



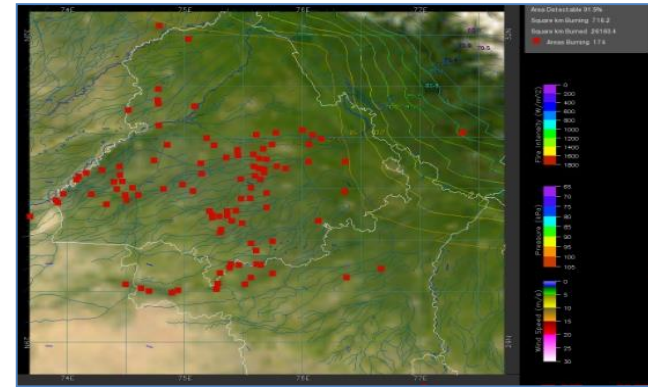
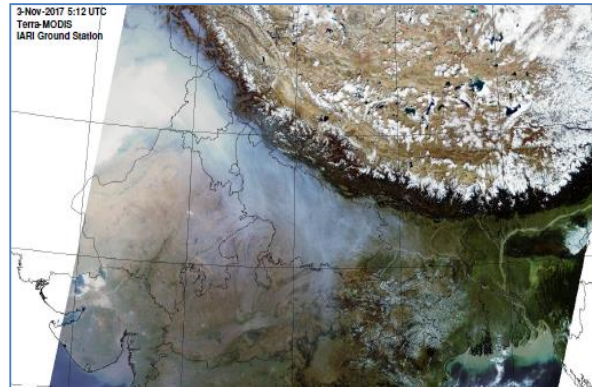
**Bulletin  
No. 44**

**Events Date:  
13-Nov-2019**

**Issued on:  
14-Nov-2019**



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



**Prepared by:**

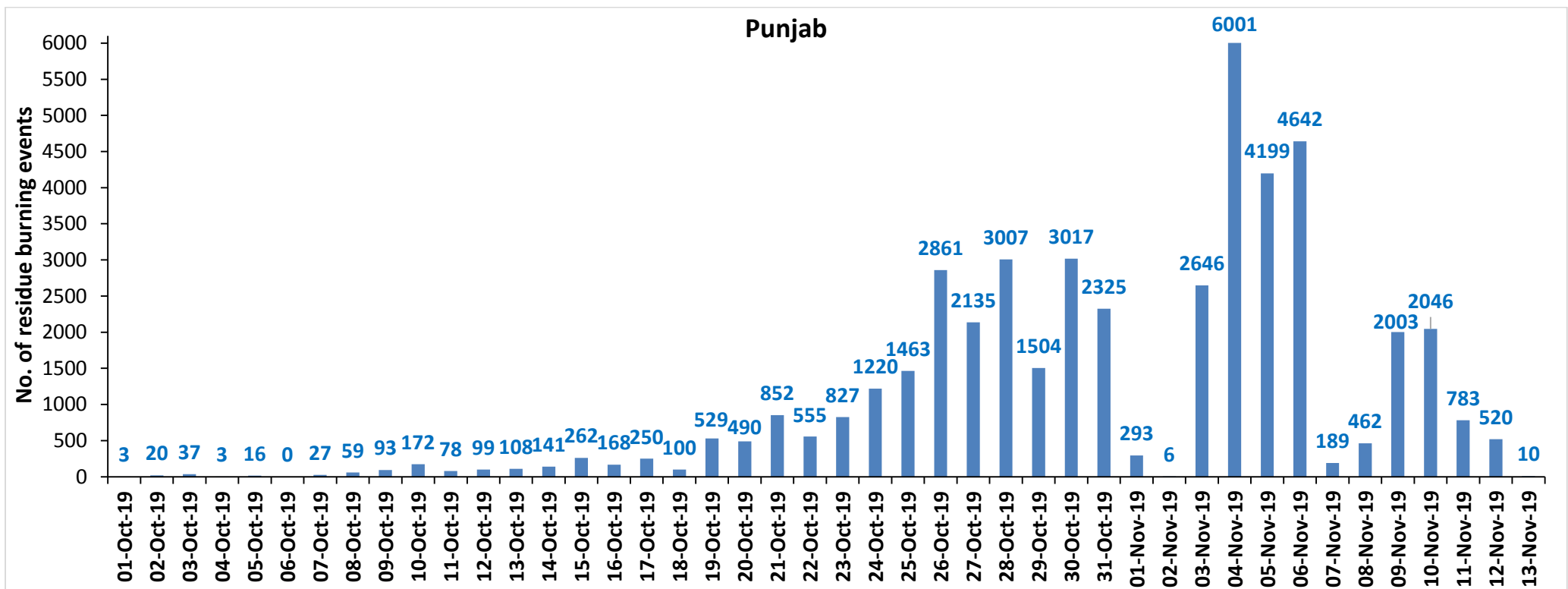
**Consortium for Research on Agroecosystem Monitoring and Modeling from Space (CREAMS) Laboratory,  
Division of Agricultural Physics, ICAR – Indian Agricultural Research Institute, New Delhi – 110012**

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

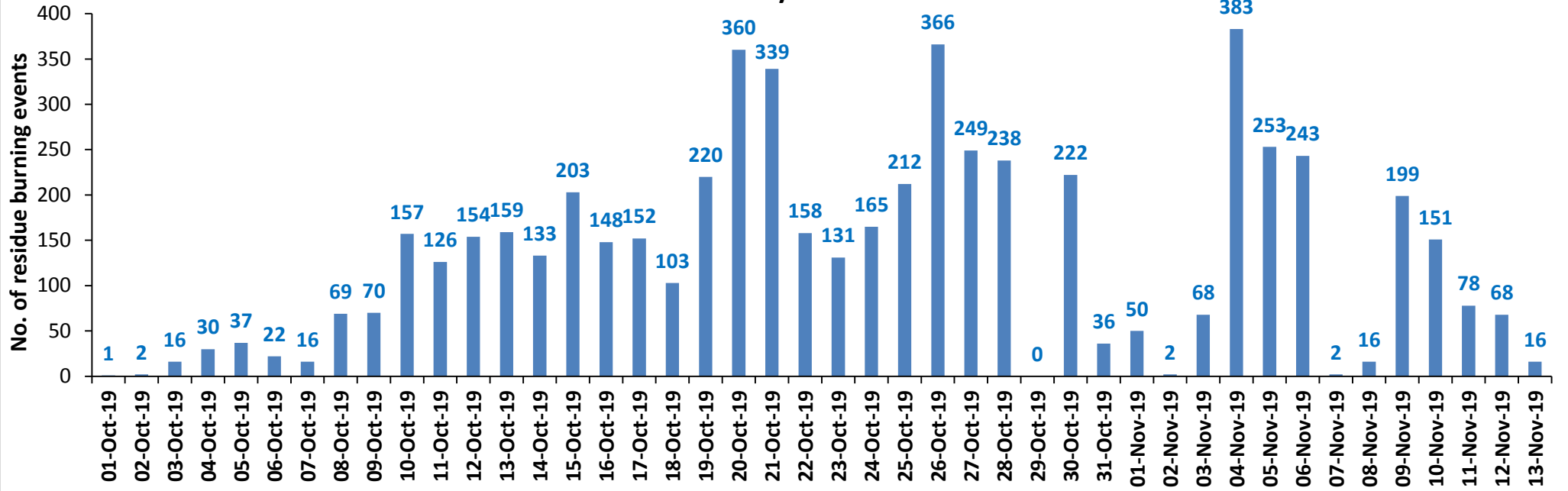
## Highlights for 13-November-2019

- Satellites detected **105** residue burning events in the three study States on **13-Nov-2019**.
- The burning events detected on **13-Nov-2019** are **10**, **16** and **79** in Punjab, Haryana and UP, respectively.
- The state of Punjab and Haryana were mostly covered with clouds which prevented fire event detection by satellites.
- The number of events has decreased from **798** on **12-Nov-2019** to **105** on **13-Nov-2019** in the three states.
- Total **54776** burning events were detected in the three States between **01-Oct-2019** and **13-Nov-2019**, which are distributed as **46221**, **5823** and **2732** in Punjab, Haryana and UP, respectively.
- Overall, the total burning events recorded in the three states are **12.4%** less than in 2018 till date. UP recorded **41.3%** reduction, Haryana recorded **16.26%** reduction, and Punjab recorded **9.3%** reduction, respectively, in the current season than in 2018.

