

An early warning system of fire danger for the Brazilian Pantanal

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Smoke

Burn scar



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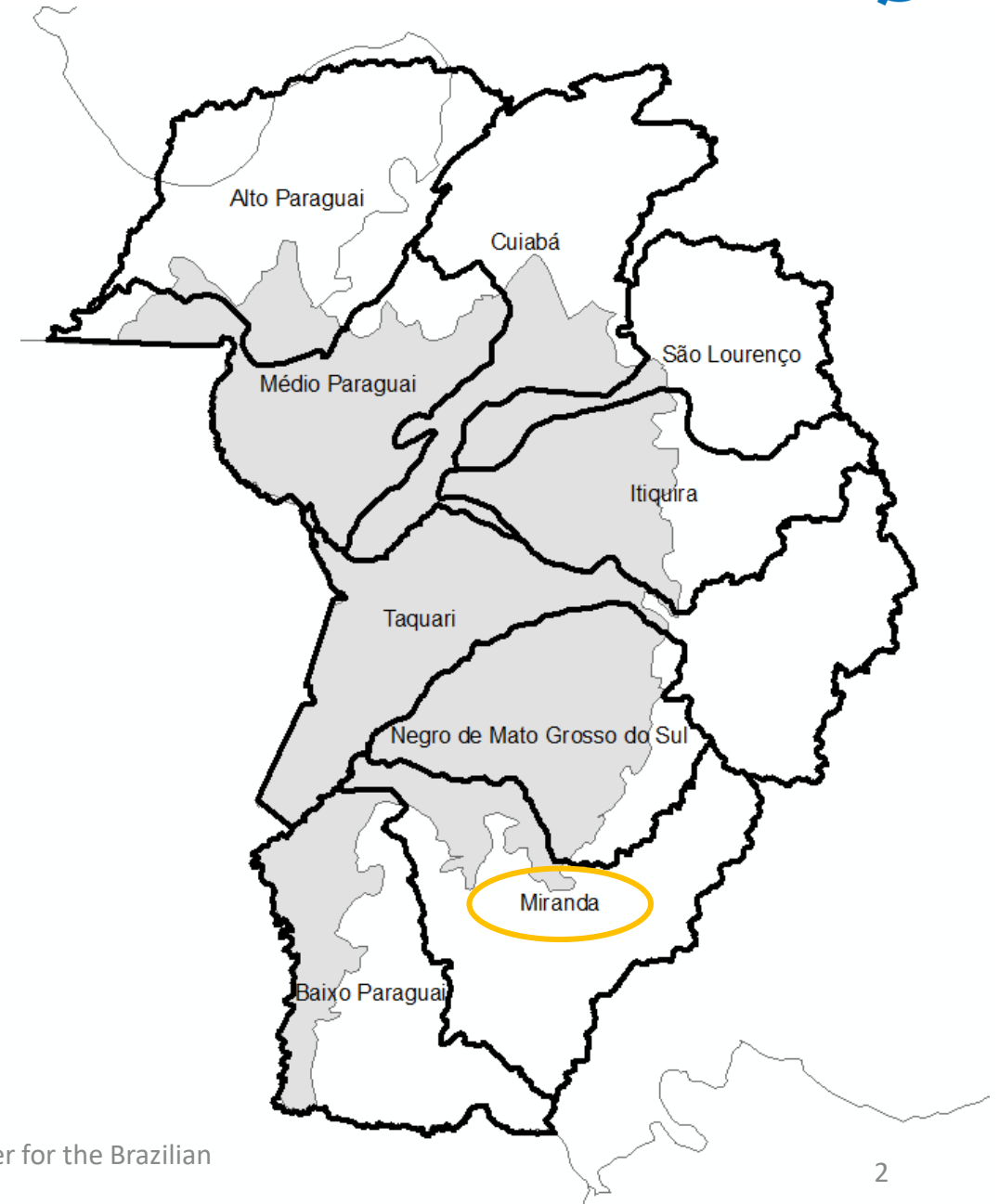


