



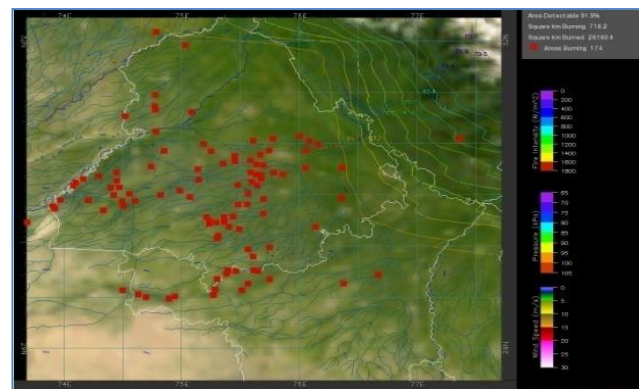
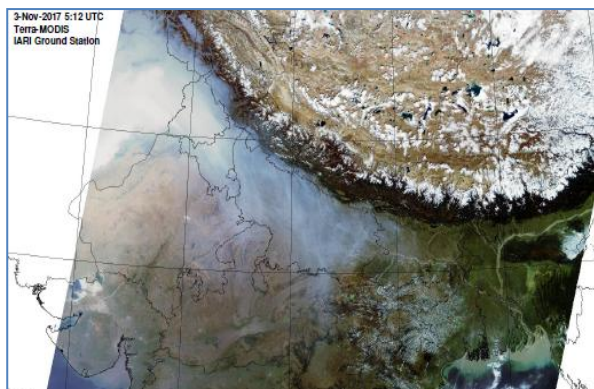
**Bulletin
No. 58**

**Events Date:
28-Nov-2018**

**Issued on:
29-Nov-2018**



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



Prepared by:

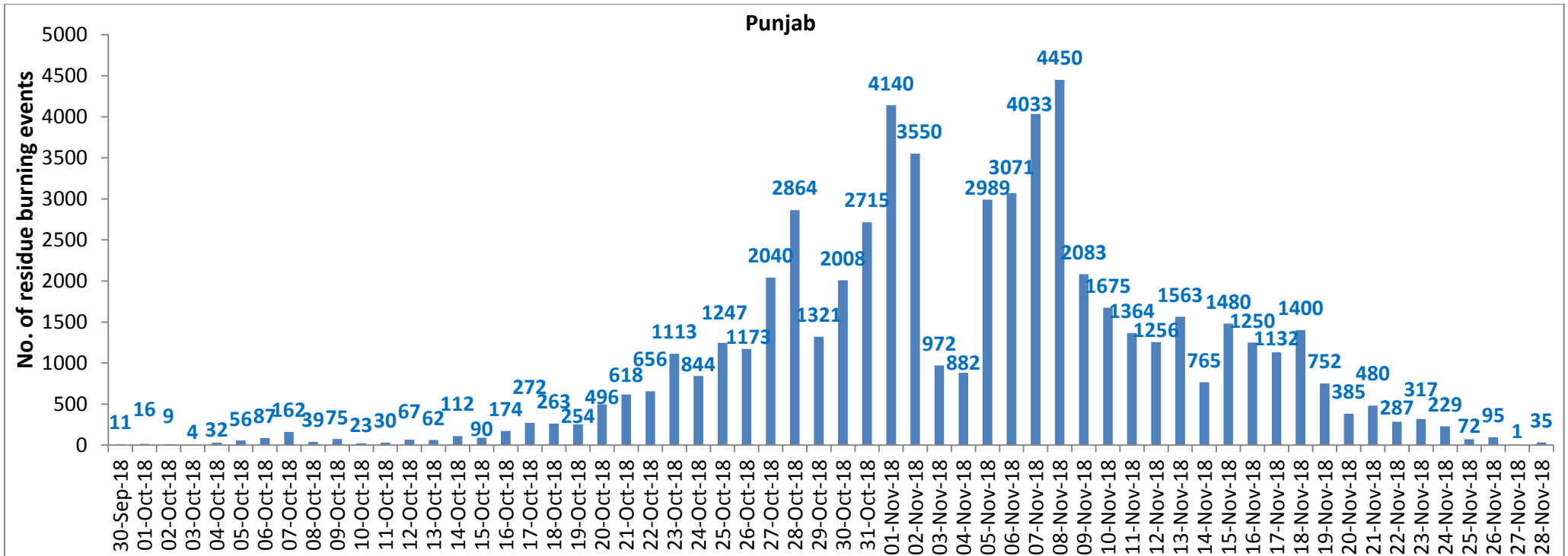
**Consortium for Research on Agroecosystem Monitoring and Modeling from Space (CREAMS) Laboratory,
Division of Agricultural Physics, ICAR – Indian Agricultural Research Institute, New Delhi – 110012**

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

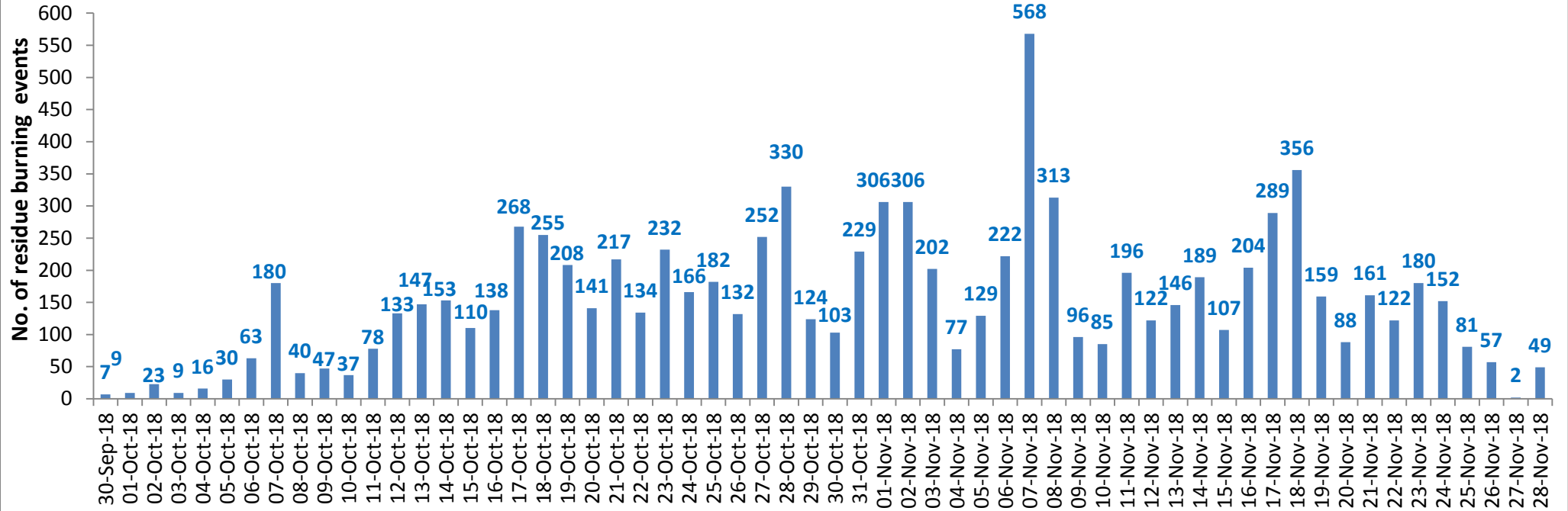
Highlights for 28-November-2018

- Satellites detected **119** residue burning events in the three States (Punjab, Haryana & UP) on **28-Nov-2018**.
- The burning events detected on **28-Nov-2018** are **35**, **49** and **35** in Punjab, Haryana, and UP, respectively.
- The number of events has increased from **45** on **27-Nov-2018** to **119** on **28-Nov-2018** in the three States.
- Total **75208** burning events were detected in the three States between **30-Sept-2018** and **28-Nov-2018**, which are distributed as **59641**, **9157** and **6410** in Punjab, Haryana and UP, respectively.
- Till **28-Nov-2018**, the burning events in the current year are about **85.1%** of the events detected in 2017 and about **59%** of the events detected in 2016.
- Overall, about **15%** and **41%** reduction in burning events are observed in current year (2018) till date as compared to that in 2017 and 2016, respectively.

