

**MOUNTAINS AND CULTURE:
THE BOLIVIA/CENTRAL ANDES PROJECT**

Meeting Place: Los Angeles, CA
(time and location to be determined)

June 25 – August 10, 2010

12 semester system units (equivalent to 18 quarter system units)

Program Fee \$ 2695 plus \$150 Application Fee

Thank you for your interest in our Central Andes program. On this project, team members will take part in field studies of the unique ecosystems present while traversing the Andes from the Bolivian Amazon-influenced tropical foothills to the Chilean desert coast. Our field sites span many environmental gradients (temperature, altitude, precipitation) and allow team members to see how such factors influence vegetation and wildlife as we evaluate onsite the conservation strategies used in protecting these areas. Throughout the project students will gain personal familiarity with the natural history and ecological diversity of these mountains, ranging from tropical montane forests and cloud forests, tropical alpine tundra, grasslands, and high-elevation desert, to the perennial snowfields and glaciers of the mountain summits. We will conduct timely and important research on the ecology & conservation of rare, high-elevation *Polylepis* forest ecosystems and the endangered wildlife species they hold. We will also live with and learn from indigenous Aymara- and Quechua-speaking people who inhabit this remote region and whose traditions and culture remain remarkably resilient. By the end of the project each of us will have gained direct experience conducting field research in a magnificent part of South America. In addition, we will gain a unique perspective on challenges to conservation and sustainable resource use within two developing countries, and by comparing both Bolivia and Chile we will gain insight into how history, socio-economic, and political factors can influence conservation.

BACKGROUND INFORMATION

While the high peaks of the central Andes are perhaps most identified with the Andean condor, one of the most important and charismatic species they harbor is the *queñua* tree (*Polylepis* spp., in the rose family), which form the highest elevation forests on earth, reaching over 15,700 feet. *Queñua* are often gnarled and wind-twisted into aesthetic forms, and the mossy woodlands they form are the sole habitat for several endemic and rare species of birds. Much of our field research will focus on surveying and mapping forest patches, conducting observations and censuses of rare and endemic species, and examining the use of these woodlands by nearby communities. This research is coordinated with specialists and experts conducting ecological and conservation research in these unique forests. Our results will aid in community-supported conservation and sustainable development of these areas, and provide baseline data for Chile (CONAF) and Bolivia's National Park system (SERNAP) and conservation organizations like Armonia (Bird Life International) and Conservation International who are active within the region. Our interdisciplinary research will also include a focus on the sustainability of subsistence lifestyles and wildlands conservation. Because *Polylepis* woodlands also serve as important resources of fuelwood for cooking and heating homes, local communities must strike a careful balance between conservation and ongoing resource use. Working with community members to understand traditional uses of these forests and their conservation practices will also be an important component of the project.

We will also focus our efforts while traveling throughout the backcountry on the observation and study of the flora and fauna of these unique ecosystems and how they are tied to the variation in elevation, climate and geography. Additional topics we will cover in our lectures, discussions, meetings, and field research include water conservation, mining, sustainable ecotourism, and the implications of climate change in the Central Andes, where it is unlikely that any glaciers will persist beyond the end of this century.

Our ecological studies and wildlife surveys will also include cultural interactions where we will see firsthand how various land use practices and policies have shaped the landscape. Our stays in rural communities high in the central Andes will enable us to experience traditional lifestyles that are at risk of fading in the face of globalization, and provide insight as to how community-based conservation strategies might be applied.

Much of our time will be spent in the spectacular backcountry of the high central Andes. Typically we will trek between remote villages and wilderness base camps from which we will conduct our field studies. **Please note that prior field research experience is not required. All necessary skills will be taught on-site** in Bolivia and Chile with the help of researchers, conservationists, and local community members. The ability to speak Spanish is also not a program prerequisite but is very helpful for participation in this program. We will provide some tutoring in Spanish on an individual basis as well as a short home stay for students in the Lake Titicaca town of Santiago de Okola. As we will be spending much time at or above 10,000 feet, prior experience backpacking at high elevations is recommended but not necessary. However it is essential that participants are in good physical shape and accustomed to regular physical activity, and although at times we will be trekking with the aid of llamas, donkeys, and mules to carry some of our supplies and food, students will need to be able to carry a pack with some of their belongings while trekking at high elevations.

