



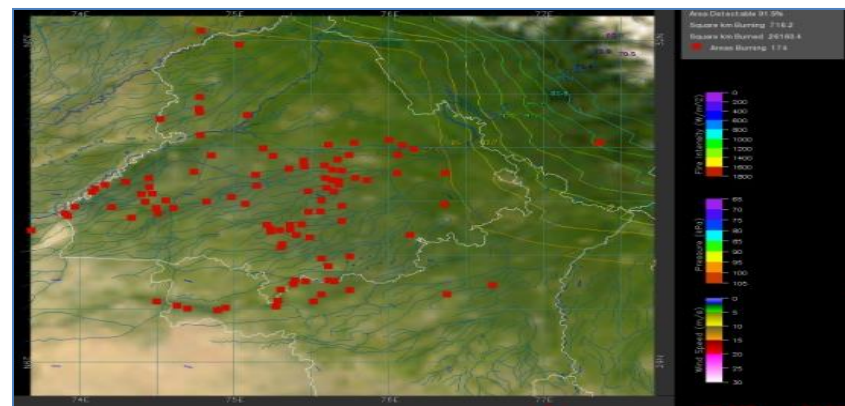
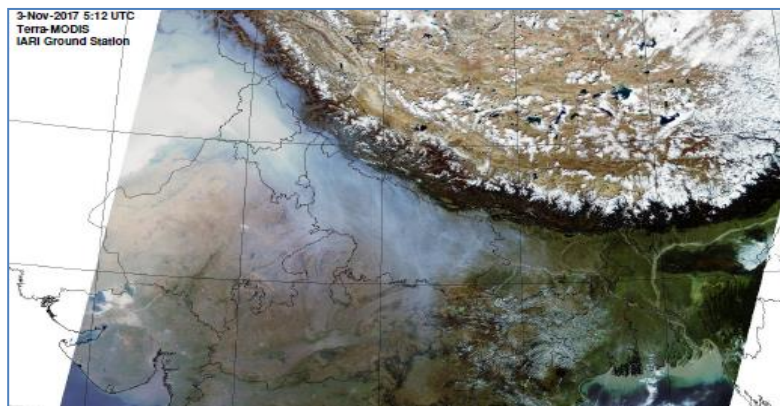
**Bulletin
No. 36**

**Events Date:
20-Oct-2023**

**Issued on:
21-Oct-2023**



MONITORING PADDY RESIDUE BURNING IN INDIA USING SATELLITE REMOTE SENSING DURING 2023



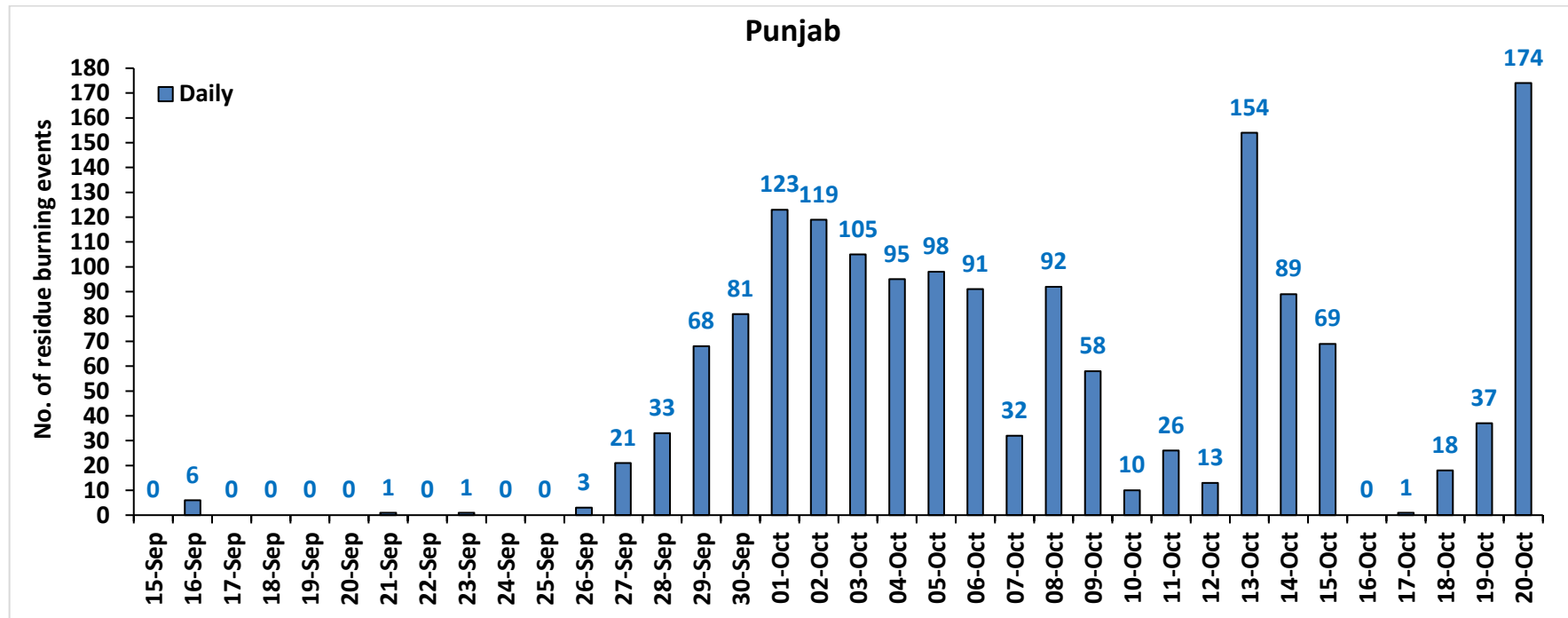
**Consortium for Research on Agroecosystem Monitoring and Modeling from Space (CREAMS) Laboratory,
Division of Agricultural Physics, ICAR – Indian Agricultural Research Institute, New Delhi – 110012**

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

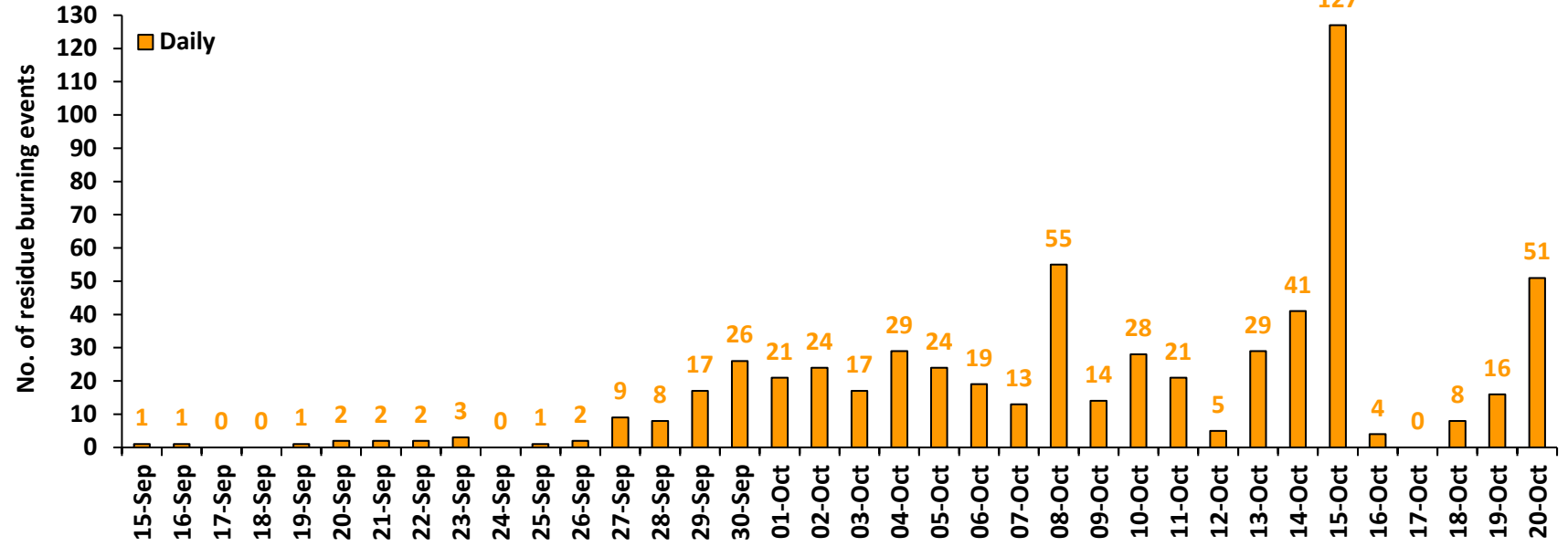
Highlights for 20-Oct-2023

- The active fire events due to rice residue burning were monitored using satellite remote sensing, following the "Standard Protocol for Estimation of Crop Residue Burning Fire Events using Satellite Data".
- Satellites detected **438** residue burning events in the six study States on 20-Oct-2023.
- The state wise events detected on 20-Oct-2023 were **174** in Punjab, **51** in Haryana, **25** in UP, **00** in Delhi, **57** in Rajasthan and **131** in MP.
- Total **3572** burning events were detected in the six states between 15-Sept-2023 and 20-Oct-2023, which are distributed as **1618**, **621**, **364**, **02**, **352** and **615** in Punjab, Haryana, UP, Delhi, Rajasthan and MP, respectively.

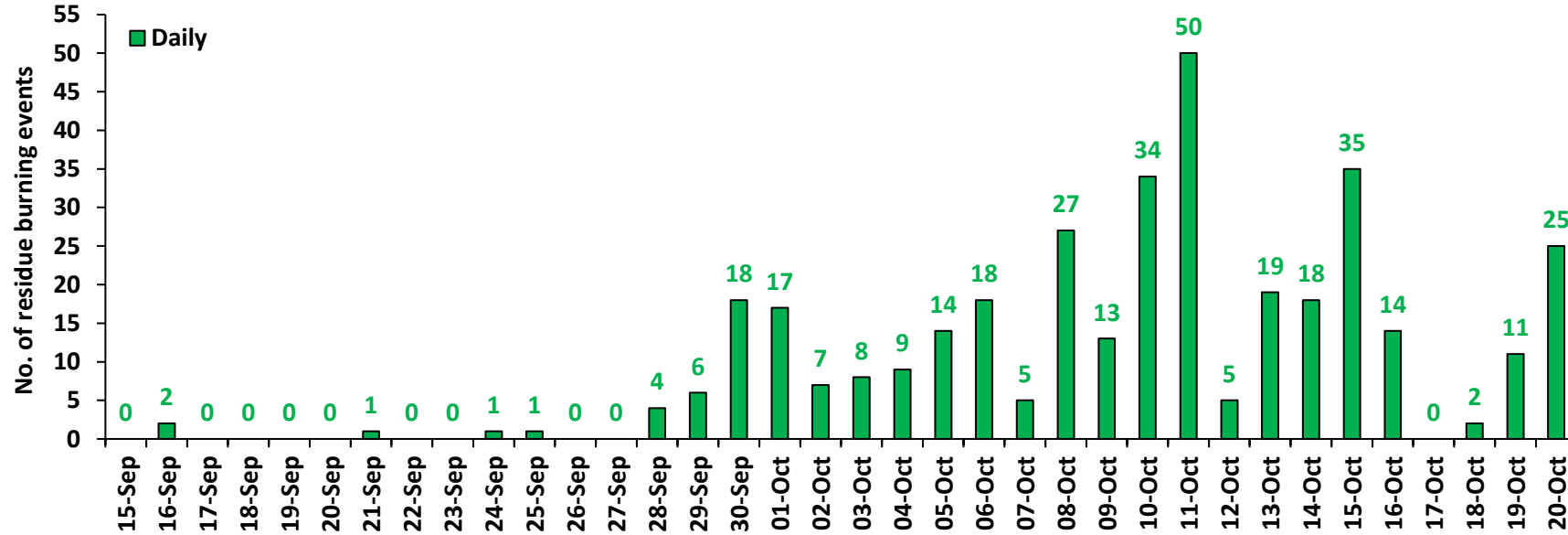
Temporal distribution of rice residue burning events for the study States in 2023



