

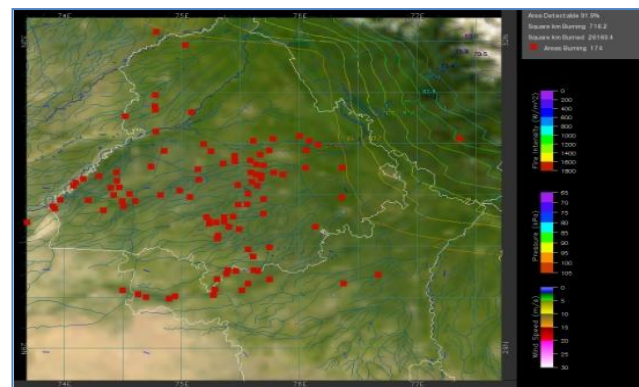
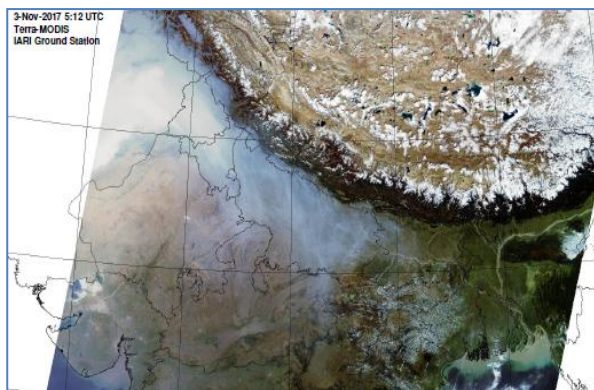


# MONITORING PADDY RESIDUE BURNING IN NORTH INDIA USING SATELLITE REMOTE SENSING DURING 2019

**Bulletin  
No. 09**

**Events Date:  
09-Oct-2019**

**Issued on:  
10-Oct-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**

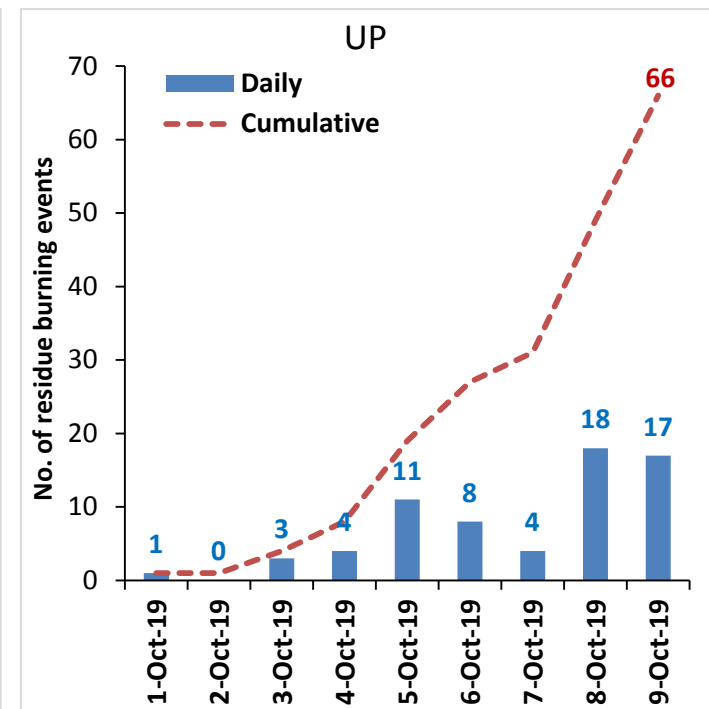
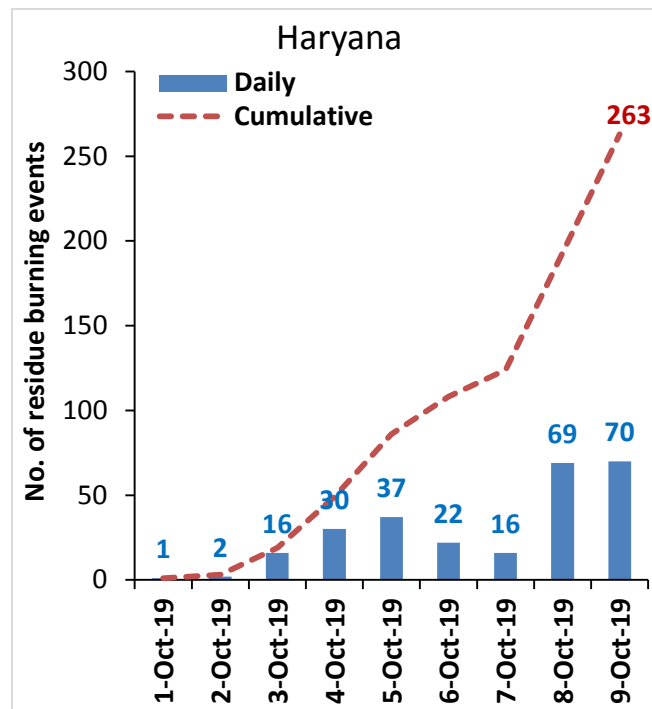
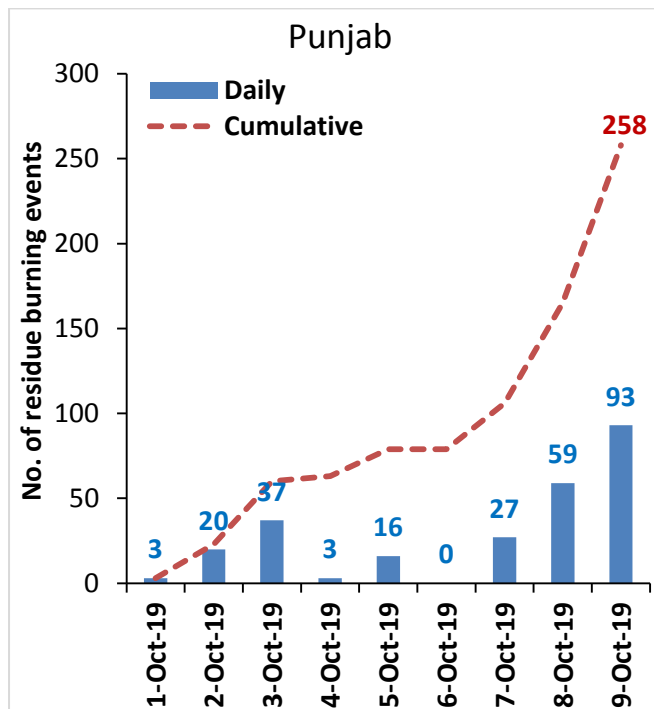


