



INTERNATIONAL WINTER ECOLOGY

January 3-20, 2016



Paul Smith's College 3 Credit upper division science course: Study the challenges of winter survival for organisms in the Adirondacks and Russia. In collaboration with Moscow State University.



The structure and value of snowcover

Physiology of plants and animals



EXPLORE THE

Science of winter

On opposite sides of the Northern Hemisphere



Winter research and travel skills



Animal behavior in winter



Tracking



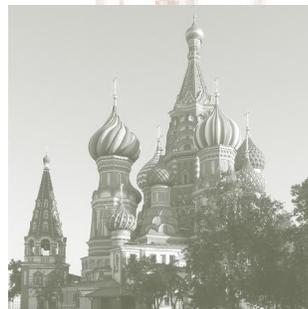
Winter woody plant ID



Overwintering Invertebrates and hydrobiology



Travel and culture



Interested? Contact: cevans@paulsmiths.edu
office phone 518-327-6460

International Winter Ecology

www.paulsmiths.edu

College of the Adirondacks



Description

Course Information:

In this unique science offering, we apply basic principles of biology, chemistry, and physics to study the challenges life in the winter in two northern habitats located on opposite sides of the globe. The 17 day course is offered collaboratively in the Adirondacks (7 days), NY, at Paul Smiths College, and at Moscow State Universities' Zvenigorod field station (10 days) Taught by both PSC and MSU faculty.

Prerequisites

General Ecology (Bio 210) OR Forest Ecology (For 310) - or equivalent from other institutions, AND one additional 300-400 level Biology course.

Objectives

Students will be able to:

1. describe, compare and contrast the adaptations of different taxa of plants and animals to the challenges of life in a winter.
2. discuss the behavioral and physiological options for living through winter in animals and plants, invertebrates and amphibians
3. explain physical mechanisms of the metamorphosis of snow and the effects on insulative capacity and light transmission.
4. identify tracks of common winter active animals at both field sites
5. identify common trees and woody shrubs at both field sites



Defining winter: the challenges to biological organisms, Staying versus going – trade-offs
 Options for staying: Physiological, morphological, behavioral, Energy balance in plants and animals
 The Changing Snowpack - metamorphosis of snow, Tracks and winter plant identification
 Winter ecology research, Winter Ecology of Vertebrates, birds, invertebrates and plants
 Winter Hydrobiology

Faculty



Professor of Record: Celia Evans PhD, Professor of Ecology Paul Smith's College
Several Moscow State University Professors
Led by: Yulia Kraus, Ph.D

Culture

We will be snowshoeing, and cross country skiing in the Adirondacks, and an evening in Lake Placid New York. During our study in Russia we will also visit a monastery in Zvenigorod and spend a day touring Moscow. Students will work with faculty from both countries and may be joined in winter studies by students from other countries while in Russia



Course fee

Estimated course fee includes tuition, airfare, and room and board.

\$ 3,650.00 (cost may vary slightly with exchange rates mostly due to cost of airfare to Moscow)



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Please leave your name, your e-mail address and phone number