



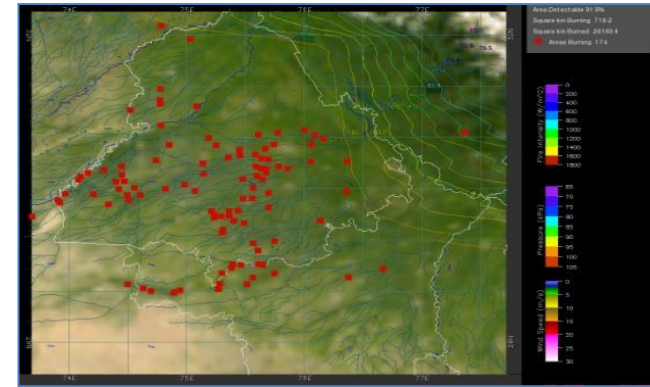
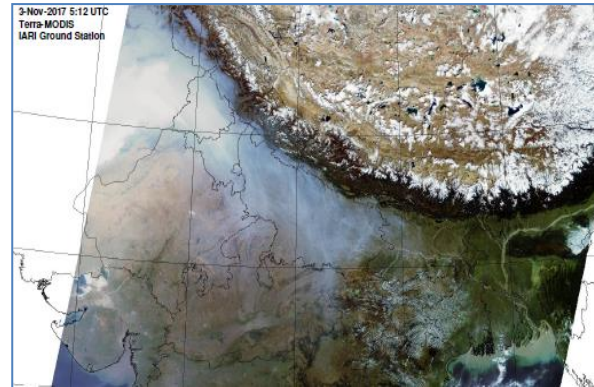
Bulletin No. 61

Events Date:
30-Nov-2020

Issued on:
01-Dec-2020



MONITORING PADDY RESIDUE BURNING IN NORTH INDIA USING SATELLITE REMOTE SENSING DURING 2020



Prepared by:

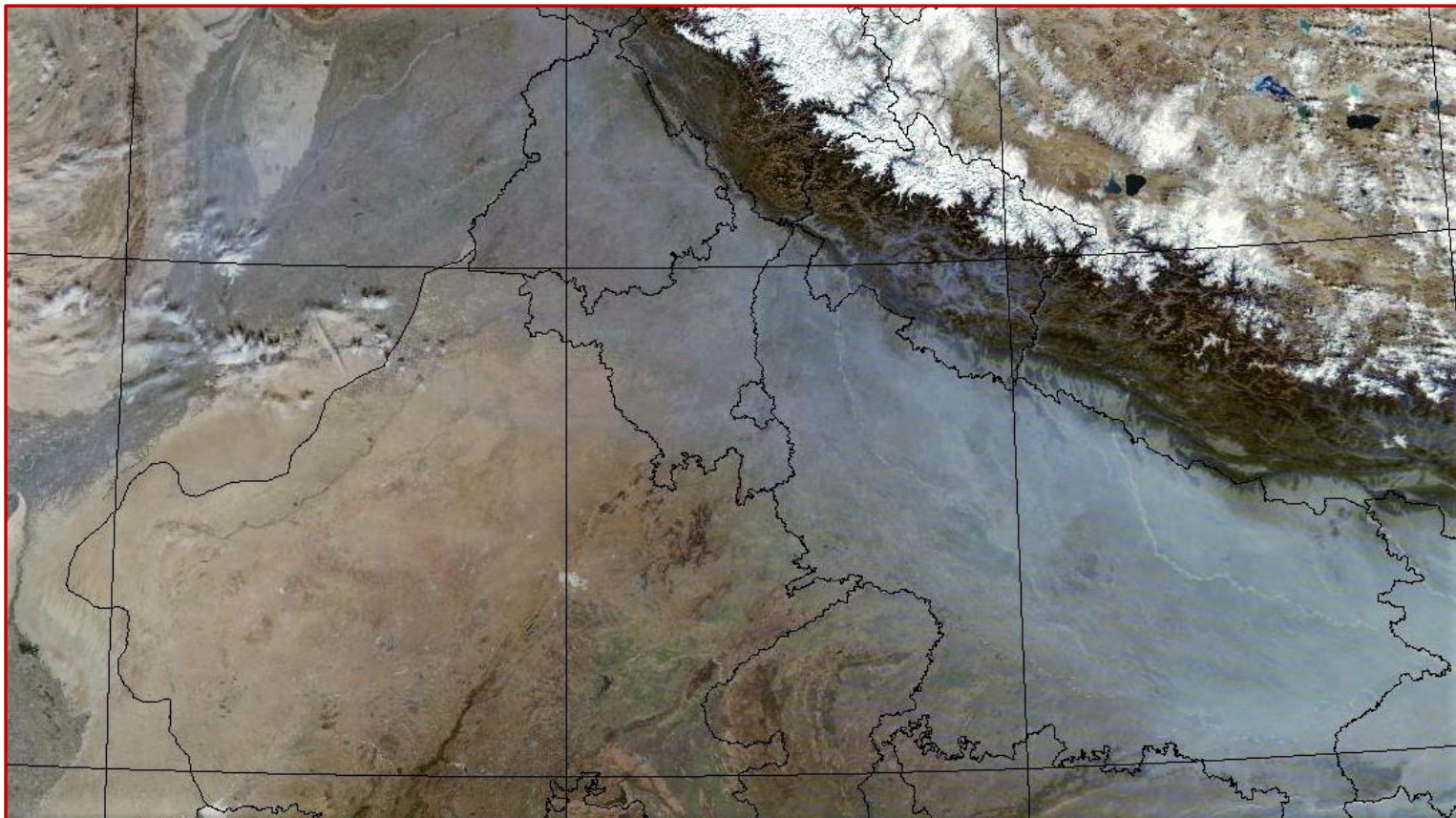
Consortium for Research on Agroecosystem Monitoring and Modeling from Space (CREAMS) Laboratory,
Division of Agricultural Physics, ICAR – Indian Agricultural Research Institute, New Delhi – 110012

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

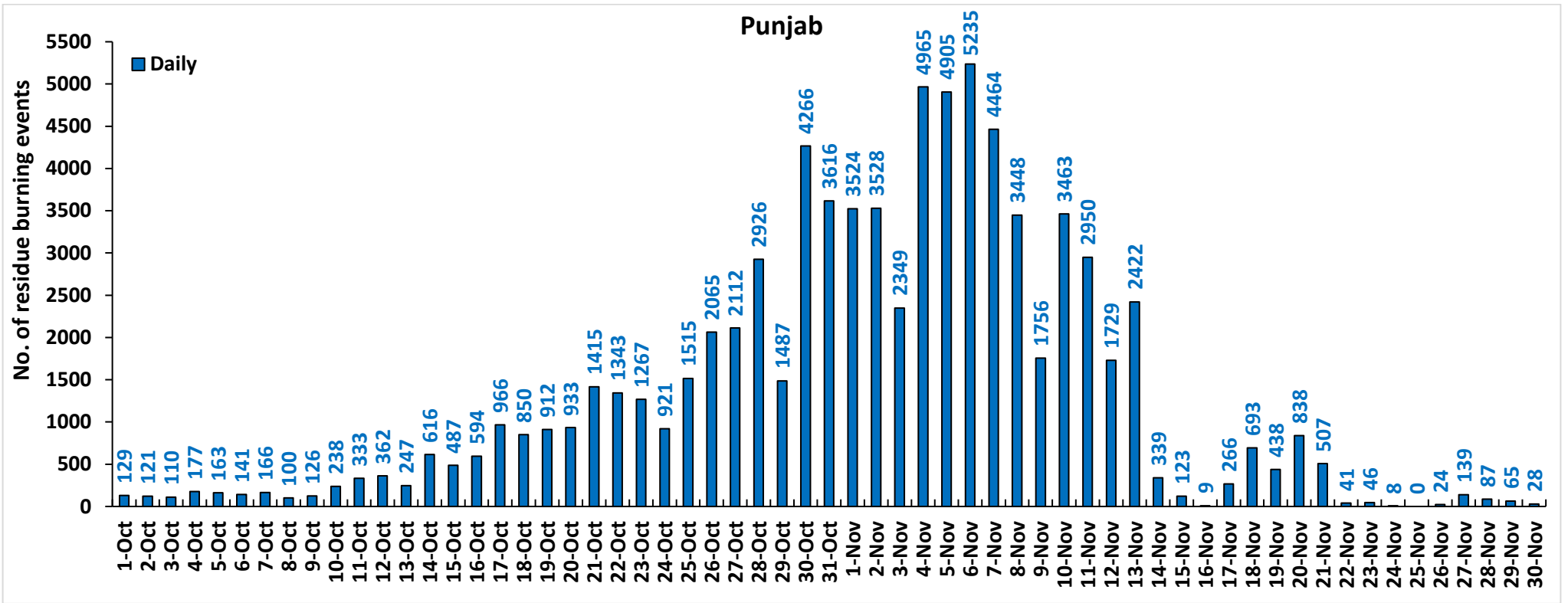
Highlights for 30-November-2020

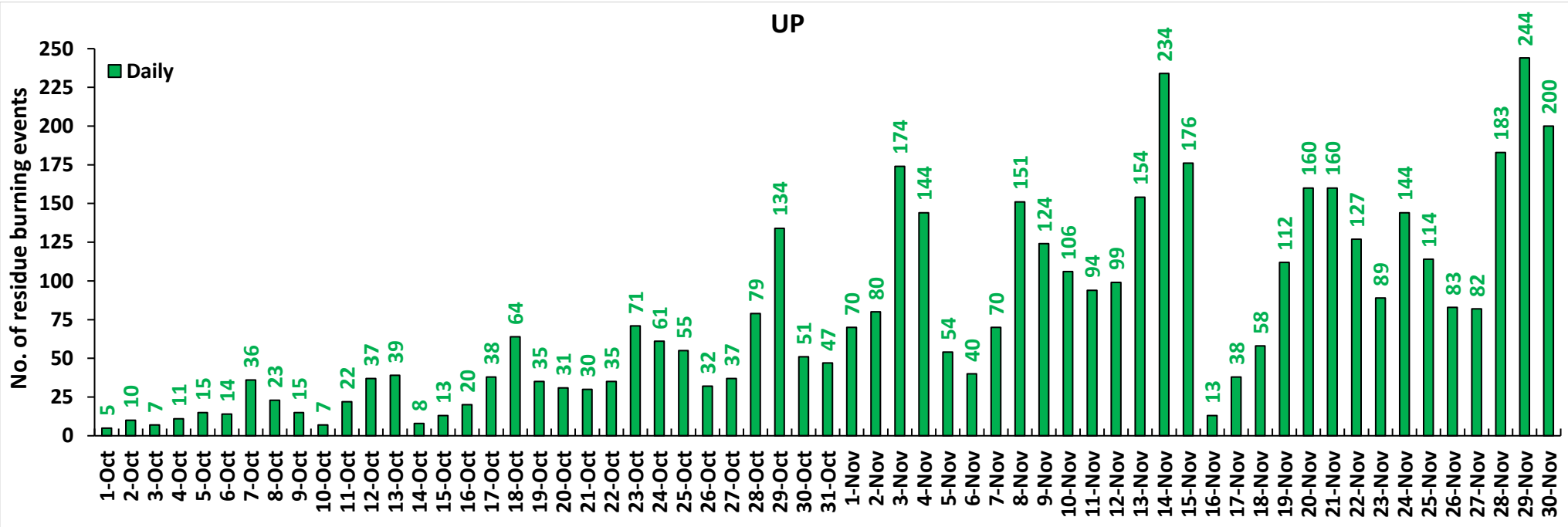
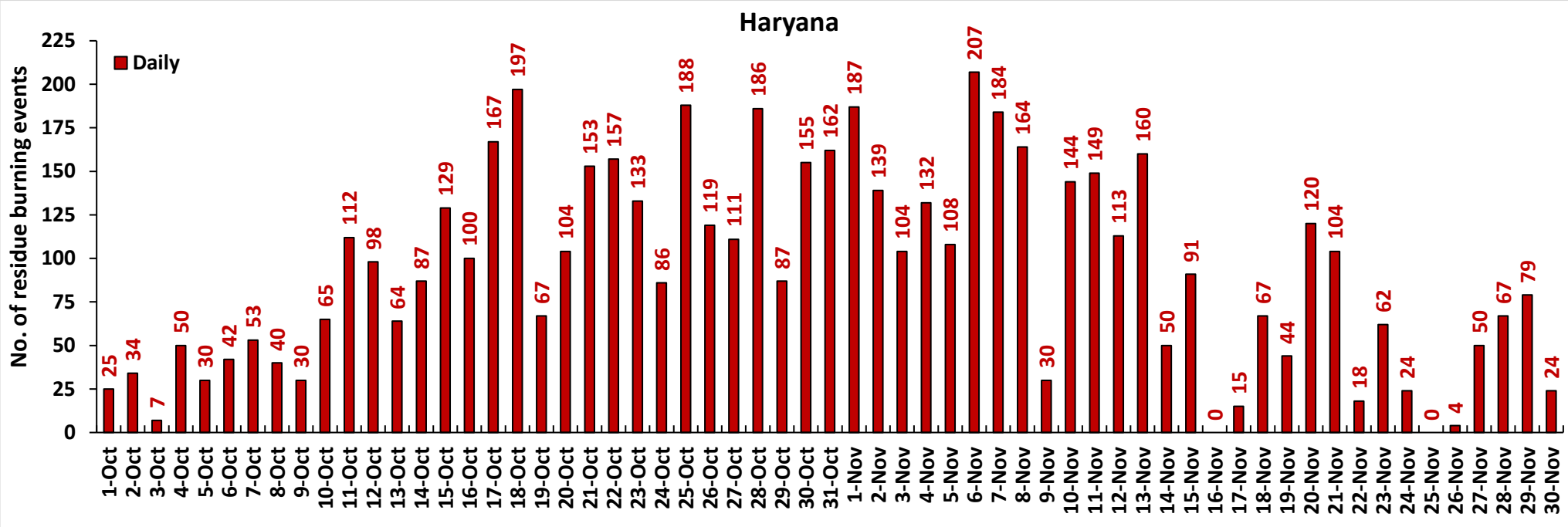
- Satellites detected **252** residue burning events in the three study States on **30-Nov-2020**.
- The state wise events detected on **30-Nov-2020** were **28** in Punjab, **24** in Haryana and **200** in UP.
- The number of events has decreased from **388** on **29-Nov-2020** to **252** on **30-Nov-2020** in the three states.
- Fazilka in Punjab, Sirsa in Haryana and Chandauli in UP reported the highest number of events on **30-Nov-2020**.
- Total **89430** burning events were detected in the three States between **01-Oct-2020** and **30-Nov-2020**, which are distributed as **79093**, **5678** and **4659** in Punjab, Haryana and UP, respectively.
- In Haryana the cumulative number of burning events between **01-Oct** and **30-Nov 2020** were lower than in **2019**, while in Punjab and UP the cumulative number of events were more than in **2019**.