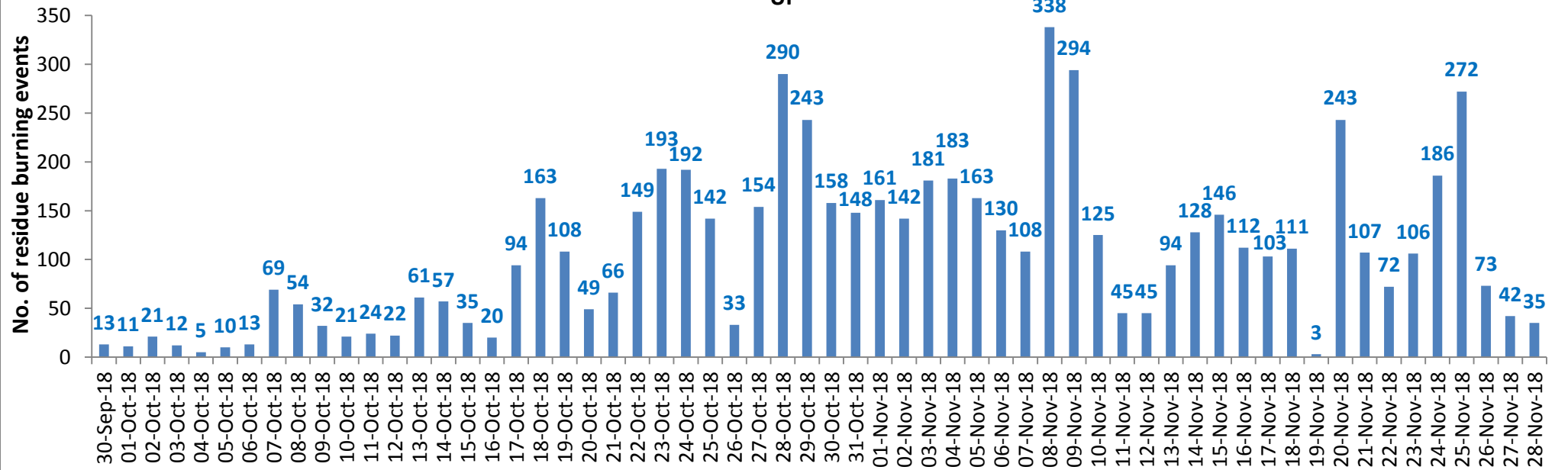
Temporal distribution of residue burning events for the three study States



Haryana

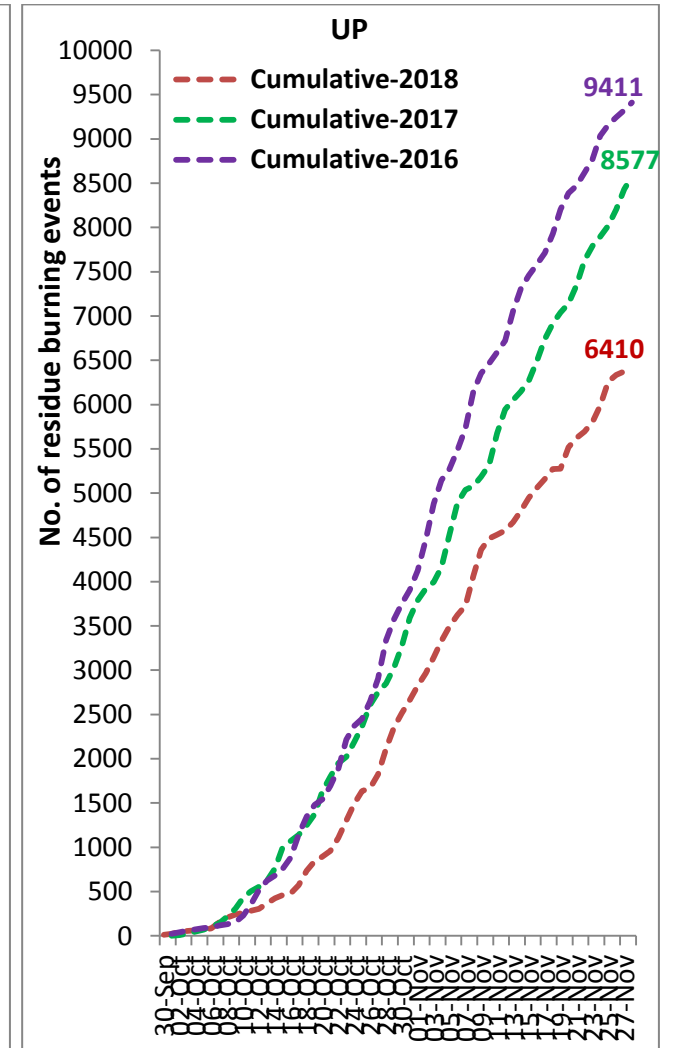
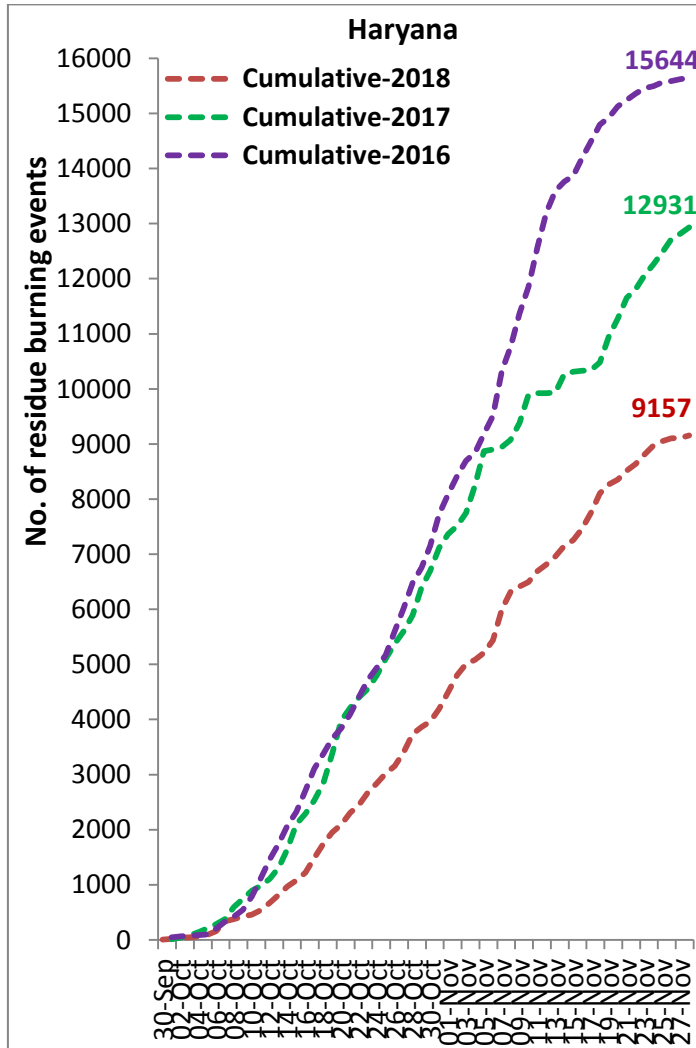
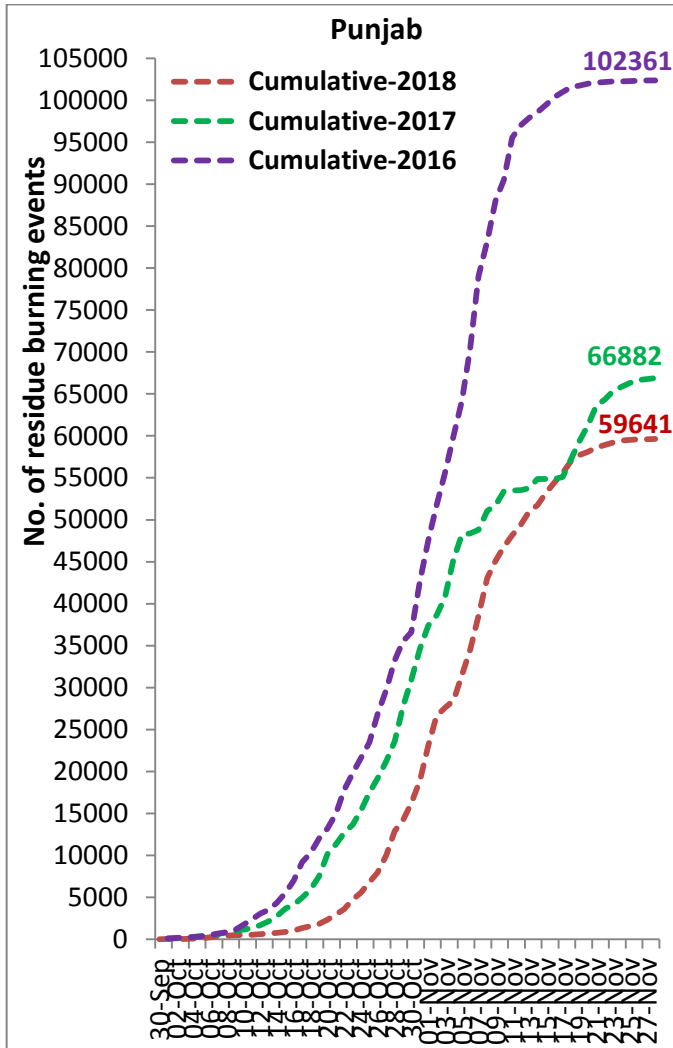