<http://creams.iari.res.in>

## Highlights for 09-October-2019

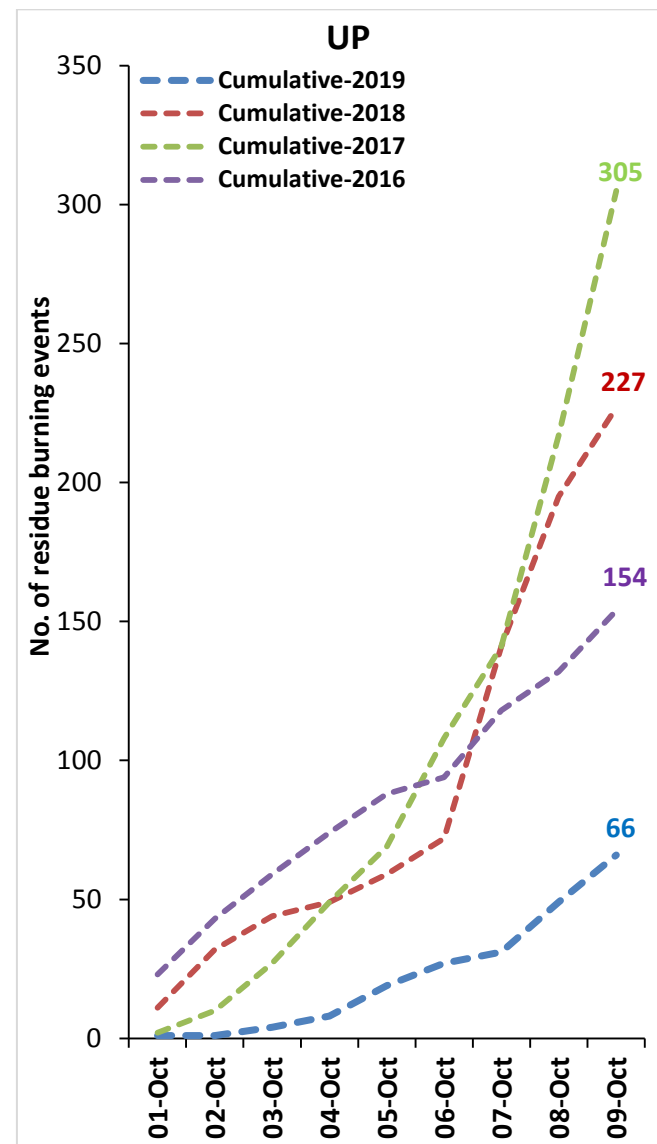
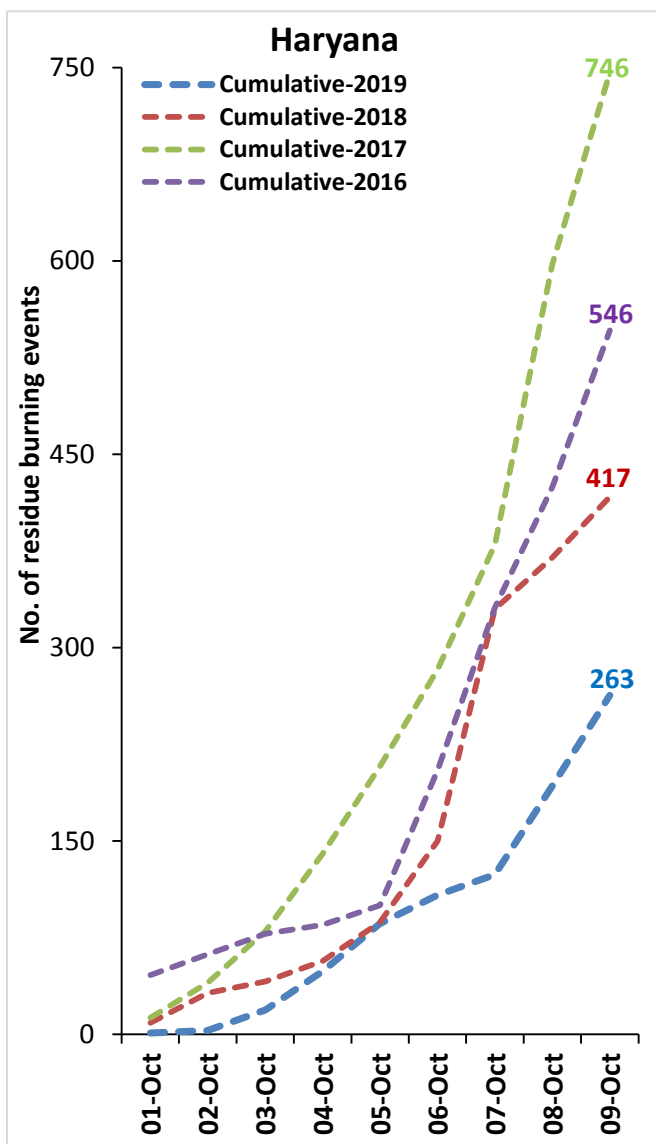
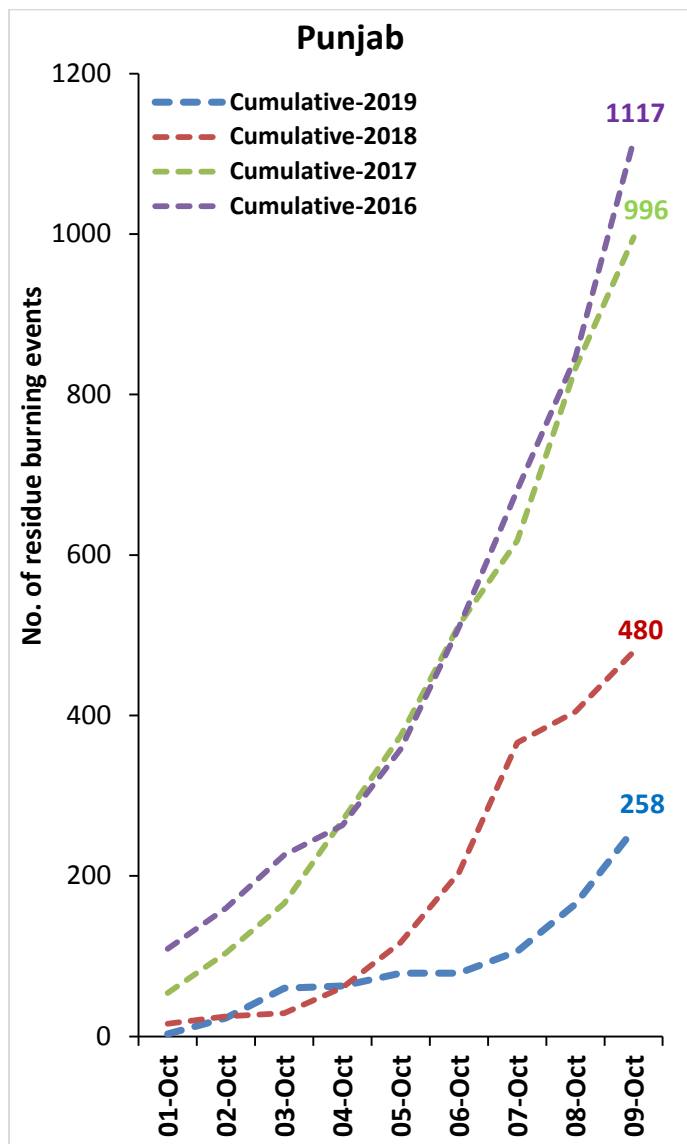
- Satellites detected **180** residue burning events in the three study States on 09-Oct-2019.
- The burning events detected on **09-Oct-2019** are **93**, **70** and **17** in Punjab, Haryana and UP, respectively.
- The number of events has increased from **146** on **08-Oct-2019** to **180** on **09-Oct-2019** in the three states.
- Total **587** burning events were detected in the three States between **01-Oct-2019** and **09-Oct-2019**, which are distributed as **258**, **263** and **66** in Punjab, Haryana and UP, respectively.
- Overall, the total burning events recorded in the three states are **47.7%** less than in 2018 till date. This reduction is **46%** in Punjab, **37%** in Haryana and **71%** in UP in current season as compared to 2018.

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

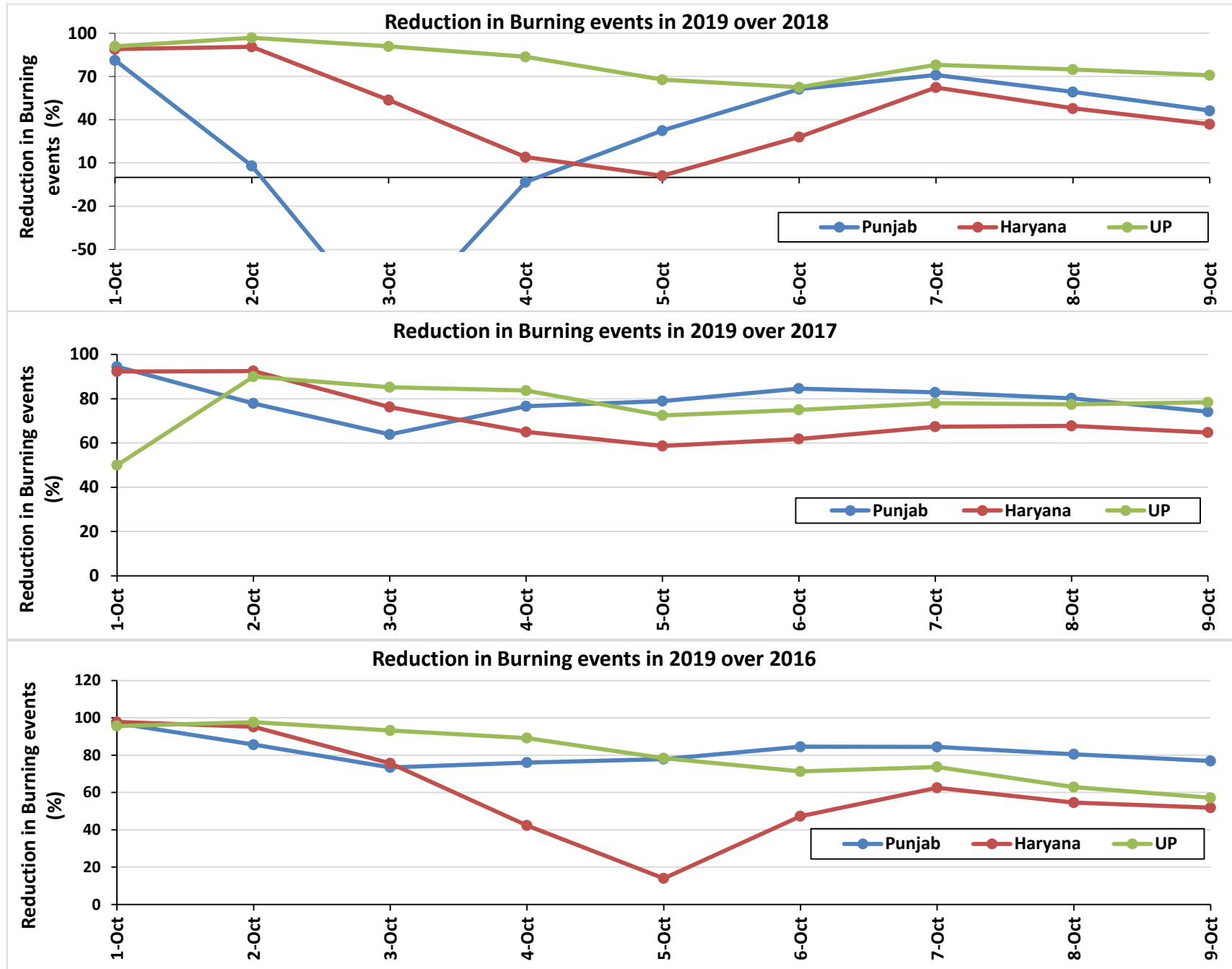


**Comparison of residue burning events in current year (2019) with previous years (2018, 2017 & 2016) for the three study States**