[TERRA \(MODIS\) Satellite image of North India Acquired on 30-Nov-2020 at 11:15 IST by IARI Ground Station](#)



Temporal distribution of residue burning events for the three study States in 2020

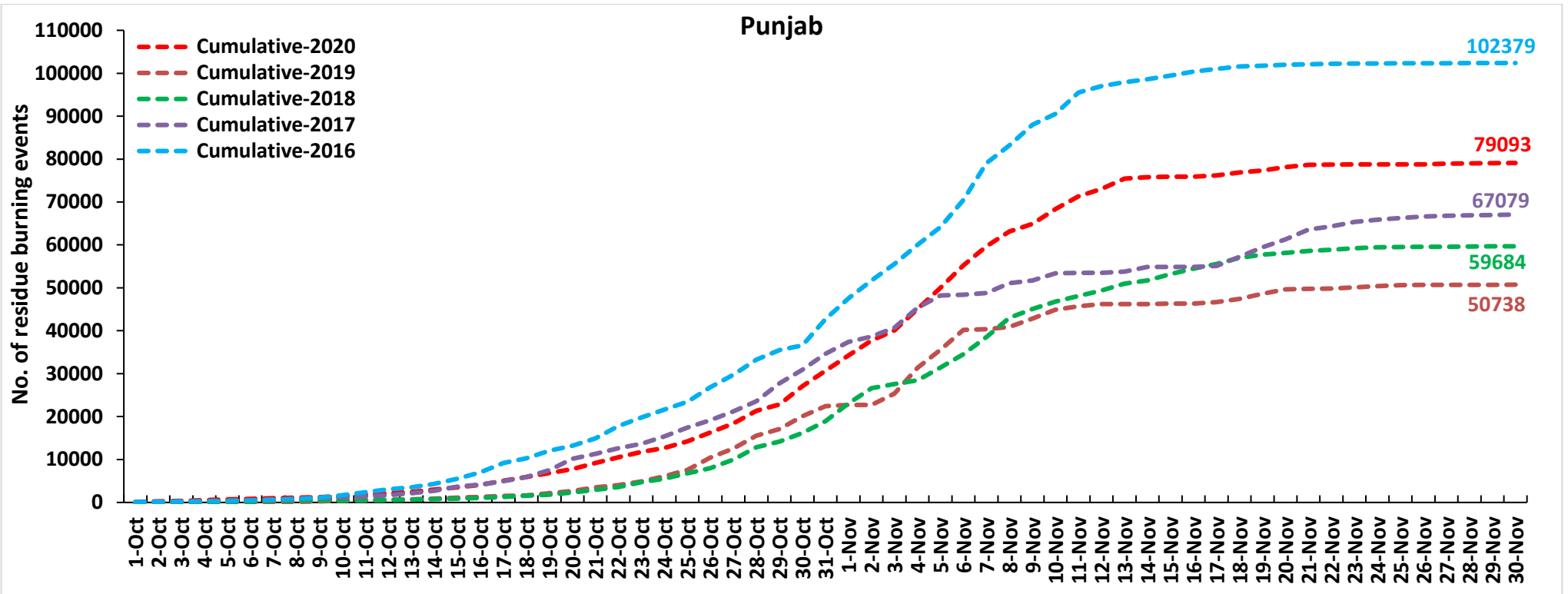


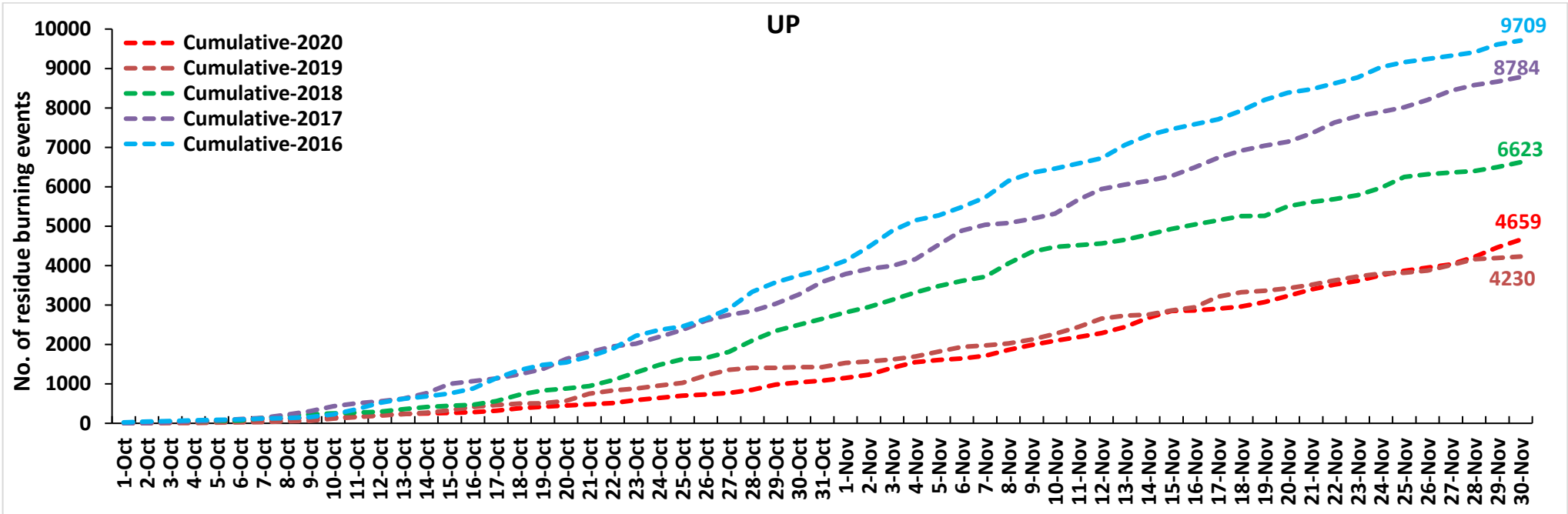
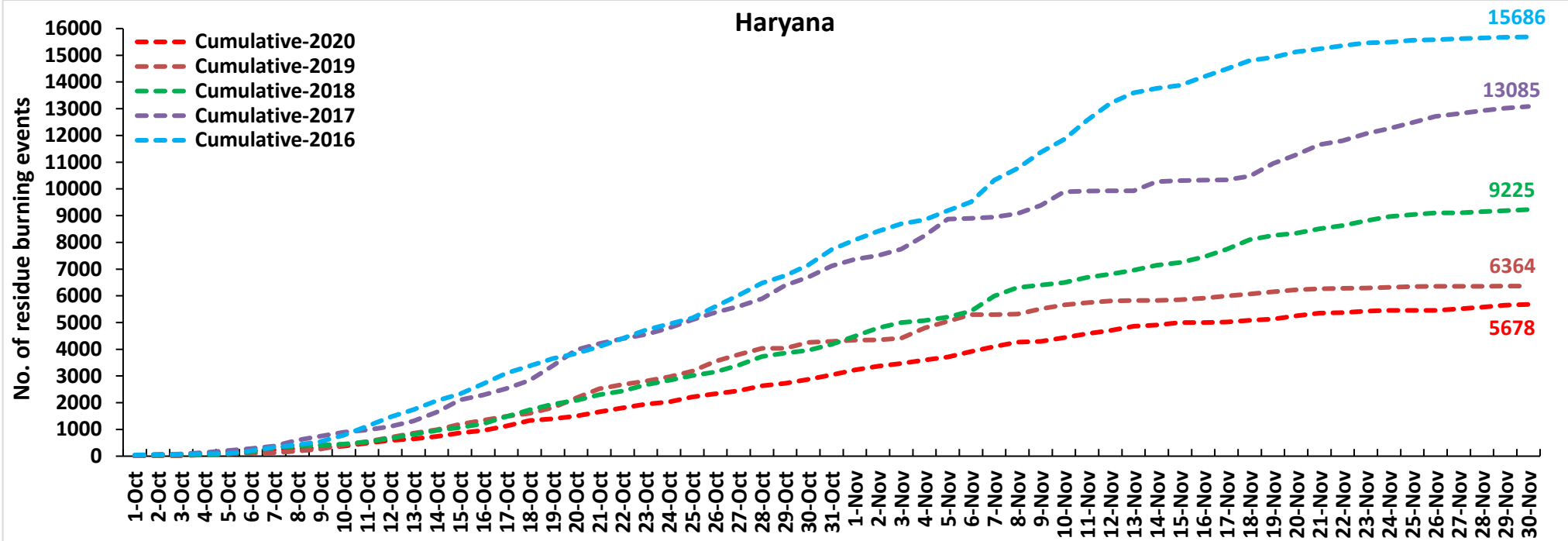


Comparison of residue burning events in current year (2020) with previous years (2019, 2018, 2017 & 2016) for the three study States

(01-Oct to 30-Nov)