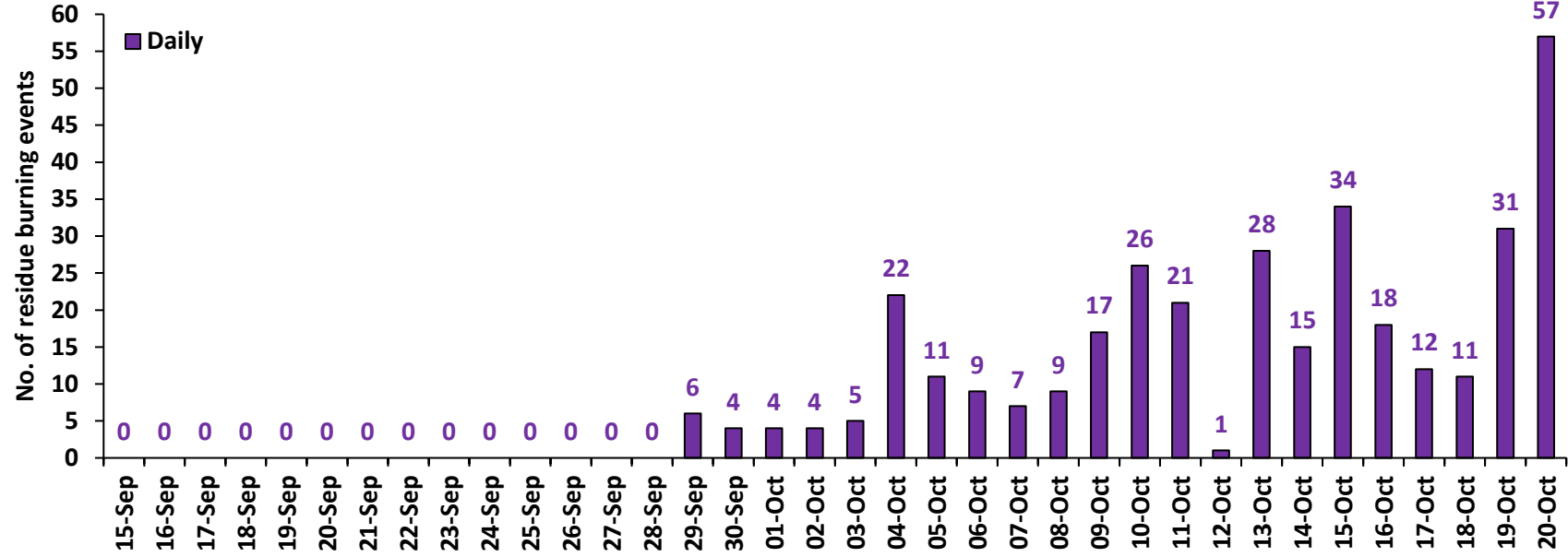
Haryana



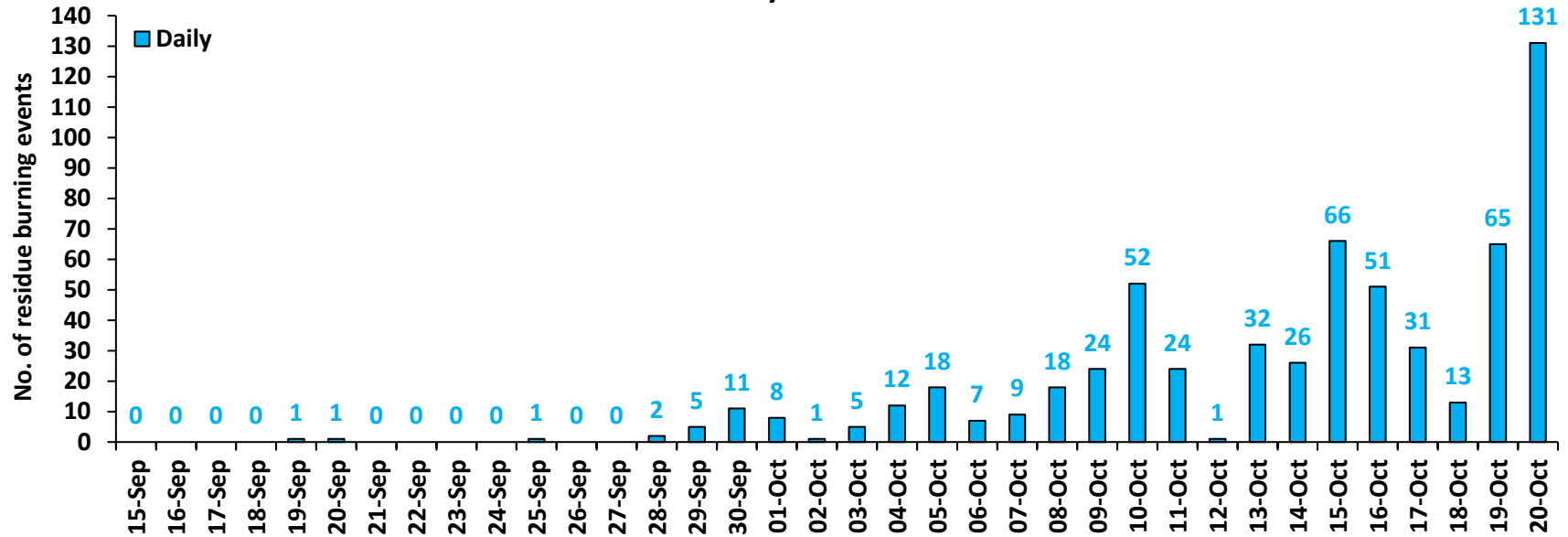
Uttar Pradesh



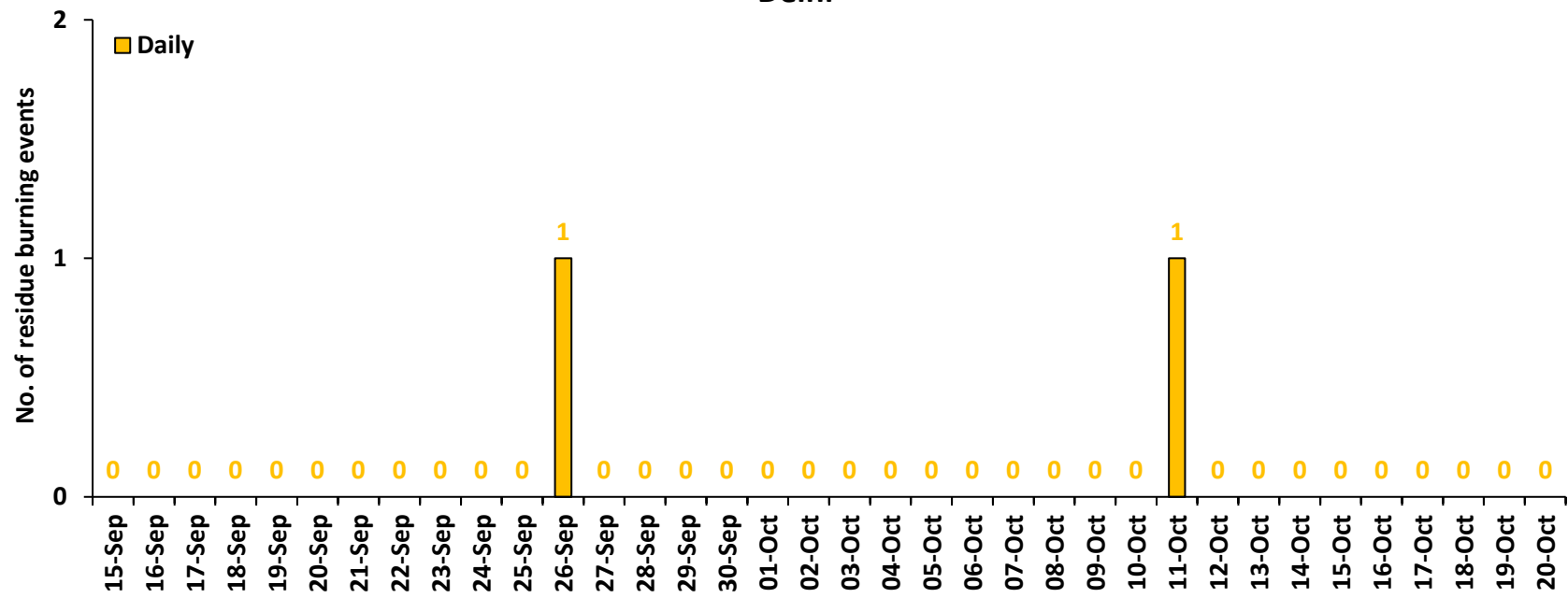
Rajasthan



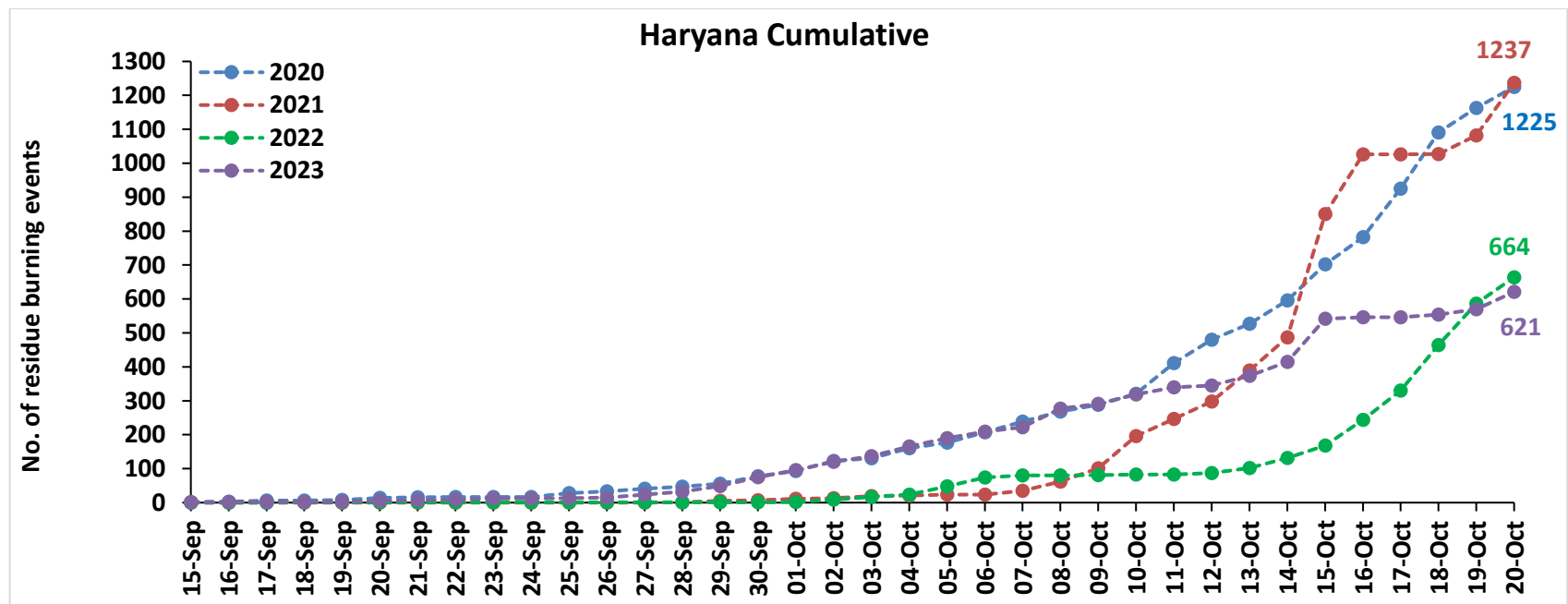
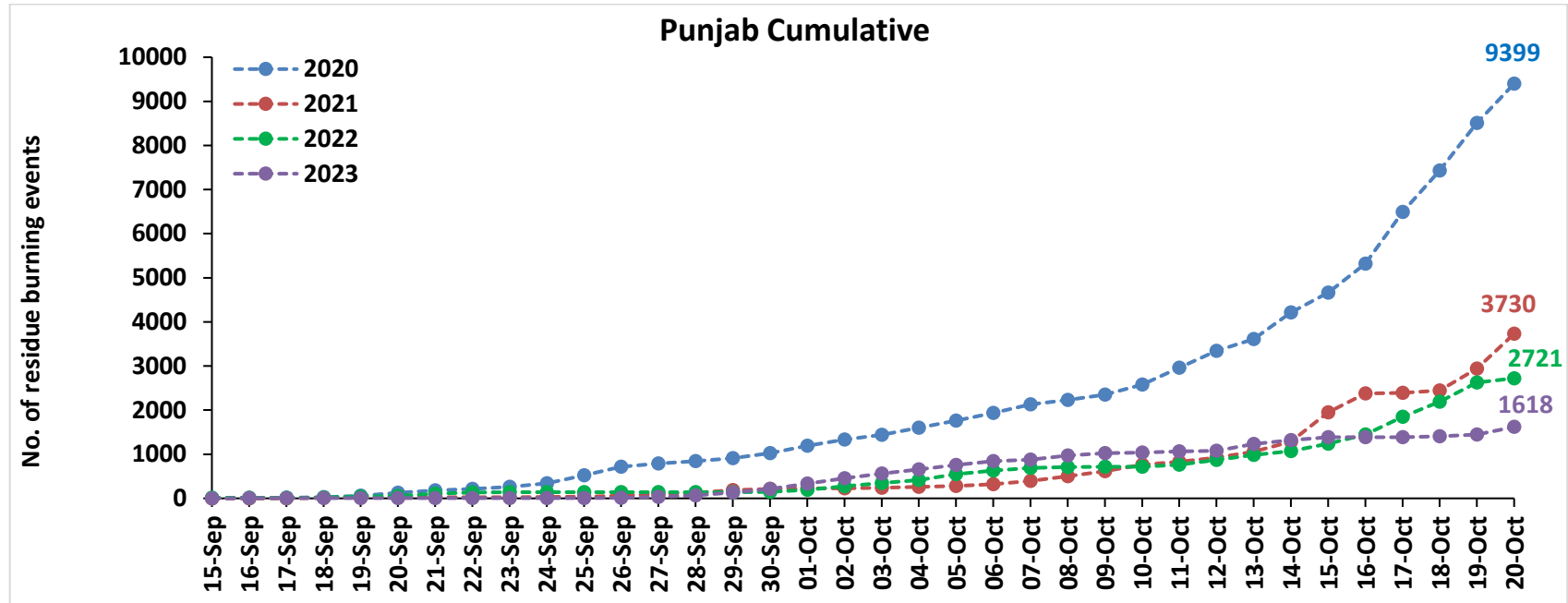
Madhya Pradesh

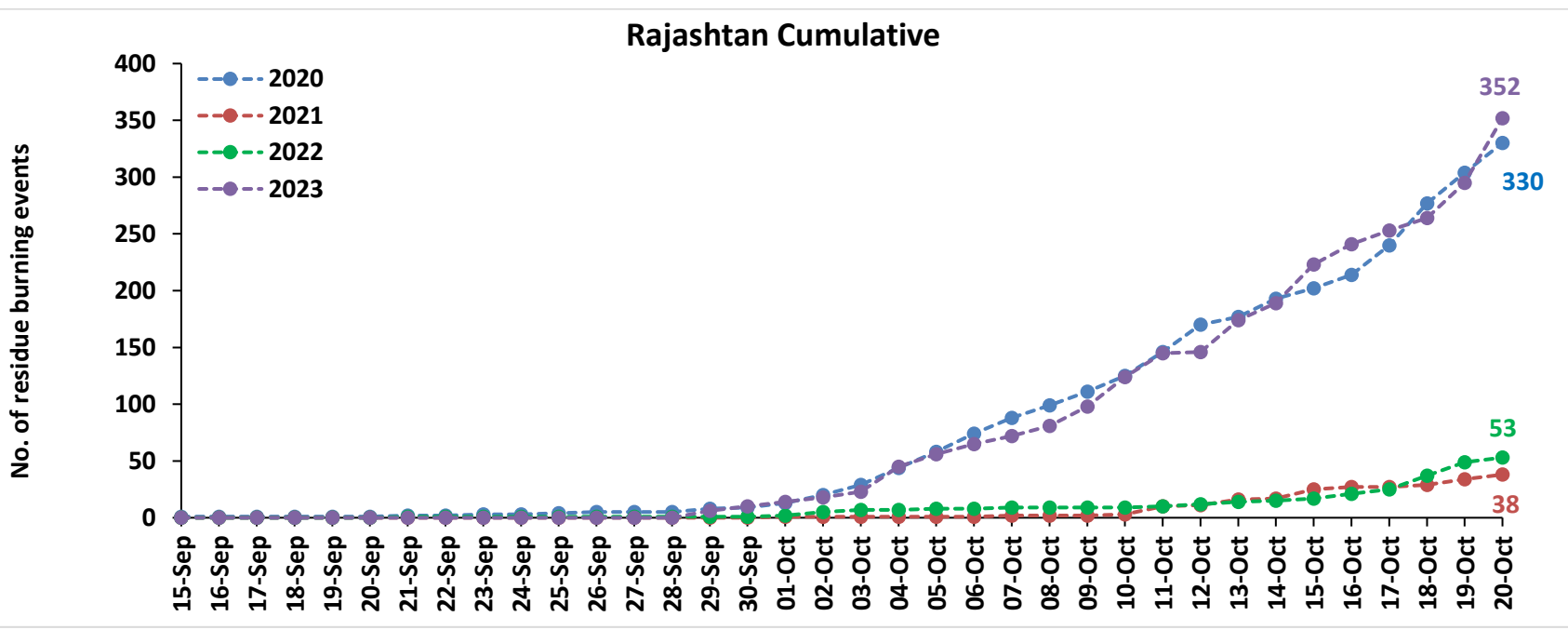
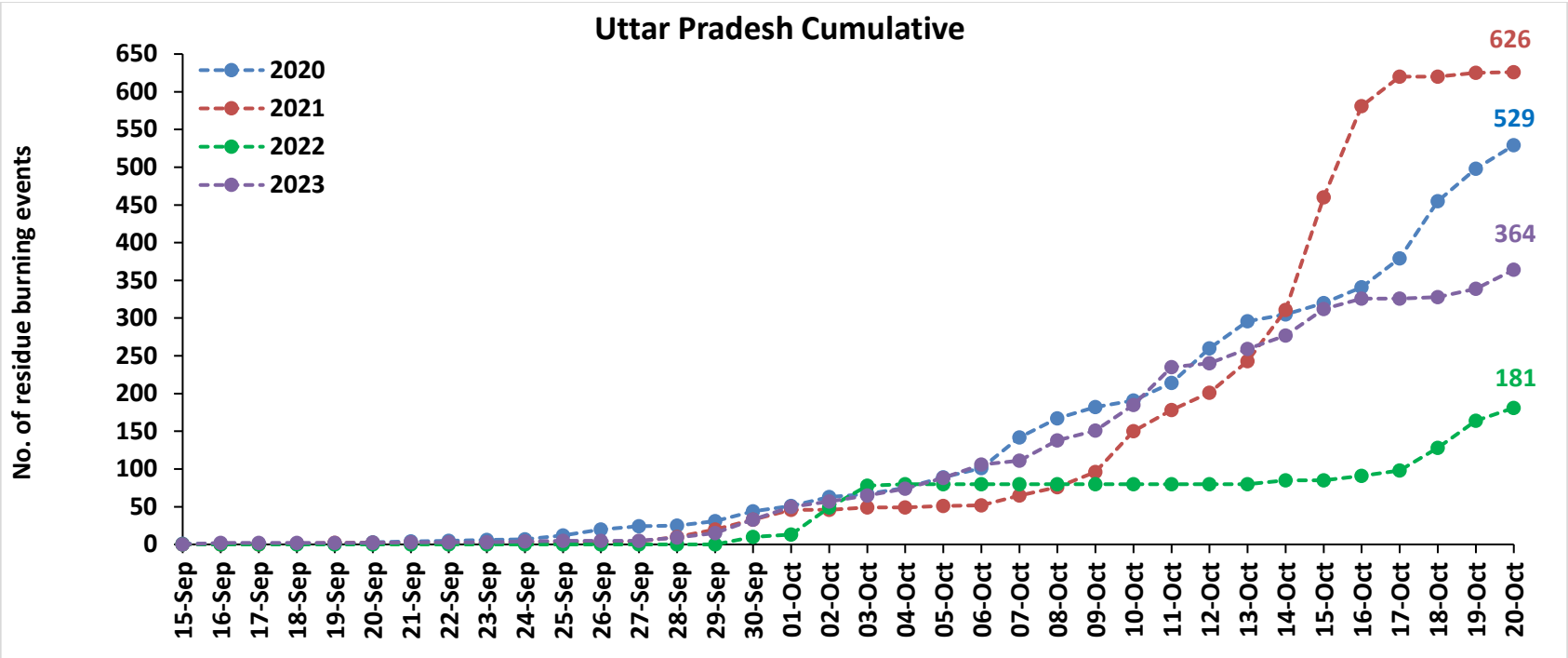