PROGRAM GOALS AND ACTIVITIES

After a couple nights in the capital of La Paz, the next few days will be spent near Chulumani in the Bolivian yungas (tropical foothills), located about four hours from the capital. Here we will begin to acclimatize to the altitude (5,700ft.) and to orient ourselves to the history, culture, ecology and surroundings. We will be staying at a guest house associated with a botanical garden and an organic coffee farm. From this base, we will hike and explore the ecology of this region, which is known for its high biodiversity as well as its agriculture with products ranging from coffee to bananas. We will have a chance to interact with community members and discuss with Bolivian experts the challenges of conservation in rural areas. Here project members will also learn (or review) some basic Spanish, some of the *modismos* (slang of Bolivian Spanish), and even some common Quechua and Aymara words that will be useful during our project in the Central Andes.

After Chulumani, we return to La Paz for a few days to prepare for our two week field trip to Lake Titicaca and to the Charazani area. Preparation will include purchasing food and other necessary items. We plan to have time to continue our discussions about Bolivia's culture, to orient ourselves to the city, the markets and museums, and to discuss the challenges facing key conservation organizations working in the highland area. We hope to spend a day visiting one of the disappearing glaciers near La Paz, where we will talk with climate experts and learn more about the city's important and threatened water source and about water management within the city. Finally, we will coordinate with organizations working in the Charazani and Sajama regions to discuss research we will conduct with them. La Paz is a stunning mountain city with cobblestone streets juxtaposed with modern buildings and the conveniences and services of any large cosmopolitan city, set against the Cordillera Real mountain range rising to 19,000'. There will be time to visit the historical sites of the city

including the colorful street markets to buy local produce and traditional foods as well as the “witches market” to buy hand woven textiles of alpaca and other artesanía produced in the area.

To acquaint ourselves to the rural Aymara lifestyle, we will participate in home stays among a small subsistence farming community on the shores of Lake Titicaca, the highest navigable lake on earth. By living with local families, project members will be able to learn (or improve) their Spanish language skills and participate fully in the lifestyles of Aymara and Quechua peoples that to this day still farm potatoes, *quinoa* (an Andean grain high in protein), and raise livestock using practices that are little changed from pre-Incan times. Time will also be spent hiking and exploring the shores of Lake Titicaca, familiarizing ourselves with the flora and fauna native to the high Andean altiplano.

After our stay near Lake Titicaca we travel to the Apolobamba mountains for a 4-7 day trek within the Charazani area using llamas and mules to carry some of our supplies over the mountains, visiting and staying in several indigenous communities along the way. Charazani is home not only to a famed hot springs, but is also the homeland of the Kallawayas, itinerant herbal healers of the Andes. These healers use medicinal plants and conduct rituals to honor the earth. Women and men create beautiful and detailed hand woven textiles that to this day are still worn by the majority of rural community members. Communities often distinguish themselves by their unique, hand-woven textiles, using natural dyes to color alpaca, llama, and sheep wool. Participants will have a chance during the field study and the stay in the Charazani area to learn from some of these healers and weavers as well as listen to traditional music played on pan flutes, drums and wind instruments. In addition, while in the Charazani region, we will also visit the Apolobamba national park, and we will learn how individuals and communities continue to live and work within the boundaries of the Bolivian National Park System (SERNAP).

During our time near La Paz, Lake Titicaca, and Charazani we will examine *queñua* forests and conduct conservation research. There are currently many field sites spread throughout the mountains surrounding La Paz, and field studies will be planned with local researchers. Our field work will include mapping, assessment of stand age and tree regeneration, and surveys assessing biodiversity of flora and avifauna. We will utilize various forest ecology survey methods, mapping using GPS, and audio playback techniques of bird surveys.

From Charazani we will travel to the Bolivia-Chile border region where we will visit two different National Parks: Sajama (Bolivia) and Lauca (Chile). We will continue field work in both of these locations. In addition, we will focus our studies on a comparison of conservation and management techniques utilized and problems confronted in these adjacent parks belonging to very different countries. Sajama National Park, the first protected area in Bolivia, protects not only the highest mountain in the country at 21,400 feet, but also much of the high Andean and dry puna threatened wildlife including the vicuña, armadillo, and Andean cat. In Lauca National Park, we may also have the opportunity to investigate wildlife, including three species of flamingos and the rhea, an ostrich-like bird. These parks protect an immense and breathtaking landscape of volcanoes, small lakes, salt flats, geysers, and hot springs. In Lauca we will also have the opportunity to evaluate the sustainability of the well-developed tourist industry as well as the mining activities that occur within this and the other fragile desert ecosystems on the western side of the Andes.

