



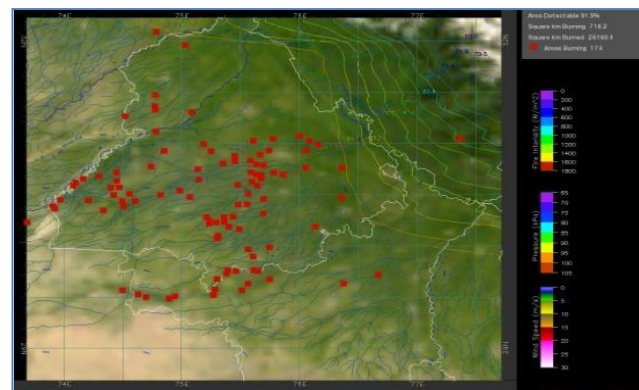
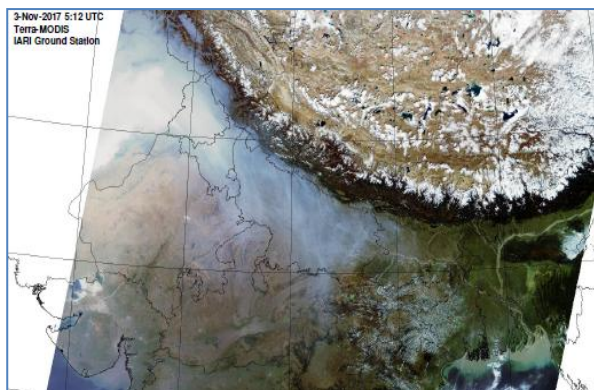
**Bulletin
No. 16**

**Events Date:
16-Oct-2018**

**Issued on:
17-Oct-2018**



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



Prepared by:

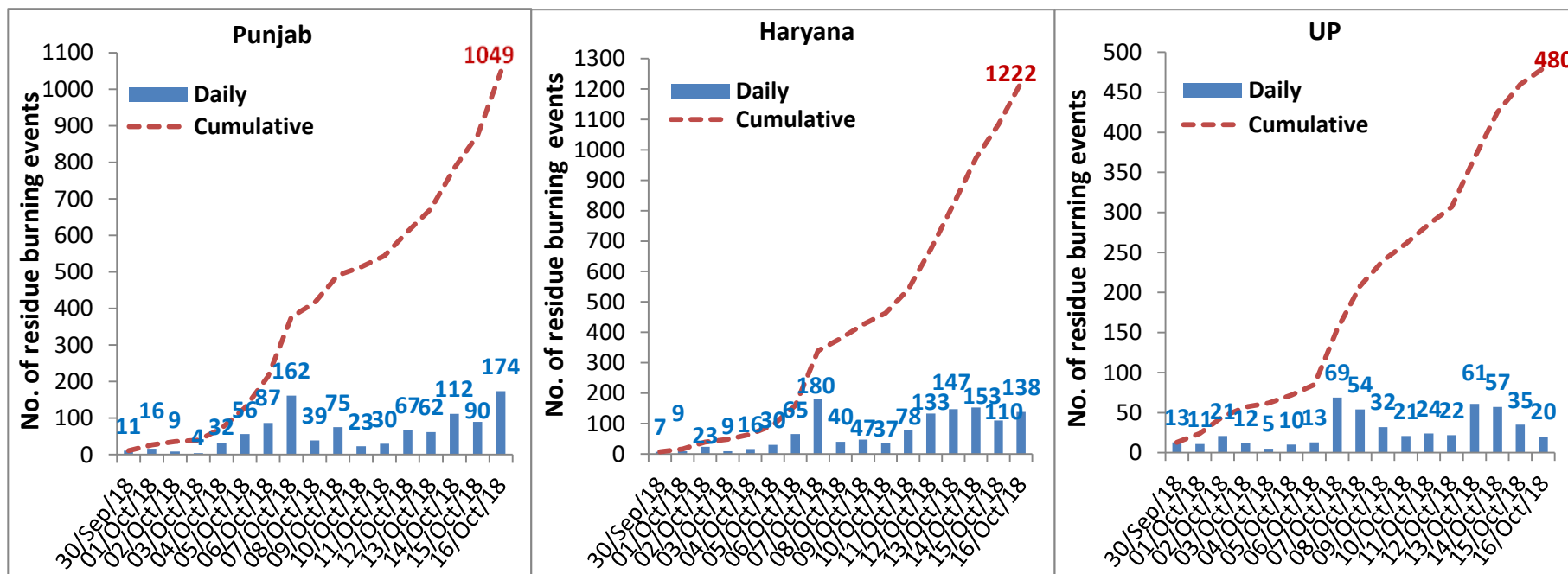
**Consortium for Research on Agroecosystem Monitoring and Modeling from Space (CREAMS) Laboratory,
Division of Agricultural Physics, ICAR – Indian Agricultural Research Institute, New Delhi – 110012**

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

Highlights for 16-October-2018

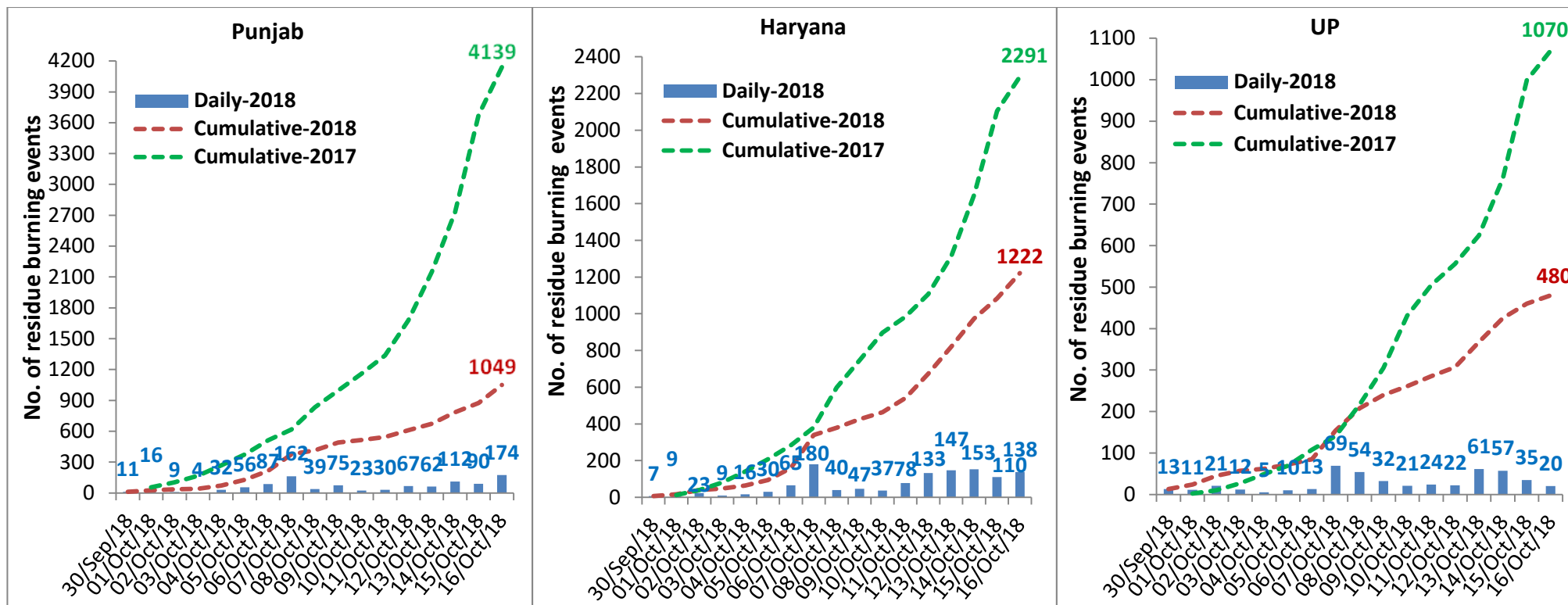
- Satellites detected 332 residue burning events in the three States (Punjab, Haryana & UP) on 16-Oct-2018.
- The burning events detected on 16-Oct-2018 are 174, 138 and 20 in Punjab, Haryana, and UP, respectively.
- The number of events increased from 235 on 15-Oct-2018 to 332 on 16-Oct-2018 in the three States.
- Total 2751 burning events were detected in the three States between 30-Sept-2018 and 16-Oct-2018, which were distributed as 1049, 1222 and 480 in Punjab, Haryana and UP, respectively.
- Till 16-Oct-2018, the burning events in the current year are about 36.6% of the events detected in 2017.

