



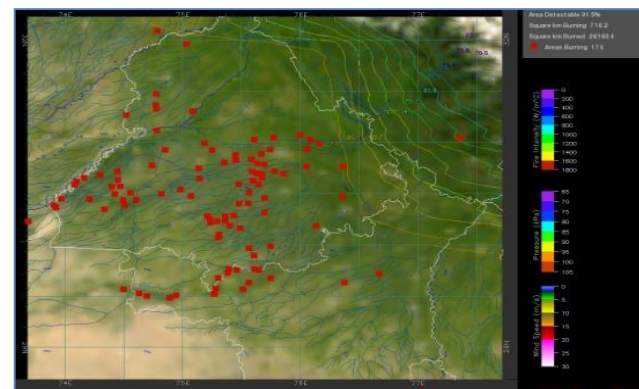
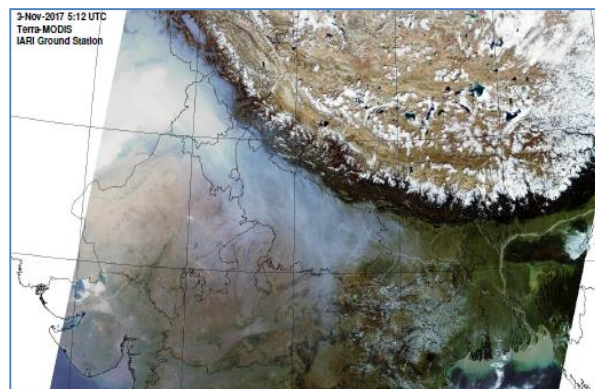
**Bulletin
No. 58**

**Events Date:
27-Nov-2019**

**Issued on:
28-Nov-2019**



MONITORING PADDY RESIDUE BURNING IN NORTH INDIA USING SATELLITE REMOTE SENSING DURING 2019



Prepared by:

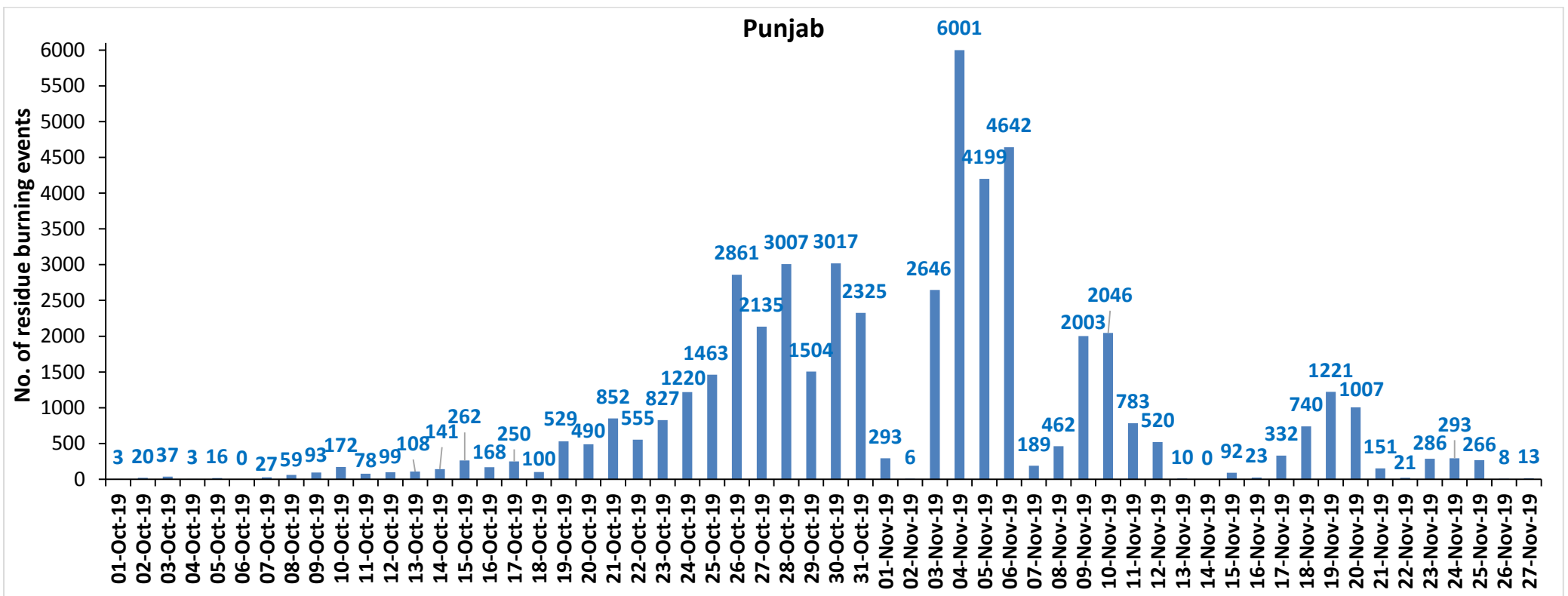
**Consortium for Research on Agroecosystem Monitoring and Modeling from Space (CREAMS) Laboratory,
Division of Agricultural Physics, ICAR – Indian Agricultural Research Institute, New Delhi – 110012**

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

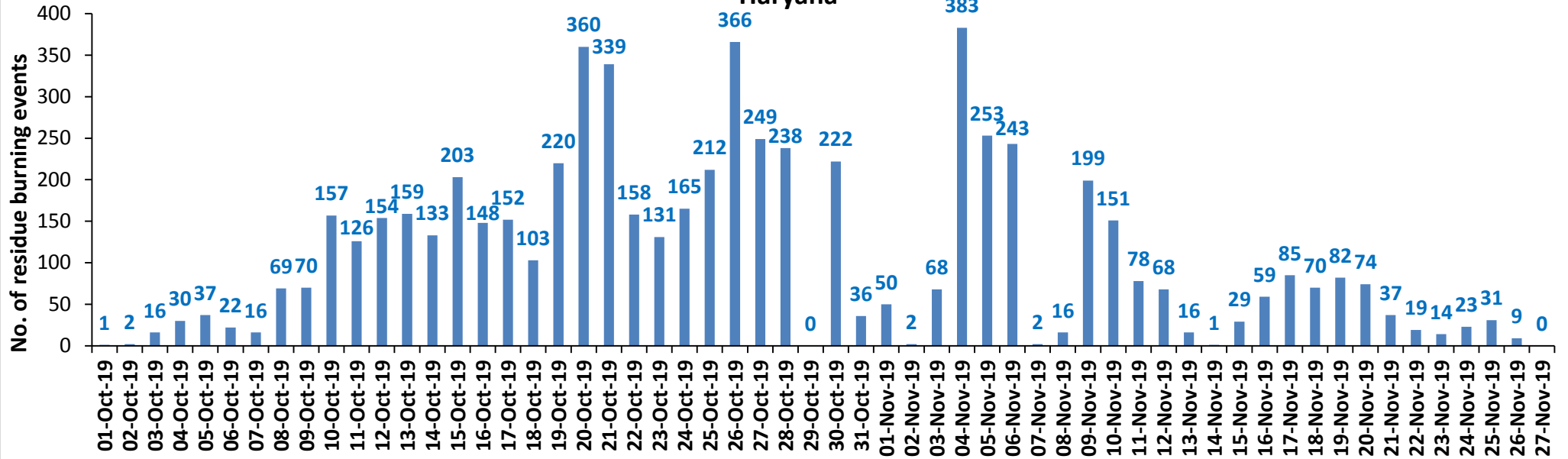
Highlights for 27-November-2019

- Satellites detected **145** residue burning events in the three study States on **27-Nov-2019**.
- The burning events detected on **27-Nov-2019** are **13, 00** and **132** in Punjab, Haryana and UP, respectively.
- The number of events has increased from **79** on **26-Nov-2019** to **145** on **27-Nov-2019** in the three states.
- The state of Haryana was covered with clouds which prevented fire event detection by satellites.
- Total **61039** burning events were detected in the three States between **01-Oct-2019** and **27-Nov-2019**, which are distributed as **50674, 6356** and **4009** in Punjab, Haryana and UP, respectively.
- Overall, the total burning events recorded in the three states are **18.7%** less than in 2018 till date. UP recorded **37.0%** reduction, Haryana recorded **30.2%** reduction, and Punjab recorded **15.0%** reduction, respectively, in the current season than in 2018.

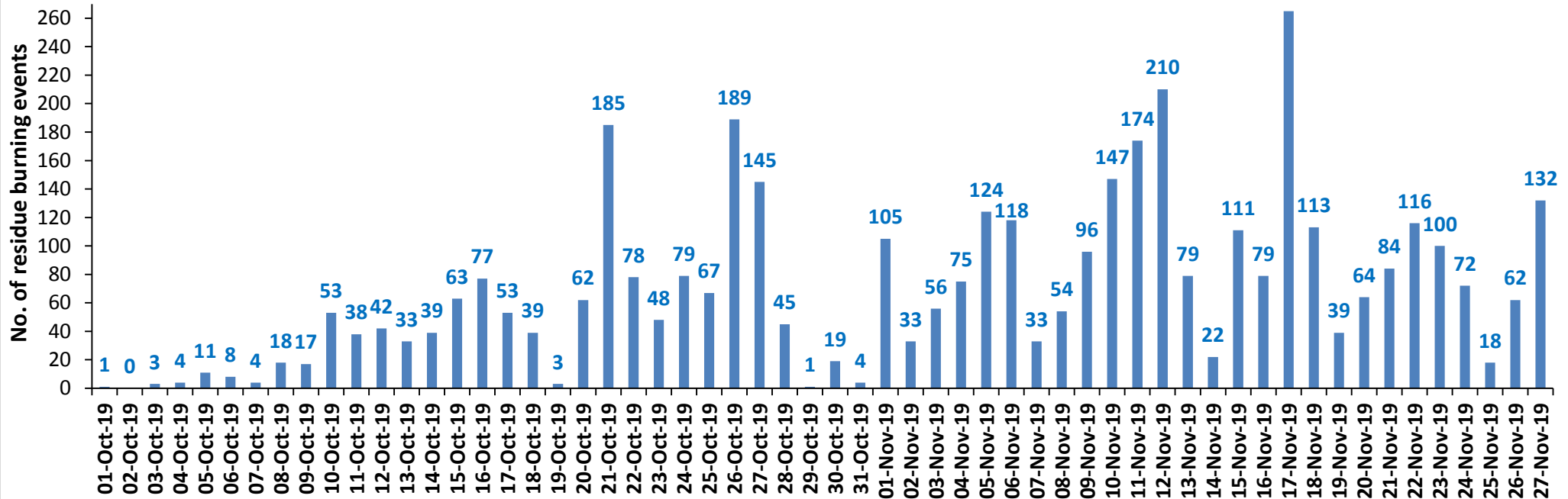
Temporal distribution of residue burning events for the three study States in 2019