UP

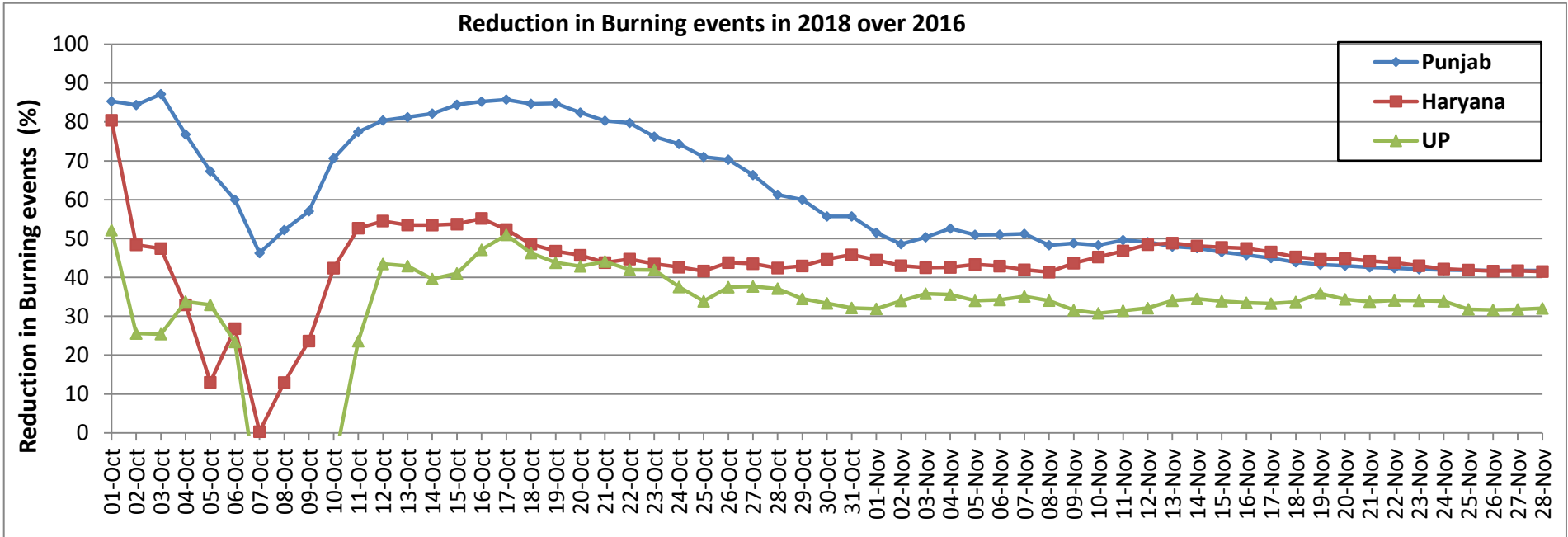
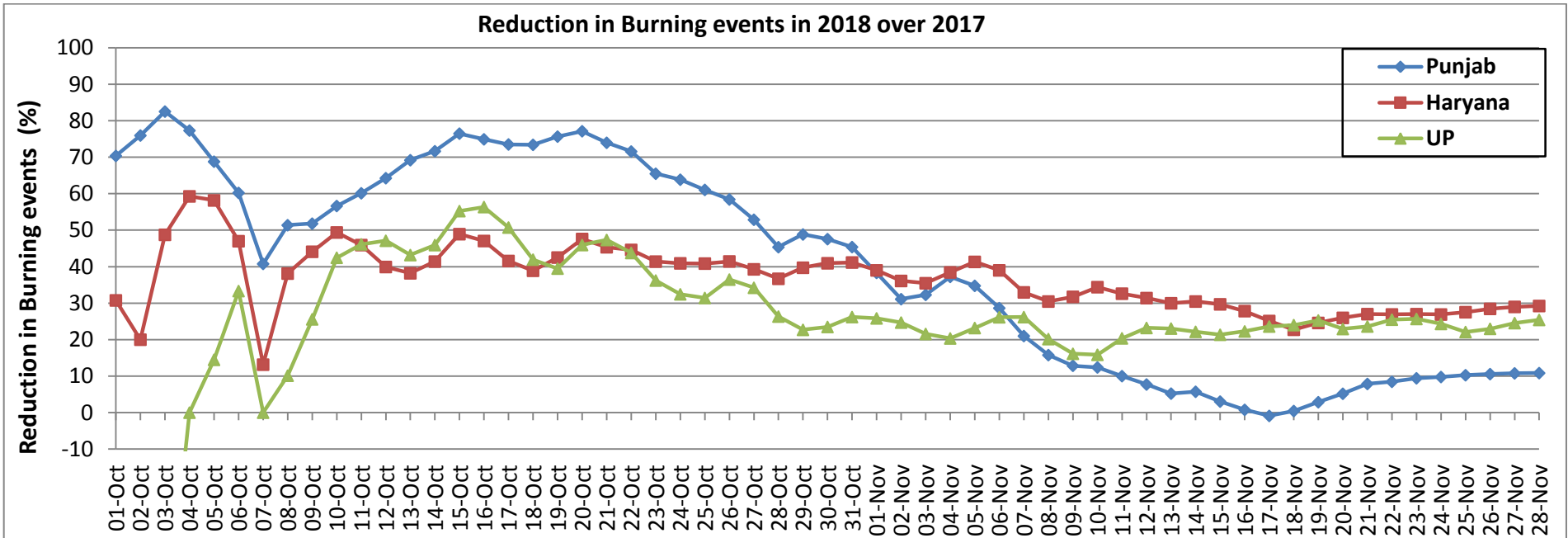


