседания кафедры

общего землеведения и гидрометеорологии

факультета географии и геоинформатики БГУ

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Теоретические вопросы для проведения экзамена

по учебной дисциплине «Climate Projections»

Форма проведения – тестирование

1. Features of current global climate changes

2. Long-term prospects for anthropogenic climate change.

3. Projections of future climate change.

4. Climate change variability and signals.

5. Sources of uncertainty in climate modeling.

6. Climate models. Models of the Earth system.

7. Methods of modeling, comparison and evaluation of effectiveness.

8. Ensemble modeling techniques.

9. Sixth phase of the Coupled Model Intercomparison Project (CMIP6).

10. Regional downscaling experiment (CORDEX).

11. Model evaluation tools.

12. Weighting methods for comparing models.

13. Scenarios, levels of global warming and total carbon emissions.

14. Scenarios. Common socio-economic pathways.

15. Changes in natural and climatic factors.

16. Modern measurements of emissions of carbon dioxide, methane, nitrogen oxide.

17. Short-lived gases: stratospheric water vapor, stratospheric ozone, tropospheric ozone.

18. Aerosols. Land use and land cover.

19. Effective radiation exposure

20. Transformation of the global hydrological cycle.

21. Paleoretrospective of the global hydrological cycle.

22. Dynamics of air humidity. Total amount of water vapor.

23. Distribution of global precipitation. Precipitation minus evaporation. Stock.

24. Transformation of atmospheric circulation.

25. Hadley and Walker circulation. Global changes in monsoons.

26. Extratropical jet streams, storm tracks and blocking.

27. Changes in the regime of surface wind and pressure at sea level.

28. Stratospheric polar vortex and sudden warming.

29. Changes in glaciers and sea levels.

30. Ocean circulation.

31. Changing the regime of NAO, ENSO, AMO, PAO, dipole modes

32. Human influence on the atmosphere and the earth’s surface.

33. Model intercomparison projects and ensemble methodologies.

34. Sources of short-term information.

35. Quantification of various sources of uncertainty.

36. Projected changes in global climate indices in the 21st century.

37. Short-term global climate change.

38. Spatial patterns of the Earth's surface warming

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