Haryana



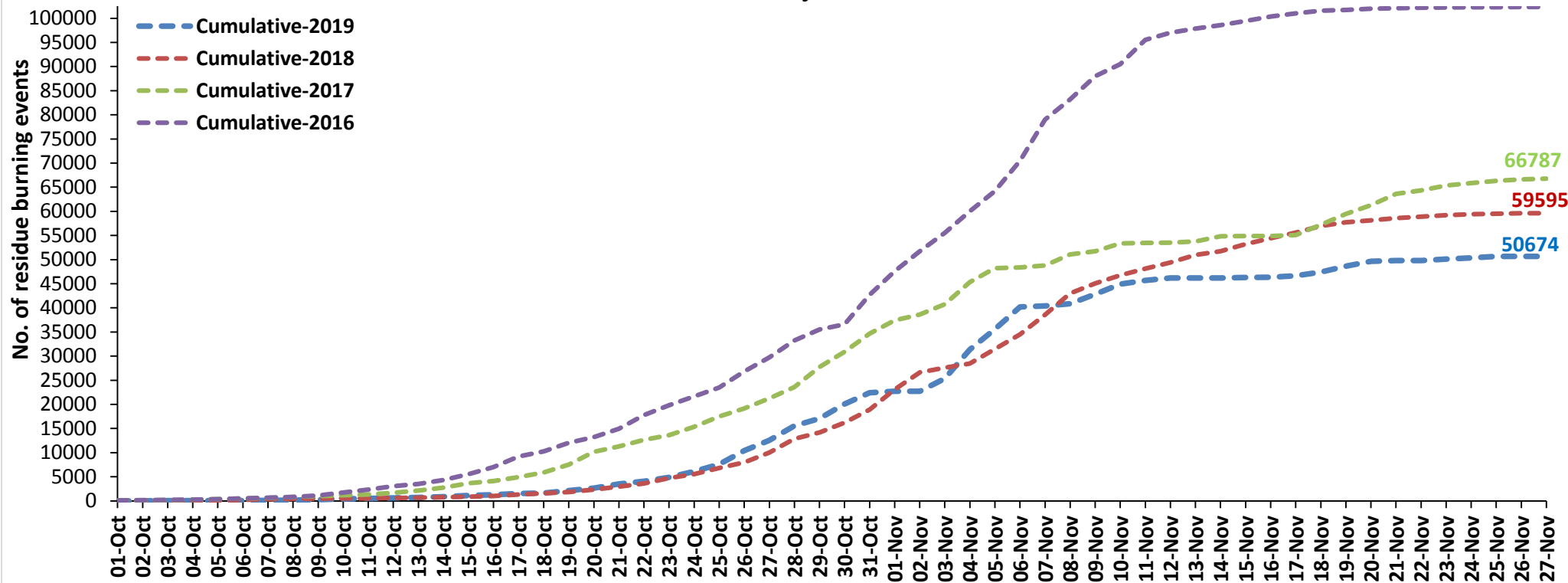
UP



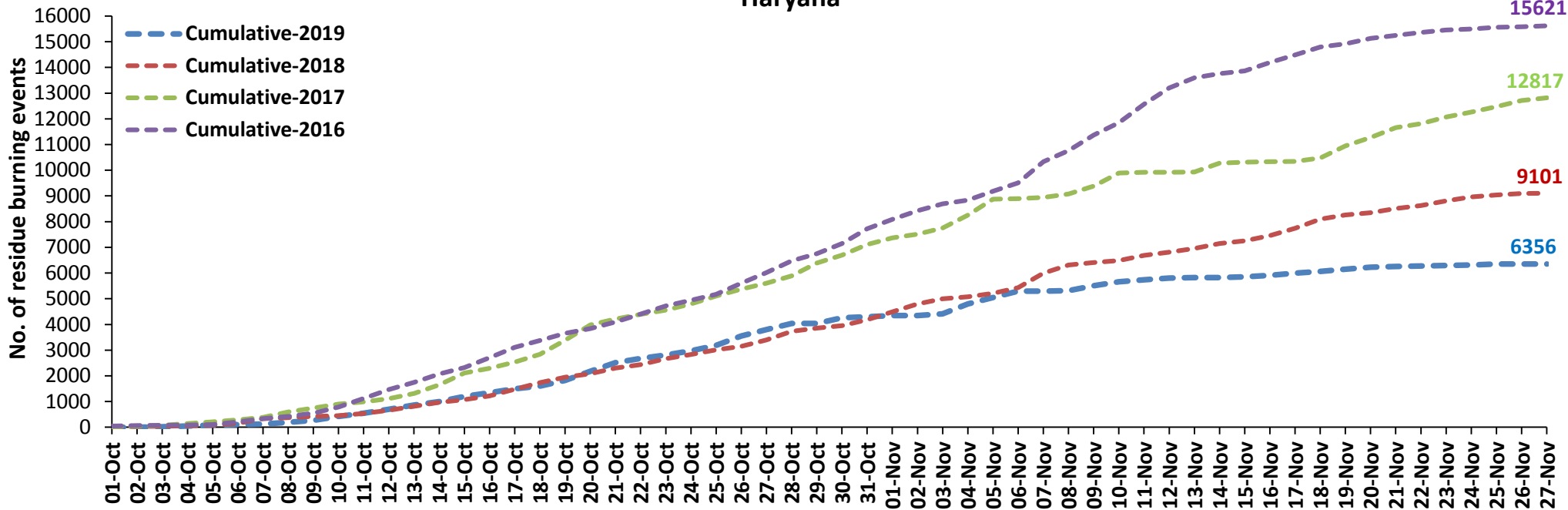
Comparison of residue burning events in current year (2019) with previous years (2018, 2017 & 2016) for the three study States

(01-Oct to 27-Nov)