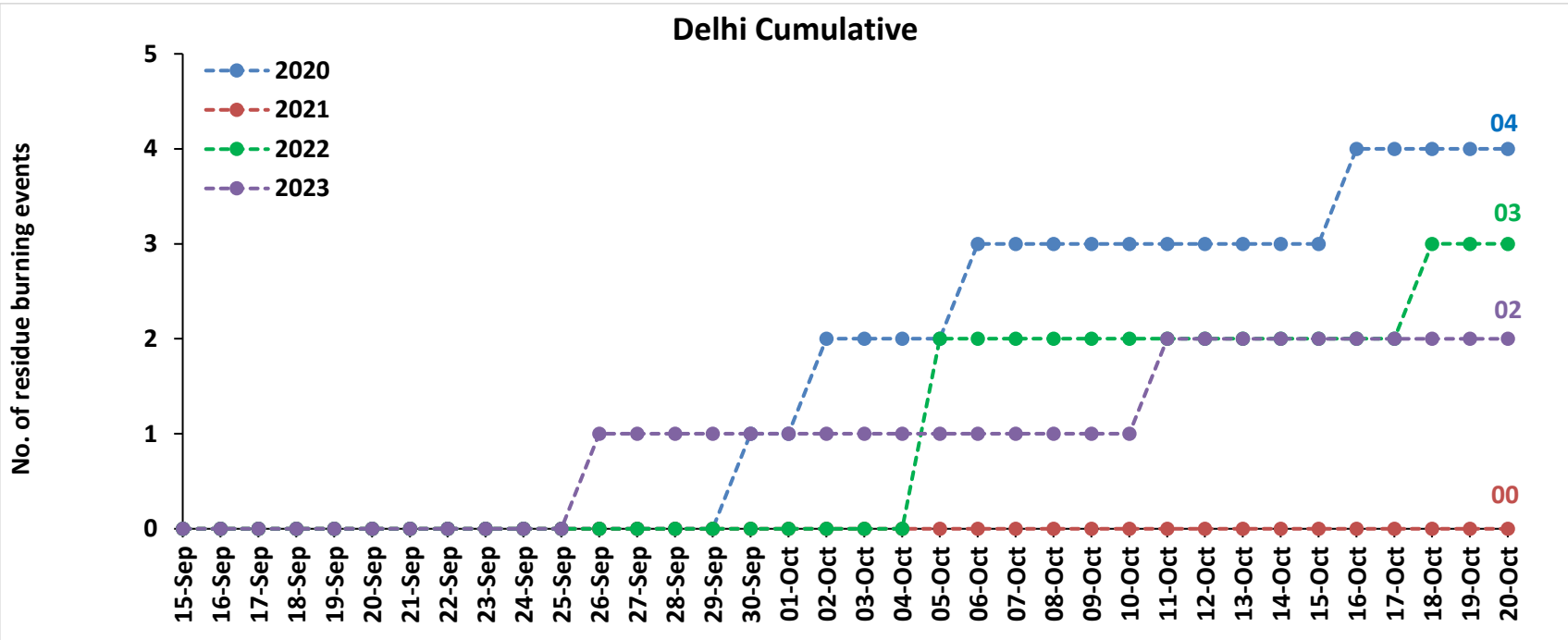
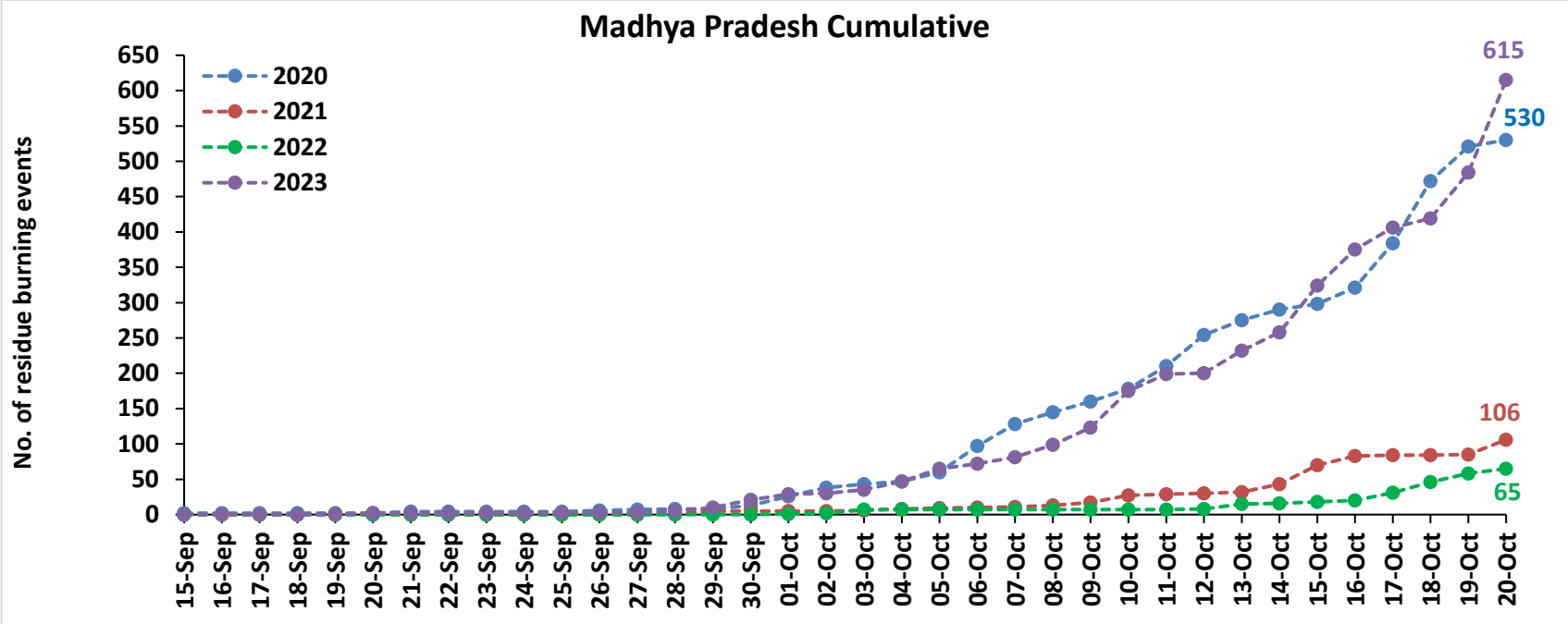
Delhi



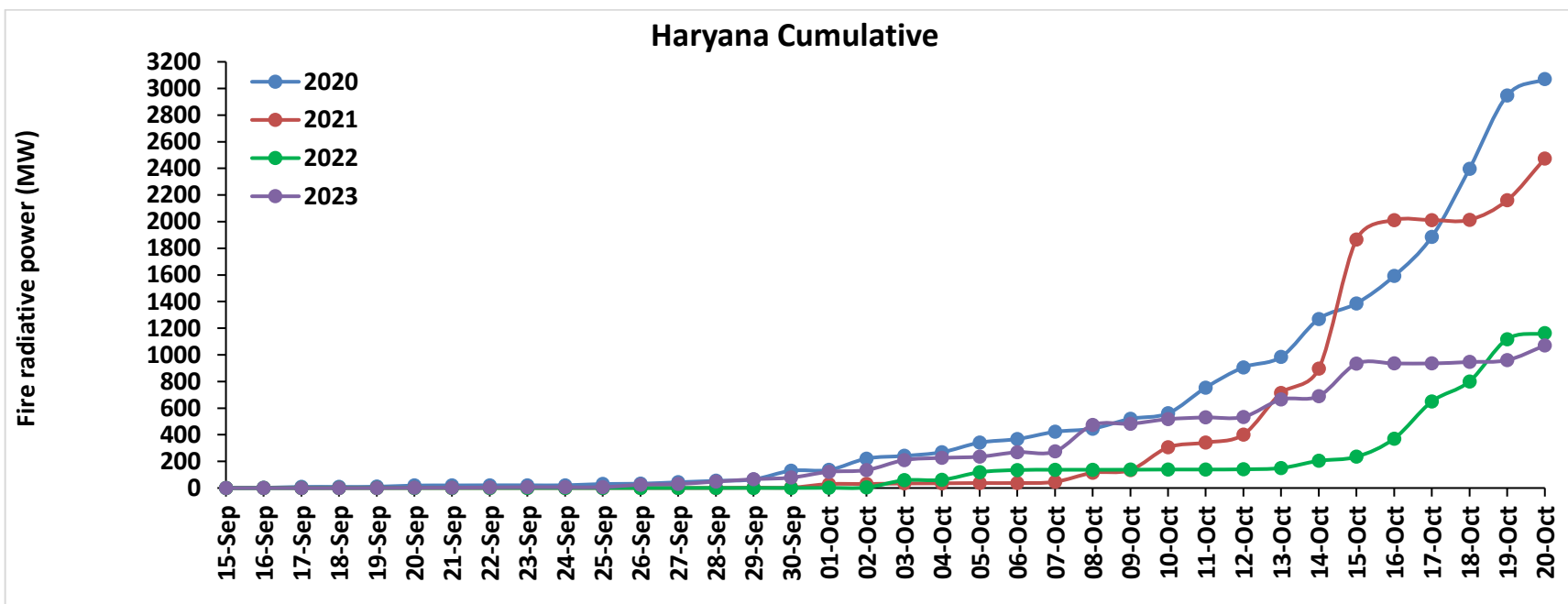
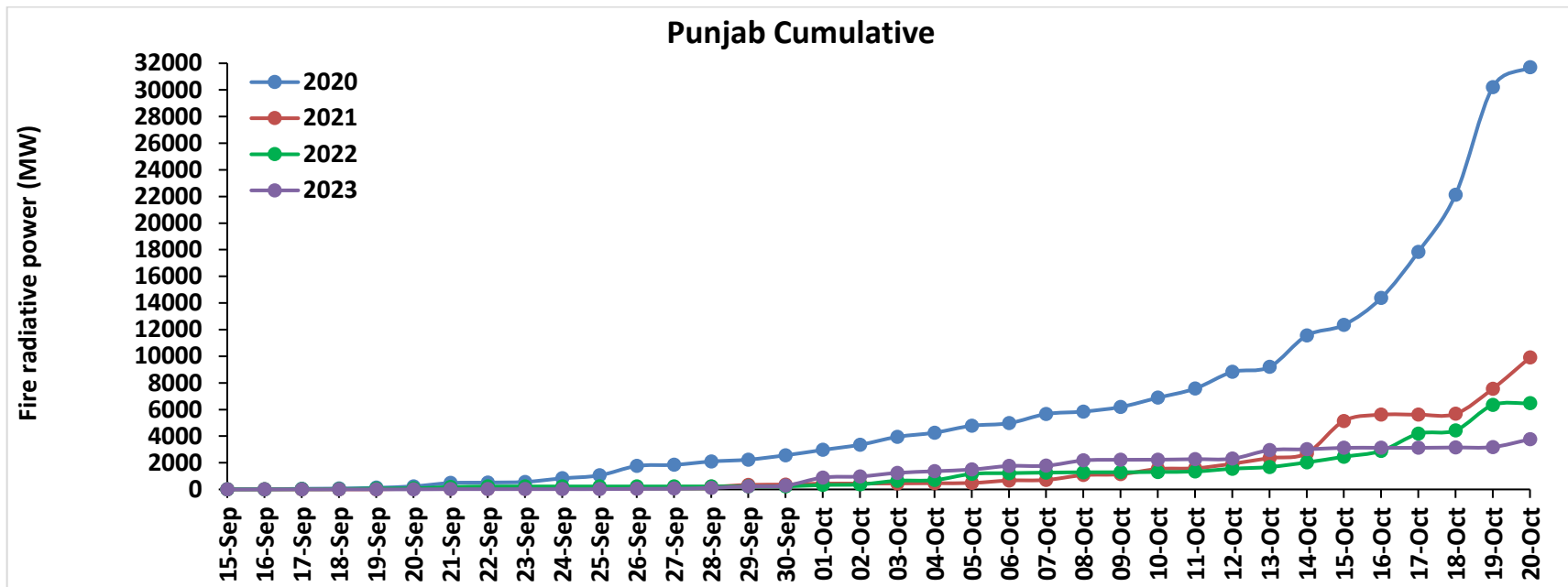
Comparison of residue burning events in current year (2023) with previous years (2020, 2021 and 2022) for the study State

