

Biology 2100: Island Biogeography of New Zealand  
South Pacific Study Abroad Program, Spring 2007

Instructors: Dr. David Garton, School of Biology  
Dr. John Collen, Victoria University at Wellington

Course Description:

This course introduces students to the basic concepts of biogeography (factors determining the distribution of species) and as applied in the special case of islands. The two oceanic islands comprising New Zealand provide relevant examples of the interaction of geology (plate tectonics, island formation, geological history, and the influence of land forms) and biology (size of islands, distance from mainland, adaptive radiation and island endemism). The first half of the course focuses on the geological setting of New Zealand, and the second half on the biological processes of colonization, adaptive radiation and extinction. The varied land forms of New Zealand provide an excellent laboratory for observing the island forming process, which is still active. National parks have preserved the natural plant and animal communities, found nowhere else on the planet, and which the students will have the opportunity to observe first-hand.

This course includes field trips to geological sites and natural preserves. All students should be able to negotiate difficult terrain, as well as be prepared to deal with inclement weather.

Textbook:

*Song of the Dodo*, David Quammen. This also course uses detailed hand-outs and field exercises prepared specifically for this course by the participating faculty.

Grading statement:

Two midterm exams (closed notes):	25% each
Two in-class quizzes	10% each
Field journal:	20%
Research paper:	10%

Both exams will be administered at Victoria University. The field journals, which include data analysis and interpretation to answer specific questions, will be due two weeks after the class returns to the US.

Date	Lecture Topic	Field Activity
TBA	Pre-departure lectures	
Jan 8	Introduction to Geology	Local field trip to exposed marine sediments near Wellington
Jan 9	Principles of Geology & Stratigraphy	
Jan 10	Formation of Oceanic Islands	
Jan 11	Dating Significant Geologic Events	

Jan 15	Volcanoes and Uplifting	Week-end field trip to Lake Taupo volcanic region
Jan 16	Formation of Atolls & Island Chains	
Jan 17	Geological History of New Zealand 1	
Jan 18	Geological History of New Zealand 2	
Jan 22	Climate Zones & Habitats of New Zealand	
Jan 23	Global Warming: Magnitude & Timing	
Jan 24	Review Session	
Jan 25	Midterm Exam 1	
Jan 29	Theory of Natural Selection	Local field trip to Karori Wildlife Sanctuary
Jan 30	Dispersal Methods of Plants & Animals	
Jan 31	Island Models of Colonization	
Feb 1	Island Models of Extinction	
Feb 5	Adaptive Radiation on Isolated Islands	All day field trip to Mt. Bruce Wildlife Centre
Feb 6	Unique Plants of New Zealand	
Feb 7	Unique Animals of New Zealand	
Feb 8	Application of Biogeography to Conservation of Endangered Species	
Feb 12	Late Arrivals: Impact of Human Migration	Local field trip to Te Papa, the national cultural museum in Wellington
Feb 13	Global Warming & the New Zealand Biota	
Feb 14	Student Presentations	
Feb 15	Review Session	
Feb 16	Second Mid-Term Exam	
Feb 17	Depart for Sydney, Australia	