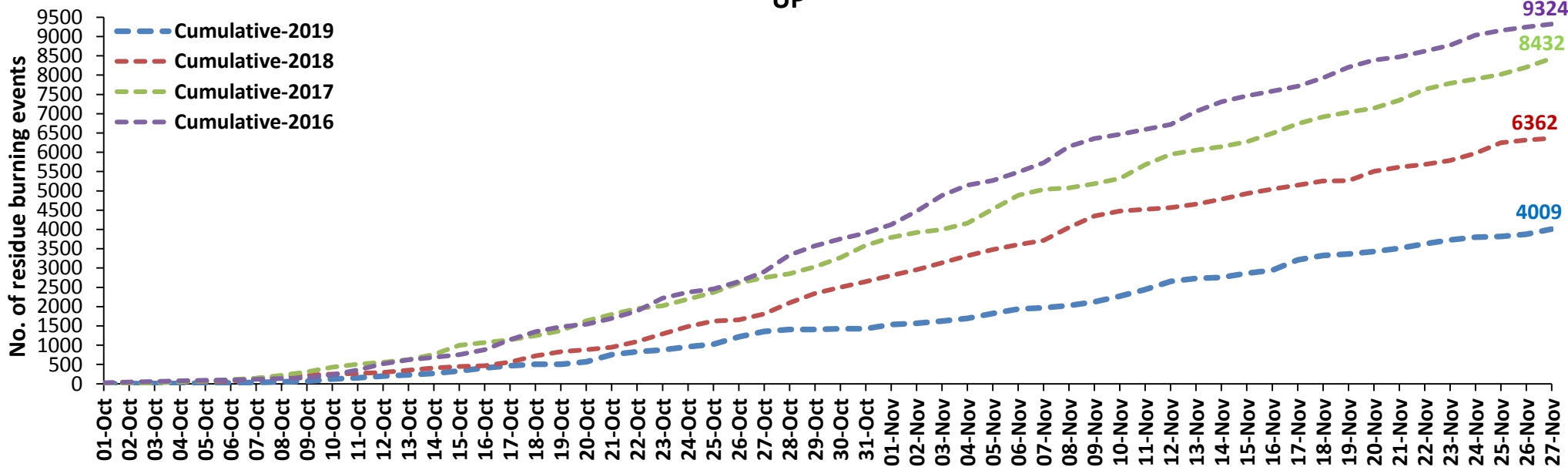
Punjab



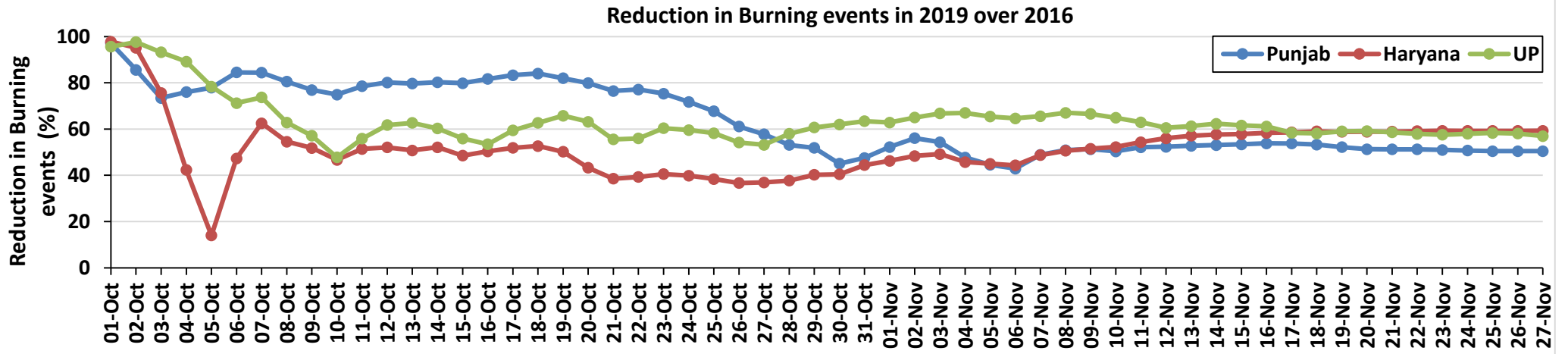
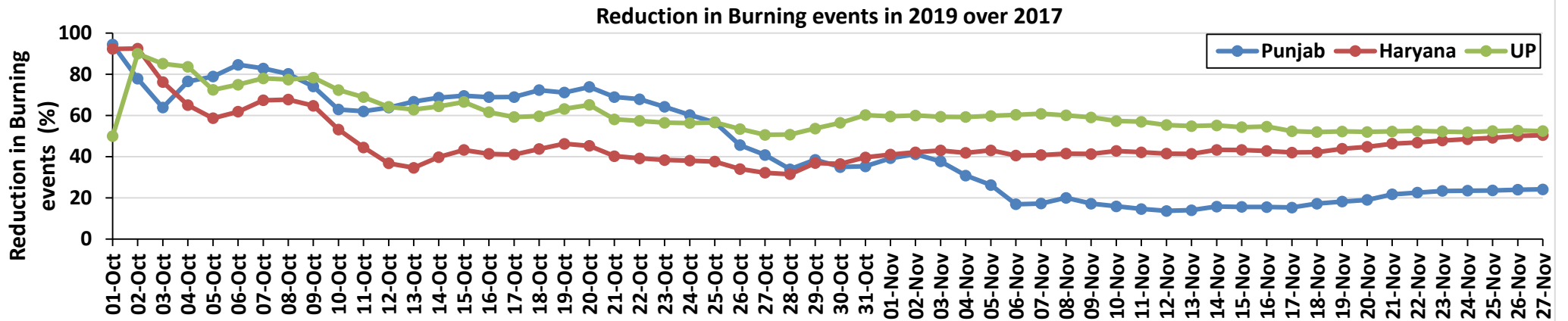
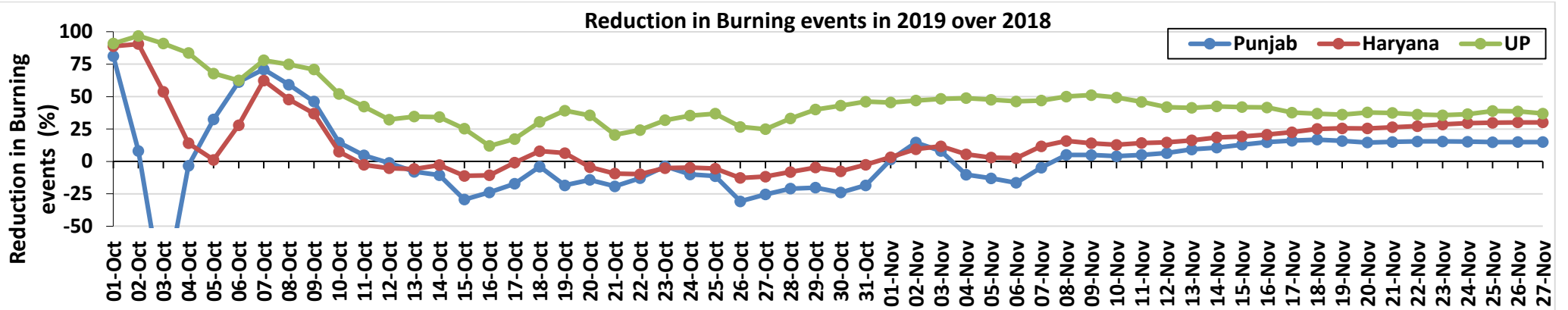
Haryana



UP

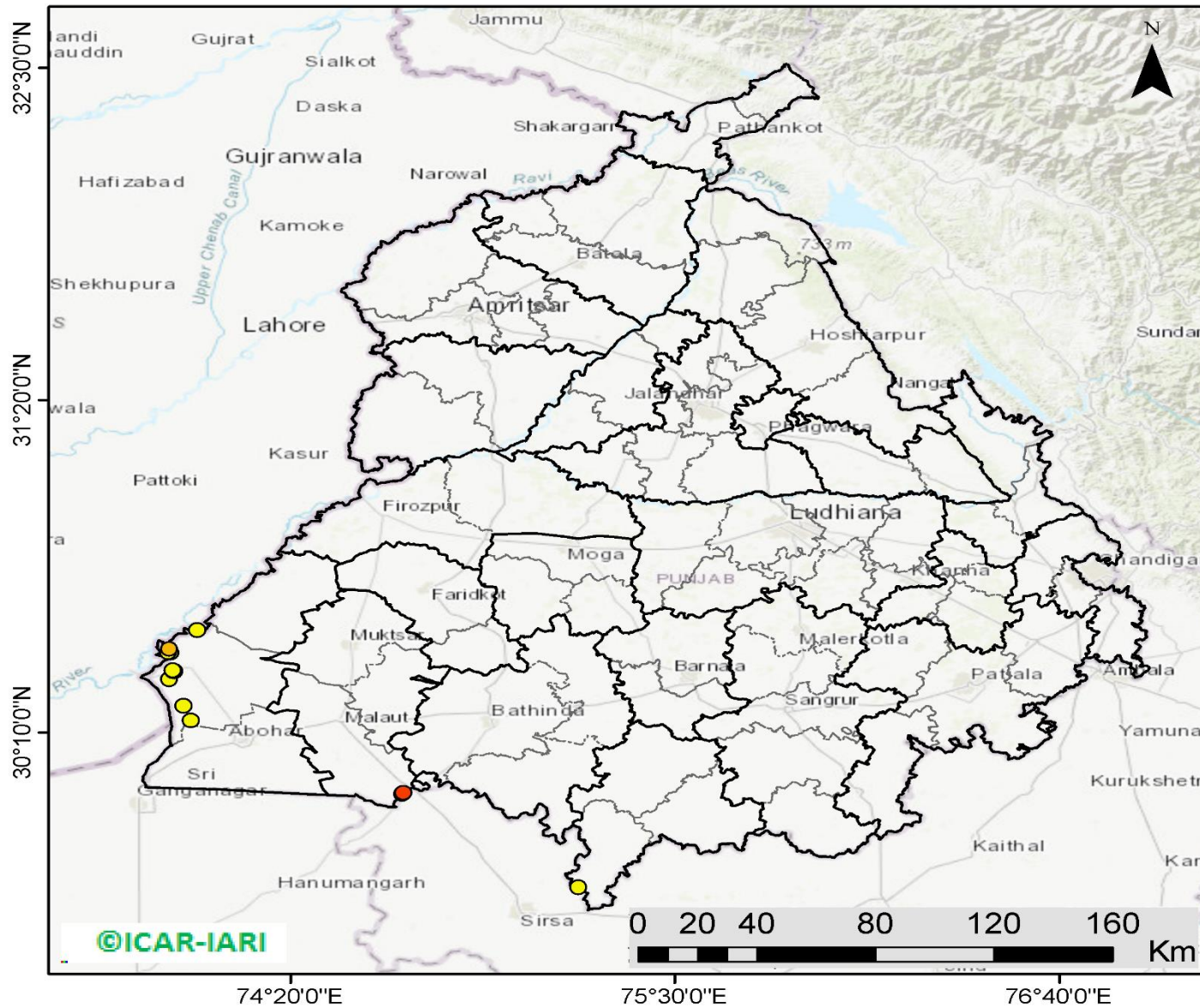


Percent Reduction in Burning events in 2019 over 2018, 2017 and 2016 (Daily Cumulative)



(a) Punjab

RICE RESIDUE BURNING IN PUNJAB



13 burning events detected in Punjab on 27th November 2019

Fire Intensity (W/m²)