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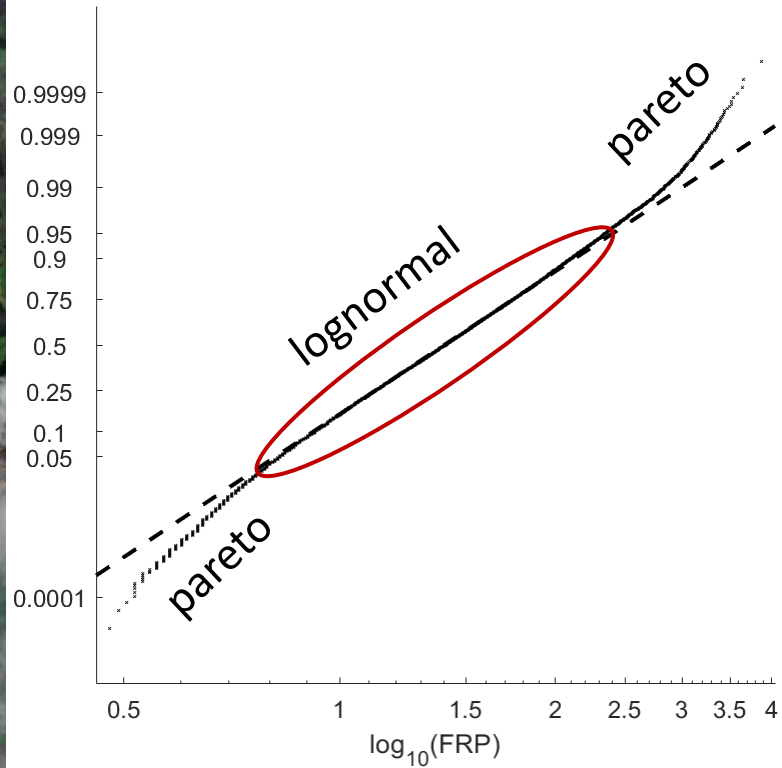


Study Area – Brazilian Pantanal

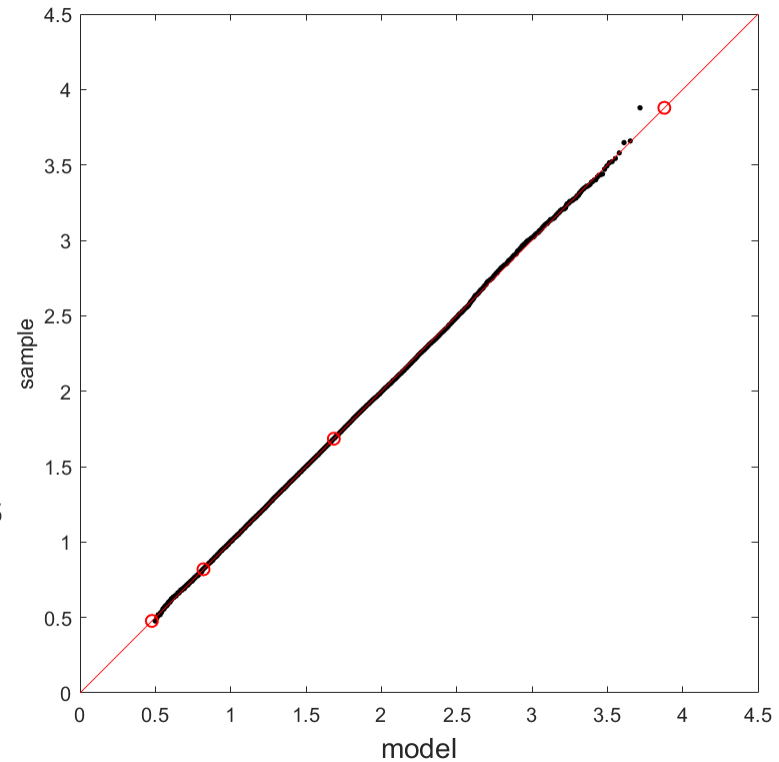
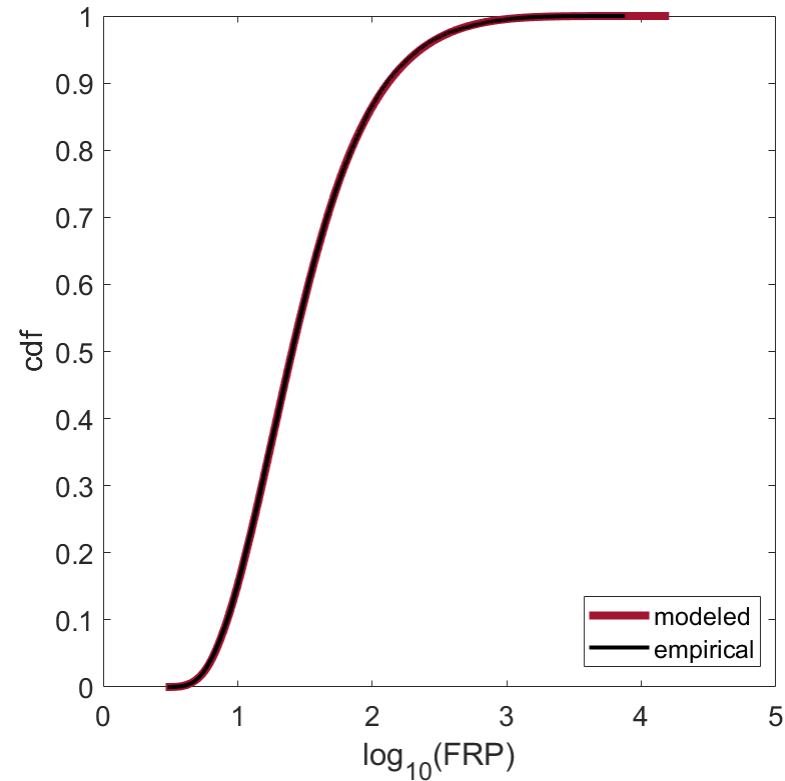


