



*Supplement of*

## **Assessing human-caused wildfire ignition likelihood across Europe**

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**Table S1: List of datasets used to derivate explanatory variables**

<b>Factor</b>	<b>Variable</b>	<b>Product</b>	<b>Native Spatial resolution/Scale</b>	<b>Temporal resolution</b>	<b>Link</b>	<b>Post-process applied</b>
Human pressure and accessibility	Population density	GHS-POP R2023A	100	2020	<a href="https://data.jrc.ec.europa.eu/dataset/2ff68a52-5b5b-4a22-8f40-c41da8332cfe">https://data.jrc.ec.europa.eu/dataset/2ff68a52-5b5b-4a22-8f40-c41da8332cfe</a>	Reproject to common CRS (epsg: 3035)
	Distance to roads	GRIP global roads database	1:500000	2018	<a href="https://www.globio.info/download-grip-dataset">https://www.globio.info/download-grip-dataset</a>	Reprojected to common CRS (epsg: 3035); Euclidean distance rasterized to 100 m.
Wildland interfaces	WUI/WAI/WGI	CLC - 2018	100	2018	<a href="https://doi.org/10.2909/c89324ef-7729-4477-9f1b-623f5f88ea1">https://doi.org/10.2909/c89324ef-7729-4477-9f1b-623f5f88ea1</a>	-
Land Cover	%Urban, %agricultural and % of Wildland	CLC - 2018	100	2018	<a href="https://doi.org/10.2909/c89324ef-7729-4477-9f1b-623f5f88ea1">https://doi.org/10.2909/c89324ef-7729-4477-9f1b-623f5f88ea1</a>	-
Land Cover transitions	Landcover transition	CLC - 2018	100	2018	<a href="https://doi.org/10.2909/c89324ef-7729-4477-9f1b-623f5f88ea1">https://doi.org/10.2909/c89324ef-7729-4477-9f1b-623f5f88ea1</a>	-
		CLC - 1990	100	1990	<a href="https://doi.org/10.2909/c89324ef-7729-4477-9f1b-623f5f88ea1">https://doi.org/10.2909/c89324ef-7729-4477-9f1b-623f5f88ea1</a>	-
Fuel types	Fuel Type	CLC+ Backbone	10	2018	<a href="https://doi.org/10.2909/cd534ebf-f553-42f0-9ac1-62c1dc36d32c">https://doi.org/10.2909/cd534ebf-f553-42f0-9ac1-62c1dc36d32c</a>	Aggregated 10 to 90 m by majority vote; Resampled to 100 m using nearest-neighbour
		CLC - 2018	100	2018	<a href="https://doi.org/10.2909/c89324ef-7729-4477-9f1b-623f5f88ea1">https://doi.org/10.2909/c89324ef-7729-4477-9f1b-623f5f88ea1</a>	-
		Global Forest Canopy Height	30	2019	<a href="https://glad.umd.edu/dataset/gedi/">https://glad.umd.edu/dataset/gedi/</a>	Reprojected to common CRS (epsg: 3035); Aggregated 30 to 90 m by majority vote; Resampled to 100 m using nearest-neighbour
		Tree Cover Density	100	2020	<a href="https://doi.org/10.2909/4dc35722-09ce-427f-9a1b-775a8640da27">https://doi.org/10.2909/4dc35722-09ce-427f-9a1b-775a8640da27</a>	Reprojected to common CRS (epsg: 3035)
Fire weather	DFMC	ERA5 Monthly Aggregates - Latest Climate Reanalysis	0,1°	1991-2021	<a href="https://doi.org/10.24381/cds.68d2bb30">https://doi.org/10.24381/cds.68d2bb30</a>	Resampled to 100 m and reprojected to common CRS (epsg:3035) using nearest-neighbour