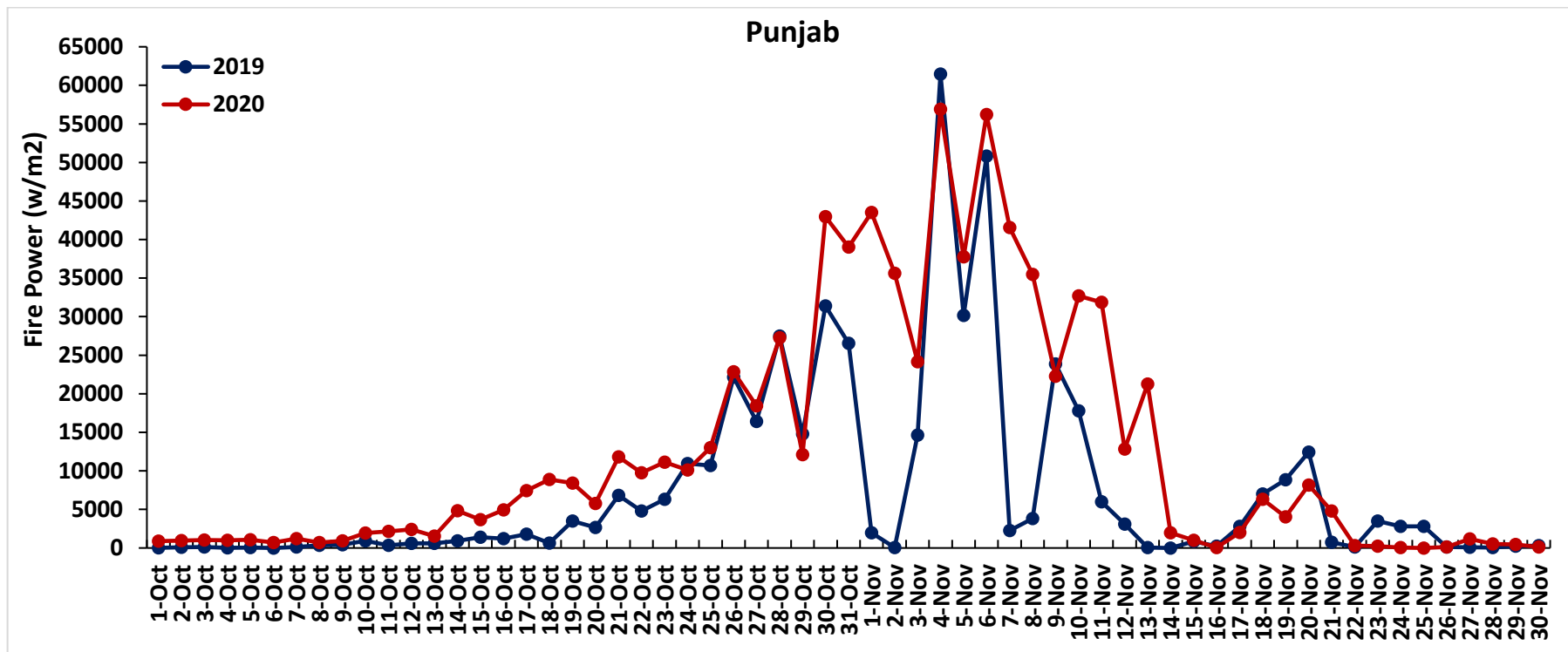
Punjab

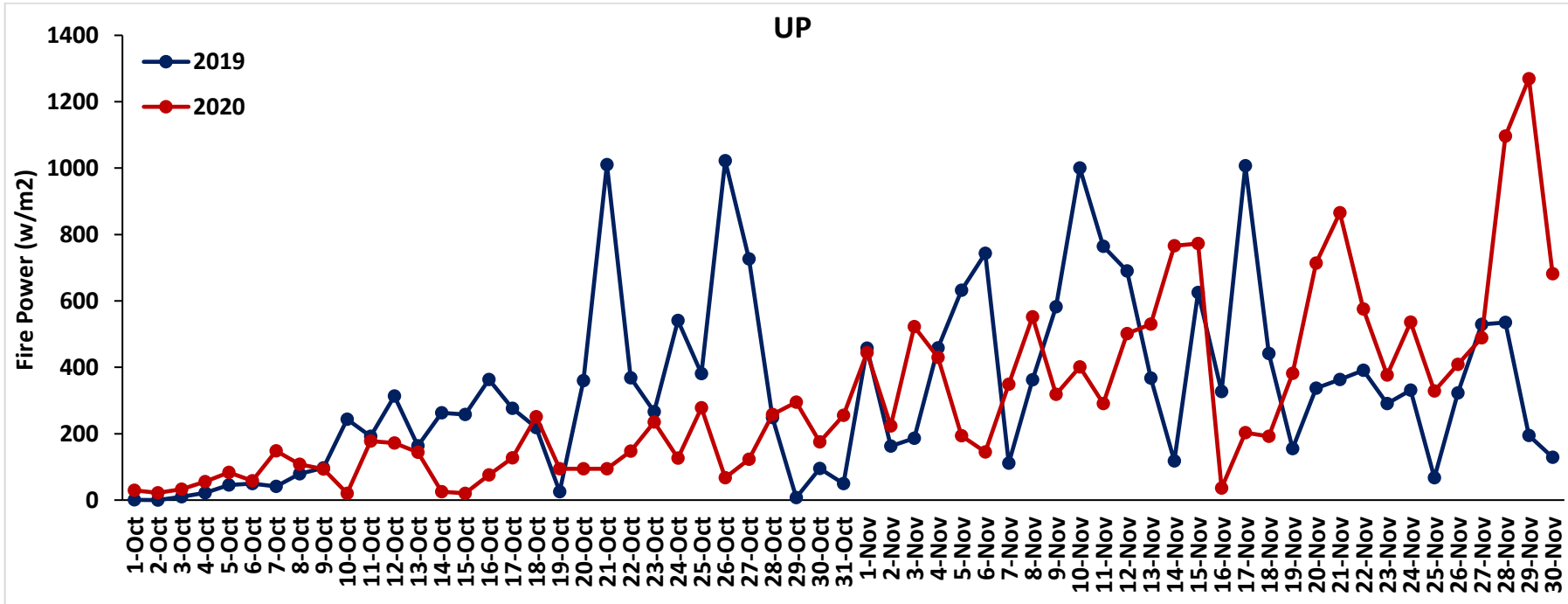
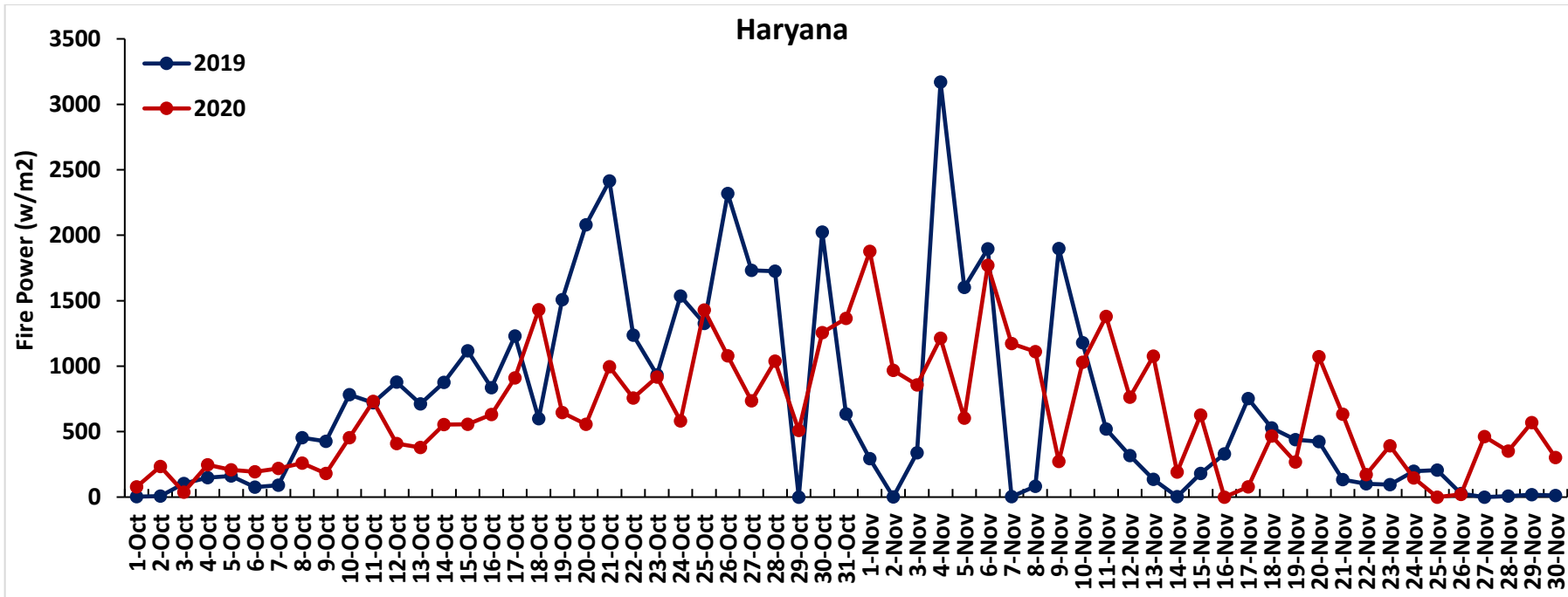




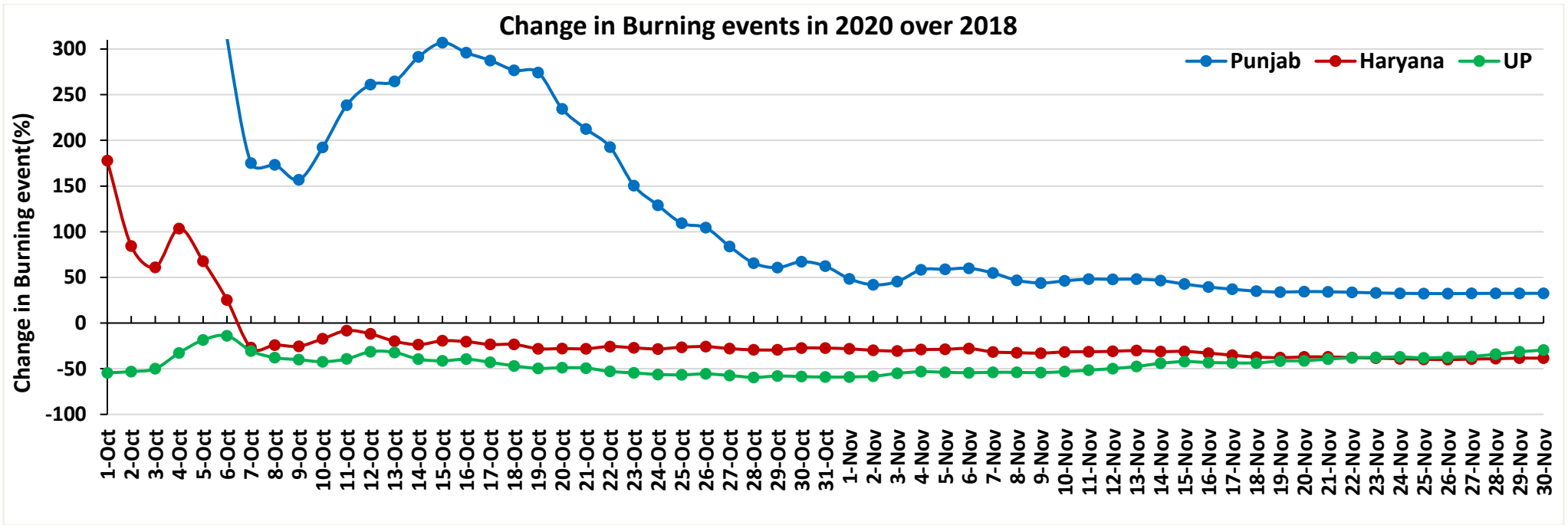
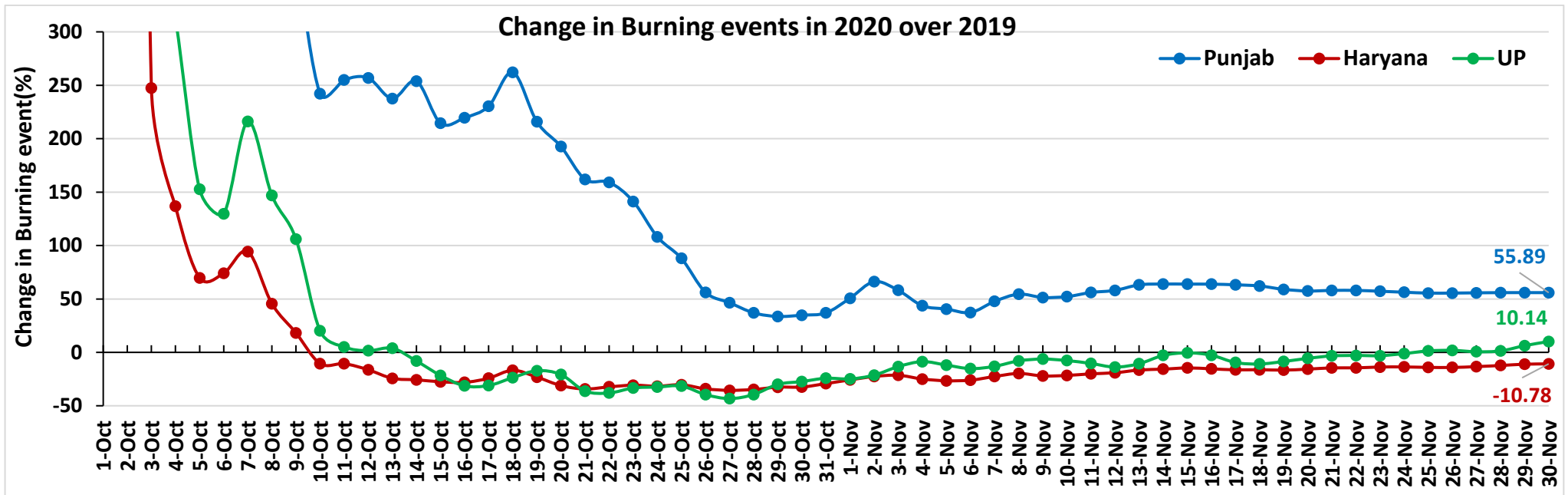
Comparison of Fire Intensity of residue burning events in current year (2020) with previous year (2019)
For the three study States

(01-Oct to 30-Nov)

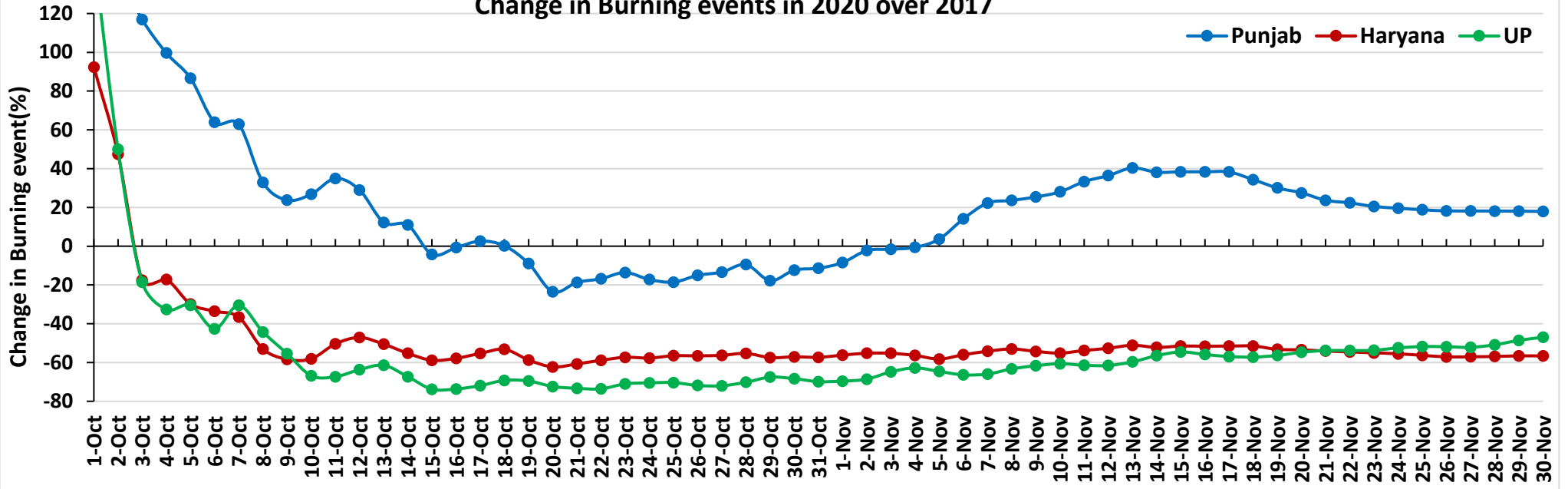




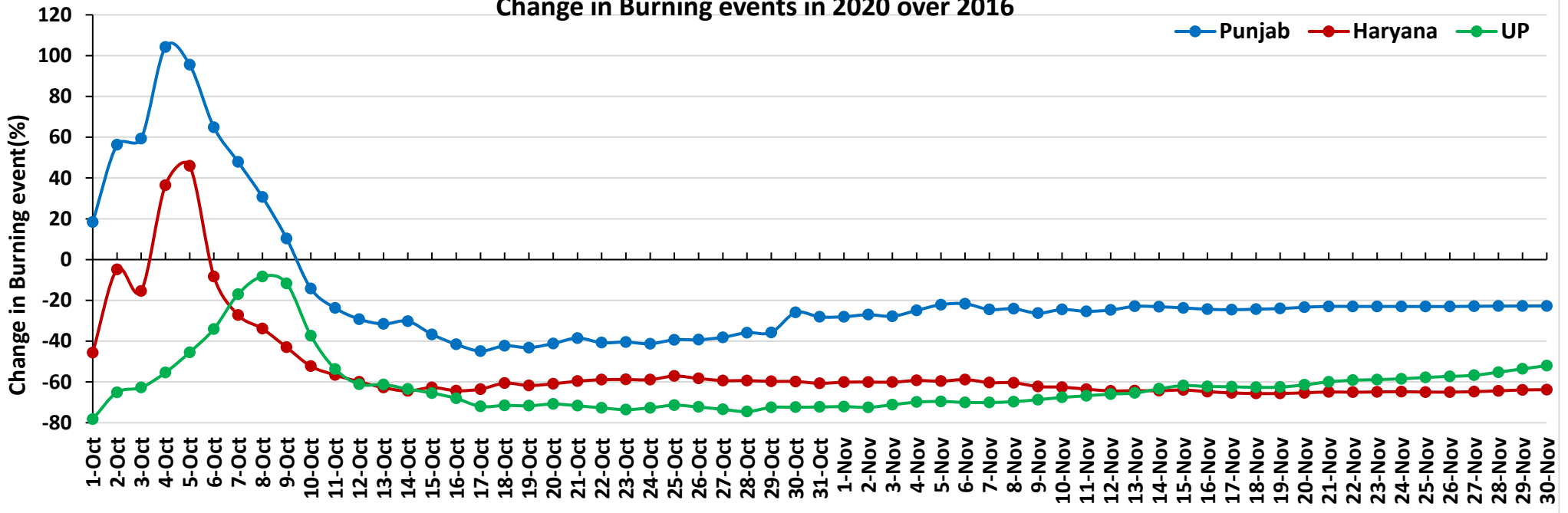
Percent Change in Burning events in 2020 over 2019, 2018, 2017 and 2016 (Daily Cumulative)