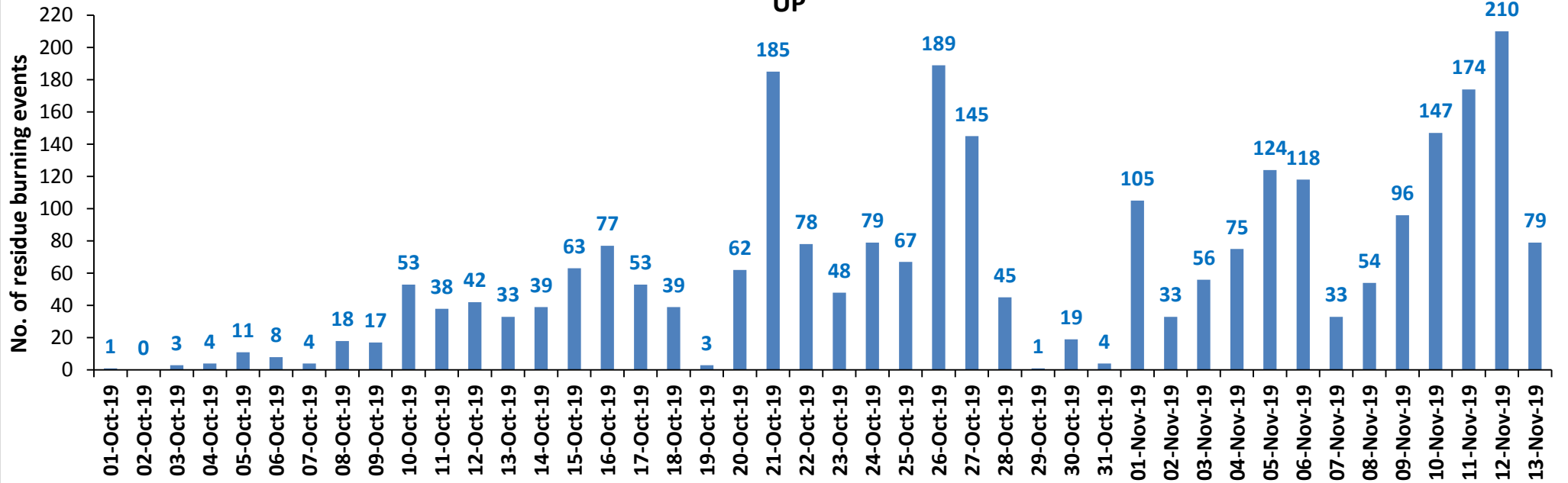
### Temporal distribution of residue burning events for the three study States in 2019



### Haryana

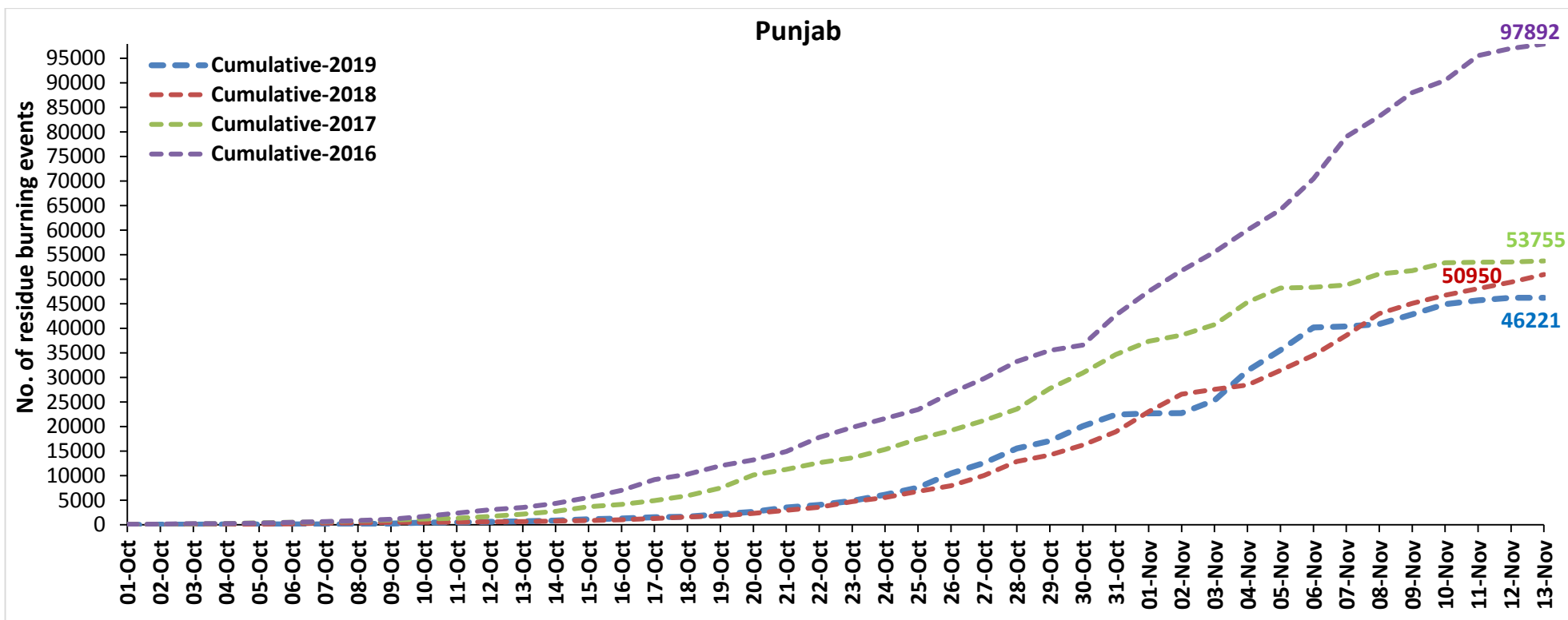


### UP

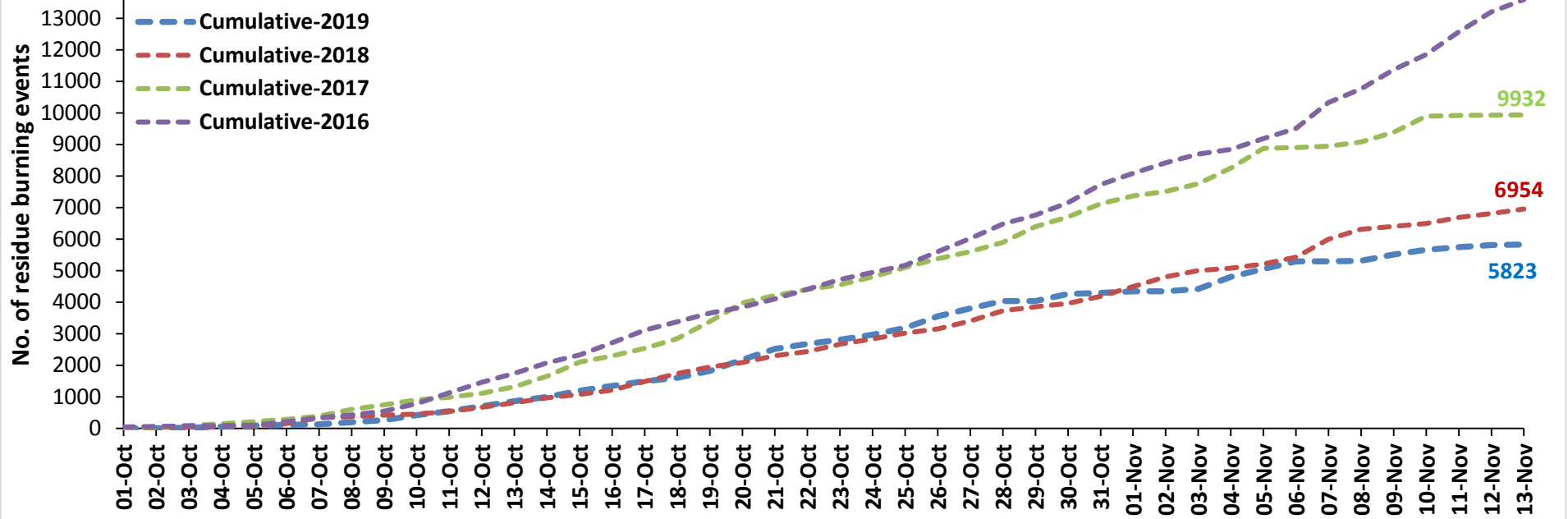


# Comparison of residue burning events in current year (2019) with previous years (2018, 2017 & 2016) for the three study States