**Table S2: FirEURisk fuel type classification system.**

FirEURisk fuel type		FirEURisk fuel type	
Code	Description	Code	Description
1111	<i>Open broadleaf evergreen forest</i>	23	<i>High shrubland [<math>\geq 1.5</math> m)</i>
1112	<i>Closed broadleaf evergreen forest</i>	31	<i>Low grassland [0–0.3 m)</i>
1121	<i>Open broadleaf deciduous forest</i>	32	<i>Medium grassland [0.3–0.7 m)</i>
1122	<i>Closed broadleaf deciduous forest</i>	33	<i>High grassland [<math>\geq 0.7</math> m)</i>
1211	<i>Open needleleaf evergreen forest</i>	41	<i>Herbaceous cropland</i>
1212	<i>Closed needleleaf evergreen forest</i>	42	<i>Woody cropland</i>
1221	<i>Open needleleaf deciduous forest</i>	51	<i>Wet and peat/semi-peat land – tree</i>
1222	<i>Closed needleleaf deciduous forest</i>	52	<i>Wet and peat/semi-peat land – shrubland</i>
1301	<i>Open mixed forest</i>	53	<i>Wet and peat/semi-peat land – grassland</i>
1302	<i>Closed mixed forest</i>	61	<i>Urban continuous fabric</i>
21	<i>Low shrubland [0–0.5 m]</i>	62	<i>Urban discontinuous fabric</i>
22	<i>Medium shrubland [0.5–1.5 m]</i>	7	<i>Nonfuel</i>

**Table S3: Correspondence between FirEURisk fuel type classification system and the reclassification criteria.**

<b>FM Code</b>	<b>Main Category</b>	<b>Forest Density (Tree Cover %)</b>	<b>CLCpl Description</b>	<b>CLC Description(s)</b>	<b>Global Forest Tree Height</b>
<b>1111</b>	<i>Open broadleaf evergreen forest</i>	Open Forest (15–70%)	2 - Woody needle leaved trees	Not Applicable	Not Applicable
<b>1112</b>	<i>Closed broadleaf evergreen forest</i>	Closed Forest (>70%)	2 - Woody needle leaved trees	Not Applicable	Not Applicable
<b>1121</b>	<i>Open broadleaf deciduous forest</i>	Open Forest (15–70%)	3 - Woody broadleaved deciduous trees	Not Applicable	Not Applicable
<b>1122</b>	<i>Closed broadleaf deciduous forest</i>	Closed Forest (>70%)	3 - Woody broadleaved deciduous trees	Not Applicable	Not Applicable
<b>1211</b>	<i>Open needleleaf evergreen forest</i>	Open Forest (15–70%)	4 - Woody broadleaved evergreen trees	Not Applicable	Not Applicable
<b>1212</b>	<i>Closed needleleaf evergreen forest</i>	Closed Forest (>70%)	4 - Woody broadleaved evergreen trees	Not Applicable	Not Applicable
<b>21</b>	<i>Low shrubland [0–0.5 m]</i>	Not Applicable	Not Applicable	32 - Sparsely vegetated areas	Not Applicable
<b>22</b>	<i>Medium shrubland [0.5–1.5 m]</i>	Not Applicable	Not Applicable	Not Applicable	Tree Height (0.5–1.5 m)
<b>23</b>	<i>High shrubland [<math>\geq 1.5</math> m]</i>	Not Applicable	Not Applicable	Not Applicable	Tree Height (1.5–3 m)
<b>31</b>	<i>Low grassland [0–0.3 m]</i>	Not Applicable	8 - Permanent Herbaceous	26 - Natural grasslands	Not Applicable
<b>32</b>	<i>Medium grassland [0.3–0.7 m]</i>	Not Applicable	8 - Permanent Herbaceous	18 - Pastures	Not Applicable
<b>7</b>	<i>Nonfuel</i>	Not Applicable	9,10 &11 - Non-and sparsely vegetated & water bodies	13–17, 20 - Irrigated land, vineyards, fruit trees, olive groves, complex cultivation	Not Applicable
<b>61</b>	<i>Urban continuous fabric</i>	Not Applicable	Not Applicable - Not Applicable	1 - Continuous urban fabric	Not Applicable
<b>62</b>	<i>Urban discontinuous fabric</i>	Not Applicable	Not Applicable - Not Applicable	2–11 - Discontinuous urban, industrial, transport, leisure	Not Applicable