Comparison of residue burning events in current year (2018) with previous years (2017& 2016) for the three study States

(30-Sep to 28-Nov)

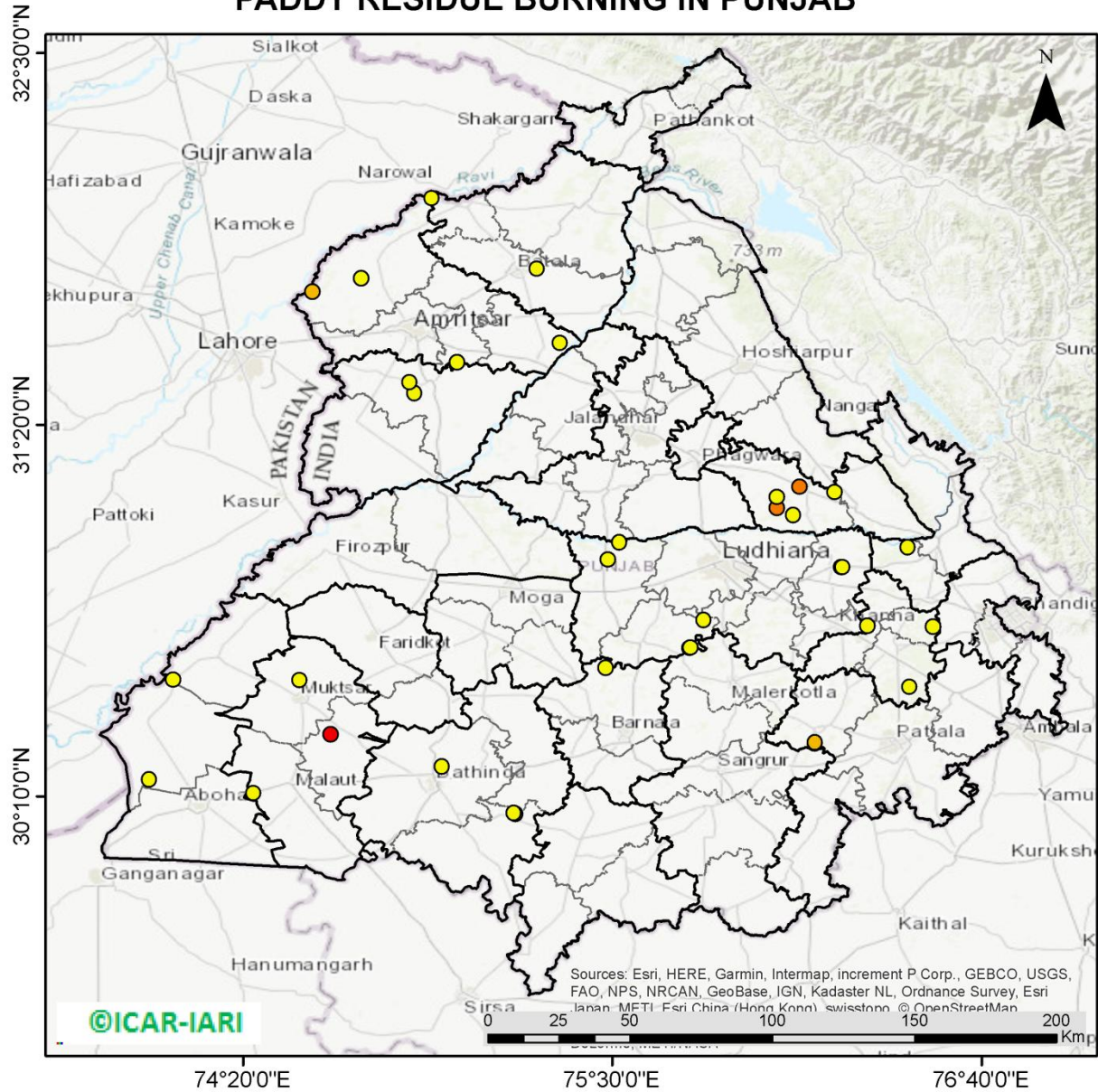


Percent Reduction in Burning events in 2018 over 2017 and 2016 (Daily Cumulative)



(a) Punjab

PADDY RESIDUE BURNING IN PUNJAB



35 burning events detected in Punjab on 28th November, 2018

Fire Intensity (W/m²)