Temporal distribution of residue burning events for the three study States

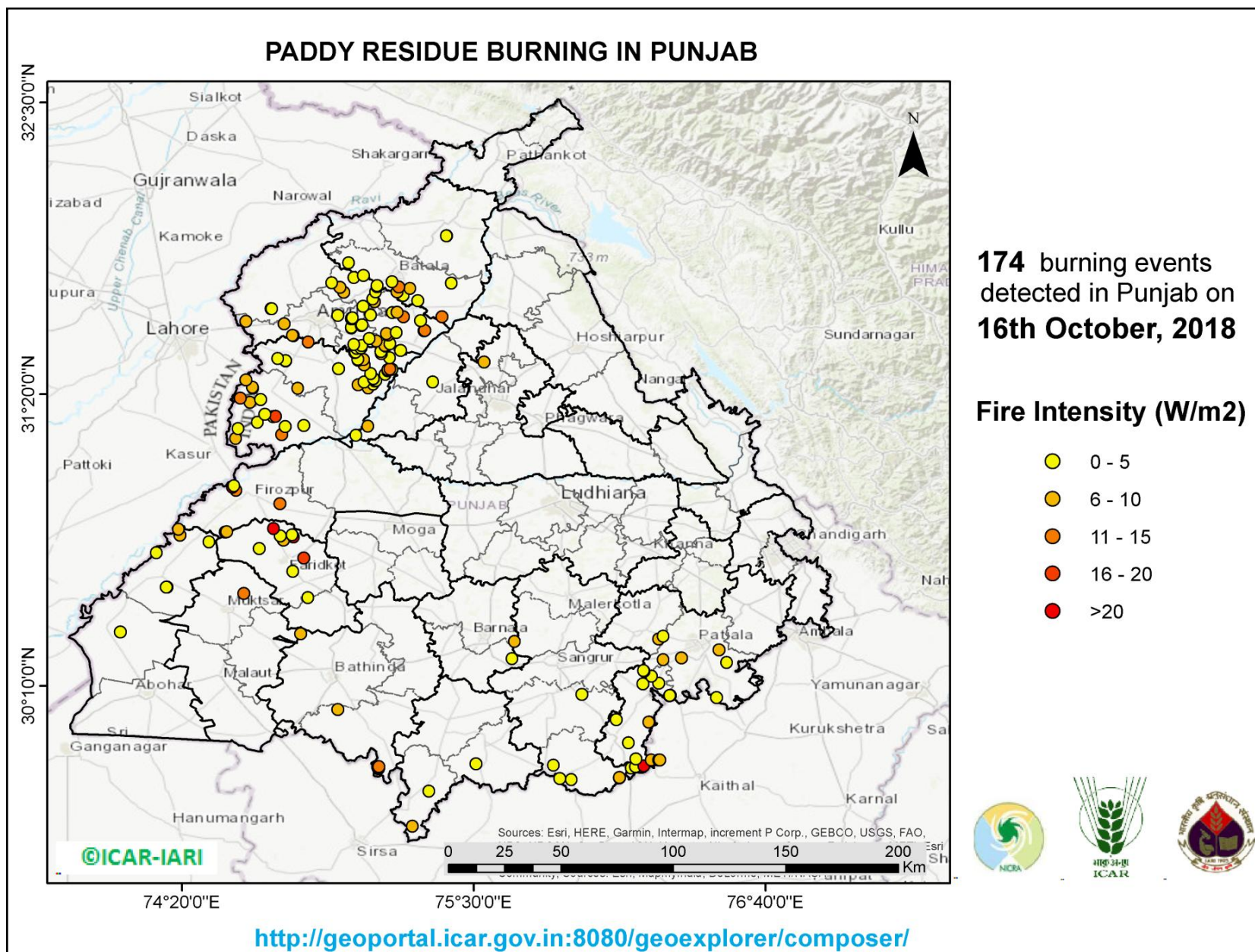


Comparison of residue burning events in current year (2018) with previous year (2017) for the three study States

(30-Sep-2018 to 16-Oct-2018)



(a) Punjab



Details of residue burning events in Punjab on 16-Oct-2018

Event S.No.	District	Tehsil/Block	Satellite	Longitude	Latitude	Time (IST)	Day/Night	Fire Power (W/m2)
1	AMRITSAR	AJNALA	S-NPP	74.68916	31.67443	13:54:00	D	3.00
2	AMRITSAR	AJNALA	S-NPP	74.69181	31.67447	13:54:00	D	2.50
3	AMRITSAR	AMRITSAR I	S-NPP	75.04774	31.51866	13:54:00	D	3.30
4	AMRITSAR	AMRITSAR I	S-NPP	75.05093	31.52735	13:54:00	D	3.20
5	AMRITSAR	AMRITSAR I	S-NPP	75.01964	31.53247	13:54:00	D	3.20
6	AMRITSAR	AMRITSAR I	S-NPP	75.08208	31.55569	13:54:00	D	3.50
7	AMRITSAR	AMRITSAR I	S-NPP	75.01050	31.59833	13:54:00	D	3.20
8	AMRITSAR	AMRITSAR I	S-NPP	75.01060	31.60041	13:54:00	D	2.90
9	AMRITSAR	AMRITSAR I	S-NPP	75.04884	31.60846	13:54:00	D	1.90
10	AMRITSAR	AMRITSAR I	S-NPP	75.05244	31.61120	13:54:00	D	3.00
11	AMRITSAR	AMRITSAR I	S-NPP	75.01029	31.63379	13:54:00	D	3.60
12	AMRITSAR	AMRITSAR I	S-NPP	75.01460	31.63423	13:54:00	D	4.90
13	AMRITSAR	AMRITSAR I	S-NPP	75.00971	31.63791	13:54:00	D	3.60
14	AMRITSAR	AMRITSAR I	S-NPP	75.01402	31.63836	13:54:00	D	4.90
15	AMRITSAR	AMRITSAR I	S-NPP	75.08704	31.65007	13:54:00	D	4.90
16	AMRITSAR	AMRITSAR I	S-NPP	75.05583	31.68457	13:54:00	D	3.40
17	AMRITSAR	AMRITSAR I	AQUA-1	75.10253	31.70368	13:35:00	D	7.96
18	AMRITSAR	AMRITSAR I	S-NPP	75.09589	31.71399	13:54:00	D	3.10
19	AMRITSAR	AMRITSAR I	S-NPP	74.97966	31.74172	13:54:00	D	6.50
20	AMRITSAR	AMRITSAR I	S-NPP	75.10732	31.74221	13:54:00	D	2.00
21	AMRITSAR	AMRITSAR I	S-NPP	74.96387	31.76095	13:54:00	D	5.20
22	AMRITSAR	AMRITSAR I	S-NPP	74.93097	31.77834	13:54:00	D	4.30
23	AMRITSAR	AMRITSAR I	S-NPP	75.01972	31.80028	13:54:00	D	2.40
24	AMRITSAR	AMRITSAR II	S-NPP	74.83738	31.54240	13:54:00	D	11.20
25	AMRITSAR	AMRITSAR II	AQUA-1	74.77853	31.56744	13:35:00	D	29.62
26	AMRITSAR	AMRITSAR II	S-NPP	74.77426	31.56862	13:54:00	D	6.10
27	AMRITSAR	AMRITSAR II	AQUA-1	74.74101	31.61535	13:35:00	D	7.99
28	AMRITSAR	AMRITSAR II	AQUA-1	74.58754	31.62433	13:35:00	D	7.35
29	AMRITSAR	AMRITSAR II	S-NPP	74.95591	31.64900	13:54:00	D	2.80
30	AMRITSAR	BABA BAKALA	S-NPP	75.12799	31.50391	13:54:00	D	1.30

31	AMRITSAR	BABA BAKALA	S-NPP	75.20715	31.50813	13:54:00	D	4.10
32	AMRITSAR	BABA BAKALA	S-NPP	75.14812	31.52468	13:54:00	D	5.20
33	AMRITSAR	BABA BAKALA	S-NPP	75.14317	31.52839	13:54:00	D	5.20
34	AMRITSAR	BABA BAKALA	S-NPP	75.16445	31.53475	13:54:00	D	2.20
35	AMRITSAR	BABA BAKALA	S-NPP	75.10982	31.54597	13:54:00	D	9.40
36	AMRITSAR	BABA BAKALA	AQUA-1	75.15710	31.57043	13:35:00	D	11.50
37	AMRITSAR	BABA BAKALA	S-NPP	75.14996	31.57535	13:54:00	D	5.10
38	AMRITSAR	BABA BAKALA	S-NPP	75.18942	31.57945	13:54:00	D	2.90
39	AMRITSAR	BABA BAKALA	S-NPP	75.30064	31.58672	13:54:00	D	2.40
40	AMRITSAR	BABA BAKALA	AQUA-1	75.30375	31.58840	13:35:00	D	11.27
41	AMRITSAR	BABA BAKALA	S-NPP	75.28603	31.62764	13:54:00	D	3.00
42	AMRITSAR	BABA BAKALA	S-NPP	75.28663	31.62801	13:54:00	D	3.40
43	AMRITSAR	BABA BAKALA	S-NPP	75.21712	31.64225	13:54:00	D	12.40
44	AMRITSAR	BABA BAKALA	S-NPP	75.17455	31.65904	13:54:00	D	2.90
45	AMRITSAR	BABA BAKALA	S-NPP	75.19217	31.66084	13:54:00	D	6.70
46	BARNALA	BARNALA	S-NPP	75.66247	30.34432	13:54:00	D	9.70
47	BARNALA	TAPPA	S-NPP	75.65269	30.27482	13:54:00	D	3.90
48	BATHINDA	TALWANDI SABO	AQUA-1	75.11787	29.83518	13:35:00	D	8.11
49	BATHINDA	TALWANDI SABO	S-NPP	75.12006	29.83900	13:54:00	D	12.00
50	BATHINDA	TALWANDI SABO	S-NPP	75.11542	29.84261	13:54:00	D	8.90
51	BATHINDA	TALWANDI SABO	S-NPP	75.11949	29.84305	13:54:00	D	12.00
52	BATHINDA	TALWANDI SABO	S-NPP	74.95579	30.07169	13:54:00	D	6.00
53	FARIDKOT	FARIDKOT	S-NPP	74.77650	30.62395	13:54:00	D	2.90
54	FARIDKOT	FARIDKOT	AQUA-1	74.81945	30.67810	13:35:00	D	16.14
55	FARIDKOT	FARIDKOT	S-NPP	74.64126	30.71613	13:54:00	D	2.30
56	FARIDKOT	FARIDKOT	AQUA-1	74.73760	30.74997	13:35:00	D	8.19
57	FARIDKOT	FARIDKOT	AQUA-1	74.77853	30.76195	13:35:00	D	20.05
58	FARIDKOT	FARIDKOT	S-NPP	74.72544	30.76581	13:54:00	D	3.00
59	FARIDKOT	FARIDKOT	S-NPP	74.77281	30.77095	13:54:00	D	2.60
60	FARIDKOT	FARIDKOT	AQUA-1	74.69838	30.79638	13:35:00	D	25.00
61	FARIDKOT	JAITO	S-NPP	74.83613	30.51918	13:54:00	D	2.50
62	FIROZPUR	FAZILKA	S-NPP	74.08562	30.38142	13:54:00	D	3.20
63	FIROZPUR	FIROZPUR	S-NPP	74.50556	30.78193	13:54:00	D	7.80
64	FIROZPUR	FIROZPUR	S-NPP	74.51144	30.78259	13:54:00	D	7.80

