

Table S1. Land use extension (km²) and percentage (%) of Landsat images from 1995 and 2020, and annual change rate (ACR; see Peralta et al., 2013), of each land-use category in La Malinche National Park.

Categories	Land use 1995		Land use 2020		ACR (km ² yr ⁻¹)
	km ²	%	km ²	%	
Farming	199.66	43.30	193.95	42.06	-0.23
Continuous forest	232.40	50.40	222.31	48.21	-0.41
Discontinuous forest	21.26	4.61	33.15	7.19	0.38
Urban	2.40	0.52	6.41	1.39	0.10
Bare ground	5.40	1.17	5.26	1.14	-0.01

Table S2. Total tree abundance in 12 forest stands from La Malinche National Park ordered according to their rank-abundance (Rank).

Species	Forest stands												Total	Rank
	North slope			East slope			West slope			Southeast slope				
	1	2	3	1	2	3	1	2	3	1	2	3		
<i>Pinus montezumae</i>	909	53	50	72	286	101	105	227	173	78	57	108	2219	1
<i>Pinus teocote</i>	0	0	0	232	108	12	0	0	0	0	0	0	352	2
<i>Alnus jorullensis</i>	117	0	0	19	1	0	1	0	0	83	30	12	263	3
<i>Abies religiosa</i>	3	0	0	0	201	0	25	4	2	3	0	0	238	4
<i>Arbutus xalapensis</i>	6	0	0	6	30	1	15	52	29	4	7	0	150	5
<i>Quercus laurina</i>	2	0	0	14	8	1	1	0	0	0	2	0	28	6
<i>Quercus crassipes</i>	6	1	2	0	0	0	0	0	0	1	0	9	19	7
<i>Pinus hartwegii</i>	0	0	0	0	18	0	0	0	0	0	0	0	18	8
<i>Pinus leiophylla</i>	0	0	1	0	0	0	0	2	1	1	1	11	17	9
<i>Buddleja cordata</i>	11	0	0	0	1	0	0	0	0	0	2	1	15	10
<i>Prunus serotina</i>	1	0	0	0	4	0	0	0	1	0	0	4	10	11
<i>Pinus pseudostrobus</i>	1	0	0	0	2	0	0	4	1	0	0	0	8	12
<i>Comarostaphylis discolor</i>	0	0	0	0	0	0	0	0	5	0	0	0	5	13
<i>Cupressus benthamii</i>	1	0	0	0	2	0	0	1	0	0	1	0	5	13
<i>Pinus ayacahuite</i>	0	0	0	0	0	0	0	0	1	0	0	0	1	14
<i>Quercus dysophylla</i>	1	0	0	0	0	0	0	0	0	0	0	0	1	14

Table S3. Dissimilarity between 12 forest stands in La Malinche National Park for the three Hill numbers ($q = 0$, $q = 1$, $q = 2$).

(a) $q = 0$	East-1	East-2	East-3	West-1	West-2	West-3	North-1	North-2	North-3	Southeast-1	Southeast-2	Southeast-3
East-2	0.545	-										
East-3	0.200	0.636	-									
West-1	0.333	0.545	0.500	-								
West-2	0.778	0.583	0.750	0.625	-							
West-3	0.818	0.643	0.800	0.700	0.444	-						
North-1	0.667	0.308	0.750	0.545	0.583	0.643	-					
North-2	0.833	0.917	0.800	0.833	0.857	0.889	0.818	-				
North-3	0.857	0.923	0.833	0.857	0.714	0.778	0.833	0.333	-			
Southeast-1	0.625	0.692	0.750	0.429	0.500	0.600	0.583	0.667	0.500	-		
Southeast-2	0.500	0.500	0.625	0.500	0.556	0.750	0.500	0.875	0.750	0.556	-	
Southeast-3	0.778	0.692	0.889	0.778	0.800	0.727	0.583	0.667	0.500	0.500	0.556	-
(b) $q = 1$	East-1	East-2	East-3	West-1	West-2	West-3	North-1	North-2	North-3	Southeast-1	Southeast-2	Southeast-3
East-2	0.503	-										
East-3	0.604	0.272	-									
West-1	0.711	0.149	0.057	-								
West-2	0.709	0.265	0.035	0.030	-							
West-3	0.708	0.270	0.022	0.030	0.003	-						
North-1	0.703	0.296	0.015	0.053	0.035	0.023	-					
North-2	0.720	0.333	0.013	0.073	0.045	0.029	0.016	-				
North-3	0.717	0.320	0.010	0.065	0.039	0.024	0.013	0.001	-			
Southeast-1	0.741	0.458	0.346	0.327	0.336	0.334	0.253	0.363	0.354	-		
Southeast-2	0.702	0.314	0.167	0.142	0.139	0.141	0.106	0.192	0.180	0.059	-	
Southeast-3	0.702	0.268	0.034	0.050	0.041	0.032	0.018	0.046	0.035	0.250	0.093	-
(c) $q = 2$	East-1	East-2	East-3	West-1	West-2	West-3	North-1	North-2	North-3	Southeast-1	Southeast-2	Southeast-3
East-2	0.502	-										
East-3	0.603	0.270	-									
West-1	0.710	0.145	0.053	-								
West-2	0.709	0.263	0.033	0.026	-							
West-3	0.708	0.269	0.020	0.027	0.001	-						
North-1	0.703	0.295	0.014	0.051	0.034	0.021	-					
North-2	0.719	0.332	0.011	0.071	0.044	0.028	0.016	-				
North-3	0.716	0.319	0.008	0.062	0.037	0.022	0.011	0.000	-			
Southeast-1	0.740	0.455	0.343	0.322	0.333	0.331	0.251	0.361	0.352	-		
Southeast-2	0.699	0.307	0.161	0.134	0.133	0.135	0.101	0.188	0.175	0.049	-	
Southeast-3	0.700	0.265	0.031	0.045	0.038	0.029	0.015	0.044	0.031	0.246	0.085	-

$q = 0$ species richness (Jaccard's index), $q = 1$ weights species according to their abundance (common or typical species) (Horn Index), and $q = 2$ considers only dominant species (Morisita-Horn index).

Table S4. Permuted multivariate analysis of variance of statistically significant and best evaluated generalized linear mixed-effect model of pine abundance (*Pinus* spp.) of the temperate forest of La Malinche National Park.

<i>Pinus</i> spp. ~ % FC*Slope+(1 plot)					
Variables	Df	Sum of Sqs	r^2	F	p value
% FC	1	0.049	0.01	0.72	0.433 ^{ns}
Slope	3	1.376	0.24	6.68	0.002 ^{**}
% FC:Slope	3	0.649	0.11	3.15	0.012 [*]
Residual	52	3.572	0.63		
Total	59	5.646	1		

%FC: percent forest cover. Df: degrees of freedom. Sum of Sqs: sum of squares. r^2 : coefficients of determinations; F : pseudo- F ; p-value of the effect of each variable: *, $p < 0.05$; **, $p < 0.01$; ***, $p < 0.001$; ^{ns}, not significant.