VEGETATION STRUCTURE ALONG THE FOREST – PÁRAMO TRANSITION BELT IN TROPICAL TREELINES : IMPLICATIONS FOR UNDERSTANDING TREELINE DYNAMICS

Ramirez , Lirey (1,2) ; Llambi, Luis Daniel(2); Schwarzkopf, Teresa (2); Gamez, Luis Enrique (3)
(1) Marburg University. Germany. (2) ICAE-ULA. Venezuela. (3) FCFA. ULA. Venezuela

INTRODUCTION

In the Andes, treeline ecotones are the transition belt between cloud forest and páramo.

WHY ARE TROPICAL TREELINES DIFFERENT?

"Summer every day, winter every night"

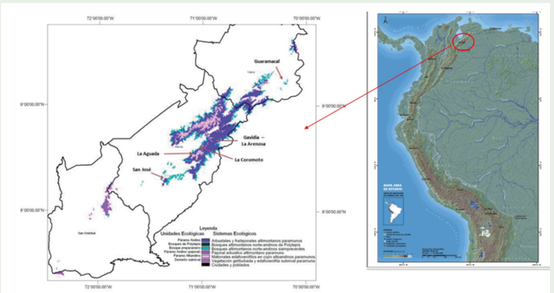
Different precipitation patterns and seasonality . No snow

Vegetation structure is complex: High species and life form diversity

Important ecosystem services under threat from anthropogenic activities.

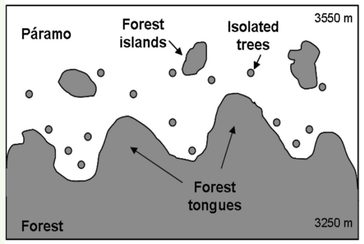
METHODS

South America -Venezuelan Andes



Chacón- Moreno ,2015; Josse et al, 2009

4 elevations- 2 transects- Woody stratum



Forest island

Borders

Forest

Modified from Körner and Paulsen 2004

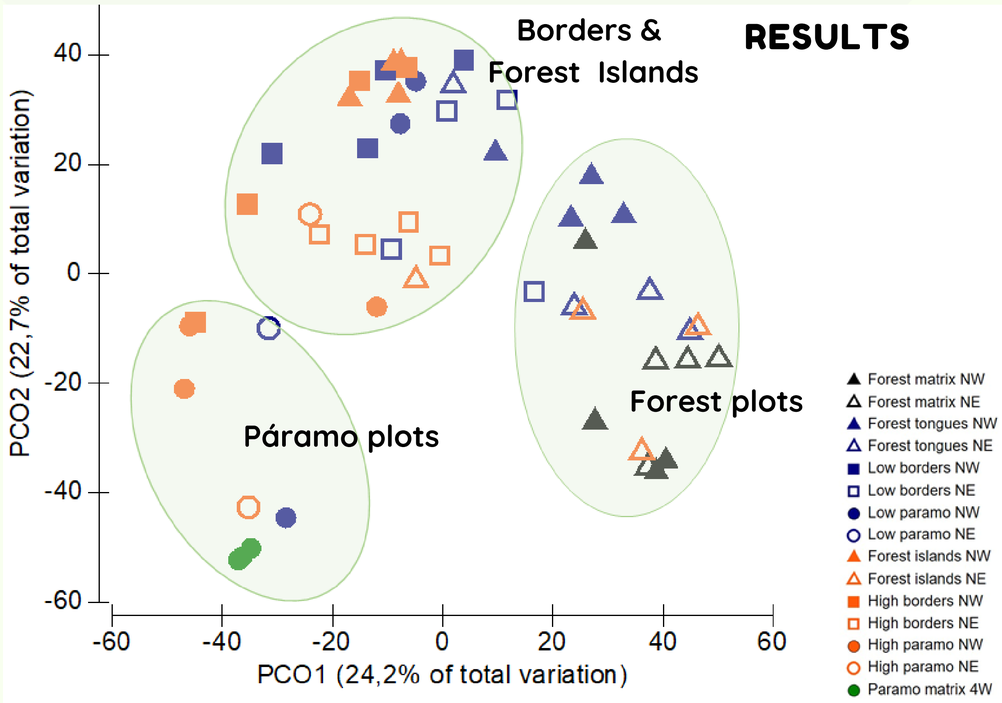
QUESTIONS

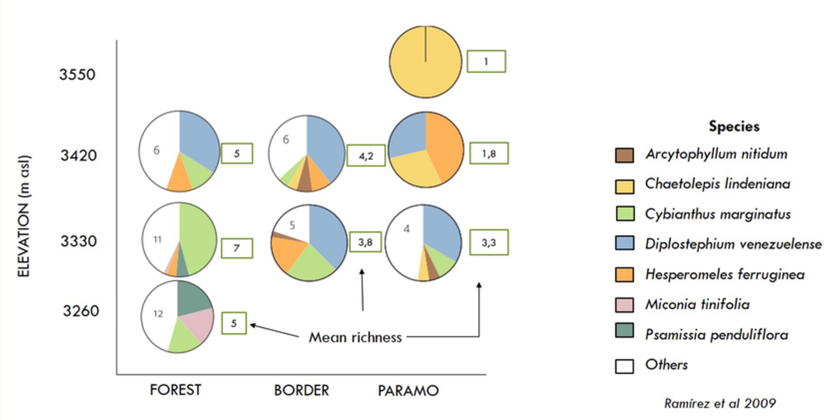
- How **different are the forests** along the elevation gradient?
- Do the **borders have a particular vegetation** structure?
- What **tree species are able to establish** in open paramo areas? Are they **different** between elevations?

CONCLUSIONS:

Paramo shrubs could act as pioneer species in scenarios of altitudinal advance of the treeline induced by climate change

RESULTS





Ramírez et al 2009

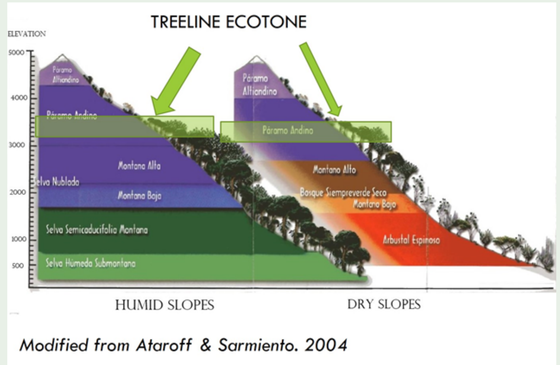
NEXT STEPS

ECOSYSTEM ENGINEERING AT TROPICAL TREELINE

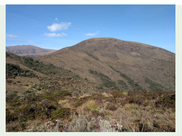
By: Lirey Ramirez and Maaike Bader
Marburg University. Germany

MAIN QUESTION

How do water availability and facilitation influence the establishment dynamics of tree species at andean treelines?

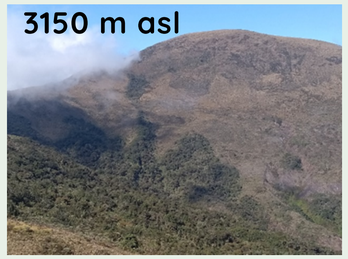


Modified from Ataroff & Sarmiento. 2004



Plant-plant interactions in a dry tropical treeline ecotone

Cybianthus marginatus



Clusia multiflora

Preliminary results: Positive spatial association with mosses and ferns