**(01-Oct to 09-Oct)**

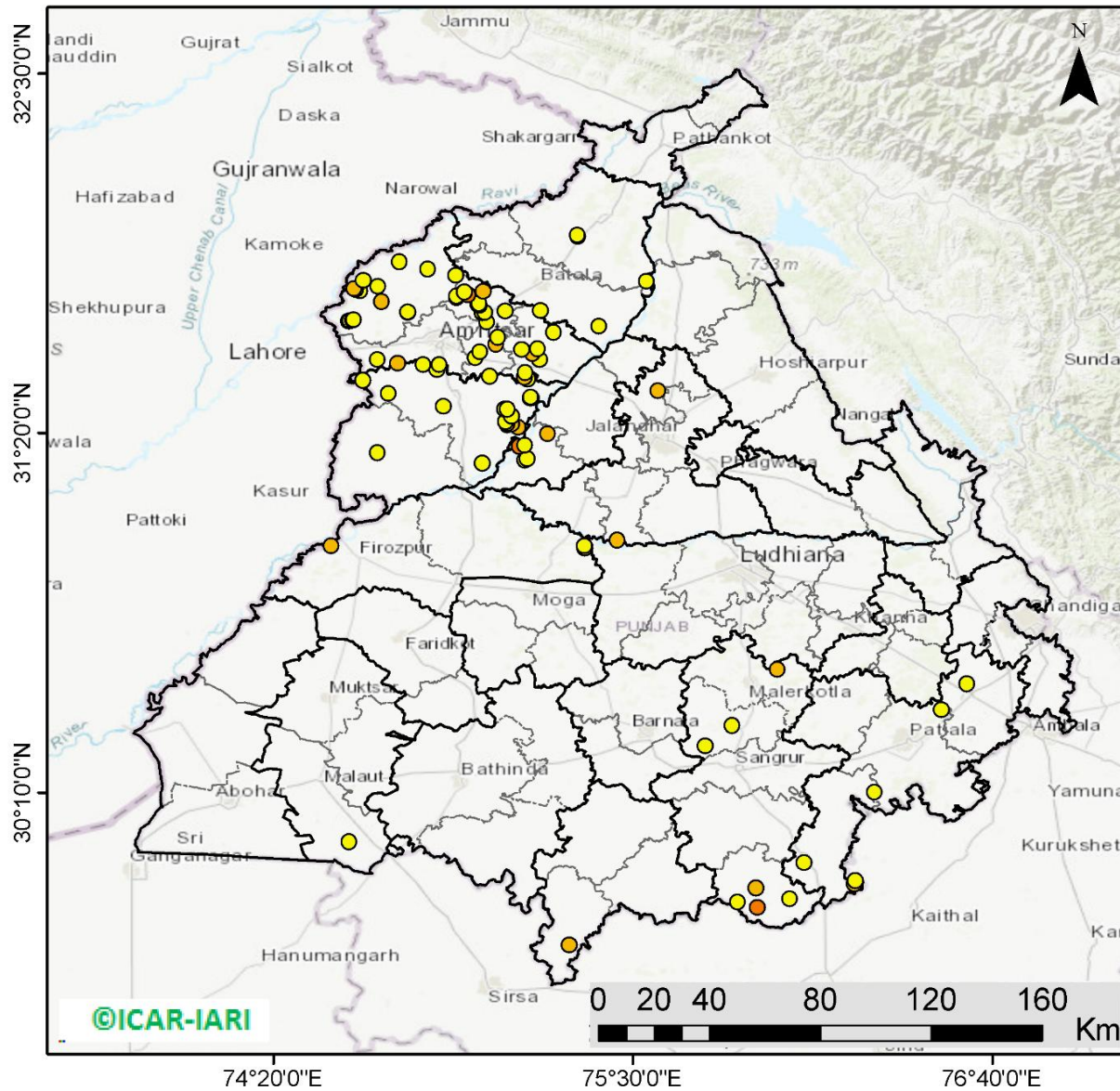


## Percent Reduction in Burning events in 2019 over 2018, 2017 and 2016 (Daily Cumulative)



(a) Punjab

RICE RESIDUE BURNING IN PUNJAB



**93** burning events detected in Punjab on 09th October 2019

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

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

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**Details of residue burning events in Punjab on 09-Oct-2019**

