

Supplementary information associated to the manuscript 'Global data-driven prediction of fire activity'

We provide two additional information pieces. Figure S1 showing the IPCC AR6 regions referenced in Figure 1. Table S1 shows a table of the absolute values for the skill-scores depicted in the spider diagram of Figure 1 of the manuscript.

WP1 of the Intergovernmental Panel on Climate Change (IPCC, 2022) reference regions

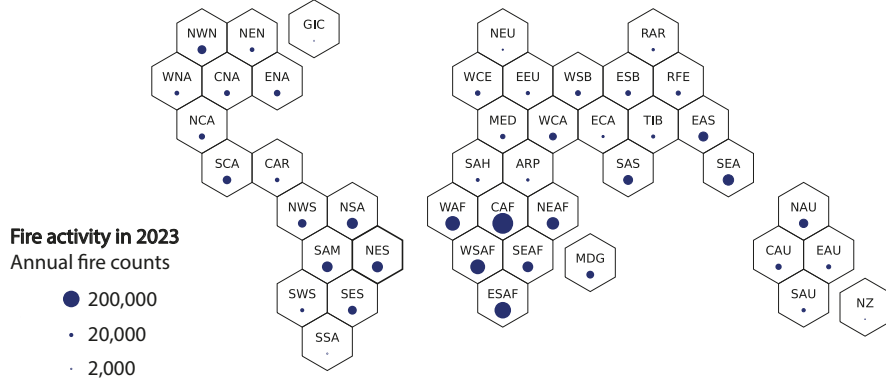


Fig. S1: Total fire activity recorded in 2023 on the hexagonal word representation of WP1 of the Intergovernmental Panel on Climate Change (IPCC, 2022). IPCC AR6 WGI reference regions are: **North America:** NWN (North-Western North America), NEN (North-Eastern North America), WNA (Western North America), CNA (Central North America), ENA (Eastern North America), **Central America:** NCA (Northern Central America), SCA (Southern Central America), CAR (Caribbean), **South America:** NWS (North-Western South America), NSA (Northern South America), NES (North-Eastern South America), SAM (South American Monsoon), SWS (South-Western South America), SES (South-Eastern South America), SSA (Southern South America), **Europe:** GIC (Greenland/Iceland), NEU (Northern Europe), WCE (Western and Central Europe), EEU (Eastern Europe), MED (Mediterranean), **Africa:** MED (Mediterranean), SAH (Sahara), WAF (Western Africa), CAF (Central Africa), NEAF (North Eastern Africa), SEAF (South Eastern Africa), WSAF (West Southern Africa), ESAF (East Southern Africa), MDG (Madagascar), **Asia:** RAR (Russian Arctic), WSB (West Siberia), ESB (East Siberia), RFE (Russian Far East), WCA (West Central Asia), ECA (East Central Asia), TIB (Tibetan Plateau), EAS (East Asia), ARP (Arabian Peninsula), SAS (South Asia), SEA (South East Asia), **Australasia:** NAU (Northern Australia), CAU (Central Australia), EAU (Eastern Australia), SAU (Southern Australia), NZ (New Zealand), Small Islands: CAR (Caribbean), PAC (Pacific Small Islands)

