



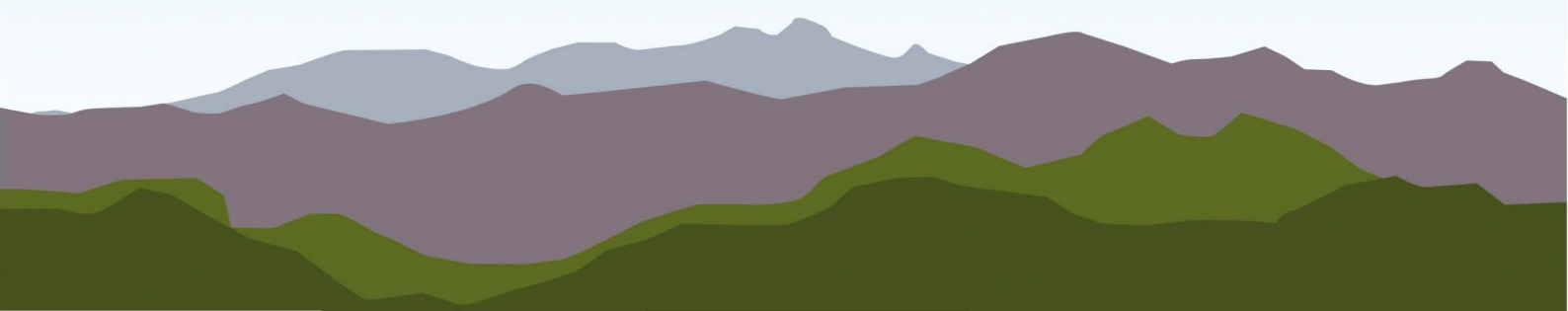
# **mountains2018**

nova friburgo · brasil

**December, 10-14th 2018**

III Workshop on Sustainable  
Development in Mountain Environments  
and  
II International Conference on Research  
for Sustainable Development in Mountain Regions

## **Book of Abstracts**





**III Workshop on Sustainable  
Development in Mountain  
Environments  
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Research for Sustainable  
Development in Mountain Regions**

Book of Abstracts

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*Nova Friburgo, Rio de Janeiro  
Brasil  
2018*

# III Workshop on Sustainable Development in Mountain Environments and II International Conference on Research for Sustainable Development in Mountain Regions

Book of Abstracts

*Instituto Politécnico de Bragança*  
*Portugal*  
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Bolivia all had net gains in woody vegetation above 1000 m. Expert validation of clusters of deforestation and reforestation confirmed 81%, could not be evaluated 13%, and found contradictory information in 6% of the clusters. The most important transitions were deforestation at lower elevations for cattle pastures, reforestation of abandoned pastures, and shrub encroachment into highland grasslands. Expert opinion confirmed these trends, but some areas of reforestation were also associated with new coffee, cacao, coca, pine or eucalyptus plantations.

### Keywords:

Andes, land change, climate, vegetation.



## Megaherbivores transition along an Andean elevational gradient

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### Abstract:

Historically, herbivory by large native mammals was replaced by domestic livestock. The Andes is not exception: following the European arrival, large herbivores communities (mostly camelids and deer) were largely replaced by sheep, cattle, goats, horses and donkeys. Due to current trends towards human population urbanization and dis-intensification of agricultural marginal areas, this trend could be reversing in different regions, with important ecological consequences. Here, we describe the patterns along the elevational gradient of subtropical mountains of northwest Argentina. In lowland montane forests, tree communities show an

expansion of herbivory-sensitive species, likely due to the low herbivores density resulting both from decreasing livestock (cattle) pressure and a slow recovery from past defaunation (e.g. Mazama deer, *Tayassu peccaries*). In middle elevation tree-grasses ecotones, decreasing sheep density without rapid recovery of native fauna, implies a higher availability of fine fuels and resulting increase in fire frequency. In high elevation Puna desserts, decreasing livestock is being rapidly replaced by expansion of native camelids. These specific change could have consequences for both herbivory and predation; which begins to be reflected in Puma-livestock conflicts. Overall, this diversity of “megaherbivory transitions” resembles the well studied processes of “forest transition” as a mayor land change resulting from socioeconomic modernization, and we discuss the variety of socioecological drivers and consequences.

#### Keywords:

Megaherbivory, land use change, Puna, Yungas.



## The peatlands of the Argentinean Puna, its relation with the anthropic use

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#### Abstract:

In the Argentine Puna (a very arid high elevation subtropical plateau), biodiversity and productivity is concentrated on peatbogs. We analysed the phenology of peatbogs plant productivity based on NDVI dynamics derived from Modis satellite images during the 21st