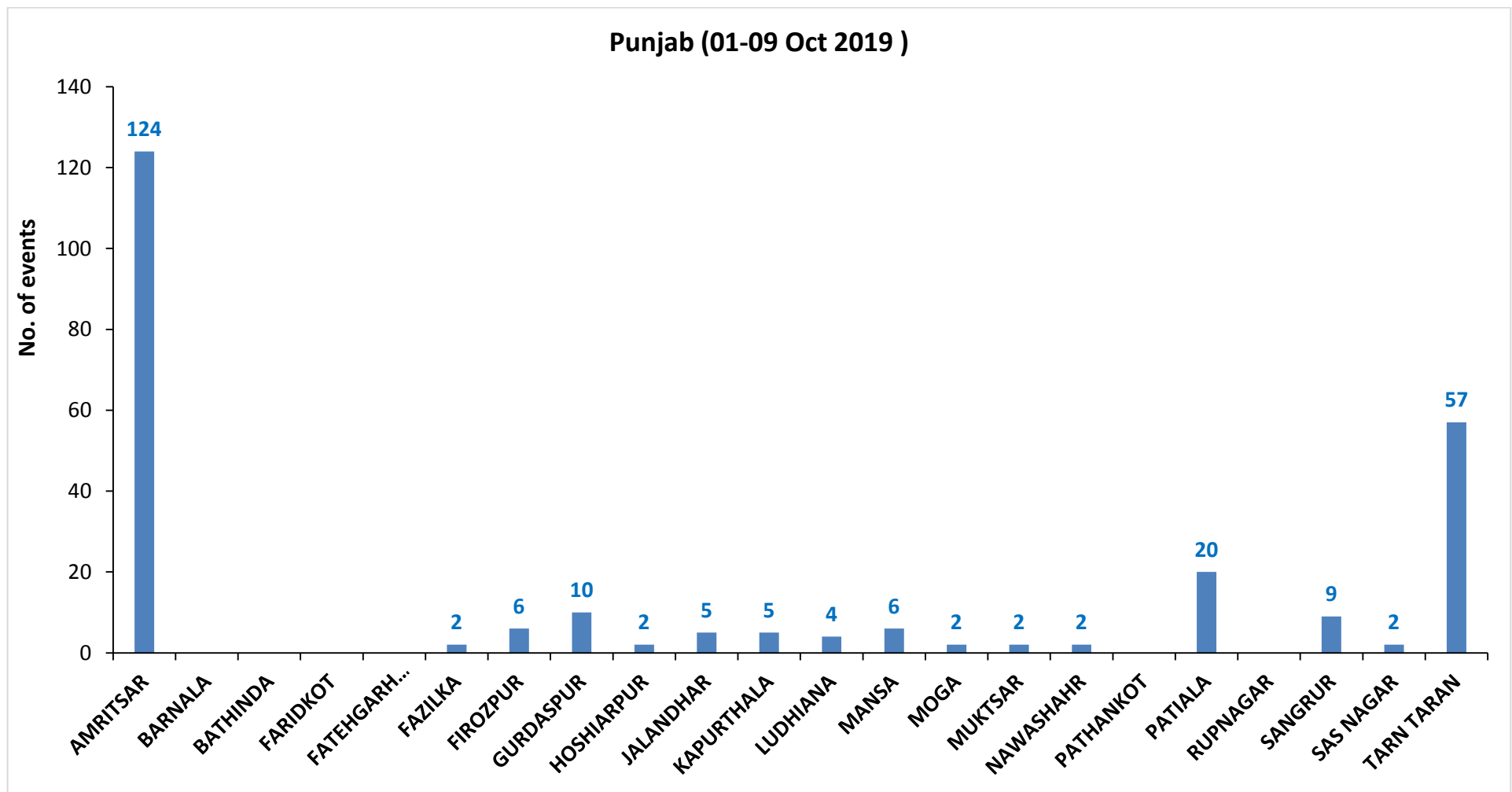
<b>S. No.</b>	<b>District</b>	<b>Tehsil / Block</b>	<b>Satellite</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Time (IST)</b>	<b>Day / Night</b>	<b>Fire Power (W/m<sup>2</sup>)</b>
1	AMRITSAR	AJNALA	S-NPP	74.58133	31.69536	13:42:00	D	6.20
2	AMRITSAR	AJNALA	S-NPP	74.57780	31.69664	13:42:00	D	3.00
3	AMRITSAR	AJNALA	S-NPP	74.58226	31.69722	13:42:00	D	3.00
4	AMRITSAR	AJNALA	S-NPP	74.59116	31.69838	13:42:00	D	2.00
5	AMRITSAR	AJNALA	S-NPP	74.59406	31.70060	13:42:00	D	3.50
6	AMRITSAR	AJNALA	S-NPP	74.76878	31.72383	13:42:00	D	2.20
7	AMRITSAR	AJNALA	S-NPP	74.76996	31.72500	13:42:00	D	3.80
8	AMRITSAR	AJNALA	S-NPP	74.68536	31.76030	13:42:00	D	5.70
9	AMRITSAR	AJNALA	S-NPP	74.61526	31.79369	13:42:00	D	4.30
10	AMRITSAR	AJNALA	S-NPP	74.60062	31.79884	13:42:00	D	5.80
11	AMRITSAR	AJNALA	S-NPP	74.59554	31.80171	13:42:00	D	5.80
12	AMRITSAR	AJNALA	S-NPP	74.67225	31.80834	13:42:00	D	4.20
13	AMRITSAR	AJNALA	S-NPP	74.62475	31.82790	13:42:00	D	2.20
14	AMRITSAR	AJNALA	S-NPP	74.92567	31.84524	13:42:00	D	2.20
15	AMRITSAR	AJNALA	S-NPP	74.83528	31.86576	13:42:00	D	2.50
16	AMRITSAR	AJNALA	S-NPP	74.74281	31.88950	13:42:00	D	2.20
17	AMRITSAR	AMRITSAR I	S-NPP	74.98851	31.57712	13:42:00	D	1.90
18	AMRITSAR	AMRITSAR I	S-NPP	75.00376	31.59702	13:42:00	D	2.40
19	AMRITSAR	AMRITSAR I	S-NPP	75.05581	31.62170	13:42:00	D	7.90
20	AMRITSAR	AMRITSAR I	S-NPP	75.06136	31.64400	13:42:00	D	2.50
21	AMRITSAR	AMRITSAR I	S-NPP	75.01114	31.72333	13:42:00	D	3.10
22	AMRITSAR	AMRITSAR I	S-NPP	75.02034	31.72452	13:42:00	D	2.60
23	AMRITSAR	AMRITSAR I	S-NPP	75.08560	31.72933	13:42:00	D	3.60
24	AMRITSAR	AMRITSAR I	S-NPP	75.00226	31.74733	13:42:00	D	3.00
25	AMRITSAR	AMRITSAR I	S-NPP	74.99856	31.75051	13:42:00	D	5.00
26	AMRITSAR	AMRITSAR I	S-NPP	75.00165	31.75084	13:42:00	D	4.40
27	AMRITSAR	AMRITSAR I	S-NPP	75.00104	31.75436	13:42:00	D	4.40
28	AMRITSAR	AMRITSAR I	S-NPP	74.92876	31.77393	13:42:00	D	10.10
29	AMRITSAR	AMRITSAR I	S-NPP	74.92815	31.77744	13:42:00	D	4.50
30	AMRITSAR	AMRITSAR I	S-NPP	74.96484	31.78213	13:42:00	D	10.70

31	AMRITSAR	AMRITSAR I	S-NPP	74.95380	31.79148	13:42:00	D	4.50
32	AMRITSAR	AMRITSAR I	S-NPP	75.01485	31.79211	13:42:00	D	7.10
33	AMRITSAR	AMRITSAR II	S-NPP	74.86481	31.53976	13:42:00	D	2.60
34	AMRITSAR	AMRITSAR II	S-NPP	74.87141	31.55489	13:42:00	D	3.70
35	AMRITSAR	AMRITSAR II	S-NPP	74.82050	31.55543	13:42:00	D	3.30
36	AMRITSAR	AMRITSAR II	S-NPP	74.67085	31.57138	13:42:00	D	1.80
37	AMRITSAR	AMRITSAR II	S-NPP	75.02585	31.69288	13:42:00	D	3.60
38	AMRITSAR	BABA BAKALA	S-NPP	75.14822	31.51504	13:42:00	D	5.40
39	AMRITSAR	BABA BAKALA	S-NPP	75.15041	31.52974	13:42:00	D	3.40
40	AMRITSAR	BABA BAKALA	S-NPP	75.19699	31.57120	13:42:00	D	2.20
41	AMRITSAR	BABA BAKALA	S-NPP	75.17472	31.59007	13:42:00	D	5.70
42	AMRITSAR	BABA BAKALA	S-NPP	75.13919	31.60360	13:42:00	D	3.60
43	AMRITSAR	BABA BAKALA	S-NPP	75.19090	31.60656	13:42:00	D	2.00
44	AMRITSAR	BABA BAKALA	S-NPP	75.24367	31.66033	13:42:00	D	4.70
45	AMRITSAR	BABA BAKALA	S-NPP	75.19969	31.72947	13:42:00	D	2.40
46	FIROZPUR	FIROZPUR	S-NPP	74.52082	30.96668	13:42:00	D	7.30
47	FIROZPUR	ZIRA	S-NPP	75.34441	30.95912	13:42:00	D	3.10
48	FIROZPUR	ZIRA	S-NPP	75.34320	30.96619	13:42:00	D	3.30
49	GURDASPUR	BATALA	S-NPP	75.38976	31.67900	13:42:00	D	2.90
50	GURDASPUR	GURDASPUR	S-NPP	75.54475	31.82548	13:42:00	D	2.90
51	GURDASPUR	GURDASPUR	S-NPP	75.32153	31.97090	13:42:00	D	2.60
52	GURDASPUR	GURDASPUR	S-NPP	75.32093	31.97447	13:42:00	D	2.60
53	JALANDHAR	JALANDHAR II	S-NPP	75.58170	31.47007	13:42:00	D	5.80
54	JALANDHAR	NAKODAR	S-NPP	75.44882	30.98680	13:42:00	D	7.30
55	KAPURTHALA	SULTANPUR LODHI	S-NPP	75.14888	31.24606	13:42:00	D	2.50
56	KAPURTHALA	SULTANPUR LODHI	S-NPP	75.15746	31.25075	13:42:00	D	4.50
57	KAPURTHALA	SULTANPUR LODHI	S-NPP	75.13181	31.29061	13:42:00	D	12.30
58	KAPURTHALA	SULTANPUR LODHI	S-NPP	75.15017	31.29297	13:42:00	D	2.60
59	KAPURTHALA	SULTANPUR LODHI	S-NPP	75.22366	31.33128	13:42:00	D	6.00
60	MANSA	SARDULGARH	S-NPP	75.29306	29.67170	13:42:00	D	8.40
61	MUKTSAR	MALAUT	S-NPP	74.57849	30.00779	13:42:00	D	2.30
62	PATIALA	PATIALA	S-NPP	76.28460	30.16786	13:42:00	D	2.60
63	PATIALA	PATIALA	S-NPP	76.50063	30.43586	13:42:00	D	3.00