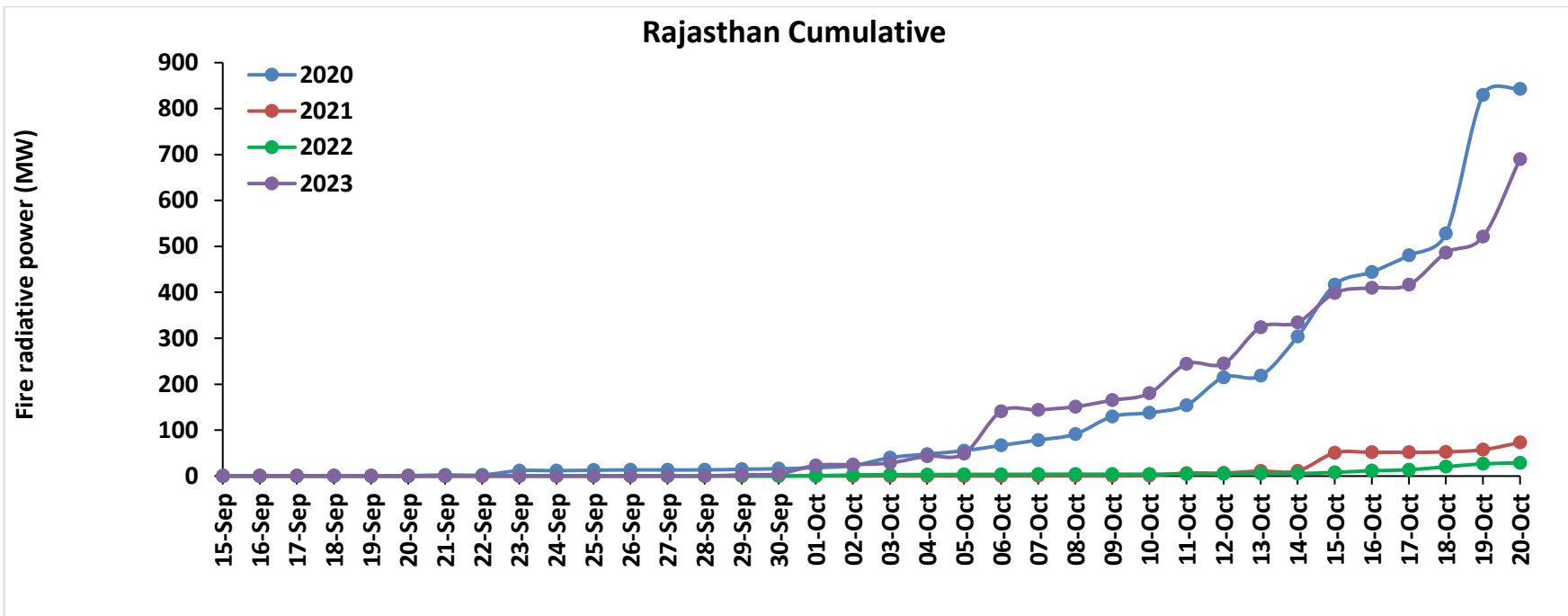
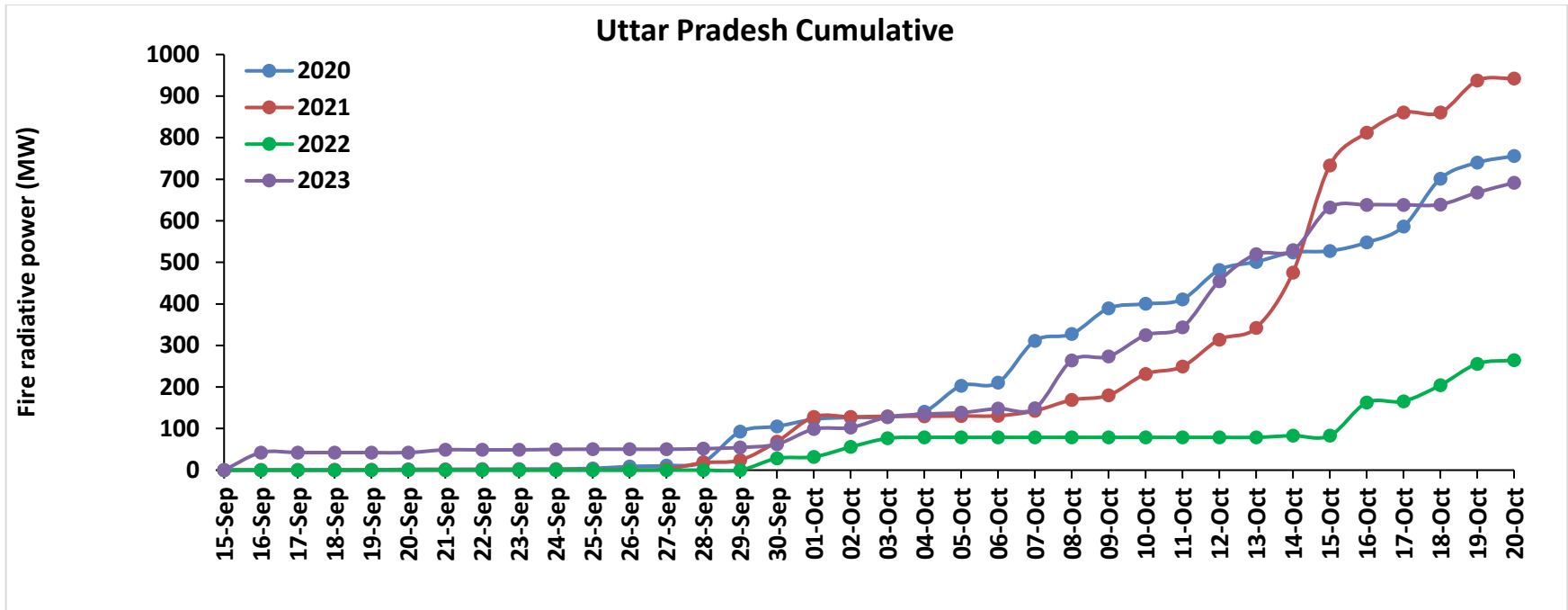




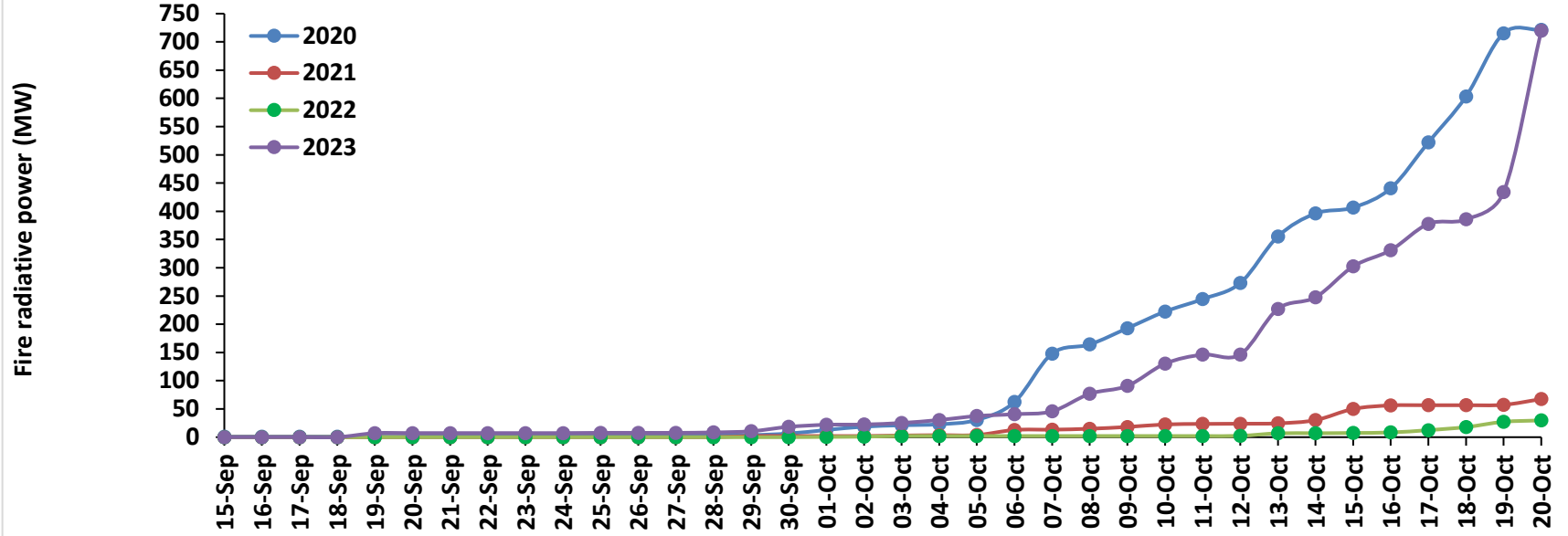


Comparison of residue burning fire power in current year (2023) with previous years (2020, 2021 and 2022) for the study States

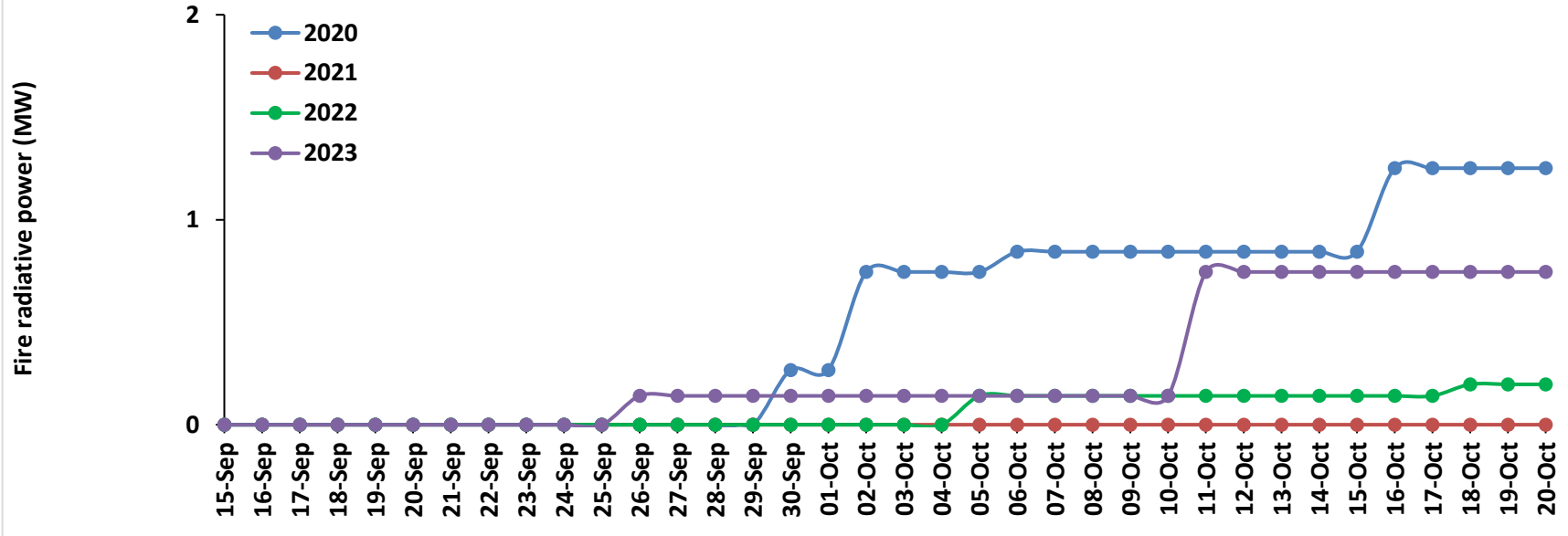




Madhya Pradesh Cumulative

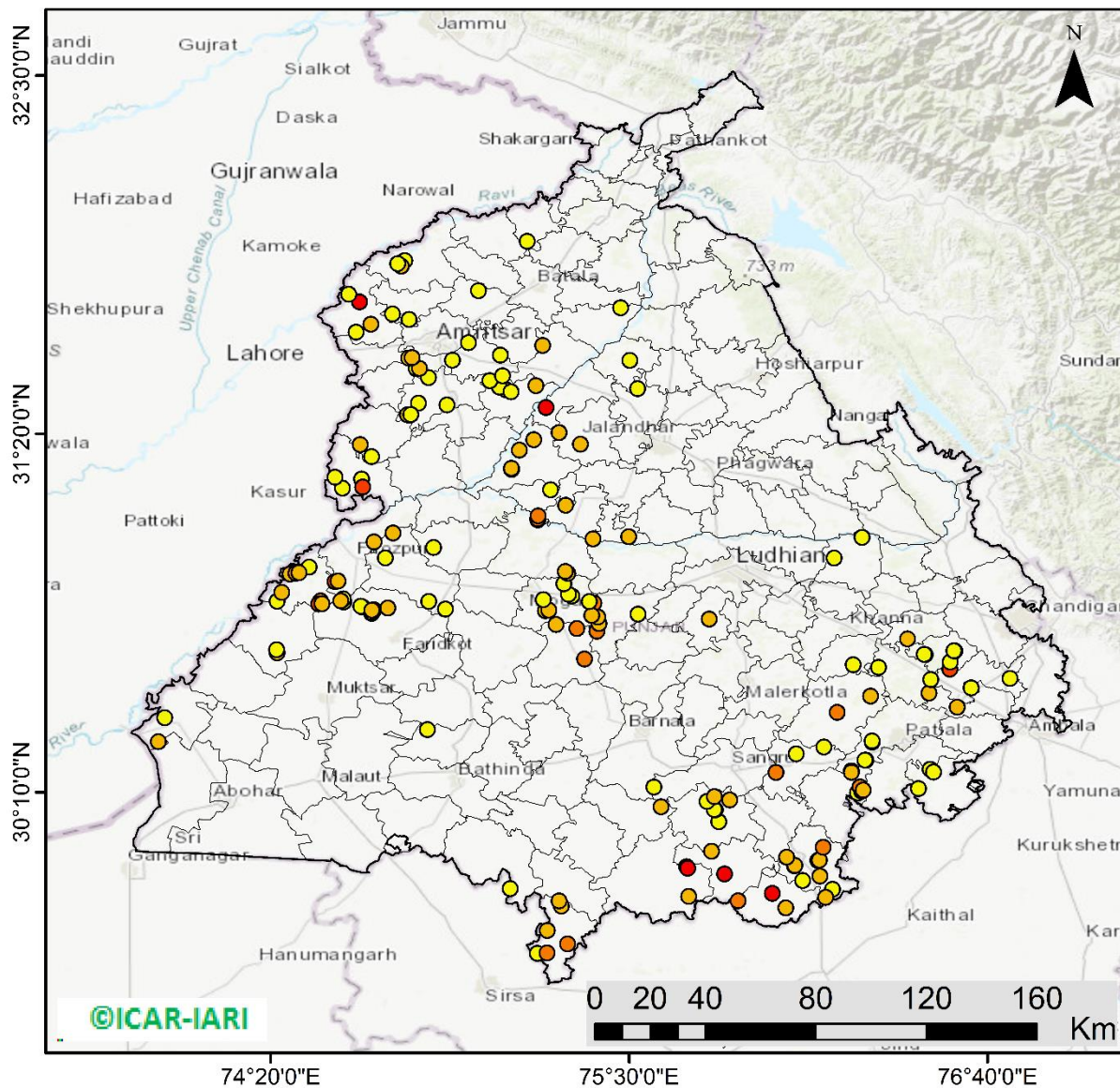


Delhi Cumulative



Punjab

RICE RESIDUE BURNING IN PUNJAB



174 burning events detected in Punjab during (20th Oct 2023)

