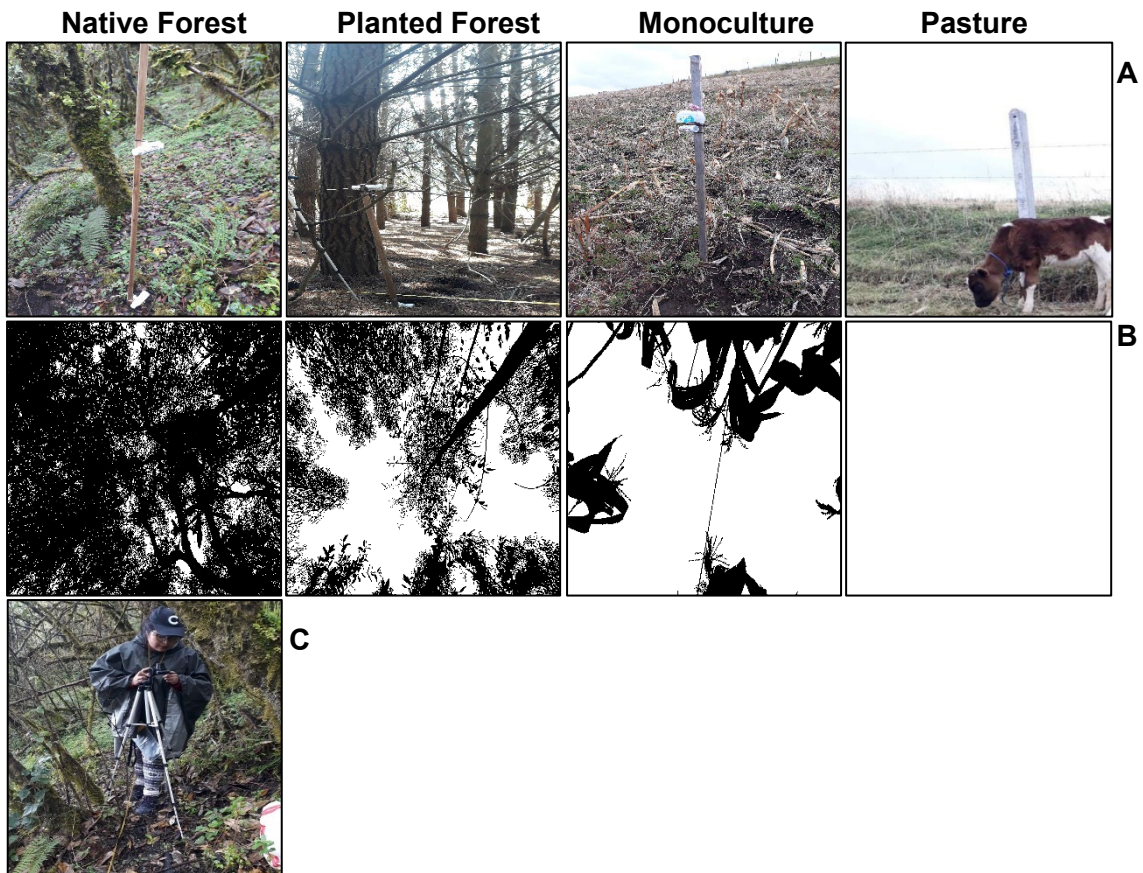


## Supplemental material for

“Land Use Affects the Local Climate of a Tropical Mountain Landscape in Northern Ecuador”, by Wendy Guamán Trávez and Paulina Guarderas, published in *Mountain Research and Development* 43(1), 2023. (See <https://bioone.org/toc/mred/43/1>)

**APPENDIX S1** (A) Photographs of the four land use types studied; (B) photographs taken in the four land use types to obtain the gap fraction; (C) example of taking photographs to obtain the gap fraction with the help of a tripod at 1 m from ground level.



**APPENDIX S2** ANOVA for the monthly mean temperature in the four land use types at two heights with respect to the soil level (n= 8 for each land use type at each layer).

**ANOVA - Average T (°C)**

<b>Cases</b>	<b>Sum of squares</b>	<b>df</b>	<b>Mean square</b>	<b>F</b>	<b>p</b>
Types	92.842	3.000	30.947	48.176	<.001
Height	0.719	1.000	0.719	1.120	0.295
Types * Height	1.351	3.000	0.450	0.701	0.556
Residual	35.331	55.000	0.642		

**APPENDIX S3** ANOVA for the monthly mean relative humidity in the four types of land use at two heights with respect to the soil level (n=8 for each land use type at each layer).