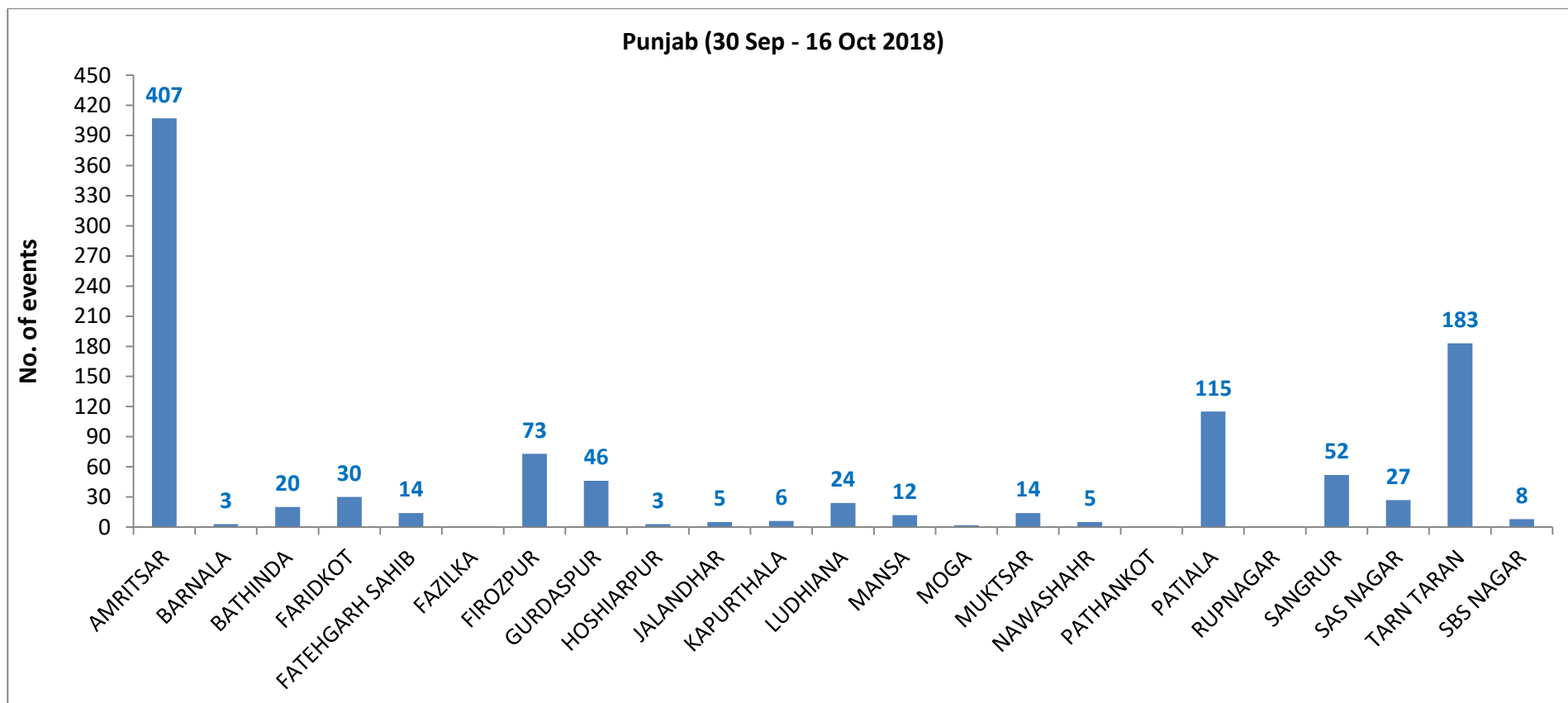
65	FIROZPUR	FIROZPUR	AQUA-1	74.72396	30.89520	13:35:00	D	11.05
66	FIROZPUR	FIROZPUR	S-NPP	74.54900	30.94822	13:54:00	D	14.50
67	FIROZPUR	FIROZPUR	AQUA-1	74.53524	30.96157	13:35:00	D	24.48
68	FIROZPUR	FIROZPUR	S-NPP	74.54017	30.96745	13:54:00	D	4.10
69	FIROZPUR	JALALABAD	S-NPP	74.27200	30.56106	13:54:00	D	8.20
70	FIROZPUR	JALALABAD	S-NPP	74.26991	30.56108	13:54:00	D	3.70
71	FIROZPUR	JALALABAD	S-NPP	74.23055	30.69914	13:54:00	D	4.60
72	FIROZPUR	JALALABAD	S-NPP	74.44006	30.74246	13:54:00	D	4.30
73	FIROZPUR	JALALABAD	S-NPP	74.32452	30.76937	13:54:00	D	6.30
74	FIROZPUR	JALALABAD	S-NPP	74.31896	30.79227	13:54:00	D	7.00
75	GURDASPUR	BATALA	AQUA-1	75.37196	31.64229	13:35:00	D	11.95
76	GURDASPUR	BATALA	S-NPP	75.27576	31.70754	13:54:00	D	4.20
77	GURDASPUR	BATALA	S-NPP	75.21454	31.72657	13:54:00	D	4.10
78	GURDASPUR	BATALA	S-NPP	75.21656	31.72785	13:54:00	D	3.20
79	GURDASPUR	BATALA	S-NPP	75.19209	31.74233	13:54:00	D	5.10
80	GURDASPUR	BATALA	S-NPP	75.24425	31.75603	13:54:00	D	5.30
81	GURDASPUR	BATALA	AQUA-1	75.19973	31.76207	13:35:00	D	12.26
82	GURDASPUR	BATALA	S-NPP	75.11320	31.76385	13:54:00	D	2.60
83	GURDASPUR	BATALA	S-NPP	75.11263	31.76799	13:54:00	D	4.90
84	GURDASPUR	BATALA	S-NPP	75.41043	31.77687	13:54:00	D	4.50
85	GURDASPUR	BATALA	S-NPP	75.17310	31.78265	13:54:00	D	3.30
86	GURDASPUR	BATALA	S-NPP	75.05825	31.80856	13:54:00	D	1.90
87	GURDASPUR	BATALA	S-NPP	74.99879	31.85851	13:54:00	D	1.20
88	GURDASPUR	GURDASPUR	S-NPP	75.39165	31.96661	13:54:00	D	4.60
89	GURDASPUR	GURDASPUR	S-NPP	75.39021	31.96684	13:54:00	D	2.80
90	JALANDHAR	JALANDHAR II	S-NPP	75.54082	31.46140	13:54:00	D	7.50
91	KAPURTHALA	KAPURTHALA	S-NPP	75.33601	31.38129	13:54:00	D	3.60
92	KAPURTHALA	SULTANPUR LODHI	S-NPP	75.02843	31.16888	13:54:00	D	3.30
93	KAPURTHALA	SULTANPUR LODHI	S-NPP	75.07539	31.20541	13:54:00	D	8.00
94	MANSA	BUDHLADA	S-NPP	75.50833	29.85513	13:54:00	D	4.50
95	MANSA	SARDULGARH	AQUA-1	75.25472	29.60499	13:35:00	D	9.90
96	MANSA	SARDULGARH	S-NPP	75.31995	29.74516	13:54:00	D	2.20
97	MUKTSAR	GIDDARBAHA	S-NPP	74.80646	30.37561	13:54:00	D	6.40
98	MUKTSAR	MUKTSAR	S-NPP	74.58029	30.53608	13:54:00	D	13.80