N.W.North America					
	Correlation	Brier	Logloss	ROC	ECE
PoF-Weather	0.066	5.13E-04	0.0035	0.947	1.97E-04
PoF-Fuel	0.017	5.16E-04	0.0040	0.884	2.71E-04
PoF-Ignition	0.006	5.15E-04	0.0046	0.737	3.52E-04
PoF-Fuel/Weather	0.061	5.13E-04	0.0035	0.958	2.91E-04
PoF-Ignition/Weather	0.052	5.14E-04	0.0039	0.945	4.04E-04
PoF-Ignition/Fuel	0.014	5.15E-04	0.0043	0.887	3.93E-04
PoF	0.059	5.14E-04	0.0036	0.957	3.70E-04
N.South America					
	Correlation	Brier	Logloss	ROC	ECE
PoF-Weather	0.065	2.80E-03	0.0188	0.818	3.49E-04
PoF-Fuel	0.102	2.78E-03	0.0178	0.871	7.45E-04
PoF-Ignition	0.087	2.79E-03	0.0173	0.831	8.58E-04
PoF-Fuel/Weather	0.119	2.77E-03	0.0171	0.895	2.81E-04
PoF-Ignition/Weather	0.106	2.78E-03	0.0175	0.879	1.11E-04
PoF-Ignition/Fuel	0.112	2.77E-03	0.0172	0.891	6.39E-04
PoF	0.128	2.76E-03	0.0168	0.905	2.27E-04
South American Monsoon					
	Correlation	Brier	Logloss	ROC	ECE
PoF-Weather	0.038	4.45E-03	0.0277	0.703	1.83E-03
PoF-Fuel	0.028	4.64E-03	0.0281	0.745	1.56E-03
PoF-Ignition	0.033	4.44E-03	0.0286	0.639	1.23E-03
PoF-Fuel/Weather	0.076	4.48E-03	0.0265	0.809	2.56E-03
PoF-Ignition/Weather	0.081	4.42E-03	0.0260	0.798	6.97E-04
PoF-Ignition/Fuel	0.060	4.45E-03	0.0268	0.769	1.15E-03
PoF	0.088	4.43E-03	0.0257	0.82	1.54E-03
Mediterranean					
	Correlation	Brier	Logloss	ROC	ECE
PoF-Weather	0.012	3.62E-04	0.0046	0.771	1.63E-03
PoF-Fuel	0.016	3.43E-04	0.0049	0.753	2.02E-04
PoF-Ignition	0.012	3.45E-04	0.0030	0.812	3.99E-04
PoF-Fuel/Weather	0.017	3.45E-04	0.0049	0.773	1.61E-04
PoF-Ignition/Weather	0.015	3.46E-04	0.0036	0.828	4.65E-04
PoF-Ignition/Fuel	0.018	3.43E-04	0.0048	0.762	1.63E-04
PoF	0.022	3.43E-04	0.0049	0.774	1.48E-04
Sahara					
	Correlation	Brier	Logloss	ROC	ECE
PoF-Weather	0.006	1.58E-04	0.0044	0.634	3.16E-03
PoF-Fuel	0.027	1.28E-04	0.0031	0.688	7.47E-05
PoF-Ignition	0.029	1.30E-04	0.0014	0.763	2.97E-04
PoF-Fuel/Weather	0.022	1.29E-04	0.0031	0.688	7.11E-05
PoF-Ignition/Weather	0.022	1.33E-04	0.0018	0.754	3.79E-04
PoF-Ignition/Fuel	0.027	1.29E-04	0.0031	0.689	6.72E-05
PoF	0.035	1.28E-04	0.0030	0.689	6.37E-05
Western Africa					
	Correlation	Brier	Logloss	ROC	ECE
PoF-Weather	0.115	6.31E-03	0.0356	0.839	1.22E-03
PoF-Fuel	0.138	6.27E-03	0.0340	0.877	1.91E-03
PoF-Ignition	0.114	6.31E-03	0.0340	0.832	1.41E-03
PoF-Fuel/Weather	0.161	6.23E-03	0.0330	0.892	1.07E-03
PoF-Ignition/Weather	0.156	6.24E-03	0.0336	0.877	6.57E-04
PoF-Ignition/Fuel	0.144	6.26E-03	0.0335	0.884	1.46E-03
PoF	0.164	6.23E-03	0.0328	0.895	1.10E-03
S.E.Asia					
	Correlation	Brier	Logloss	ROC	ECE
PoF-Weather	0.127	1.09E-03	0.0081	0.933	6.16E-04
PoF-Fuel	0.104	1.09E-03	0.0081	0.925	3.59E-04
PoF-Ignition	0.074	1.10E-03	0.0070	0.918	1.70E-04
PoF-Fuel/Weather	0.149	1.08E-03	0.0079	0.935	3.25E-04
PoF-Ignition/Weather	0.137	1.09E-03	0.0078	0.935	3.76E-04
PoF-Ignition/Fuel	0.121	1.09E-03	0.0079	0.932	3.93E-04
PoF	0.156	1.08E-03	0.0078	0.936	3.05E-04
E.Australia					
	Correlation	Brier	Logloss	ROC	ECE
PoF-Weather	0.022	1.51E-03	0.0117	0.737	1.73E-03
PoF-Fuel	0.029	1.55E-03	0.0125	0.761	3.52E-03
PoF-Ignition	0.055	1.49E-03	0.0108	0.735	5.49E-04
PoF-Fuel/Weather	0.039	1.51E-03	0.0113	0.793	2.01E-03
PoF-Ignition/Weather	0.057	1.49E-03	0.0107	0.775	4.21E-04
PoF-Ignition/Fuel	0.043	1.50E-03	0.0112	0.766	1.37E-03
PoF	0.053	1.49E-03	0.0106	0.798	7.67E-04
Global					
	Correlation	Brier	Logloss	ROC	ECE
PoF-Weather	0.085	1.54E-03	0.0101	0.894	1.71E-04
PoF-Fuel	0.136	1.53E-03	0.0098	0.915	1.27E-04
PoF-Ignition	0.103	1.54E-03	0.0095	0.893	9.74E-05
PoF-Fuel/Weather	0.171	1.51E-03	0.0094	0.935	1.39E-04
PoF-Ignition/Weather	0.151	1.52E-03	0.0092	0.93	4.89E-05
PoF-Ignition/Fuel	0.154	1.52E-03	0.0096	0.922	1.12E-04
PoF	0.181	1.50E-03	0.0092	0.938	4.32E-05

Table S1 Table of the absolute values for the skill-scores depicted in the spider diagram of Figure 1 of the manuscript)