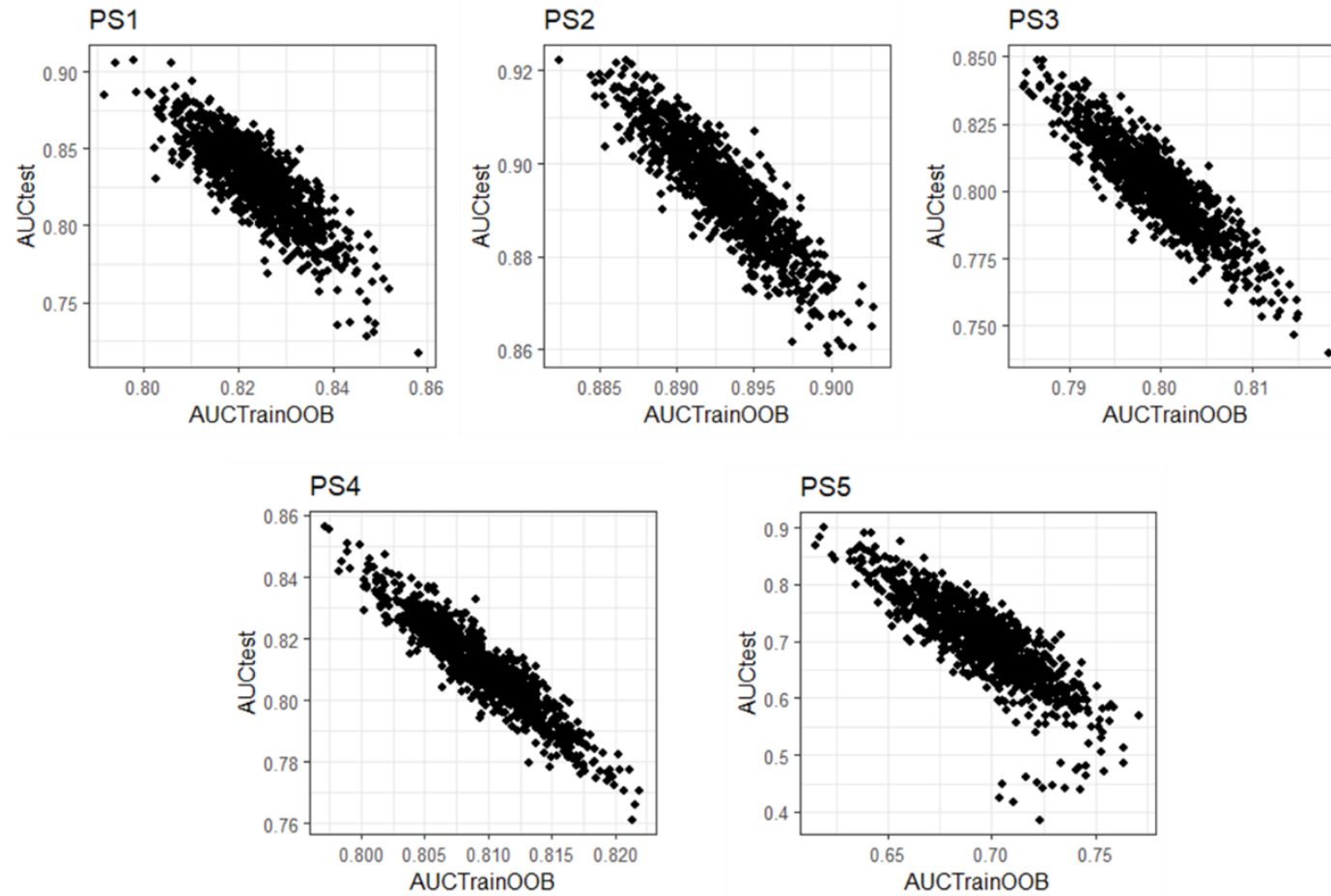


Figure S1: Relation of AUC with independent sample and AUC derived from Out-of-bag (OOB) subsample