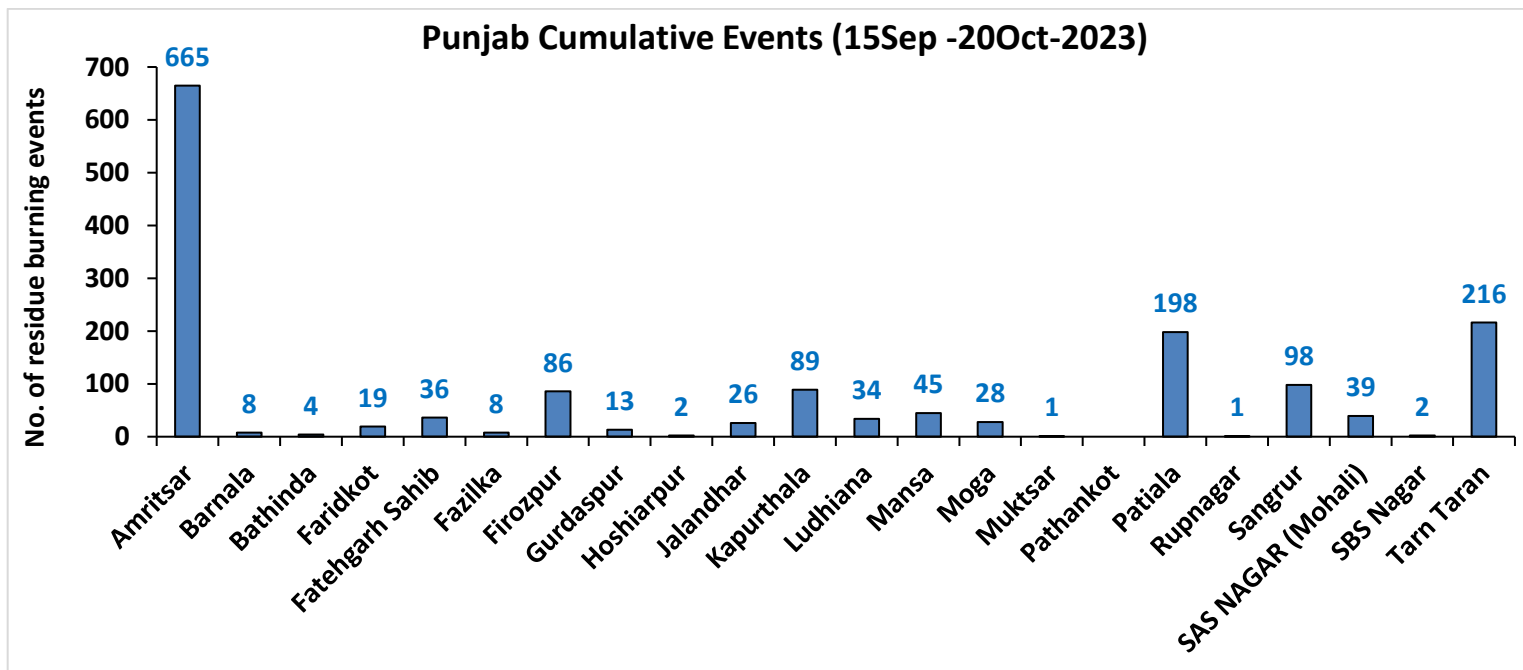
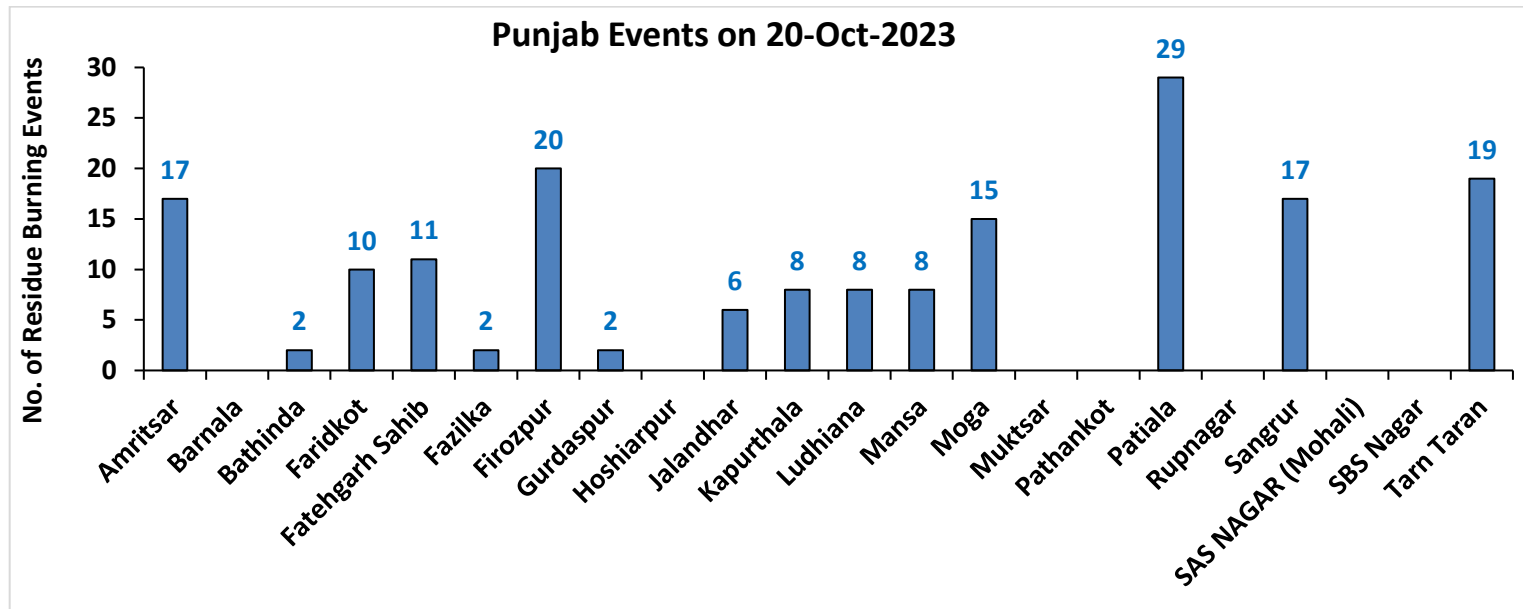
Fire Intensity (W/m²)

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



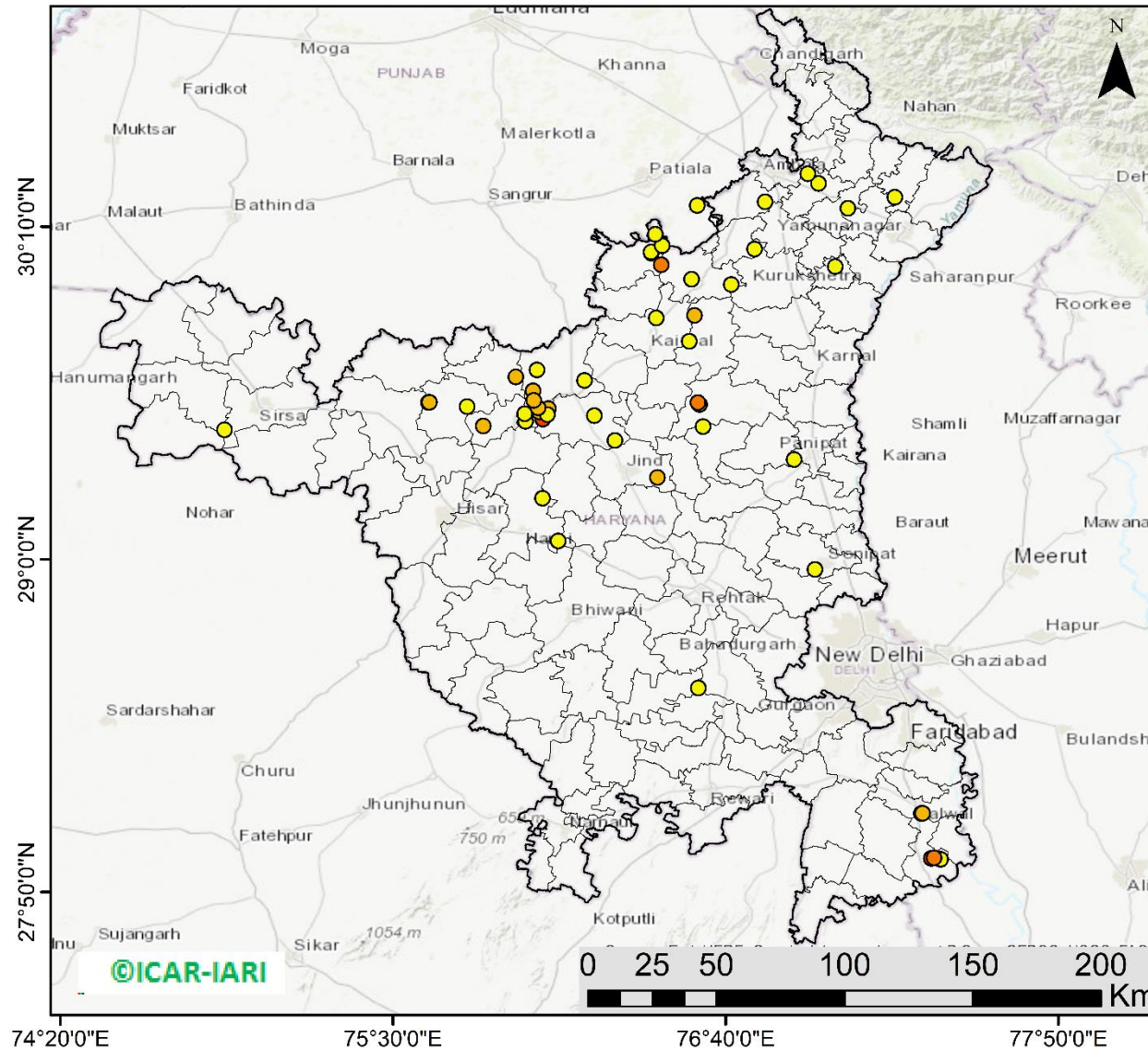
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise cumulative number of residues burning events in Punjab (15Sep- 20Oct-2023)



Haryana

RICE RESIDUE BURNING IN HARYANA



51 burning events detected in Haryana on (20th Oct 2023)

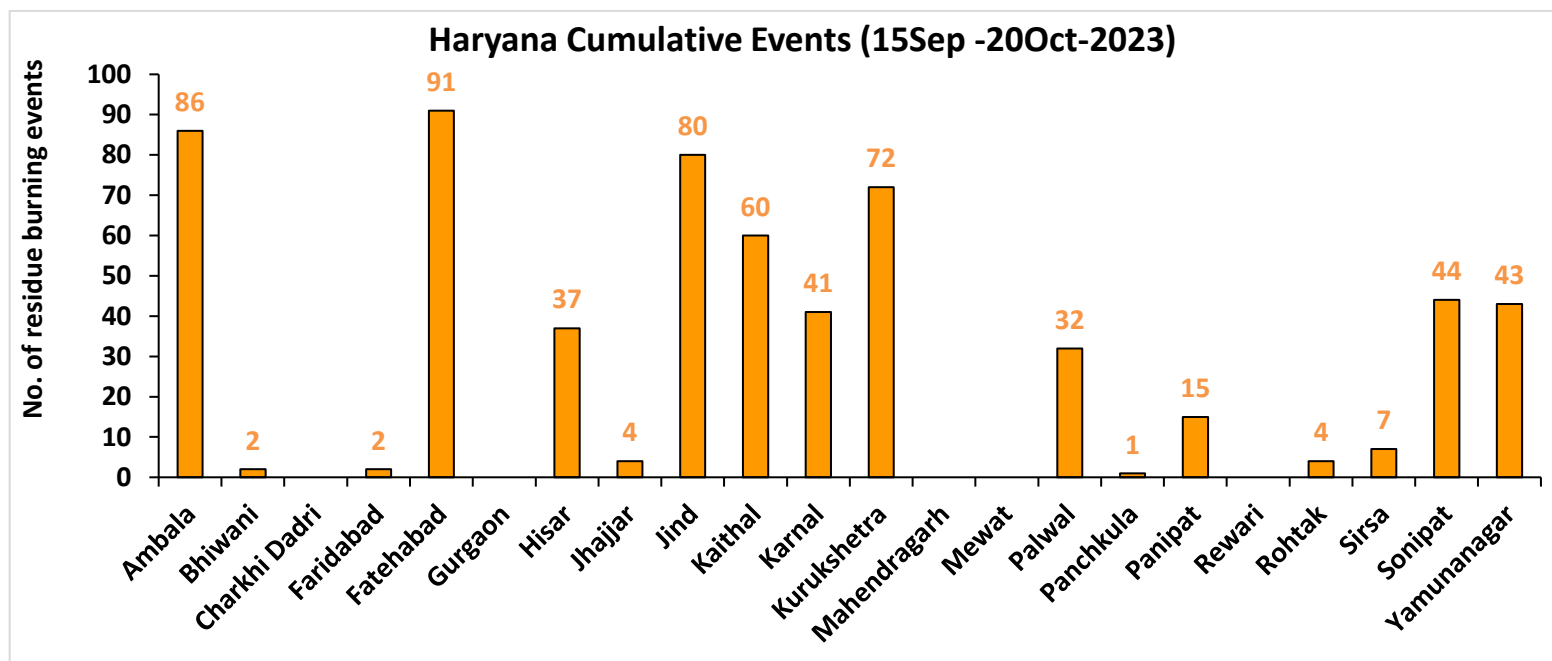
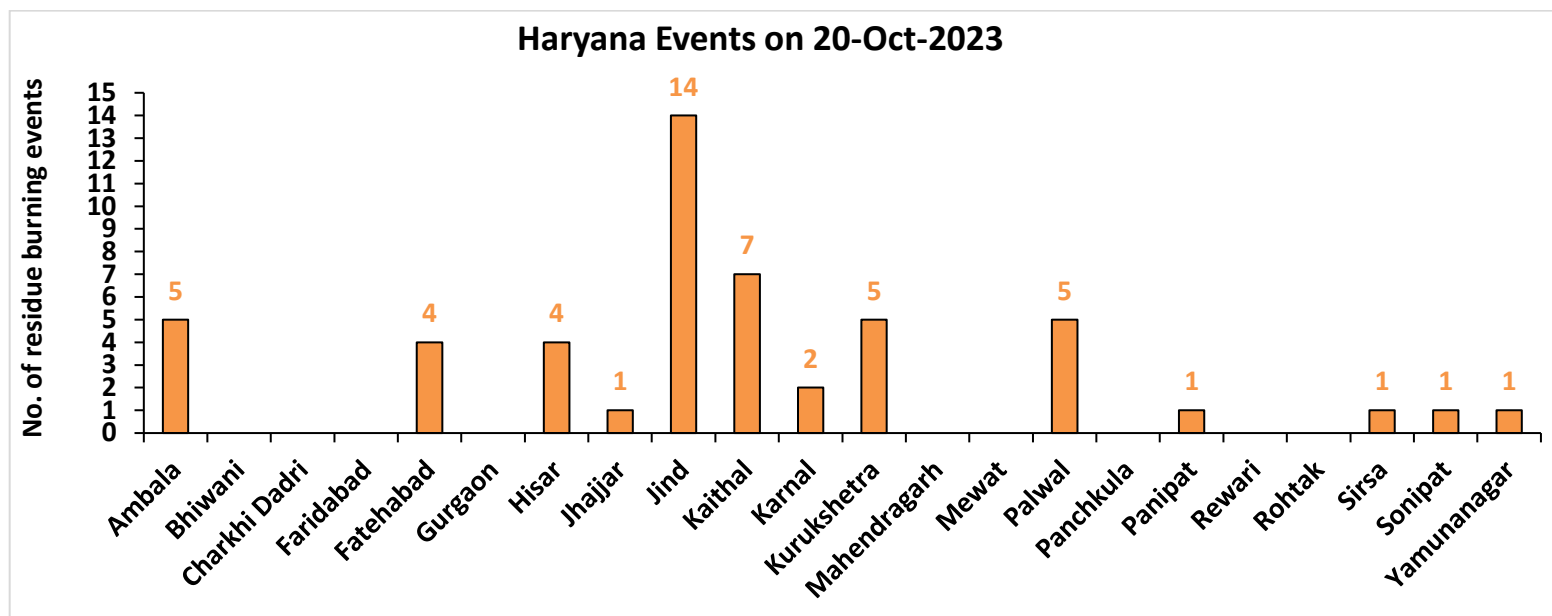
Fire Intensity (W/m²)

