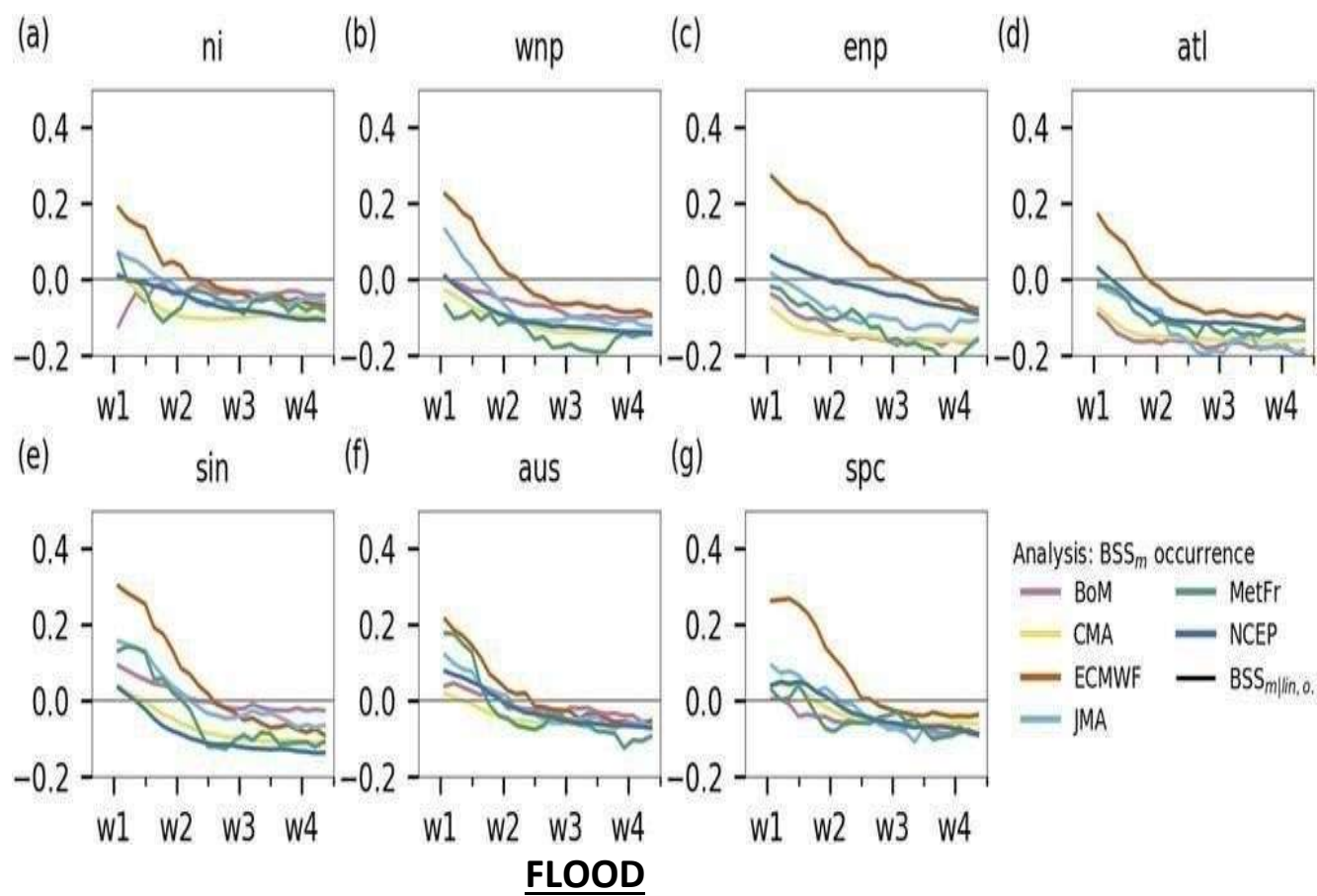


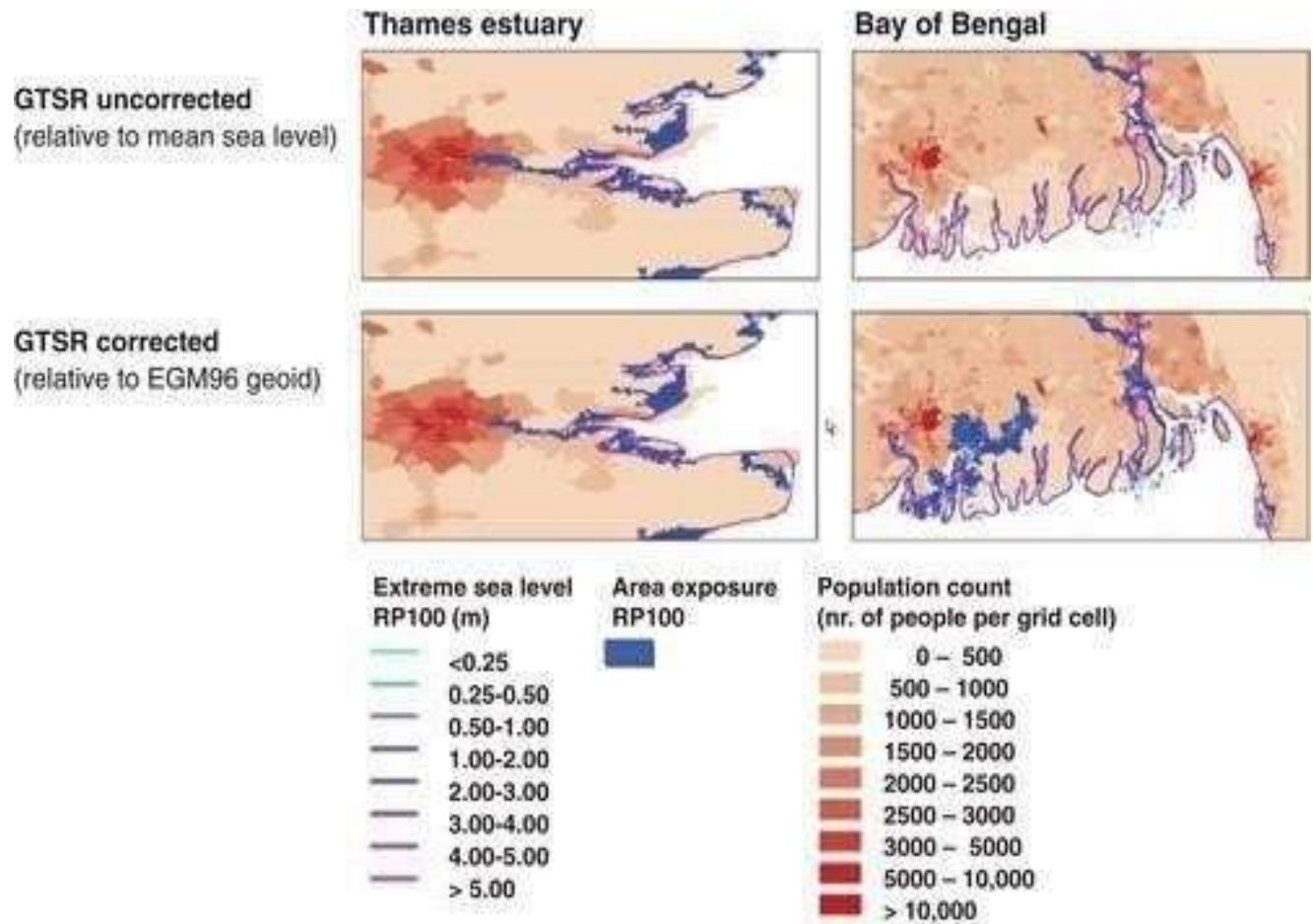
Sprint-1

Simulation Creation

Date	14 November2022
Team ID	PNT2022TMID47240
Project Name	Natural Disasters Intensity Analysis and Classification using Artificial Intelligence
Maximum Marks	20 Marks

CYCLONE





Knowing your community's evacuation route and warning signals, and identifying areas prone to flooding or landslides.

