



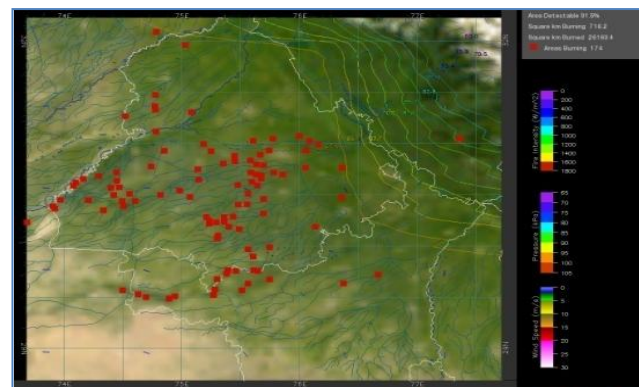
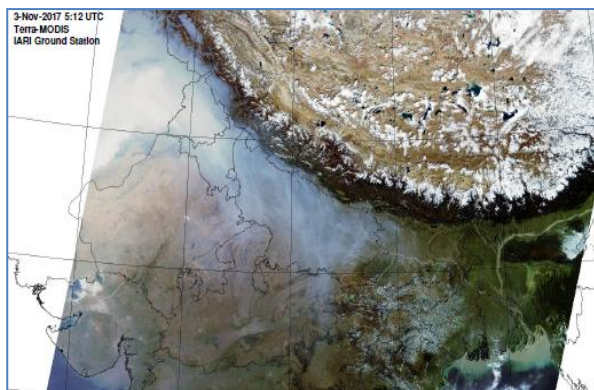
**Bulletin
No. 53**

**Events Date:
22-Nov-2018**

**Issued on:
23-Nov-2018**



MONITORING PADDY RESIDUE BURNING IN NORTH INDIA USING SATELLITE REMOTE SENSING DURING 2018



Prepared by:

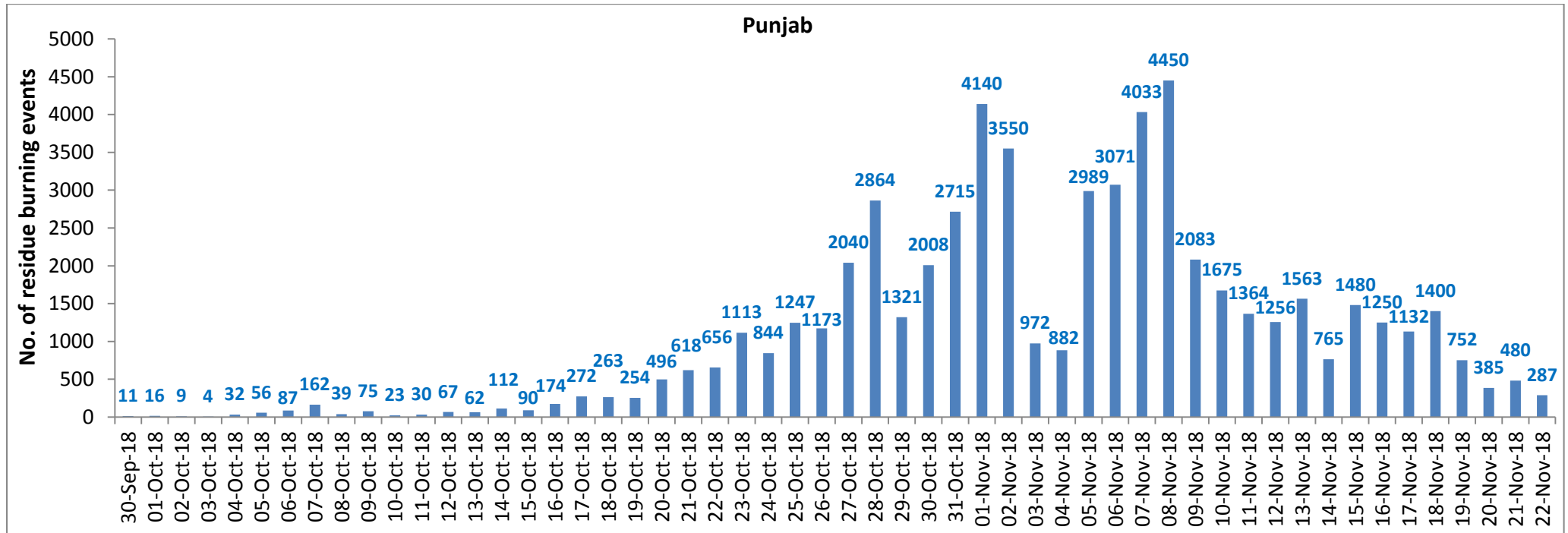
**Consortium for Research on Agroecosystem Monitoring and Modeling from Space (CREAMS) Laboratory,
Division of Agricultural Physics, ICAR – Indian Agricultural Research Institute, New Delhi – 110012**

<http://creams.iari.res.in>

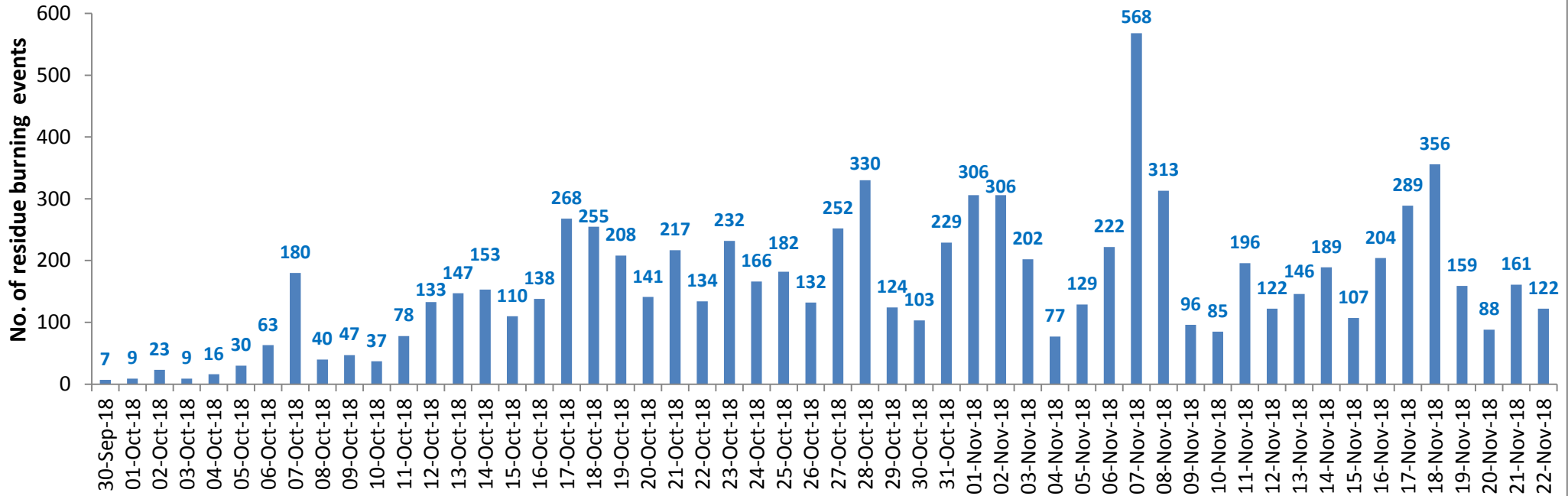
Highlights for 22-November-2018

- Satellites detected **481** residue burning events in the three States (Punjab, Haryana & UP) on **22-Nov-2018**.
- The burning events detected on **22-Nov-2018** are **287**, **122** and **72** in Punjab, Haryana, and UP, respectively.
- The number of events has decreased from **748** on **21-Nov-2018** to **481** on **22-Nov-2018** in the three States.
- Total **73224** burning events were detected in the three States between **30-Sept-2018** and **22-Nov-2018**, which are distributed as **58892**, **8636** and **5696** in Punjab, Haryana and UP, respectively.
- Till **22-Nov-2018**, the burning events in the current year are about **87.4%** of the events detected in 2017 and about **58%** of the events detected in 2016.
- Overall, about **13%** and **42%** reduction in burning events are observed in current year (2018) till date as compared to that in 2017 and 2016, respectively.

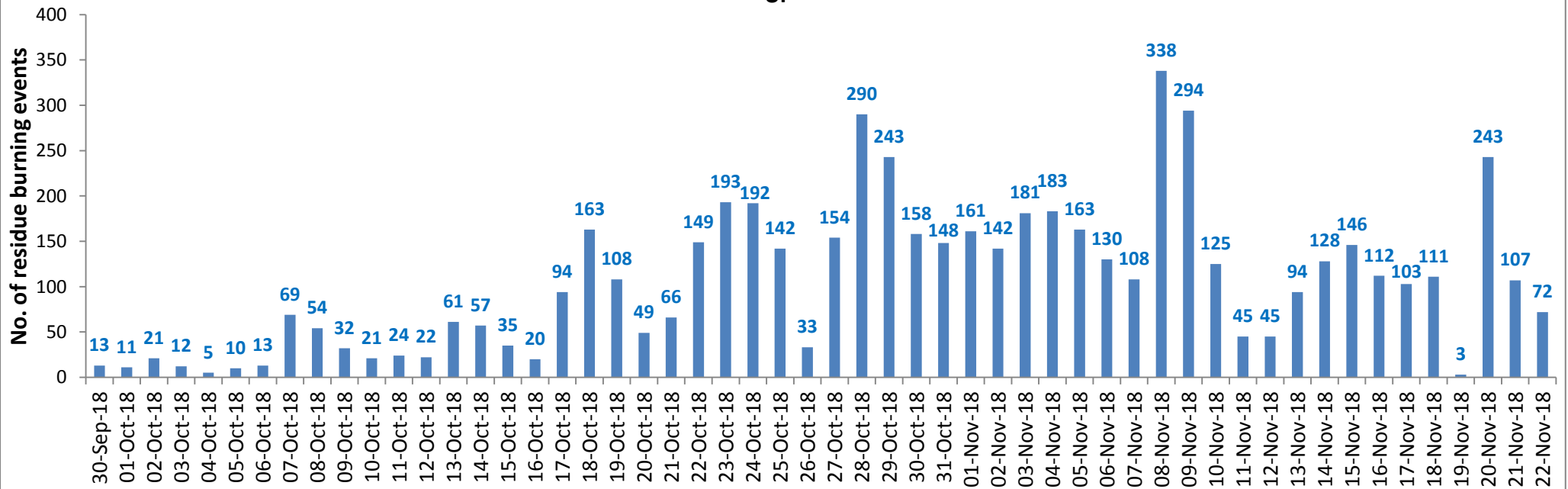
Temporal distribution of residue burning events for the three study States