**ANOVA - average RH (%)**

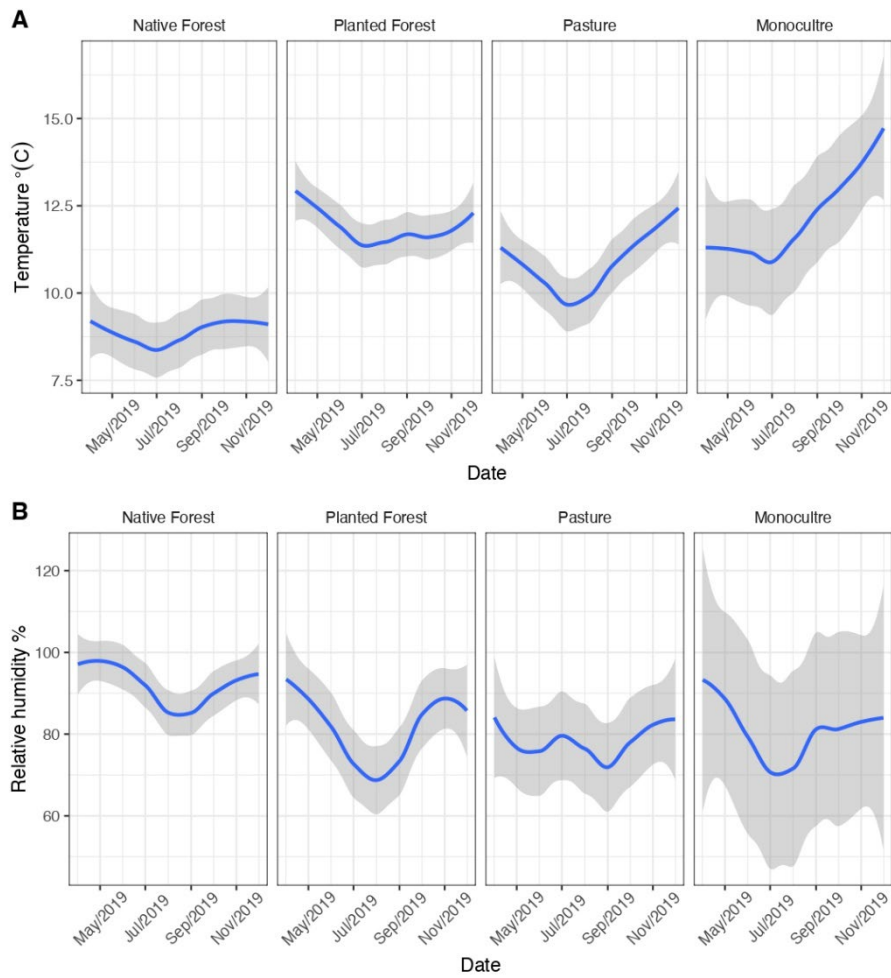
<b>Cases</b>	<b>Sum of squares</b>	<b>df</b>	<b>Mean square</b>	<b>F</b>	<b>p</b>
Types	1792.677	3.000	597.559	7.300	<.001
Height	255.580	1.000	255.580	3.122	0.083
Types * Height	269.135	3.000	89.712	1.096	0.359
Residual	4338.157	53.000	81.852		

**APPENDIX S4** ANOVA for the monthly minimum night temperature in the four land use types at two heights with respect to the ground level (n=8 for each land use type at each layer).

**ANOVA - min night T (°C)**

<b>Cases</b>	<b>Sum of squares</b>	<b>df</b>	<b>Mean square</b>	<b>F</b>	<b>p</b>
Types	209.671	3.000	69.890	27.014	<.001
Height	3.450	1.000	3.450	1.333	0.253
Types * Height	22.428	3.000	7.476	2.890	0.044
Residual	142.296	55.000	2.587		

**APPENDIX S5** Monthly mean temperature (A) and monthly mean relative humidity (B) during the study period between the different types of land use: NF=Native Forest, PF=Planted Forest, PA=Pasture and MO=Monoculture. Dispersion of climatic variables with 95 % confidence interval (gray shade) (n=8 for each land use type).



**APPENDIX S6** Correlations between monthly mean relative humidity (RH) and monthly mean temperature (T) recorded in the four land use types (NF=Native Forest, PF=Planted Forest, M=Monoculture, PA=Pasture) (n=16 for each land use type).

**Pearson Correlations**

	<b>Pearson's r</b>	<b>P</b>
Average NF RH (%) - Average NF T (°C)	-0.206	0.445
Average PF RH (%) - Average PF T (°C)	0.501	0.068
Average M RH (%) - Average M T (°C)	0.045	0.874
Average PA RH (%) - Average PA T (°C)	0.105	0.698