99	PATIALA	NABHA	S-NPP	76.23846	30.35428	13:54:00	D	9.20
100	PATIALA	PATIALA	S-NPP	76.47006	30.11970	13:54:00	D	3.40
101	PATIALA	PATIALA	S-NPP	76.51126	30.26036	13:54:00	D	4.00
102	PATIALA	PATIALA	S-NPP	76.25706	30.27155	13:54:00	D	7.70
103	PATIALA	PATIALA	S-NPP	76.32962	30.27865	13:54:00	D	5.60
104	PATIALA	PATIALA	AQUA-1	76.48038	30.30979	13:35:00	D	9.38
105	PATIALA	PATIALA	S-NPP	76.25663	30.36487	13:54:00	D	3.30
106	PATIALA	SAMANA	S-NPP	76.12874	29.83734	13:54:00	D	3.70
107	PATIALA	SAMANA	S-NPP	76.14682	29.84352	13:54:00	D	3.30
108	PATIALA	SAMANA	S-NPP	76.17957	29.84682	13:54:00	D	44.10
109	PATIALA	SAMANA	AQUA-1	76.20958	29.87022	13:35:00	D	7.49
110	PATIALA	SAMANA	S-NPP	76.23850	29.87028	13:54:00	D	6.40
111	PATIALA	SAMANA	S-NPP	76.24323	29.87076	13:54:00	D	5.70
112	PATIALA	SAMANA	S-NPP	76.14760	29.87416	13:54:00	D	4.30
113	PATIALA	SAMANA	S-NPP	76.11832	29.93865	13:54:00	D	2.40
114	PATIALA	SAMANA	S-NPP	76.20278	30.02166	13:54:00	D	4.90
115	PATIALA	SAMANA	S-NPP	76.19905	30.02224	13:54:00	D	6.40
116	PATIALA	SAMANA	S-NPP	76.06953	30.03134	13:54:00	D	5.00
117	PATIALA	SAMANA	S-NPP	76.28207	30.12736	13:54:00	D	3.40
118	PATIALA	SAMANA	S-NPP	76.28686	30.12785	13:54:00	D	3.40
119	PATIALA	SAMANA	S-NPP	76.28376	30.12827	13:54:00	D	4.80
120	PATIALA	SAMANA	S-NPP	76.17619	30.17496	13:54:00	D	3.60
121	PATIALA	SAMANA	S-NPP	76.23865	30.17679	13:54:00	D	2.50
122	PATIALA	SAMANA	S-NPP	76.21088	30.20482	13:54:00	D	4.90
123	PATIALA	SAMANA	S-NPP	76.18071	30.22451	13:54:00	D	4.70
124	PATIALA	SAMANA	S-NPP	76.17900	30.22795	13:54:00	D	3.70
125	SANGRUR	MOONAK	S-NPP	75.88898	29.79152	13:54:00	D	2.60
126	SANGRUR	MOONAK	S-NPP	75.84298	29.79543	13:54:00	D	4.70
127	SANGRUR	MOONAK	S-NPP	76.08221	29.79789	13:54:00	D	4.20
128	SANGRUR	MOONAK	S-NPP	76.08100	29.80007	13:54:00	D	5.70
129	SANGRUR	MOONAK	S-NPP	75.81779	29.84850	13:54:00	D	1.90
130	SANGRUR	SUNAM	S-NPP	75.93130	30.13293	13:54:00	D	4.90
131	TARN TARAN	KHADOOR SAHIB	S-NPP	74.79522	31.35716	13:54:00	D	6.60
132	TARN TARAN	KHADOOR SAHIB	AQUA-1	75.07695	31.35783	13:35:00	D	9.95

133	TARN TARAN	KHADOOR SAHIB	S-NPP	75.03674	31.37085	13:54:00	D	6.50
134	TARN TARAN	KHADOOR SAHIB	S-NPP	75.09738	31.37313	13:54:00	D	3.00
135	TARN TARAN	KHADOOR SAHIB	S-NPP	75.06128	31.38183	13:54:00	D	1.50
136	TARN TARAN	KHADOOR SAHIB	S-NPP	75.10429	31.38643	13:54:00	D	3.40
137	TARN TARAN	KHADOOR SAHIB	S-NPP	75.10860	31.38689	13:54:00	D	4.90
138	TARN TARAN	KHADOOR SAHIB	S-NPP	75.09884	31.39423	13:54:00	D	2.50
139	TARN TARAN	KHADOOR SAHIB	S-NPP	75.09898	31.39607	13:54:00	D	3.10
140	TARN TARAN	KHADOOR SAHIB	S-NPP	75.14492	31.41330	13:54:00	D	4.40
141	TARN TARAN	KHADOOR SAHIB	S-NPP	75.08747	31.41583	13:54:00	D	2.60
142	TARN TARAN	KHADOOR SAHIB	S-NPP	75.15623	31.42705	13:54:00	D	7.20
143	TARN TARAN	KHADOOR SAHIB	S-NPP	75.15565	31.43119	13:54:00	D	7.20
144	TARN TARAN	KHADOOR SAHIB	S-NPP	75.17312	31.43297	13:54:00	D	2.90
145	TARN TARAN	KHADOOR SAHIB	AQUA-1	75.16392	31.43419	13:35:00	D	14.37
146	TARN TARAN	KHADOOR SAHIB	S-NPP	74.95878	31.43583	13:54:00	D	0.90
147	TARN TARAN	KHADOOR SAHIB	S-NPP	75.06076	31.45071	13:54:00	D	7.00
148	TARN TARAN	KHADOOR SAHIB	S-NPP	74.74609	31.46667	13:54:00	D	3.70
149	TARN TARAN	KHADOOR SAHIB	S-NPP	74.74657	31.46692	13:54:00	D	3.70
150	TARN TARAN	KHADOOR SAHIB	S-NPP	75.03644	31.46903	13:54:00	D	2.20
151	TARN TARAN	KHADOOR SAHIB	S-NPP	75.05791	31.47131	13:54:00	D	8.30
152	TARN TARAN	KHADOOR SAHIB	S-NPP	75.03586	31.47315	13:54:00	D	3.40
153	TARN TARAN	KHADOOR SAHIB	S-NPP	74.71587	31.47604	13:54:00	D	3.00
154	TARN TARAN	KHADOOR SAHIB	S-NPP	75.16245	31.47814	13:54:00	D	3.80
155	TARN TARAN	KHADOOR SAHIB	AQUA-1	75.12981	31.49557	13:35:00	D	8.33
156	TARN TARAN	KHADOOR SAHIB	S-NPP	75.02425	31.49955	13:54:00	D	4.40
157	TARN TARAN	KHADOOR SAHIB	S-NPP	75.02326	31.50103	13:54:00	D	3.60
158	TARN TARAN	KHADOOR SAHIB	S-NPP	75.02755	31.50150	13:54:00	D	3.60
159	TARN TARAN	KHADOOR SAHIB	S-NPP	75.03053	31.51689	13:54:00	D	2.20
160	TARN TARAN	PATTI	AQUA-1	74.54798	31.15661	13:35:00	D	7.13
161	TARN TARAN	PATTI	AQUA-1	74.73078	31.17218	13:35:00	D	12.11
162	TARN TARAN	PATTI	S-NPP	74.55758	31.19541	13:54:00	D	5.00
163	TARN TARAN	PATTI	S-NPP	74.74448	31.20354	13:54:00	D	2.20
164	TARN TARAN	PATTI	S-NPP	74.81914	31.20745	13:54:00	D	4.60
165	TARN TARAN	PATTI	S-NPP	74.63367	31.22005	13:54:00	D	2.50
166	TARN TARAN	PATTI	S-NPP	74.69730	31.24339	13:54:00	D	3.10