Change in Burning events in 2020 over 2017

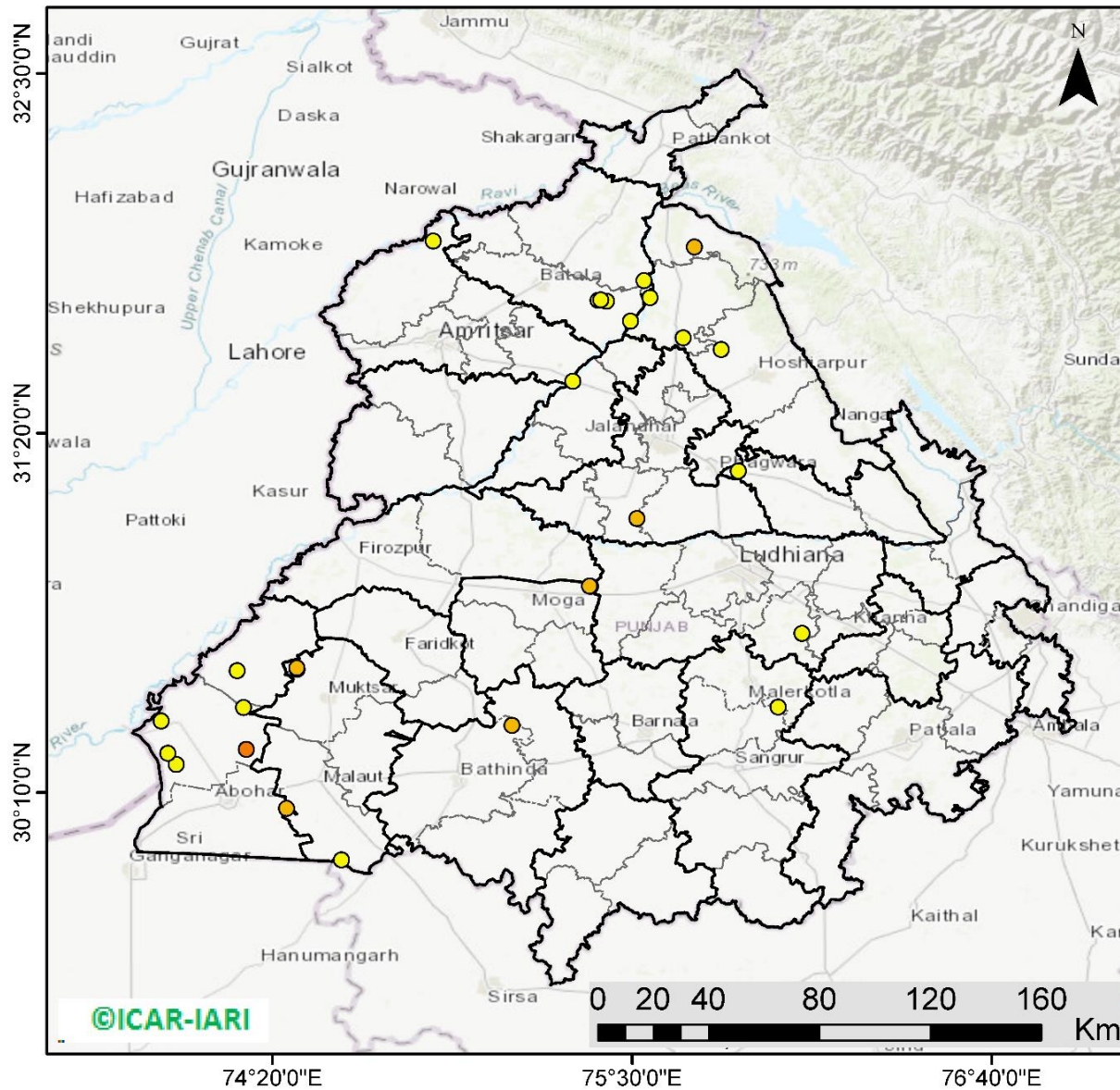


Change in Burning events in 2020 over 2016



(a) Punjab

RICE RESIDUE BURNING IN PUNJAB



28 burning events detected in Punjab on 30th November 2020

Fire Intensity (W/m²)

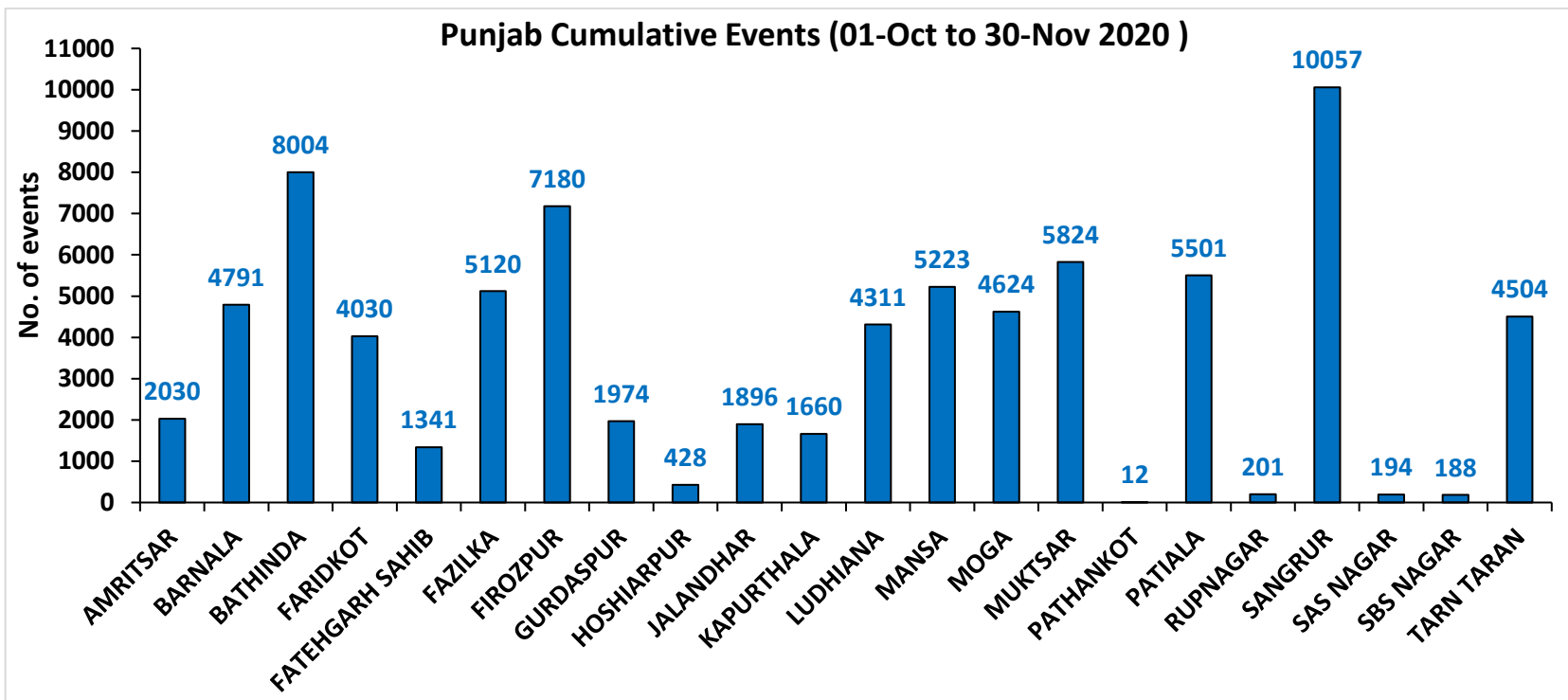
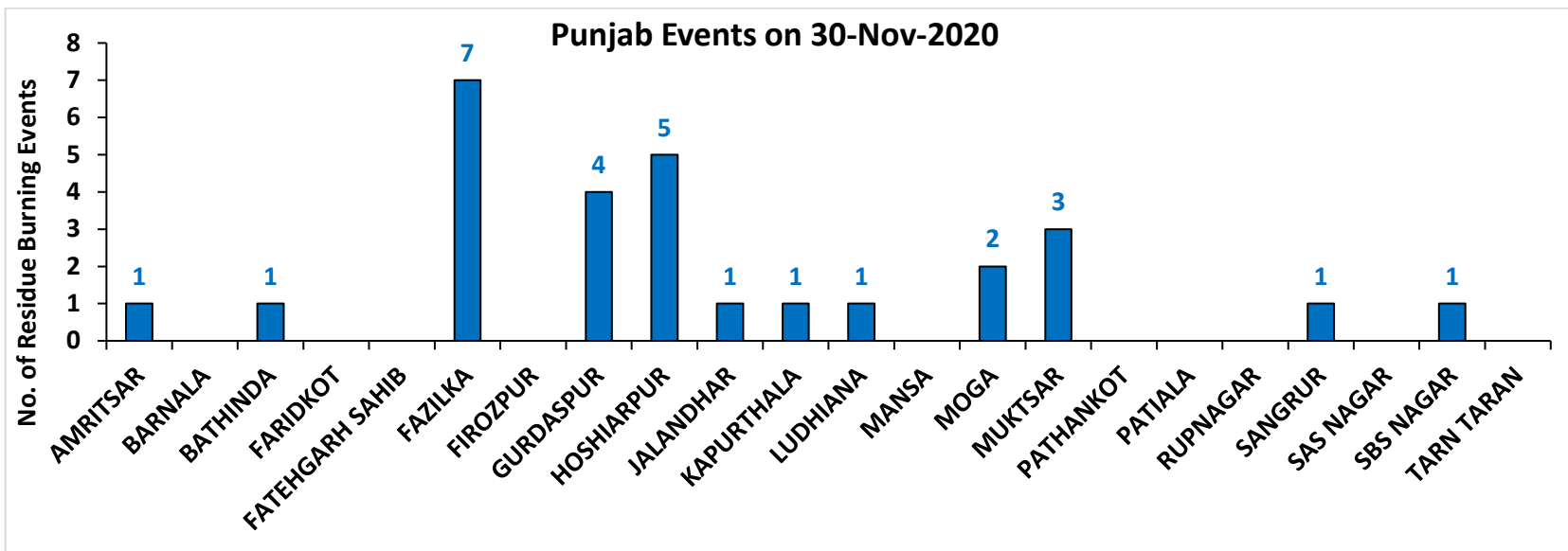
- 0 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- >20

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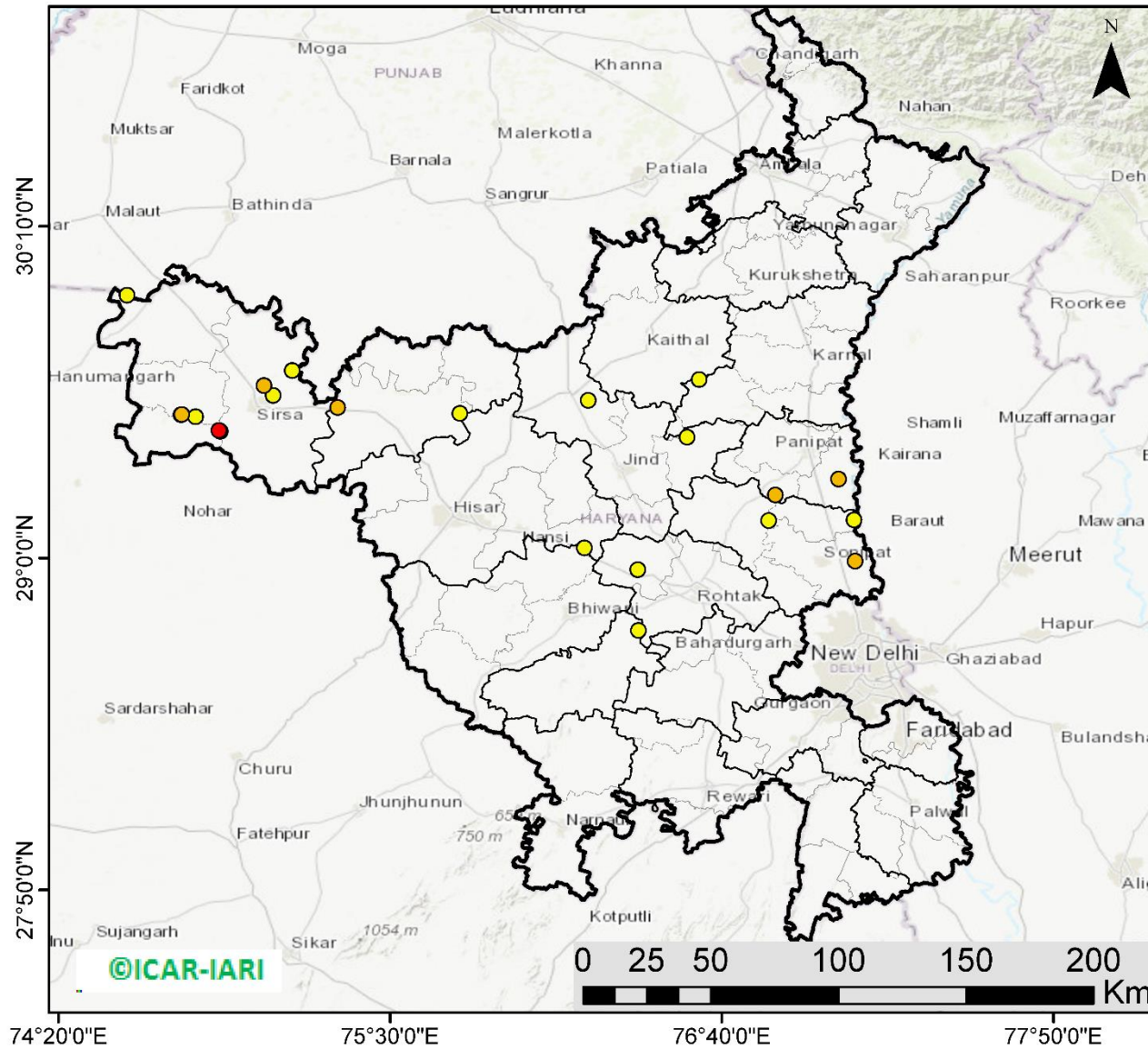
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise number of residue burning events in Punjab (01-Oct to 30-Nov 2020)



