Reading Grass Páramo: The High Andes Underfoot (GEOG 196)

Syllabus and Schedule of Activities, Spring Break 2019

Syllabus

Introduction

This course will examine the origin and persistence of grass páramo, a high-elevation Andean savanna. Páramo covers extensive areas of the tropical Andes in an altitudinal belt between the tree line and the snowline. Despite its remoteness and wilderness aspect, evidence suggests that the development of grass páramo was driven by late Pleistocene hunter-gatherers.

Readings will examine three data sets that elucidate the process of grass páramo formation: fossil pollen, sedimentary charcoal and evidence of early hunter-gatherer occupation. The course will then assess how these data support or refute the conventional wisdom that grass páramo is a purely climatic expression or, as argued more recently, the replacement vegetation of a zonal forest removed by early agriculturalists.

A field trip during Spring Break will visit three grass páramos in Ecuador, located in Cajas, Sangay and Chimborazo National Parks. Students will walk páramo landscapes and apply their academic preparation to on-the-ground explanations of current tree lines, forest patches above tree line, the dominance of tussock grasses and giant ground rosettes, the frequency and behavior of fire, and plant tolerance to periodic burning. A hike to a high desert páramo in Chimborazo National Park will elucidate environmental constraints on the plant community.

By the end of the course students will have a deeper appreciation of humans as a keystone species in grass páramo creation and maintenance. They will have applied the lessons of páramo etiology to an enlightened management and conservation of Ecuadorian páramos. Concurrently, students will have developed a sensibility to the weight of history on contemporary vegetation, and to the ubiquitous but sometimes elusive nature of anthropic inputs.

Course Structure

Students will meet with their instructor via BigBlueButton, a Skype-like feature of Blackboard, about one month before Spring Break. This meeting will anticipate the logistics of the field trip, and introduce a list of readings to be completed before traveling to Ecuador.

Students depart for the field trip on the evening of Friday, March 8, 2019, leaving from JFK in a direct flight to Guayaquil. A bus will transport students from Guayaquil to Cuenca the next morning. During the ensuing week, we will visit páramos of the three national parks mentioned. Return travel will be on Sunday, March 17.

Grading will be based on (i) an introductory exam (30%) that reviews pre-Spring Break readings, and that is given after our first páramo excursion in Cajas National Park; (ii) participation in the field studies during the Spring Break (40%); and a final exam (30%), prior to the return to the U.S. This course earns 3 credits. It is offered through the Geography Department and open to students from all related disciplines.

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1 Students must travel on LATAM flight XL1439 (operated by Wamos Air), departing JFK at 23:35 (11:35pm) on March 8.
Prerequisites

Students should have taken at least one course in ecology, biology, geography, forestry, environmental studies, anthropology, botany or global studies. Exceptions can be made upon consultation with the instructor.

For the field portion of the course, students will be required to walk every day in páramos at elevations of 11,000’ and above. Those who are comfortable at altitude will have the opportunity to hike to 16,500’ on Chimborazo mountain. They must arrive in good physical condition and have adequate boots, hats and clothing for cold, rain and possibly snow. Students will be housed for most of their stay in a rustic field camp at 11,400’ within Sangay National Park.

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List of topics to be addressed

- What is páramo and why study it?
- Páramo as zonal (climatic climax) vegetation
- Páramo as replacement vegetation
- The paleo-charcoal record
- ‘Early peopling’ evidence for the Americas
- Hunter-gatherer subsistence logic
- Páramo as hunter-gatherer landscape
- Placing grass páramo in the study of cultural landscapes and the Anthropocene

Páramo literature.

Selected readings taken from this list will be placed on Blackboard about a month before Spring Break


Páramo hillsides in Sangay National Park
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<th>Date</th>
<th>Travel/Activity</th>
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| March 8, 2019 | **BTV-JFK-GYE**  
Students make their individual plans (air or overland) to arrive at JFK by 7pm on March 8.  
LATAM flight XL1439 (operated by Wamos Air) departs JFK at 23:35 (11:35pm) on March 8.  
**All students must take this flight** (see below), unless other arrangements are confirmed with the instructor*. |
| March 9,       | **Arrival in GYE** at 06:35 (6:20am).  
**Students will be picked up at the Guayaquil airport, and taken to Cuenca by chartered bus.**  
We will stop at Cajas National Park along the way for our first encounter with grass páramo.  
Night at Hostal Posada del Angel, Cuenca.  
PM: Health and safety recommendations; field trip schedule and expectations. |
| Saturday       | **Cuenca.**  
10:30AM: Trip to Cajas NP to observe glacial topography, plant communities and life forms.  
Return at 3pm  
Afternoon: Review + Mid-term exam (based on readings assigned earlier in Spring semester). |
| March 10,      | **MWR (Sangay National Park).**  
Hike to *Weinmannia* forest and interior páramo patches, with return via Iskay Yacu páramo  
Burn grassland if feasible  
Night at MWR páramo camp. |
| Sunday         | **MWR (Sangay National Park).**  
Hike to Suyala peak, with return via Shucus patch forest.  
Páramo meditation in the afternoon  
Night at MWR páramo camp. |
| March 12,      | **MWR to Azogues, then to Salinas via Chimborazo NP.**  
Depart from MWR @ 8:30AM, and travel to Azogues, where bus will take group to Salinas via Chimborazo National Park.  
Night at Hostal La Minga, Salinas. |
| Tuesday        | **Salinas to Chimborazo, then return to Salinas:**  
Day visiting super-páramos in Chimborazo National Park. Optional hike to glacial lake at 16,700’.  
Night at Hostal La Minga, Salinas. |
| March 13,      | **AM, early: Salinas to Cuenca.**  
Afternoon: Field trip review and final exam.  
Evening: Cuenca city tour and goodbye dinner.  
Night at Hostal Posada del Angel, Cuenca. |
| Wednesday      | **Bus leaves at 3am to take all students to Guayaquil airport** for Flight XL538, departing GYE at 08:40 (8:40am), and arriving JFK at 16:15 (4:15pm). |

*The round trip JFK-GYE-JFK cost of the LATAM (Wamos Air) flights was $765.85 on June 13, 2018. To assure a similar fare, accepted students should make their reservations as soon as GEOG 196’s enrollment is complete, about 30 November.*