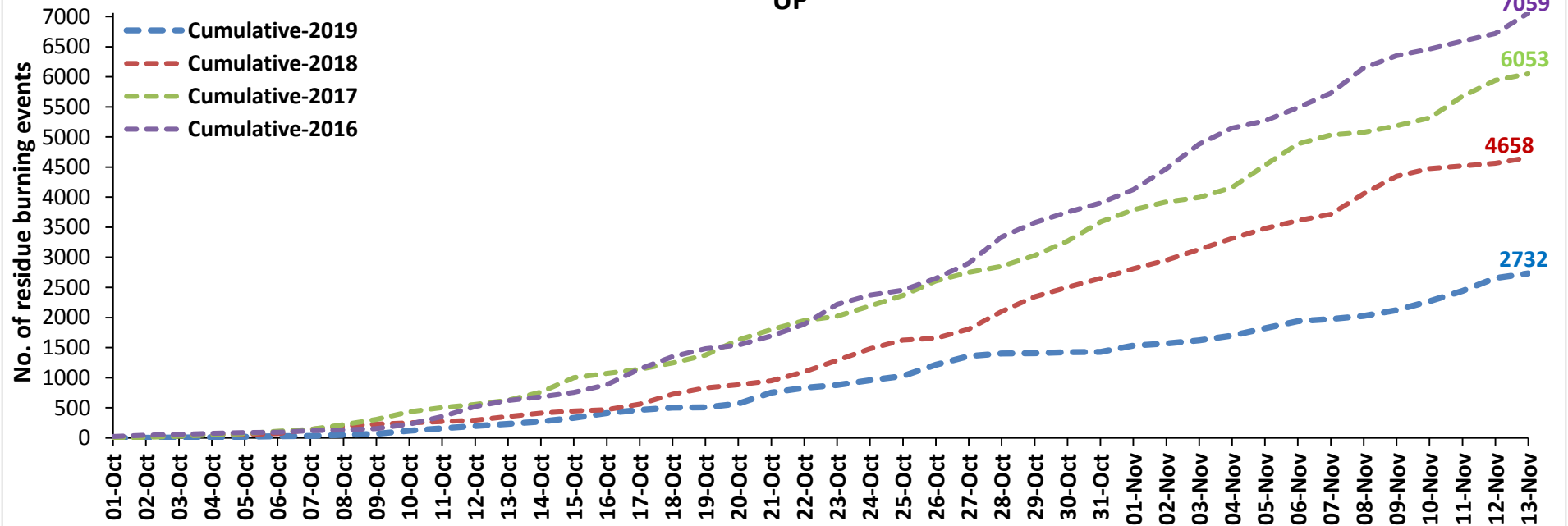
(01-Oct to 13-Nov)



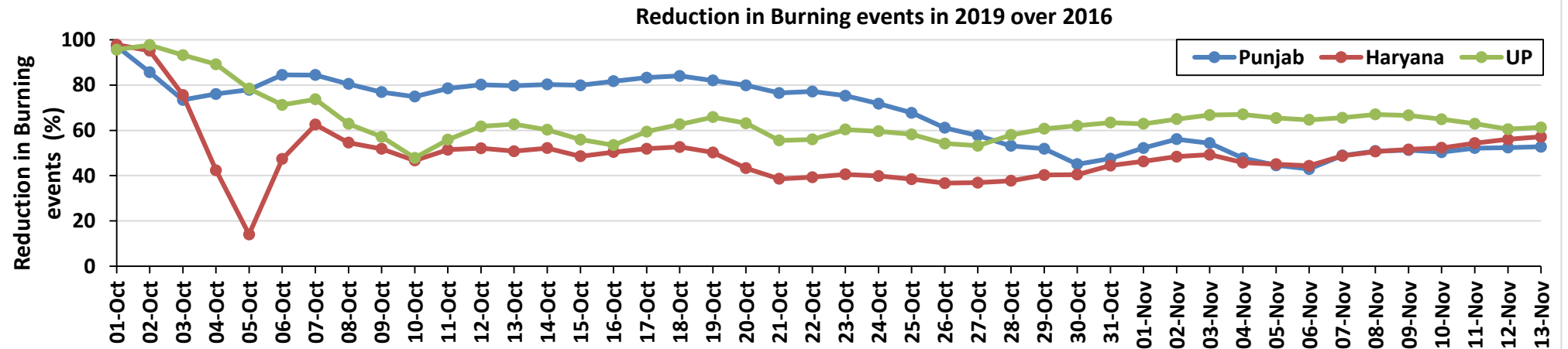
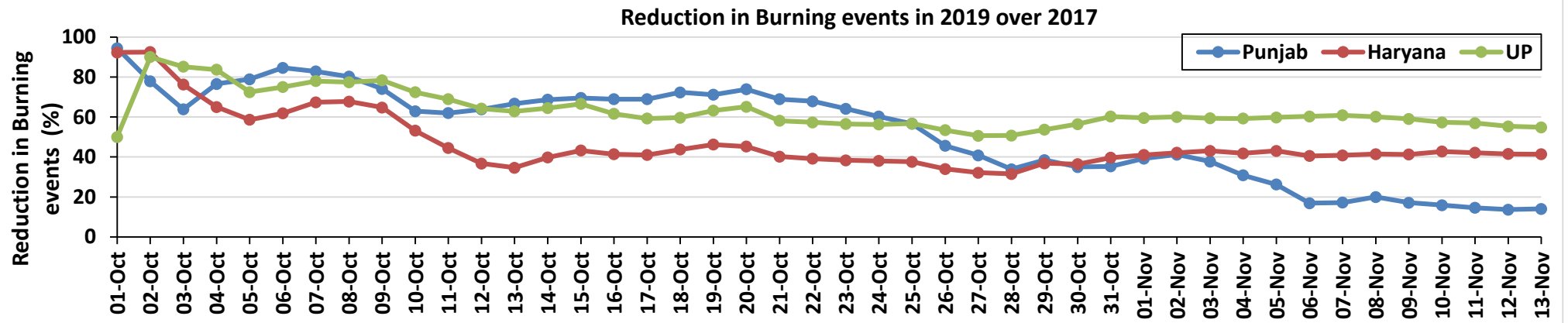
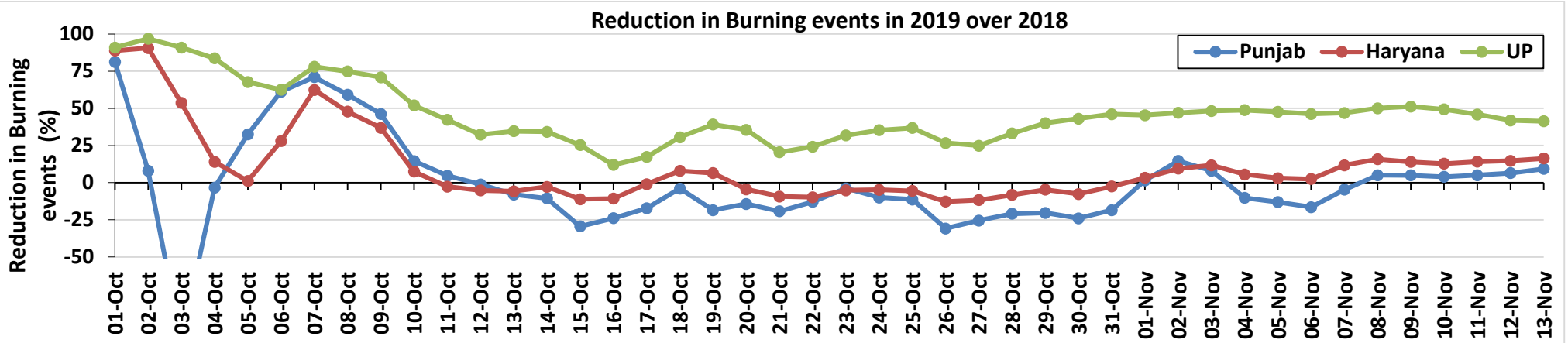
### Haryana