(b) Haryana

RICE RESIDUE BURNING IN HARYANA



24 burning events detected in Haryana on 30th November 2020

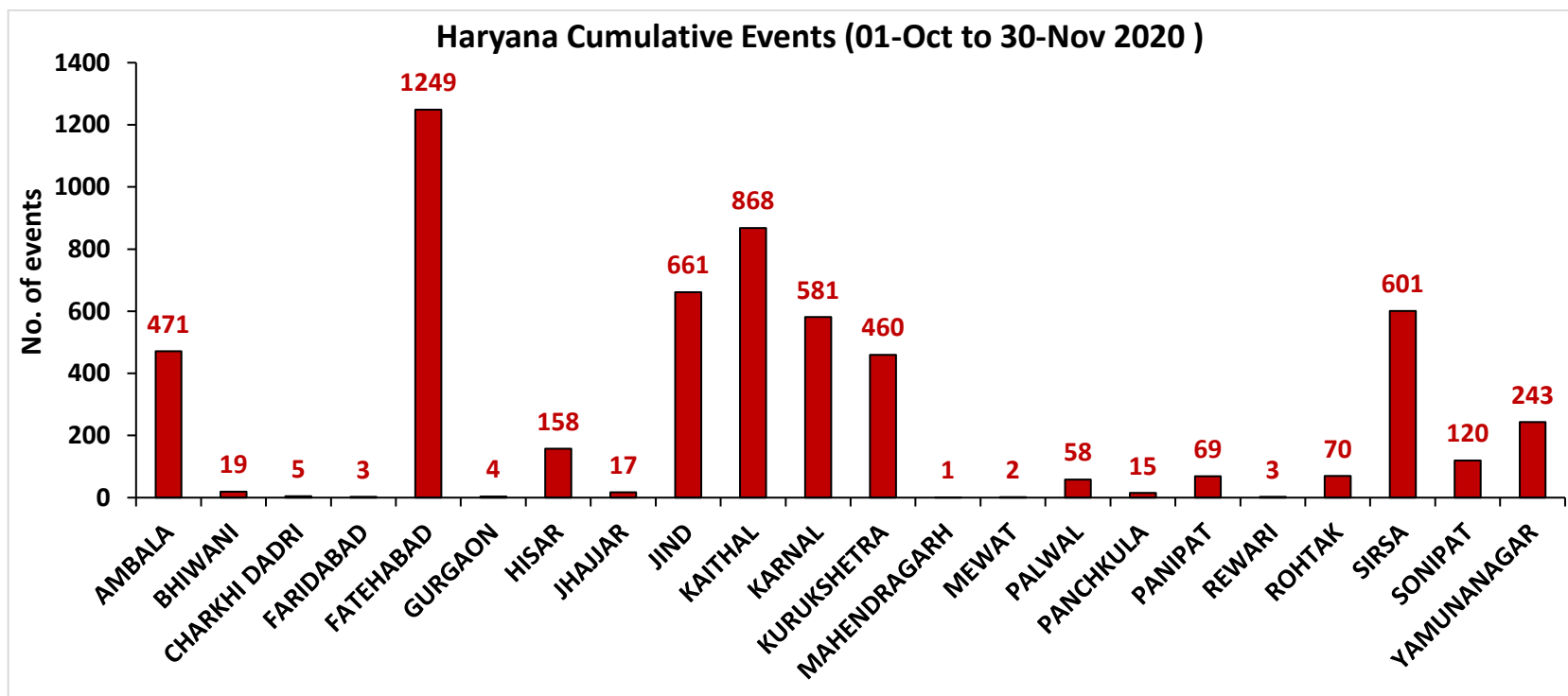
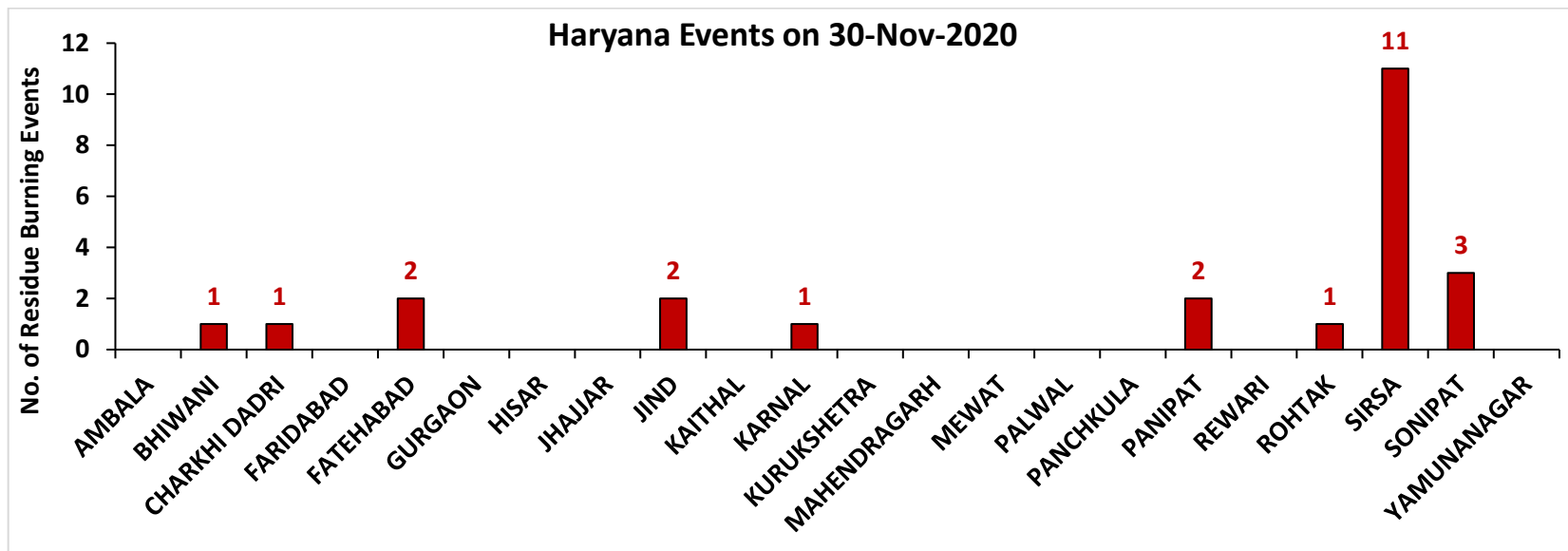
Fire Intensity (W/m²)

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



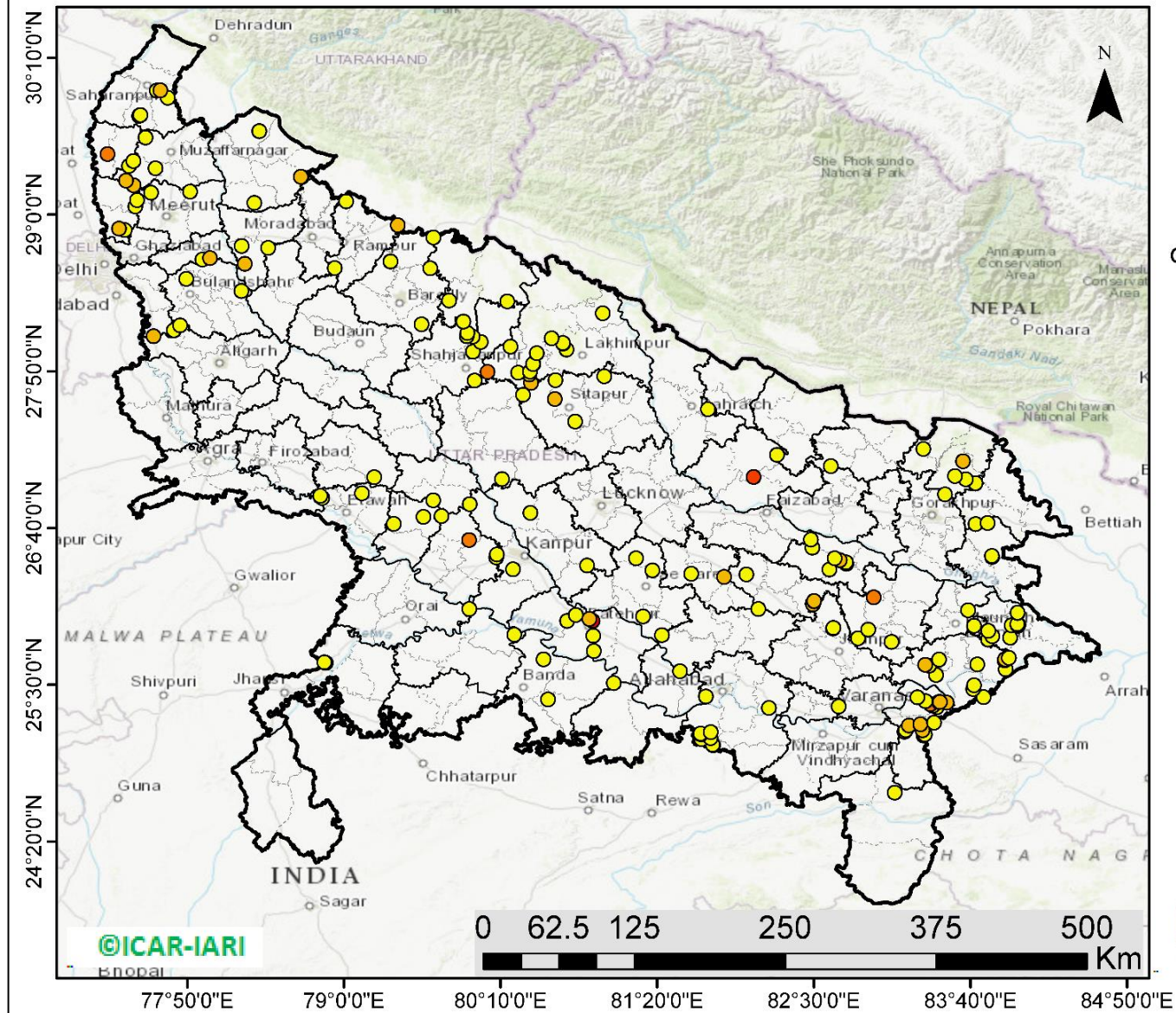
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise number of residue burning events in Haryana (01-Oct to 30-Nov 2020)



(c) Uttar Pradesh

RICE RESIDUE BURNING IN UTTAR PRADESH



200 burning events detected in Uttar Pradesh on 30th November 2020

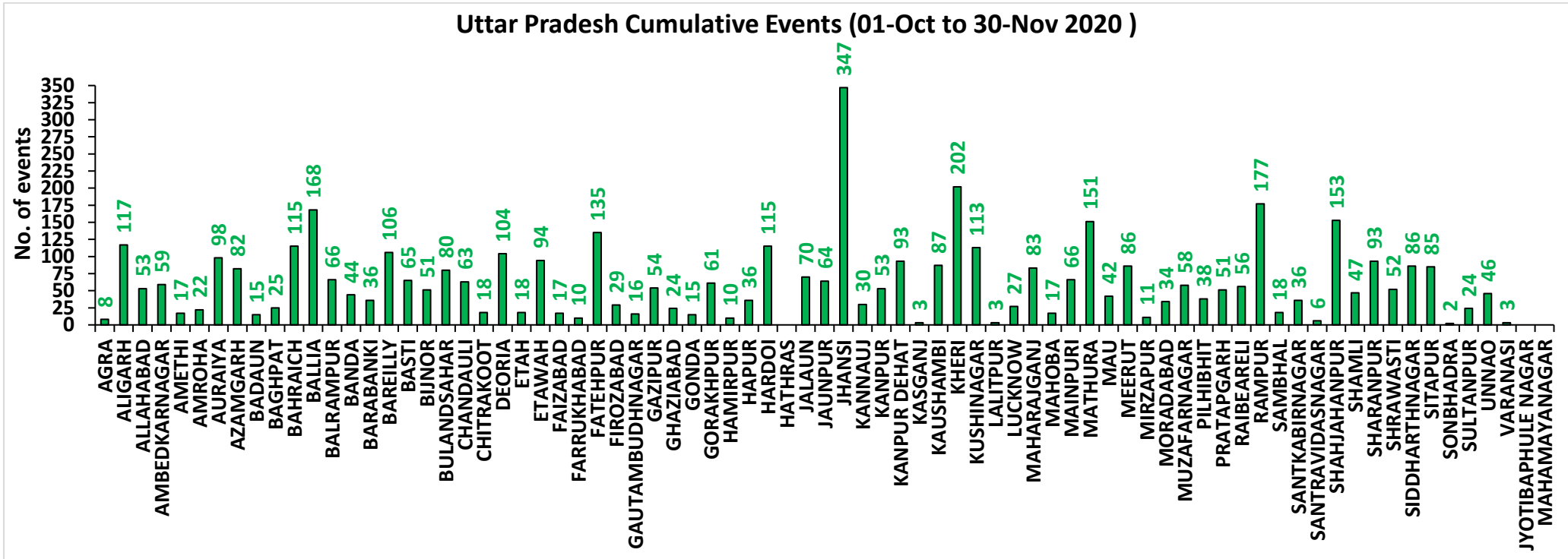
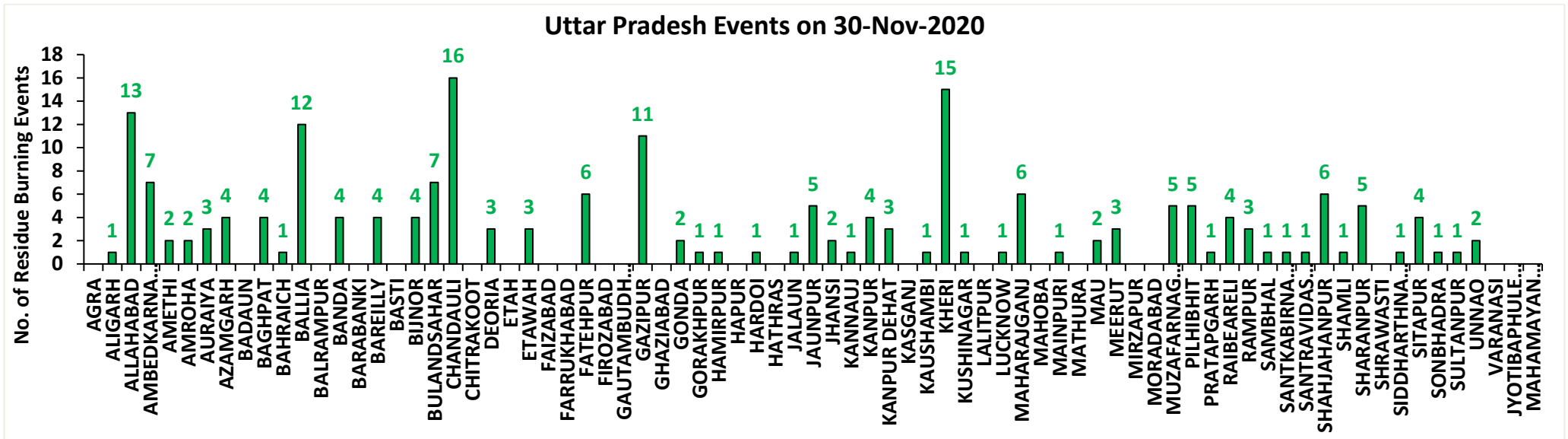
Fire Intensity (W/m²)

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



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

District-wise number of residue burning events in Uttar Pradesh (01-Oct to 30-Nov 2020)



State-wise and date-wise number of residue burning events detected in 2016, 2017, 2018, 2019 and 2020
(Period: 01-October to 30-November)