64	PATIALA	RAJPURA	S-NPP	76.58336	30.51946	13:42:00	D	2.10
65	PATIALA	SAMANA	S-NPP	76.21841	29.87051	13:42:00	D	9.20
66	PATIALA	SAMANA	S-NPP	76.22150	29.88199	13:42:00	D	5.00
67	PATIALA	SAMANA	S-NPP	76.05547	29.93882	13:42:00	D	3.00
68	SANGRUR	DHURI	S-NPP	75.73525	30.31744	13:42:00	D	3.90
69	SANGRUR	DHURI	S-NPP	75.82186	30.38497	13:42:00	D	3.50
70	SANGRUR	MALERKOTLA	S-NPP	75.96910	30.56585	13:42:00	D	6.10
71	SANGRUR	MOONAK	S-NPP	75.90417	29.79388	13:42:00	D	10.30
72	SANGRUR	MOONAK	S-NPP	75.83942	29.81109	13:42:00	D	2.40
73	SANGRUR	MOONAK	S-NPP	76.00998	29.82202	13:42:00	D	4.30
74	SANGRUR	MOONAK	S-NPP	75.90005	29.85685	13:42:00	D	7.50
75	TARN TARAN	KHADOOR SAHIB	S-NPP	75.01077	31.23560	13:42:00	D	2.40
76	TARN TARAN	KHADOOR SAHIB	S-NPP	75.12746	31.35106	13:42:00	D	8.20
77	TARN TARAN	KHADOOR SAHIB	S-NPP	75.09290	31.36104	13:42:00	D	6.90
78	TARN TARAN	KHADOOR SAHIB	S-NPP	75.10665	31.36279	13:42:00	D	5.10
79	TARN TARAN	KHADOOR SAHIB	S-NPP	75.09229	31.36455	13:42:00	D	6.90
80	TARN TARAN	KHADOOR SAHIB	S-NPP	75.08649	31.37099	13:42:00	D	2.90
81	TARN TARAN	KHADOOR SAHIB	S-NPP	75.10698	31.38799	13:42:00	D	3.40
82	TARN TARAN	KHADOOR SAHIB	S-NPP	75.08437	31.41023	13:42:00	D	3.20
83	TARN TARAN	KHADOOR SAHIB	S-NPP	75.09354	31.41142	13:42:00	D	3.30
84	TARN TARAN	KHADOOR SAHIB	S-NPP	74.88448	31.42024	13:42:00	D	4.50
85	TARN TARAN	KHADOOR SAHIB	S-NPP	75.16753	31.44622	13:42:00	D	6.20
86	TARN TARAN	KHADOOR SAHIB	S-NPP	75.17216	31.44682	13:42:00	D	6.40
87	TARN TARAN	KHADOOR SAHIB	S-NPP	75.16903	31.44920	13:42:00	D	3.70
88	TARN TARAN	KHADOOR SAHIB	S-NPP	74.70744	31.46123	13:42:00	D	3.30
89	TARN TARAN	KHADOOR SAHIB	S-NPP	74.62347	31.50492	13:42:00	D	2.70
90	TARN TARAN	KHADOOR SAHIB	S-NPP	75.15868	31.50917	13:42:00	D	3.60
91	TARN TARAN	KHADOOR SAHIB	S-NPP	75.03473	31.51836	13:42:00	D	5.00
92	TARN TARAN	KHADOOR SAHIB	S-NPP	74.73712	31.55880	13:42:00	D	6.40
93	TARN TARAN	PATTI	S-NPP	74.67057	31.26925	13:42:00	D	3.30

