

## The Rufford Foundation Final Report

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Congratulations on the completion of your project that was supported by The Rufford Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. The Final Report must be sent in **word format** and not PDF format or any other format. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work. Please be as honest as you can in answering the questions – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please complete the form in English and be as clear and concise as you can. Please note that the information may be edited for clarity. We will ask for further information if required. If you have any other materials produced by the project, particularly a few relevant photographs, please send these to us separately.

Please submit your final report to [jane@rufford.org](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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Grant Recipient Details	
<b>Your name</b>	Juliana Galvão de Sousa Magalhães
<b>Project title</b>	Changing climate effects on tree species interactions in Northern Patagonia, Argentina
<b>RSG reference</b>	Nal
<b>Reporting period</b>	Jan to Apr 2017
<b>Amount of grant</b>	£2959.45
<b>Your email address</b>	jgsmagalhaes@gmail.com
<b>Date of this report</b>	11/17/2017

**1. Please indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.**

Objective	Not achieved	Partially achieved	Fully achieved	Comments
Sampling point establishment (Target trees identification)				
Sampling point measurements				Measurements took longer due to weekly rainy days (2-3 days/ week); that influenced on accommodation and food budget.
Tree core samples collection				
Tree core samples preparation				
Tree core samples analysis				Export permit process was extremely bureaucratic as it required print signature from many stakeholders in different provinces, and I had to mail all documents. Moreover, tree core samples were shipped to Vancouver, and that cost was not included on my initial budget.

**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

I did not want to carry money with me on the plan and even though I was planning on paying for international money transfer fees, I did not expect to pay U\$100 to each international transfer, and U\$10 to each withdraw. Sending money to Argentina and dealing with exchange rates were extremely difficult, and that added extra cost to my budget.

Another difficulty was managing the budget for 4 people. My initial plan was to have only one field assistant. However, sampling point measurements were more efficient with two field assistants instead of only one. Moreover, I also covered part of the accommodation costs of an Argentinian researcher (Maria Paula Rodrigues) from National Scientific and Technical Research Council (CONICET) whose project study area overlapped with mine, so we decided to work in partnership. The institute provided the truck used during fieldwork, but it presented some mechanical problems that slowed down sampling routine.

**3. Briefly describe the three most important outcomes of your project.**

Project is not finished, only the fieldwork. Now, I am going to start the tree core sample analysis, and then the modelling process. However, I foresee three important outcomes: 1) provide evidence on how competition influences tree species responses to changing climate; 2) this is one of the first studies to utilise machine learning algorithms into tree growth modelling; and 3) understanding tree species' competitive abilities to survive and evolve, and applying machine learning algorithms into modelling process, can meaningfully extend the boundaries of our knowledge about how Nahuel Huapi forest communities might respond to climate change.

**4. Briefly describe the involvement of local communities and how they have benefited from the project (if relevant).**

My team and I stayed in a hostel located inside the park, which is also used as restaurant for hikers. The amount we pay for accommodation and food was invested in rebuilding the roof and structure of that facility.

**5. Are there any plans to continue this work?**

Yes. The aforementioned partnership will continue, and we plan to combine our projects in the future.

**6. How do you plan to share the results of your work with others?**

Once I finish my thesis, I intend to publish two papers and present to park administration a special report (written in Spanish) with some recommendations.

**7. Timescale: Over what period was The Rufford Foundation grant used? How does this compare to the anticipated or actual length of the project?**

The grant was used to subsidise the fieldwork. My plan is to finish the analysis by February, start the modelling part and then write the thesis. The Rufford Foundation grant was essential to reduce fieldwork costs, and project length has not changed.

**8. Budget: Please provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used. 1 £ sterling = 4.44 Nuevo Sol**

Item	Budgeted Amount*	Actual Amount*	Difference*	Comments
<b>Personal expenses</b>				
Accommodation	519.48	584.41	-64.93	
Food	502.16	564.93	-62.77	

<b>Field assistance</b>				
Accommodation	389.61	779.22	-389.61	Difference shared with CONICET
Food	376.62	753.24	-376.62	
Allowance	584.41	548.41	0	
Insurance	28.48	28.48	0	Extra cost not included in initial budget plan
<b>Car</b>				
Gasoline	129.87	150.00	-43.29	Difference shared with CONICET
<b>Extra expenses</b> Personal protective equipment, waterproof notebooks, pencil, camping gear and international transfer fee.	0	237.00	-237.00	

\*1 £ sterling = 23.10 Argentine Peso

### 9. Looking ahead, what do you feel are the important next steps?

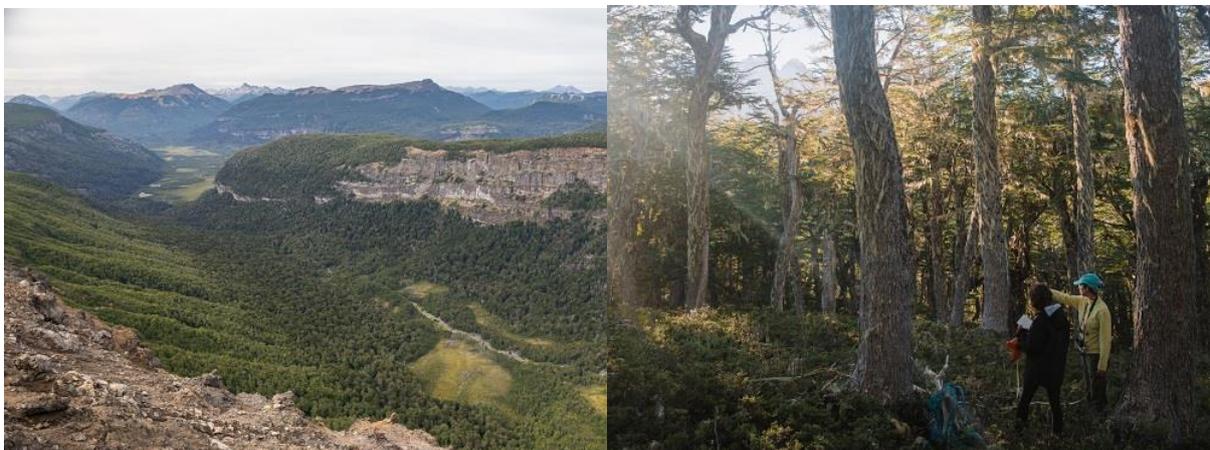
Finish the tree ring analysis; write thesis and report for park administration. I intend to defend my PhD thesis on April, 2019.

### 10. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the RSGF receive any publicity during the course of your work?

No. Not yet.

### 11. Any other comments?

I am extremely grateful to The Rufford Foundation for the opportunity provided. Below are fieldwork photos descriptions.



Left: Distribution of coihue (*Nothofagus dombeyi*) and lenga (*Nothofagus pumilio*) along Castaño Overa valley in Nahuel Huapi Park. Darker green shade close to the river represents coihue-lenga mixed stands. Lighter green shade represents pure lenga stands. Note that the mountain's north aspect presents more steep terrains. Right: Sampling point measurement in a pure lenga (*Nothofagus pumilio*) stand, during competitor trees identification process.