Date	Punjab					Haryana					UP					Total				
	2020	2019	2018	2017	2016	2020	2019	2018	2017	2016	2020	2019	2018	2017	2016	2020	2019	2018	2017	2016
01-Oct	129	3	16	54	109	25	1	9	13	46	5	1	11	2	23	159	5	36	69	178
02-Oct	121	20	9	50	51	34	2	23	27	16	10	0	21	8	20	165	22	53	85	87
03-Oct	110	37	4	62	66	07	16	9	40	16	07	3	12	17	16	124	56	25	119	98
04-Oct	177	3	32	103	37	50	30	16	60	7	11	4	5	22	15	238	37	53	185	59
05-Oct	163	16	56	106	95	30	37	30	68	15	15	11	10	20	14	208	64	96	194	124
06-Oct	141	0	87	138	152	42	22	63	75	105	14	8	13	39	6	197	30	163	252	263
07-Oct	166	27	162	105	171	53	16	180	97	126	36	4	69	33	24	255	47	411	235	321
08-Oct	100	59	39	215	166	40	69	40	218	94	23	18	54	76	14	163	146	133	509	274
09-Oct	126	93	75	163	270	30	70	47	148	121	15	17	32	88	22	171	180	154	399	413
10-Oct	238	172	23	164	597	65	157	37	151	242	07	53	21	126	74	310	382	81	441	913
11-Oct	333	78	30	177	652	112	126	78	87	336	22	38	24	74	128	467	242	132	338	1116
12-Oct	362	99	67	342	694	98	154	133	123	338	37	42	22	51	164	497	295	222	516	1196
13-Oct	247	108	62	470	467	64	159	147	207	284	39	33	61	69	102	350	300	270	746	853
14-Oct	616	141	112	582	812	87	133	153	333	328	08	39	57	137	60	711	313	322	1052	1200
15-Oct	487	262	90	943	1215	129	203	110	458	248	13	63	35	237	76	629	528	235	1638	1539
16-Oct	594	168	174	465	1478	100	148	138	186	385	20	77	20	71	125	714	393	332	722	1988
17-Oct	966	250	272	807	2173	167	152	268	244	399	38	53	94	69	261	1171	455	634	1120	2833
18-Oct	850	100	263	970	1065	197	103	255	306	270	64	39	163	108	204	1111	242	681	1384	1539
19-Oct	912	529	254	1591	1762	67	220	208	541	276	35	3	108	128	132	1014	752	570	2260	2170
20-Oct	933	490	496	2653	1175	104	360	141	597	188	31	62	49	255	62	1068	912	686	3505	1425
21-Oct	1415	852	618	1139	1726	153	339	217	233	257	30	185	66	168	152	1598	1376	901	1540	2135
22-Oct	1343	555	656	1356	2837	157	158	134	186	309	35	78	149	151	194	1535	791	939	1693	3340
23-Oct	1267	827	1113	994	2040	133	131	232	155	313	71	48	193	72	331	1471	1006	1538	1221	2684
24-Oct	921	1220	844	1714	1836	86	165	166	244	221	61	79	192	171	152	1068	1464	1202	2129	2209
25-Oct	1515	1463	1247	2104	1813	188	212	182	303	229	55	67	142	175	83	1758	1742	1571	2582	2125
26-Oct	2065	2861	1173	1715	3390	119	366	132	276	434	32	189	33	240	195	2216	3416	1338	2231	4019
27-Oct	2112	2135	2040	2069	2904	111	249	252	224	417	37	145	154	145	255	2260	2529	2446	2438	3576
28-Oct	2926	3007	2864	2318	3493	186	238	330	292	458	79	45	290	99	435	3191	3290	3484	2709	4386
29-Oct	1487	1504	1321	4184	2258	87	0	124	502	278	134	1	243	180	237	1708	1505	1688	4866	2773
30-Oct	4266	3017	2008	3152	1076	155	222	103	307	395	51	19	158	238	175	4472	3258	2269	3697	1646
31-Oct	3616	2325	2715	3743	6132	162	36	229	413	575	47	4	148	321	153	3825	2365	3092	4477	6860
01-Nov	3524	293	4140	2736	4843	187	50	306	250	362	70	105	161	199	223	3781	448	4607	3185	5428
02-Nov	3528	6	3550	1246	4183	139	2	306	145	332	80	33	142	131	345	3747	41	3998	1522	4860

03-Nov	2349	2646	972	2109	3806	104	68	202	240	375	174	56	181	75	409	2627	2770	1355	2424	4490
04-Nov	4965	6001	882	4603	4477	132	383	77	499	146	144	75	183	168	265	5241	6459	1142	5270	4888
05-Nov	4905	4199	2989	2876	4137	108	253	129	625	345	54	124	163	367	125	5067	4576	3281	3868	4607
06-Nov	5235	4642	3071	171	6303	207	243	222	26	322	40	118	130	357	215	5482	5003	3423	554	6840
07-Nov	4464	189	4033	420	8575	184	2	568	46	821	70	33	108	149	244	4718	224	4709	615	9640
08-Nov	3448	462	4450	2256	4129	164	16	313	128	432	151	54	338	43	419	3763	532	5101	2427	4980
09-Nov	1756	2003	2083	675	4857	30	199	96	311	608	124	96	294	107	205	1910	2298	2473	1093	5670
10-Nov	3463	2046	1675	1642	2468	144	151	85	509	484	106	147	125	131	109	3713	2344	1885	2282	3061
11-Nov	2950	783	1364	103	5040	149	78	196	29	716	94	174	45	358	129	3193	1035	1605	490	5885
12-Nov	1729	520	1256	33	1477	113	68	122	3	634	99	210	45	269	129	1941	798	1423	305	2240
13-Nov	2422	10	1563	237	885	160	16	146	7	389	154	79	94	109	338	2736	105	1803	353	1612
14-Nov	339	0	765	1101	692	50	1	189	340	171	234	22	128	95	247	623	23	1082	1536	1110
15-Nov	123	92	1480	5	871	91	29	107	40	107	176	111	146	123	154	390	232	1733	168	1132
16-Nov	9	23	1250	8	911	0	59	204	17	318	13	79	112	218	123	22	161	1566	243	1352
17-Nov	266	332	1132	217	638	15	85	289	12	299	38	265	103	249	130	319	682	1524	478	1067
18-Nov	693	740	1400	2147	568	67	70	356	139	312	58	113	111	180	217	818	923	1867	2466	1097
19-Nov	438	1221	752	2200	168	44	82	159	471	125	112	39	3	122	273	594	1342	914	2793	566
20-Nov	838	1007	385	1857	240	120	74	88	325	204	160	64	243	101	183	1118	1145	716	2283	627
21-Nov	507	151	480	2310	112	104	37	161	378	115	160	84	107	205	86	771	272	748	2893	313
22-Nov	41	21	287	719	99	18	19	122	154	118	127	116	72	281	148	186	156	481	1154	365
23-Nov	46	286	317	1033	54	62	14	180	259	97	89	100	106	163	151	197	400	603	1455	302
24-Nov	8	293	229	507	21	24	23	152	192	36	144	72	186	105	265	176	388	567	804	322
25-Nov	0	266	72	443	33	0	31	81	219	68	114	18	272	124	123	114	315	425	786	224
26-Nov	24	8	95	334	27	4	9	57	240	25	83	62	73	186	85	111	79	225	760	137
27-Nov	139	13	1	151	22	50	0	2	99	34	82	132	42	227	80	271	145	45	477	136
28-Nov	87	4	35	95	13	67	1	49	114	23	183	150	35	145	87	337	155	119	354	123
29-Nov	65	27	27	86	10	79	3	39	87	28	244	37	104	91	197	388	67	170	264	235
30-Nov	28	33	27	111	8	24	4	36	67	14	200	34	122	116	101	252	71	185	294	123
Total	79093	50738	59684	67079	102379	5678	6364	9225	13085	15686	4659	4230	6623	8784	9709	89430	61332	75532	88948	127774

District-wise and date-wise cumulative number of residue burning events detected in 2016, 2017, 2018, 2019 and 2020
(Period: 01-Oct to 30-Nov)

(a) Punjab

Districts	01-Oct to 30-Nov				
	2016	2017	2018	2019	2020
AMRITSAR	2171	1368	1399	1410	2030
BARNALA	5701	3430	3279	2964	4791
BATHINDA	8846	5783	6348	5309	8004
FARIDKOT	4630	3472	3058	2317	4030
FATEHGARH SAHIB	2461	1643	866	827	1341
FAZILKA	0*	0*	0*	2811	5120
FIROZPUR	13645	9957	9993	4636	7180
GURDASPUR	2221	1599	1172	1478	1974
HOSHIARPUR	905	497	199	311	428
JALANDHAR	4663	2134	1395	1517	1896
KAPURTHALA	3136	1627	751	1355	1660
LUDHIANA	9546	4769	3052	2273	4311
MANSA	5652	4506	4317	3571	5223
MOGA	6393	2786	2730	2152	4624
MUKTSAR	7037	5458	5786	3723	5824
PATHANKOT	0**	0**	0**	6	12
PATIALA	6546	5034	4215	3853	5501
RUPNAGAR	719	329	91	119	201
SANGRUR	11862	8430	7782	6363	10057
SAS NAGAR	117	107	104	150	194
SBS NAGAR	1615	830	399	265	188
TARN TARAN	4513	3320	2748	3328	4504
Total	102379	67079	59684	50738	79093
* Counted in Firozpur	** Counted in Gurdaspur				

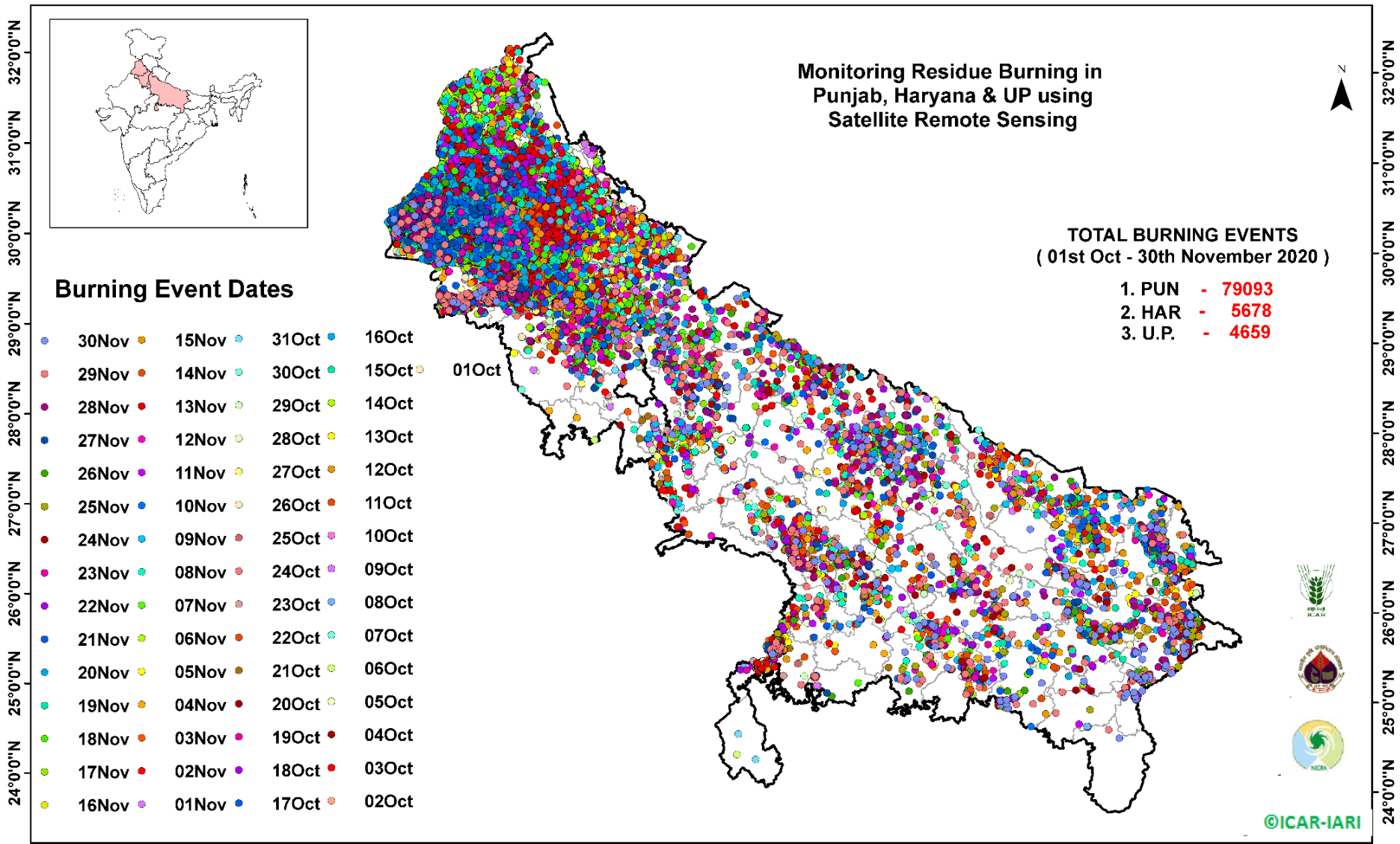
(b) Haryana

Districts	01-Oct to 30-Nov				
	2016	2017	2018	2019	2020
AMBALA	538	504	333	341	471
BHIWANI	93	49	22	11	19
CHARKHI DADRI	0	0	0	0	5
FARIDABAD	288	343	187	10	3
FATEHABAD	4833	3749	2554	1203	1249
GURGAON	0	0	0	4	4
HISAR	416	195	214	116	158
JHAJJAR	43	19	35	4	17
JIND	862	946	889	579	661
KAITHAL	1748	1513	1292	1258	868
KARNAL	1640	1514	857	1084	581
KURUKSHETRA	1080	1152	682	740	460
MAHENDRAGARH	0	0	0	2	1
MEWAT	0	0	0	3	2
PALWAL	0	0	0	188	58
PANCHKULA	0	0	3	21	15
PANIPAT	102	110	61	41	69
REWARI	0	0	0	3	3
ROHTAK	103	100	53	23	70
SIRSA	3580	2479	1790	450	601
SONIPAT	102	87	45	33	120
YAMUNANAGAR	258	325	208	250	243
Total	15686	13085	9225	6364	5678

(C)
Uttar Pradesh

Districts	01-Oct to 30-Nov																
	2016	2017	2018	2019	2020	GAUTAMBUDHNAGAR	33	48	13	20	16	MUZAFARNAGAR	192	202	76	38	58
AGRA	0	0	0	4	8	GAZIPUR	16	27	33	18	54	PILHIBHIT	970	752	439	368	38
ALIGARH	60	83	95	90	117	GHAZIABAD	102	73	49	17	24	PRATAPGARH	47	65	45	27	51
ALLAHABAD	8	20	22	24	53	GONDA	52	39	23	12	15	RAIBEARELI	120	153	80	38	56
AMBEDKARNAGAR	80	71	36	15	59	GORAKHPUR	67	115	142	20	61	RAMPUR	640	667	230	319	177
AMETHI	0	0	0	15	17	HAMIRPUR	0	0	1	41	10	SAMBHAL	0	0	0	10	18
AMROHA	0	0	0	10	22	HAPUR	0	0	0	18	36	SANTKABIRNAGAR	56	65	56	14	36
AURAIYA	291	263	79	59	98	HARDOI	260	211	117	92	115	SANTRAVIDASNAGAR	0	0	0	1	6
AZAMGARH	38	58	38	8	82	HATHRAS	0	0	0	1	0	SHAHJAHANPUR	1163	718	398	374	153
BADAUN	15	14	15	22	15	JALAUN	0	0	0	135	70	SHAMLI	0	0	0	26	47
BAGHPAT	0	0	0	16	25	JAUNPUR	27	46	28	17	64	SHARANPUR	144	166	85	69	93
BAHRAICH	85	42	60	50	115	JHANSI	0	0	2	265	347	SHRAWASTI	39	32	37	23	52
BALLIA	19	48	35	29	168	KANNAUJ	35	20	8	10	30	SIDDHARTHANAGAR	266	188	477	56	86
BALRAMPUR	39	28	46	9	66	KANPUR	20	14	13	11	53	SITAPUR	152	88	48	55	85
BANDA	2	23	13	27	44	KANPUR DEHAT	75	76	30	51	93	SONBHADRA	17	20	14	0	2
BARABANKI	222	168	175	60	36	KASGANJ	0	0	0	6	3	SULTANPUR	82	93	71	23	24
BAREILLY	271	240	126	117	106	KAUSHAMBI	37	60	53	24	87	UNNAO	68	60	41	39	46
BASTI	147	187	127	30	65	KHERI	525	371	254	202	202	VARANASI	2	0	0	0	3
BIJNOR	88	79	25	17	51	KUSHINAGAR	70	157	179	48	113	JYOTIBAPHULE NAGAR	13	22	14	0	0
BULANDSAHAR	39	41	30	31	80	LALITPUR	0	0	0	8	3	MAHAMAYANAGAR	4	3	8	0	0
CHANDAULI	22	28	6	1	63	LUCKNOW	64	30	26	25	27	Total	9709	8784	6623	4230	4659
CHITRAKOOT	0	0	0	7	18	MAHARAJGANJ	744	1029	1092	303	83						
DEORIA	62	86	82	11	104	MAHOBA	0	0	0	9	17						
ETAH	24	33	28	5	18	MAINPURI	97	97	62	48	66						
ETAWAH	189	148	77	57	94	MATHURA	1463	1083	1049	464	151						
FAIZABAD	20	16	13	7	17	MAU	15	24	25	12	42						
FARRUKHABAD	0	0	0	9	10	MEERUT	123	128	40	38	86						
FATEHPUR	90	76	95	66	135	MIRZAPUR	6	24	10	4	11						
FIROZABAD	23	18	11	17	29	MORADABAD	69	48	21	18	34						