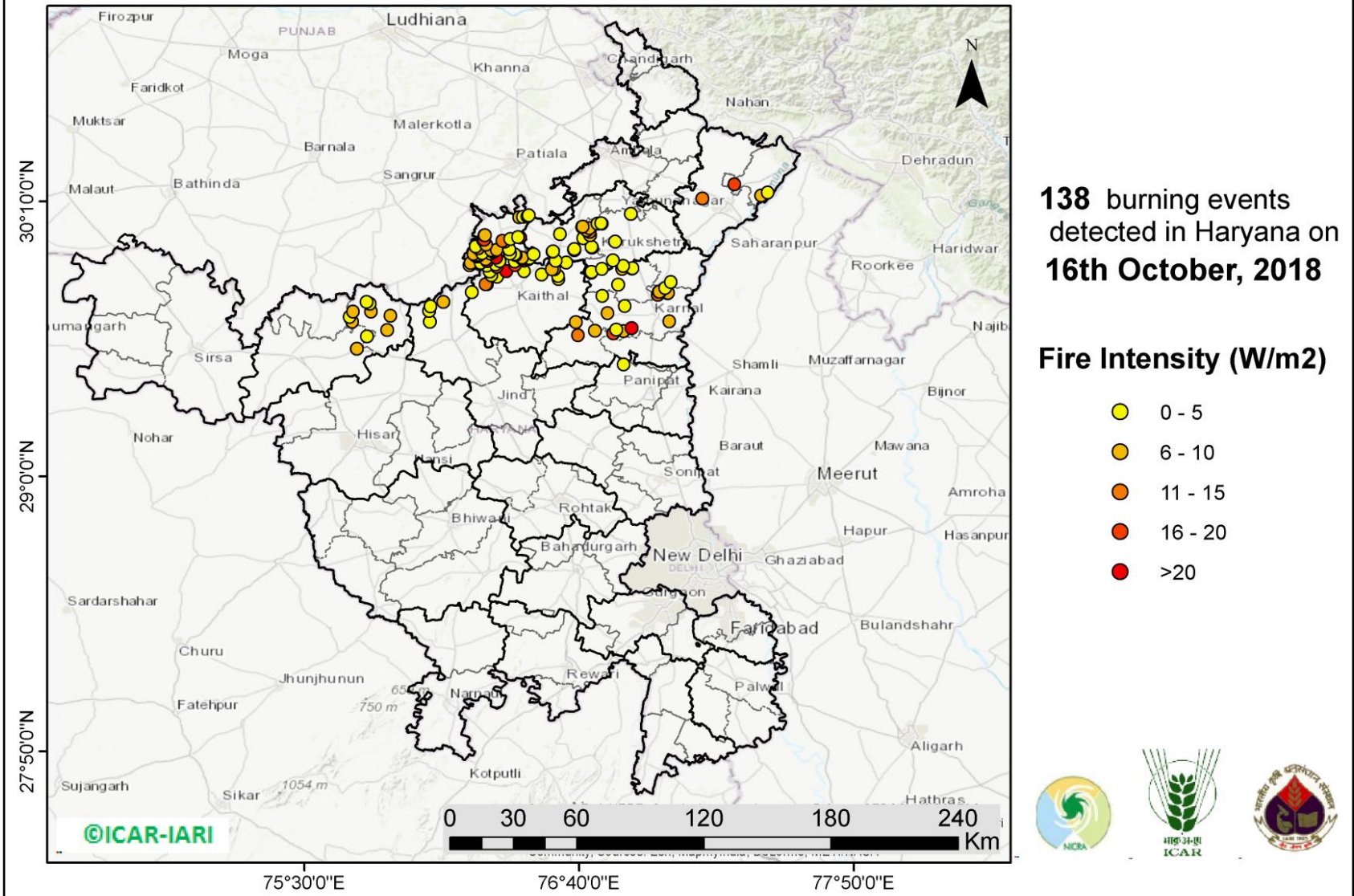
167	TARN TARAN	PATTI	AQUA-1	74.70691	31.24404	13:35:00	D	16.18
168	TARN TARAN	PATTI	S-NPP	74.66423	31.25294	13:54:00	D	2.00
169	TARN TARAN	PATTI	AQUA-1	74.60459	31.30094	13:35:00	D	7.03
170	TARN TARAN	PATTI	S-NPP	74.64743	31.31233	13:54:00	D	3.50
171	TARN TARAN	PATTI	AQUA-1	74.56537	31.31740	13:35:00	D	13.42
172	TARN TARAN	PATTI	S-NPP	74.61601	31.35853	13:54:00	D	1.90
173	TARN TARAN	PATTI	AQUA-1	74.61482	31.36082	13:35:00	D	6.45
174	TARN TARAN	PATTI	AQUA-1	74.58754	31.39077	13:35:00	D	8.57

District-wise cumulative number of residue burning events in Punjab (30-Sep-2018 to 16-Oct-2018)



(b) Haryana

PADDY RESIDUE BURNING IN HARYANA



Details of residue burning events in Haryana on 16-Oct-2018

Event S.No.	District	Tehsil/Block	Satellite	Longitude	Latitude	Time (IST)	Day/Night	Fire Power (W/m2)
1	FATEHABAD	FATEHABAD	AQUA-1	75.72154	29.54323	13:35	D	7.16
2	FATEHABAD	FATEHABAD	S-NPP	75.76449	29.59541	13:54	D	3.30
3	FATEHABAD	TOHANA	S-NPP	75.85064	29.62150	13:54	D	7.80
4	FATEHABAD	TOHANA	S-NPP	75.70389	29.65777	13:54	D	8.60
5	FATEHABAD	TOHANA	S-NPP	75.69234	29.67779	13:54	D	4.80
6	FATEHABAD	TOHANA	AQUA-1	75.86478	29.68247	13:35	D	9.43
7	FATEHABAD	TOHANA	AQUA-1	75.78293	29.70044	13:35	D	9.57
8	FATEHABAD	TOHANA	S-NPP	75.70701	29.70054	13:54	D	5.30
9	FATEHABAD	TOHANA	S-NPP	75.77842	29.73361	13:54	D	4.20
10	FATEHABAD	TOHANA	S-NPP	75.76405	29.74061	13:54	D	2.80
11	JIND	NARWANA	S-NPP	76.03302	29.65781	13:54	D	4.10
12	JIND	NARWANA	S-NPP	76.02843	29.70358	13:54	D	3.70
13	JIND	NARWANA	S-NPP	76.03535	29.72159	13:54	D	3.00
14	JIND	NARWANA	AQUA-1	76.08987	29.74086	13:35	D	9.44
15	KAITHAL	GUHLA	AQUA-1	76.20072	29.89657	13:35	D	9.85
16	KAITHAL	GUHLA	S-NPP	76.24408	29.90159	13:54	D	2.30
17	KAITHAL	GUHLA	S-NPP	76.20522	29.90635	13:54	D	6.80
18	KAITHAL	GUHLA	S-NPP	76.24826	29.90642	13:54	D	2.20
19	KAITHAL	GUHLA	S-NPP	76.32924	29.91475	13:54	D	2.80
20	KAITHAL	GUHLA	AQUA-1	76.43263	29.91603	13:35	D	41.51
21	KAITHAL	GUHLA	S-NPP	76.27032	29.92189	13:54	D	2.70
22	KAITHAL	GUHLA	S-NPP	76.26833	29.92278	13:54	D	5.20
23	KAITHAL	GUHLA	S-NPP	76.42567	29.92459	13:54	D	4.30
24	KAITHAL	GUHLA	S-NPP	76.42027	29.92849	13:54	D	7.10
25	KAITHAL	GUHLA	S-NPP	76.42341	29.92885	13:54	D	13.50
26	KAITHAL	GUHLA	S-NPP	76.42512	29.92898	13:54	D	7.10
27	KAITHAL	GUHLA	AQUA-1	76.31497	29.92951	13:35	D	20.66