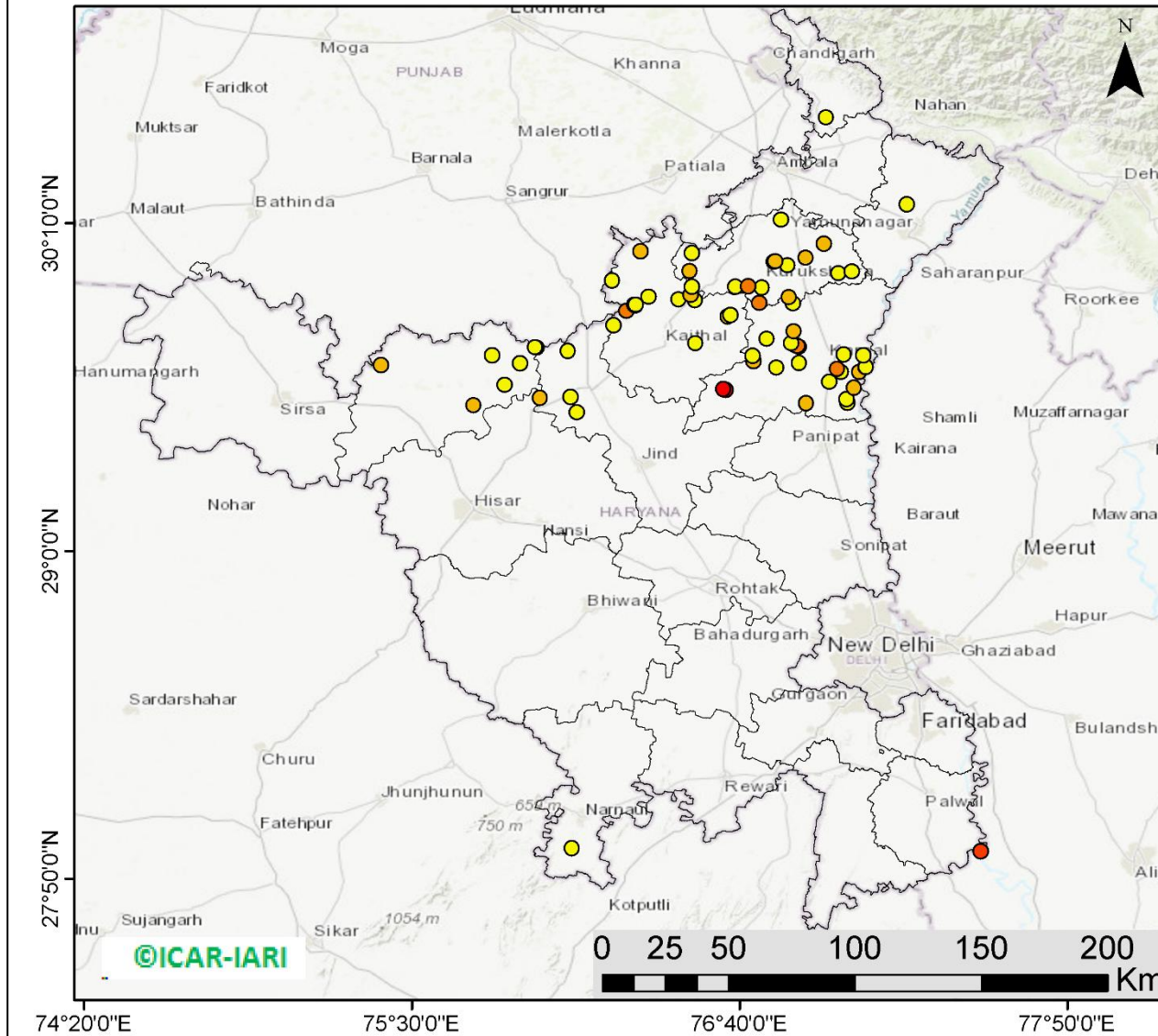


**District-wise cumulative number of residue burning events in Punjab (01 to 09-Oct 2019)**



(b) Haryana

RICE RESIDUE BURNING IN HARYANA



**70** burning events detected in Haryana on 09th October 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/>

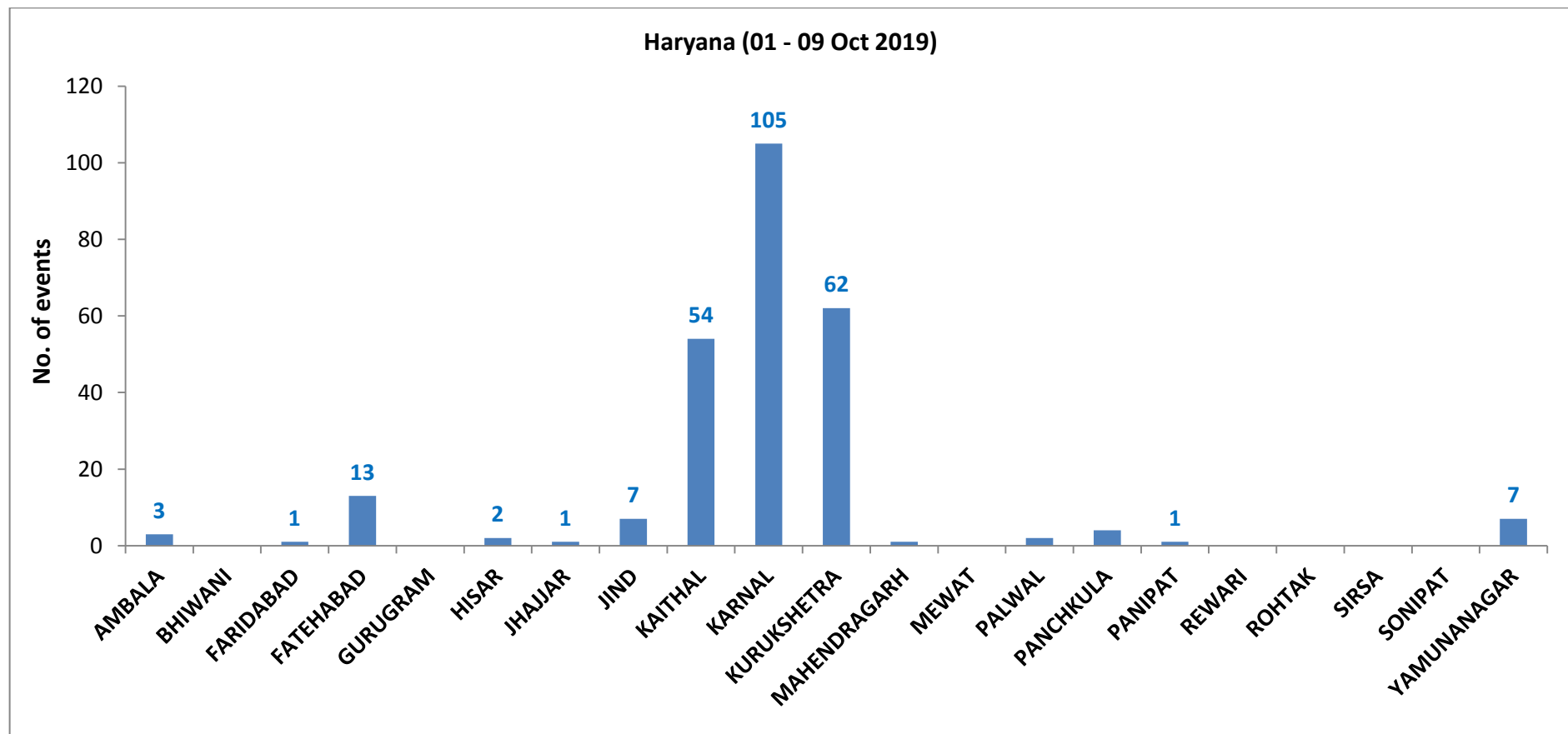
**Details of residue burning events in Haryana on 09-Oct-2019**

S. No.	District	Tehsil / Block	Satellite	Longitude	Latitude	Time (IST)	Day / Night	Fire Power (W/m2)
1	FATEHABAD	FATEHABAD	S-NPP	75.71960	29.51879	13:42:00	D	5.80
2	FATEHABAD	FATEHABAD	S-NPP	75.38993	29.66287	13:42:00	D	6.10
3	FATEHABAD	TOHANA	S-NPP	75.82950	29.59094	13:42:00	D	4.00
4	FATEHABAD	TOHANA	S-NPP	75.88494	29.66905	13:42:00	D	1.70
5	FATEHABAD	TOHANA	S-NPP	75.78584	29.69631	13:42:00	D	2.70
6	FATEHABAD	TOHANA	S-NPP	75.94263	29.72390	13:42:00	D	5.50
7	FATEHABAD	TOHANA	S-NPP	75.93933	29.72526	13:42:00	D	4.40
8	HISAR	HISAR	S-NPP	75.95545	29.54515	13:42:00	D	5.40
9	JIND	NARWANA	S-NPP	76.08661	29.49423	13:42:00	D	3.90
10	JIND	NARWANA	S-NPP	76.06509	29.54792	13:42:00	D	3.30
11	JIND	NARWANA	S-NPP	76.05500	29.71265	13:42:00	D	2.20
12	JIND	NARWANA	S-NPP	76.21755	29.80391	13:42:00	D	3.60
13	KAITHAL	GUHLA	S-NPP	76.21344	29.96251	13:42:00	D	4.20
14	KAITHAL	GUHLA	S-NPP	76.31295	30.06781	13:42:00	D	7.90
15	KAITHAL	KAITHAL	S-NPP	76.50989	29.73975	13:42:00	D	2.70
16	KAITHAL	KAITHAL	S-NPP	76.62448	29.83488	13:42:00	D	8.00
17	KAITHAL	KAITHAL	S-NPP	76.63399	29.83979	13:42:00	D	2.80
18	KAITHAL	KAITHAL	S-NPP	76.26376	29.85415	13:42:00	D	11.70
19	KAITHAL	KAITHAL	S-NPP	76.29545	29.87299	13:42:00	D	5.60
20	KAITHAL	KAITHAL	S-NPP	76.29184	29.87572	13:42:00	D	2.60
21	KAITHAL	KAITHAL	S-NPP	76.29672	29.87631	13:42:00	D	3.60
22	KAITHAL	KAITHAL	S-NPP	76.50828	29.89217	13:42:00	D	3.70
23	KAITHAL	KAITHAL	S-NPP	76.44909	29.89466	13:42:00	D	4.50
24	KAITHAL	KAITHAL	S-NPP	76.34209	29.90414	13:42:00	D	4.00
25	KARNAL	ASSANDH	AQUA	76.61700	29.57400	13:05:00	D	33.50
26	KARNAL	ASSANDH	AQUA	76.60900	29.57700	13:05:00	D	41.20
27	KARNAL	GHARAUNDA	S-NPP	76.90279	29.52695	13:42:00	D	9.00
28	KARNAL	GHARAUNDA	S-NPP	77.05009	29.52884	13:42:00	D	4.90
29	KARNAL	GHARAUNDA	S-NPP	77.04587	29.54020	13:42:00	D	2.80
30	KARNAL	GHARAUNDA	S-NPP	77.07394	29.58154	13:42:00	D	6.40

31	KARNAL	KARNAL	S-NPP	76.98587	29.60173	13:42:00	D	4.20
32	KARNAL	KARNAL	S-NPP	77.02552	29.63726	13:42:00	D	3.10
33	KARNAL	KARNAL	S-NPP	77.09211	29.63756	13:42:00	D	5.90
34	KARNAL	KARNAL	TERRA	77.01300	29.64800	11:30:00	D	12.50
35	KARNAL	KARNAL	S-NPP	76.79723	29.65234	13:42:00	D	4.10
36	KARNAL	KARNAL	S-NPP	77.11366	29.65514	13:42:00	D	3.20
37	KARNAL	KARNAL	S-NPP	77.11613	29.65589	13:42:00	D	4.50
38	KARNAL	KARNAL	S-NPP	76.87798	29.66960	13:42:00	D	1.80
39	KARNAL	KARNAL	S-NPP	76.71590	29.67660	13:42:00	D	6.00
40	KARNAL	KARNAL	S-NPP	76.71301	29.69515	13:42:00	D	4.00
41	KARNAL	KARNAL	S-NPP	77.10729	29.69679	13:42:00	D	3.10
42	KARNAL	KARNAL	S-NPP	77.03719	29.70005	13:42:00	D	3.00
43	KARNAL	KARNAL	S-NPP	76.87753	29.72702	13:42:00	D	3.10
44	KARNAL	KARNAL	S-NPP	76.86872	29.72946	13:42:00	D	8.50
45	KARNAL	KARNAL	S-NPP	76.87179	29.73016	13:42:00	D	11.00
46	KARNAL	KARNAL	S-NPP	76.84945	29.73897	13:42:00	D	2.30
47	KARNAL	KARNAL	S-NPP	76.76348	29.75536	13:42:00	D	1.80
48	KARNAL	NILOKHERI	S-NPP	76.85850	29.78194	13:42:00	D	5.60
49	KURUKSHETRA	PEHOWA	S-NPP	76.49205	29.91105	13:42:00	D	5.90
50	KURUKSHETRA	PEHOWA	S-NPP	76.74509	29.93736	13:42:00	D	4.50
51	KURUKSHETRA	PEHOWA	S-NPP	76.65105	29.94136	13:42:00	D	4.60
52	KURUKSHETRA	PEHOWA	S-NPP	76.49734	29.94170	13:42:00	D	1.90
53	KURUKSHETRA	PEHOWA	S-NPP	76.69737	29.94309	13:42:00	D	12.80
54	KURUKSHETRA	PEHOWA	S-NPP	76.48859	29.99693	13:42:00	D	5.10
55	KURUKSHETRA	PEHOWA	S-NPP	76.49609	30.06040	13:42:00	D	3.30
56	KURUKSHETRA	SHAHABAD	S-NPP	76.81317	30.17899	13:42:00	D	4.20
57	KURUKSHETRA	THANESAR	S-NPP	76.85624	29.88154	13:42:00	D	2.70
58	KURUKSHETRA	THANESAR	S-NPP	76.73581	29.88231	13:42:00	D	13.70
59	KURUKSHETRA	THANESAR	S-NPP	76.84243	29.90277	13:42:00	D	6.10
60	KURUKSHETRA	THANESAR	S-NPP	77.01779	29.98842	13:42:00	D	1.80
61	KURUKSHETRA	THANESAR	S-NPP	77.06548	29.99396	13:42:00	D	3.60
62	KURUKSHETRA	THANESAR	S-NPP	76.83762	30.01690	13:42:00	D	4.10
63	KURUKSHETRA	THANESAR	S-NPP	76.78822	30.02999	13:42:00	D	5.60
64	KURUKSHETRA	THANESAR	S-NPP	76.79336	30.03062	13:42:00	D	7.20