### UP



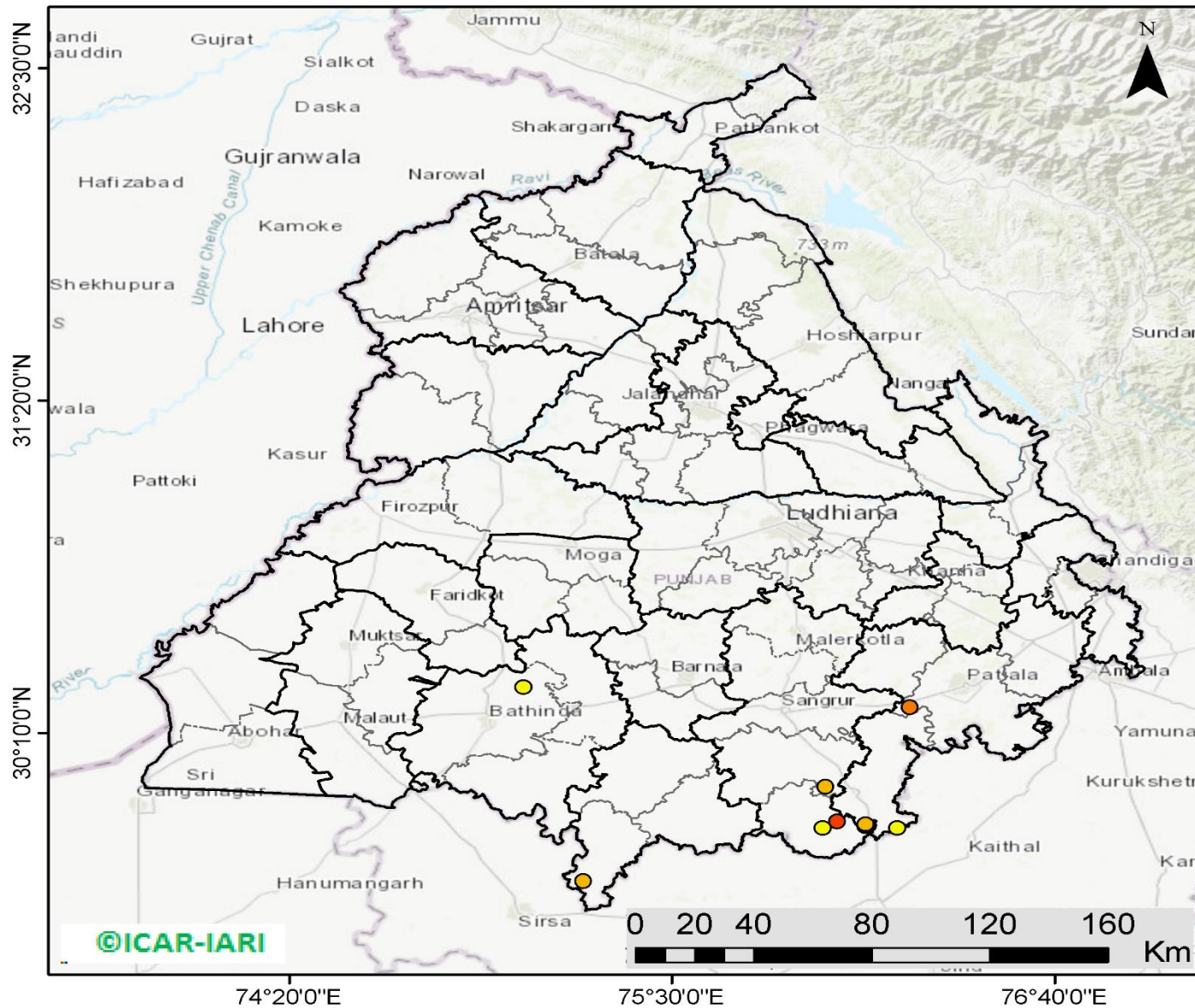
## Percent Reduction in Burning events in 2019 over 2018, 2017 and 2016 (Daily Cumulative)





(a) Punjab

RICE RESIDUE BURNING IN PUNJAB



**10** burning events detected in Punjab on 13th November 2019

Fire Intensity (W/m<sup>2</sup>)

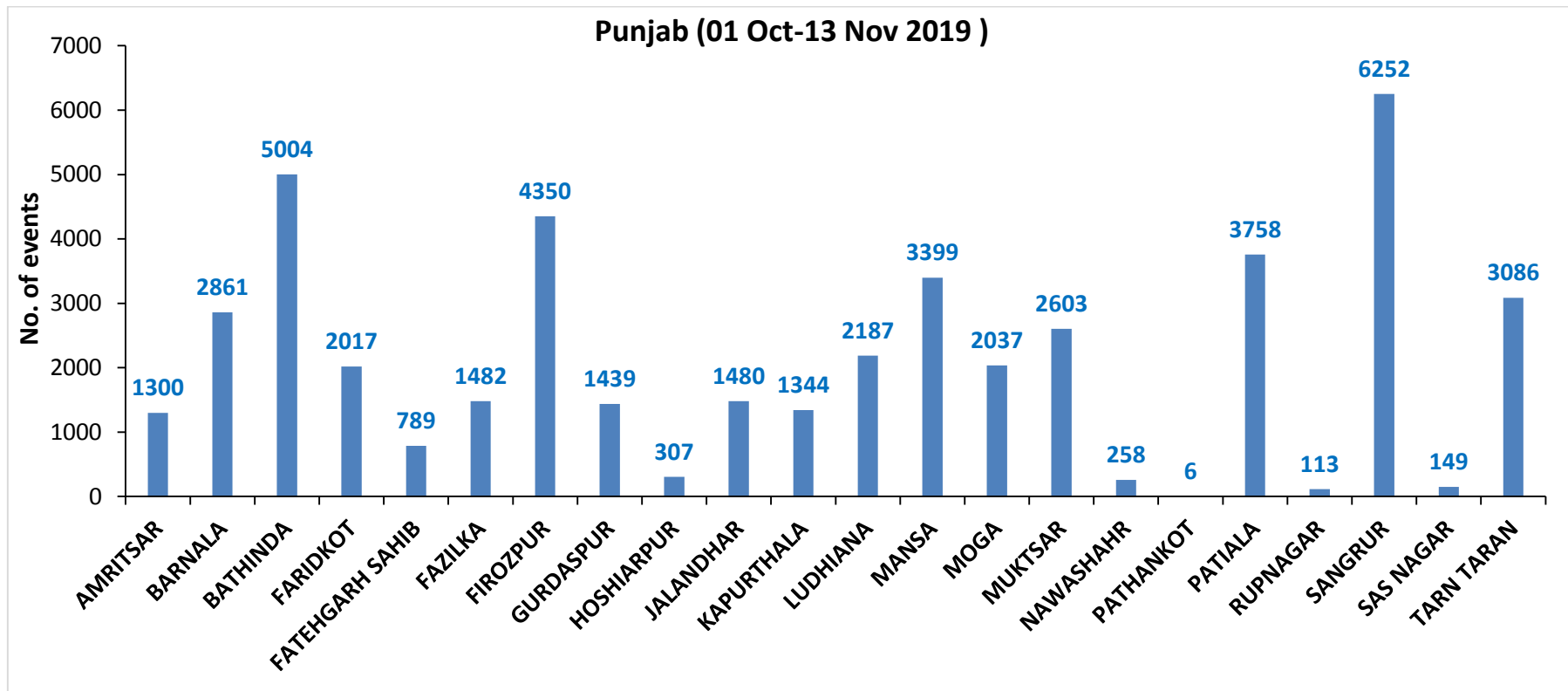
- 0 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- >20

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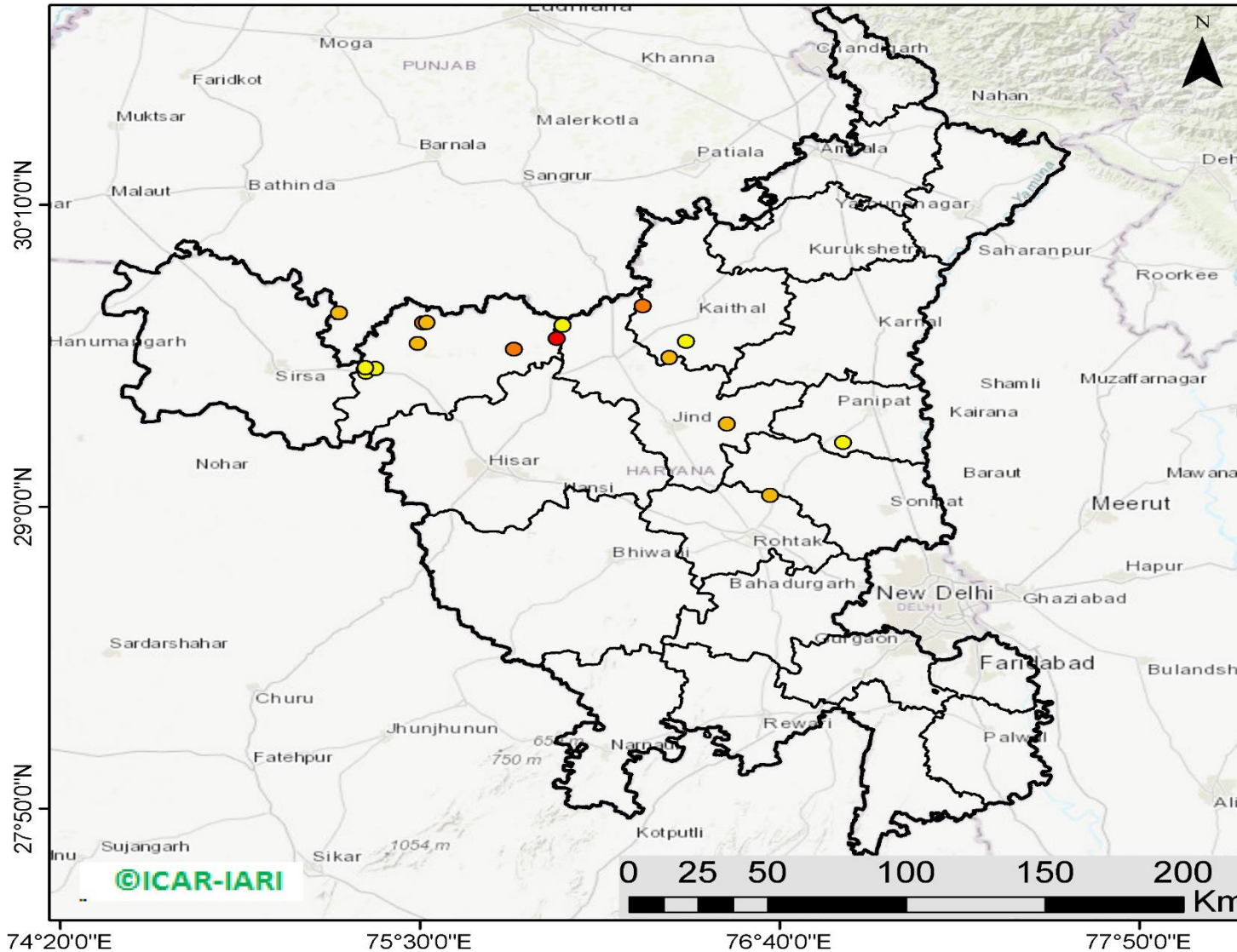
**District-wise cumulative number of residues burning events in Punjab (01 Oct to 13-Nov 2019)**