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



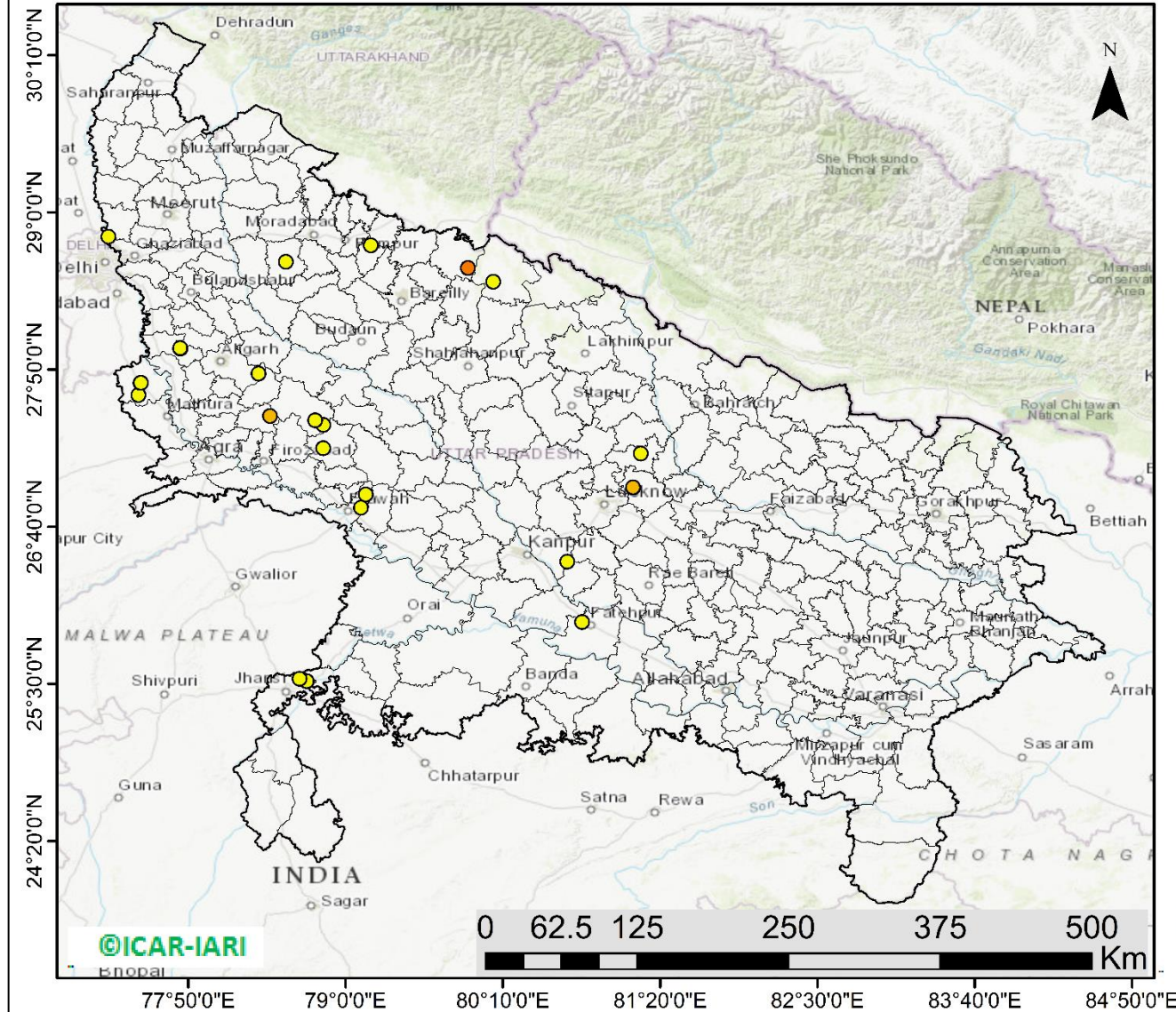
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise cumulative number of residues burning events in Haryana (15Sep-20Oct -2023)



Uttar Pradesh

RICE RESIDUE BURNING IN UTTAR PRADESH



25 burning events detected in Uttar Pradesh on (20th Oct 2023)

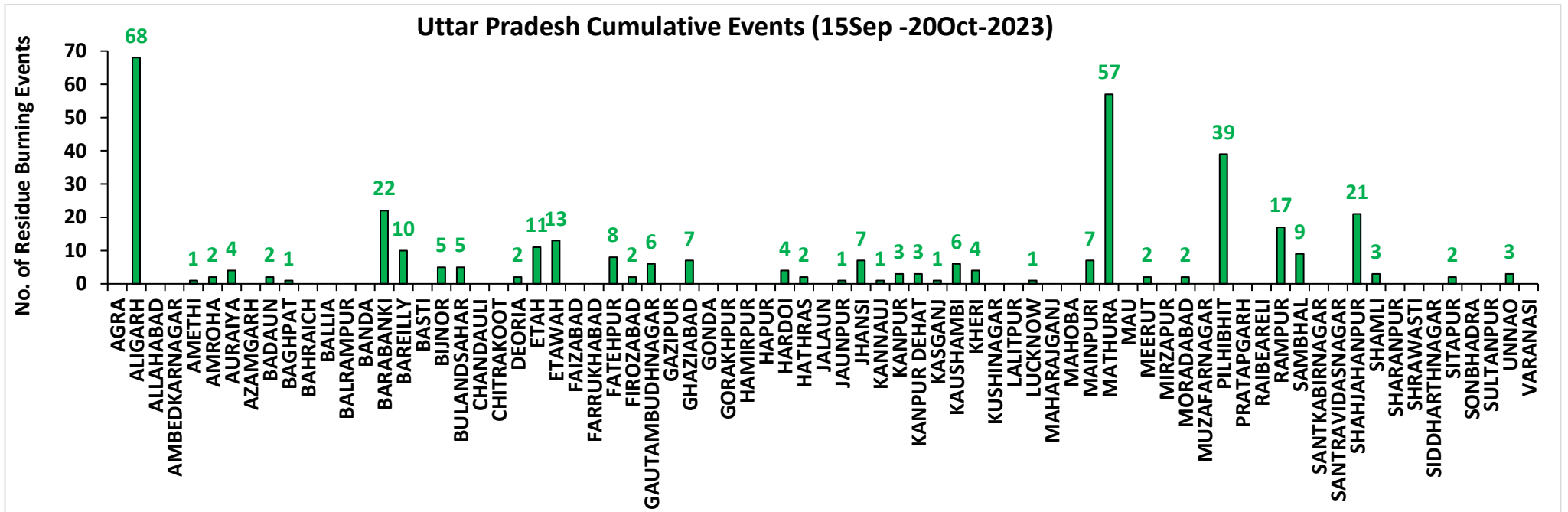
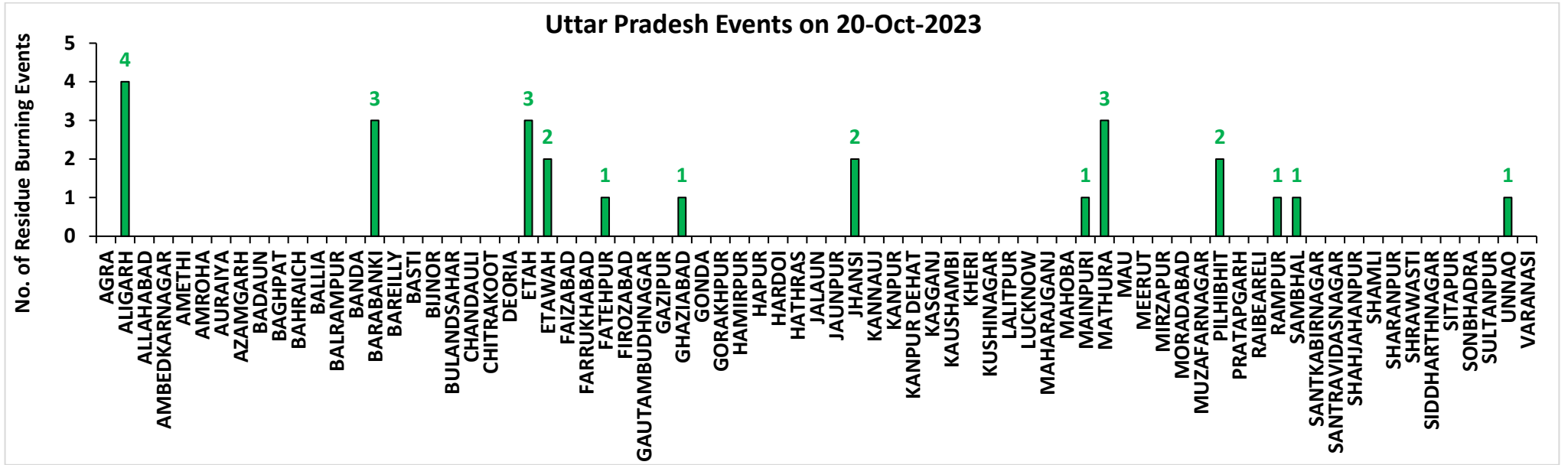
Fire Intensity (W/m²)

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



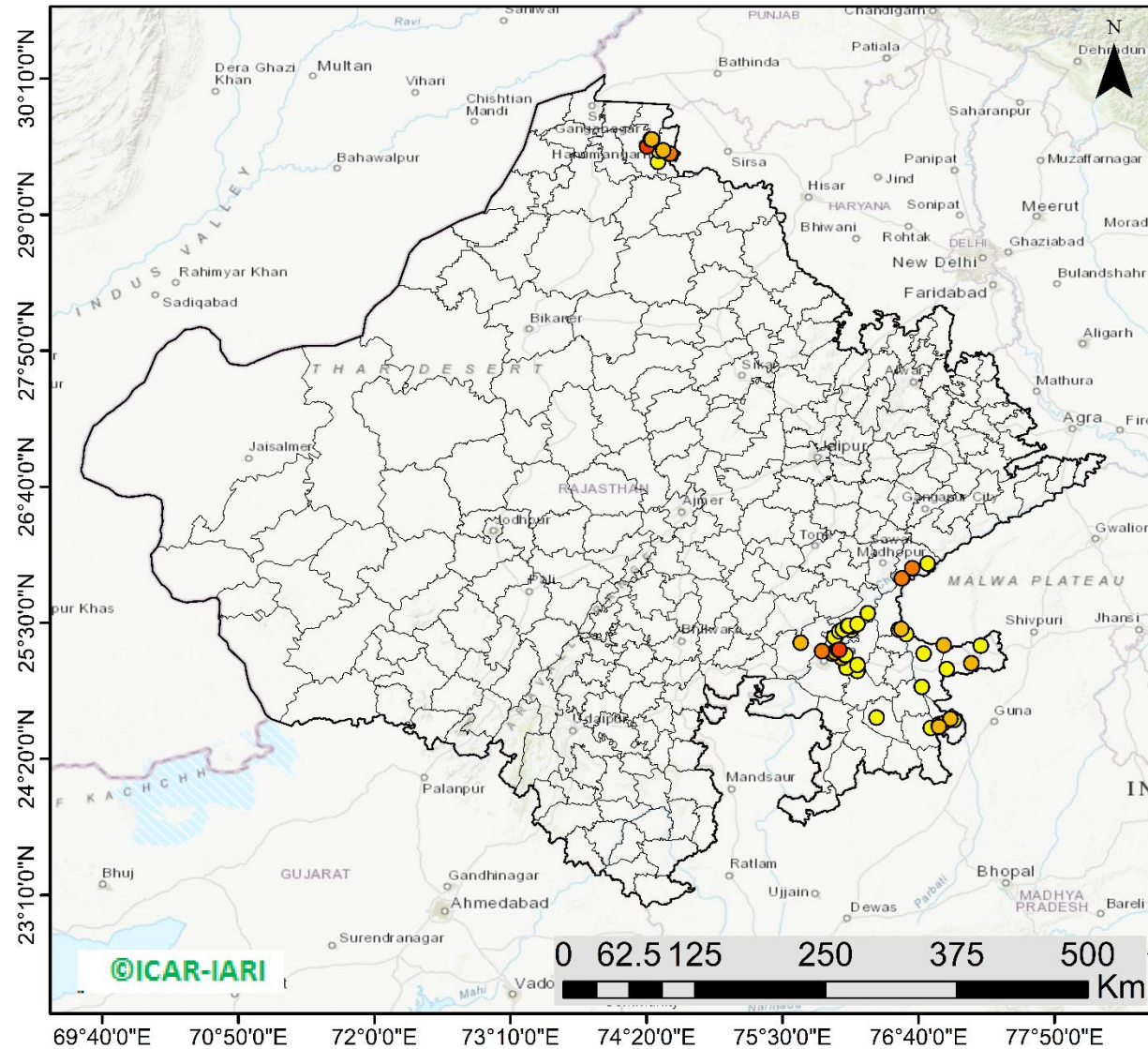
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise cumulative number of residues burning events in Uttar Pradesh (15Sep-20Oct -2023)



Rajasthan

RICE RESIDUE BURNING IN RAJASTHAN



57 burning events
detected in Rajasthan on
(20th Oct 2023)

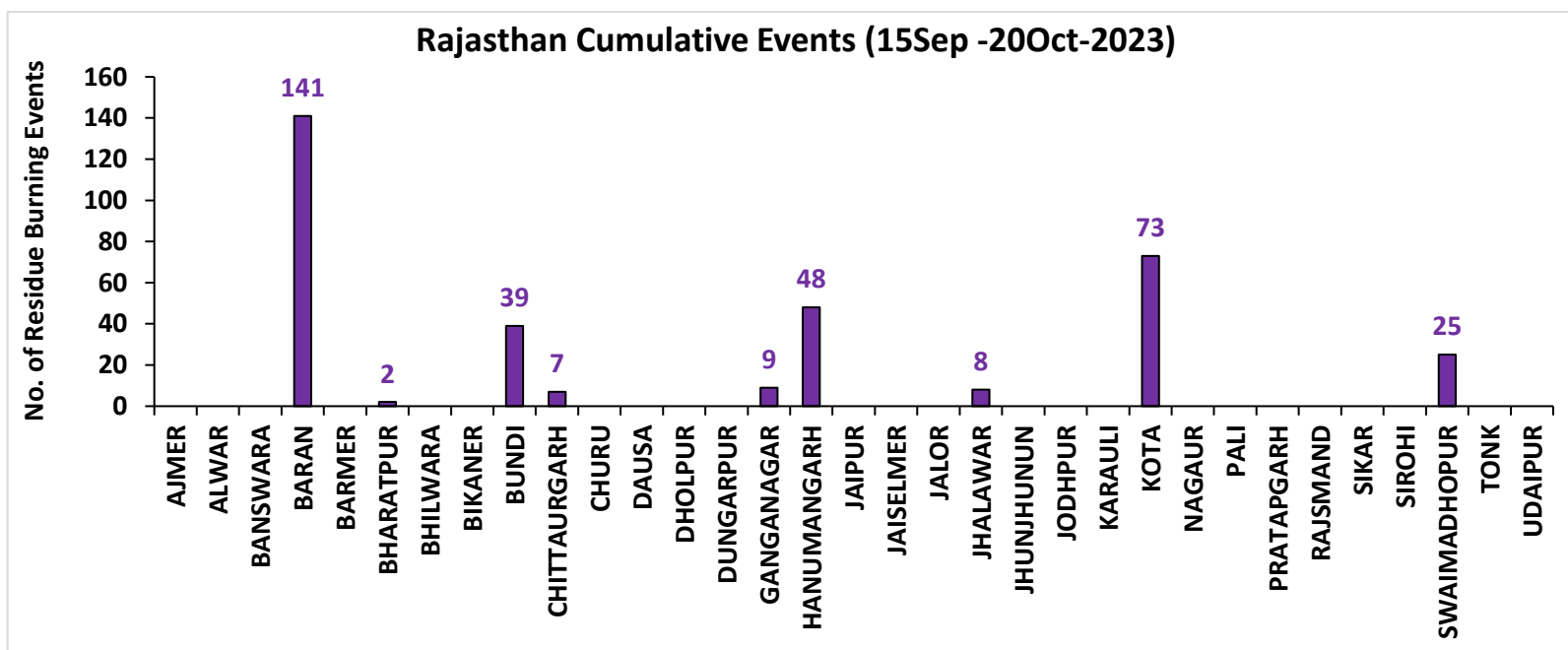
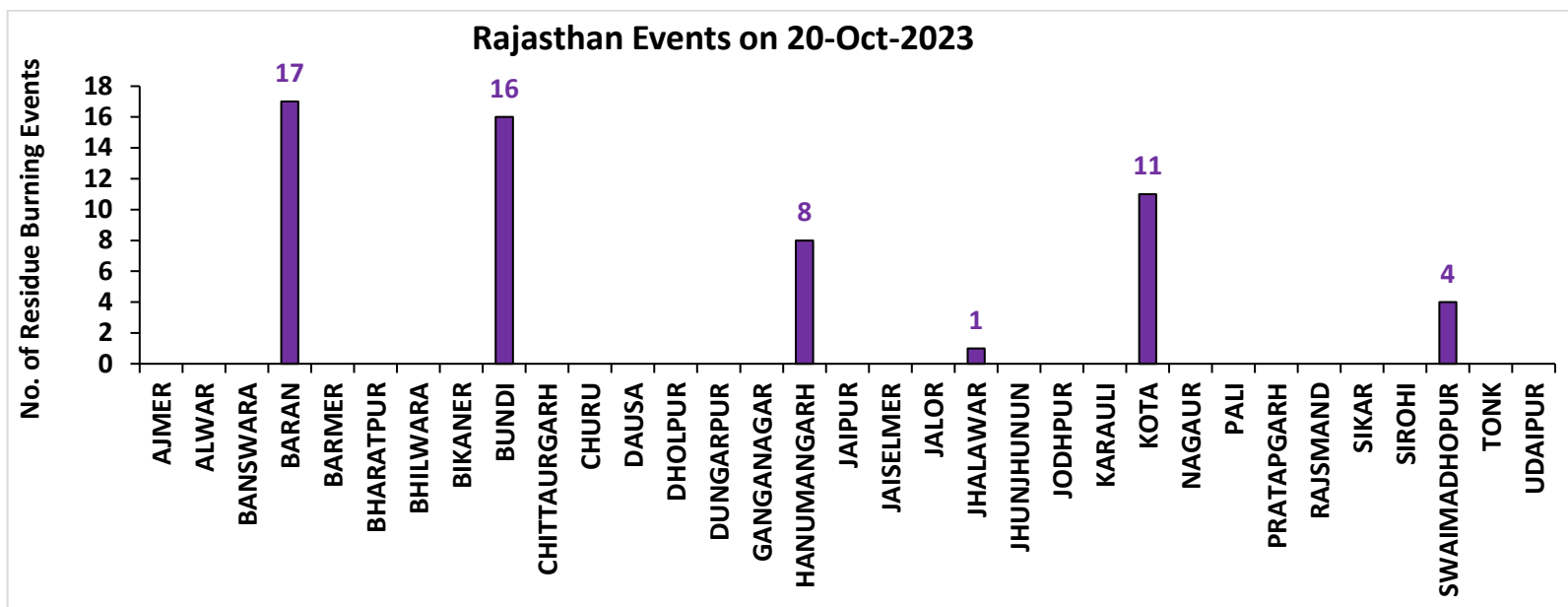
Fire Intensity (W/m²)