Haryana

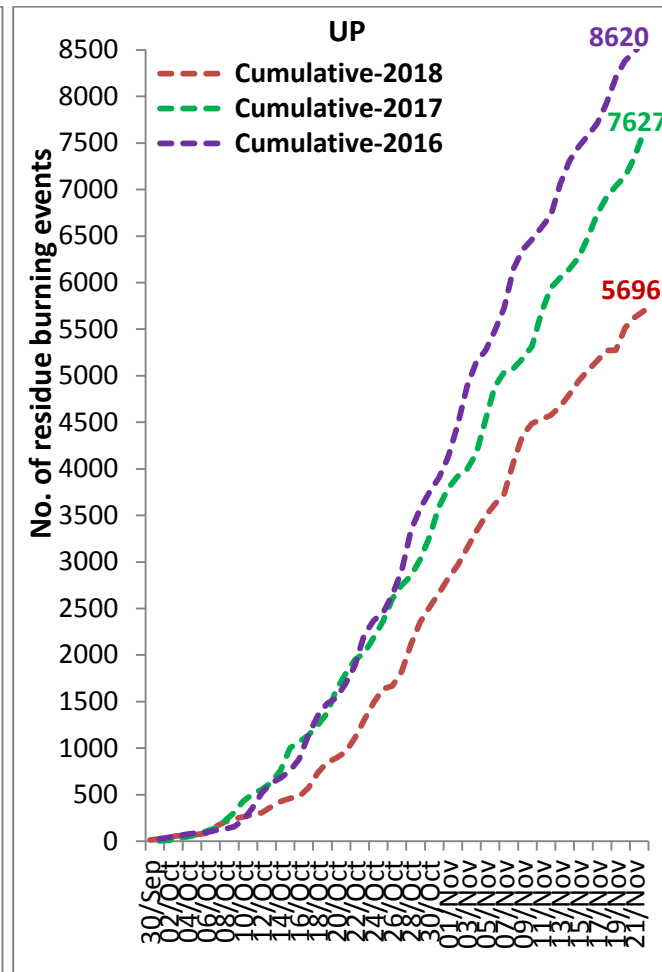
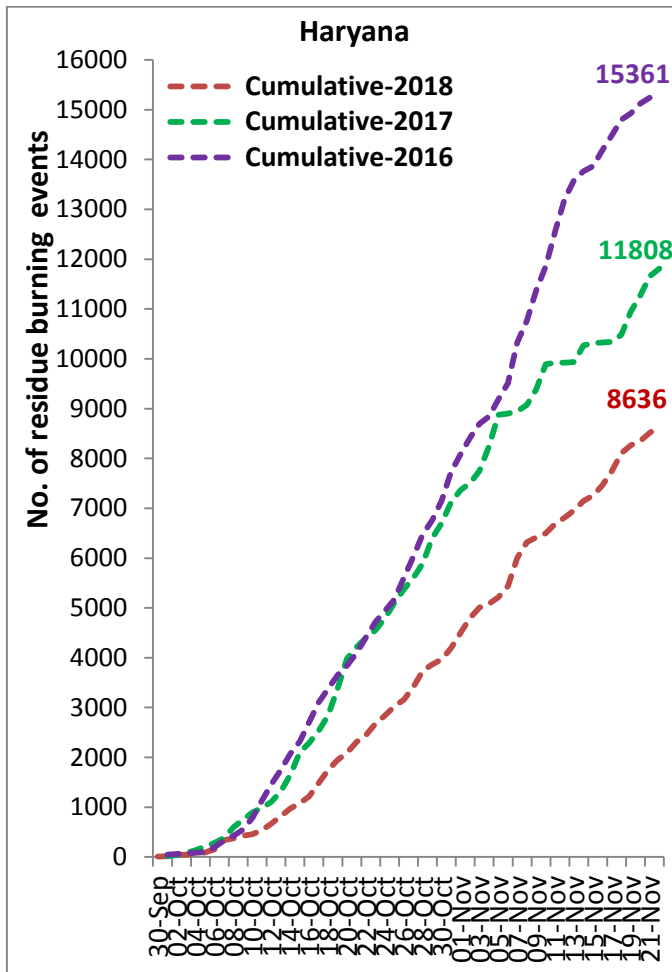
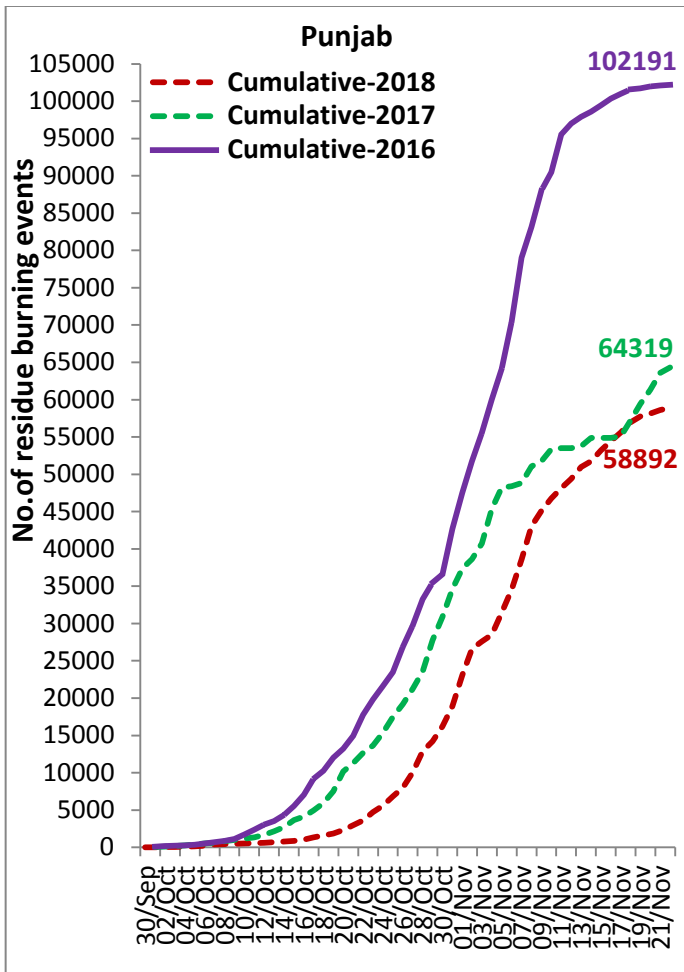


UP

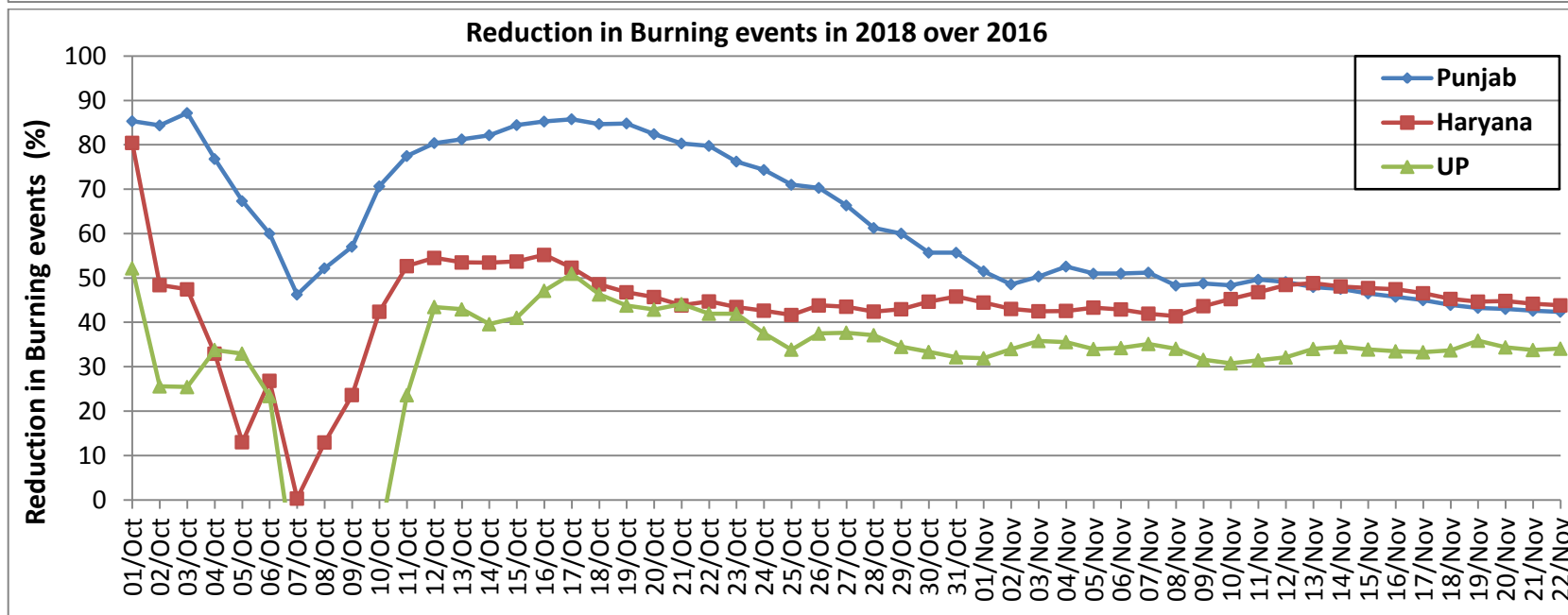
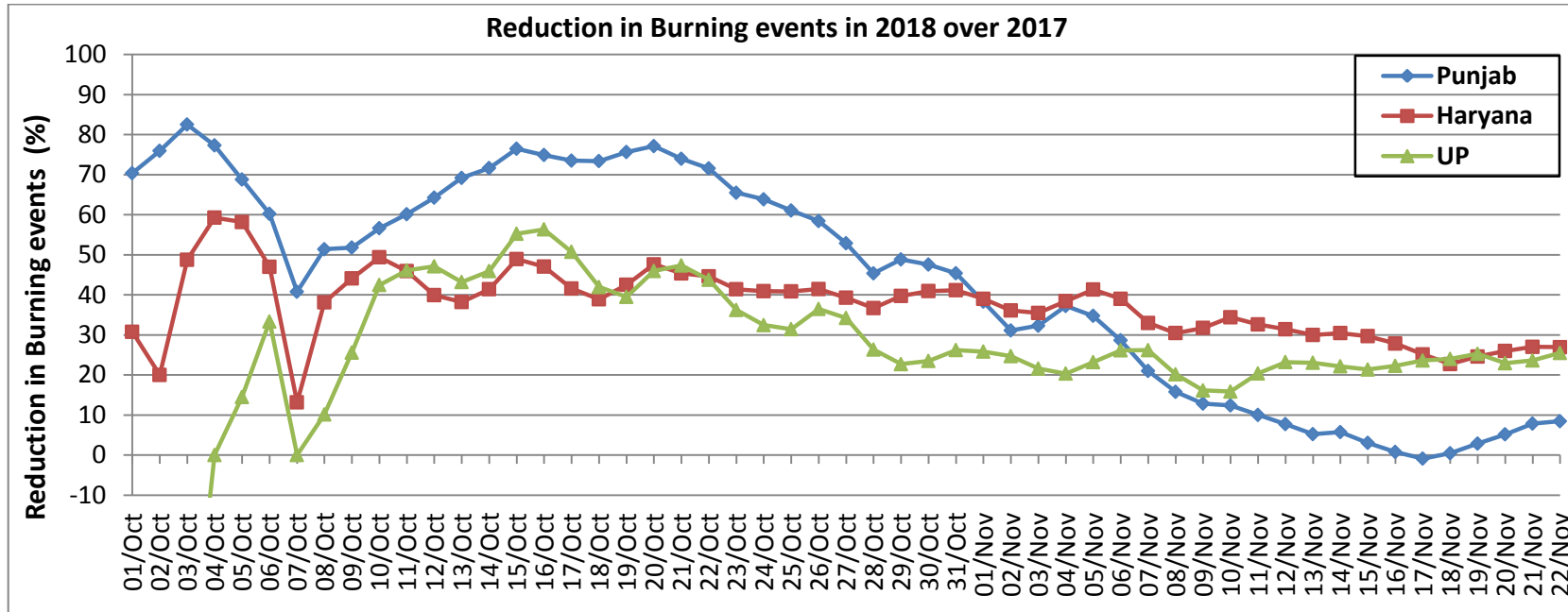


Comparison of residue burning events in current year (2018) with previous years (2017& 2016) for the three study States

(30-Sep to 22-Nov)

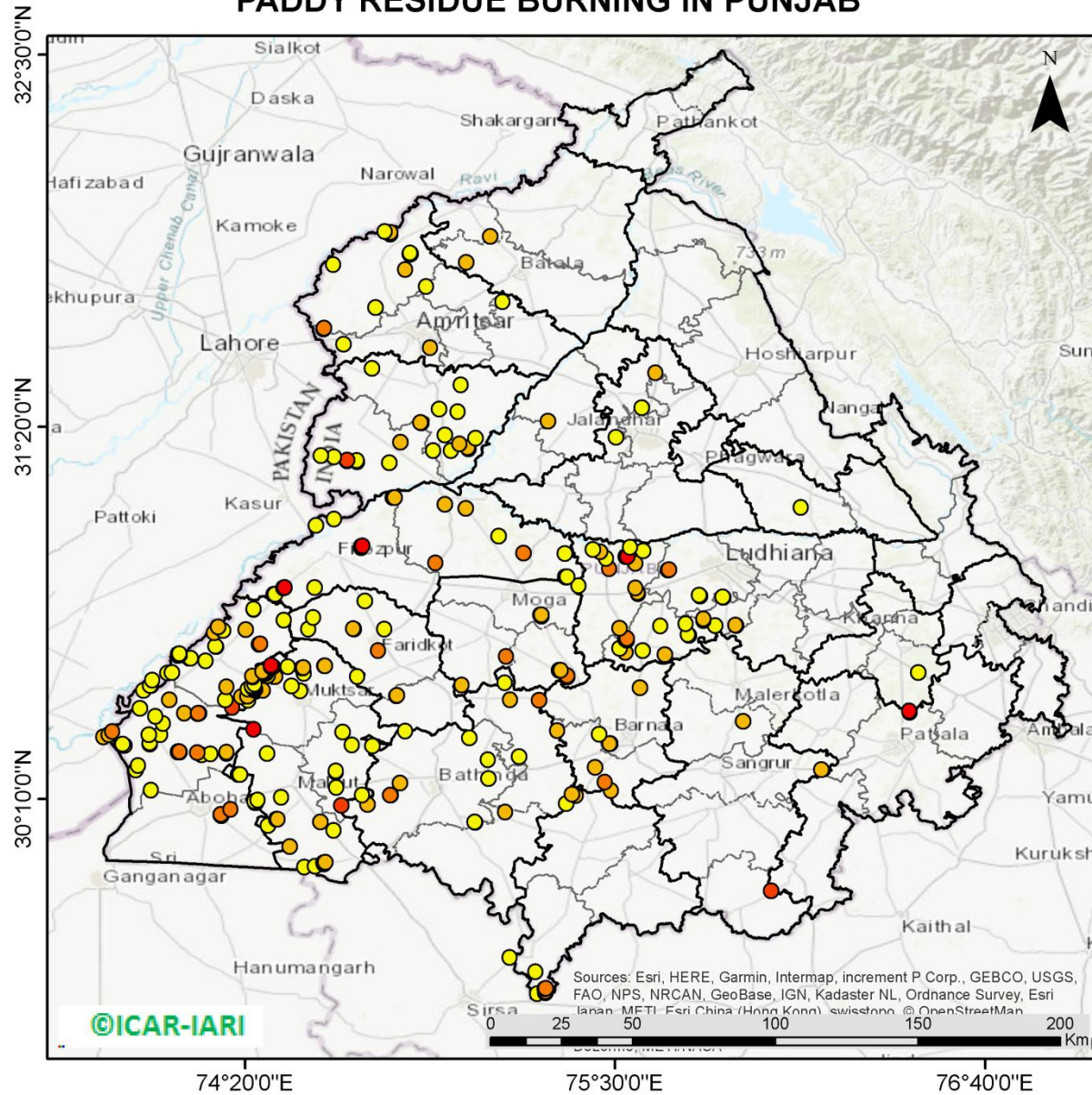


Percent Reduction in Burning events in 2018 over 2017 and 2016 (Daily Cumulative)



