

## Supplementary Material

# Spatial and temporal trends of burnt area in Angola: Implications for natural vegetation and protected area management

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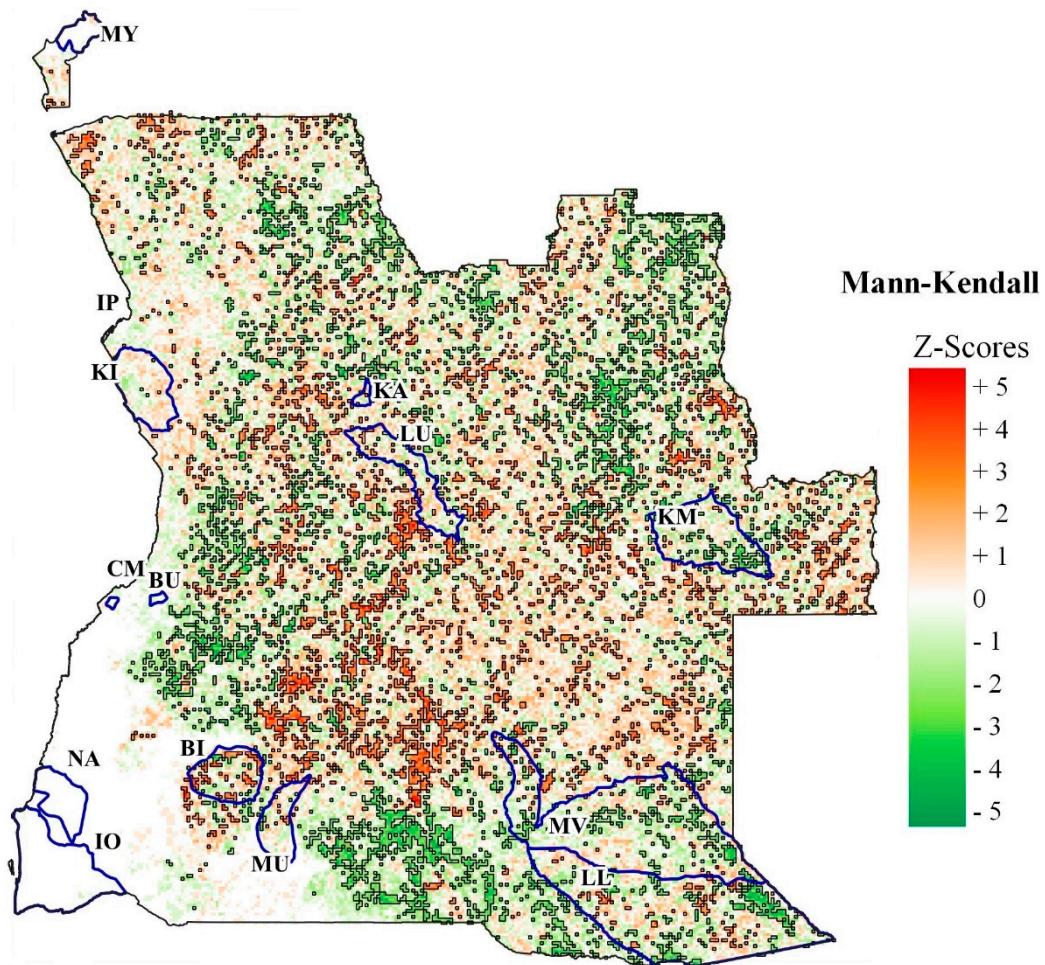
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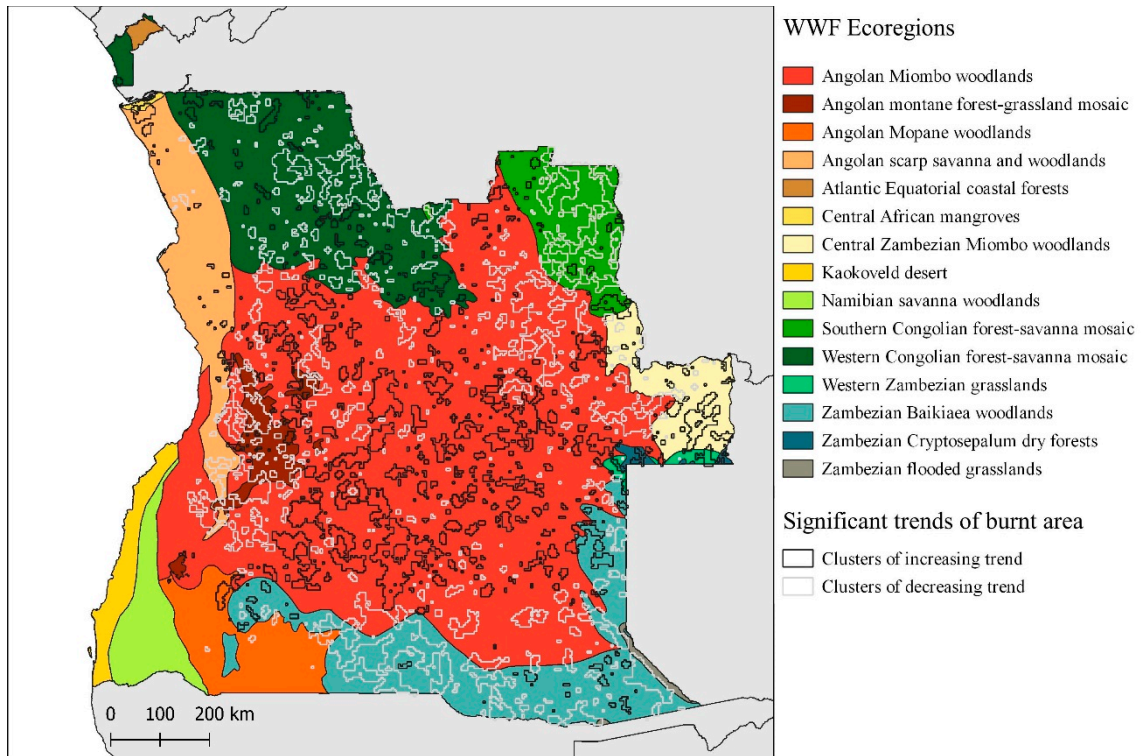
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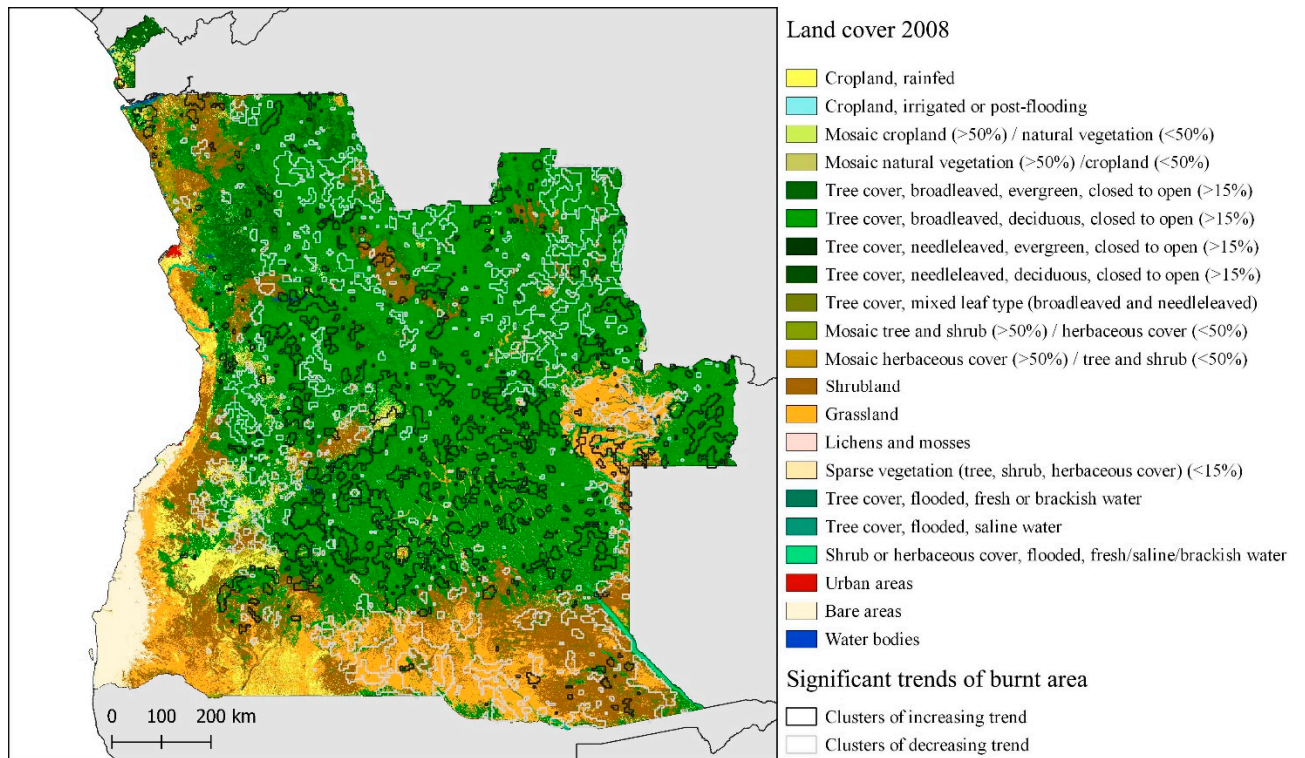
**Figure S1.** Trends of annual burnt area in Angola for the 2011–2019 period, based on Mann-Kendall single-cell analysis. The positive z-scores correspond to areas of increasing trends of burnt area, while the negative z-scores correspond to decreasing trends. The significant areas (with a confidence level of 95%) were overlaid with black lines. Protected areas are limited with blue lines: BI, Bicular; BU, Búfalo; KA, Cangandala; CM, Chimalavera; IO, Iona; IP, Ilheu dos pássaros; KM, Cameia; KI, Quiçama; LL, Luengue-Luiana; LU, Luando; MV, Mavinga; MU, Mupa; MY, Maiombe; NA, Namibe.