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



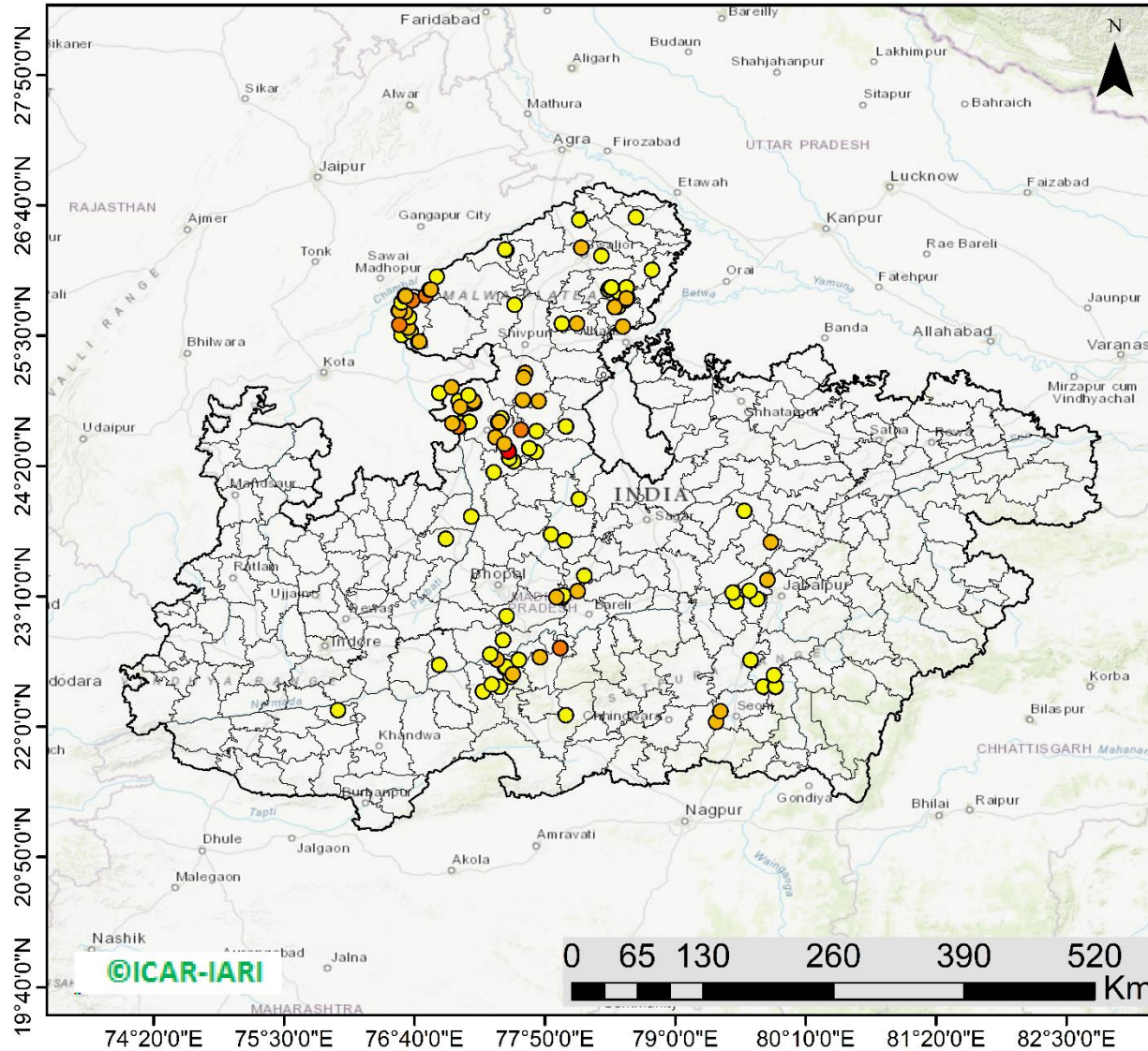
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise cumulative number of residues burning events in Rajasthan (15Sep-20Oct -2023)



Madhya Pradesh

RICE RESIDUE BURNING IN MADHYA PRADESH



131 burning events
detected in MP on
(20th Oct 2023)

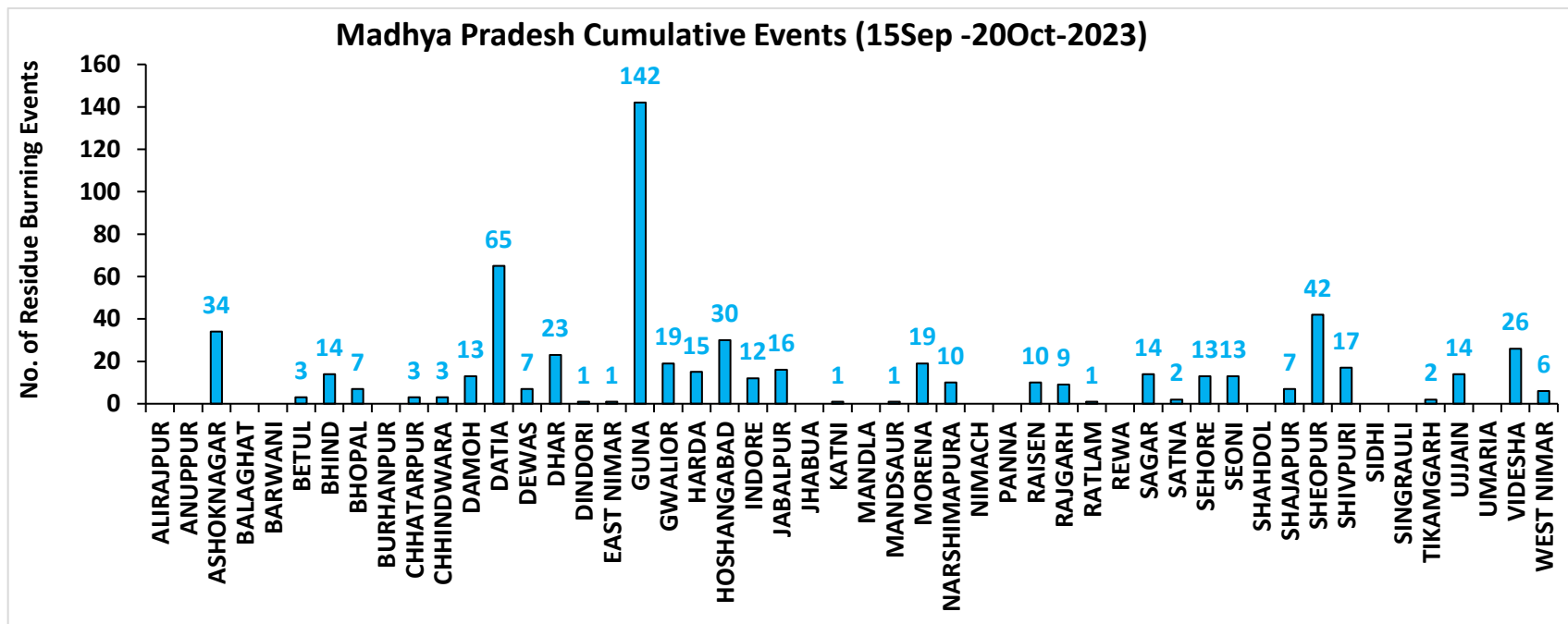
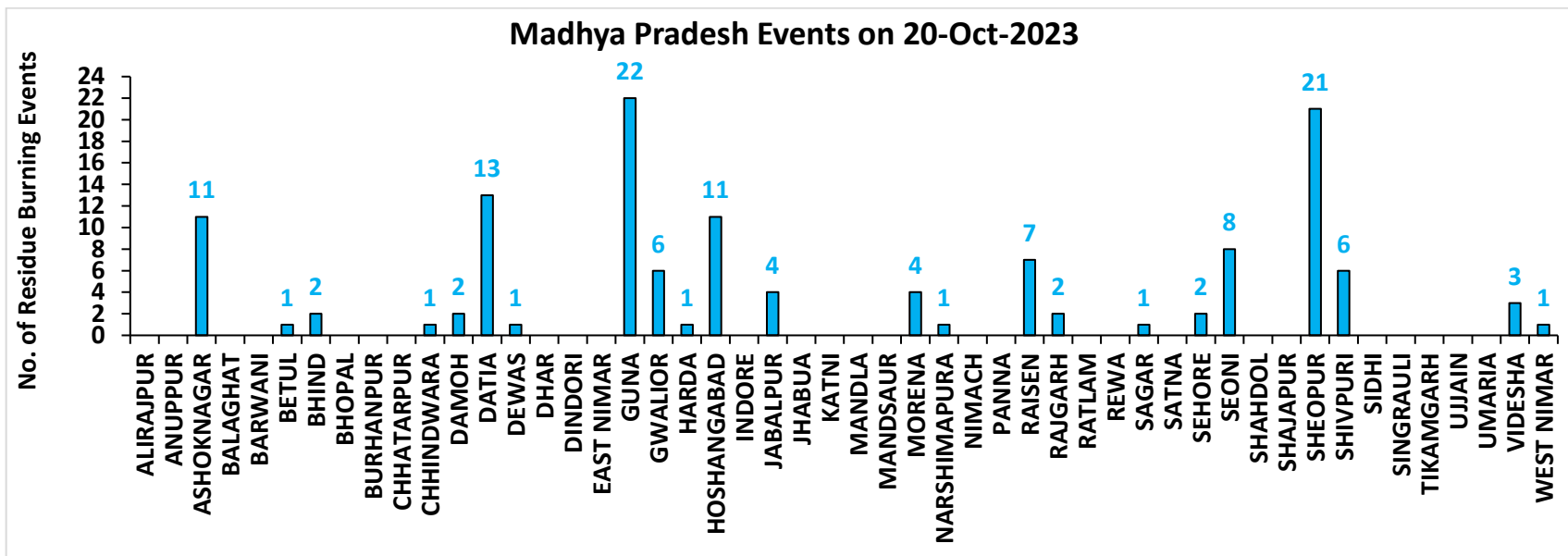
Fire Intensity (W/m²)

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



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

District-wise cumulative number of residues burning events in Madhya Pradesh (15Sep-20Oct -2023)



District-wise cumulative number of residues burning events detected in 2020, 2021, 2022 and 2023
(Period: 15 September-20 October)

(a) Punjab

District	15 Sep-20 Oct			
	2020	2021	2022	2023
Amritsar	2111	752	792	665
Barnala	28	29	13	8
Bathinda	113	33	14	4
Faridkot	459	151	14	19
Fatehgarh Sahib	238	152	55	36
Fazilka	116	56	23	8
Firozpur	1026	203	127	86
Gurdaspur	664	234	230	13
Hoshiarpur	81	27	4	2
Jalandhar	188	150	107	26
Kapurthala	435	172	142	89
Ludhiana	216	232	70	34
Mansa	77	12	17	45
Moga	129	76	52	28
Muktsar	94	49	5	1
Pathankot	4	0	0	0
Patiala	780	335	131	198
Rupnagar	46	27	8	1
Sangrur	210	71	81	98
SAS NAGAR (Mohali)	58	37	13	39
SBS Nagar	18	18	2	2
Tarn Taran	2308	914	821	216
Total	9399	3730	2721	1618

(b) Haryana

District	15 Sep-20 Oct			
	2020	2021	2022	2023
AMBALA	143	55	37	86
BHIWANI	0	0	0	2
CHARKHI DADRI	0	0	0	0
FARIDABAD	0	1	1	2
FATEHABAD	69	71	56	91
GURGAON	0	0	0	0
HISAR	9	2	10	37
JHAJJAR	1	0	0	4
JIND	34	51	55	80
KAITHAL	228	342	184	60
KARNAL	340	397	117	41
KURUKSHETRA	266	216	141	72
MAHENDRAGARH	0	0	0	0
MEWAT	0	0	0	0
PALWAL	19	25	4	32
PANCHKULA	0	0	0	1
PANIPAT	10	16	11	15
REWARI	0	0	0	0
ROHTAK	1	0	0	4
SIRSA	21	10	8	7
SONIPAT	12	5	6	44
YAMUNANAGAR	72	46	34	43
Total	1225	1237	664	621