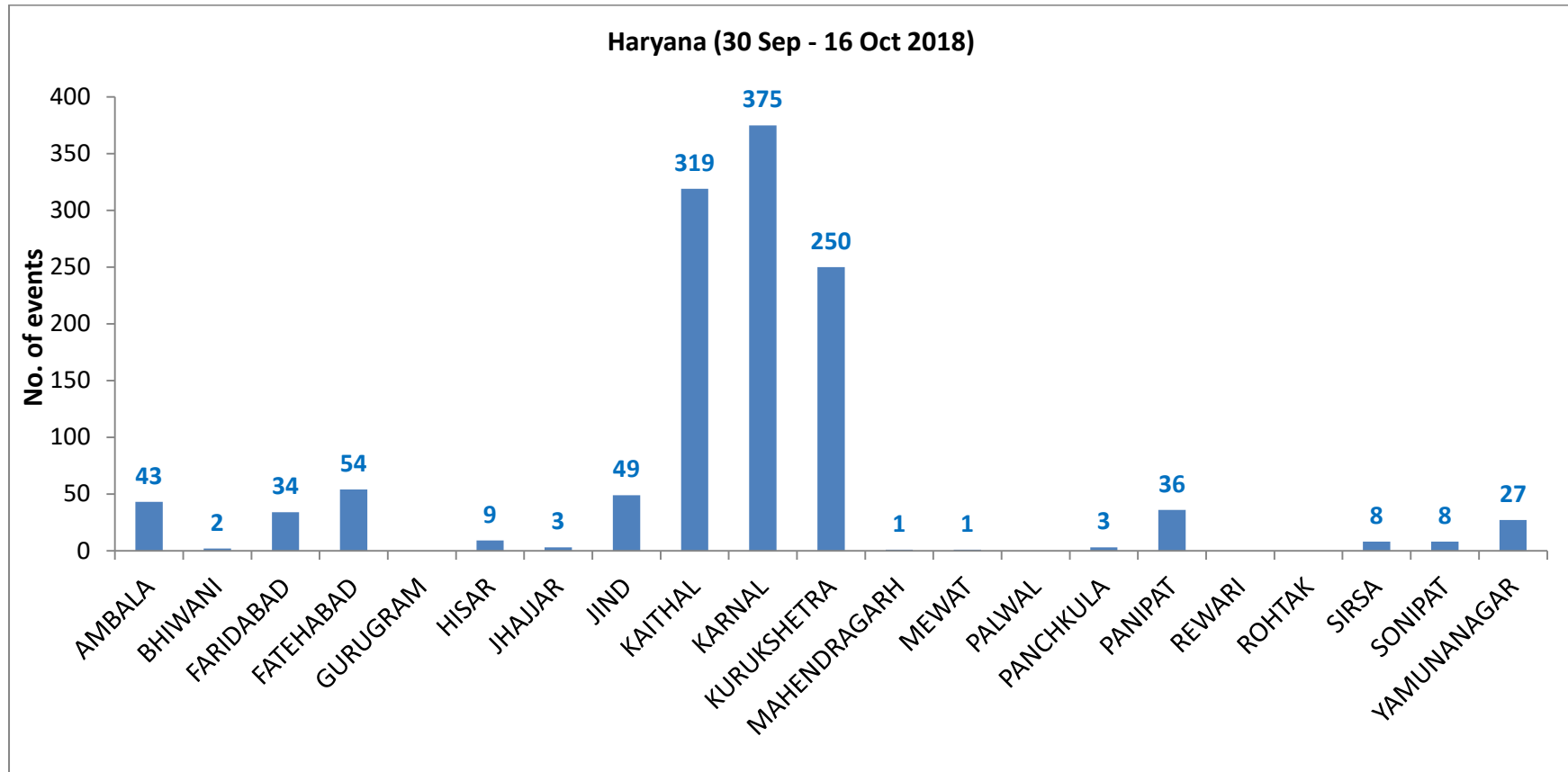
28	KAITHAL	GUHLA	AQUA-1	76.23312	29.93400	13:35	D	10.17
29	KAITHAL	GUHLA	S-NPP	76.24231	29.93782	13:54	D	3.10
30	KAITHAL	GUHLA	S-NPP	76.39746	29.93968	13:54	D	2.80
31	KAITHAL	GUHLA	S-NPP	76.22281	29.94029	13:54	D	4.00
32	KAITHAL	GUHLA	S-NPP	76.23228	29.94122	13:54	D	2.50
33	KAITHAL	GUHLA	S-NPP	76.39206	29.94359	13:54	D	2.40
34	KAITHAL	GUHLA	S-NPP	76.21751	29.94415	13:54	D	5.70
35	KAITHAL	GUHLA	S-NPP	76.28939	29.94685	13:54	D	4.60
36	KAITHAL	GUHLA	S-NPP	76.25546	29.94791	13:54	D	3.40
37	KAITHAL	GUHLA	S-NPP	76.30317	29.95261	13:54	D	9.90
38	KAITHAL	GUHLA	S-NPP	76.30261	29.95697	13:54	D	9.90
39	KAITHAL	GUHLA	S-NPP	76.30740	29.95744	13:54	D	9.90
40	KAITHAL	GUHLA	AQUA-1	76.30985	29.95853	13:35	D	23.36
41	KAITHAL	GUHLA	S-NPP	76.29249	29.96037	13:54	D	7.00
42	KAITHAL	GUHLA	S-NPP	76.31642	29.96274	13:54	D	5.90
43	KAITHAL	GUHLA	S-NPP	76.36993	29.96359	13:54	D	2.00
44	KAITHAL	GUHLA	S-NPP	76.23840	29.96819	13:54	D	10.90
45	KAITHAL	GUHLA	S-NPP	76.22782	29.97591	13:54	D	3.50
46	KAITHAL	GUHLA	S-NPP	76.27003	29.98457	13:54	D	5.80
47	KAITHAL	GUHLA	AQUA-1	76.35078	29.99688	13:35	D	7.41
48	KAITHAL	GUHLA	S-NPP	76.34079	30.00053	13:54	D	11.70
49	KAITHAL	GUHLA	S-NPP	76.25774	30.00534	13:54	D	15.20
50	KAITHAL	GUHLA	S-NPP	76.26251	30.00583	13:54	D	15.20
51	KAITHAL	GUHLA	S-NPP	76.37403	30.00831	13:54	D	2.30
52	KAITHAL	GUHLA	AQUA-1	76.41728	30.01485	13:35	D	30.23
53	KAITHAL	GUHLA	S-NPP	76.40742	30.01611	13:54	D	2.80
54	KAITHAL	GUHLA	S-NPP	76.26505	30.02370	13:54	D	5.00
55	KAITHAL	GUHLA	S-NPP	76.26619	30.02435	13:54	D	7.30
56	KAITHAL	GUHLA	S-NPP	76.41291	30.10066	13:54	D	6.40
57	KAITHAL	GUHLA	S-NPP	76.42757	30.10211	13:54	D	2.80
58	KAITHAL	GUHLA	S-NPP	76.44717	30.10405	13:54	D	5.00
59	KAITHAL	GUHLA	S-NPP	76.45152	30.10894	13:54	D	3.70

60	KAITHAL	KAITHAL	S-NPP	76.21049	29.78304	13:54	D	1.70
61	KAITHAL	KAITHAL	S-NPP	76.26842	29.81536	13:54	D	5.80
62	KAITHAL	KAITHAL	S-NPP	76.27316	29.81586	13:54	D	5.80
63	KAITHAL	KAITHAL	S-NPP	76.26944	29.81626	13:54	D	10.60
64	KAITHAL	KAITHAL	S-NPP	76.57892	29.83837	13:54	D	2.50
65	KAITHAL	KAITHAL	S-NPP	76.31844	29.84747	13:54	D	3.50
66	KAITHAL	KAITHAL	S-NPP	76.57727	29.85164	13:54	D	2.50
67	KAITHAL	KAITHAL	S-NPP	76.29350	29.85381	13:54	D	2.90
68	KAITHAL	KAITHAL	S-NPP	76.50830	29.85713	13:54	D	2.80
69	KAITHAL	KAITHAL	S-NPP	76.71696	29.86584	13:54	D	3.30
70	KAITHAL	KAITHAL	S-NPP	76.71837	29.86822	13:54	D	2.10
71	KAITHAL	KAITHAL	S-NPP	76.28651	29.87072	13:54	D	4.50
72	KAITHAL	KAITHAL	AQUA-1	76.35590	29.87112	13:35	D	23.61
73	KAITHAL	KAITHAL	S-NPP	76.43233	29.87197	13:54	D	1.30
74	KAITHAL	KAITHAL	S-NPP	76.56023	29.88003	13:54	D	5.80
75	KAITHAL	KAITHAL	AQUA-1	76.55030	29.88010	13:35	D	5.14
76	KAITHAL	KAITHAL	AQUA-1	76.31753	29.89133	13:35	D	13.16
77	KAITHAL	KAITHAL	S-NPP	76.27364	29.89583	13:54	D	2.60
78	KAITHAL	KAITHAL	AQUA-1	76.39512	29.89657	13:35	D	15.69
79	KAITHAL	KAITHAL	S-NPP	76.31177	29.89972	13:54	D	4.00
80	KAITHAL	KAITHAL	S-NPP	76.61202	29.90751	13:54	D	4.00
81	KAITHAL	KAITHAL	S-NPP	76.39289	29.91239	13:54	D	4.80
82	KAITHAL	KAITHAL	AQUA-1	76.27575	29.91454	13:35	D	22.84
83	KAITHAL	KAITHAL	S-NPP	76.45054	29.92268	13:54	D	2.50
84	KAITHAL	KAITHAL	S-NPP	76.45486	29.92756	13:54	D	2.50
85	KAITHAL	KAITHAL	S-NPP	76.47275	29.94274	13:54	D	1.50
86	KAITHAL	KAITHAL	S-NPP	76.37215	29.94609	13:54	D	3.60
87	KARNAL	ASSANDH	AQUA-1	76.66114	29.60012	13:35	D	10.94
88	KARNAL	ASSANDH	S-NPP	76.73344	29.61850	13:54	D	7.70
89	KARNAL	ASSANDH	AQUA-1	76.65261	29.65552	13:35	D	8.38
90	KARNAL	INDRI	S-NPP	77.05578	29.82592	13:54	D	1.70
91	KARNAL	KARNAL	AQUA-1	76.81120	29.60761	13:35	D	19.05