Finally, we will head briefly down through the northern portion of the Atacama desert to the city of Arica, where we will spend a couple of days learning about the ancient cultures (Incan and pre-Incan) and current

cultures that utilize the nearby river valleys. We will also focus on learning about the amazing diversity of sea and birdlife in this region, influenced by the upwelling of the Humboldt Current, providing one of the richest fisheries in the world. From Arica, we will travel back to the La Paz, Bolivia, where the program will conclude at a traditional *finca*, or colonial house and farm, with a rich cultural history dating back to the 1800's, that continues to produce grapes, peaches, apples and other local fruits.

The project will take place during summer in the northern hemisphere, which is winter south of the equator in Bolivia. Due to Bolivia's subtropical location, temperature changes little over the course of a year; however, the winter is the dry season and one of the preferable times to travel and trek. At high elevations in the central Andes, nighttime temperatures during our travel time are often cold, approaching or dipping below freezing, but days are sunny and warmer, typically ranging from the 50's to the 70's, depending on the elevation.

ACADEMIC CREDIT

Students will receive 12 semester units (18 quarter units) awarded through California State University Monterey Bay Extended Education. While students usually encounter no difficulties in transferring credit to their home campus, applicants should check with their advisors prior to enrolling. Our staff will be happy to explain the program in further detail to the applicant's advisor, if necessary. The Bolivia/Central Andes Project gives credit in three courses:

ENVS 370, Environmental Wildlands Studies (4 semester system units)

ENVS 371, Environmental Field Survey (4 units)

ENVS 372, Wildlands Environment and Culture (4 units)

Letter grades are based upon the breadth of our endeavors. Team members receiving academic credit will be evaluated on the basis of: 1) active participation in all scheduled class and field activities; 2) examinations; 3) field journals; 4) the design, implementation, completion, and presentation of an independent research project/paper.

Team members are expected to conduct themselves in a mature and responsible manner. Wildlands Studies reserves the right to require any student to withdraw from the program if their conduct is detrimental to or incompatible with the interests, safety, or welfare of any course participants.

TRANSPORTATION

Arrangements will be available for team members to fly from Los Angeles International Airport to La Paz, Bolivia. You can also arrange to join the group in La Paz if that works out better for you. In this case, you will need to meet the group flight when it arrives. At the end of the program, you can decide whether you want to fly home on the scheduled date or remain on your own in South America before using the return portion of your ticket.

All reasonable efforts will be made to follow the activities outlined above. However, please understand that in Bolivia, travel arrangements can remain tentative until the traveling actually takes place. Weather conditions, road closures, as well as political and bureaucratic considerations may affect our plans. Wildlands Studies has put together an innovative, unique program in the Central Andes; and team members need to be flexible, patient, and prepared to adapt to unexpected situations.

OFFICIAL DOCUMENTS

You will need a current passport that is valid for at least six months after the project begins. Each participant is also responsible for obtaining a Bolivian visa to enter the country. A visa is currently required of all US citizens wanting to visit Bolivia. The visa costs \$130.00 and can be obtained either in advance or at the La Paz airport. Details will be included in our Logistics letter.

PRE-PROGRAM MAILINGS

Detailed information regarding travel and visa information, gear/food, meeting plans, group expenses payment, medical recommendations and academic preparations will be sent to all team members in a subsequent logistics letter about 8-10 weeks before the project initiates.

PROJECT COSTS

Program Fee:	\$2695 plus \$150 Application Fee. Program fee due May 1, 2010 Enrollment on a space-available basis after the fee due date until the program is full.
Estimated in-country Expenses:	\$1950 per person includes most in-country accommodations, travel in-country, instructor travel, camping costs/permits, logistical support, group supplies and materials/research costs. Due May 14, 2010.
Food Money:	\$350-400 (this varies according to taste – but don't be caught short)
Personal Spending Money:	\$300
Airfare:	\$800-\$1200 (estimated)
Bolivian Visa:	\$130

Students should inquire at the financial aid office of their home campus regarding the use of their loans or grants for this course. CSU Monterey Bay Extended Education/ Wildlands Studies are not responsible for non-refundable airline or other tickets or payments or any similar penalties that may be incurred as a result of any course cancellation or changes.

PROGRAM LEADERS

Esther Alsum is a botanist with field experience ranging from Alaska to Patagonia with particular focus on plant ecology and river conservation and management.

Daniel Hagaman is an anthropologist and naturalist who has worked on conservation and education projects throughout Latin America, particularly focused on high Andean ecology and cultures.