

GEOGRAPHY AND PLANNING

GPHY 318 – Advanced Biogeography



Course Instructor	Dr. Ryan Danby	Email: ryan.danby@queensu.ca
Office	MC D131 & Biosci 3134a	
Contact Time	None scheduled; remote/online delivery	
Format	Mini-lectures; virtual field trips; readings; biogeographic data analysis	
Class Assessment	Project and assignments based on virtual field trip and data analysis Worksheets and lecture syntheses	

COURSE OVERVIEW

An examination of the distributions of plants and animals on global, regional and local scales, as well as the ecological processes that create variation in their distribution through space and time. Major methods used in biogeography are surveyed by drawing on applications from the major biomes of Canada.

LEARNING OUTCOMES

- Identify and understand the variables that influence the distribution of species and learn how these vary with scale of observation;
- Explore selected issues in ecological biogeography by way of a targeted set of scientific readings;
- Identify current paradigms in biogeography and apply biogeographical theory to 'real world' examples;
- Develop an understanding of the prominent methods and techniques used in biogeography, and gain experience in the use of quantitative methods through a set of assigned exercises.

COURSE TOPICS

- Ecological land classification
- Survey of North American biogeographical regions (e.g. biomes, ecoregions, etc.)
- Biogeography of global change (climate change impacts on ecosystems)
- Vegetation distribution and dynamics (succession and natural disturbance)
- Biogeographical methods and applications, including ecosystem inventory and characterization, dendrochronology, pollen analysis, community composition analysis, species distribution modeling

COURSE READINGS

Weekly readings are a set of journal articles and book chapters that will be available on-line.