

Earthwatch fellows will support research on the following expeditions:

Canada: Climate Change at the Arctic's Edge (July 9-19, 2015)

The Arctic's edge holds evidence of global warming: shrinking areas of polar sea ice, retreating glaciers, and less extensive winter snowpack that also melts earlier. Over the next few decades, scientists expect to observe the greatest effect of global warming at these higher latitudes. With this expectation in mind, Churchill Northern Studies Centre (CNSC) has established an environmental monitoring program to collect baseline quantitative data on climate-related changes in northern ecosystems.

On this project, you will conduct research at the Churchill Northern Studies Center (CNSC), located at the crossroads of subarctic and boreal (woodland) habitats which make up the largest contiguous wetland in North America and the third largest wetland in the world. While working at CNSC, you will spend about 50% of your time in the field collecting data on the physical and biological characteristics of the environment, such soil sampling, permafrost coring, thaw depth measurements, and vegetation sampling. The rest of your time will be in the laboratory helping to set up and monitor equipment and collect data on features of the snowpack, permafrost, and soil.

Ecuador: Climate Change and Caterpillars (June 26-July 4, 2015)

To effectively protect and manage diminishing natural ecosystems, we need as much information as possible about the interactions of organisms within ecosystems, especially organisms as diverse and important as caterpillars. Scientist Lee Dyer and his team of researchers examine factors that affect interactions among plants, caterpillars, and their natural enemies. This three-tiered study system allows for insights into "tri-trophic" interactions – in other words, it examines the relationships among three distinct levels of the food web.

On this project, you will conduct research in a cloud forest at the Yanayacu Biological Station, situated on the equator on the eastern slope of the Andes and located three to four hours from Quito via a dirt road. You will spend about 70% of your time in the field searching for caterpillars, collecting host plants, collecting material for laboratory or computer analysis, and conducting experiments. You will spend the rest of your time (approximately 30%) in the lab entering data, doing computer work, and helping to rear caterpillars. Currently, the project is rearing caterpillars of over 300 species, collecting data on mortality and isolating specific chemical compounds to test their potential defense against parasitoids.

Arizona (USA): Climate Change and Caterpillars (July 24- August 1, 2015)

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On this project, you will conduct caterpillar research in the deserts and mountains around the Southwest Research Station in the Chiricahua Mountains and the nearby Santa Rita Experimental Range in the Coronado National Forest. You will spend about 70% of your time in the field searching for caterpillars, collecting host plants, collecting material for laboratory or computer analysis, and conducting experiments. You will spend the rest of your time (approximately 30%) in the lab entering data, doing computer work, and helping to rear caterpillars. Currently, the project is rearing caterpillars of over 300 species, collecting data on mortality and isolating specific chemical compounds to test their potential defense against parasitoids.