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

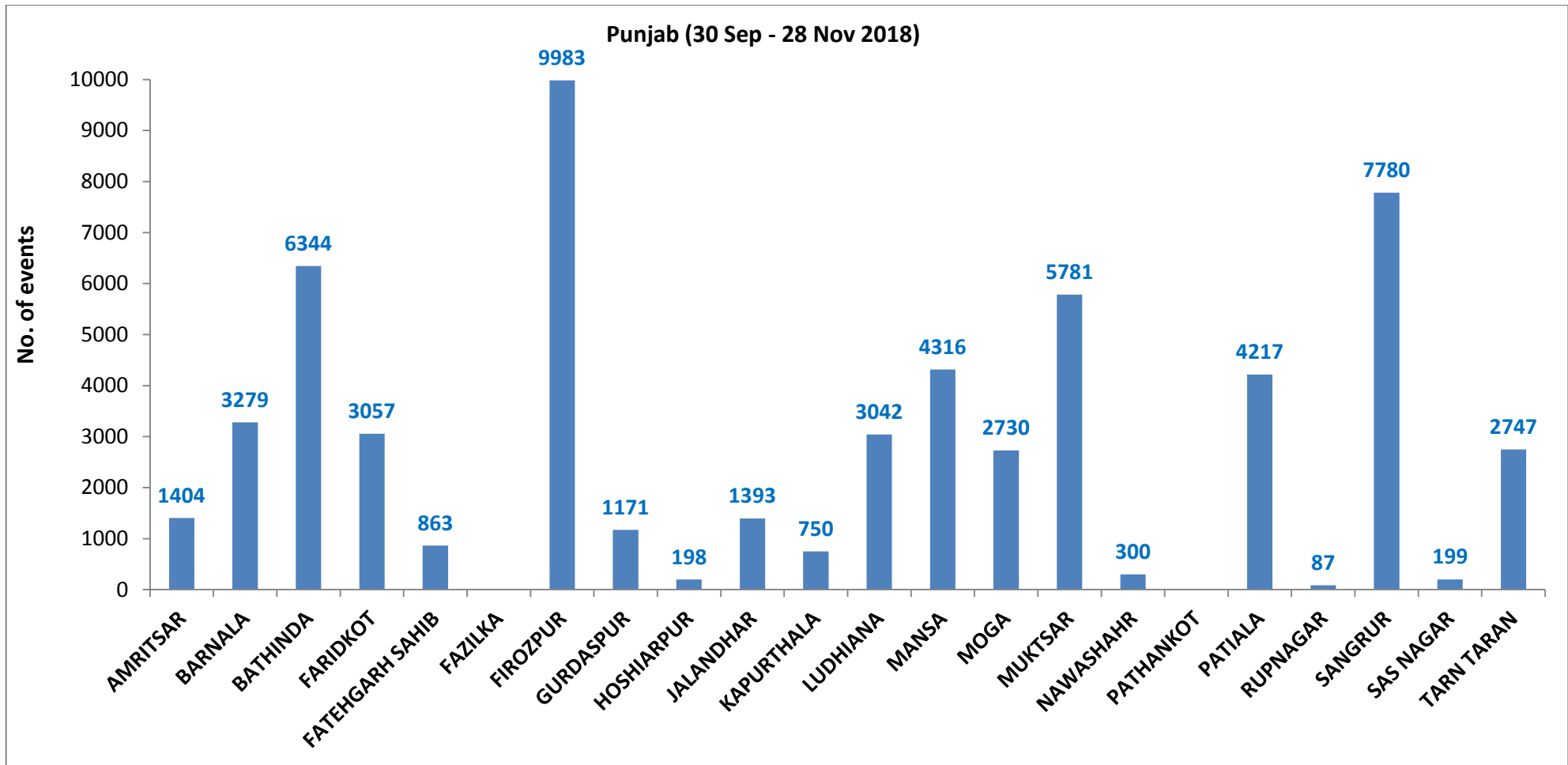


Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, OpenStreetMap

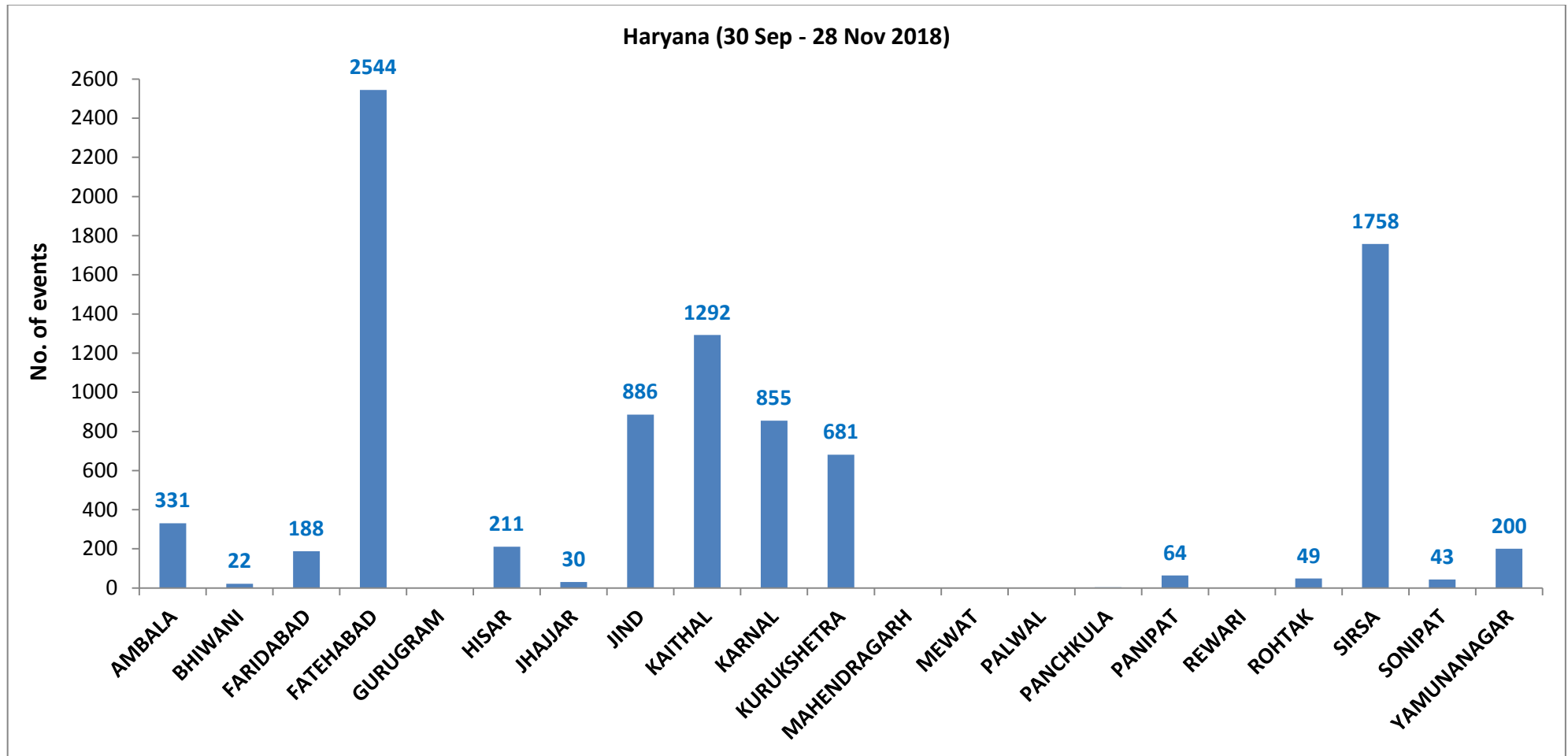


<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise cumulative number of residue burning events in Punjab (30-Sep-2018 to 28-Nov-2018)

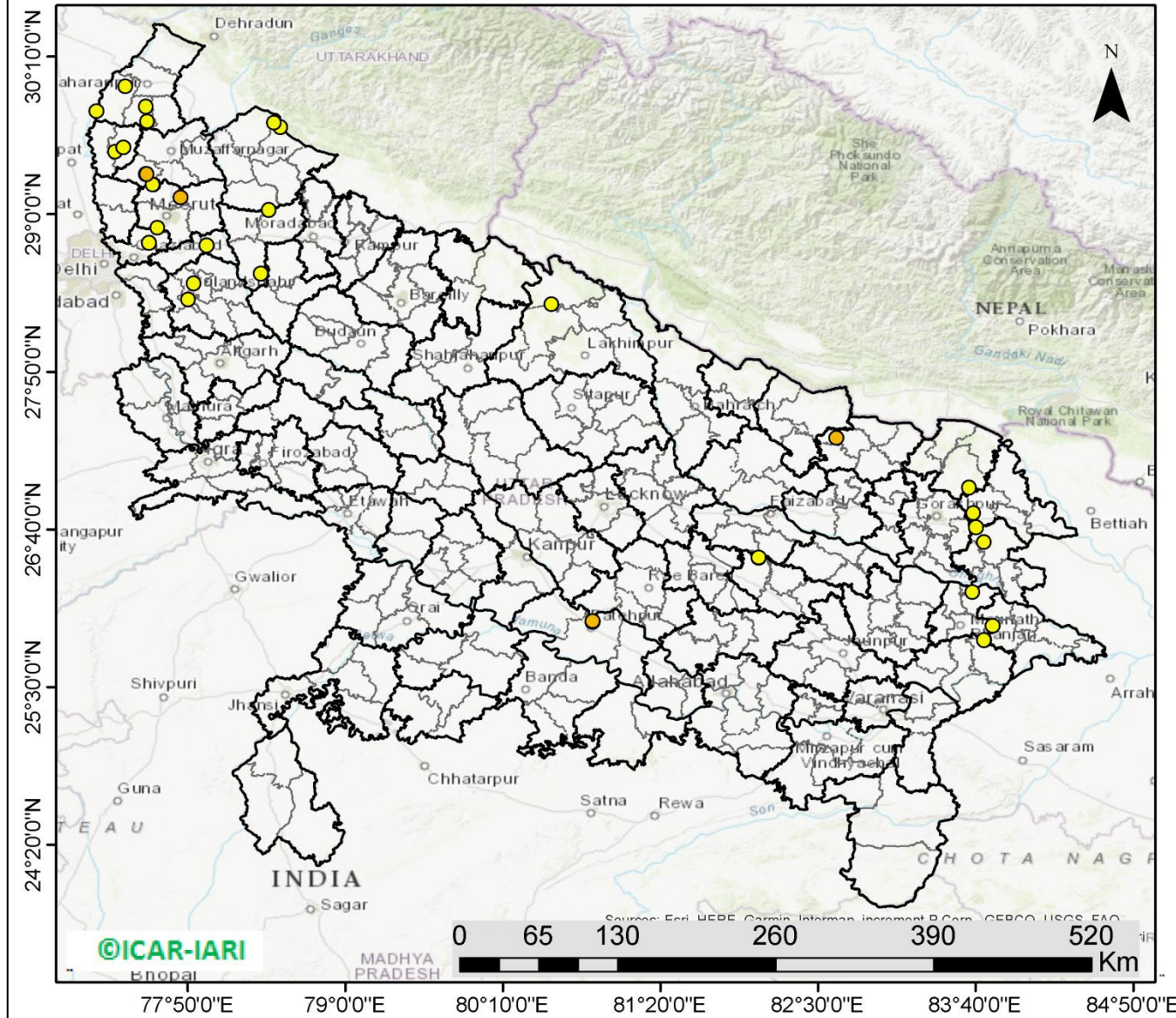


District-wise cumulative number of residue burning events in Haryana (30-Sep-2018 to 28-Nov-2018)



