

北海道大学大学院環境科学院  
環境起学専攻  
人間・生態システムコース

**Course in Human and Ecological Systems**  
**Division of Environmental Science Development**  
**Graduate School of Environmental Science, Hokkaido University**

令和7年度4月入学大学院修士課程入学試験問題（春季入試）  
Entrance Examination

専門科目  
Specialized Subjects  
[留学生用]  
[For International Students]

- All the questions must be answered in English.
- The backside of the answer sheet can be used if necessary.

February 18, 2025



**Question** Choose 8 among the following terms and descriptions related to the research in the Course in Human and Ecological Systems, and explain each of them in 3-4 lines. The answer should include the number you choose.

1. Sea cave
2. Erratic boulder
3. Free meandering river
4. Headward erosion
5. Cut and fill of land
6. Meaning and examples of protected areas
7. Asymmetric competition
8. Mycorrhiza
9. Red List
10. Difference between alpha and gamma diversity
11. Integrated Water Resources Management (IWRM)
12. Mechanism(s) of ocean acidification and its major impact
13. Thermal wind
14. Doppler radar
15. Heat island
16. Baroclinic instability
17. OLR (Outgoing Longwave Radiation)
18. Moist adiabatic lapse rate
19. Difference between umbrella species and flagship species
20. Environmental gradient
21. Difference between primary consumer and secondary consumer in ecosystems
22. Animal migration
23. Nationally Certified Sustainably Managed Natural Sites
24. Impacts of climate change on phenology
25. Three types of rock weathering
26. Plate tectonics
27. Cryoturbation
28. Patterned grounds
29. Ice wedge
30. Problems caused by frost heaving