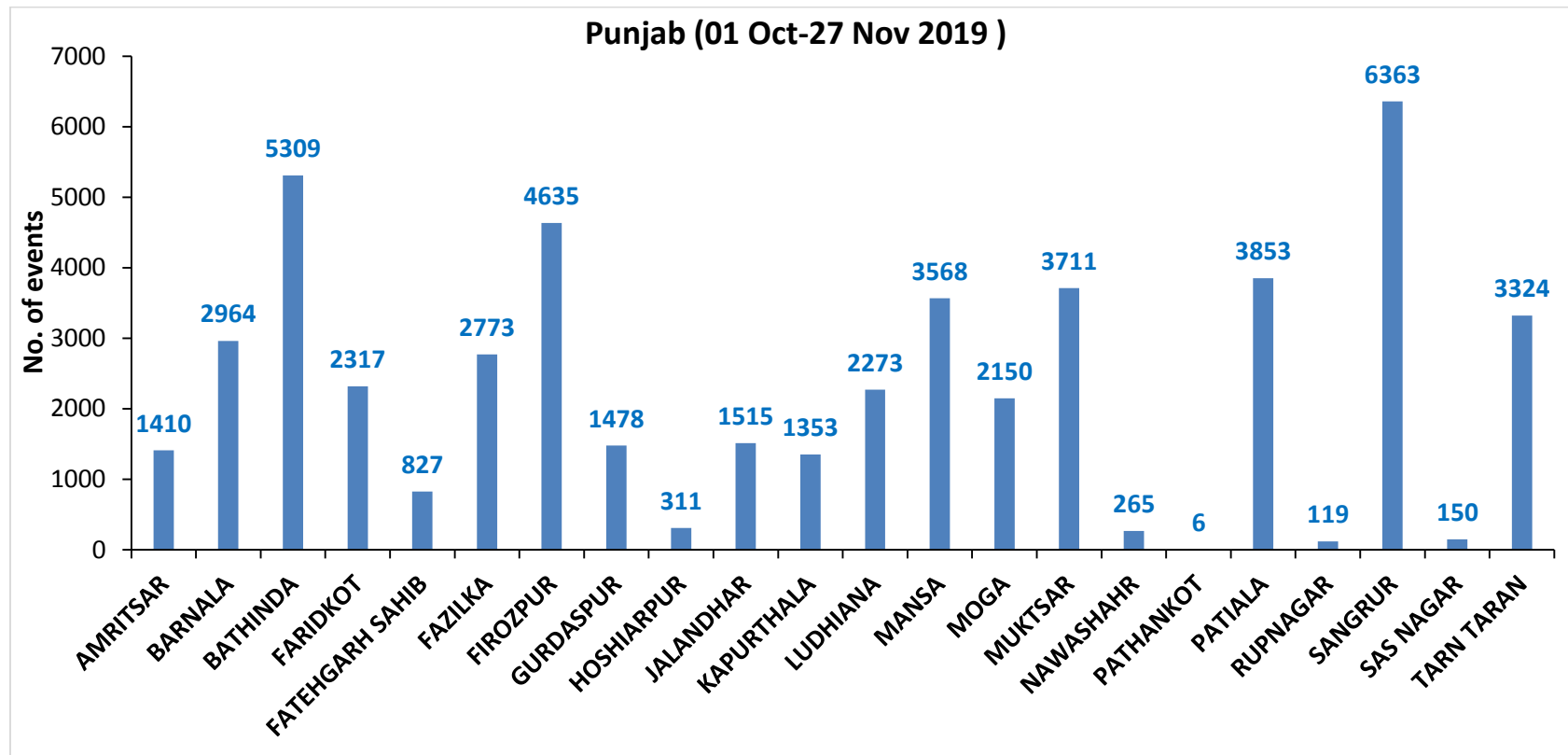
- 0 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- >20

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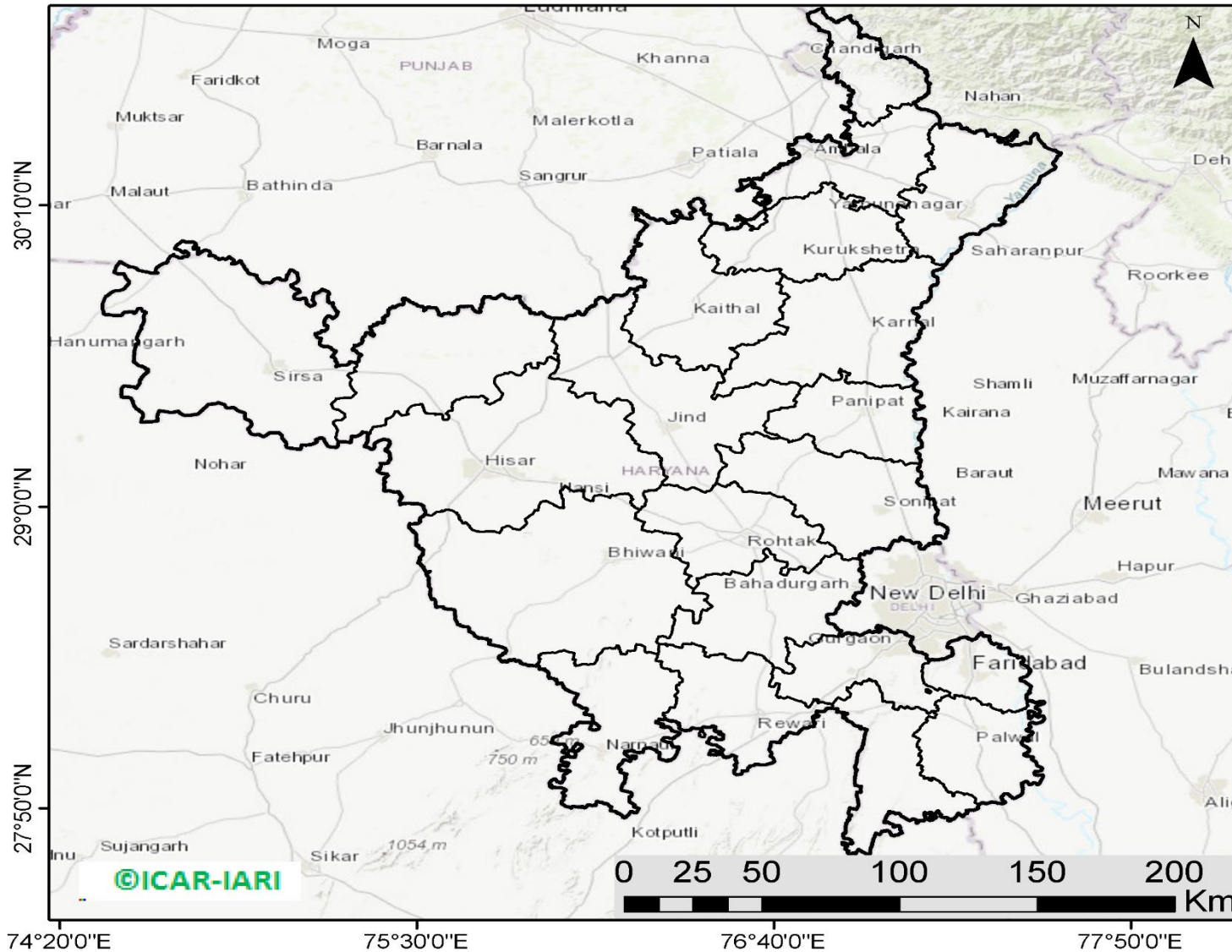
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise cumulative number of residues burning events in Punjab (01 Oct to 27-Nov 2019)




(b) Haryana

RICE RESIDUE BURNING IN HARYANA



00 burning events detected in Haryana on 27th November 2019

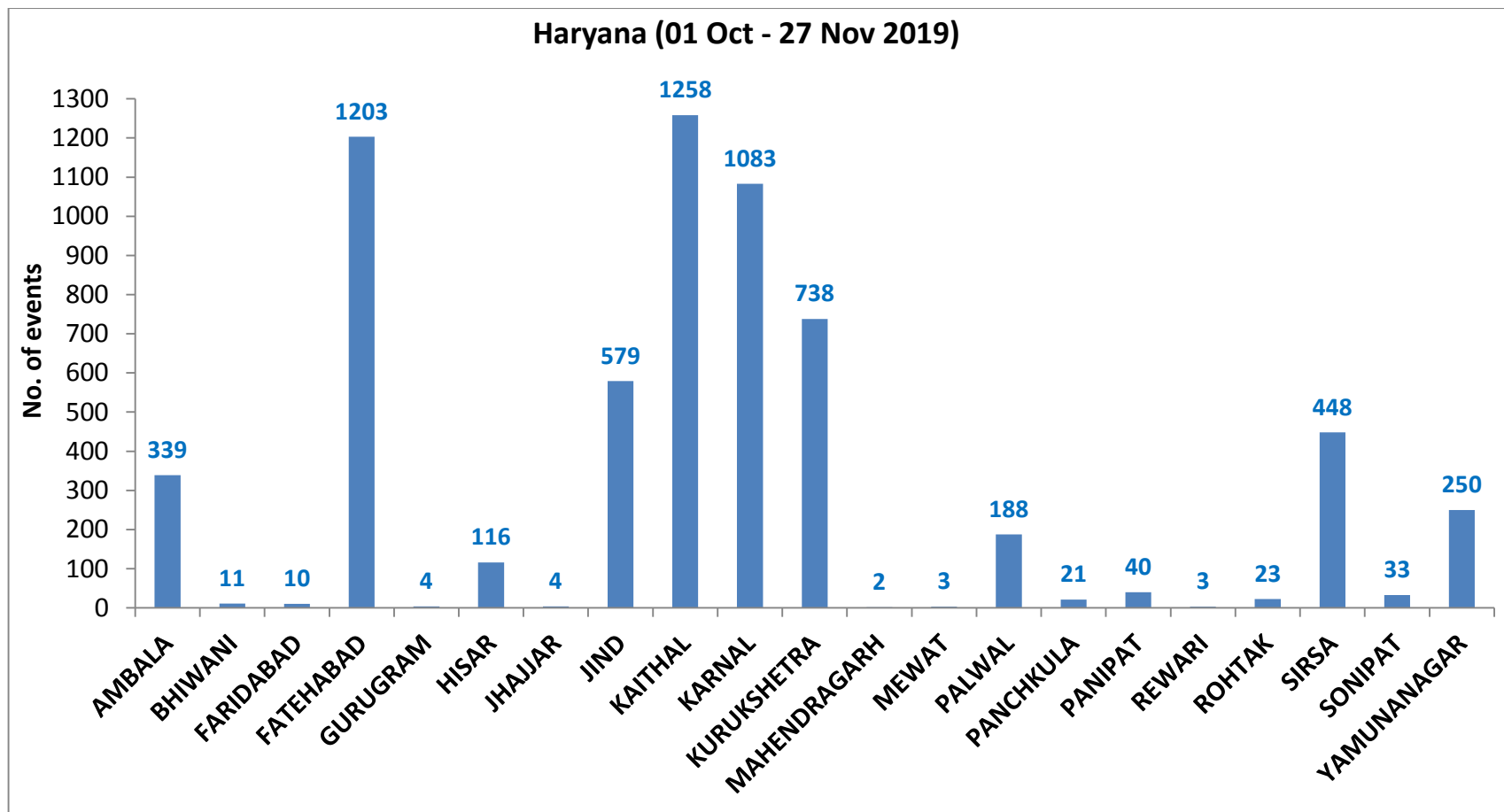
Fire Intensity (W/m²)

