



Supplement of

ProbFire: a probabilistic fire early warning system for Indonesia

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Supplementary Figures



Figure S1: Relative value of active fires > 0 cases prediction for users with different cost-loss ratios. Shown are relative value of ERA5-based predictions and SEAS-based (solid lines) and climatology-based (dashed lines) predictions at different lead times (columns) for different sub- regions (rows). Line shading (legend) indicates different fire prediction probability thresholds at which the relative value curves are calculated.



Figure S2: Probability of detection versus False alarm rate curves (ROC) for active fires > 10 cases predictions. Shown are curves derived for ERA5-based predictions (red) and SEAS5-based predictions by the individual ensemble members at <u>01-56</u> month lead times (greys). Red dots show ERA5 model probability thresholds.



Fig. S3: Partial dependence plots for all input features, showing mean dependence between active fires > 10 probability and input feature values. Line colours indicate partial dependencies for different subregions. The subplot titles indicate features used: 'Precipitation': total precipitation, 'Precipitation t_n': total precipitation for the month t-n, 'Temperature': 2m temperature, 'Relative humidity': 2m relative humidity, 'Max fire count': maximum active fire count in preceding years, 'Prim. forest frac.': primary forest cover fraction, 'Prein. forest loss'; primary forest loss in the previous year, 'Sec. forest loss': secondary forest loss in the previous year, 'Peatland frac.': peatlands fraction.