



Séminaire de Biologie

How species persistence is influenced by global change

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Salle Guillermond (Herbier)

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Marie-Josée Fortin

University of Toronto

Department of Ecology and Evolutionary Biology

mariejosee.fortin@utoronto.ca

Species distribution ranges are dynamic due to disturbances, land-use change, and climate change. These dynamic landscapes affect species dispersal, population dynamics, and species genetic structures. This is especially true in southern Ontario (Canada) where several species reach either the northern or southern edge of their geographical range. To ensure the persistence of both habitat and species spatially-explicit landscape models, correlative methods, and population dynamics models need to be coupled. Here I show how the coupling of environmental changes in combination with various climatic scenarios help to predict better species distribution shifts under global change. I illustrate the advantages of using coupled modelling approaches that combined both correlative and mechanistic models using bird species (Hooded warbler, Golden-winged warbler, and Blue-winged warbler). Then using genetic data of boreal chorus frogs in Colorado, I show the importance of fluctuating habitat quality and species dispersal ability.



Hôte BioEnviS: *Stéphane Dray*
Stephane.Dray@univ-lyon1.fr