Map of Cumulative Burning Events (01-Oct to 30-Nov 2020)



[\(http://geoportal.icar.gov.in:8080/geoexplorer/composer/\)](http://geoportal.icar.gov.in:8080/geoexplorer/composer/)

Details of residue burning events in Punjab on 30-Nov-2020

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	Time (IST)	Day / Night	Fire Power (W/m ²)
1	AMRITSAR	AJNALA	S-NPP	31.95603	74.85520	13:06:00	D	4.10
2	BATHINDA	BATHINDA	S-NPP	30.38442	75.11044	13:06:00	D	9.10
3	FAZILKA	ABOHAR	S-NPP	30.11495	74.37885	13:06:00	D	5.60
4	FAZILKA	FAZILKA	S-NPP	30.25712	74.02143	13:06:00	D	1.50
5	FAZILKA	FAZILKA	S-NPP	30.29397	73.99416	13:06:00	D	3.60
6	FAZILKA	FAZILKA	S-NPP	30.30664	74.24884	13:06:00	D	10.20
7	FAZILKA	FAZILKA	S-NPP	30.39879	73.97237	13:06:00	D	2.30
8	FAZILKA	FAZILKA	S-NPP	30.44225	74.23952	13:06:00	D	3.00
9	FAZILKA	JALALABAD	S-NPP	30.56188	74.21875	13:06:00	D	2.90
10	GURDASPUR	BATALA	S-NPP	31.76060	75.41725	13:06:00	D	2.40
11	GURDASPUR	BATALA	S-NPP	31.76350	75.38992	13:06:00	D	2.50
12	GURDASPUR	BATALA	S-NPP	31.76521	75.39829	13:06:00	D	2.70
13	GURDASPUR	GURDASPUR	S-NPP	31.82743	75.53865	13:06:00	D	3.30
14	HOSHIARPUR	DASUYA	S-NPP	31.64176	75.66570	13:06:00	D	1.80
15	HOSHIARPUR	DASUYA	S-NPP	31.69648	75.49491	13:06:00	D	2.50
16	HOSHIARPUR	DASUYA	S-NPP	31.77248	75.55805	13:06:00	D	1.50
17	HOSHIARPUR	HOSHIARPUR	TERRA	31.60400	75.78900	11:15:00	D	4.50
18	HOSHIARPUR	MUKERIAN	S-NPP	31.93668	75.70229	13:06:00	D	6.40
19	JALANDHAR	NAKODAR	S-NPP	31.05556	75.51587	13:06:00	D	7.40
20	KAPURTHALA	KAPURTHALA	S-NPP	31.50126	75.30816	13:06:00	D	3.90
21	LUDHIANA	PAYAL	S-NPP	30.68291	76.05138	13:06:00	D	4.10
22	MOGA	MOGA	S-NPP	30.83615	75.36517	13:06:00	D	15.30
23	MOGA	MOGA	S-NPP	30.83665	75.36228	13:06:00	D	7.70
24	MUKTSAR	MALAUT	S-NPP	29.94789	74.55755	13:06:00	D	3.50
25	MUKTSAR	MUKTSAR	S-NPP	30.56653	74.41352	13:06:00	D	9.10
26	MUKTSAR	MUKTSAR	S-NPP	30.57088	74.41229	13:06:00	D	5.20
27	SANGRUR	DHURI	S-NPP	30.44382	75.97384	13:06:00	D	2.10
28	SBS NAGAR	SBS NAGAR	S-NPP	31.20992	75.84478	13:06:00	D	2.90

Details of residue burning events in Haryana on 30-Nov-2020

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	Time (IST)	Day / Night	Fire Power (W/m ²)
1	BHIWANI	BAWANI_KHERA	S-NPP	29.03538	76.18394	01:48:00	N	0.90
2	CHARKHI DADRI	DADRI	S-NPP	28.74475	76.37361	13:06:00	D	1.30
3	FATEHABAD	FATEHABAD	S-NPP	29.50846	75.74570	13:06:00	D	2.40
4	FATEHABAD	FATEHABAD	S-NPP	29.52832	75.31534	13:06:00	D	6.60
5	JIND	NARWANA	S-NPP	29.55426	76.19713	13:06:00	D	2.70
6	JIND	SAFIDON	S-NPP	29.42489	76.54470	13:06:00	D	2.00
7	KARNAL	ASSANDH	S-NPP	29.62688	76.58753	13:06:00	D	3.50
8	PANIPAT	ISRANA	S-NPP	29.22154	76.85503	13:06:00	D	5.40
9	PANIPAT	SAMALKHA	S-NPP	29.27679	77.07757	13:06:00	D	8.60
10	ROHTAK	MAHAM	S-NPP	28.95870	76.37136	13:06:00	D	2.00
11	SIRSA	DABWALI	S-NPP	29.92380	74.57470	13:06:00	D	2.50
12	SIRSA	RANIA	S-NPP	29.49618	74.81602	13:06:00	D	3.90
13	SIRSA	RANIA	S-NPP	29.50307	74.76444	13:06:00	D	4.50
14	SIRSA	RANIA	S-NPP	29.50440	74.76719	13:06:00	D	7.10
15	SIRSA	SIRSA	AQUA	29.44500	74.90300	14:30:00	D	37.50
16	SIRSA	SIRSA	AQUA	29.44800	74.89800	14:30:00	D	35.50
17	SIRSA	SIRSA	S-NPP	29.57101	75.08889	13:06:00	D	3.50
18	SIRSA	SIRSA	S-NPP	29.60631	75.05618	13:06:00	D	5.10
19	SIRSA	SIRSA	AQUA	29.63800	75.12800	14:30:00	D	73.40
20	SIRSA	SIRSA	AQUA	29.64100	75.12300	14:30:00	D	77.40
21	SIRSA	SIRSA	S-NPP	29.65859	75.15550	13:06:00	D	2.30
22	SONIPAT	GANAUR	S-NPP	29.13398	77.13183	13:06:00	D	2.90
23	SONIPAT	GOHANA	TERRA	29.13100	76.83200	11:15:00	D	4.60
24	SONIPAT	SONIPAT	TERRA	28.98900	77.13600	11:15:00	D	7.30

Details of residue burning events in Uttar Pradesh on 30-Nov-2020

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	Time (IST)	Day / Night	Fire Power (W/m ²)
1	ALIGARH	KHAIR	S-NPP	28.09457	77.58264	13:06:00	D	8.70
2	ALLAHABAD	ALLAHABAD	S-NPP	25.41171	81.69653	13:00:00	D	2.20
3	ALLAHABAD	BARA	S-NPP	25.04933	81.75027	01:48:00	N	1.40
4	ALLAHABAD	BARA	S-NPP	25.05336	81.74699	01:48:00	N	1.40
5	ALLAHABAD	BARA	S-NPP	25.09418	81.66371	13:00:00	D	1.60
6	ALLAHABAD	BARA	S-NPP	25.10197	81.73087	01:48:00	N	2.20
7	ALLAHABAD	BARA	S-NPP	25.13139	81.65927	01:48:00	N	1.00
8	ALLAHABAD	BARA	S-NPP	25.13205	81.65533	01:48:00	N	1.00
9	ALLAHABAD	BARA	S-NPP	25.13474	81.65994	01:48:00	N	1.00
10	ALLAHABAD	BARA	S-NPP	25.13540	81.65601	01:48:00	N	1.00
11	ALLAHABAD	BARA	S-NPP	25.14699	81.73191	01:48:00	N	0.70
12	ALLAHABAD	HADIYA	S-NPP	25.32685	82.16499	13:00:00	D	1.30
13	ALLAHABAD	KARCHHANA	S-NPP	25.16582	81.83308	01:48:00	N	0.30
14	ALLAHABAD	KARCHHANA	S-NPP	25.17929	81.83585	01:48:00	N	0.30
15	AMBEDKARNAGAR	AKBARPUR	S-NPP	26.35741	82.61558	13:00:00	D	2.90
16	AMBEDKARNAGAR	AKBARPUR	NOAA-19	26.42717	82.69412	17:28:00	N	6.00
17	AMBEDKARNAGAR	AKBARPUR	S-NPP	26.44148	82.65501	13:00:00	D	2.60
18	AMBEDKARNAGAR	AKBARPUR	S-NPP	26.52060	82.48919	13:00:00	D	1.40
19	AMBEDKARNAGAR	JALALPUR	S-NPP	26.40047	82.74184	13:00:00	D	4.30
20	AMBEDKARNAGAR	JALALPUR	S-NPP	26.41038	82.73996	13:00:00	D	2.30
21	AMBEDKARNAGAR	TANDA	S-NPP	26.57979	82.47791	13:00:00	D	2.20
22	AMETHI	GAURIGANJ	S-NPP	26.30181	81.83202	13:00:00	D	6.40
23	AMETHI	GAURIGANJ	S-NPP	26.32541	81.58660	01:48:00	N	0.40
24	AMROHA	HASANPUR	TERRA	28.63300	78.26200	11:15:00	D	5.30
25	AMROHA	HASANPUR	S-NPP	28.76521	78.23830	13:06:00	D	2.70
26	AURAIYA	AURAIYA	S-NPP	26.46783	79.52768	01:48:00	N	0.30
27	AURAIYA	BIDHUNA	S-NPP	26.69755	79.37157	01:48:00	N	0.80
28	AURAIYA	BIDHUNA	S-NPP	26.74849	79.59336	01:48:00	N	0.40
29	AZAMGARH	BURHANPUR	S-NPP	26.15076	82.94607	13:00:00	D	10.80
30	AZAMGARH	MEHNAGAR	S-NPP	25.81913	83.07838	13:00:00	D	2.30

31	AZAMGARH	PHULPUR	S-NPP	25.84560	82.82990	13:00:00	D	3.10
32	AZAMGARH	PHULPUR	S-NPP	25.91082	82.90462	13:00:00	D	2.90
33	BAGHPAT	BAGHPAT	S-NPP	28.88346	77.36746	13:06:00	D	4.80
34	BAGHPAT	BAGHPAT	S-NPP	28.89533	77.32463	13:06:00	D	5.50
35	BAGHPAT	BARAUT	TERRA	29.05900	77.44700	11:15:00	D	4.20
36	BAGHPAT	BARAUT	TERRA	29.21700	77.43400	11:15:00	D	5.80
37	BAHRAICH	BAHRAICH	S-NPP	27.55048	81.71243	13:00:00	D	3.10
38	BALLIA	BALLIA	S-NPP	25.69940	83.95364	13:00:00	D	3.00
39	BALLIA	RASRA	S-NPP	25.83566	83.79870	13:00:00	D	1.40
40	BALLIA	RASRA	S-NPP	25.84946	83.96234	13:00:00	D	2.40
41	BALLIA	RASRA	S-NPP	25.86065	83.82977	13:00:00	D	2.20
42	BALLIA	RASRA	S-NPP	25.89982	83.79901	13:00:00	D	1.80
43	BALLIA	SIKANDARPUR	S-NPP	25.93859	84.01793	13:00:00	D	2.40
44	BALLIA	SIKANDARPUR	S-NPP	25.94237	83.97357	13:00:00	D	1.70
45	BALLIA	SIKANDARPUR	S-NPP	25.94524	84.01675	13:00:00	D	2.10
46	BALLIA	SIKANDARPUR	S-NPP	25.94636	84.02451	13:00:00	D	2.50
47	BALLIA	SIKANDARPUR	S-NPP	25.95189	84.01557	13:00:00	D	3.20
48	BALLIA	SIKANDARPUR	S-NPP	26.03276	84.01767	13:00:00	D	4.30
49	BALLIA	SIKANDARPUR	S-NPP	26.03609	84.01708	13:00:00	D	4.30
50	BANDA	ATARRA	S-NPP	25.38881	80.62885	01:48:00	N	0.30
51	BANDA	ATARRA	S-NPP	25.38962	80.51994	13:00:00	D	2.50
52	BANDA	BABERU	S-NPP	25.51235	81.01091	13:00:00	D	1.90
53	BANDA	BANDA	S-NPP	25.68846	80.48761	13:00:00	D	3.30
54	BAREILLY	BAHERI	S-NPP	28.64980	79.34646	13:06:00	D	2.70
55	BAREILLY	BAHERI	S-NPP	28.64995	79.34859	13:06:00	D	2.90
56	BAREILLY	BAHERI	S-NPP	28.82818	79.66659	01:48:00	N	0.60
57	BAREILLY	FARIDPUR	S-NPP	28.18202	79.57935	13:06:00	D	2.90
58	BIJNOR	AFZALGARH	TERRA	29.28000	78.68700	11:15:00	D	5.60
59	BIJNOR	AFZALGARH	TERRA	29.28100	78.67900	11:15:00	D	5.70
60	BIJNOR	CHANDPUR	S-NPP	29.08688	78.33363	13:06:00	D	3.00
61	BIJNOR	NAJIBABAD	S-NPP	29.61997	78.37047	13:06:00	D	1.70
62	BULANSAHAR	ANUP SHAHR	S-NPP	28.42997	78.23668	13:06:00	D	2.40
63	BULANSAHAR	BULANSHAHR	S-NPP	28.52146	77.82661	13:06:00	D	2.50