EARTH QUAKE

Model	Rescale Numeric	Train/ Test Split	Data Sampl ing	Data Group ing	Manual Parameter Tuning	Grid Search	Manual Drop Features	Feature Selection Function	Accuracy
Random Forest									
Gorkar (2019)	Yes	Yes	No	No	No	No	No	No	0.721
Das (2019)	Yes	Yes	Yes	No	Simple	Yes	No	No	0.658
Ghimire (2019)	Yes	Yes	Yes	Yes	Simple	Yes	Yes	No	0.715
Mendes (2019)	Yes	Yes	Yes	No	No	No	Yes	Advance	0.63
XGBoost Classifier									
Mendes (2019)	Yes	Yes	Yes	No	No	No	Yes	Advance	0.646
Narayan (2019)	No	No	No	No	No	No	Yes	Simple	0.586
Logistic Regression									
Eliseev (2020)	Yes	Yes	No	No	No	No	Yes	No	0.74
Ghimire (2019)	Yes	Yes	Yes	Yes	Simple	Yes	Yes	No	0.47
Light GBM									
Das (2019)	Yes	Yes	Yes	No	Advance	N/A	No	No	0.784
Decision Tree									
Mendes (2019)	Yes	Yes	Yes	No	No	No	Yes	Advance	0.658

WILDFIRE

2.5.5 C-2, Boreal Spruce

Open, Rate of Spread in ch/hr
 Multiply by 1.1 to get feet/min
 Divide by 80 to get miles/hour
 Divide by 3 to get meters/min

Torching, Active Crown Fire

Intensity Class	Flame Length	FLI (ft/min)	FLI (m/min)	FLI (ft/hr)	FLI (m/hr)
1	up to 1	4	1.3	144	46
2	up to 2	8	2.6	288	92
3	up to 3	12	3.9	432	138
4	up to 4	16	5.2	576	184
5	up to 5	20	6.5	720	230
6	up to 6	24	7.8	864	276
7	up to 7	28	9.1	1008	322
8	up to 8	32	10.4	1152	368
9	up to 9	36	11.7	1296	414
10	up to 10	40	13.0	1440	460
11	up to 11	44	14.3	1584	506
12	up to 12	48	15.6	1728	552
13	up to 13	52	16.9	1872	598
14	up to 14	56	18.2	2016	644
15	up to 15	60	19.5	2160	690
16	up to 16	64	20.8	2304	736
17	up to 17	68	22.1	2448	782
18	up to 18	72	23.4	2592	828
19	up to 19	76	24.7	2736	874
20	up to 20	80	26.0	2880	920
21	up to 21	84	27.3	3024	966
22	up to 22	88	28.6	3168	1012
23	up to 23	92	29.9	3312	1058
24	up to 24	96	31.2	3456	1104
25	up to 25	100	32.5	3600	1150
26	up to 26	104	33.8	3744	1196
27	up to 27	108	35.1	3888	1242
28	up to 28	112	36.4	4032	1288
29	up to 29	116	37.7	4176	1334
30	up to 30	120	39.0	4320	1380
31	up to 31	124	40.3	4464	1426
32	up to 32	128	41.6	4608	1472
33	up to 33	132	42.9	4752	1518
34	up to 34	136	44.2	4896	1564
35	up to 35	140	45.5	5040	1610
36	up to 36	144	46.8	5184	1656
37	up to 37	148	48.1	5328	1702
38	up to 38	152	49.4	5472	1748
39	up to 39	156	50.7	5616	1794
40	up to 40	160	52.0	5760	1840
41	up to 41	164	53.3	5904	1886
42	up to 42	168	54.6	6048	1932
43	up to 43	172	55.9	6192	1978
44	up to 44	176	57.2	6336	2024
45	up to 45	180	58.5	6480	2070
46	up to 46	184	59.8	6624	2116
47	up to 47	188	61.1	6768	2162
48	up to 48	192	62.4	6912	2208
49	up to 49	196	63.7	7056	2254
50	up to 50	200	65.0	7200	2300

AK Fire Behavior Prediction (FBP) Field Guide

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Fire Behavior Tables

The number in each cell represents a Rate of Spread (in chains per hour)

The background color in that cell represents the flame length/intensity class. Table at top is for reference

The font represents the fire type; **Active Crown Fire** and *torching behavior*

Artificial intelligence allows researchers to “clean up data” around air quality and weather patterns and predict possible wildfires in a way that is much faster than before.