(b) Haryana

**RICE RESIDUE BURNING IN HARYANA**



**16** burning events  
detected in Haryana on  
13th November 2019

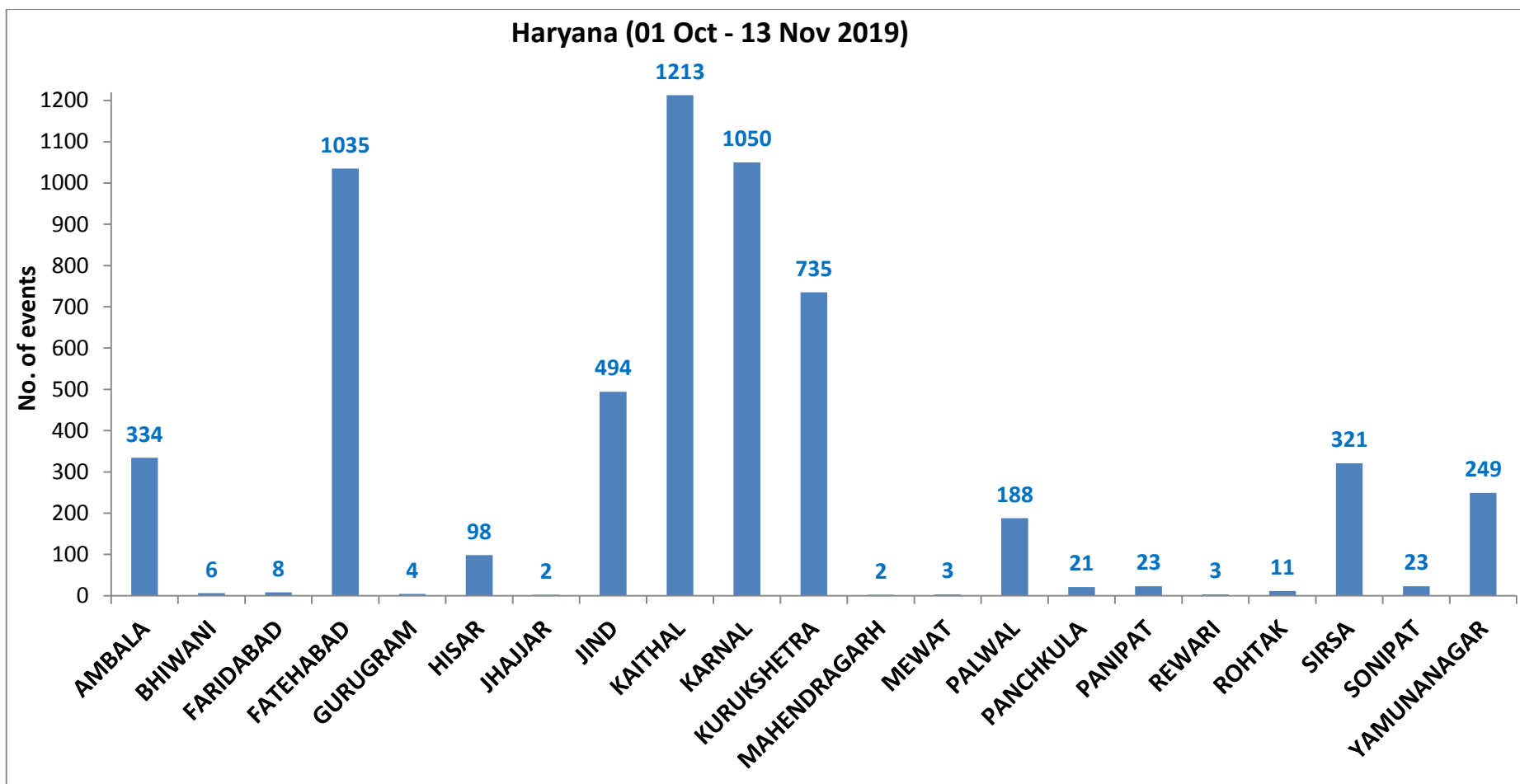
**Fire Intensity (W/m<sup>2</sup>)**

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



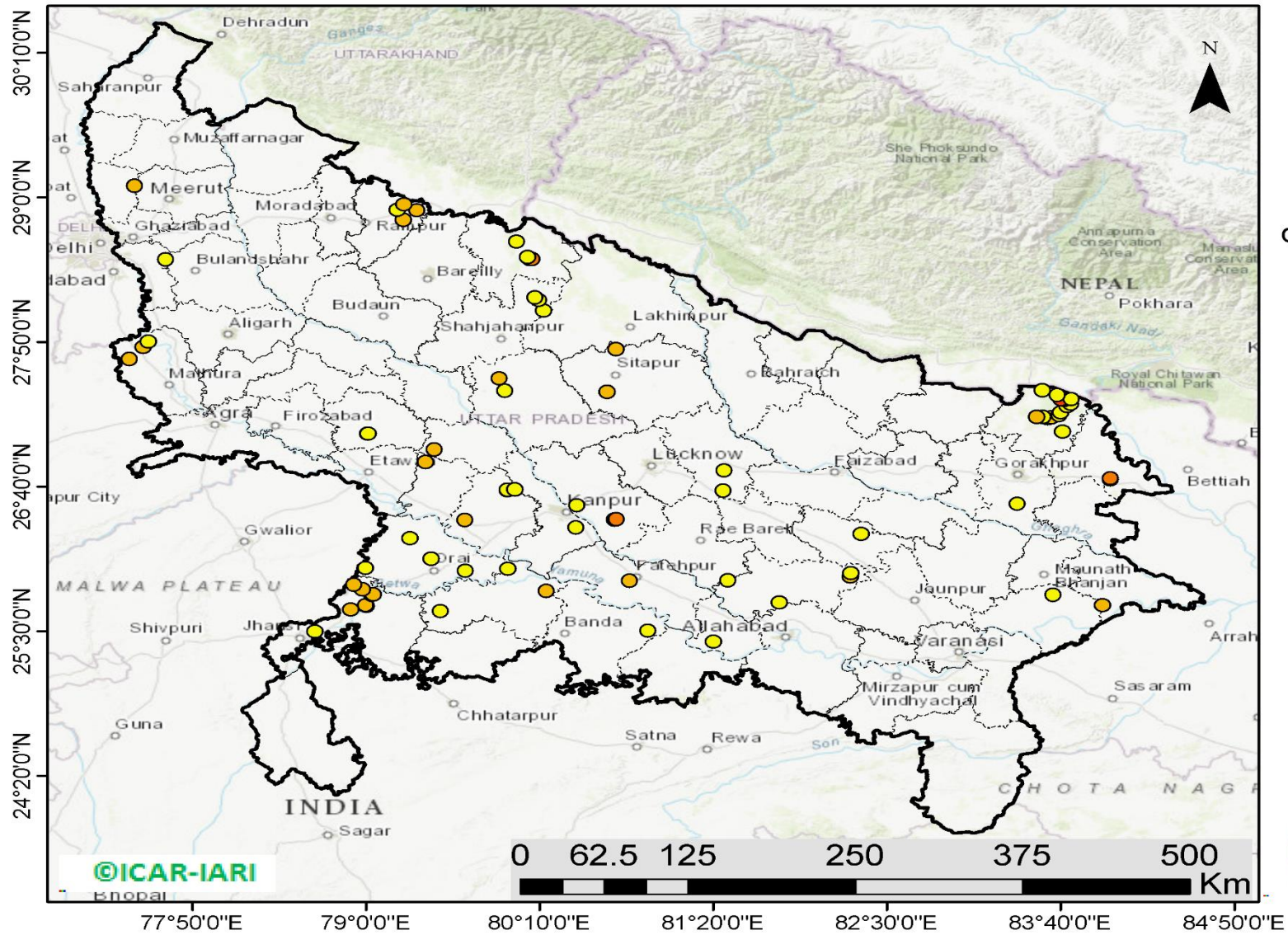
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