(a) Punjab

PADDY RESIDUE BURNING IN PUNJAB



287 burning events detected in Punjab on 22nd November, 2018

Fire Intensity (W/m²)

- 0 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- >20

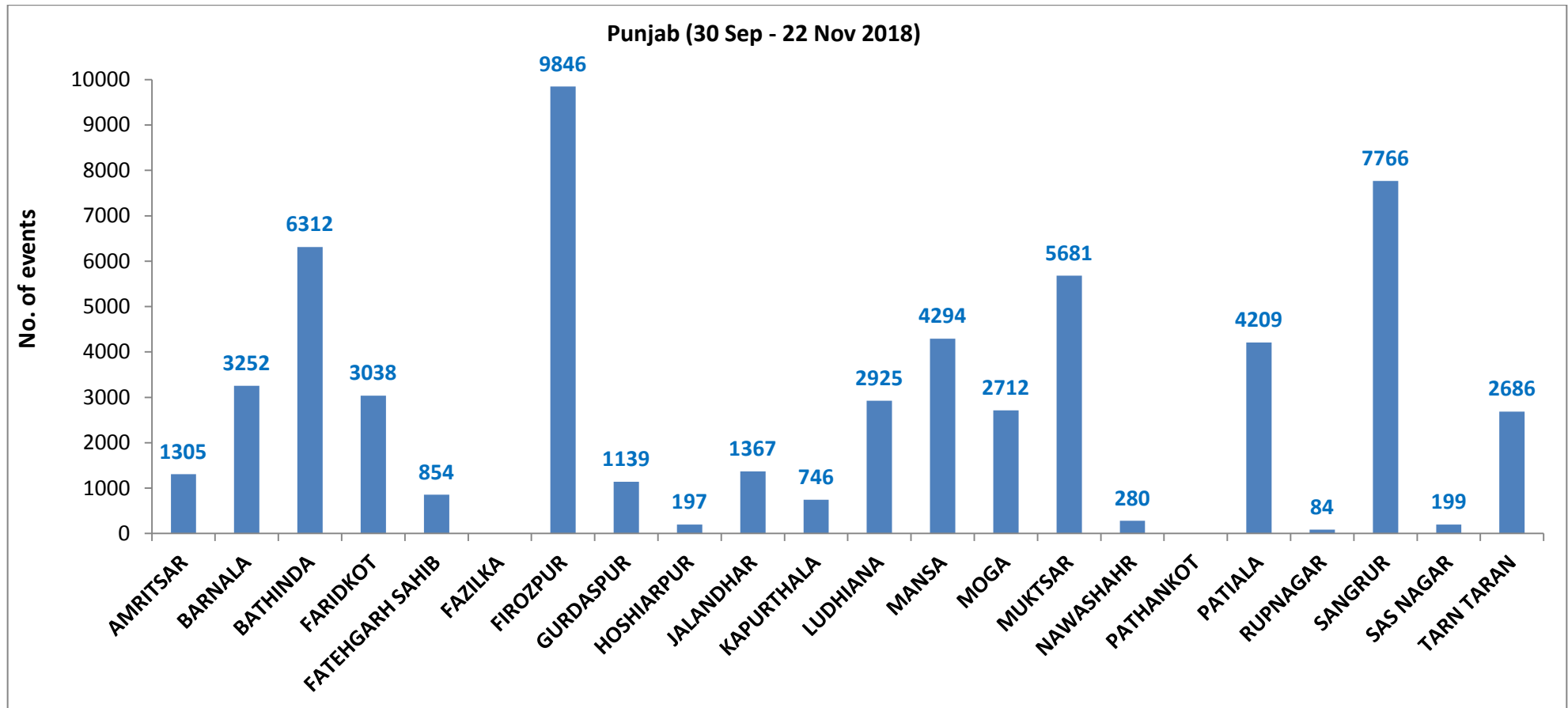
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Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap



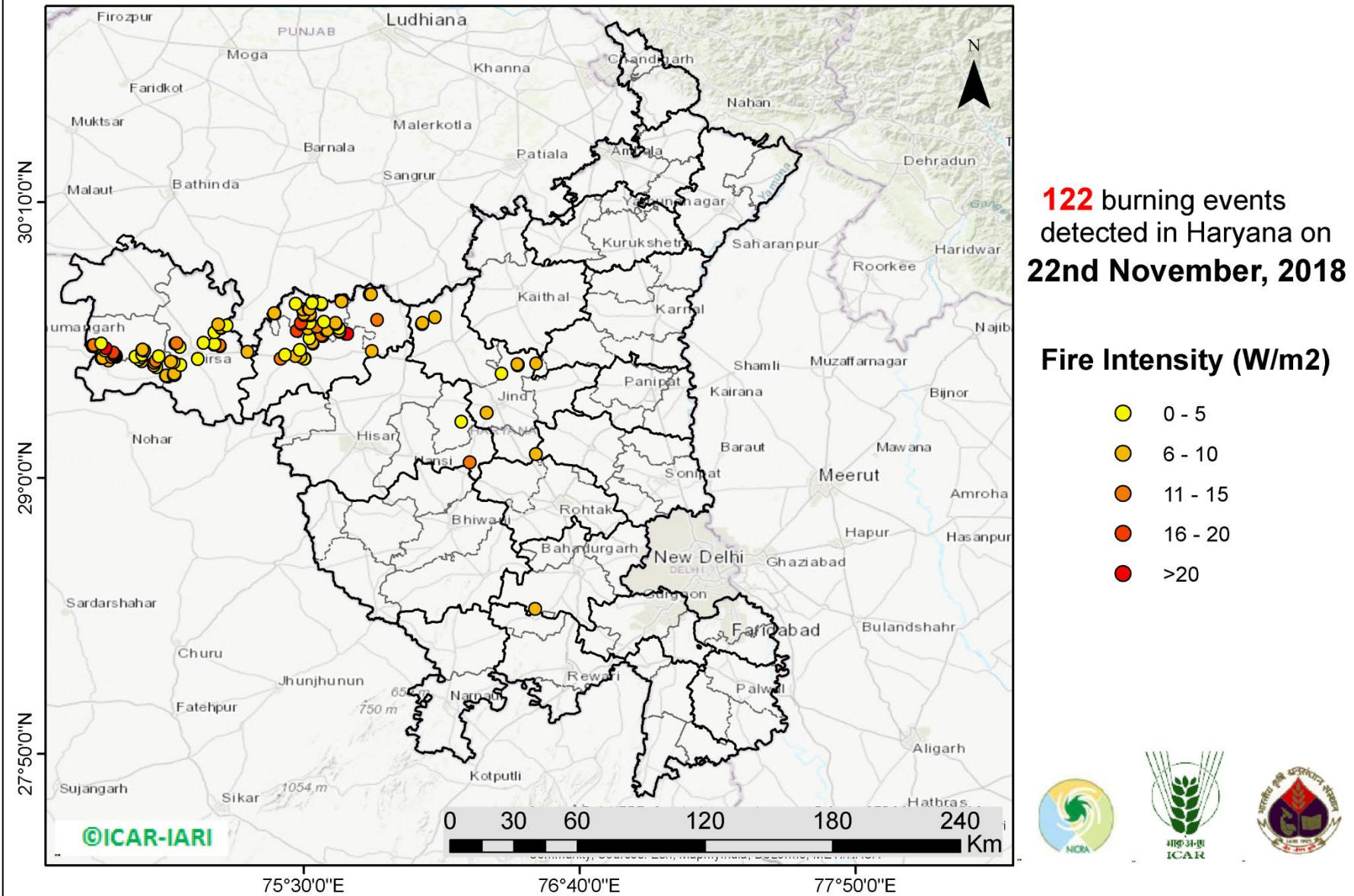
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise cumulative number of residue burning events in Punjab (30-Sep-2018 to 22-Nov-2018)



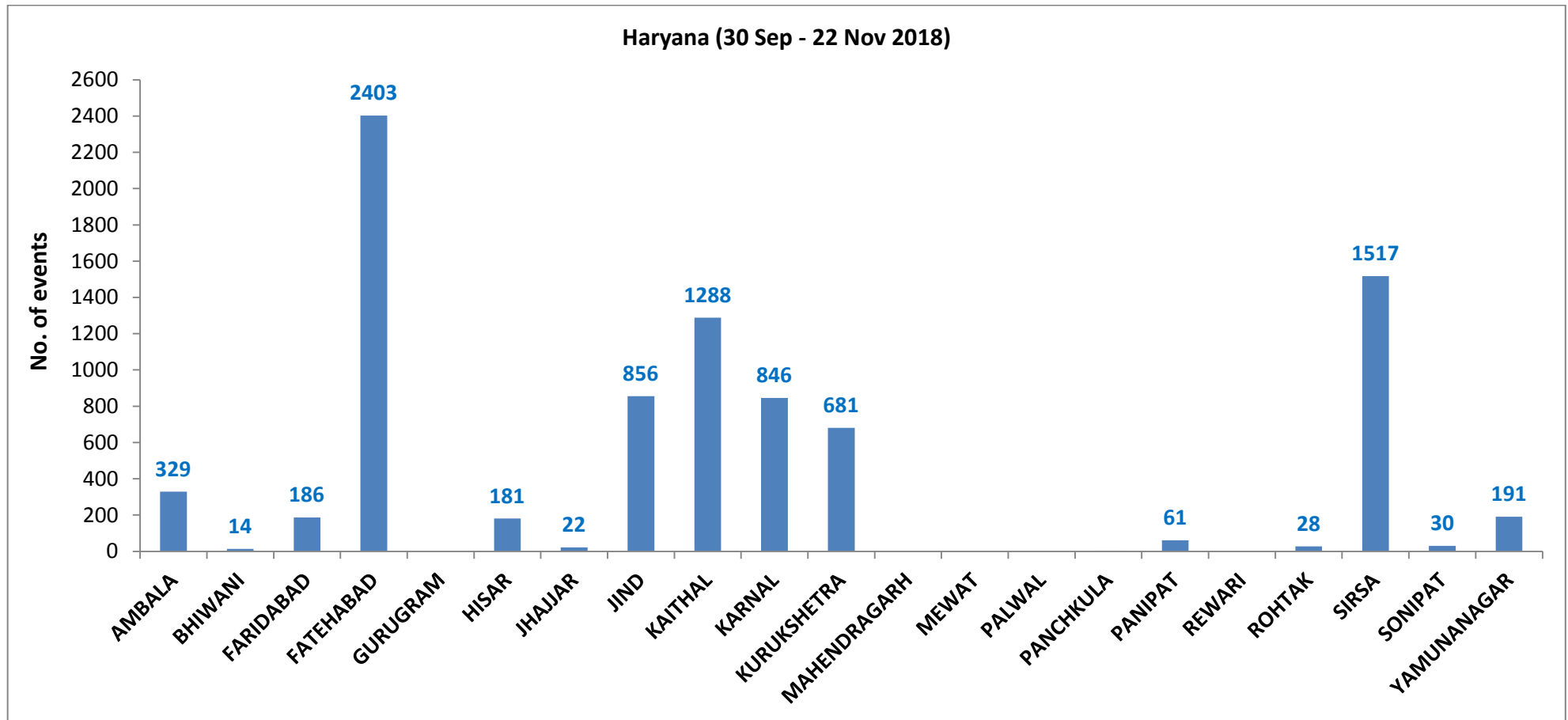
(b) Haryana

PADDY RESIDUE BURNING IN HARYANA



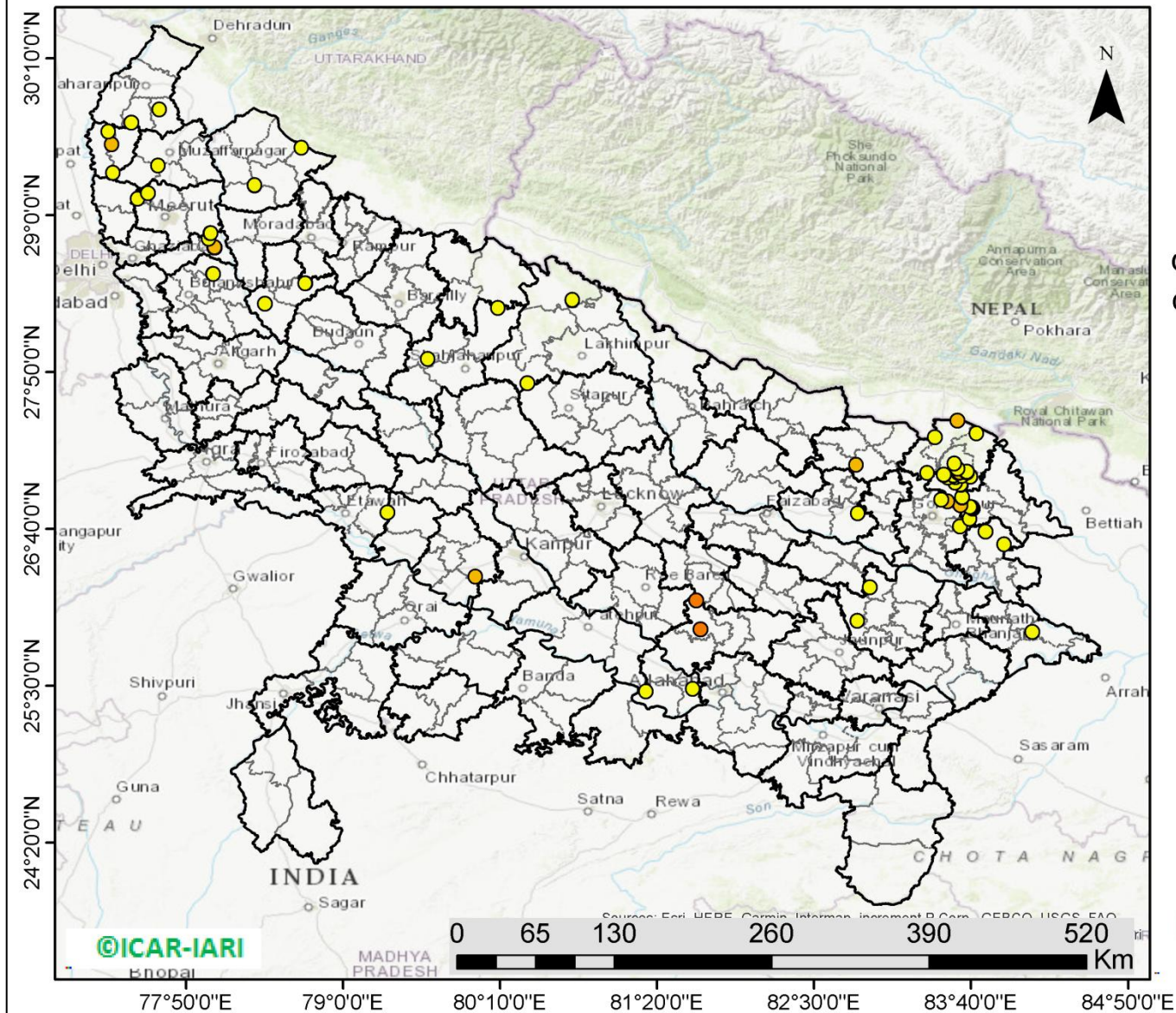
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise cumulative number of residue burning events in Haryana (30-Sep-2018 to 22-Nov-2018)