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The Model - baseline

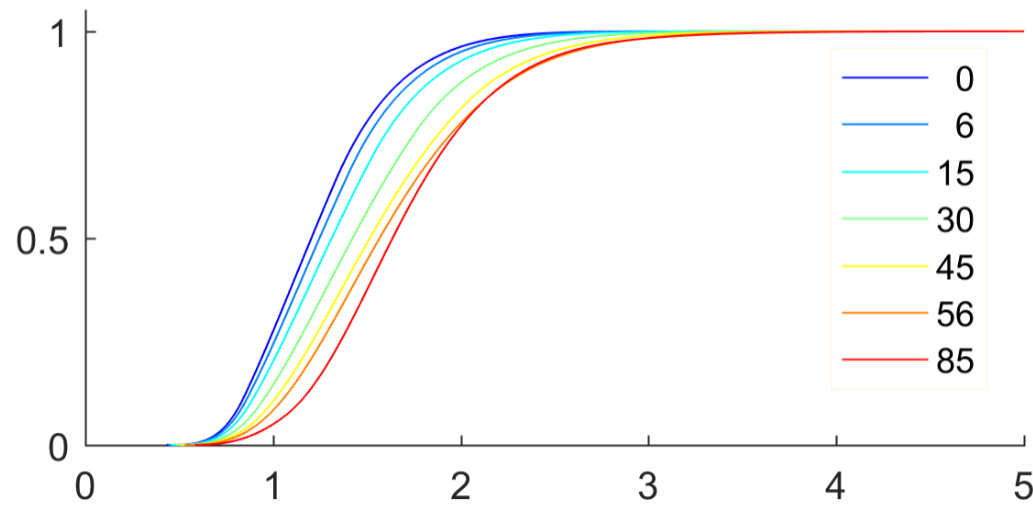


Fitting of the distributions and validation



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The Model – FWI as covariate



Classes of Fire Danger

$$p(FWI)=1-G(X,FWI|\kappa_l,\sigma_l,x_l,\lambda_b,\sigma_b,\kappa_u,\sigma_u,x_u)$$

$X = 1.5$ (100 MW)