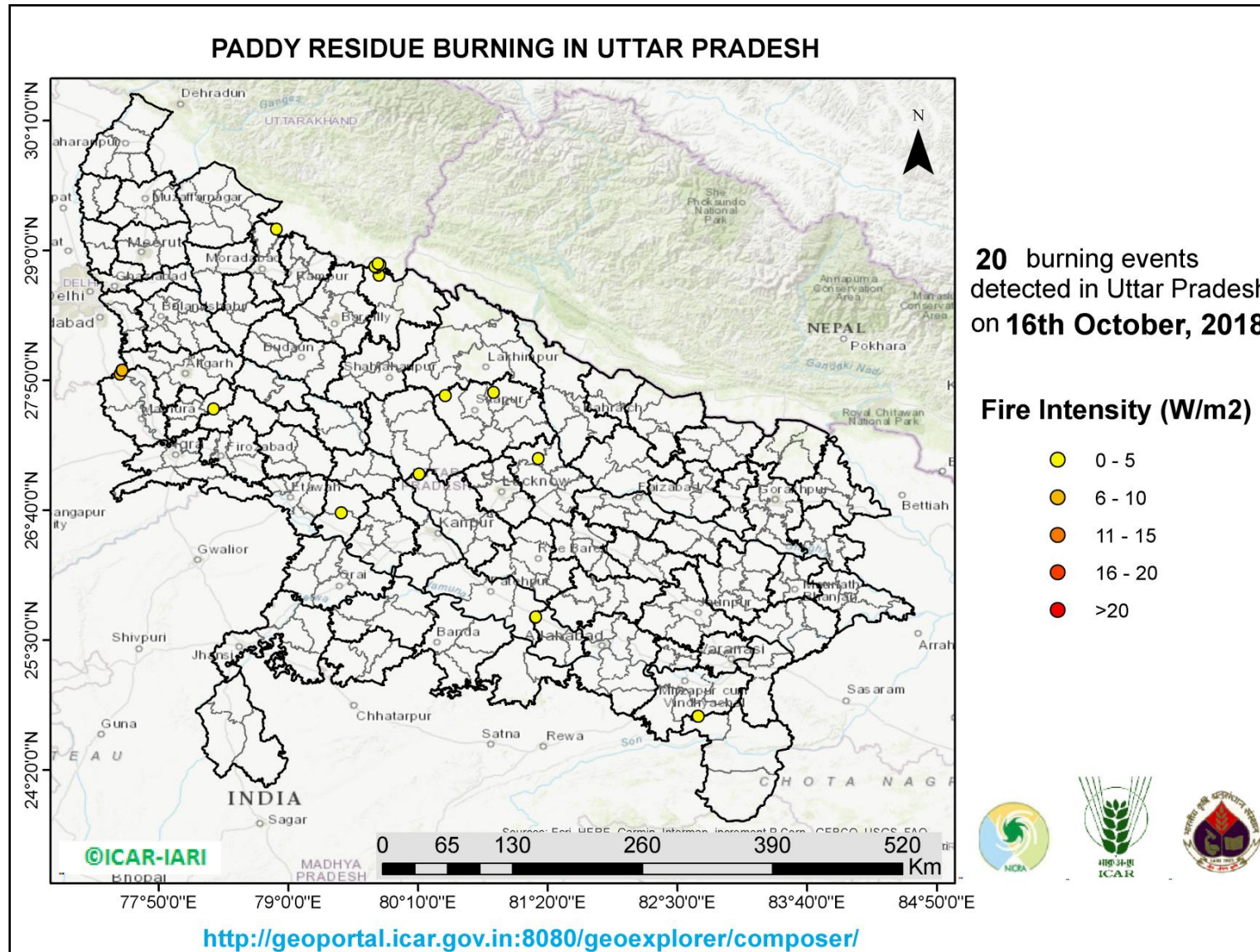
92	KARNAL	KARNAL	AQUA-1	76.85554	29.61809	13:35	D	9.96
93	KARNAL	KARNAL	S-NPP	76.82467	29.62301	13:54	D	3.00
94	KARNAL	KARNAL	AQUA-1	76.88964	29.63007	13:35	D	33.04
95	KARNAL	KARNAL	S-NPP	77.04980	29.65878	13:54	D	5.50
96	KARNAL	KARNAL	AQUA-1	76.78664	29.69415	13:35	D	9.23
97	KARNAL	KARNAL	S-NPP	76.86053	29.72361	13:54	D	3.10
98	KARNAL	KARNAL	S-NPP	76.76501	29.76657	13:54	D	3.60
99	KARNAL	KARNAL	AQUA-1	77.00048	29.77230	13:35	D	12.33
100	KARNAL	KARNAL	S-NPP	77.04282	29.77802	13:54	D	4.00
101	KARNAL	KARNAL	S-NPP	77.04549	29.77894	13:54	D	7.20
102	KARNAL	KARNAL	S-NPP	77.00500	29.78348	13:54	D	3.90
103	KARNAL	KARNAL	S-NPP	77.01022	29.78400	13:54	D	3.90
104	KARNAL	KARNAL	S-NPP	77.00755	29.78465	13:54	D	6.60
105	KARNAL	KARNAL	S-NPP	77.03217	29.80071	13:54	D	2.60
106	KARNAL	NILOKHERI	S-NPP	76.83125	29.81369	13:54	D	4.00
107	KARNAL	NILOKHERI	S-NPP	76.89036	29.88325	13:54	D	3.40
108	KARNAL	NILOKHERI	S-NPP	76.89215	29.88451	13:54	D	3.30
109	KURUKSHETRA	PEHOWA	S-NPP	76.56570	29.91638	13:54	D	3.20
110	KURUKSHETRA	PEHOWA	S-NPP	76.55425	29.95469	13:54	D	1.10
111	KURUKSHETRA	PEHOWA	S-NPP	76.55579	29.95569	13:54	D	4.10
112	KURUKSHETRA	PEHOWA	S-NPP	76.64592	29.96034	13:54	D	3.90
113	KURUKSHETRA	PEHOWA	S-NPP	76.64400	29.96319	13:54	D	6.50
114	KURUKSHETRA	PEHOWA	S-NPP	76.64537	29.96479	13:54	D	3.90
115	KURUKSHETRA	PEHOWA	S-NPP	76.72089	29.97242	13:54	D	7.50
116	KURUKSHETRA	PEHOWA	S-NPP	76.71910	29.97478	13:54	D	4.90
117	KURUKSHETRA	PEHOWA	S-NPP	76.68375	30.01207	13:54	D	2.90
118	KURUKSHETRA	PEHOWA	S-NPP	76.58514	30.02942	13:54	D	5.00
119	KURUKSHETRA	THANESAR	S-NPP	76.76285	29.88147	13:54	D	4.20
120	KURUKSHETRA	THANESAR	AQUA-1	76.84872	29.88160	13:35	D	5.16
121	KURUKSHETRA	THANESAR	S-NPP	76.85438	29.89465	13:54	D	3.50
122	KURUKSHETRA	THANESAR	S-NPP	76.80998	29.91772	13:54	D	4.60
123	KURUKSHETRA	THANESAR	S-NPP	76.81954	29.99784	13:54	D	4.80

124	KURUKSHETRA	THANESAR	S-NPP	76.71301	30.02394	13:54	D	5.40
125	KURUKSHETRA	THANESAR	AQUA-1	76.71116	30.03830	13:35	D	13.87
126	KURUKSHETRA	THANESAR	S-NPP	76.70011	30.04529	13:54	D	7.90
127	KURUKSHETRA	THANESAR	S-NPP	76.70914	30.05523	13:54	D	8.60
128	KURUKSHETRA	THANESAR	S-NPP	76.67967	30.05906	13:54	D	11.20
129	KURUKSHETRA	THANESAR	S-NPP	76.68274	30.06165	13:54	D	9.80
130	KURUKSHETRA	THANESAR	S-NPP	76.74460	30.07414	13:54	D	2.10
131	KURUKSHETRA	THANESAR	S-NPP	76.76347	30.07422	13:54	D	2.80
132	KURUKSHETRA	THANESAR	S-NPP	76.75995	30.07557	13:54	D	3.70
133	KURUKSHETRA	THANESAR	S-NPP	76.88577	30.11463	13:54	D	2.80
134	PANIPAT	PANIPAT	S-NPP	76.85652	29.47618	02:36	N	1.40
135	YAMUNANAGAR	CHHACHHRAULII	AQUA-1	77.43874	30.19301	13:35	D	7.02
136	YAMUNANAGAR	CHHACHHRAULII	S-NPP	77.46799	30.20571	13:54	D	2.80
137	YAMUNANAGAR	CHHACHHRAULII	AQUA-1	77.32619	30.24092	13:35	D	16.04
138	YAMUNANAGAR	JAGADHRI	S-NPP	77.19026	30.18004	13:54	D	12.50

District-wise cumulative number of residue burning events in Haryana (30-Sep-2018 to 16-Oct-2018)