**District-wise cumulative number of residues burning events in Haryana (01 Oct to 13-Nov 2019)**



(c) UP

### RICE RESIDUE BURNING IN UTTAR PRADESH



**79** burning events detected in Uttar Pradesh on 13th November 2019

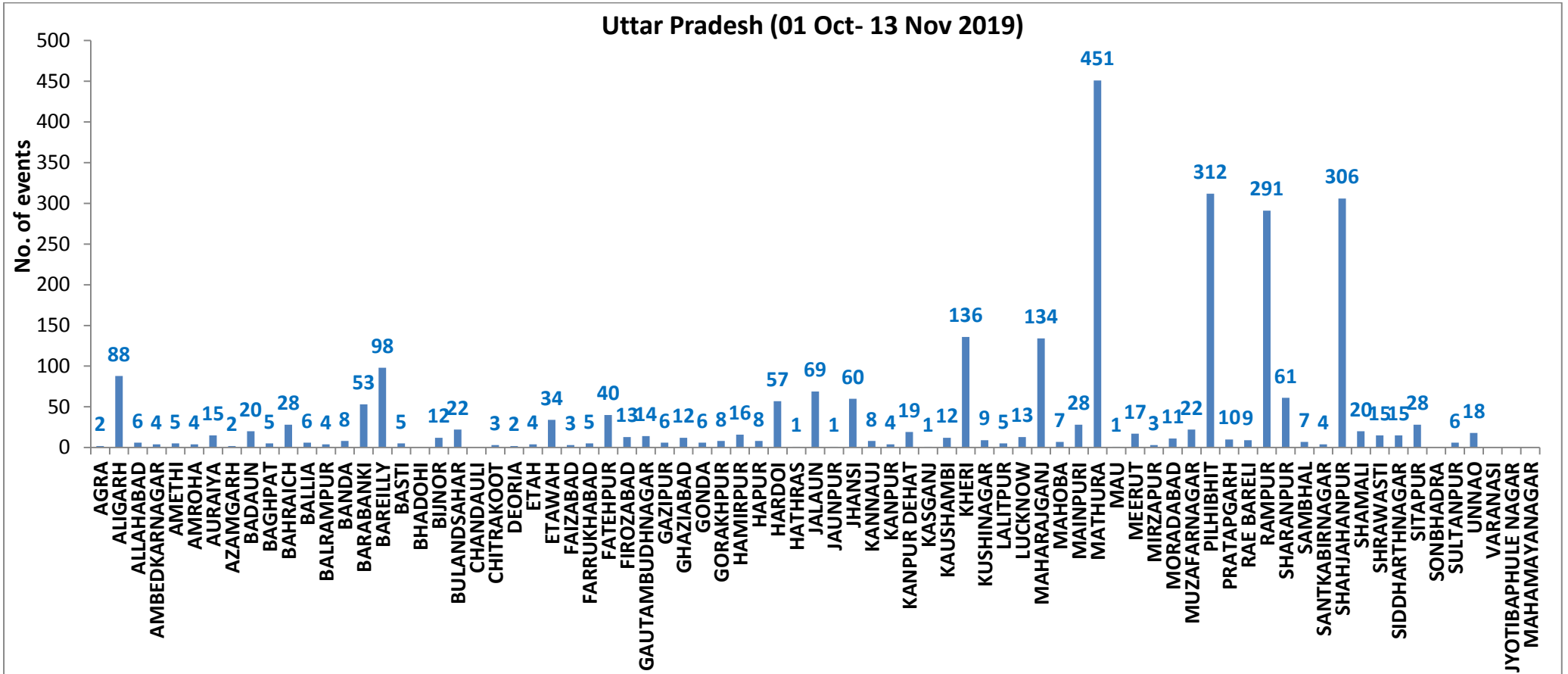
#### Fire Intensity (W/m<sup>2</sup>)

- 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 13-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 13-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

<b>03-Nov</b>	2646	972	2109	3806	68	202	240	275	56	181	75	409	2770	1355	2424	4490
<b>04-Nov</b>	6001	882	4603	4477	383	77	499	146	75	183	168	265	6459	1142	5270	4888
<b>05-Nov</b>	4199	2989	2876	4137	253	129	625	345	124	163	367	125	4576	3281	3868	4607
<b>06-Nov</b>	4642	3071	171	6303	243	222	26	322	118	130	357	215	5003	3423	554	6840
<b>07-Nov</b>	189	4033	420	8575	2	568	46	821	33	108	149	244	224	4709	615	9640
<b>08-Nov</b>	462	4450	2256	4129	16	313	128	432	54	338	43	419	532	5101	2427	4980
<b>09-Nov</b>	2003	2083	675	4857	199	199	311	608	96	294	107	205	2298	2473	1093	5670
<b>10-Nov</b>	2046	1675	1642	2468	151	85	509	484	147	125	131	109	2344	1885	2282	3061
<b>11-Nov</b>	783	1364	103	5040	78	196	29	716	174	45	358	129	1035	1605	490	5885
<b>12-Nov</b>	520	1256	33	1477	68	122	3	634	210	45	269	129	798	1423	305	2240
<b>13-Nov</b>	10	1563	237	885	16	146	7	389	79	94	109	338	105	1803	353	1612
<b>Total</b>	<b>46221</b>	<b>50950</b>	<b>53755</b>	<b>97892</b>	<b>5823</b>	<b>6954</b>	<b>9932</b>	<b>13592</b>	<b>2732</b>	<b>4658</b>	<b>6053</b>	<b>7059</b>	<b>54776</b>	<b>62562</b>	<b>69740</b>	<b>118543</b>



**(a) Punjab**

Districts	01Oct-13 Nov			
	2016	2017	2018	2019
AMRITSAR	2003	1205	1133	1300
BARNALA	5562	2574	2730	2861
BATHINDA	8544	4640	5477	5004
FARIDKOT	4520	2850	2622	2017
FATEHGARH SAHIB	2436	1592	807	789
FAZILKA	0	0	0	1482
FIROZPUR	12312	5566	7898	4350
GURDASPUR	2123	1506	1090	1439
HOSHIARPUR	889	469	187	307
JALANDHAR	4576	1962	1262	1480
KAPURTHALA	3108	1524	707	1344
LUDHIANA	9034	3865	2123	2187
MANSA	5351	3861	3764	3399
MOGA	6302	1912	2208	2037
MUKTSAR	6352	3433	4666	2603
NAWASHAHR (SBS Nagar)	1566	757	337	258
PATHANKOT	0	0	0	6
PATIALA	6515	4953	4057	3758
RUPNAGAR	705	317	76	113
SANGRUR	11755	8051	7287	6252
SAS NAGAR	114	107	104	149
TARN TARAN	4125	2611	2415	3086
<b>Total</b>	<b>97892</b>	<b>53755</b>	<b>50950</b>	<b>46221</b>

**(b) Haryana**

Districts	01Oct-13 Nov			
	2016	2017	2018	2019
AMBALA	527	489	318	334
BHIWANI	52	23	13	6
FARIDABAD	277	341	183	8
FATEHABAD	4283	2726	1783	1035
GURUGRAM	0	0	0	4
HISAR	312	153	121	98
JHAJJAR	22	12	14	2
JIND	806	840	643	494
KAITHAL	1729	1469	1231	1213
KARNAL	1616	1472	824	1050
KURUKSHETRA	1072	1140	677	735
MAHENDRAGARH	0	0	0	2
MEWAT	0	0	0	3
PALWAL	0	0	0	188
PANCHKULA	0	0	3	21
PANIPAT	69	66	51	23
REWARI	0	0	0	3
ROHTAK	72	48	11	11
SIRSA	2450	800	880	321
SONIPAT	67	50	25	23
YAMUNANAGAR	238	303	177	249
<b>Total</b>	<b>13592</b>	<b>9932</b>	<b>6954</b>	<b>5823</b>