(c) Uttar Pradesh

PADDY RESIDUE BURNING IN UTTAR PRADESH



72 burning events detected in Uttar Pradesh on **22nd Nov, 2018**

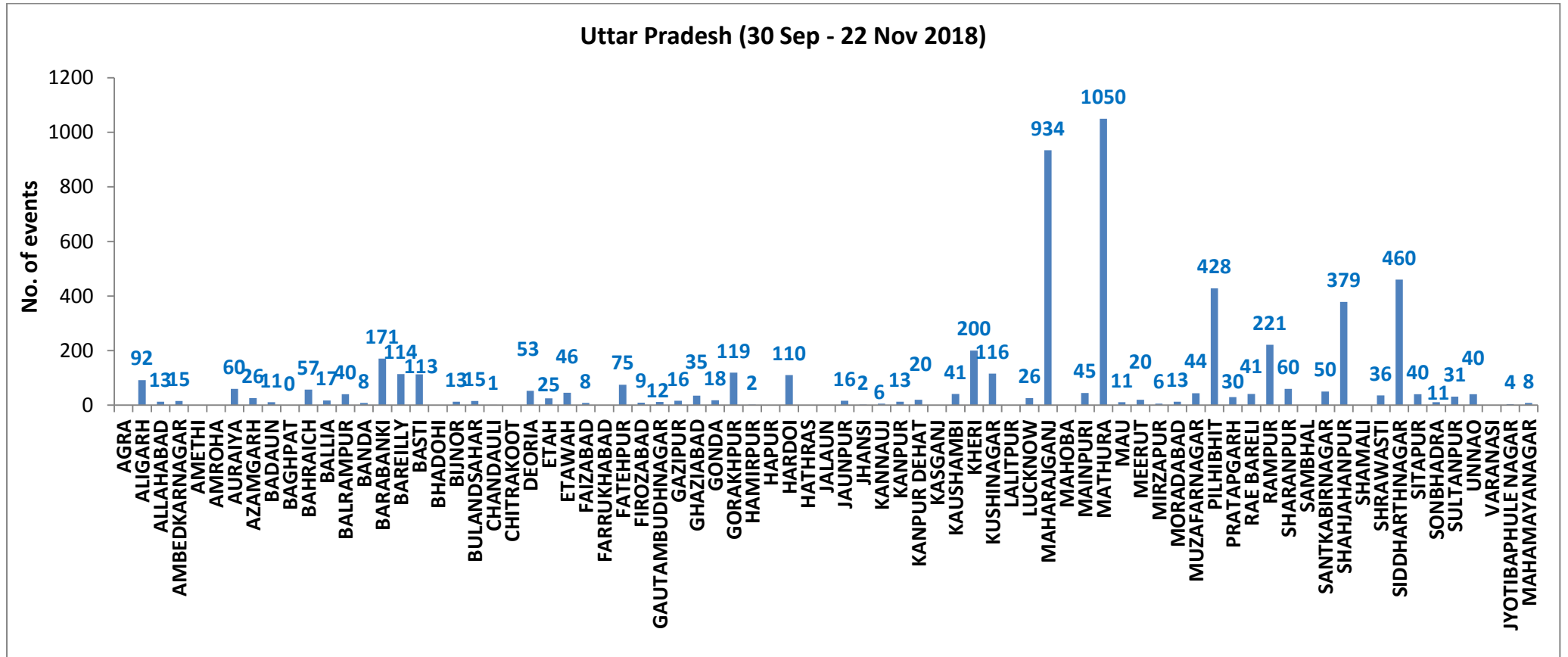
Fire Intensity (W/m²)

- 0 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- >20



<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise cumulative number of residue burning events in Uttar Pradesh (30-Sep-2018 to 22-Nov-2018)



State wise, date wise and district-wise number of residue burning events detected in 2016, 2017 and 2018
(Period: 30-Sep to 22-Nov)

Date	Punjab			Haryana			UP			Total		
	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
30-Sep	--	--	11	--	---	7	--	---	13	--	---	31
1-Oct	109	54	16	46	13	9	23	2	11	178	69	36
2-Oct	51	50	9	16	27	23	20	8	21	87	85	53
3-Oct	66	62	4	16	40	9	16	17	12	98	119	25
4-Oct	37	103	32	7	60	16	15	22	5	59	185	53
5-Oct	95	106	56	15	68	30	14	20	10	124	194	96
6-Oct	152	138	87	105	75	65	6	39	13	263	252	165
7-Oct	171	105	162	126	97	180	24	31	69	321	233	411
8-Oct	166	215	39	94	218	40	14	75	54	274	508	133
9-Oct	270	163	75	121	148	47	22	87	32	413	398	154
10-Oct	597	164	23	242	151	37	74	126	21	913	441	81
11-Oct	652	177	30	336	87	78	128	74	24	1116	338	132
12-Oct	694	342	67	338	123	133	164	51	22	1196	516	222
13-Oct	467	470	62	284	207	147	102	69	61	853	746	270
14-Oct	812	582	112	328	333	153	60	137	57	1200	1052	322
15-Oct	1215	943	90	248	458	110	76	237	35	1539	1638	235
16-Oct	1478	465	174	385	186	138	125	71	20	1988	722	332
17-Oct	2173	807	272	399	244	268	261	69	94	2833	1120	634
18-Oct	1065	970	263	270	306	255	204	108	163	1539	1384	681
19-Oct	1762	1591	254	276	541	208	132	128	108	2170	2260	570
20-Oct	1175	2653	496	188	597	141	62	255	49	1425	3505	686
21-Oct	1726	1139	618	257	233	217	152	168	66	2135	1540	901
22-Oct	2837	1356	656	309	186	134	194	151	149	3340	1693	939
23-Oct	2040	994	1113	313	155	232	331	72	193	2684	1221	1538
24-Oct	1836	1714	844	221	244	166	152	171	192	2209	2129	1202
25-Oct	1813	2104	1247	229	303	182	83	175	142	2125	2582	1571

26-Oct	3390	1715	1173	434	276	132	195	240	33	4019	2231	1338
27-Oct	2904	2069	2040	417	224	252	255	145	154	3576	2438	2446
28-Oct	3493	2318	2864	458	292	330	435	99	290	4386	2709	3484
29-Oct	2258	4184	1321	278	502	124	237	180	243	2773	4866	1688
30-Oct	1076	3152	2008	395	307	103	175	238	158	1646	3697	2269
31-Oct	6132	3743	2715	575	413	229	153	321	148	6860	4447	3092
01-Nov	4843	2736	4140	362	250	306	223	199	161	5628	3185	4607
02-Nov	4183	1246	3550	332	145	306	345	131	142	4860	1522	3998
03-Nov	3806	2109	972	275	240	202	409	75	181	4409	2424	1355
04-Nov	4477	4603	882	146	499	77	265	168	183	4888	5270	1142
05-Nov	4137	2876	2989	345	625	129	125	367	163	4607	3868	3281
06-Nov	6303	171	3071	322	26	222	215	357	130	6840	327	3423
07-Nov	8575	420	4033	821	46	568	244	149	108	9640	615	4709
08-Nov	4129	2256	4450	432	128	313	419	43	338	4874	2427	5101
09-Nov	4857	675	2083	608	311	96	205	107	294	5670	1093	2473
10-Nov	2468	1642	1675	484	509	85	109	131	125	3061	2282	1885
11-Nov	5040	103	1364	716	29	196	129	358	45	5885	490	1605
12-Nov	1477	33	1256	634	3	122	129	269	45	2240	305	1423
13-Nov	885	237	1563	389	7	146	338	109	94	1612	353	1803
14-Nov	692	1101	765	171	340	189	247	95	128	1110	1536	1082
15-Nov	871	5	1480	107	40	107	154	123	146	1132	168	1733
16-Nov	911	8	1250	318	17	204	123	218	112	1352	243	1566
17-Nov	638	217	1132	299	12	289	130	249	103	1067	478	1524
18-Nov	568	2147	1400	312	139	356	217	180	111	1097	2466	1867
19-Nov	168	2200	752	125	471	159	273	122	3	566	2793	914
20-Nov	240	1857	385	204	325	88	183	101	243	627	2283	716
21-Nov	112	2310	480	115	378	161	86	205	107	313	2893	748
22-Nov	99	719	287	118	154	122	148	281	72	365	1154	481
Total	102191	64319	58892	15361	11808	8636	8620	7627	5696	126172	83754	73224

(a) Punjab

Districts	01 Oct - 22Nov		
	2016	2017	2018
AMRITSAR	2169	1323	1305
BARNALA	5696	3258	3252
BATHINDA	8828	5416	6312
FARIDKOT	4624	3402	3038
FATEHGARH SAHIB	2460	1622	854
FAZILKA	0	0	0
FIROZPUR	13591	9356	9846
GURDASPUR	2215	1568	1139
HOSHIARPUR	900	486	197
JALANDHAR	4659	2078	1367
KAPURTHALA	3134	1599	746
LUDHIANA	9535	4428	2925
MANSA	5636	4401	4294
MOGA	6392	2486	2712
MUKTSAR	7010	5062	5681
NAWASHAHR (SBS Nagar)	1362	671	280
PATHANKOT	0	0	0
PATIALA	6539	5027	4209
RUPNAGAR	717	326	84
SANGRUR	11860	8365	7766
SAS NAGAR	362	243	199
TARN TARAN	4502	3202	2686
Total	102191	64319	58892

(b) Haryana

Districts	01 Oct - 22Nov		
	2016	2017	2018
AMBALA	530	495	329
BHIWANI	80	33	14
FARIDABAD	286	341	186
FATEHABAD	4802	3465	2403
GURUGRAM	0	0	0
HISAR	390	178	181
JHAJJAR	30	18	22
JIND	854	933	856
KAITHAL	1748	1512	1288
KARNAL	1625	1501	846
KURUKSHETRA	1078	1144	681
MAHENDRAGARH	0	0	0
MEWAT	0	0	0
PALWAL	0	0	0
PANCHKULA	0	0	3
PANIPAT	82	88	61
REWARI	0	0	0
ROHTAK	86	65	28
SIRSA	3446	1661	1517
SONIPAT	83	64	30
YAMUNANAGAR	241	310	191
Total	15361	11808	8636

(c) Uttar Pradesh

Distrites	01 Oct - 22Nov			GAUTAMBUDH NAGAR			RAE BARELI				
	2016	2017	2018								
AGRA	0	0	0	NAGAR	23	38	12	87	81	41	
ALIGARH	53	80	92	GAZIPUR	13	14	16	RAMPUR	618	625	221
ALLAHABAD	5	11	13	GHAZIABAD	70	49	35	SHARANPUR	101	120	60
AMBEDKARNAGAR	67	46	15	GONDA	46	34	18	SAMBHAL	0	0	0
AMETHI	0	0	0	GORAKHPUR	63	111	119	SANTKABIRNAGAR	55	61	50
AMROHA	0	0	0	HAMIRPUR	0	0	2	SHAHJAHANPUR	1133	681	379
AURAIYA	230	207	60	HAPUR	0	0	0	SHAMALI	0	0	0
AZAMGARH	36	39	26	HARDOI	240	198	110	SHRAWASTI	32	31	36
BADAUN	6	7	11	HATHRAS	0	0	0	SIDDHARTHANAGAR	243	181	460
BAGHPAT	0	0	0	JALAUN	0	0	0	SITAPUR	123	72	40
BAHRAICH	70	40	57	JAUNPUR	17	24	16	SONBHADRA	15	14	11
BALLIA	17	32	17	JHANSI	0	0	2	SULTANPUR	67	39	31
BALRAMPUR	34	27	40	KANNAUJ	32	15	6	UNNAO	63	53	40
BANDA	2	16	8	KANPUR	14	9	13	VARANASI	1	0	0
BARABANKI	214	163	171	KANPUR DEHAT	53	59	20	JYOTIBAPHULE NAGAR	10	13	4
BAREILLY	246	213	114	KASGANJ	0	0	0	MAHAMAYANAGAR	2	2	8
BASTI	141	182	113	KAUSHAMBI	22	43	41	Total	8620	7627	5696
BHADOHI	0	0	0	KHERI	435	268	200				
BIJNOR	54	52	13	KUSHINAGAR	50	132	116				
BULANDSAHAR	29	30	15	LALITPUR	0	0	0				
CHANDAULI	9	9	1	LUCKNOW	61	30	26				
CHITRAKOOT	0	0	0	MAHARAJGANJ	631	966	934				
DEORIA	58	67	53	MAHOBA	0	0	0				
ETAH	17	31	25	MAINPURI	83	89	45				
ETAWAH	137	113	46	MATHURA	1451	1083	1050				
FAIZABAD	13	11	8	MAU	12	16	11				
FARRUKHABAD	0	0	0	MEERUT	77	78	20				
FATEHPUR	62	49	75	MIRZAPUR	4	12	6				
FIROZABAD	23	18	9	MORADABAD	49	36	13				
				MUZAFARNAGAR	124	142	44				
				PILHIBHIT	938	720	428				
				PRATAPGARH	39	45	30				

