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 «Regional Synoptic Processes»

Форма проведения – устная

1. The regional synoptic process. The main factors determining the development of the regional synoptic process.

2. Anomalies in the development of synoptic processes.

3. Concept and main characteristics of dangerous weather phenomena.

4. Criteria for identifying dangerous weather phenomena.

5. Impact of dangerous weather phenomena on various economic activities.

6. Concept and basic elements of global atmospheric circulation.

7. The atmospheric Centers of Action. Circulation in the troposphere.

8. Types of atmospheric circulation.

9. Main features of circulation in the stratosphere.

10. Classifications of atmospheric processes. Circulation indices.

11. Teleconnection schemes and their application in the analysis of regional synoptic processes.

12. The influence of orography on atmospheric processes.

13. Thermal regime in the mountains throughout the year.

14. Conditions for the formation of mountain-valley circulation.

15. Conditions for forming a Foehn wind. Humidity and thermal regime during the Foehn wind.

16. Cyclone segmentation.

17. The influence of orography on the temperature and humidity regime.

18. Local winds.

19. Features of atmospheric processes in the Atlantic-European sector.

20. Modern changes in regional synoptic processes in Europe.

21. Synoptic processes over the Asia-Pacific region.

22. Monsoon circulation.

23. Typhoons.

24. Anticyclonic activity. Stationary and blocking anticyclones. Blocking criteria.

25. Synoptic conditions for the occurrence of strong winds and squalls.

26. Synoptic conditions for the occurrence of tornadoes and dust storms.

27. Synoptic conditions for the occurrence of heavy precipitation and showers.

28. Synoptic conditions for the occurrence of snowstorms and blizzard.

29. Synoptic conditions for the occurrence of wet snow, ice, sleet.

30. Synoptic conditions for the occurrence of fog.

31. Convective activity, synoptic conditions for the occurrence of convective phenomena.

32. Circulation conditions of occurrence of droughts, dry winds.

33. Conditions for the occurrence of heat and cold waves, spring cold returns.

34. Modern global and regional methods of forecasting dangerous weather phenomena, their advantages and disadvantages.

35. Satellite monitoring of atmospheric processes.

36. Nowcasting systems and storm warning systems.

37. Specialized forecasts.

38. Limits of predictability of atmospheric processes.

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