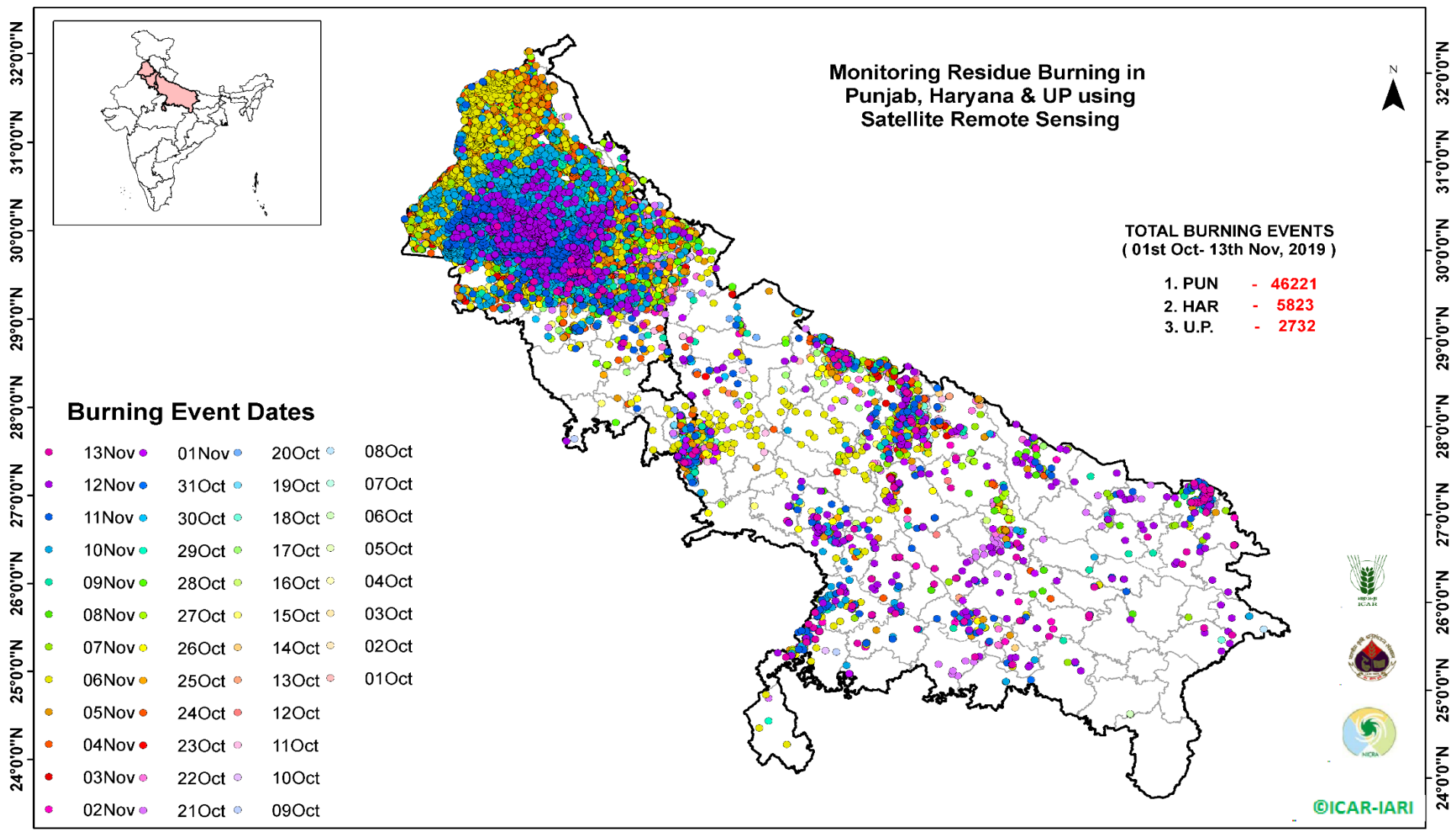
(c) Uttar Pradesh

Districts	01Oct-13 Nov			
	2016	2017	2018	2019
AGRA	0	0	0	2
ALIGARH	44	73	87	88
ALLAHABAD	3	8	7	6
AMBEDKARNAGAR	48	24	9	4
AMETHI	0	0	0	5
AMROHA	0	0	0	4
AURAIYA	164	111	39	15
AZAMGARH	16	19	14	2
BADAUN	6	6	9	20
BAGHPAT	0	0	0	5
BAHRAICH	51	35	56	28
BALLIA	3	14	8	6
BALRAMPUR	19	24	34	4
BANDA	1	2	8	8
BARABANKI	196	137	162	53
BAREILLY	233	190	113	98
BASTI	94	165	74	5
BHADOHI	0	0	0	0
BIJNOR	37	27	6	12
BULANDSAHAR	14	26	12	22
CHANDAULI	2	0	0	0
CHITRAKOOT	0	0	0	3
DEORIA	29	34	36	2
ETAH	14	26	24	4
ETAWAH	66	63	31	34
FAIZABAD	10	5	6	3
FARRUKHABAD	0	0	0	5
FATEHPUR	43	31	59	40
FIROZABAD	22	15	9	13

GAUTAMBUDHNAGAR	20	33	11	14
GAZIPUR	12	7	2	6
GHAZIABAD	51	33	20	12
GONDA	39	30	16	6
GORAKHPUR	39	56	51	8
HAMIRPUR	0	0	1	16
HAPUR	0	0	0	8
HARDOI	221	171	104	57
HATHRAS	0	0	0	1
JALAUN	0	0	0	69
JAUNPUR	8	6	11	1
JHANSI	0	0	2	60
KANNAUJ	16	12	4	8
KANPUR	7	5	8	4
KANPUR DEHAT	20	31	11	19
KASGANJ	0	0	0	1
KAUSHAMBI	14	26	27	12
KHERI	369	224	168	136
KUSHINAGAR	18	39	51	9
LALITPUR	0	0	0	5
LUCKNOW	50	29	25	13
MAHARAJGANJ	257	574	579	134
MAHOBA	0	0	0	7
MAINPURI	57	67	39	28
MATHURA	1403	1079	1046	451
MAU	6	5	8	1
MEERUT	47	42	11	17
MIRZAPUR	2	9	5	3
MORADABAD	35	26	11	11
MUZAFARNAGAR	100	91	29	22
PILHIBHIT	896	670	408	312
PRATAPGARH	18	25	18	10

RAE BARELI	38	28	24	9
RAMPUR	607	597	217	291
SHARANPUR	71	87	47	61
SAMBHAL	0	0	0	7
SANTKABIRNAGAR	36	54	37	4
SHAHJAHANPUR	1107	670	351	306
SHAMALI	0	0	0	20
SHRAWASTI	30	29	33	15
SIDDHARTHANAGAR	159	144	386	15
SITAPUR	97	54	33	28
SONBHADRA	12	9	8	0
SULTANPUR	27	15	14	6
UNNAO	46	29	30	18
VARANASI	0	0	0	0
JYOTIBAPHULE NAGAR	7	10	3	0
MAHAMAYANAGAR	2	2	6	0
<b>Total</b>	<b>7059</b>	<b>6053</b>	<b>4658</b>	<b>2732</b>

## Map of Cumulative Burning Events (01 Oct – 13 Nov 2019)



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

**Details of residue burning events in Punjab on 13-Nov-2019**

<b>S. No.</b>	<b>District</b>	<b>Tehsil / Block</b>	<b>Satellite</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Time (IST)</b>	<b>Day / Night</b>	<b>Fire Power (W/m<sup>2</sup>)</b>
1	BATHINDA	BATHINDA	S-NPP	75.04636	30.32682	12:48:00	D	4.40
2	MANSA	SARDULGARH	AQUA	75.22900	29.64600	13:35:00	D	6.30
3	PATIALA	PATIALA	AQUA	76.22400	30.25700	13:35:00	D	11.90
4	PATIALA	SAMANA	S-NPP	76.18631	29.83237	12:48:00	D	2.40
5	SANGRUR	MOONAK	S-NPP	75.95814	29.83171	12:48:00	D	3.80
6	SANGRUR	MOONAK	S-NPP	76.08939	29.83842	14:24:00	D	6.30
7	SANGRUR	MOONAK	S-NPP	76.09018	29.84448	14:24:00	D	12.10
8	SANGRUR	MOONAK	S-NPP	76.08905	29.84527	14:24:00	D	5.50
9	SANGRUR	MOONAK	S-NPP	76.00387	29.85530	14:24:00	D	15.20
10	SANGRUR	SUNAM	AQUA	75.96700	29.97800	13:35:00	D	5.30

**Details of residue burning events in Haryana on 13-Nov-2019**

S. No.	District	Tehsil / Block	Satellite	Longitude	Latitude	Time (IST)	Day / Night	Fire Power (W/m <sup>2</sup> )
1	FATEHABAD	FATEHABAD	S-NPP	75.32510	29.51856	14:24:00	D	3.60
2	FATEHABAD	FATEHABAD	AQUA	75.35500	29.53500	13:35:00	D	4.60
3	FATEHABAD	FATEHABAD	S-NPP	75.32398	29.53825	14:24:00	D	3.70
4	FATEHABAD	RATIA	AQUA	75.49300	29.63100	13:35:00	D	9.90
5	FATEHABAD	RATIA	AQUA	75.51000	29.71100	13:35:00	D	12.60
6	FATEHABAD	RATIA	AQUA	75.52200	29.71300	13:35:00	D	8.60
7	FATEHABAD	TOHANA	AQUA	75.80400	29.60800	13:35:00	D	10.60
8	FATEHABAD	TOHANA	AQUA	75.94300	29.64900	13:35:00	D	30.70
9	JIND	NARWANA	AQUA	76.30900	29.57700	13:35:00	D	8.10
10	JIND	NARWANA	S-NPP	75.96287	29.70088	14:24:00	D	3.00
11	JIND	SAFIDON	AQUA	76.49500	29.32000	13:35:00	D	9.00
12	KAITHAL	KAITHAL	S-NPP	76.36308	29.63777	12:48:00	D	2.80
13	KAITHAL	KAITHAL	AQUA	76.22200	29.77600	13:35:00	D	10.90
14	PANIPAT	ISRANA	AQUA	76.87200	29.24800	13:35:00	D	3.10
15	ROHTAK	ROHTAK	AQUA	76.63500	29.04500	13:35:00	D	9.40
16	SIRSA	SIRSA	AQUA	75.23700	29.74900	13:35:00	D	5.90