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



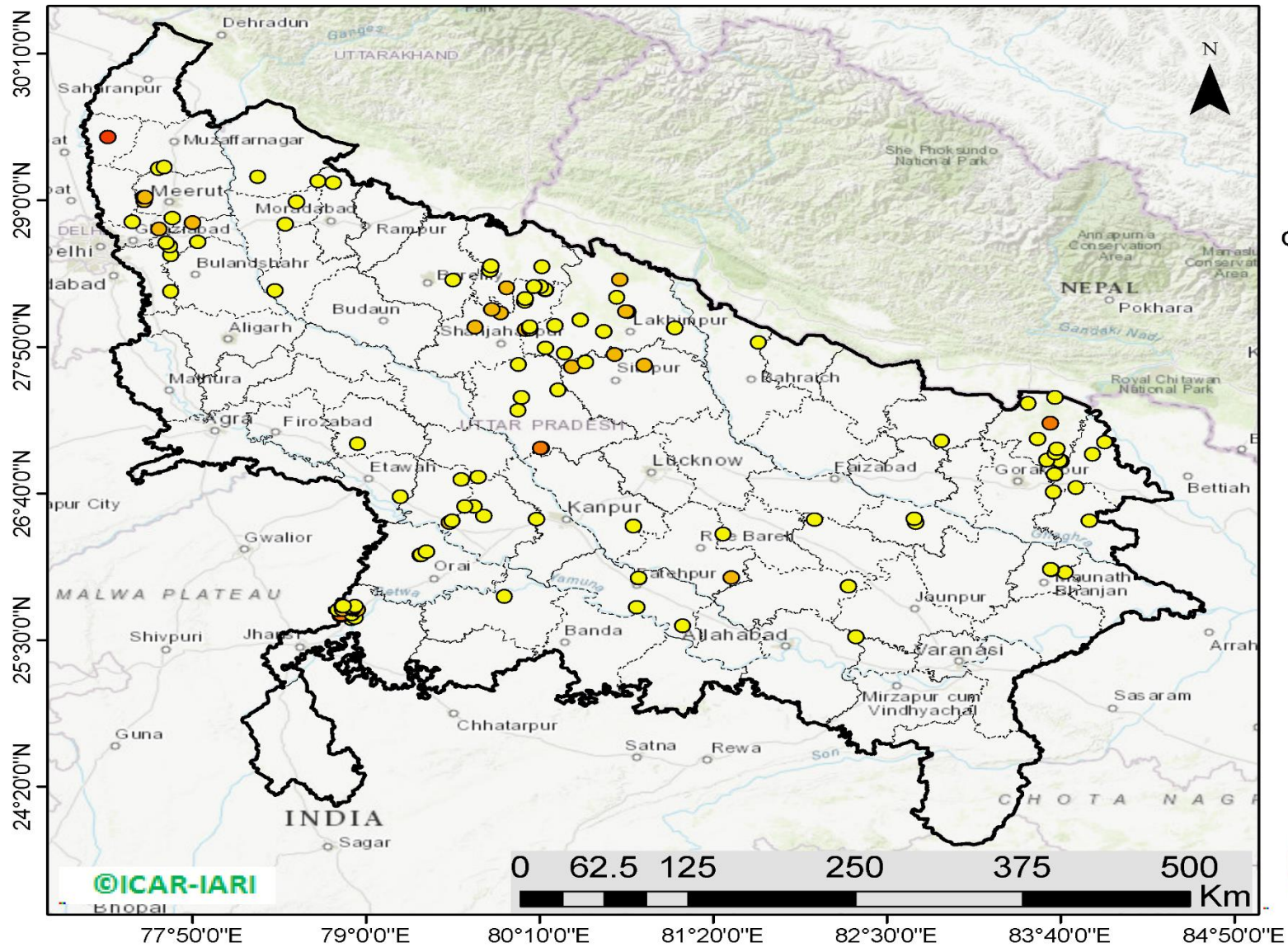
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise cumulative number of residues burning events in Haryana (01 Oct to 27-Nov 2019)



(c) UP

RICE RESIDUE BURNING IN UTTAR PRADESH



132 burning events detected in Uttar Pradesh on 27th November 2019

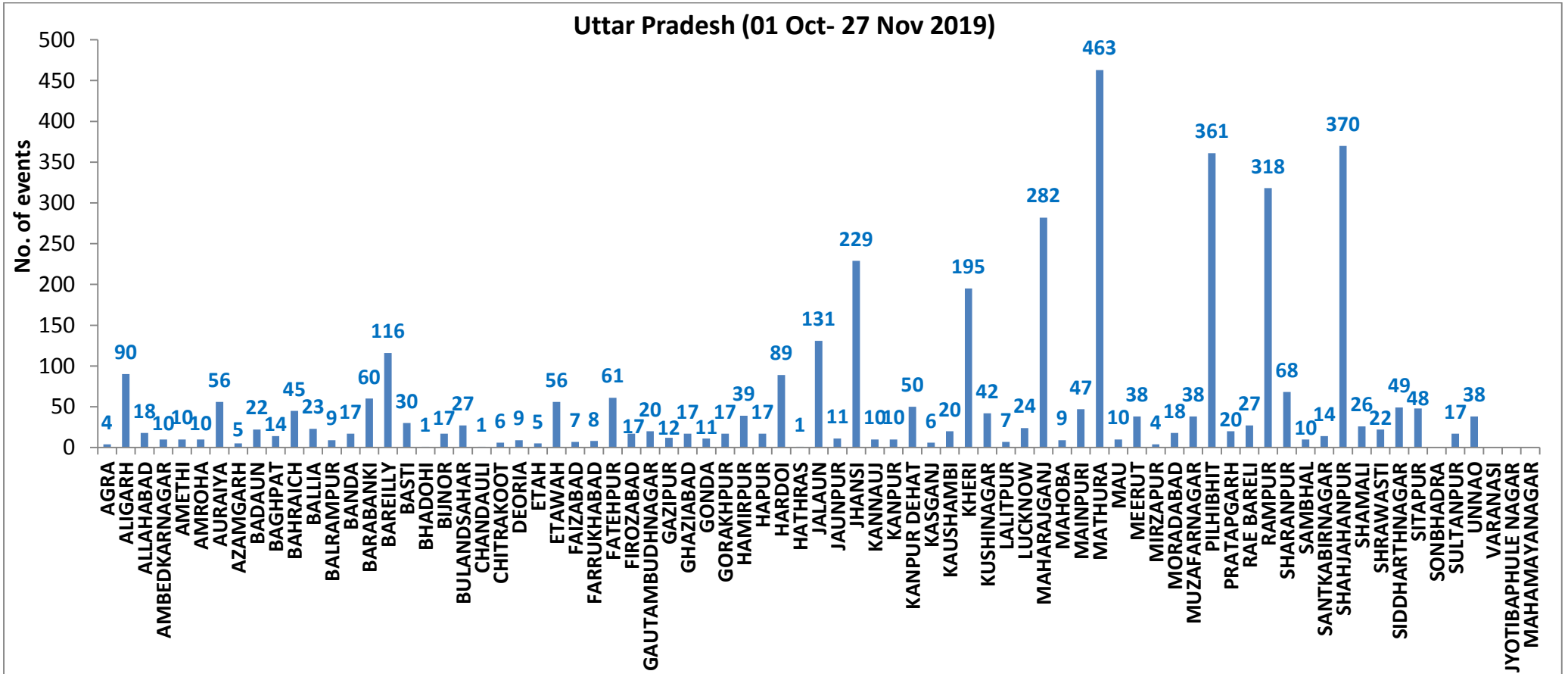
Fire Intensity (W/m²)

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



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

District-wise cumulative number of residues burning events in Uttar Pradesh (01 Oct to 27-Nov 2019)



State-wise, date-wise and district-wise number of residues burning events detected in 2016, 2017, 2018 and 2019
(Period: 01-Oct to 27-Nov)

Date	Punjab				Haryana				UP				Total			
	2019	2018	2017	2016	2019	2018	2017	2016	2019	2018	2017	2016	2019	2018	2017	2016
01-Oct	3	16	54	109	1	9	13	46	1	11	2	23	5	36	69	178
02-Oct	20	9	50	51	2	23	27	16	0	21	8	20	23	53	85	87
03-Oct	37	4	62	66	16	9	40	16	3	12	17	16	56	25	119	98
04-Oct	3	32	103	37	30	16	60	7	4	5	22	15	37	53	185	59
05-Oct	16	56	106	95	37	30	68	15	11	10	20	14	64	96	194	124
06-Oct	0	87	138	152	22	63	75	105	8	13	39	6	30	163	252	263
07-Oct	27	162	105	171	16	180	97	126	4	69	33	24	47	411	235	321
08-Oct	59	39	215	166	69	40	218	94	18	54	76	14	146	133	509	274
09-Oct	93	75	163	270	70	47	148	121	17	32	88	22	180	154	399	413
10-Oct	172	23	164	597	157	37	151	242	53	21	126	74	382	81	441	913
11-Oct	78	30	177	652	126	78	87	336	38	24	74	128	242	131	338	1116
12-Oct	99	67	342	694	154	133	123	338	42	22	51	164	295	222	516	1196
13-Oct	108	62	470	467	159	147	207	284	33	61	69	102	300	270	746	853
14-Oct	141	112	582	812	133	153	333	328	39	57	137	60	313	322	1052	1200
15-Oct	262	90	943	1215	203	110	458	248	63	35	237	76	528	235	1638	1539
16-Oct	168	174	465	1478	148	138	186	385	77	20	71	125	393	332	722	1988
17-Oct	250	272	807	2173	152	268	244	399	53	94	69	261	455	634	1120	2833
18-Oct	100	263	970	1065	103	255	306	270	39	163	108	204	242	681	1384	1539
19-Oct	529	254	1591	1762	220	208	541	276	3	108	128	132	752	570	2260	2170
20-Oct	490	496	2653	1175	360	141	597	188	62	49	255	62	912	686	3505	1425
21-Oct	852	618	1139	1726	339	217	233	257	185	66	168	152	1376	901	1540	2135
22-Oct	555	656	1356	2837	158	134	186	309	78	149	151	194	791	939	1693	3340
23-Oct	827	1113	994	2040	131	232	155	313	48	193	72	331	1006	1538	1221	2684
24-Oct	1220	844	1714	1836	165	166	244	221	79	192	171	152	1464	1202	2129	2209
25-Oct	1463	1247	2104	1813	212	182	303	229	67	142	175	83	1742	1571	2582	2125
26-Oct	2861	1173	1715	3390	366	132	276	434	189	33	240	195	3416	1338	2231	4019
27-Oct	2135	2040	2069	2904	249	252	224	417	145	154	145	255	2529	2446	2438	3576
28-Oct	3007	2864	2318	3493	238	330	292	458	45	290	99	435	3290	3484	2709	4386
29-Oct	1504	1321	4184	2258	0	124	502	278	1	243	180	237	1505	1688	4866	2773
30-Oct	3017	2008	3152	1076	222	103	307	395	19	158	238	175	3258	2269	3697	1646
31-Oct	2325	2715	3743	6132	36	229	413	575	4	148	321	153	2365	3092	4477	6860
01-Nov	293	4140	2736	4843	50	306	250	362	105	161	199	223	448	4607	3185	5428
02-Nov	6	3550	1246	4183	2	306	145	332	33	142	131	345	41	3998	1522	4860