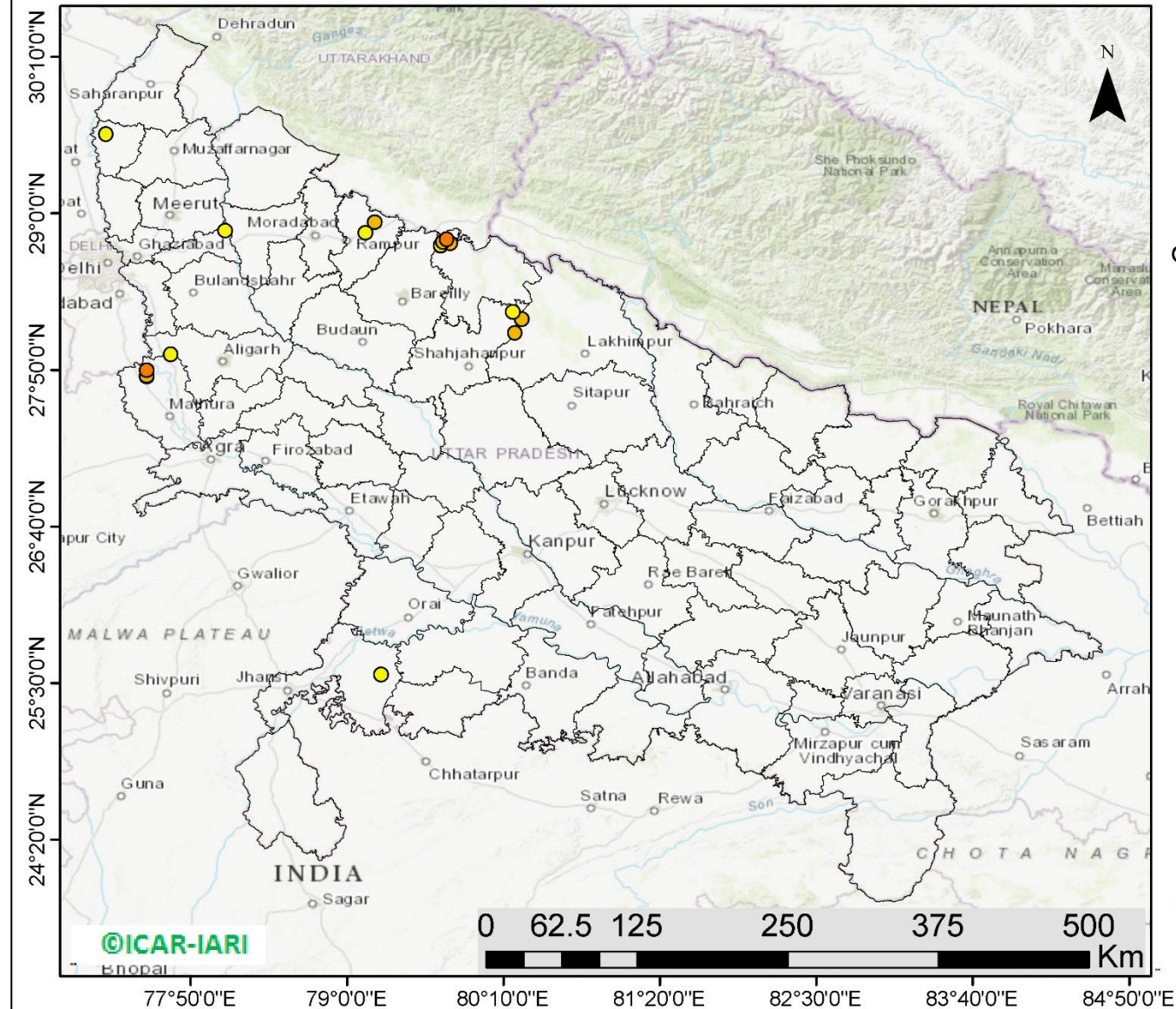
65	KURUKSHETRA	THANESAR	S-NPP	76.90233	30.04384	13:42:00	D	6.00
66	KURUKSHETRA	THANESAR	S-NPP	76.96686	30.09374	13:42:00	D	8.80
67	MAHENDRAGARH	NARNAUL	S-NPP	76.06891	27.94238	13:42:00	D	4.90
68	PALWAL	HODAL	S-NPP	77.52428	27.93109	13:42:00	D	19.20
69	PANCHKULA	PANCHKULA	S-NPP	76.97468	30.54296	13:42:00	D	3.00
70	YAMUNANAGAR	JAGADHRI	S-NPP	77.26079	30.23475	13:42:00	D	2.20

**District-wise cumulative number of residue burning events in Haryana (01 to 09-Oct 2019)**



(c) UP

RICE RESIDUE BURNING IN UTTAR PRADESH



**17** burning events detected in Uttar Pradesh on **09th October 2019**

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

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



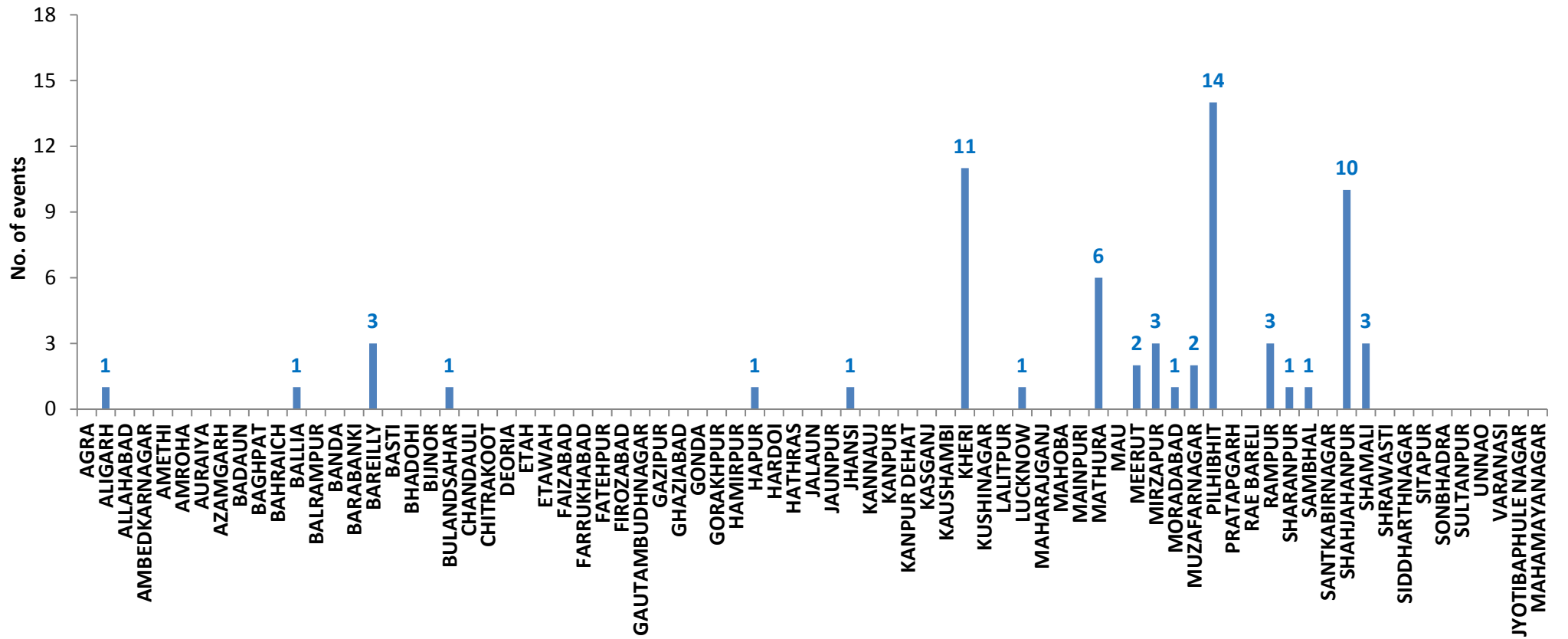
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