Details of residue burning events in Punjab on 22-Nov-2018

Event S. No.	District	Tehsil/Block	Satellite	Longitude	Latitude	Time (IST)	Day/Night	Fire Power (W/m²)
1	AMRITSAR	AJNALA	S-NPP	74.74390	31.70817	14:00:00	D	2.00
2	AMRITSAR	AJNALA	S-NPP	74.90298	31.77457	14:00:00	D	2.40
3	AMRITSAR	AJNALA	S-NPP	74.83759	31.82800	14:00:00	D	5.80
4	AMRITSAR	AJNALA	S-NPP	74.61005	31.84266	14:00:00	D	3.80
5	AMRITSAR	AJNALA	S-NPP	74.85320	31.87509	14:00:00	D	4.50
6	AMRITSAR	AJNALA	S-NPP	74.85123	31.87587	14:00:00	D	3.70
7	AMRITSAR	AJNALA	S-NPP	74.85651	31.87634	14:00:00	D	4.60
8	AMRITSAR	AJNALA	S-NPP	74.85266	31.87961	14:00:00	D	4.50
9	AMRITSAR	AJNALA	S-NPP	74.79019	31.93869	14:00:00	D	6.20
10	AMRITSAR	AJNALA	S-NPP	74.78961	31.94319	14:00:00	D	6.20
11	AMRITSAR	AJNALA	S-NPP	74.77332	31.94621	14:00:00	D	3.90
12	AMRITSAR	AMRITSAR II	S-NPP	74.91618	31.58164	14:00:00	D	5.70
13	AMRITSAR	AMRITSAR II	S-NPP	74.64223	31.59251	14:00:00	D	3.30
14	AMRITSAR	AMRITSAR II	S-NPP	74.57982	31.64035	14:00:00	D	7.20
15	AMRITSAR	AMRITSAR II	S-NPP	74.58111	31.64351	14:00:00	D	12.20
16	AMRITSAR	BABA BAKALA	S-NPP	75.14545	31.72659	14:00:00	D	2.10
17	BARNALA	BARNALA	S-NPP	75.48593	30.34060	14:00:00	D	5.60
18	BARNALA	BARNALA	S-NPP	75.48287	30.34097	14:00:00	D	7.40
19	BARNALA	BARNALA	S-NPP	75.44946	30.36988	14:00:00	D	3.60
20	BARNALA	BARNALA	S-NPP	75.57894	30.51565	14:00:00	D	5.60
21	BARNALA	TAPPA	S-NPP	75.48707	30.19350	14:00:00	D	6.20
22	BARNALA	TAPPA	S-NPP	75.46754	30.21955	14:00:00	D	12.50
23	BARNALA	TAPPA	S-NPP	75.43690	30.26694	14:00:00	D	6.20
24	BARNALA	TAPPA	S-NPP	75.31770	30.38085	14:00:00	D	6.90
25	BATHINDA	BATHINDA	S-NPP	74.71908	30.15048	14:00:00	D	5.10
26	BATHINDA	BATHINDA	S-NPP	74.79115	30.17923	14:00:00	D	7.40
27	BATHINDA	BATHINDA	S-NPP	74.78965	30.17991	14:00:00	D	10.70
28	BATHINDA	BATHINDA	S-NPP	74.82124	30.21784	14:00:00	D	6.90
29	BATHINDA	BATHINDA	S-NPP	75.10039	30.23104	14:00:00	D	3.20

30	BATHINDA	BATHINDA	S-NPP	75.09835	30.28995	14:00:00	D	3.80
31	BATHINDA	BATHINDA	S-NPP	75.04028	30.35913	14:00:00	D	4.10
32	BATHINDA	BATHINDA	S-NPP	74.83820	30.37991	14:00:00	D	4.80
33	BATHINDA	RAMPURA PHUL	S-NPP	75.19687	30.29955	14:00:00	D	4.10
34	BATHINDA	RAMPURA PHUL	S-NPP	75.25994	30.47686	14:00:00	D	10.30
35	BATHINDA	RAMPURA PHUL	S-NPP	75.16924	30.47751	14:00:00	D	6.70
36	BATHINDA	RAMPURA PHUL	S-NPP	75.15221	30.53078	14:00:00	D	3.30
37	BATHINDA	TALWANDI SABO	S-NPP	75.05855	30.09385	14:00:00	D	4.60
38	BATHINDA	TALWANDI SABO	S-NPP	75.05601	30.09571	14:00:00	D	3.20
39	BATHINDA	TALWANDI SABO	S-NPP	75.15318	30.12541	14:00:00	D	5.50
40	FARIDKOT	FARIDKOT	S-NPP	74.75257	30.63229	14:00:00	D	13.50
41	FARIDKOT	FARIDKOT	S-NPP	74.53216	30.69988	14:00:00	D	3.60
42	FARIDKOT	FARIDKOT	S-NPP	74.67583	30.70029	14:00:00	D	5.10
43	FARIDKOT	FARIDKOT	S-NPP	74.77154	30.70034	14:00:00	D	3.00
44	FARIDKOT	FARIDKOT	S-NPP	74.67377	30.70042	14:00:00	D	6.90
45	FARIDKOT	FARIDKOT	S-NPP	74.54713	30.73672	14:00:00	D	4.40
46	FARIDKOT	FARIDKOT	S-NPP	74.70993	30.78841	14:00:00	D	1.60
47	FARIDKOT	JAITO	S-NPP	74.80910	30.49125	14:00:00	D	5.00
48	FARIDKOT	JAITO	S-NPP	74.81055	30.49234	14:00:00	D	5.40
49	FATEHGARH SAHIB	FATEHGARH SAHIB	S-NPP	76.45569	30.56326	14:00:00	D	3.20
50	FIROZPUR	ABOHAR	S-NPP	74.25674	30.11423	14:00:00	D	11.20
51	FIROZPUR	ABOHAR	S-NPP	74.25579	30.11572	14:00:00	D	15.10
52	FIROZPUR	ABOHAR	S-NPP	74.25618	30.11849	14:00:00	D	11.20
53	FIROZPUR	ABOHAR	S-NPP	74.28658	30.13447	14:00:00	D	14.00
54	FIROZPUR	FAZILKA	S-NPP	74.03584	30.19458	14:00:00	D	3.50
55	FIROZPUR	FAZILKA	S-NPP	73.98785	30.25810	14:00:00	D	2.50
56	FIROZPUR	FAZILKA	S-NPP	73.99503	30.27163	14:00:00	D	2.10
57	FIROZPUR	FAZILKA	S-NPP	74.19575	30.30549	14:00:00	D	3.70
58	FIROZPUR	FAZILKA	S-NPP	74.22317	30.30835	14:00:00	D	2.70
59	FIROZPUR	FAZILKA	S-NPP	74.27426	30.30933	14:00:00	D	5.50
60	FIROZPUR	FAZILKA	S-NPP	74.18097	30.31257	14:00:00	D	13.50

61	FIROZPUR	FAZILKA	S-NPP	74.27370	30.31360	14:00:00	D	5.50
62	FIROZPUR	FAZILKA	S-NPP	74.12174	30.31397	14:00:00	D	14.90
63	FIROZPUR	FAZILKA	S-NPP	74.12627	30.31442	14:00:00	D	6.40
64	FIROZPUR	FAZILKA	S-NPP	74.12090	30.31485	14:00:00	D	12.10
65	FIROZPUR	FAZILKA	S-NPP	74.12542	30.31533	14:00:00	D	10.30
66	FIROZPUR	FAZILKA	S-NPP	73.95110	30.33521	14:00:00	D	2.70
67	FIROZPUR	FAZILKA	S-NPP	73.94170	30.33849	14:00:00	D	3.10
68	FIROZPUR	FAZILKA	S-NPP	73.94612	30.33894	14:00:00	D	3.10
69	FIROZPUR	FAZILKA	S-NPP	74.03176	30.33920	14:00:00	D	3.40
70	FIROZPUR	FAZILKA	S-NPP	74.03119	30.34341	14:00:00	D	3.40
71	FIROZPUR	FAZILKA	S-NPP	73.88489	30.36229	14:00:00	D	6.40
72	FIROZPUR	FAZILKA	S-NPP	74.06427	30.36820	14:00:00	D	2.40
73	FIROZPUR	FAZILKA	S-NPP	73.90191	30.36832	14:00:00	D	6.50
74	FIROZPUR	FAZILKA	S-NPP	74.02781	30.36871	14:00:00	D	2.10
75	FIROZPUR	FAZILKA	S-NPP	73.91399	30.37809	14:00:00	D	11.00
76	FIROZPUR	FAZILKA	S-NPP	74.07327	30.40343	14:00:00	D	2.50
77	FIROZPUR	FAZILKA	S-NPP	74.04982	30.42644	14:00:00	D	2.00
78	FIROZPUR	FAZILKA	S-NPP	74.18209	30.43531	14:00:00	D	5.00
79	FIROZPUR	FAZILKA	S-NPP	74.14040	30.43548	14:00:00	D	5.40
80	FIROZPUR	FAZILKA	S-NPP	73.97141	30.43561	14:00:00	D	64.80
81	FIROZPUR	FAZILKA	S-NPP	74.18667	30.43576	14:00:00	D	8.30
82	FIROZPUR	FAZILKA	S-NPP	74.18397	30.43660	14:00:00	D	12.40
83	FIROZPUR	FAZILKA	S-NPP	74.00098	30.45144	14:00:00	D	3.30
84	FIROZPUR	FAZILKA	S-NPP	74.09329	30.47803	14:00:00	D	7.90
85	FIROZPUR	FAZILKA	S-NPP	74.01157	30.50812	14:00:00	D	2.00
86	FIROZPUR	FAZILKA	S-NPP	74.03310	30.52254	14:00:00	D	4.70
87	FIROZPUR	FAZILKA	S-NPP	74.03760	30.52299	14:00:00	D	1.70
88	FIROZPUR	FAZILKA	S-NPP	74.03236	30.52316	14:00:00	D	3.90
89	FIROZPUR	FAZILKA	S-NPP	74.03985	30.54036	14:00:00	D	1.70
90	FIROZPUR	FIROZPUR	S-NPP	74.42192	30.80861	14:00:00	D	3.40
91	FIROZPUR	FIROZPUR	S-NPP	74.42671	30.80908	14:00:00	D	4.30

92	FIROZPUR	FIROZPUR	S-NPP	74.45334	30.82930	14:00:00	D	34.50
93	FIROZPUR	FIROZPUR	S-NPP	74.45816	30.82978	14:00:00	D	34.50
94	FIROZPUR	FIROZPUR	S-NPP	74.55149	30.83008	14:00:00	D	3.90
95	FIROZPUR	FIROZPUR	S-NPP	74.69915	30.95546	14:00:00	D	23.90
96	FIROZPUR	FIROZPUR	S-NPP	74.69859	30.95988	14:00:00	D	23.90
97	FIROZPUR	FIROZPUR	S-NPP	74.70361	30.96036	14:00:00	D	23.90
98	FIROZPUR	FIROZPUR	S-NPP	74.55615	31.02560	14:00:00	D	2.70
99	FIROZPUR	FIROZPUR	S-NPP	74.61382	31.04447	14:00:00	D	2.00
100	FIROZPUR	FIROZPUR	S-NPP	74.79894	31.11170	14:00:00	D	5.10
101	FIROZPUR	FIROZPUR	S-NPP	74.80404	31.11219	14:00:00	D	5.40
102	FIROZPUR	JALALABAD	S-NPP	74.29176	30.45479	14:00:00	D	16.20
103	FIROZPUR	JALALABAD	S-NPP	74.34086	30.47705	14:00:00	D	2.90
104	FIROZPUR	JALALABAD	S-NPP	74.26981	30.47866	14:00:00	D	3.80
105	FIROZPUR	JALALABAD	S-NPP	74.32048	30.48809	14:00:00	D	5.20
106	FIROZPUR	JALALABAD	S-NPP	74.33919	30.48996	14:00:00	D	8.50
107	FIROZPUR	JALALABAD	S-NPP	74.36045	30.50954	14:00:00	D	40.00
108	FIROZPUR	JALALABAD	S-NPP	74.36514	30.51001	14:00:00	D	42.10
109	FIROZPUR	JALALABAD	S-NPP	74.34110	30.51195	14:00:00	D	1.90
110	FIROZPUR	JALALABAD	S-NPP	74.35990	30.51385	14:00:00	D	3.60
111	FIROZPUR	JALALABAD	S-NPP	74.35464	30.51768	14:00:00	D	3.60
112	FIROZPUR	JALALABAD	S-NPP	74.27408	30.51818	14:00:00	D	8.00
113	FIROZPUR	JALALABAD	S-NPP	74.35408	30.52199	14:00:00	D	2.50
114	FIROZPUR	JALALABAD	S-NPP	74.36293	30.52726	14:00:00	D	5.00
115	FIROZPUR	JALALABAD	S-NPP	74.35624	30.54991	14:00:00	D	9.90
116	FIROZPUR	JALALABAD	S-NPP	74.35490	30.55264	14:00:00	D	7.70
117	FIROZPUR	JALALABAD	S-NPP	74.08741	30.56232	14:00:00	D	4.50
118	FIROZPUR	JALALABAD	S-NPP	74.10106	30.56370	14:00:00	D	2.50
119	FIROZPUR	JALALABAD	S-NPP	74.20778	30.60041	14:00:00	D	2.40
120	FIROZPUR	JALALABAD	S-NPP	74.15543	30.60804	14:00:00	D	3.50
121	FIROZPUR	JALALABAD	S-NPP	74.16003	30.60851	14:00:00	D	3.50
122	FIROZPUR	JALALABAD	S-NPP	74.12167	30.61749	14:00:00	D	13.30