03-Nov	2646	972	2109	3806	68	202	240	275	56	181	75	409	2770	1355	2424	4490
04-Nov	6001	882	4603	4477	383	77	499	146	75	183	168	265	6459	1142	5270	4888
05-Nov	4199	2989	2876	4137	253	129	625	345	124	163	367	125	4576	3281	3868	4607
06-Nov	4642	3071	171	6303	243	222	26	322	118	130	357	215	5003	3423	554	6840
07-Nov	189	4033	420	8575	2	568	46	821	33	108	149	244	224	4709	615	9640
08-Nov	462	4450	2256	4129	16	313	128	432	54	338	43	419	532	5101	2427	4980
09-Nov	2003	2083	675	4857	199	199	311	608	96	294	107	205	2298	2473	1093	5670
10-Nov	2046	1675	1642	2468	151	85	509	484	147	125	131	109	2344	1885	2282	3061
11-Nov	783	1364	103	5040	78	196	29	716	174	45	358	129	1035	1605	490	5885
12-Nov	520	1256	33	1477	68	122	3	634	210	45	269	129	798	1423	305	2240
13-Nov	10	1563	237	885	16	146	7	389	79	94	109	338	105	1803	353	1612
14-Nov	0	765	1101	692	1	189	340	171	22	128	95	247	23	1082	1536	1110
15-Nov	92	1480	5	871	29	107	40	107	111	146	123	154	232	1733	168	1132
16-Nov	23	1250	8	911	59	204	17	318	79	112	218	123	161	1566	243	1352
17-Nov	332	1132	217	638	85	289	12	299	265	103	249	130	682	1524	478	1067
18-Nov	740	1400	2147	568	70	356	139	312	113	111	180	217	923	1867	2466	1097
19-Nov	1221	752	2200	168	82	159	471	125	39	3	122	273	1342	914	2793	566
20-Nov	1007	385	1857	240	74	88	325	204	64	243	101	183	1145	716	2283	627
21-Nov	151	480	2310	112	37	161	378	115	84	107	205	86	272	748	2893	313
22-Nov	21	287	719	99	19	122	154	118	116	72	281	148	156	481	1154	365
23-Nov	283	317	1033	54	14	180	259	97	100	106	163	151	400	603	1455	302
24-Nov	293	229	507	21	23	152	192	36	72	186	105	265	388	567	804	322
25-Nov	266	72	443	33	31	81	219	68	18	272	124	123	315	425	786	224
26-Nov	8	95	334	27	9	57	240	25	62	73	186	85	79	225	760	137
27-Nov	13	1	151	22	0	2	99	34	132	42	227	80	145	45	477	136
Total	50674	59595	66787	102348	6356	9101	12817	15621	4009	6362	8432	9324	61039	75058	88036	127293

(a) Punjab

Districts	01Oct-27 Nov			
	2016	2017	2018	2019
AMRITSAR	2170	1355	1393	1410
BARNALA	5701	3419	3278	2964
BATHINDA	8845	5750	6341	5309
FARIDKOT	4628	3469	3057	2317
FATEHGARH SAHIB	2461	1642	861	827
FAZILKA	0	0	0	2773
FIROZPUR	13638	9900	9981	4635
GURDASPUR	2218	1590	1169	1478
HOSHIARPUR	901	497	198	311
JALANDHAR	4660	2118	1393	1515
KAPURTHALA	3136	1623	750	1353
LUDHIANA	9546	4734	3033	2273
MANSA	5651	4486	4316	3568
MOGA	6393	2764	2730	2150
MUKTSAR	7035	5417	5778	3711
NAWASHAHR (SBS Nagar)	1612	822	389	265
PATHANKOT	0	0	0	6
PATIALA	6544	5034	4213	3853
RUPNAGAR	717	328	86	119
SANGRUR	11862	8428	7780	6363
SAS NAGAR	117	107	104	150
TARN TARAN	4513	3304	2745	3324
Total	102348	66787	59595	50674

(b) Haryana

Districts	01Oct-27 Nov			
	2016	2017	2018	2019
AMBALA	534	500	329	339
BHIWANI	89	47	21	11
FARIDABAD	288	343	185	10
FATEHABAD	4829	3710	2532	1203
GURUGRAM	0	0	0	4
HISAR	410	189	209	116
JHAJJAR	37	19	29	4
JIND	859	943	883	579
KAITHAL	1748	1512	1292	1258
KARNAL	1639	1511	851	1083
KURUKSHETRA	1078	1148	680	738
MAHENDRAGARH	0	0	0	2
MEWAT	0	0	0	3
PALWAL	0	0	0	188
PANCHKULA	0	0	3	21
PANIPAT	98	105	60	40
REWARI	0	0	0	3
ROHTAK	100	92	47	23
SIRSA	3574	2297	1739	448
SONIPAT	94	81	42	33
YAMUNANAGAR	244	320	199	250
Total	15621	12817	9101	6356