**Details of residue burning events in Uttar Pradesh on 09-Oct-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/m2)</b>
1	ALIGARH	KHAIR	S-NPP	77.68704	27.95051	13:42:00	D	2.50
2	HAPUR	GARHMUKTESAR	S-NPP	78.09007	28.86996	13:42:00	D	4.10
3	JHANSI	GARAUTHA	S-NPP	79.25285	25.56258	13:42:00	D	2.00
4	KHERI	GOLA	S-NPP	80.30414	28.21352	13:42:00	D	7.40
5	KHERI	MOHMADI	S-NPP	80.25381	28.10704	13:42:00	D	5.50
6	MATHURA	CHHATA	S-NPP	77.50626	27.78344	13:42:00	D	5.60
7	MATHURA	CHHATA	S-NPP	77.50569	27.78722	13:42:00	D	5.60
8	MATHURA	CHHATA	S-NPP	77.50464	27.82943	13:42:00	D	10.60
9	PILHIBHIT	PILHIBHIT	S-NPP	79.69820	28.76017	13:42:00	D	5.10
10	PILHIBHIT	PILHIBHIT	S-NPP	79.69929	28.76086	13:42:00	D	4.70
11	PILHIBHIT	PILHIBHIT	S-NPP	79.76937	28.77662	13:42:00	D	5.80
12	PILHIBHIT	PILHIBHIT	S-NPP	79.71484	28.78886	13:42:00	D	6.30
13	PILHIBHIT	PILHIBHIT	AQUA	79.74200	28.80700	13:00:00	D	14.20
14	RAMPUR	BILASPUR	S-NPP	79.20580	28.93281	13:42:00	D	6.90
15	RAMPUR	RAMPUR	S-NPP	79.13534	28.85341	13:42:00	D	3.30
16	SHAHJAHANPUR	PUWANYA	S-NPP	80.23690	28.26570	13:42:00	D	4.30
17	SHAMLI	KAIRANA	S-NPP	77.20179	29.58884	13:42:00	D	3.00

## District-wise cumulative number of residue burning events in Haryana (01 to 09-Oct 2019)

### Uttar Pradesh (01 - 09 Oct 2019)





**State-wise, date-wise and district-wise number of residue burning events detected in 2016, 2017, 2018 and 2019**  
**(Period: 01-Oct to 09-Oct)**

Date	Punjab				Haryana				UP				Total			
	2019	2018	2017	2016	2019	2018	2017	2016	2019	2018	2017	2016	2019	2018	2017	2016
<b>01-Oct</b>	3	16	54	109	1	9	13	46	1	11	2	23	5	36	69	178
<b>02-Oct</b>	20	9	50	51	2	23	27	16	0	21	8	20	23	53	85	87
<b>03-Oct</b>	37	4	62	66	16	9	40	16	3	12	17	16	56	25	119	98
<b>04-Oct</b>	3	32	103	37	30	16	60	7	4	5	22	15	37	53	185	59
<b>05-Oct</b>	16	56	106	95	37	30	68	15	11	10	20	14	64	96	194	124
<b>06-Oct</b>	0	87	138	152	22	63	75	105	8	13	39	6	30	163	252	263
<b>07-Oct</b>	27	162	105	171	16	180	97	126	4	69	33	24	47	411	235	321
<b>08-Oct</b>	59	39	215	166	69	40	218	94	18	54	76	14	146	133	509	274
<b>09-Oct</b>	93	75	163	270	70	47	148	121	17	32	88	22	180	154	399	413
<b>Total</b>	<b>258</b>	<b>480</b>	<b>996</b>	<b>1117</b>	<b>263</b>	<b>471</b>	<b>746</b>	<b>546</b>	<b>66</b>	<b>227</b>	<b>305</b>	<b>154</b>	<b>587</b>	<b>1124</b>	<b>2047</b>	<b>1817</b>

**(a) Punjab**

Districts	01-09 Oct			
	2016	2017	2018	2019
AMRITSAR	307	301	275	124
BARNALA	2	1	1	0
BATHINDA	35	16	12	0
FARIDKOT	45	74	0	0
FATEHGARH SAHIB	67	22	7	0
FAZILKA	0	0	0	2
FIROZPUR	76	73	16	6
GURDASPUR	30	24	23	10
HOSHIARPUR	9	4	3	2
JALANDHAR	70	44	0	5
KAPURTHALA	56	13	2	5
LUDHIANA	35	76	15	4
MANSA	9	13	1	6
MOGA	5	6	0	2
MUKTSAR	50	9	2	2
NAWASHAHR (SBS Nagar)	16	11	4	2
PATHANKOT	0	0	0	0
PATIALA	79	94	30	20
RUPNAGAR	5	2	0	0
SANGRUR	17	52	18	9
SAS NAGAR	12	18	11	2
TARN TARAN	192	143	60	57
<b>Total</b>	<b>1117</b>	<b>996</b>	<b>480</b>	<b>258</b>

**(b) Haryana**

Districts	01-09 Oct			
	2016	2017	2018	2019
AMBALA	29	54	31	3
BHIWANI	0	2	0	0
FARIDABAD	2	6	13	1
FATEHABAD	8	34	8	13
GURUGRAM	0	0	0	0
HISAR	3	6	6	2
JHAJJAR	1	0	3	1
JIND	13	32	18	7
KAITHAL	145	119	62	54
KARNAL	209	259	105	105
KURUKSHETRA	113	185	120	62
MAHENDRAGARH	0	0	0	1
MEWAT	0	0	0	0
PALWAL	0	0	0	2
PANCHKULA	0	0	3	4
PANIPAT	8	13	21	1
REWARI	0	0	0	0
ROHTAK	0	1	0	0
SIRSA	8	6	4	0
SONIPAT	0	7	4	0
YAMUNANAGAR	7	22	19	7
<b>Total</b>	<b>546</b>	<b>746</b>	<b>417</b>	<b>263</b>

(c) Uttar Pradesh

Districts	01-09 Oct			
	2016	2017	2018	2019
AGRA	0	0	0	0
ALIGARH	0	6	5	1
ALLAHABAD	0	0	3	0
AMBEDKARNAGAR	0	0	0	0
AMETHI	0	0	0	0
AMROHA	0	0	0	0
AURAIYA	27	22	13	0
AZAMGARH	0	0	0	0
BADAUN	0	0	0	0
BAGHPAT	0	0	0	0
BAHRAICH	0	0	1	0
BALLIA	0	0	0	1
BALRAMPUR	0	0	0	0
BANDA	0	0	1	0
BARABANKI	2	4	15	0
BAREILLY	10	6	4	3
BASTI	0	0	0	0
BHADOHI	0	0	0	0
BIJNOR	0	0	1	0
BULANDSAHAR	0	1	2	1
CHANDAULI	0	0	0	0
CHITRAKOOT	0	0	0	0
DEORIA	0	0	0	0
ETAH	0	1	2	0
ETAWAH	0	0	0	0
FAIZABAD	0	1	0	0
FARRUKHABAD	0	0	0	0
FATEHPUR	0	2	2	0
FIROZABAD	0	0	0	0

GAUTAMBUDHNAGAR	1	0	1	0
GAZIPUR	0	0	0	0
GHAZIABAD	0	1	2	0
GONDA	0	0	0	0
GORAKHPUR	0	0	3	0
HAMIRPUR	0	0	1	0
HAPUR	0	0	0	1
HARDOI	0	0	2	0
HATHRAS	0	0	0	0
JALAUN	0	0	0	0
JAUNPUR	0	0	2	0
JHANSI	0	0	0	1
KANNAUJ	0	0	1	0
KANPUR	0	0	0	0
KANPUR DEHAT	0	0	0	0
KASGANJ	0	0	0	0
KAUSHAMBI	0	2	5	0
KHERI	5	36	17	11
KUSHINAGAR	0	0	0	0
LALITPUR	0	0	0	0
LUCKNOW	2	4	0	1
MAHARAJGANJ	0	0	1	0
MAHOBA	0	0	0	0
MAINPURI	0	0	2	0
MATHURA	2	6	19	6
MAU	0	0	0	0
MEERUT	1	1	0	2
MIRZAPUR	0	1	1	3
MORADABAD	0	2	1	1
MUZAFARNAGAR	4	18	4	2
PILHIBHIT	10	37	20	14
PRATAPGARH	0	0	0	0

RAE BARELI	0	0	0	0
RAMPUR	48	33	28	3
SHARANPUR	2	3	4	1
SAMBHAL	0	0	0	1
SANTKABIRNAGAR	0	0	0	0
SHAHJAHANPUR	34	116	60	10
SHAMALI	0	0	0	3
SHRAWASTI	0	0	0	0
SIDDHARTHANAGAR	0	0	0	0
SITAPUR	3	1	1	0
SONBHADRA	3	1	3	0
SULTANPUR	0	0	0	0
UNNAO	0	0	0	0
VARANASI	0	0	0	0
JYOTIBAPHULE NAGAR	0	0	0	0
MAHAMAYANAGAR	0	0	0	0
<b>Total</b>	<b>154</b>	<b>305</b>	<b>227</b>	<b>66</b>

**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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