(c) Uttar Pradesh

PADDY RESIDUE BURNING IN UTTAR PRADESH



35 burning events detected in Uttar Pradesh on **28th Nov, 2018**

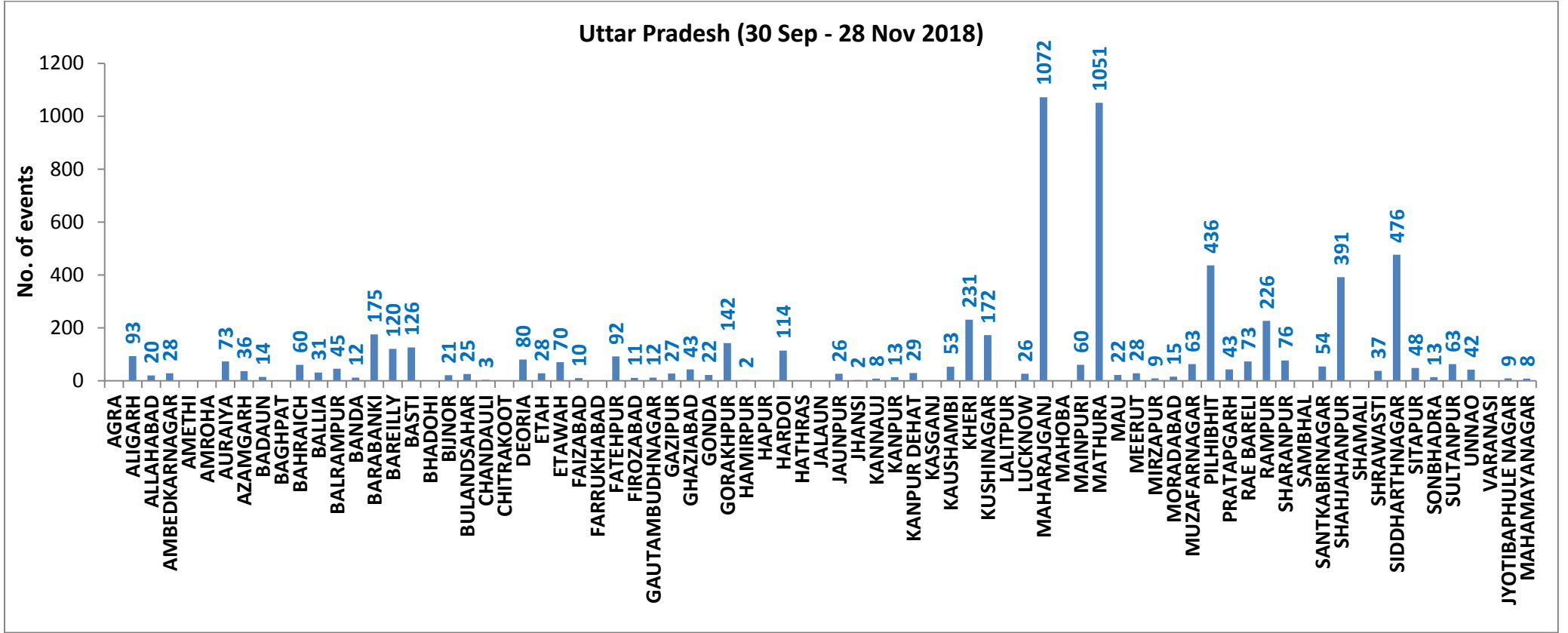
Fire Intensity (W/m²)

- 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 28-Nov-2018)



State wise, date wise and district-wise number of residue burning events detected in 2016, 2017 and 2018
(Period: 30-Sep to 28-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
23-Nov	54	1033	317	97	259	180	151	163	106	302	1455	603
24-Nov	21	507	229	36	192	152	265	105	186	322	794	567
25-Nov	33	443	72	68	219	81	123	124	272	224	786	425
26-Nov	27	334	95	25	240	57	85	186	73	137	760	225
27-Nov	22	151	1	34	99	2	80	227	42	136	477	45
28-Nov	13	95	35	23	114	49	87	145	35	123	354	119
Total	102361	66882	59641	15644	12931	9157	9411	8577	6410	127416	88390	75208

(a) Punjab

Districts	01 Oct - 28Nov		
	2016	2017	2018
AMRITSAR	2170	1355	1404
BARNALA	5701	3425	3279
BATHINDA	8846	5762	6344
FARIDKOT	4629	3472	3057
FATEHGARH SAHIB	2461	1642	863
FAZILKA	0	0	0
FIROZPUR	13641	9925	9983
GURDASPUR	2218	1591	1171
HOSHIARPUR	903	497	198
JALANDHAR	4660	2119	1393
KAPURTHALA	3136	1626	750
LUDHIANA	9546	4744	3042
MANSA	5651	4490	4316
MOGA	6393	2773	2730
MUKTSAR	7037	5432	5781
NAWASHAHR (SBS Nagar)	1366	686	300
PATHANKOT	0	0	0
PATIALA	6544	5034	4217
RUPNAGAR	719	328	87
SANGRUR	11862	8428	7780
SAS NAGAR	365	246	199
TARN TARAN	4513	3307	2747
Total	102361	66882	59641

(b) Haryana

Districts	01 Oct - 28Nov		
	2016	2017	2018
AMBALA	534	502	331
BHIWANI	90	47	22
FARIDABAD	288	343	188
FATEHABAD	4831	3722	2544
GURUGRAM	0	0	0
HISAR	413	192	211
JHAJJAR	39	19	30
JIND	859	943	886
KAITHAL	1748	1512	1292
KARNAL	1639	1512	855
KURUKSHETRA	1078	1148	681
MAHENDRAGARH	0	0	0
MEWAT	0	0	0
PALWAL	0	0	0
PANCHKULA	0	0	3
PANIPAT	102	108	64
REWARI	0	0	0
ROHTAK	103	94	49
SIRSA	3577	2382	1758
SONIPAT	97	86	43
YAMUNANAGAR	246	321	200
Total	15644	12931	9157