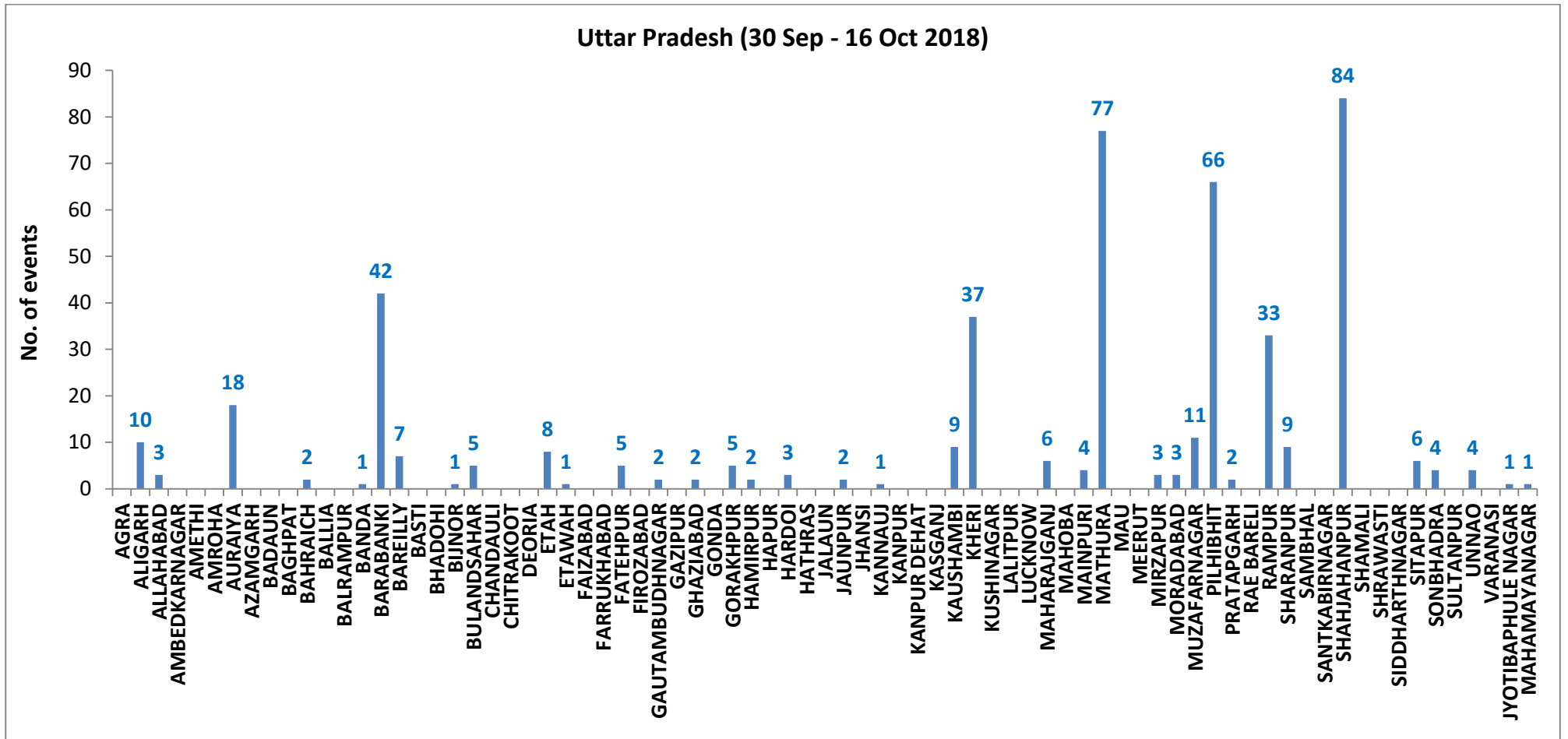
(c) Uttar Pradesh



Details of residue burning events in Uttar Pradesh on 16-Oct-2018

Event S.No.	District	Tehsil/Block	Satellite	Longitude	Latitude	Time (IST)	Day/Night	Fire Power (W/m²)
1	AURAIYA	BIDHUNA	S-NPP	79.47507	26.64319	01:00:00	N	1.40
2	BARABANKI	FATEHPUR	S-NPP	81.24945	27.13010	13:54:00	D	2.60
3	ETAH	JALESAR	S-NPP	78.32671	27.57530	13:54:00	D	4.80
4	KAUSHAMBI	SIRATHU	S-NPP	81.22399	25.70523	13:54:00	D	1.50
5	KAUSHAMBI	SIRATHU	S-NPP	81.22559	25.70765	13:54:00	D	1.80
6	MATHURA	CHHATA	S-NPP	77.48751	27.88961	13:54:00	D	7.20
7	MATHURA	CHHATA	S-NPP	77.50202	27.92354	13:54:00	D	10.10
8	MATHURA	CHHATA	S-NPP	77.50467	27.92372	13:54:00	D	5.50
9	MIRZAPUR	MARIHAN	S-NPP	82.68430	24.81631	12:12:00	D	5.60
10	MIRZAPUR	MARIHAN	S-NPP	82.68658	24.81769	12:12:00	D	4.50
11	MORADABAD	THAKUR DWARA	S-NPP	78.89414	29.19127	02:36:00	N	0.70
12	PILHIBHIT	PILHIBHIT	S-NPP	79.81576	28.77685	13:54:00	D	1.90
13	PILHIBHIT	PILHIBHIT	S-NPP	79.79435	28.84804	13:54:00	D	1.60
14	PILHIBHIT	PILHIBHIT	S-NPP	79.77828	28.85758	13:54:00	D	2.00
15	PILHIBHIT	PILHIBHIT	S-NPP	79.82616	28.87194	13:54:00	D	1.90
16	PILHIBHIT	PILHIBHIT	S-NPP	79.80624	28.88119	13:54:00	D	1.80
17	SITAPUR	LAHARPUR	S-NPP	80.84608	27.72457	13:54:00	D	2.00
18	SITAPUR	MISRIK	S-NPP	80.40984	27.69666	13:54:00	D	1.80
19	UNNAO	SAFIPUR	S-NPP	80.17782	26.98907	13:54:00	D	3.50
20	UNNAO	SAFIPUR	S-NPP	80.17807	26.99183	13:54:00	D	3.00

District-wise cumulative number of residue burning events in Uttar Pradesh (30-Sep-2018 to 15-Oct-2018)



State wise, date wise and district-wise number of residue burning events detected in 2017 and 2018
(Period: 30-Sep-2018 to 16-Oct-2018)

Date	Punjab		Haryana		UP		Total	
	2017	2018	2017	2018	2017	2018	2017	2018
30-Sep-18	--	11	---	7	---	13	---	31
1-Oct-18	54	16	13	9	2	11	69	36
2-Oct-18	50	9	27	23	8	21	85	53
3-Oct-18	62	4	40	9	17	12	119	25
4-Oct-18	103	32	60	16	22	5	185	53
5-Oct-18	106	56	68	30	20	10	194	96
6-Oct-18	138	87	75	65	39	13	252	165
7-Oct-18	105	162	97	180	31	69	233	411
8-Oct-18	215	39	218	40	75	54	508	133
9-Oct-18	163	75	148	47	87	32	398	154
10-Oct-18	164	23	151	37	126	21	441	81
11-Oct-18	177	30	87	78	74	24	338	132
12-Oct-18	342	67	123	133	51	22	516	222
13-Oct-18	470	62	207	147	69	61	746	270
14-Oct-18	582	112	333	153	137	57	1052	322
15-Oct-18	943	90	458	110	237	35	1638	235
16-Oct-18	465	174	186	138	71	20	722	332
Total	4139	1049	2291	1222	1070	480	7500	2751

(a) Punjab

Districts	01 - 15 Oct	
	2017	2018
AMRITSAR	501	407
BARNALA	13	3
BATHINDA	276	20
FARIDKOT	577	30
FATEHGARH SAHIB	146	14
FAZILKA	0	0
FIROZPUR	480	73
GURDASPUR	113	46
HOSHIARPUR	18	3
JALANDHAR	161	5
KAPURTHALA	56	6
LUDHIANA	272	24
MANSA	66	12
MOGA	56	2
MUKTSAR	154	14
NAWASHAHR	27	5
PATHANKOT	0	0
PATIALA	506	115
RUPNAGAR	5	0
SANGRUR	155	52
SAS NAGAR	45	27
TARN TARAN	495	183
SBS NAGAR	17	8
Total	4139	1049

(b) Haryana

Districts	01 - 15 Oct	
	2017	2018
AMBALA	158	43
BHIWANI	2	2
FARIDABAD	34	34
FATEHABAD	99	54
GURUGRAM	0	0
HISAR	17	9
JHAJJAR	0	3
JIND	105	49
KAITHAL	502	319
KARNAL	727	375
KURUKSHETRA	511	250
MAHENDRAGARH	0	1
MEWAT	0	1
PALWAL	0	0
PANCHKULA	0	3
PANIPAT	31	36
REWARI	0	0
ROHTAK	1	0
SIRSA	18	8
SONIPAT	12	8
YAMUNANAGAR	74	27
Total	2291	1222

(c) Uttar Pradesh

Districts	01 - 15 Oct		FIROZABAD	0	0	PRATAPGARH	0	2
	2017	2018						
AGRA	0	0	GAZIPUR	0	0	RAMPUR	164	33
ALIGARH	12	10	GHAZIABAD	2	2	SHARANPUR	19	9
ALLAHABAD	0	3	GONDA	0	0	SAMBHAL	0	0
AMBEDKAR NAGAR	1	0	GORAKHPUR	2	5	SANTKABIR NAGAR	0	0
AMETHI	0	0	HAMIRPUR	0	2	SHAHJAHANPUR	327	84
AMROHA	0	0	HAPUR	0	0	SHAMALI	0	0
AURAIYA	39	18	HARDOI	8	3	SHRAWASTI	3	0
AZAMGARH	0	0	HATHRAS	0	0	SIDDHARTH NAGAR	0	0
BADAUN	1	0	JALAUN	0	0	SITAPUR	8	6
BAGHPAT	0	0	JAUNPUR	0	2	SONBHADRA	1	4
BAHRAICH	2	2	JHANSI	0	0	SULTANPUR	0	0
BALLIA	0	0	KANNAUJ	0	1	UNNAO	1	4
BALRAMPUR	0	0	KANPUR	3	0	VARANASI	0	0
BANDA	0	1	KANPUR DEHAT	1	0	JYOTIBAPHULE NAGAR	0	1
BARABANKI	23	42	KASGANJ	0	0	MAHAMAYA NAGAR	0	1
BAREILLY	31	7	KAUSHAMBI	4	9	Total	1070	480
BASTI	0	0	KHERI	91	37			
BHADOHI	0	0	KUSHINAGAR	1	0			
BIJNOR	0	1	LALITPUR	0	0			
BULANDSAHAR	6	5	LUCKNOW	5	0			
CHANDAULI	0	0	MAHARAJGANJ	9	6			
CHITRAKOOT	0	0	MAHOBA	0	0			
DEORIA	0	0	MAINPURI	3	4			
ETAH	4	8	MATHURA	32	77			
ETAWAH	4	1	MAU	0	0			
FAIZABAD	1	0	MEERUT	8	0			
FARRUKHABAD	0	0	MIRZAPUR	2	3			
FATEHPUR	4	5	MORADABAD	8	3			
			MUZAFARNAGAR	43	11			
			PILHIBHIT	194	66			

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

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

<http://creams.iari.res.in:8080/geoexplorer/composer/>
