Wildfire Potential Behavior Indices derived from LiDAR Data and Satellite Imagery for complex Mediterranean forests.

Table S1. Forest types and fuel models present in Sierra de las Nieves National Park (Málaga, South Spain)

Forest types	Surface (ha)	Surface (%)	Fuel model
Abies pinsapo forests	1371.68	4.64	9
Juniperus spp forests.	780.77	2.64	4
Pinus halepensis forests	3379.89	11.43	8
Pinus pinaster forests	730.35	23.77	8
Quercus ilex forests	770.52	2.61	8
Quercus suber forests	1009.36	3.41	8
Abies pinsapo-Quercus spp forests.	145.76	0.49	9
Evergreen mixed forests	324.53	1.10	8
Pinus spp mixed forests.	467.93	1.58	8
Pinus spp-*Juniperus* spp forests.	615.76	2.08	8
Pinus spp-evergreen forests	100.43	0.34	9
Pinus spp-*Quercus* spp forests.	1989.18	6.73	9
Quercus spp mixed forests.	759.68	2.57	8
Shrubs	10550.15	35.67	5
Non-forests	277.69	0.94	1

Table S2. ALS-derived metrics for biomass models of forest types in Sierra de las Nieves National Park (Málaga, Southern Spain).

Non-forests		***Abies pinsapo* forests (N=164)**		***Juniperus* spp forests (N=52).**		***Pinus halepensis* forests (N=151)**	
ALS metric	**Coef.**	**ALS metric**	**Coef.**	**ALS metric**	**Coef.**	**ALS metric**	**Coef.**
`Elev mean`	909.39	**`Elev P20`**	2.958.95	**`Elev MAD median`**	9019.64	**`Elev SQRT mean SQ`**	42.59
`Return 1 count`	-0.51	**`Elev P10`**	-62,646.60	**`Elev P60`**	-1631,71	**`Elev L skewness`**	-38,523.96
`Elev P01`	2506.38	**`Elev P05`**	38,436.37	**`Profile area`**	174,74	**`Int P01`**	827.84
`Elev variance`	91.95	**`Elev P70`**	1795.34	**`Elev P25`**	-22,217,27	**`Elev CURT mean CUBE`**	-22,772.12
`Elev maximum`	-90.27	**`Elev IQ`**	-3206.25	**`Elev L skewness`**	4080,00	**`Canopy relief ratio`**	-33,907.69
		`Elev AAD`	23,774.65	**`Elev P40`**	6382,76	**`Elev P90`**	2611.65
R^2=0,49		**R^2=0.69**		**R^2=0.70**		**R^2=0.59**	

***Pinus* spp mixed forests (N=34).**		***Pinus* spp. y *Juniperus* spp forests (N=34).**		**Shrubs**	
ALS metric	**Coef.**	**ALS metric**	**Coef.**	**ALS metric**	**Coef.**
`Elev IQ`	914.31	**`Elev P30`**	10,329.61	**`Int P30`**	-0.13
`Elev P05`	37,40.58	**`Profile area`**	502.90	**`Elev P40`**	-0.76
`Elev mode`	10,478.86	**`Elev MAD median`**	-3030.04		
`Canopy relief ratio`	-21,343.04	**`Int P10`**	50.63		
R^2=0.80		**R^2=0.59**		**R^2=0.21**	

Table S3. Allometric equations for tree species used in the calculation of the aerial biomass load of the forest inventory plots. Diameter at breast height (d, 1.30 cm height) and total height (h)

Specie	Fraction	Model
Abies pinsapo	Stem	$W_S = 0{,}00960 \cdot d^2 \cdot \mathrm{h}$
	Large branches	$W_{b7} = [1{,}637 \cdot (d - 32{,}5)^2 - 0{,}0719 \cdot (d - 32{,}5)^2 \cdot h] \cdot Z$ $Si\ d \leq 32{,}5\ , Z = 0;\ Si\ d > 32{,}5\ , Z = 1$
	Middles branches	$W_{b2-7} = 0{,}00344 \cdot d^2 \cdot \mathrm{h}$
	Small branches and foliage	$W_{b2+n} = 0{,}131 \cdot \mathrm{d} \cdot \mathrm{h}$
Pinus halepensis	Stem	$W_S = 0{,}0139 \cdot d^2 \cdot \mathrm{h}$
	Large branches	$W_{b7} = [3{,}926 \cdot (d - 27{,}5)] \cdot Z$ $Si\ d \leq 27{,}5\ \ , Z = 0;\ Si\ d > 27{,}5\ \ , Z = 1$
	Middles branches	$W_{b2-7} = 4{,}257 + 0{,}00506 \cdot \mathrm{d}^2 \cdot \mathrm{h} - 0{,}0722 \cdot d \cdot h$
	Small branches and foliage	$W_{b2+n} = 6{,}197 + 0{,}00932 \cdot \mathrm{d}^2 \cdot \mathrm{h} - 0{,}0686 \cdot d \cdot h$
Pinus pinaster	Stem	$W_S = 0{,}0278 \cdot d^{2{,}115} \cdot \mathrm{h}^{0{,}618}$
	Large and middle branches	$W_{b7} + W_{b2-7} = 0{,}000381 \cdot d^{3{,}141}$
	Small branches and foliage	$W_{b2+n} = 0{,}0129 \cdot d^{2{,}32}$
Pinus sylvestris	Stem	$W_S = 0{,}0154 \cdot \mathrm{d}^2 \cdot \mathrm{h}$
	Large branches	$W_{b7} = [0{,}540 \cdot (d - 37{,}5)^2 - 0{,}0119 \cdot (d - 37{,}5)^2 \cdot h] \cdot Z$ $Si\ d \leq 37{,}5\ , Z = 0;\ Si\ d > 37{,}5\ , Z = 1$
	Middles branches	$W_{b2-7} = 0{,}0295 \cdot d^{2{,}742} \cdot \mathrm{h}^{-0{,}899}$
	Small branches and foliage	$W_{b2+n} = 0{,}530 \cdot d^{2{,}199} \cdot h^{-1{,}153}$
Quercus ilex	Overall Biomass	$W = 0{,}415487 \cdot d^{2{,}47745}$
Juniperus thurifera and J. communis	Overall Biomass	$W = 1{,}259685 \cdot d^{2{,}03163}$