**Figure S2.** WWF ecoregions occurring in Angola and the significant cluster of increasing and decreasing trends of annual burnt area detected in 2001–2019 period, based on the Contextual Mann-Kendall test.



**Figure S3.** Land cover map of Angola in 2018 (300m resolution), adapted the European Space Agency (ESA) Climate Change Initiative Land Cover (CCI-LC), and the significant cluster of increasing and decreasing trends of annual burnt area detected in 2001–2019 period, based on the Contextual Mann-Kendall test.



**Table S1.** Estimated fraction of burnt area per year and the average of the burnt area from 2001 to 2019 in each province.

Province	Total area (km <sup>2</sup> )	Fraction of burn area																			Average of burnt area 2001-2019 (%)	Average of burnt area 2001-2019 (km <sup>2</sup> )
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Lunda Norte	107973	49%	53%	53%	57%	56%	60%	53%	56%	58%	58%	56%	56%	53%	53%	53%	56%	57%	46%	53%	54%	58840
Lunda Sul	77927	48%	55%	56%	57%	55%	55%	52%	53%	56%	54%	53%	50%	53%	53%	51%	54%	53%	47%	53%	53%	41375
Quando Cubango	199483	35%	42%	49%	49%	49%	36%	46%	43%	35%	44%	52%	45%	47%	39%	44%	38%	38%	35%	38%	42%	84455
Malanje	82163	39%	34%	42%	45%	41%	43%	43%	40%	44%	42%	40%	44%	38%	40%	38%	40%	46%	35%	42%	41%	33586
Cuanza Sul	55257	25%	28%	33%	33%	32%	29%	31%	29%	29%	31%	31%	29%	30%	28%	29%	29%	30%	25%	30%	30%	16311
Moxico	199986	22%	23%	27%	26%	31%	23%	26%	26%	25%	27%	29%	26%	27%	24%	27%	26%	29%	25%	32%	26%	52650
Bié	72048	18%	21%	25%	24%	25%	24%	27%	25%	28%	25%	27%	22%	25%	23%	24%	26%	30%	20%	30%	25%	17790
Cunene	77259	16%	22%	29%	30%	24%	12%	25%	8%	18%	15%	19%	14%	18%	15%	19%	21%	17%	14%	11%	18%	14110
Cuanza Norte	23823	16%	16%	26%	19%	13%	20%	20%	18%	15%	20%	15%	17%	18%	15%	16%	17%	16%	16%	15%	17%	4117
Huambo	33133	19%	13%	16%	17%	16%	20%	17%	19%	19%	22%	18%	13%	14%	15%	16%	16%	16%	17%	21%	17%	5677
Zaire	36590	7%	14%	19%	19%	16%	21%	14%	18%	18%	21%	12%	19%	21%	15%	24%	14%	17%	15%	14%	17%	6161
Huíla	78684	11%	13%	19%	21%	18%	13%	21%	14%	16%	13%	15%	13%	14%	15%	17%	17%	19%	16%	20%	16%	12574
Uíge	62005	14%	14%	18%	14%	14%	17%	15%	13%	13%	16%	12%	17%	14%	13%	15%	14%	13%	13%	12%	14%	8912
Benguela	39509	13%	14%	16%	19%	17%	15%	13%	13%	12%	14%	11%	8%	10%	10%	9%	11%	10%	9%	11%	12%	4855
Bengo	34363	3%	7%	8%	5%	9%	8%	11%	13%	8%	7%	10%	6%	9%	8%	7%	12%	5%	7%	5%	8%	2654
Cabinda	7119	0%	0%	2%	1%	4%	5%	3%	3%	1%	2%	2%	3%	3%	1%	2%	3%	1%	1%	4%	2%	151
Luanda	2447	0%	1%	2%	1%	4%	1%	4%	4%	0%	0%	3%	1%	0%	0%	0%	2%	1%	0%	0%	1%	34
Namibe	57911	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	49
<b>Area Total (km<sup>2</sup>)</b>		317030	347667	405605	407798	400665	358940	388615	362354	361274	381780	392200	364572	370787	349545	367142	362158	375292	315581	368622		