123	FIROZPUR	JALALABAD	S-NPP	74.12623	30.61797	14:00:00	D	6.30
124	FIROZPUR	JALALABAD	S-NPP	74.12110	30.62175	14:00:00	D	8.30
125	FIROZPUR	JALALABAD	S-NPP	74.12567	30.62222	14:00:00	D	3.40
126	FIROZPUR	JALALABAD	S-NPP	74.24097	30.64540	14:00:00	D	8.40
127	FIROZPUR	JALALABAD	S-NPP	74.23926	30.64702	14:00:00	D	5.00
128	FIROZPUR	JALALABAD	S-NPP	74.37639	30.65246	14:00:00	D	13.30
129	FIROZPUR	JALALABAD	S-NPP	74.38112	30.65294	14:00:00	D	13.30
130	FIROZPUR	JALALABAD	S-NPP	74.23534	30.68826	14:00:00	D	6.00
131	FIROZPUR	JALALABAD	S-NPP	74.26276	30.69535	14:00:00	D	2.70
132	FIROZPUR	JALALABAD	S-NPP	74.33378	30.69806	14:00:00	D	5.50
133	FIROZPUR	JALALABAD	S-NPP	74.24706	30.70682	14:00:00	D	7.00
134	FIROZPUR	JALALABAD	S-NPP	74.45530	30.72764	14:00:00	D	5.00
135	FIROZPUR	JALALABAD	S-NPP	74.35906	30.76183	14:00:00	D	3.00
136	FIROZPUR	JALALABAD	S-NPP	74.36015	30.76315	14:00:00	D	3.70
137	FIROZPUR	ZIRA	S-NPP	75.34517	30.86303	14:00:00	D	7.60
138	FIROZPUR	ZIRA	S-NPP	75.34260	30.86369	14:00:00	D	4.00
139	FIROZPUR	ZIRA	S-NPP	75.34805	30.86421	14:00:00	D	4.90
140	FIROZPUR	ZIRA	S-NPP	74.93267	30.90742	14:00:00	D	12.30
141	FIROZPUR	ZIRA	S-NPP	75.34192	30.93709	14:00:00	D	2.40
142	FIROZPUR	ZIRA	S-NPP	75.21053	30.93863	14:00:00	D	14.20
143	FIROZPUR	ZIRA	S-NPP	75.13289	30.99181	14:00:00	D	3.60
144	FIROZPUR	ZIRA	S-NPP	75.02822	31.07895	14:00:00	D	5.30
145	FIROZPUR	ZIRA	S-NPP	74.96317	31.09114	14:00:00	D	7.00
146	GURDASPUR	BATALA	S-NPP	75.02924	31.85025	14:00:00	D	8.00
147	GURDASPUR	DERA BABA NANAK	S-NPP	75.10603	31.93069	14:00:00	D	7.60
148	JALANDHAR	JALANDHAR II	S-NPP	75.50317	31.30103	14:00:00	D	3.40
149	JALANDHAR	JALANDHAR II	S-NPP	75.58456	31.39330	14:00:00	D	4.60
150	JALANDHAR	JALANDHAR II	S-NPP	75.62798	31.50352	14:00:00	D	5.30
151	KAPURTHALA	KAPURTHALA	S-NPP	75.28860	31.35223	14:00:00	D	5.50
152	LUDHIANA	JAGRAON	S-NPP	75.51375	30.70320	14:00:00	D	5.70
153	LUDHIANA	JAGRAON	S-NPP	75.57217	30.81006	14:00:00	D	1.70

154	LUDHIANA	JAGRAON	S-NPP	75.57160	30.81472	14:00:00	D	6.80
155	LUDHIANA	JAGRAON	S-NPP	75.56438	30.82818	14:00:00	D	7.30
156	LUDHIANA	JAGRAON	S-NPP	75.38457	30.83509	14:00:00	D	4.10
157	LUDHIANA	JAGRAON	S-NPP	75.48112	30.88905	14:00:00	D	11.20
158	LUDHIANA	JAGRAON	S-NPP	75.56387	30.90575	14:00:00	D	8.30
159	LUDHIANA	JAGRAON	S-NPP	75.47175	30.92100	14:00:00	D	3.10
160	LUDHIANA	JAGRAON	S-NPP	75.53311	30.92654	14:00:00	D	24.40
161	LUDHIANA	JAGRAON	S-NPP	75.53872	30.92704	14:00:00	D	24.40
162	LUDHIANA	JAGRAON	S-NPP	75.45244	30.94265	14:00:00	D	5.50
163	LUDHIANA	JAGRAON	S-NPP	75.58780	30.94559	14:00:00	D	3.80
164	LUDHIANA	JAGRAON	S-NPP	75.42922	30.94987	14:00:00	D	3.80
165	LUDHIANA	JAGRAON	S-NPP	75.54675	30.95600	14:00:00	D	3.30
166	LUDHIANA	LUDHIANA EAST	S-NPP	75.88310	30.71162	14:00:00	D	6.20
167	LUDHIANA	LUDHIANA EAST	S-NPP	75.88021	30.71180	14:00:00	D	6.70
168	LUDHIANA	LUDHIANA EAST	S-NPP	75.77904	30.72686	14:00:00	D	6.70
169	LUDHIANA	LUDHIANA EAST	S-NPP	75.77850	30.73157	14:00:00	D	6.70
170	LUDHIANA	LUDHIANA EAST	S-NPP	75.83875	30.80007	14:00:00	D	2.90
171	LUDHIANA	LUDHIANA WEST	S-NPP	75.84093	30.79922	14:00:00	D	2.60
172	LUDHIANA	LUDHIANA WEST	S-NPP	75.76817	30.80357	14:00:00	D	9.30
173	LUDHIANA	LUDHIANA WEST	S-NPP	75.76418	30.80644	14:00:00	D	4.60
174	LUDHIANA	LUDHIANA WEST	S-NPP	75.66632	30.88470	14:00:00	D	8.50
175	LUDHIANA	LUDHIANA WEST	S-NPP	75.66912	30.88657	14:00:00	D	12.90
176	LUDHIANA	RAIKOT	S-NPP	75.65636	30.61960	14:00:00	D	6.00
177	LUDHIANA	RAIKOT	S-NPP	75.53136	30.62702	14:00:00	D	8.60
178	LUDHIANA	RAIKOT	S-NPP	75.58694	30.63213	14:00:00	D	4.10
179	LUDHIANA	RAIKOT	S-NPP	75.51314	30.63939	14:00:00	D	3.50
180	LUDHIANA	RAIKOT	S-NPP	75.53811	30.66515	14:00:00	D	13.90
181	LUDHIANA	RAIKOT	S-NPP	75.53474	30.66759	14:00:00	D	43.60
182	LUDHIANA	RAIKOT	S-NPP	75.53203	30.66926	14:00:00	D	13.90
183	LUDHIANA	RAIKOT	S-NPP	75.53757	30.66979	14:00:00	D	13.90
184	LUDHIANA	RAIKOT	S-NPP	75.73239	30.68003	14:00:00	D	5.20

185	LUDHIANA	RAIKOT	S-NPP	75.72921	30.68304	14:00:00	D	2.60
186	LUDHIANA	RAIKOT	S-NPP	75.64288	30.71007	14:00:00	D	5.00
187	LUDHIANA	RAIKOT	S-NPP	75.81581	30.71102	14:00:00	D	4.30
188	LUDHIANA	RAIKOT	S-NPP	75.72231	30.71711	14:00:00	D	4.50
189	MANSA	MANSA	S-NPP	75.34564	30.15255	14:00:00	D	2.60
190	MANSA	MANSA	S-NPP	75.37479	30.17834	14:00:00	D	6.60
191	MANSA	MANSA	S-NPP	75.36361	30.18190	14:00:00	D	6.70
192	MANSA	SARDULGARH	S-NPP	75.25375	29.55645	14:00:00	D	3.90
193	MANSA	SARDULGARH	S-NPP	75.27940	29.55898	14:00:00	D	5.80
194	MANSA	SARDULGARH	S-NPP	75.27885	29.56348	14:00:00	D	5.80
195	MANSA	SARDULGARH	S-NPP	75.27776	29.57249	14:00:00	D	17.60
196	MANSA	SARDULGARH	S-NPP	75.28082	29.57404	14:00:00	D	11.90
197	MANSA	SARDULGARH	S-NPP	75.24847	29.62564	14:00:00	D	3.90
198	MANSA	SARDULGARH	S-NPP	75.16801	29.67003	14:00:00	D	2.20
199	MOGA	BAGHA PURANA	S-NPP	75.01522	30.52399	14:00:00	D	8.60
200	MOGA	BAGHA PURANA	S-NPP	75.15659	30.61486	14:00:00	D	10.20
201	MOGA	MOGA	S-NPP	75.26694	30.74072	14:00:00	D	3.40
202	MOGA	MOGA	S-NPP	75.26390	30.74528	14:00:00	D	13.30
203	MOGA	MOGA	S-NPP	75.26639	30.74528	14:00:00	D	9.80
204	MOGA	NIHAL SINGH WALA	S-NPP	75.34735	30.54974	14:00:00	D	19.20
205	MOGA	NIHAL SINGH WALA	S-NPP	75.34844	30.54990	14:00:00	D	12.80
206	MOGA	NIHAL SINGH WALA	S-NPP	75.34680	30.55432	14:00:00	D	8.70
207	MOGA	NIHAL SINGH WALA	S-NPP	75.34789	30.55448	14:00:00	D	12.80
208	MOGA	NIHAL SINGH WALA	S-NPP	75.32307	30.57067	14:00:00	D	9.30
209	MOGA	NIHAL SINGH WALA	S-NPP	75.32845	30.57116	14:00:00	D	9.30
210	MUKTSAR	GIDDARBAHA	S-NPP	74.63631	30.14649	14:00:00	D	19.40
211	MUKTSAR	GIDDARBAHA	S-NPP	74.70193	30.17957	14:00:00	D	3.20
212	MUKTSAR	GIDDARBAHA	S-NPP	74.62061	30.20259	14:00:00	D	2.40
213	MUKTSAR	GIDDARBAHA	S-NPP	74.61930	30.25106	14:00:00	D	3.00
214	MUKTSAR	GIDDARBAHA	S-NPP	74.61874	30.25542	14:00:00	D	2.30
215	MUKTSAR	GIDDARBAHA	S-NPP	74.73375	30.33379	14:00:00	D	2.50

216	MUKTSAR	GIDDARBAHA	S-NPP	74.66910	30.33627	14:00:00	D	1.70
217	MUKTSAR	GIDDARBAHA	S-NPP	74.64059	30.37763	14:00:00	D	4.80
218	MUKTSAR	MALAUT	S-NPP	74.51968	29.95332	14:00:00	D	4.40
219	MUKTSAR	MALAUT	S-NPP	74.55269	29.95658	14:00:00	D	4.30
220	MUKTSAR	MALAUT	S-NPP	74.58056	29.96372	14:00:00	D	8.50
221	MUKTSAR	MALAUT	S-NPP	74.57999	29.96806	14:00:00	D	5.10
222	MUKTSAR	MALAUT	S-NPP	74.58475	29.96853	14:00:00	D	5.10
223	MUKTSAR	MALAUT	S-NPP	74.47320	30.01859	14:00:00	D	7.70
224	MUKTSAR	MALAUT	S-NPP	74.61217	30.06907	14:00:00	D	4.90
225	MUKTSAR	MALAUT	S-NPP	74.40481	30.08344	14:00:00	D	3.00
226	MUKTSAR	MALAUT	S-NPP	74.57008	30.09572	14:00:00	D	6.50
227	MUKTSAR	MALAUT	S-NPP	74.43053	30.10350	14:00:00	D	5.90
228	MUKTSAR	MALAUT	S-NPP	74.43520	30.10398	14:00:00	D	5.90
229	MUKTSAR	MALAUT	S-NPP	74.36340	30.15513	14:00:00	D	9.10
230	MUKTSAR	MALAUT	S-NPP	74.36805	30.15560	14:00:00	D	4.90
231	MUKTSAR	MALAUT	S-NPP	74.36283	30.15942	14:00:00	D	4.40
232	MUKTSAR	MALAUT	S-NPP	74.37157	30.16465	14:00:00	D	3.10
233	MUKTSAR	MALAUT	S-NPP	74.44636	30.17212	14:00:00	D	2.90
234	MUKTSAR	MALAUT	S-NPP	74.31097	30.24367	14:00:00	D	3.60
235	MUKTSAR	MALAUT	S-NPP	74.31560	30.24413	14:00:00	D	3.60
236	MUKTSAR	MALAUT	S-NPP	74.40153	30.30933	14:00:00	D	3.40
237	MUKTSAR	MUKTSAR	S-NPP	74.35945	30.38524	14:00:00	D	22.70
238	MUKTSAR	MUKTSAR	S-NPP	74.50504	30.50643	14:00:00	D	4.70
239	MUKTSAR	MUKTSAR	S-NPP	74.38927	30.50807	14:00:00	D	7.80
240	MUKTSAR	MUKTSAR	S-NPP	74.47890	30.52143	14:00:00	D	3.40
241	MUKTSAR	MUKTSAR	S-NPP	74.42210	30.55081	14:00:00	D	12.80
242	MUKTSAR	MUKTSAR	S-NPP	74.68623	30.55089	14:00:00	D	2.00
243	MUKTSAR	MUKTSAR	S-NPP	74.42685	30.55129	14:00:00	D	10.00
244	MUKTSAR	MUKTSAR	S-NPP	74.40261	30.55319	14:00:00	D	2.30
245	MUKTSAR	MUKTSAR	S-NPP	74.51759	30.56055	14:00:00	D	1.40
246	MUKTSAR	MUKTSAR	S-NPP	74.39677	30.56134	14:00:00	D	3.50