Low danger: $p(FWI)<0.26$

Moderate danger: $0.26\leq p(FWI)<0.33$

High danger : $0.33\leq p(FWI)<0.44$

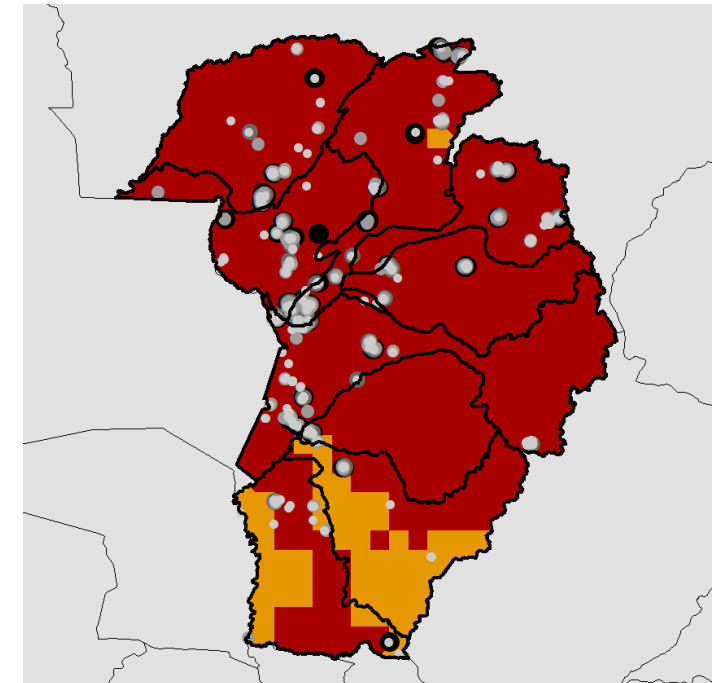
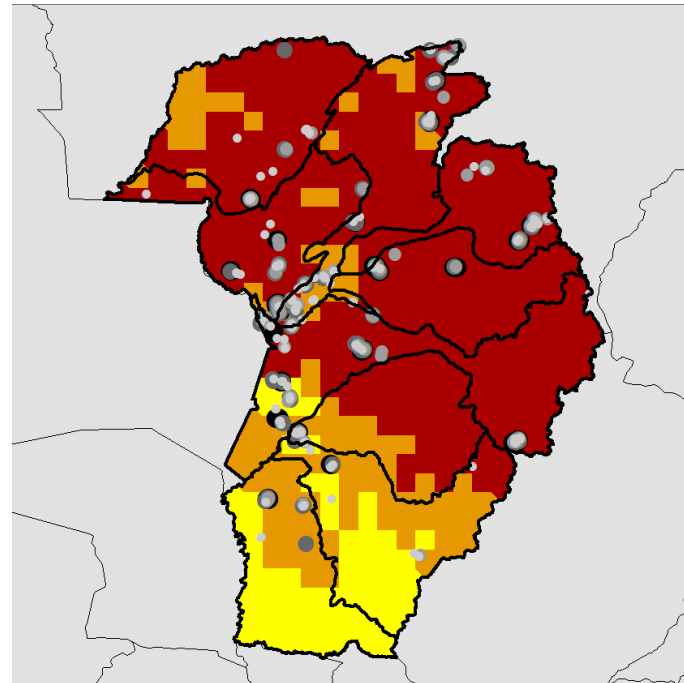
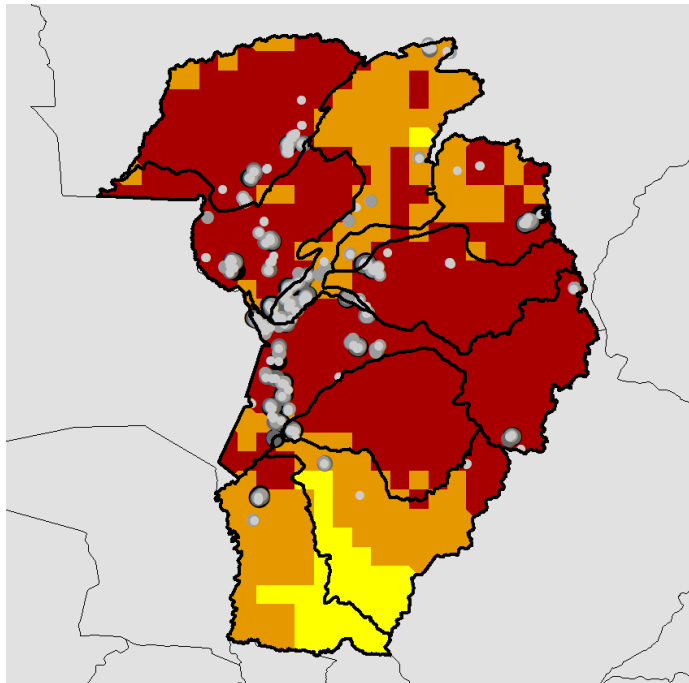
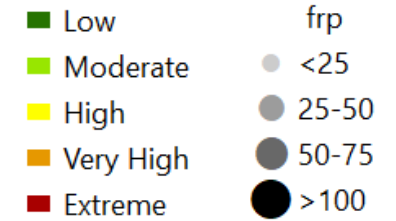
Very High danger: $0.44\leq p(FWI)<0.51$

Extreme danger: $p(FWI)\geq 0.51$

Results and Validation

2001-2019

	Low	Moderate	High	Very High	Extreme	Total
[0 25[	2343 15%	2937 19%	4211 27%	3280 21%	2984 19%	15755
[25 50[	598 8%	1058 14%	1974 27%	1732 24%	1963 27%	7325
[50 100[	241 5%	548 12%	1176 25%	1213 26%	1524 32%	4702
[100 [	122 3%	311 7%	887 21%	1170 27%	1768 42%	4258
Total	3304 10%	4854 15%	8248 26%	7395 23%	8239 26%	32040



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Thank you for your attention

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