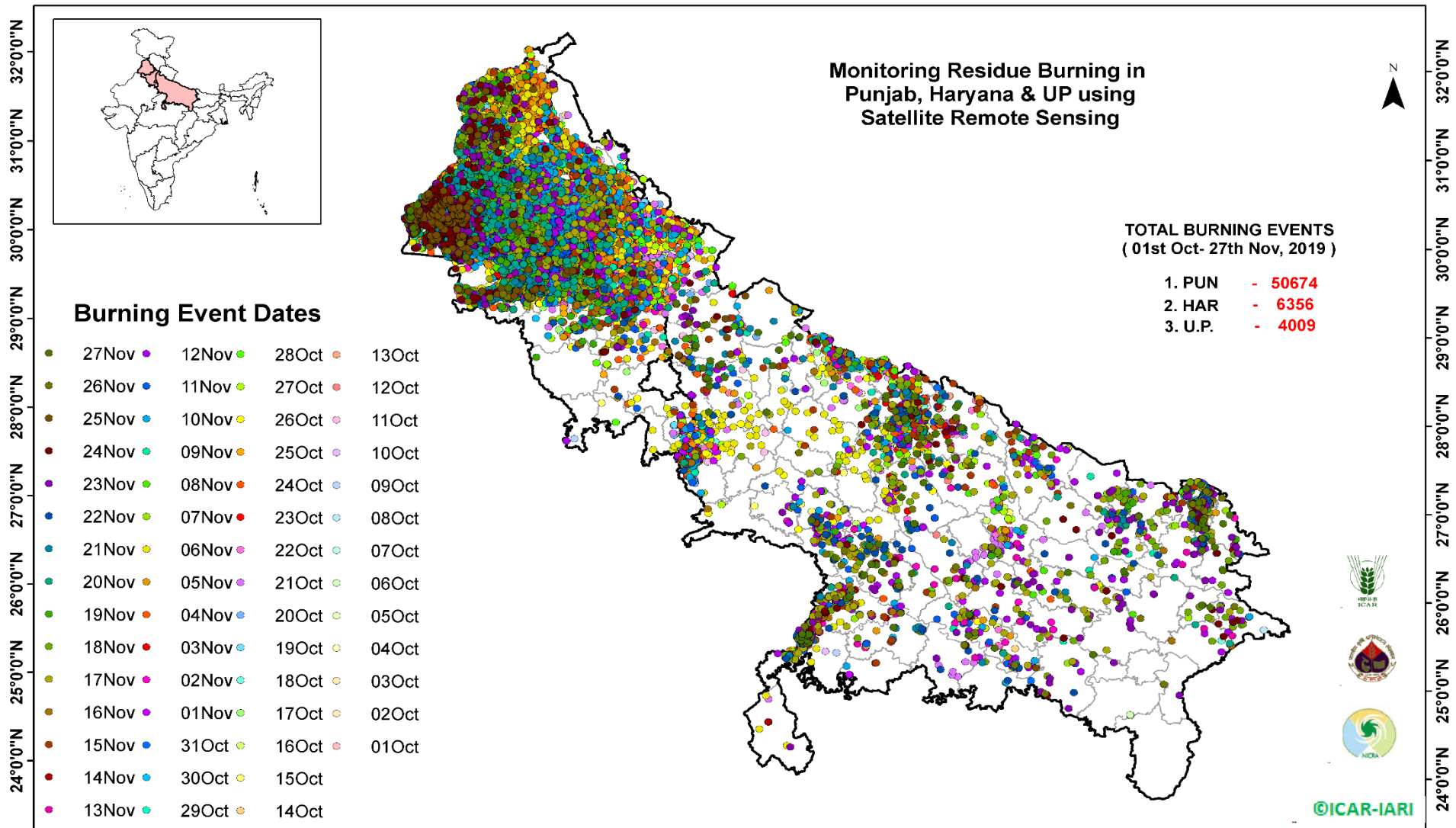
(c) Uttar Pradesh

Districts	01Oct-27 Nov			
	2016	2017	2018	2019
AGRA	0	0	0	4
ALIGARH	55	82	93	90
ALLAHABAD	6	17	20	18
AMBEDKARNAGAR	77	65	28	10
AMETHI	0	0	0	10
AMROHA	0	0	0	10
AURAIYA	280	244	70	56
AZAMGARH	38	52	36	5
BADAUN	12	10	14	22
BAGHPAT	0	0	0	14
BAHRAICH	81	41	60	45
BALLIA	19	43	29	23
BALRAMPUR	37	27	45	9
BANDA	2	23	12	17
BARABANKI	222	168	175	60
BAREILLY	262	234	120	116
BASTI	146	187	126	30
BHADOHI	0	0	0	1
BIJNOR	66	67	19	17
BULANDSAHAR	33	37	23	27
CHANDAULI	18	19	3	1
CHITRAKOOT	0	0	0	6
DEORIA	62	81	78	9
ETAH	22	33	28	5
ETAWAH	182	140	70	56
FAIZABAD	18	16	10	7
FARRUKHABAD	0	0	0	8
FATEHPUR	78	64	90	61
FIROZABAD	23	18	11	17

GAUTAMBUDHNAGAR	30	46	12	20
GAZIPUR	16	20	26	12
GHAZIABAD	90	64	40	17
GONDA	48	38	22	11
GORAKHPUR	66	113	141	17
HAMIRPUR	0	0	1	39
HAPUR	0	0	0	17
HARDOI	257	208	113	89
HATHRAS	0	0	0	1
JALAUN	0	0	0	131
JAUNPUR	25	41	26	11
JHANSI	0	0	2	229
KANNAUJ	35	18	8	10
KANPUR	20	14	13	10
KANPUR DEHAT	70	73	29	50
KASGANJ	0	0	0	6
KAUSHAMBI	34	53	53	20
KHERI	481	331	228	195
KUSHINAGAR	66	154	171	42
LALITPUR	0	0	0	7
LUCKNOW	62	30	26	24
MAHARAJGANJ	719	1022	1071	282
MAHOBA	0	0	0	9
MAINPURI	94	94	60	47
MATHURA	1462	1083	1049	463
MAU	15	22	21	10
MEERUT	93	110	24	38
MIRZAPUR	5	19	9	4
MORADABAD	61	44	15	18
MUZAFARNAGAR	145	175	59	38
PILHIBHIT	958	743	436	361
PRATAPGARH	45	61	43	20

RAE BARELI	115	141	73	27
RAMPUR	626	649	226	318
SHARANPUR	124	157	72	68
SAMBHAL	0	0	0	10
SANTKABIRNAGAR	56	64	54	14
SHAHJAHANPUR	1154	702	389	370
SHAMALI	0	0	0	26
SHRAWASTI	37	32	37	22
SIDDHARTHANAGAR	262	188	475	49
SITAPUR	137	83	48	48
SONBHADRA	16	16	13	0
SULTANPUR	78	77	61	17
UNNAO	67	59	41	38
VARANASI	2	0	0	0
JYOTIBAPHULE NAGAR	12	18	7	0
MAHAMAYANAGAR	2	2	8	0
Total	9324	8432	6362	4009

Map of Cumulative Burning Events (01 Oct – 27 Nov 2019)



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Details of residue burning events in Punjab on 27-Nov-2019

S. No.	District	Tehsil / Block	Satellite	Longitude	Latitude	Time (IST)	Day / Night	Fire Power (W/m²)
1	FAZILKA	FAZILKA	S-NPP	74.03101	30.20869	13:24:00	D	5.00
2	FAZILKA	FAZILKA	S-NPP	74.00959	30.25966	13:24:00	D	4.30
3	FAZILKA	FAZILKA	S-NPP	73.96529	30.35381	13:24:00	D	3.80
4	FAZILKA	FAZILKA	S-NPP	73.97779	30.38157	13:24:00	D	4.60
5	FAZILKA	FAZILKA	S-NPP	73.98235	30.38237	13:24:00	D	11.00
6	FAZILKA	FAZILKA	S-NPP	73.97697	30.38507	13:24:00	D	4.60
7	FAZILKA	FAZILKA	S-NPP	73.96896	30.44499	13:24:00	D	4.60
8	FAZILKA	FAZILKA	S-NPP	73.96358	30.44769	13:24:00	D	4.20
9	FAZILKA	FAZILKA	S-NPP	73.96567	30.45900	13:24:00	D	8.00
10	FAZILKA	FAZILKA	S-NPP	74.05091	30.52513	13:24:00	D	2.10
11	MANSA	SARDULGARH	S-NPP	75.20759	29.62296	13:24:00	D	3.40
12	MUKTSAR	MALAUT	S-NPP	74.67253	29.94975	13:24:00	D	6.70
13	MUKTSAR	MALAUT	S-NPP	74.67610	29.95392	13:24:00	D	15.60

Details of residue burning events in Uttar Pradesh on 27-Nov-2019

S. No.	District	Tehsil / Block	Satellite	Longitude	Latitude	Time (IST)	Day / Night	Fire Power (W/m ²)
1	ALLAHABAD	HADIYA	S-NPP	82.29205	25.52569	02:06:00	N	0.50
2	AMBEDKARNAGAR	AKBARPUR	S-NPP	82.69164	26.43499	13:24:00	D	3.10
3	AMBEDKARNAGAR	TANDA	S-NPP	82.68198	26.46483	13:24:00	D	4.60
4	AMROHA	AMROHA	S-NPP	78.45719	28.80895	13:24:00	D	2.80
5	AMROHA	AMROHA	S-NPP	78.53123	28.98807	13:24:00	D	3.80
6	AURAIYA	AURAIYA	AQUA	79.56100	26.43400	13:45:00	D	7.10
7	AURAIYA	BIDHUNA	S-NPP	79.63869	26.77546	02:06:00	N	0.70
8	AURAIYA	BIDHUNA	S-NPP	79.75415	26.79533	13:24:00	D	2.60
9	BALLIA	BELTHARA ROAD	S-NPP	83.69742	26.03827	13:24:00	D	3.50
10	BAREILLY	BAREILLY	S-NPP	79.58701	28.36526	02:06:00	N	0.80
11	BIJNOR	CHANDPUR	S-NPP	78.27394	29.18422	13:24:00	D	3.10
12	DEORIA	DEORIA	S-NPP	83.86105	26.44747	13:24:00	D	3.50
13	ETAWAH	BHARTHNA	S-NPP	79.23072	26.64066	13:24:00	D	2.80
14	FATEHPUR	FATEHPUR	S-NPP	80.81853	25.75850	13:24:00	D	4.40
15	FATEHPUR	FATEHPUR	S-NPP	80.83022	25.98975	13:24:00	D	3.30
16	FATEHPUR	FATEHPUR	S-NPP	80.82965	25.99322	13:24:00	D	3.10
17	FATEHPUR	KHAGA	S-NPP	81.12787	25.61313	13:24:00	D	3.40
18	GAUTAMBUDHNAGAR	JEVAR	S-NPP	77.68934	28.27540	13:24:00	D	1.30
19	GHAZIABAD	MODINAGAR	S-NPP	77.61019	28.77126	13:24:00	D	5.50
20	GHAZIABAD	MODINAGAR	S-NPP	77.43017	28.82821	13:24:00	D	1.80
21	GORAKHPUR	CHAURI CHAURA	S-NPP	83.62006	26.67950	13:24:00	D	1.90
22	HAMIRPUR	MAUDAHA	S-NPP	79.93000	25.84853	13:24:00	D	3.20
23	HAPUR	HAPUR	S-NPP	77.69009	28.56672	13:24:00	D	4.70
24	HAPUR	HAPUR	S-NPP	77.68125	28.63274	13:24:00	D	1.50
25	HAPUR	HAPUR	S-NPP	77.65592	28.65948	13:24:00	D	4.30
26	HAPUR	HAPUR	S-NPP	77.86798	28.66762	13:24:00	D	1.80
27	HARDOI	BILGRAM	AQUA	80.18100	27.02600	13:45:00	D	13.10
28	HARDOI	BILGRAM	AQUA	80.17400	27.02800	13:45:00	D	12.10
29	HARDOI	BILGRAM	S-NPP	80.02201	27.32627	02:06:00	N	0.80
30	HARDOI	HARDOI	S-NPP	80.04331	27.43118	02:06:00	N	0.50