247	MUKTSAR	MUKTSAR	S-NPP	74.39762	30.56265	14:00:00	D	2.00
248	MUKTSAR	MUKTSAR	S-NPP	74.39149	30.56517	14:00:00	D	3.30
249	MUKTSAR	MUKTSAR	S-NPP	74.38759	30.56605	14:00:00	D	6.50
250	MUKTSAR	MUKTSAR	S-NPP	74.51539	30.57797	14:00:00	D	15.40
251	MUKTSAR	MUKTSAR	S-NPP	74.51167	30.57805	14:00:00	D	7.90
252	MUKTSAR	MUKTSAR	S-NPP	74.51649	30.57851	14:00:00	D	7.90
253	MUKTSAR	MUKTSAR	S-NPP	74.41437	30.58180	14:00:00	D	20.10
254	MUKTSAR	MUKTSAR	S-NPP	74.41912	30.58226	14:00:00	D	20.10
255	MUKTSAR	MUKTSAR	S-NPP	74.46737	30.58257	14:00:00	D	4.10
256	MUKTSAR	MUKTSAR	S-NPP	74.58301	30.58490	14:00:00	D	5.20
257	MUKTSAR	MUKTSAR	S-NPP	74.58424	30.58500	14:00:00	D	6.50
258	MUKTSAR	MUKTSAR	S-NPP	74.41380	30.58612	14:00:00	D	20.10
259	NAWASHAHR	NAWASHAHR	S-NPP	76.08657	31.08127	14:00:00	D	5.00
260	PATIALA	PATIALA	S-NPP	76.42929	30.43815	14:00:00	D	41.50
261	PATIALA	PATIALA	S-NPP	76.42730	30.44053	14:00:00	D	78.20
262	PATIALA	PATIALA	S-NPP	76.42876	30.44303	14:00:00	D	41.50
263	SANGRUR	DHURI	S-NPP	75.90316	30.41044	14:00:00	D	6.20
264	SANGRUR	MOONAK	S-NPP	75.99199	29.87857	14:00:00	D	19.30
265	SANGRUR	SANGRUR	S-NPP	76.15042	30.25873	14:00:00	D	5.70
266	TARN TARAN	KHADOOR SAHIB	S-NPP	74.98218	31.25881	14:00:00	D	4.00
267	TARN TARAN	KHADOOR SAHIB	S-NPP	74.92580	31.25919	14:00:00	D	2.90
268	TARN TARAN	KHADOOR SAHIB	S-NPP	75.03687	31.26468	14:00:00	D	4.30
269	TARN TARAN	KHADOOR SAHIB	S-NPP	75.03438	31.26845	14:00:00	D	5.20
270	TARN TARAN	KHADOOR SAHIB	S-NPP	75.00818	31.28040	14:00:00	D	5.10
271	TARN TARAN	KHADOOR SAHIB	S-NPP	75.05958	31.29884	14:00:00	D	4.90
272	TARN TARAN	KHADOOR SAHIB	S-NPP	74.96214	31.30813	14:00:00	D	2.70
273	TARN TARAN	KHADOOR SAHIB	S-NPP	75.00388	31.38186	14:00:00	D	2.30
274	TARN TARAN	KHADOOR SAHIB	S-NPP	74.94416	31.39013	14:00:00	D	3.40
275	TARN TARAN	KHADOOR SAHIB	S-NPP	75.01341	31.46570	14:00:00	D	2.40
276	TARN TARAN	KHADOOR SAHIB	S-NPP	74.73205	31.51708	14:00:00	D	3.60
277	TARN TARAN	PATTI	S-NPP	74.78741	31.22171	14:00:00	D	4.20

278	TARN TARAN	PATTI	S-NPP	74.68605	31.22366	14:00:00	D	12.40
279	TARN TARAN	PATTI	S-NPP	74.68426	31.22508	14:00:00	D	10.90
280	TARN TARAN	PATTI	S-NPP	74.65351	31.22651	14:00:00	D	13.30
281	TARN TARAN	PATTI	S-NPP	74.68549	31.22809	14:00:00	D	3.50
282	TARN TARAN	PATTI	S-NPP	74.65466	31.22972	14:00:00	D	18.60
283	TARN TARAN	PATTI	S-NPP	74.61285	31.23922	14:00:00	D	4.60
284	TARN TARAN	PATTI	S-NPP	74.57182	31.24427	14:00:00	D	3.30
285	TARN TARAN	PATTI	S-NPP	74.82275	31.28596	14:00:00	D	9.50
286	TARN TARAN	PATTI	S-NPP	74.88863	31.34671	14:00:00	D	7.30
287	TARN TARAN	PATTI	S-NPP	74.88572	31.34836	14:00:00	D	7.80

Details of residue burning events in Haryana on 22-Nov-2018

Event S. No.	District	Tehsil/Block	Satellite	Longitude	Latitude	Time (IST)	Day/Night	Fire Power (W/m²)
1	FATEHABAD	FATEHABAD	S-NPP	75.40096	29.50665	14:00:00	D	10.20
2	FATEHABAD	FATEHABAD	S-NPP	75.50460	29.50674	14:00:00	D	3.20
3	FATEHABAD	FATEHABAD	S-NPP	75.50195	29.50684	14:00:00	D	1.90
4	FATEHABAD	FATEHABAD	S-NPP	75.48499	29.51449	14:00:00	D	9.60
5	FATEHABAD	FATEHABAD	S-NPP	75.46333	29.51708	14:00:00	D	9.70
6	FATEHABAD	FATEHABAD	S-NPP	75.42019	29.52223	14:00:00	D	3.00
7	FATEHABAD	FATEHABAD	S-NPP	75.48167	29.54185	14:00:00	D	3.40
8	FATEHABAD	FATEHABAD	S-NPP	75.53728	29.57026	14:00:00	D	8.00
9	FATEHABAD	FATEHABAD	S-NPP	75.53673	29.57484	14:00:00	D	8.20
10	FATEHABAD	FATEHABAD	S-NPP	75.67795	29.61022	14:00:00	D	28.60
11	FATEHABAD	FATEHABAD	S-NPP	75.68341	29.61070	14:00:00	D	24.20
12	FATEHABAD	FATEHABAD	S-NPP	75.67931	29.61182	14:00:00	D	59.70
13	FATEHABAD	FATEHABAD	S-NPP	75.51733	29.63273	14:00:00	D	8.20
14	FATEHABAD	RATIA	S-NPP	75.52391	29.59211	14:00:00	D	3.40
15	FATEHABAD	RATIA	S-NPP	75.57677	29.60189	14:00:00	D	9.70
16	FATEHABAD	RATIA	S-NPP	75.57467	29.60556	14:00:00	D	12.00
17	FATEHABAD	RATIA	S-NPP	75.65109	29.61843	14:00:00	D	5.50
18	FATEHABAD	RATIA	S-NPP	75.64912	29.62161	14:00:00	D	8.40
19	FATEHABAD	RATIA	S-NPP	75.47007	29.62372	14:00:00	D	19.60
20	FATEHABAD	RATIA	S-NPP	75.59398	29.62590	14:00:00	D	7.10
21	FATEHABAD	RATIA	S-NPP	75.59937	29.62639	14:00:00	D	7.10
22	FATEHABAD	RATIA	S-NPP	75.64748	29.63545	14:00:00	D	3.90
23	FATEHABAD	RATIA	S-NPP	75.55418	29.64079	14:00:00	D	13.50
24	FATEHABAD	RATIA	S-NPP	75.63444	29.65290	14:00:00	D	9.70
25	FATEHABAD	RATIA	S-NPP	75.48799	29.65310	14:00:00	D	11.20
26	FATEHABAD	RATIA	S-NPP	75.52526	29.65662	14:00:00	D	3.50
27	FATEHABAD	RATIA	S-NPP	75.63389	29.65751	14:00:00	D	9.70
28	FATEHABAD	RATIA	S-NPP	75.48745	29.65767	14:00:00	D	19.70
29	FATEHABAD	RATIA	S-NPP	75.58419	29.66217	14:00:00	D	3.60

30	FATEHABAD	RATIA	S-NPP	75.52676	29.68919	14:00:00	D	5.30
31	FATEHABAD	RATIA	S-NPP	75.49957	29.69119	14:00:00	D	2.50
32	FATEHABAD	RATIA	S-NPP	75.52087	29.69326	14:00:00	D	5.30
33	FATEHABAD	RATIA	S-NPP	75.52621	29.69377	14:00:00	D	5.30
34	FATEHABAD	RATIA	S-NPP	75.49902	29.69577	14:00:00	D	5.50
35	FATEHABAD	RATIA	S-NPP	75.37606	29.69754	14:00:00	D	8.60
36	FATEHABAD	RATIA	S-NPP	75.37337	29.69819	14:00:00	D	9.80
37	FATEHABAD	RATIA	S-NPP	75.49432	29.71390	14:00:00	D	5.40
38	FATEHABAD	RATIA	S-NPP	75.49684	29.71406	14:00:00	D	5.30
39	FATEHABAD	RATIA	S-NPP	75.52103	29.71634	14:00:00	D	7.20
40	FATEHABAD	RATIA	S-NPP	75.52351	29.71668	14:00:00	D	7.00
41	FATEHABAD	RATIA	S-NPP	75.57308	29.73502	14:00:00	D	4.40
42	FATEHABAD	RATIA	S-NPP	75.46441	29.73886	14:00:00	D	4.80
43	FATEHABAD	RATIA	S-NPP	75.57252	29.73962	14:00:00	D	4.40
44	FATEHABAD	RATIA	S-NPP	75.53435	29.74074	14:00:00	D	2.40
45	FATEHABAD	RATIA	S-NPP	75.65928	29.74757	14:00:00	D	9.40
46	FATEHABAD	TOHANA	S-NPP	75.78767	29.53762	14:00:00	D	6.20
47	FATEHABAD	TOHANA	S-NPP	75.81000	29.66906	14:00:00	D	11.40
48	FATEHABAD	TOHANA	S-NPP	75.77823	29.77721	14:00:00	D	6.00
49	FATEHABAD	TOHANA	S-NPP	75.78378	29.77772	14:00:00	D	6.00
50	HISAR	HANSI	S-NPP	76.20020	29.06783	14:00:00	D	13.40
51	HISAR	NARNAUND	S-NPP	76.16566	29.23854	14:00:00	D	2.30
52	JHAJJAR	JHAJJAR	S-NPP	76.47668	28.44704	14:00:00	D	5.30
53	JIND	JIND	S-NPP	76.27256	29.27681	14:00:00	D	5.80
54	JIND	JIND	S-NPP	76.33512	29.44196	14:00:00	D	4.50
55	JIND	JIND	S-NPP	76.40347	29.47741	14:00:00	D	5.30
56	JIND	JIND	S-NPP	76.40643	29.48108	14:00:00	D	6.70
57	JIND	JIND	S-NPP	76.40293	29.48223	14:00:00	D	5.70
58	JIND	JIND	S-NPP	76.48177	29.48462	14:00:00	D	5.90
59	JIND	JULANA	S-NPP	76.48035	29.10265	14:00:00	D	6.30
60	JIND	NARWANA	S-NPP	75.99964	29.65290	14:00:00	D	2.30
61	JIND	NARWANA	S-NPP	76.00050	29.65672	14:00:00	D	5.30