**Details of residue burning events in Uttar Pradesh on 13-Nov-2019**

S. No.	District	Tehsil / Block	Satellite	Longitude	Latitude	Time (IST)	Day / Night	Fire Power (W/m <sup>2</sup> )
1	ALLAHABAD	SORAWN	S-NPP	81.77573	25.73068	12:42:00	D	2.70
2	AURAIYA	BIDHUNA	AQUA	79.39900	26.86500	13:30:00	D	6.10
3	BALLIA	BALLIA	S-NPP	83.94743	25.70682	12:42:00	D	8.60
4	BANDA	BABERU	S-NPP	80.89496	25.50340	12:42:00	D	2.90
5	BARABANKI	H Aidargarh	S-NPP	81.39954	26.63469	12:42:00	D	3.30
6	BARABANKI	H Aidargarh	S-NPP	81.40551	26.79675	12:42:00	D	4.30
7	FATEHPUR	FATEHPUR	AQUA	80.77000	25.90800	13:30:00	D	7.50
8	GAUTAMBUDHNAGAR	DADRI	S-NPP	77.65518	28.49984	12:42:00	D	1.80
9	GAZIPUR	GAZIPUR	S-NPP	83.61758	25.79441	12:42:00	D	2.00
10	GORAKHPUR	BANSGAON	S-NPP	83.37709	26.52836	12:42:00	D	1.60
11	GORAKHPUR	GORAKHPUR	S-NPP	83.43349	26.66624	01:30:00	N	0.20
12	HAMIRPUR	HAMIRPUR	AQUA	80.21200	25.82600	13:30:00	D	6.60
13	HAMIRPUR	HAMIRPUR	S-NPP	79.95189	26.00376	12:42:00	D	2.00
14	HAMIRPUR	RATH	S-NPP	79.50065	25.66212	12:42:00	D	4.30
15	HARDOI	HARDOI	S-NPP	79.93261	27.44003	12:42:00	D	3.00
16	HARDOI	SHAHABAD	AQUA	79.89500	27.53900	13:30:00	D	6.90
17	JALAUN	JALAUN	S-NPP	79.43629	26.08532	12:42:00	D	3.60
18	JALAUN	KALPI	S-NPP	79.66840	25.98558	12:42:00	D	1.20
19	JALAUN	KONCH	S-NPP	78.99608	26.00874	12:42:00	D	4.50
20	JALAUN	MADHOGARH	S-NPP	79.29346	26.24869	12:42:00	D	2.70
21	JHANSI	JHANSI	S-NPP	78.65489	25.49670	12:42:00	D	2.20
22	JHANSI	MOTH	AQUA	78.89500	25.67200	13:30:00	D	7.10
23	JHANSI	MOTH	S-NPP	78.99926	25.70202	12:42:00	D	4.90
24	JHANSI	MOTH	S-NPP	78.99799	25.70688	12:42:00	D	9.40
25	JHANSI	MOTH	AQUA	79.03900	25.79400	13:30:00	D	6.10
26	JHANSI	MOTH	AQUA	79.04900	25.79600	13:30:00	D	9.10
27	JHANSI	MOTH	S-NPP	78.97607	25.83669	12:42:00	D	5.40
28	JHANSI	MOTH	S-NPP	78.91868	25.87733	12:42:00	D	5.70
29	KANNAUJ	CHHIBRAMAU	AQUA	79.45800	26.96600	13:30:00	D	5.20
30	KANPUR	KANPUR NAGAR	S-NPP	80.41110	26.33651	12:42:00	D	3.00
31	KANPUR DEHAT	RASULABAD	S-NPP	79.94759	26.63883	01:30:00	N	0.90



32	KANPUR DEHAT	RASULABAD	S-NPP	79.94866	26.64106	01:30:00	N	1.00
33	KANPUR DEHAT	RASULABAD	S-NPP	80.00053	26.64307	01:30:00	N	1.10
34	KANPUR DEHAT	RASULABAD	S-NPP	79.99993	26.64448	01:30:00	N	2.10
35	KANPUR DEHAT	SIKANDRA	AQUA	79.66500	26.39600	13:30:00	D	6.90
36	KAUSHAMBI	MANJHANPUR	S-NPP	81.33501	25.41518	12:42:00	D	2.50
37	KUSHINAGAR	KASAYA	S-NPP	84.00185	26.72351	12:42:00	D	1.50
38	KUSHINAGAR	KASAYA	AQUA	84.00200	26.73100	13:30:00	D	12.60
39	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.67905	27.10880	12:42:00	D	2.80
40	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.58211	27.21900	12:42:00	D	3.90
41	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.60530	27.22695	12:42:00	D	6.80
42	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.54512	27.22754	12:42:00	D	2.50
43	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.50478	27.22792	12:42:00	D	6.00
44	MAHARAJGANJ	NAUTANWA	S-NPP	83.64306	27.40632	12:42:00	D	2.80
45	MAHARAJGANJ	NAUTANWA	S-NPP	83.54479	27.44530	12:42:00	D	3.60
46	MAHARAJGANJ	NICHLAUL	S-NPP	83.65625	27.24364	12:42:00	D	2.50
47	MAHARAJGANJ	NICHLAUL	S-NPP	83.66647	27.26432	12:42:00	D	3.80
48	MAHARAJGANJ	NICHLAUL	S-NPP	83.71156	27.31373	12:42:00	D	3.40
49	MAHARAJGANJ	NICHLAUL	S-NPP	83.73666	27.33329	12:42:00	D	3.20
50	MAHARAJGANJ	NICHLAUL	S-NPP	83.69545	27.36352	12:42:00	D	4.10
51	MAHARAJGANJ	NICHLAUL	AQUA	83.67100	27.36700	13:30:00	D	16.30
52	MAHARAJGANJ	NICHLAUL	S-NPP	83.73801	27.37109	12:42:00	D	3.50
53	MAINPURI	KARHAL	S-NPP	79.00951	27.09200	12:42:00	D	4.00
54	MAINPURI	KARHAL	S-NPP	79.01181	27.09295	12:42:00	D	4.50
55	MATHURA	CHHATA	S-NPP	77.40970	27.69741	12:42:00	D	5.10
56	MATHURA	CHHATA	AQUA	77.50300	27.79200	13:30:00	D	5.40
57	MATHURA	CHHATA	S-NPP	77.53673	27.83632	12:42:00	D	1.80
58	MEERUT	SARDHANA	S-NPP	77.44388	29.09430	12:48:00	D	6.80
59	PILHIBHIT	PURANPUR	AQUA	80.10100	28.50300	13:35:00	D	17.00
60	PILHIBHIT	PURANPUR	AQUA	80.11200	28.50400	13:35:00	D	10.90
61	PILHIBHIT	PURANPUR	S-NPP	80.08350	28.51826	01:30:00	N	0.50
62	PILHIBHIT	PURANPUR	S-NPP	80.01110	28.64152	01:30:00	N	0.60
63	PRATAPGARH	KUNDA	S-NPP	81.43080	25.91094	12:42:00	D	3.40
64	PRATAPGARH	PATTI	S-NPP	82.25410	25.93822	12:42:00	D	7.10
65	PRATAPGARH	PATTI	S-NPP	82.25530	25.96761	12:42:00	D	2.40

66	RAMPUR	BILASPUR	S-NPP	79.24916	28.81837	12:42:00	D	5.50
67	RAMPUR	BILASPUR	S-NPP	79.34235	28.89493	12:42:00	D	7.10
68	RAMPUR	BILASPUR	AQUA	79.20800	28.89900	13:35:00	D	4.50
69	RAMPUR	BILASPUR	AQUA	79.25400	28.94300	13:35:00	D	6.80
70	SANTKABIRNAGAR	KHALILABAD	S-NPP	82.97188	26.84370	01:30:00	N	0.20
71	SHAHJAHANPUR	PUWANYA	S-NPP	80.19223	28.08573	01:30:00	N	1.90
72	SHAHJAHANPUR	PUWANYA	S-NPP	80.15670	28.17099	12:42:00	D	2.90
73	SHAHJAHANPUR	PUWANYA	S-NPP	80.13585	28.19392	12:42:00	D	4.10
74	SITAPUR	MISRIK	S-NPP	80.61963	27.43136	12:42:00	D	5.40
75	SITAPUR	SITAPUR	S-NPP	80.67867	27.77511	12:42:00	D	6.20
76	SULTANPUR	JAISINGHPUR	S-NPP	82.32546	26.28334	12:42:00	D	4.20
77	UNNAO	BIGHAPUR	AQUA	80.68100	26.40400	13:30:00	D	12.80
78	UNNAO	UNNAO	AQUA	80.67100	26.40200	13:30:00	D	8.00
79	UNNAO	UNNAO	S-NPP	80.41840	26.51403	01:30:00	N	0.70

**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)

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