64	BULANSAHAR	KHURJA	S-NPP	28.13681	77.73287	13:06:00	D	4.70
65	BULANSAHAR	KHURJA	S-NPP	28.13896	77.73490	13:06:00	D	4.50
66	BULANSAHAR	KHURJA	S-NPP	28.17537	77.78062	01:48:00	N	0.80
67	BULANSAHAR	SIYANA	S-NPP	28.66508	77.94628	13:06:00	D	4.10
68	BULANSAHAR	SIYANA	S-NPP	28.67557	78.00250	13:06:00	D	6.20
69	CHANDAULI	CHAKIA	S-NPP	25.12085	83.31688	13:00:00	D	3.60
70	CHANDAULI	CHAKIA	S-NPP	25.12918	83.32706	13:00:00	D	3.30
71	CHANDAULI	CHANDAULI	S-NPP	25.14996	83.17500	13:00:00	D	2.40
72	CHANDAULI	CHANDAULI	NOAA-19	25.16054	83.31044	17:28:00	N	6.00
73	CHANDAULI	CHANDAULI	S-NPP	25.16161	83.18457	13:00:00	D	3.90
74	CHANDAULI	CHANDAULI	NOAA-19	25.19647	83.20853	17:28:00	N	9.00
75	CHANDAULI	CHANDAULI	S-NPP	25.20541	83.29365	13:00:00	D	8.00
76	CHANDAULI	CHANDAULI	S-NPP	25.21767	83.39680	13:00:00	D	2.70
77	CHANDAULI	CHANDAULI	S-NPP	25.33182	83.41480	13:00:00	D	1.60
78	CHANDAULI	CHANDAULI	NOAA-19	25.34320	83.38647	17:28:00	N	8.00
79	CHANDAULI	CHANDAULI	S-NPP	25.35522	83.36755	13:00:00	D	12.60
80	CHANDAULI	CHANDAULI	NOAA-19	25.36715	83.49000	17:28:00	N	7.00
81	CHANDAULI	CHANDAULI	S-NPP	25.37160	83.43102	13:00:00	D	0.90
82	CHANDAULI	CHANDAULI	NOAA-19	25.37165	83.43904	17:28:00	N	6.50
83	CHANDAULI	SHAKALDIHA	S-NPP	25.37704	83.33230	13:00:00	D	2.20
84	CHANDAULI	SHAKALDIHA	S-NPP	25.40517	83.27233	13:00:00	D	2.30
85	DEORIA	DEORIA	S-NPP	26.45125	83.82806	13:00:00	D	2.40
86	DEORIA	DEORIA	S-NPP	26.45789	83.82687	13:00:00	D	2.70
87	DEORIA	DEORIA	S-NPP	26.70354	83.79466	13:00:00	D	1.90
88	ETAWAH	ETAWAH	S-NPP	26.92397	79.13473	13:00:00	D	4.70
89	ETAWAH	JASWANTNAGAR	S-NPP	26.88953	78.83835	13:00:00	D	3.30
90	ETAWAH	JASWANTNAGAR	S-NPP	26.90613	78.82447	13:00:00	D	3.50
91	FATEHPUR	BINKI	S-NPP	26.01834	80.72722	13:00:00	D	1.60
92	FATEHPUR	FATEHPUR	S-NPP	25.75070	80.86164	13:00:00	D	1.90
93	FATEHPUR	FATEHPUR	S-NPP	25.86437	80.85656	13:00:00	D	2.90
94	FATEHPUR	FATEHPUR	S-NPP	25.97535	80.66247	13:00:00	D	4.10
95	FATEHPUR	FATEHPUR	S-NPP	25.97560	80.85207	13:00:00	D	26.50
96	FATEHPUR	FATEHPUR	S-NPP	25.98921	80.82787	13:00:00	D	9.90

97	GAZIPUR	JAKHANIA	S-NPP	25.64165	83.35851	13:00:00	D	1.70
98	GAZIPUR	JAKHANIA	S-NPP	25.64753	83.32999	13:00:00	D	8.20
99	GAZIPUR	JAKHANIA	S-NPP	25.68675	83.43259	13:00:00	D	1.50
100	GAZIPUR	MUHAMMADBAD	S-NPP	25.61468	83.92916	13:00:00	D	2.60
101	GAZIPUR	MUHAMMADBAD	S-NPP	25.65148	83.71775	13:00:00	D	3.10
102	GAZIPUR	MUHAMMADBAD	S-NPP	25.68161	83.92119	13:00:00	D	1.30
103	GAZIPUR	MUHAMMADBAD	S-NPP	25.68881	83.92385	13:00:00	D	5.10
104	GAZIPUR	SAIDPUR	S-NPP	25.57152	83.41053	13:00:00	D	2.40
105	GAZIPUR	ZAMANIA	S-NPP	25.40806	83.76506	13:00:00	D	2.40
106	GAZIPUR	ZAMANIA	S-NPP	25.46760	83.68761	13:00:00	D	4.00
107	GAZIPUR	ZAMANIA	S-NPP	25.49578	83.69432	13:00:00	D	2.50
108	GONDA	GONDA	S-NPP	27.21137	82.22573	13:00:00	D	3.10
109	GONDA	TARABGANJ	AQUA	27.04600	82.05100	12:50:00	D	17.00
110	GORAKHPUR	GORAKHPUR	S-NPP	26.91734	83.47660	13:00:00	D	2.70
111	HAMIRPUR	HAMIRPUR	S-NPP	25.87163	80.26922	13:00:00	D	1.20
112	HARDOI	BILGRAM	S-NPP	27.03025	80.17767	13:00:00	D	2.80
113	JALAUN	KALPI	S-NPP	26.06368	79.93489	13:00:00	D	2.80
114	JAUNPUR	SHHGANJ	S-NPP	25.91811	82.64336	13:00:00	D	7.30
115	JAUNPUR	SHHGANJ	S-NPP	25.92201	82.64657	13:00:00	D	2.30
116	JAUNPUR	SHHGANJ	S-NPP	26.09804	82.49433	13:00:00	D	5.30
117	JAUNPUR	SHHGANJ	S-NPP	26.11969	82.50208	13:00:00	D	2.60
118	JAUNPUR	SHHGANJ	S-NPP	26.12300	82.50144	13:00:00	D	5.90
119	JHANSI	MOTH	S-NPP	25.66124	78.86656	13:00:00	D	7.00
120	JHANSI	MOTH	S-NPP	25.66687	78.85490	13:00:00	D	2.20
121	KANNAUJ	TIRWA	S-NPP	26.87232	79.66550	13:00:00	D	3.30
122	KANPUR	BILHAUR	S-NPP	26.84438	79.93761	13:00:00	D	2.90
123	KANPUR	KANPUR NAGAR	S-NPP	26.35891	80.26000	01:48:00	N	0.80
124	KANPUR	KANPUR NAGAR	S-NPP	26.44730	80.13526	13:00:00	D	3.50
125	KANPUR	KANPUR NAGAR	S-NPP	26.46974	80.13950	13:00:00	D	3.80
126	KANPUR DEHAT	RASULABAD	TERRA	26.57700	79.93300	11:15:00	D	14.60
127	KANPUR DEHAT	RASULABAD	S-NPP	26.75568	79.72658	01:48:00	N	0.50
128	KANPUR DEHAT	SIKANDRA	S-NPP	26.39488	79.64947	01:48:00	N	0.20
129	KAUSHAMBI	SIRATHU	S-NPP	25.60090	81.50358	13:00:00	D	1.50

130	KHERI	GOLA	S-NPP	27.96783	80.43741	13:00:00	D	2.30
131	KHERI	LAKHIMPUR	S-NPP	27.99427	80.65826	13:00:00	D	2.20
132	KHERI	LAKHIMPUR	S-NPP	28.03932	80.63235	13:00:00	D	1.90
133	KHERI	LAKHIMPUR	S-NPP	28.04271	80.63163	13:00:00	D	1.90
134	KHERI	LAKHIMPUR	S-NPP	28.07776	80.54735	13:00:00	D	1.60
135	KHERI	MOHMADI	TERRA	27.74600	80.39400	11:15:00	D	9.80
136	KHERI	MOHMADI	S-NPP	27.76715	80.57613	13:00:00	D	4.00
137	KHERI	MOHMADI	S-NPP	27.81007	80.38202	01:48:00	N	0.80
138	KHERI	MOHMADI	S-NPP	27.82229	80.29700	13:00:00	D	3.20
139	KHERI	MOHMADI	TERRA	27.82900	80.07000	11:15:00	D	11.40
140	KHERI	MOHMADI	S-NPP	27.83026	80.38672	13:00:00	D	2.20
141	KHERI	MOHMADI	S-NPP	27.88646	80.41173	01:48:00	N	2.30
142	KHERI	MOHMADI	S-NPP	27.88705	80.40784	01:48:00	N	2.30
143	KHERI	MOHMADI	S-NPP	28.01581	80.24035	13:00:00	D	2.20
144	KHERI	NIGHASAN	S-NPP	28.26407	80.92784	13:06:00	D	3.30
145	KUSHINAGAR	HATA	S-NPP	26.69471	83.70545	01:48:00	N	0.40
146	LUCKNOW	LUCKNOW	S-NPP	26.66212	80.87335	01:48:00	N	0.30
147	MAHARAJGANJ	MAHARAJGANJ	S-NPP	26.99737	83.70360	01:48:00	N	0.70
148	MAHARAJGANJ	MAHARAJGANJ	S-NPP	27.00089	83.70439	01:48:00	N	0.70
149	MAHARAJGANJ	MAHARAJGANJ	S-NPP	27.02836	83.63274	13:00:00	D	2.10
150	MAHARAJGANJ	MAHARAJGANJ	S-NPP	27.05302	83.55219	13:00:00	D	1.80
151	MAHARAJGANJ	MAHARAJGANJ	NOAA-19	27.16379	83.61132	17:28:00	N	8.00
152	MAHARAJGANJ	PHARENDA	S-NPP	27.25496	83.31550	13:00:00	D	2.00
153	MAINPURI	BHOGAON	S-NPP	27.04533	79.22645	13:00:00	D	3.80
154	MAU	MADHUBAN	S-NPP	26.05371	83.64933	13:00:00	D	2.70
155	MAU	MAU	S-NPP	25.93867	83.69333	13:00:00	D	3.00
156	MEERUT	MAWANA	S-NPP	29.17060	77.85452	13:06:00	D	4.80
157	MEERUT	SARDHANA	S-NPP	29.10769	77.45985	13:06:00	D	4.60
158	MEERUT	SARDHANA	S-NPP	29.16282	77.56319	13:06:00	D	4.20
159	MUZAFARNAGAR	BUDHANA	S-NPP	29.25299	77.37702	13:06:00	D	7.10
160	MUZAFARNAGAR	BUDHANA	S-NPP	29.34414	77.59723	13:06:00	D	3.50
161	MUZAFARNAGAR	BUDHANA	S-NPP	29.36193	77.39915	13:06:00	D	3.20
162	MUZAFARNAGAR	BUDHANA	TERRA	29.39800	77.43200	11:15:00	D	4.80

163	MUZAFARNAGAR	MUZAFFARNAGAR	TERRA	29.57300	77.52300	11:15:00	D	4.60
164	PILHIBHIT	BISALPUR	S-NPP	28.11738	79.91933	01:48:00	N	0.90
165	PILHIBHIT	BISALPUR	S-NPP	28.20244	79.89014	01:48:00	N	1.20
166	PILHIBHIT	BISALPUR	S-NPP	28.35909	79.78347	13:06:00	D	3.80
167	PILHIBHIT	PILHIBHIT	S-NPP	28.59995	79.64278	13:06:00	D	1.60
168	PILHIBHIT	PURANPUR	S-NPP	28.35300	80.21687	01:48:00	N	2.30
169	PRATAPGARH	PATTI	S-NPP	26.06386	82.08699	13:00:00	D	2.40
170	RAIBEARELI	MAHARAJGANG	S-NPP	26.44045	81.17683	13:00:00	D	2.60
171	RAIBEARELI	RAEBARELI	S-NPP	26.35150	81.29845	13:00:00	D	1.70
172	RAIBEARELI	UNCHA HAR	S-NPP	25.86940	81.36875	13:00:00	D	2.10
173	RAIBEARELI	UNCHA HAR	S-NPP	26.00784	81.22886	01:48:00	N	0.60
174	RAMPUR	BILASPUR	S-NPP	28.92079	79.40144	13:06:00	D	6.60
175	RAMPUR	SHAHBAD	S-NPP	28.60127	78.93271	13:06:00	D	4.50
176	RAMPUR	SUAR	S-NPP	29.09689	79.01801	13:06:00	D	2.00
177	SAMBHAL	SAMBHAL	S-NPP	28.75175	78.43616	13:06:00	D	2.50
178	SANTKABIRNAGAR	Ghanghata	S-NPP	26.54918	83.07581	01:48:00	N	0.30
179	SANTRAVIDASNAGAR	BHADOHI	S-NPP	25.33852	82.68527	13:00:00	D	4.90
180	SHAHJAHANPUR	PUWANYA	S-NPP	27.97914	79.96094	13:00:00	D	2.40
181	SHAHJAHANPUR	PUWANYA	S-NPP	28.05108	80.02007	01:48:00	N	0.60
182	SHAHJAHANPUR	PUWANYA	S-NPP	28.09108	79.95964	13:00:00	D	3.10
183	SHAHJAHANPUR	PUWANYA	S-NPP	28.09413	79.91488	01:48:00	N	0.50
184	SHAHJAHANPUR	SHAHJAHANPUR	S-NPP	27.76399	79.97363	13:00:00	D	2.10
185	SHAHJAHANPUR	SHAHJAHANPUR	S-NPP	27.97328	79.86047	01:48:00	N	0.30
186	SHAMLI	KAIRANA	S-NPP	29.44917	77.23989	13:06:00	D	10.30
187	SHARANPUR	DEOBAND	S-NPP	29.86890	77.68932	13:06:00	D	1.80
188	SHARANPUR	RAMPUR MANIHARRAN	S-NPP	29.73423	77.47565	13:06:00	D	5.10
189	SHARANPUR	RAMPUR MANIHARRAN	S-NPP	29.73998	77.48521	13:06:00	D	1.80
190	SHARANPUR	SHARANPUR	S-NPP	29.92306	77.60628	13:06:00	D	2.90
191	SHARANPUR	SHARANPUR	S-NPP	29.92417	77.63295	13:06:00	D	5.90
192	SIDDHARTHANAGAR	DOMARIYAGANJ	S-NPP	27.12760	82.62756	13:00:00	D	4.90
193	SITAPUR	LAHARPUR	S-NPP	27.79555	80.93887	13:00:00	D	2.10
194	SITAPUR	MISRIK	S-NPP	27.45886	80.72269	01:48:00	N	0.70
195	SITAPUR	MISRIK	S-NPP	27.65846	80.33463	01:48:00	N	0.50

196	SITAPUR	SITAPUR	S-NPP	27.62624	80.57105	13:00:00	D	6.60
197	SONBHADRA	REBUTSHGANJ	S-NPP	24.69561	83.10272	13:00:00	D	4.60
198	SULTANPUR	SULTANPUR	S-NPP	26.32137	81.99744	13:00:00	D	2.60
199	UNNAO	BIGHAPUR	S-NPP	26.38722	80.81189	13:00:00	D	1.50
200	UNNAO	SAFIPUR	S-NPP	26.77930	80.38945	01:48:00	N	0.40

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 / 750	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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Softcopy of this report and latest statistics can be seen on <http://creams.iari.res.in>

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)