62	JIND	NARWANA	S-NPP	76.05422	29.68159	14:00:00	D	10.00
63	SIRSA	ELLENABAD	S-NPP	74.87636	29.46974	14:00:00	D	3.10
64	SIRSA	ELLENABAD	METOP-1	74.67280	29.49832	21:13:00	N	7.00
65	SIRSA	ELLENABAD	S-NPP	74.64424	29.50803	14:00:00	D	5.40
66	SIRSA	ELLENABAD	S-NPP	74.64894	29.50852	14:00:00	D	7.90
67	SIRSA	ELLENABAD	S-NPP	74.68668	29.51244	14:00:00	D	11.60
68	SIRSA	ELLENABAD	S-NPP	74.70562	29.51440	14:00:00	D	4.50
69	SIRSA	ELLENABAD	S-NPP	74.70506	29.51875	14:00:00	D	8.90
70	SIRSA	ELLENABAD	S-NPP	74.70264	29.51916	14:00:00	D	7.30
71	SIRSA	ELLENABAD	S-NPP	74.69504	29.52211	14:00:00	D	7.10
72	SIRSA	ELLENABAD	S-NPP	74.69977	29.52260	14:00:00	D	7.10
73	SIRSA	ELLENABAD	S-NPP	74.69735	29.52304	14:00:00	D	7.30
74	SIRSA	ELLENABAD	S-NPP	74.69448	29.52645	14:00:00	D	15.90
75	SIRSA	ELLENABAD	S-NPP	74.69678	29.52739	14:00:00	D	22.90
76	SIRSA	ELLENABAD	S-NPP	74.69393	29.53079	14:00:00	D	15.90
77	SIRSA	RANIA	S-NPP	74.86556	29.47756	14:00:00	D	8.30
78	SIRSA	RANIA	METOP-1	74.86720	29.48933	21:13:00	N	7.00
79	SIRSA	RANIA	S-NPP	74.81455	29.49463	14:00:00	D	8.00
80	SIRSA	RANIA	S-NPP	74.87304	29.49608	14:00:00	D	15.00
81	SIRSA	RANIA	S-NPP	74.80383	29.50241	14:00:00	D	4.40
82	SIRSA	RANIA	S-NPP	74.81233	29.51213	14:00:00	D	5.60
83	SIRSA	RANIA	S-NPP	74.78779	29.51405	14:00:00	D	2.40
84	SIRSA	RANIA	S-NPP	74.88536	29.51511	14:00:00	D	3.70
85	SIRSA	RANIA	S-NPP	74.81602	29.52136	14:00:00	D	2.00
86	SIRSA	RANIA	S-NPP	74.82345	29.53987	14:00:00	D	6.40
87	SIRSA	RANIA	S-NPP	74.82600	29.53996	14:00:00	D	10.50
88	SIRSA	RANIA	S-NPP	74.65668	29.54102	14:00:00	D	3.90
89	SIRSA	RANIA	S-NPP	74.81578	29.54340	14:00:00	D	7.90
90	SIRSA	RANIA	S-NPP	74.81807	29.54375	14:00:00	D	6.40
91	SIRSA	RANIA	S-NPP	74.66029	29.55016	14:00:00	D	21.50
92	SIRSA	RANIA	S-NPP	74.62149	29.55505	14:00:00	D	10.10
93	SIRSA	RANIA	S-NPP	74.60686	29.55796	14:00:00	D	9.10

94	SIRSA	RANIA	S-NPP	74.61154	29.55843	14:00:00	D	9.10
95	SIRSA	RANIA	S-NPP	74.60630	29.56228	14:00:00	D	12.30
96	SIRSA	RANIA	S-NPP	74.61098	29.56276	14:00:00	D	12.30
97	SIRSA	RANIA	S-NPP	74.64333	29.57041	14:00:00	D	3.70
98	SIRSA	SIRSA	S-NPP	74.92375	29.43006	14:00:00	D	9.20
99	SIRSA	SIRSA	S-NPP	74.91539	29.43350	14:00:00	D	7.10
100	SIRSA	SIRSA	S-NPP	74.91833	29.43396	14:00:00	D	6.60
101	SIRSA	SIRSA	S-NPP	74.94955	29.43677	14:00:00	D	9.90
102	SIRSA	SIRSA	S-NPP	74.95246	29.43746	14:00:00	D	9.10
103	SIRSA	SIRSA	S-NPP	74.94901	29.44118	14:00:00	D	9.90
104	SIRSA	SIRSA	S-NPP	74.95192	29.44187	14:00:00	D	9.10
105	SIRSA	SIRSA	S-NPP	74.97890	29.47981	14:00:00	D	2.10
106	SIRSA	SIRSA	S-NPP	74.94778	29.49015	14:00:00	D	7.30
107	SIRSA	SIRSA	S-NPP	74.93742	29.49359	14:00:00	D	7.30
108	SIRSA	SIRSA	S-NPP	75.05083	29.50480	14:00:00	D	3.60
109	SIRSA	SIRSA	S-NPP	75.26161	29.53446	14:00:00	D	5.50
110	SIRSA	SIRSA	S-NPP	74.97442	29.55542	14:00:00	D	2.70
111	SIRSA	SIRSA	S-NPP	75.14545	29.55927	14:00:00	D	29.20
112	SIRSA	SIRSA	S-NPP	75.14316	29.56121	14:00:00	D	12.00
113	SIRSA	SIRSA	S-NPP	75.11921	29.56566	14:00:00	D	3.20
114	SIRSA	SIRSA	S-NPP	75.12189	29.56824	14:00:00	D	4.70
115	SIRSA	SIRSA	S-NPP	74.95541	29.57029	14:00:00	D	13.60
116	SIRSA	SIRSA	S-NPP	74.96032	29.57076	14:00:00	D	13.60
117	SIRSA	SIRSA	S-NPP	75.07558	29.57286	14:00:00	D	3.00
118	SIRSA	SIRSA	S-NPP	75.12082	29.61782	14:00:00	D	5.00
119	SIRSA	SIRSA	S-NPP	75.14945	29.63418	14:00:00	D	7.80
120	SIRSA	SIRSA	S-NPP	75.14890	29.63865	14:00:00	D	7.80
121	SIRSA	SIRSA	S-NPP	75.17371	29.64563	14:00:00	D	2.50
122	SIRSA	SIRSA	S-NPP	75.13715	29.65107	14:00:00	D	6.70

Details of residue burning events in Uttar Pradesh on 22-Nov-2018

Event S.No.	District	Tehsil/Block	Satellite	Longitude	Latitude	Time (IST)	Day/Night	Fire Power (W/m²)
1	AURAIYA	BIDHUNA	S-NPP	79.32840	26.78811	14:00:00	D	2.00
2	AZAMGARH	BURHANPUR	S-NPP	82.91286	26.23405	12:18:00	D	2.20
3	AZAMGARH	PHULPUR	S-NPP	82.82227	25.98190	12:18:00	D	4.10
4	BADAUN	GUNNAUR	S-NPP	78.41950	28.34094	14:00:00	D	3.20
5	BALLIA	BANSDIH	S-NPP	84.12312	25.90181	12:18:00	D	1.80
6	BASTI	BASTI	S-NPP	82.82648	26.78410	12:18:00	D	3.70
7	BIJNOR	CHANDPUR	S-NPP	78.34340	29.22140	14:00:00	D	3.60
8	BIJNOR	CHANDPUR	S-NPP	78.34205	29.22264	14:00:00	D	3.30
9	BIJNOR	NAGINA	S-NPP	78.69154	29.50263	14:00:00	D	3.70
10	BULANSAHAR	SIYANA	S-NPP	78.03386	28.56215	14:00:00	D	3.40
11	BULANSAHAR	SIYANA	S-NPP	78.03537	28.56346	14:00:00	D	3.90
12	DEORIA	DEORIA	S-NPP	83.91327	26.55364	12:18:00	D	1.40
13	DEORIA	DEORIA	S-NPP	83.77256	26.64773	12:18:00	D	1.70
14	GHAZIABAD	GARHMUKTESAR	S-NPP	78.04381	28.75930	14:00:00	D	3.30
15	GHAZIABAD	GARHMUKTESAR	S-NPP	78.04751	28.75960	14:00:00	D	4.60
16	GHAZIABAD	GARHMUKTESAR	S-NPP	78.04569	28.76325	14:00:00	D	5.30
17	GHAZIABAD	GARHMUKTESAR	S-NPP	78.00260	28.82388	14:00:00	D	2.30
18	GHAZIABAD	GARHMUKTESAR	S-NPP	78.01472	28.86647	14:00:00	D	5.70
19	GHAZIABAD	GARHMUKTESAR	S-NPP	78.01327	28.86739	14:00:00	D	2.70
20	GHAZIABAD	GARHMUKTESAR	S-NPP	78.01697	28.86769	14:00:00	D	2.70
21	GORAKHPUR	CAMPIERGANJ	S-NPP	83.34243	27.08434	12:18:00	D	1.50
22	GORAKHPUR	CHAURI CHAURA	S-NPP	83.58488	26.68563	12:18:00	D	1.90
23	GORAKHPUR	GORAKHPUR	S-NPP	83.49419	26.87320	14:00:00	D	9.70

24	GORAKHPUR	GORAKHPUR	S-NPP	83.44487	26.88337	12:18:00	D	3.20
25	KANPUR DEHAT	AKBARPUR	S-NPP	79.98249	26.31216	14:00:00	D	5.30
26	KAUSHAMBI	CHAIL	S-NPP	81.59885	25.47659	14:00:00	D	4.50
27	KAUSHAMBI	MANJHANPUR	S-NPP	81.25158	25.45953	14:00:00	D	4.00
28	KHERI	MOHMADI	S-NPP	80.36929	27.74966	14:00:00	D	3.00
29	KHERI	PALIA KALAN	S-NPP	80.70393	28.36827	12:18:00	D	3.20
30	KHERI	PALIA KALAN	S-NPP	80.70522	28.36944	12:18:00	D	4.80
31	KUSHINAGAR	HATA	S-NPP	83.65862	26.74174	12:18:00	D	2.60
32	KUSHINAGAR	HATA	S-NPP	83.67900	26.81754	12:18:00	D	2.80
33	KUSHINAGAR	HATA	S-NPP	83.68260	26.81838	12:18:00	D	4.10
34	KUSHINAGAR	HATA	S-NPP	83.67246	26.82712	12:18:00	D	1.80
35	KUSHINAGAR	HATA	S-NPP	83.66016	26.82982	12:18:00	D	1.40
36	KUSHINAGAR	HATA	S-NPP	83.58814	26.84199	14:00:00	D	7.50
37	KUSHINAGAR	HATA	S-NPP	83.60174	26.89972	12:18:00	D	1.50
38	KUSHINAGAR	HATA	S-NPP	83.59992	26.90281	12:18:00	D	1.90
39	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.58938	26.99482	12:18:00	D	4.10
40	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.58749	26.99888	12:18:00	D	3.00
41	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.54890	27.01211	12:18:00	D	2.90
42	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.49533	27.04985	12:18:00	D	2.80
43	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.55310	27.05202	12:18:00	D	3.10
44	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.66370	27.05538	12:18:00	D	1.60
45	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.59665	27.06204	12:18:00	D	1.80
46	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.53774	27.06516	12:18:00	D	2.90
47	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.46550	27.06839	12:18:00	D	2.20
48	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.46577	27.07096	12:18:00	D	2.00
49	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.57113	27.08391	12:18:00	D	1.60

50	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.58199	27.08639	12:18:00	D	8.60
51	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.63550	27.08756	12:18:00	D	2.10
52	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.63404	27.09274	12:18:00	D	2.10
53	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.56532	27.11411	12:18:00	D	3.30
54	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.54266	27.15324	12:18:00	D	2.80
55	MAHARAJGANJ	NAUTANWA	S-NPP	83.39722	27.34993	12:18:00	D	1.50
56	MAHARAJGANJ	NAUTANWA	S-NPP	83.56620	27.47134	12:18:00	D	9.80
57	MAHARAJGANJ	NICHLAUL	S-NPP	83.70696	27.37746	12:18:00	D	0.70
58	MEERUT	SARDHANA	S-NPP	77.47254	29.12333	14:00:00	D	1.40
59	MEERUT	SARDHANA	S-NPP	77.55053	29.16240	14:00:00	D	1.30
60	MORADABAD	CHANDAUSI	S-NPP	78.72165	28.49183	14:00:00	D	2.30
61	MORADABAD	CHANDAUSI	S-NPP	78.71976	28.49191	14:00:00	D	2.80
62	MUZAFARNAGAR	KAIRANA	S-NPP	77.28974	29.31409	14:00:00	D	3.20
63	MUZAFARNAGAR	KAIRANA	S-NPP	77.25629	29.62309	14:00:00	D	4.00
64	MUZAFARNAGAR	KHATOLI	S-NPP	77.62668	29.36842	14:00:00	D	1.60
65	MUZAFARNAGAR	SHAMLI	S-NPP	77.28225	29.52616	12:18:00	D	6.00
66	PRATAPGARH	<Null>	TERRA-1	81.65585	25.91853	10:42:00	D	13.64
67	PRATAPGARH	<Null>	TERRA-1	81.62516	26.13413	10:42:00	D	10.05
68	SHAHJAHANPUR	PUWANYA	S-NPP	80.15173	28.31068	12:18:00	D	2.20
69	SHAHJAHANPUR	TILHAR	S-NPP	79.63120	27.93055	14:00:00	D	1.60
70	SHARANPUR	DEOBAND	S-NPP	77.63434	29.78629	14:00:00	D	2.40
71	SHARANPUR	RAMPUR MANIHARRAN	S-NPP	77.42707	29.68693	12:18:00	D	3.10
72	SIDDHARTHANAGAR	BANSI	S-NPP	82.81395	27.14229	14:00:00	D	7.60

The study used images received from following Satellites at IARI Satellite Ground Station

S. No.	Satellite Name	Sensor	Resolution (meter)	Day / Night Passes
1.	Suomi NPP	VIIRS	375 / 1000	Both
2.	Terra	MODIS	1000	Both
3.	Aqua	MODIS	1000	Both
4.	NOAA – 18	AVHRR	1000	Night
5.	NOAA – 19	AVHRR	1000	Night
6.	Metop - 1	AVHRR	1000	Night
7.	Metop - 2	AVHRR	1000	Night

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GIS Maps of fire events can be visualized online on ICAR KRISHI & CREAMS Geoportal

websites:<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

<http://creams.iari.res.in:8080/geoexplorer/composer/>