31	HARDOI	HARDOI	S-NPP	80.28959	27.49086	02:06:00	N	0.80
32	HARDOI	SHAHABAD	S-NPP	80.02431	27.69367	02:06:00	N	0.40
33	JALAUN	JALAUN	S-NPP	79.36479	26.17636	13:24:00	D	2.50
34	JALAUN	JALAUN	S-NPP	79.37203	26.18081	13:24:00	D	4.30
35	JALAUN	JALAUN	S-NPP	79.40434	26.20256	13:24:00	D	4.70
36	JHANSI	MOTH	S-NPP	78.90334	25.66652	13:24:00	D	2.10
37	JHANSI	MOTH	S-NPP	78.92515	25.67653	13:24:00	D	4.70
38	JHANSI	MOTH	S-NPP	78.84317	25.69499	13:24:00	D	6.40
39	JHANSI	MOTH	AQUA	78.82600	25.69700	13:45:00	D	6.00
40	JHANSI	MOTH	S-NPP	78.83491	25.69715	13:24:00	D	12.90
41	JHANSI	MOTH	S-NPP	78.83875	25.69773	13:24:00	D	12.90
42	JHANSI	MOTH	S-NPP	78.84258	25.69829	13:24:00	D	4.30
43	JHANSI	MOTH	AQUA	78.83800	25.69900	13:45:00	D	10.20
44	JHANSI	MOTH	S-NPP	78.83432	25.70046	13:24:00	D	12.90
45	JHANSI	MOTH	S-NPP	78.90446	25.70407	13:24:00	D	3.00
46	JHANSI	MOTH	S-NPP	78.81184	25.73789	13:24:00	D	4.00
47	JHANSI	MOTH	AQUA	78.84400	25.73900	13:45:00	D	6.40
48	JHANSI	MOTH	AQUA	78.94300	25.74100	13:45:00	D	5.80
49	JHANSI	MOTH	S-NPP	78.91326	25.74276	13:24:00	D	2.80
50	JHANSI	MOTH	AQUA	78.90500	25.74700	13:45:00	D	7.70
51	JHANSI	MOTH	AQUA	78.90400	25.75700	13:45:00	D	7.20
52	JHANSI	MOTH	S-NPP	78.90645	25.75875	13:24:00	D	5.00
53	JHANSI	MOTH	S-NPP	78.92444	25.76822	13:24:00	D	2.50
54	JHANSI	MOTH	AQUA	78.84000	25.76900	13:45:00	D	6.90
55	JHANSI	MOTH	S-NPP	78.84531	25.76930	13:24:00	D	2.30
56	KANPUR	KANPUR NAGAR	S-NPP	80.14627	26.45993	13:24:00	D	3.20
57	KANPUR DEHAT	DERAPUR	S-NPP	79.78961	26.48702	13:24:00	D	1.70
58	KANPUR DEHAT	DERAPUR	S-NPP	79.72349	26.56132	13:24:00	D	2.60
59	KANPUR DEHAT	DERAPUR	S-NPP	79.66576	26.56323	02:06:00	N	0.50
60	KANPUR DEHAT	SIKANDRA	S-NPP	79.57998	26.44710	13:24:00	D	4.10
61	KHERI	DHAURAHRA	S-NPP	81.07301	27.98559	13:24:00	D	2.60
62	KHERI	GOLA	S-NPP	80.43938	28.04625	13:24:00	D	4.20
63	KHERI	GOLA	S-NPP	80.68513	28.22878	13:24:00	D	2.60
64	KHERI	LAKHIMPUR	S-NPP	80.59671	27.95533	13:24:00	D	1.30

65	KHERI	LAKHIMPUR	TERRA	80.76300	28.11100	10:35:00	D	7.30
66	KHERI	LAKHIMPUR	TERRA	80.74700	28.11300	10:35:00	D	7.60
67	KHERI	MOHMADI	S-NPP	80.33343	27.78298	02:06:00	N	0.80
68	KHERI	MOHMADI	S-NPP	80.20640	27.82232	02:06:00	N	0.80
69	KHERI	MOHMADI	S-NPP	80.26853	28.00201	02:06:00	N	0.60
70	KHERI	PALIA KALAN	METOP-2	80.70442	28.36753	20:46:00	N	9.00
71	KUSHINAGAR	HATA	S-NPP	83.77192	26.71349	13:24:00	D	1.20
72	KUSHINAGAR	HATA	S-NPP	83.62617	26.81625	13:24:00	D	4.30
73	KUSHINAGAR	HATA	S-NPP	83.62579	26.81640	13:24:00	D	4.30
74	KUSHINAGAR	HATA	S-NPP	83.67117	26.92427	13:24:00	D	1.90
75	KUSHINAGAR	HATA	S-NPP	83.67139	26.92444	13:24:00	D	2.00
76	KUSHINAGAR	HATA	S-NPP	83.65871	26.92694	13:24:00	D	2.30
77	KUSHINAGAR	HATA	S-NPP	83.65891	26.92718	13:24:00	D	2.00
78	KUSHINAGAR	PADRAUNA	S-NPP	83.88080	26.98054	13:24:00	D	2.40
79	KUSHINAGAR	PADRAUNA	S-NPP	83.96423	27.07532	13:24:00	D	3.10
80	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.57428	26.93015	13:24:00	D	4.00
81	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.63069	26.98572	13:24:00	D	2.20
82	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.64211	27.01994	13:24:00	D	1.30
83	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.51064	27.09927	13:24:00	D	3.60
84	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.59759	27.22470	13:24:00	D	15.00
85	MAHARAJGANJ	NAUTANWA	S-NPP	83.44784	27.38463	13:24:00	D	2.10
86	MAHARAJGANJ	NAUTANWA	S-NPP	83.62728	27.42962	13:24:00	D	2.00
87	MAINPURI	KARHAL	S-NPP	78.94308	27.06212	13:24:00	D	3.20
88	MAU	MADHUBAN	S-NPP	83.60380	26.05982	13:24:00	D	4.30
89	MAU	MADHUBAN	S-NPP	83.60145	26.06113	13:24:00	D	3.30
90	MEERUT	MEERUT	AQUA	77.83300	28.82100	13:45:00	D	7.00
91	MEERUT	MEERUT	S-NPP	77.69936	28.85545	13:24:00	D	2.60
92	MEERUT	MEERUT	AQUA	77.50900	28.99600	13:45:00	D	6.50
93	MEERUT	MEERUT	AQUA	77.50400	29.02500	13:45:00	D	6.10
94	MEERUT	MEERUT	AQUA	77.51600	29.02600	13:45:00	D	6.20
95	MEERUT	SARDHANA	S-NPP	77.60671	29.25154	13:24:00	D	2.80
96	MORADABAD	KANTH	S-NPP	78.67848	29.15174	13:24:00	D	2.00
97	MORADABAD	THAKUR DWARA	S-NPP	78.78026	29.13878	13:24:00	D	2.00
98	MUZAFARNAGAR	KHATOLI	S-NPP	77.64559	29.26352	13:24:00	D	3.30

99	PILHIBHIT	BISALPUR	METOP-2	79.94736	28.30465	20:46:00	N	8.00
100	PILHIBHIT	BISALPUR	S-NPP	79.83179	28.44100	02:06:00	N	1.00
101	PILHIBHIT	BISALPUR	S-NPP	79.83932	28.47817	13:24:00	D	3.90
102	PILHIBHIT	PURANPUR	S-NPP	80.18231	28.46993	02:06:00	N	0.50
103	PRATAPGARH	PATTI	S-NPP	82.24238	25.92795	13:24:00	D	2.30
104	RAIBEARELI	SALON	S-NPP	81.45461	25.99737	13:24:00	D	7.40
105	RAIBEARELI	TILOI	S-NPP	81.40060	26.34439	13:24:00	D	3.70
106	SAMBHAL	GUNNAUR	S-NPP	78.38794	28.28207	13:24:00	D	2.80
107	SHAHJAHANPUR	PUWANYA	METOP-2	80.07354	27.97227	20:46:00	N	9.00
108	SHAHJAHANPUR	PUWANYA	S-NPP	80.10185	27.97593	02:06:00	N	1.20
109	SHAHJAHANPUR	PUWANYA	S-NPP	80.10068	27.97826	02:06:00	N	3.50
110	SHAHJAHANPUR	PUWANYA	S-NPP	80.10271	27.97960	02:06:00	N	1.20
111	SHAHJAHANPUR	PUWANYA	S-NPP	80.10130	27.99519	02:06:00	N	0.40
112	SHAHJAHANPUR	PUWANYA	S-NPP	79.90604	28.10045	13:24:00	D	7.80
113	SHAHJAHANPUR	PUWANYA	S-NPP	80.06508	28.19523	02:06:00	N	0.70
114	SHAHJAHANPUR	PUWANYA	S-NPP	80.06767	28.21970	02:06:00	N	1.40
115	SHAHJAHANPUR	PUWANYA	S-NPP	80.19062	28.28451	02:06:00	N	0.30
116	SHAHJAHANPUR	PUWANYA	S-NPP	80.20136	28.28635	02:06:00	N	0.90
117	SHAHJAHANPUR	PUWANYA	S-NPP	80.20370	28.28807	02:06:00	N	1.90
118	SHAHJAHANPUR	PUWANYA	S-NPP	80.20226	28.29001	02:06:00	N	1.30
119	SHAHJAHANPUR	PUWANYA	S-NPP	80.17368	28.31292	02:06:00	N	1.20
120	SHAHJAHANPUR	PUWANYA	S-NPP	80.13276	28.31303	02:06:00	N	0.70
121	SHAHJAHANPUR	PUWANYA	S-NPP	80.12788	28.31395	02:06:00	N	0.80
122	SHAHJAHANPUR	TILHAR	METOP-2	79.73383	27.99024	20:46:00	N	7.00
123	SHAHJAHANPUR	TILHAR	S-NPP	79.84509	28.13066	13:24:00	D	9.50
124	SHAMLI	SHAMLI	AQUA	77.26400	29.50200	13:45:00	D	17.40
125	SHRAWASTI	BHINGA	S-NPP	81.63840	27.86779	13:24:00	D	3.20
126	SIDDHARTHANAGAR	BANSI	S-NPP	82.86784	27.08375	13:24:00	D	4.10
127	SITAPUR	LAHARPUR	S-NPP	80.86842	27.68586	13:24:00	D	7.70
128	SITAPUR	MISRIK	S-NPP	80.38242	27.67534	13:24:00	D	5.60
129	SITAPUR	MISRIK	S-NPP	80.47316	27.71245	13:24:00	D	3.10
130	SITAPUR	SITAPUR	S-NPP	80.67017	27.77113	13:24:00	D	6.40
131	SULTANPUR	SULTANPUR	S-NPP	82.01386	26.45891	13:24:00	D	2.70
132	UNNAO	BIGHAPUR	S-NPP	80.79641	26.40567	13:24:00	D	4.80

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 Geoportal website: <http://geoportal.icar.gov.in:8080/geoexplorer/composer/>
(Part of KRISHI Portal: <https://krishi.icar.gov.in> initiative)