(c) Uttar Pradesh				FATEHPUR	82	69	92	MUZAFARNAGAR	153	184	63
				FIROZABAD	23	18	11	PILHIBHIT	958	745	436
Distrites	01 Oct - 28Nov			GAUTAMBUDH				PRATAPGARH	46	63	43
	2016	2017	2018	NAGAR	31	46	12	RAE BARELI	117	149	73
AGRA	0	0	0	GAZIPUR	16	21	27	RAMPUR	627	654	226
ALIGARH	58	82	93	GHAZIABAD	90	66	43	SHARANPUR	129	160	76
ALLAHABAD	6	18	20	GONDA	48	39	22	SAMBHAL	0	0	0
AMBEDKAR				GORAKHPUR	66	115	142	SANTKABIR			
NAGAR	77	71	28	HAMIRPUR	0	0	2	NAGAR	56	65	54
AMETHI	0	0	0	HAPUR	0	0	0	SHAHJAHANPUR	1156	711	391
AMROHA	0	0	0	HARDOI	257	209	114	SHAMALI	0	0	0
AURAIYA	285	251	73	HATHRAS	0	0	0	SHRAWASTI	37	32	37
AZAMGARH	38	55	36	JALAUN	0	0	0	SIDDHARTH			
BADAUN	13	11	14	JAUNPUR	25	42	26	NAGAR	262	188	476
BAGHPAT	0	0	0	JHANSI	0	0	2	SITAPUR	138	85	48
BAHRAICH	81	42	60	KANNAUJ	35	20	8	SONBHADRA	16	16	13
BALLIA	19	48	31	KANPUR	20	14	13	SULTANPUR	80	82	63
BALRAMPUR	37	27	45	KANPUR DEHAT	72	75	29	UNNAO	68	59	42
BANDA	2	23	12	KASGANJ	0	0	0	VARANASI	2	0	0
BARABANKI	222	168	175	KAUSHAMBI	34	54	53	JYOTIBAPHULE			
BAREILLY	262	236	120	KHERI	496	347	231	NAGAR	12	20	9
BASTI	146	187	126	KUSHINAGAR	66	156	172	MAHAMAYA			
BHADOHI	0	0	0	LALITPUR	0	0	0	NAGAR	4	2	8
BIJNOR	71	71	21	LUCKNOW	64	30	26	Total	9411	8577	6410
BULANDSAHAR	36	38	25	MAHARAJGANJ	722	1029	1072				
CHANDAULI	18	22	3	MAHOBA	0	0	0				
CHITRAKOOT	0	0	0	MAINPURI	97	96	60				
DEORIA	62	86	80	MATHURA	1462	1083	1051				
ETAH	24	33	28	MAU	15	23	22				
ETAWAH	188	145	70	MEERUT	99	115	28				
FAIZABAD	18	16	10	MIRZAPUR	5	21	9				
FARRUKHABAD	0	0	0	MORADABAD	62	44	15				

Details of residue burning events in Punjab on 28-Nov-2018

Event S. No.	District	Tehsil/Block	Satellite	Longitude	Latitude	Time (IST)	Day/Night	Fire Power (W/m²)
1	AMRITSAR	AJNALA	S-NPP	74.55152	31.75142	13:48:00	D	6.60
2	AMRITSAR	AJNALA	S-NPP	74.70615	31.79328	13:48:00	D	1.90
3	AMRITSAR	AMRITSAR I	S-NPP	75.00913	31.52985	13:48:00	D	4.40
4	AMRITSAR	BABA BAKALA	S-NPP	75.33433	31.59024	13:48:00	D	1.70
5	BARNALA	BARNALA	S-NPP	75.47842	30.57053	13:48:00	D	3.20
6	BATHINDA	BATHINDA	S-NPP	74.96162	30.26024	13:48:00	D	4.10
7	BATHINDA	TALWANDI SABO	S-NPP	75.19448	30.11164	13:48:00	D	4.90
8	BATHINDA	TALWANDI SABO	S-NPP	75.18871	30.11477	13:48:00	D	4.70
9	FATEHGARH SAHIB	BASSI PATHANAN	S-NPP	76.51405	30.70009	13:48:00	D	3.80
10	FATEHGARH SAHIB	FATEHGARH SAHIB	S-NPP	76.44007	30.51091	13:48:00	D	3.10
11	FIROZPUR	FAZILKA	S-NPP	74.03605	30.22064	13:48:00	D	2.90
12	FIROZPUR	JALALABAD	S-NPP	74.11191	30.53285	13:48:00	D	2.20
13	GURDASPUR	BATALA	S-NPP	75.26077	31.82342	13:48:00	D	3.60
14	GURDASPUR	DERA BABA NANAK	S-NPP	74.92851	32.04446	13:48:00	D	4.40
15	LUDHIANA	JAGRAON	S-NPP	75.48531	30.90989	13:48:00	D	3.10
16	LUDHIANA	JAGRAON	S-NPP	75.52228	30.96501	13:48:00	D	2.70
17	LUDHIANA	KHANNA	S-NPP	76.30581	30.70204	13:48:00	D	1.50
18	LUDHIANA	LUDHIANA EAST	S-NPP	75.78821	30.72120	13:48:00	D	2.10
19	LUDHIANA	RAIKOT	S-NPP	75.74361	30.63293	13:48:00	D	6.00
20	LUDHIANA	RAIKOT	S-NPP	75.74607	30.63325	13:48:00	D	2.90
21	LUDHIANA	SAMRALA	S-NPP	76.22346	30.88577	13:48:00	D	4.20
22	LUDHIANA	SAMRALA	S-NPP	76.22749	30.88622	13:48:00	D	4.20
23	MUKTSAR	GIDDARBAHA	S-NPP	74.60958	30.36208	13:48:00	D	22.20
24	MUKTSAR	MALAUT	S-NPP	74.36494	30.17631	13:48:00	D	3.90
25	MUKTSAR	MUKTSAR	S-NPP	74.51094	30.53121	13:48:00	D	4.80
26	NAWASHAHR	NAWASHAHR	S-NPP	76.07253	31.05052	13:48:00	D	3.60
27	NAWASHAHR	NAWASHAHR	AQUA-1	76.01996	31.07336	13:17:00	D	10.82
28	NAWASHAHR	NAWASHAHR	S-NPP	76.01974	31.10699	13:48:00	D	4.70
29	NAWASHAHR	NAWASHAHR	S-NPP	76.20190	31.12246	13:48:00	D	2.70

30	NAWASHAHR	NAWASHAHR	AQUA-1	76.09158	31.13924	13:17:00	D	12.86
31	PATIALA	NABHA	S-NPP	76.14086	30.33320	13:48:00	D	2.80
32	PATIALA	NABHA	S-NPP	76.14028	30.33716	13:48:00	D	6.40
33	RUPNAGAR	CHAMKOR SAHIB	S-NPP	76.43441	30.94989	13:48:00	D	2.40
34	TARN TARAN	KHADOOR SAHIB	S-NPP	74.87486	31.43373	13:48:00	D	2.00
35	TARN TARAN	KHADOOR SAHIB	S-NPP	74.85899	31.46626	13:48:00	D	2.60

Details of residue burning events in Haryana on 28-Nov-2018

Event S. No.	District	Tehsil/Block	Satellite	Longitude	Latitude	Time (IST)	Day/Night	Fire Power (W/m ²)
1	AMBALA	BARARA	S-NPP	77.08215	30.33014	13:48:00	D	4.40
2	BHIWANI	BAWANI_KHERA	S-NPP	76.19205	28.99060	13:48:00	D	4.20
3	FARIDABAD	PALWAL	S-NPP	77.40671	28.11829	13:48:00	D	5.90
4	FARIDABAD	PALWAL	S-NPP	77.40615	28.12244	13:48:00	D	5.90
5	FATEHABAD	FATEHABAD	S-NPP	75.28458	29.50941	13:48:00	D	1.80
6	FATEHABAD	FATEHABAD	AQUA-1	75.49644	29.51179	13:17:00	D	47.85
7	FATEHABAD	FATEHABAD	S-NPP	75.44830	29.54776	13:48:00	D	8.80
8	FATEHABAD	FATEHABAD	S-NPP	75.46407	29.54961	13:48:00	D	30.40
9	FATEHABAD	FATEHABAD	S-NPP	75.51964	29.62869	13:48:00	D	2.20
10	FATEHABAD	FATEHABAD	S-NPP	75.52186	29.62978	13:48:00	D	3.00
11	FATEHABAD	FATEHABAD	S-NPP	75.52324	29.64070	13:48:00	D	6.50
12	FATEHABAD	FATEHABAD	S-NPP	75.52545	29.64182	13:48:00	D	5.50
13	FATEHABAD	RATIA	S-NPP	75.54657	29.60953	13:48:00	D	5.90
14	FATEHABAD	RATIA	AQUA-1	75.57659	29.61210	13:17:00	D	25.07
15	FATEHABAD	RATIA	S-NPP	75.56675	29.61967	13:48:00	D	9.40
16	FATEHABAD	RATIA	S-NPP	75.65594	29.76279	13:48:00	D	5.10
17	HISAR	HISAR	AQUA-1	75.79316	29.50281	13:17:00	D	13.84
18	HISAR	HISAR	S-NPP	75.78831	29.51543	13:48:00	D	2.80
19	JHAJJAR	BAHADURGARH	S-NPP	76.80831	28.70096	13:48:00	D	2.70
20	JIND	JIND	S-NPP	76.23808	29.30099	13:48:00	D	3.10
21	JIND	JIND	S-NPP	76.20786	29.30960	13:48:00	D	4.50

22	JIND	JIND	S-NPP	76.37873	29.41513	13:48:00	D	3.50
23	KARNAL	ASSANDH	S-NPP	76.72063	29.52193	13:48:00	D	1.60
24	KARNAL	GHARAUNDA	S-NPP	77.03307	29.52251	13:48:00	D	2.20
25	KARNAL	GHARAUNDA	S-NPP	76.76978	29.56013	13:48:00	D	4.20
26	KARNAL	GHARAUNDA	S-NPP	76.76930	29.56035	13:48:00	D	4.50
27	ROHTAK	MAHAM	S-NPP	76.32173	28.90640	13:48:00	D	2.80
28	ROHTAK	MAHAM	S-NPP	76.44158	28.92389	13:48:00	D	3.30
29	SIRSA	ELLENABAD	S-NPP	74.86697	29.44592	13:48:00	D	3.70
30	SIRSA	ELLENABAD	S-NPP	74.78639	29.46110	13:48:00	D	5.10
31	SIRSA	ELLENABAD	S-NPP	74.77315	29.48182	13:48:00	D	7.90
32	SIRSA	ELLENABAD	S-NPP	74.70898	29.51103	13:48:00	D	4.30
33	SIRSA	RANIA	AQUA-1	74.70861	29.53874	13:17:00	D	36.55
34	SIRSA	RANIA	S-NPP	74.69123	29.54222	13:48:00	D	2.80
35	SIRSA	RANIA	S-NPP	74.68464	29.55255	13:48:00	D	2.50
36	SIRSA	RANIA	S-NPP	74.73264	29.56213	13:48:00	D	4.40
37	SIRSA	SIRSA	S-NPP	74.89593	29.45329	13:48:00	D	3.40
38	SIRSA	SIRSA	S-NPP	74.90086	29.45391	13:48:00	D	4.80
39	SIRSA	SIRSA	S-NPP	74.89732	29.45586	13:48:00	D	6.20
40	SIRSA	SIRSA	S-NPP	74.92790	29.48577	13:48:00	D	4.90
41	SIRSA	SIRSA	S-NPP	75.10191	29.51430	13:48:00	D	4.70
42	SIRSA	SIRSA	S-NPP	75.19669	29.53705	13:48:00	D	17.70
43	SIRSA	SIRSA	TERRA-1	74.98316	29.56419	11:43:00	D	35.35
44	SIRSA	SIRSA	S-NPP	75.04085	29.59184	13:48:00	D	4.50
45	SIRSA	SIRSA	TERRA-1	75.00533	29.59264	11:43:00	D	21.17
46	SIRSA	SIRSA	S-NPP	75.15385	29.66220	13:48:00	D	4.30
47	SIRSA	SIRSA	S-NPP	75.18210	29.76894	13:48:00	D	3.30
48	SONIPAT	GANAUR	S-NPP	77.05399	29.06851	13:48:00	D	1.70
49	YAMUNANAGAR	JAGADHRI	S-NPP	77.21584	29.98564	13:48:00	D	3.30

Details of residue burning events in Uttar Pradesh on 28-Nov-2018

Event S. No.	District	Tehsil/Block	Satellite	Longitude	Latitude	Time (IST)	Day/Night	Fire Power (W/m²)
1	BALLIA	RASRA	S-NPP	83.73127	25.84787	12:06:00	D	4.90
2	BALLIA	RASRA	S-NPP	83.79235	25.95154	12:06:00	D	3.00
3	BIJNOR	NAGINA	S-NPP	78.52122	29.64377	13:48:00	D	4.50
4	BIJNOR	NAGINA	S-NPP	78.47315	29.67649	13:48:00	D	3.10
5	BULANSAHAR	BULANSHAHAR	S-NPP	77.83756	28.36570	13:48:00	D	3.40
6	BULANSAHAR	BULANSHAHAR	S-NPP	77.87856	28.48564	13:48:00	D	2.80
7	DEORIA	DEORIA	S-NPP	83.72924	26.57154	13:48:00	D	2.80
8	DEORIA	DEORIA	S-NPP	83.67076	26.68248	13:48:00	D	2.20
9	FATEHPUR	FATEHPUR	S-NPP	80.83125	25.98151	13:48:00	D	8.60
10	FATEHPUR	FATEHPUR	S-NPP	80.83072	25.98652	13:48:00	D	8.60
11	GAZIPUR	MUHAMMADBAD	S-NPP	83.73448	25.84736	12:06:00	D	6.40
12	GHAZIABAD	GARHMUKTESAR	S-NPP	77.97316	28.76697	13:48:00	D	2.60
13	GHAZIABAD	MODINAGAR	S-NPP	77.54663	28.78717	13:48:00	D	3.50
14	GHAZIABAD	MODINAGAR	S-NPP	77.54765	28.78717	13:48:00	D	4.60
15	JYOTIBAPHULE NAGAR	AMROHA	S-NPP	78.43457	29.03029	13:48:00	D	1.60
16	JYOTIBAPHULE NAGAR	HASANPUR	S-NPP	78.37412	28.55834	13:48:00	D	1.70
17	KHERI	PALIA KALAN	S-NPP	80.52672	28.33198	13:48:00	D	2.60
18	KUSHINAGAR	HATA	S-NPP	83.65102	26.78477	12:06:00	D	4.60
19	MAHARAJGANJ	MAHARAJGANJ	S-NPP	83.61816	26.97545	12:06:00	D	5.00
20	MAU	MADHUBAN	S-NPP	83.64513	26.20055	12:06:00	D	2.90
21	MEERUT	MEERUT	S-NPP	77.60987	28.89669	13:48:00	D	2.70
22	MEERUT	SARDHANA	S-NPP	77.78133	29.12398	13:48:00	D	6.40
23	MEERUT	SARDHANA	S-NPP	77.57700	29.21644	13:48:00	D	3.30
24	MEERUT	SARDHANA	S-NPP	77.57572	29.21725	13:48:00	D	2.20
25	MUZAFARNAGAR	BUDHANA	S-NPP	77.52527	29.29724	13:48:00	D	6.60
26	MUZAFARNAGAR	BUDHANA	S-NPP	77.52976	29.29772	13:48:00	D	6.60
27	MUZAFARNAGAR	SHAMLI	S-NPP	77.29812	29.46094	13:48:00	D	4.20
28	MUZAFARNAGAR	SHAMLI	S-NPP	77.35643	29.49269	13:48:00	D	2.60
29	SHARANPUR	NAKUR	S-NPP	77.15868	29.76199	13:48:00	D	1.50

30	SHARANPUR	NAKUR	S-NPP	77.37370	29.94286	13:48:00	D	2.10
31	SHARANPUR	RAMPUR MANIHARRAN	S-NPP	77.53431	29.68594	13:48:00	D	4.20
32	SHARANPUR	RAMPUR MANIHARRAN	S-NPP	77.52526	29.79573	13:48:00	D	4.20
33	SIDDHARTHANAGAR	ITWA	S-NPP	82.63490	27.34289	12:06:00	D	5.40
34	SULTANPUR	SULTANPUR	S-NPP	82.06161	26.45493	13:48:00	D	4.20
35	SULTANPUR	SULTANPUR	S-NPP	82.06120	26.45625	13:48:00	D	3.60

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/>