(c) Uttar Pradesh

District	15 Sep-20 Oct													
	2020	2021	2022	2023	GAUTAMBUDHNAGAR	2	7	2	6	MUZAFARNAGAR	3	2	1	0
AGRA	2	0	0	0	GAZIPUR	0	0	0	0	PILHIBHIT	8	108	24	39
ALIGARH	38	21	4	68	GHAZIABAD	3	2	1	7	PRATAPGARH	1	0	0	0
ALLAHABAD	0	1	0	0	GONDA	0	0	0	0	RAIBEARELI	1	0	0	0
AMBEDKARNAGAR	0	0	0	0	GORAKHPUR	1	0	0	0	RAMPUR	35	50	6	17
AMETHI	0	1	4	1	HAMIRPUR	1	0	0	0	SAMBHAL	7	7	4	9
AMROHA	1	0	0	2	HAPUR	3	1	0	0	SANTKABIRNAGAR	0	0	0	0
AURAIYA	17	6	5	4	HARDOI	13	6	2	4	SANTRAVIDASNAGAR	0	0	0	0
AZAMGARH	0	0	0	0	HATHRAS	0	0	0	2	SHAHJAHANPUR	47	181	78	21
BADAUN	1	6	0	2	JALAUN	0	0	0	0	SHAMLI	20	11	4	3
BAGHPAT	3	1	1	1	JAUNPUR	0	0	0	1	SHARANPUR	33	17	2	0
BAHRAICH	9	2	4	0	JHANSI	10	6	0	7	SHRAWASTI	7	0	0	0
BALLIA	0	0	0	0	KANNAUJ	3	1	0	1	SIDDHARTHANAGAR	0	0	0	0
BALRAMPUR	1	1	1	0	KANPUR	3	7	10	3	SITAPUR	14	9	0	2
BANDA	0	0	0	0	KANPUR DEHAT	11	1	0	3	SONBHADRA	0	0	0	0
BARABANKI	15	20	0	22	KASGANJ	2	2	0	1	SULTANPUR	0	0	0	0
BAREILLY	19	15	2	10	KAUSHAMBI	9	3	0	6	UNNAO	5	0	0	3
BASTI	3	1	0	0	KHERI	44	54	11	4	VARANASI	1	0	0	0
BIJNOR	6	3	2	5	KUSHINAGAR	0	0	0	0	Total	529	626	181	364
BULANDSAHAR	15	2	2	5	LALITPUR	0	1	2	0					
CHANDAULI	0	0	0	0	LUCKNOW	2	0	0	1					
CHITRAKOOT	0	1	1	0	MAHARAJGANJ	0	0	0	0					
DEORIA	0	0	0	2	MAHOBA	3	0	0	0					
ETAH	8	6	0	11	MAINPURI	11	7	3	7					
ETAWAH	5	7	0	13	MATHURA	31	27	1	57					
FAIZABAD	1	0	0	0	MAU	0	0	0	0					
FARRUKHABAD	0	0	0	0	MEERUT	12	4	1	2					
FATEHPUR	18	6	1	8	MIRZAPUR	6	5	2	0					
FIROZABAD	10	4	0	2	MORADABAD	5	3	0	2					

(d) Delhi

District	15 Sep-20 Oct			
	2020	2021	2022	2023
CENTRAL	0	0	0	0
EAST	0	0	0	0
NEW DELHI	0	0	0	0
NORTH	2	0	3	2
NORTH EAST	0	0	0	0
NORTH WEST DELHI	1	0	0	0
SHAHADRA	0	0	0	0
SOUTH	1	0	0	0
SOUTH EAST	0	0	0	0
SOUTH WEST DELHI	0	0	0	0
WEST DELHI	0	0	0	0
Total	4	0	3	2

(e) Rajasthan

District	15 Sep-20 Oct			
	2020	2021	2022	2023
AJMER	0	0	0	0
ALWAR	1	0	0	0
BANSWARA	0	0	0	0
BARAN	88	0	7	141
BARMER	2	0	0	0
BHARATPUR	2	0	0	2
BHILWARA	2	0	0	0
BIKANER	1	0	0	0
BUNDI	11	0	22	39
CHITTAURGARH	0	2	2	7
CHURU	0	0	0	0
DAUSA	0	0	0	0
DHOLPUR	0	0	0	0
DUNGARPUR	0	0	0	0
GANGANAGAR	3	0	1	9
HANUMANGARH	170	35	8	48
JAIPUR	1	0	0	0
JAISELMER	2	0	0	0
JALOR	0	0	0	0
JHALAWAR	1	0	1	8
JHUNJHUNUN	1	0	0	0
JODHPUR	1	0	0	0
KARAULI	1	0	0	0
KOTA	27	1	9	73
NAGAU	0	0	0	0
PALI	1	0	0	0
PRATAPGARH	4	0	0	0
RAJSMAND	0	0	0	0
SIKAR	0	0	0	0
SIROHI	1	0	0	0
SWAIMADHOPUR	8	0	3	25
TONK	2	0	0	0
UDAIPUR	0	0	0	0
Total	330	38	53	352

(f) Madhya Pradesh

District	15 Sep-20 Oct								
	2020	2021	2022	2023					
					PANNA	3	0	0	0
ALIRAJPUR	0	0	0	0	RAISEN	18	2	1	10
ANUPPUR	0	0	0	0	RAJGARH	7	1	3	9
ASHOKNAGAR	19	1	3	34	RATLAM	0	0	0	1
BALAGHAT	0	0	0	0	REWA	4	0	1	0
BARWANI	0	0	0	0	SAGAR	15	9	5	14
BETUL	1	0	0	3	SATNA	11	6	0	2
BHIND	9	1	0	14	SEHORE	9	3	9	13
BHOPAL	6	5	2	7	SEONI	37	15	1	13
BURHANPUR	0	0	0	0	SHAHDOL	0	0	0	0
CHHATARPUR	4	0	0	3	SHAJAPUR	5	0	0	7
CHHINDWARA	4	5	0	3	SHEOPUR	16	0	1	42
DAMOH	20	4	5	13	SHIVPURI	9	0	7	17
DATIA	77	8	1	65	SIDHI	0	0	0	0
DEWAS	3	0	0	7	SINGRAULI	0	0	0	0
DHAR	21	0	0	23	TIKAMGARH	1	0	0	2
DINDORI	0	0	0	1	UJJAIN	5	0	0	14
EAST NIMAR	2	1	3	1	UMARIA	0	0	0	0
GUNA	16	2	4	142	VIDESHA	60	8	7	26
GWALIOR	48	0	1	19	WEST NIMAR	6	0	0	6
HARDA	8	10	0	15	Total	530	106	65	615
HOSHANGABAD	38	8	3	30					
INDORE	2	0	0	12					
JABALPUR	12	4	3	16					
JHABUA	0	0	0	0					
KATNI	3	0	0	1					
MANDLA	1	0	0	0					
MANDSAUR	3	0	0	1					
MORENA	18	5	0	19					
NARSHIMAPURA	9	8	5	10					
NIMACH	0	0	0	0					

State-wise and date-wise number of paddy residue burning events detected in 2020, 2021, 2022 and 2023
(Period: 15 September-20 October)

Number of Paddy Residue Burning Events Detected

Date	Punjab				Haryana				Uttar Pradesh			
	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023
15-Sep	5	0	14	0	2	0	0	1	1	0	0	0
16-Sep	0	2	0	6	1	0	0	1	0	0	0	2
17-Sep	5	0	1	0	3	0	0	0	0	0	0	0
18-Sep	17	9	7	0	0	0	1	0	0	1	0	0
19-Sep	30	5	18	0	2	0	0	1	0	1	0	0
20-Sep	67	8	10	0	6	0	0	2	2	0	0	0
21-Sep	54	0	56	1	2	0	0	2	1	0	0	1
22-Sep	34	0	30	0	1	0	0	2	1	0	0	0
23-Sep	49	0	3	1	0	0	0	3	1	0	0	0
24-Sep	78	5	0	0	0	0	0	0	1	1	0	1
25-Sep	184	11	0	0	11	0	0	1	5	0	0	1
26-Sep	190	19	0	3	5	0	0	2	8	0	0	0
27-Sep	78	37	0	21	8	0	0	9	4	1	0	0
28-Sep	55	28	0	33	6	1	0	8	1	6	0	4
29-Sep	63	64	0	68	9	4	0	17	6	10	0	6
30-Sep	116	27	8	81	22	2	0	26	13	13	10	18
01-Oct	165	13	45	123	15	4	1	21	7	13	3	17
02-Oct	141	0	83	119	30	2	7	24	12	0	36	7
03-Oct	110	9	75	105	8	6	8	17	4	3	29	8
04-Oct	162	23	65	95	29	2	7	29	8	0	2	9
05-Oct	161	18	130	98	17	3	24	24	14	2	0	14
06-Oct	171	42	85	91	30	0	26	19	12	1	0	18
07-Oct	197	72	62	32	32	11	6	13	41	13	0	5
08-Oct	95	108	19	92	29	27	0	55	25	11	0	27
09-Oct	121	114	3	58	20	39	1	14	15	20	0	13
10-Oct	232	150	4	10	33	95	2	28	9	54	0	34
11-Oct	377	64	45	26	90	51	0	21	23	28	0	50

12-Oct	388	97	104	13	69	51	4	5	46	23	0	5
13-Oct	266	132	120	154	47	91	15	29	36	42	0	19
14-Oct	605	229	82	89	69	98	30	41	9	68	5	18
15-Oct	449	660	169	69	106	363	36	127	15	149	0	35
16-Oct	654	429	206	0	80	176	76	4	21	121	6	14
17-Oct	1172	14	403	1	143	0	86	0	38	39	7	0
18-Oct	938	57	342	18	166	1	134	8	76	0	30	2
19-Oct	1080	496	436	37	72	55	122	16	43	5	36	11
20-Oct	890	788	96	174	62	155	78	51	31	1	17	25
Total	9399	3730	2721	1618	1225	1237	664	621	529	626	181	364

Number of Paddy Residue Burning Events Detected

Date	Delhi				Rajasthan				Madhya Pradesh			
	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023
15-Sep	0	0	0	0	1	0	0	0	2	0	0	0
16-Sep	0	0	0	0	0	0	0	0	0	0	0	0
17-Sep	0	0	0	0	0	0	0	0	0	0	0	0
18-Sep	0	0	0	0	0	0	0	0	0	0	0	0
19-Sep	0	0	0	0	0	0	0	0	0	0	0	1
20-Sep	0	0	0	0	0	0	0	0	0	0	0	1
21-Sep	0	0	0	0	1	0	1	0	2	0	0	0
22-Sep	0	0	0	0	0	0	0	0	0	0	0	0
23-Sep	0	0	0	0	1	0	0	0	0	0	0	0
24-Sep	0	0	0	0	0	0	0	0	0	0	0	0
25-Sep	0	0	0	0	1	0	0	0	0	0	0	1
26-Sep	0	0	0	1	1	0	0	0	2	0	0	0
27-Sep	0	0	0	0	0	0	0	0	1	0	0	0
28-Sep	0	0	0	0	0	0	0	0	1	1	0	2
29-Sep	0	0	0	0	3	0	0	6	0	4	0	5
30-Sep	1	0	0	0	1	0	0	4	5	0	0	11
01-Oct	0	0	0	0	4	1	1	4	13	0	1	8
02-Oct	1	0	0	0	7	0	3	4	12	0	1	1
03-Oct	0	0	0	0	9	0	2	5	5	1	5	5

04-Oct	0	0	0	0	15	0	0	22	4	2	0	12
05-Oct	0	0	2	0	14	0	1	11	13	1	0	18
06-Oct	1	0	0	0	16	0	0	9	37	1	0	7
07-Oct	0	0	0	0	14	1	1	7	31	1	0	9
08-Oct	0	0	0	0	11	0	0	9	17	2	0	18
09-Oct	0	0	0	0	12	0	0	17	15	4	0	24
10-Oct	0	0	0	0	14	1	0	26	18	10	0	52
11-Oct	0	0	0	1	21	7	1	21	32	2	0	24
12-Oct	0	0	0	0	24	1	2	1	44	1	1	1
13-Oct	0	0	0	0	7	5	2	28	21	2	7	32
14-Oct	0	0	0	0	16	1	1	15	15	11	1	26
15-Oct	0	0	0	0	9	8	2	34	8	27	2	66
16-Oct	1	0	0	0	12	2	4	18	23	13	2	51
17-Oct	0	0	0	0	26	0	4	12	63	1	11	31
18-Oct	0	0	1	0	37	2	12	11	88	0	15	13
19-Oct	0	0	0	0	27	5	12	31	49	1	12	65
20-Oct	0	0	0	0	26	4	4	57	9	21	7	131
Total	4	0	3	2	330	38	53	352	530	106	65	615

Details of residue burning events in Punjab on 20-Oct-2023

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	AMRITSAR	AJNALA	S-NPP	31.89685	74.77015	13:41:24	D	1.70
2	AMRITSAR	AJNALA	AQUA	31.87900	74.75900	14:02:39	D	6.10
3	AMRITSAR	AJNALA	AQUA	31.88700	74.74700	14:02:39	D	4.50
4	AMRITSAR	ATTARI	S-NPP	31.57251	74.92548	13:41:24	D	3.00
5	AMRITSAR	ATTARI	AQUA	31.58000	74.78300	14:02:39	D	6.30
6	AMRITSAR	ATTARI	AQUA	31.58100	74.79400	14:02:39	D	8.00
7	AMRITSAR	CHOGAWAN	S-NPP	31.66397	74.61201	13:41:24	D	2.60
8	AMRITSAR	CHOGAWAN	S-NPP	31.76231	74.62275	13:41:24	D	27.20
9	AMRITSAR	CHOGAWAN	S-NPP	31.78757	74.58758	13:41:24	D	2.60
10	AMRITSAR	CHOGAWAN	AQUA	31.69000	74.66000	14:02:39	D	8.10
11	AMRITSAR	HARSHA CHHINA	S-NPP	31.70521	74.78436	13:41:24	D	1.90
12	AMRITSAR	HARSHA CHHINA	S-NPP	31.72317	74.73050	13:41:24	D	3.50
13	AMRITSAR	JANDIALA GURU	S-NPP	31.52170	75.08843	13:41:24	D	3.50
14	AMRITSAR	JANDIALA GURU	S-NPP	31.58915	75.08133	13:41:24	D	2.80
15	AMRITSAR	JANDIALA GURU	S-NPP	31.62972	74.97745	13:41:24	D	3.30
16	AMRITSAR	MAJITHA	S-NPP	31.79877	75.00997	13:41:24	D	2.50
17	AMRITSAR	RAYYA	AQUA	31.62100	75.21900	14:02:39	D	5.20
18	BATHINDA	GONIANA MANDI	AQUA	30.37000	74.84400	14:02:39	D	5.00
19	BATHINDA	TALWANDI SABO	S-NPP	29.85246	75.11347	13:41:24	D	1.20
20	FARIDKOT	FARIDKOT	S-NPP	30.74855	74.66267	13:41:24	D	3.70
21	FARIDKOT	FARIDKOT	S-NPP	30.75199	74.66206	13:41:24	D	3.70
22	FARIDKOT	FARIDKOT	S-NPP	30.76003	74.66952	13:41:24	D	4.50
23	FARIDKOT	FARIDKOT	S-NPP	30.76915	74.63231	13:41:24	D	8.70
24	FARIDKOT	FARIDKOT	S-NPP	30.77200	74.62735	13:41:24	D	2.00
25	FARIDKOT	FARIDKOT	S-NPP	30.78560	74.57170	13:41:24	D	4.40
26	FARIDKOT	FARIDKOT	S-NPP	30.79590	74.56985	13:41:24	D	4.60
27	FARIDKOT	FARIDKOT	AQUA	30.75900	74.66300	14:02:39	D	5.20
28	FARIDKOT	FARIDKOT	AQUA	30.76600	74.71500	14:02:39	D	7.60
29	FARIDKOT	FARIDKOT	AQUA	30.78900	74.56200	14:02:39	D	6.20
30	FATEHGARH SAHIB	AMLOH	S-NPP	30.58132	76.22962	13:41:24	D	3.60

31	FATEHGARH SAHIB	BASSI PATHANAN	S-NPP	30.66524	76.40636	13:41:24	D	8.10
32	FATEHGARH SAHIB	KHERA	S-NPP	30.56709	76.54391	13:41:24	D	19.90
33	FATEHGARH SAHIB	KHERA	S-NPP	30.59000	76.54545	13:41:24	D	1.90
34	FATEHGARH SAHIB	KHERA	S-NPP	30.61409	76.46392	13:41:24	D	4.30
35	FATEHGARH SAHIB	KHERA	S-NPP	30.61519	76.46075	13:41:24	D	2.90
36	FATEHGARH SAHIB	KHERA	S-NPP	30.62595	76.56056	13:41:24	D	4.50
37	FATEHGARH SAHIB	KHERA	S-NPP	30.62655	76.55753	13:41:24	D	4.20
38	FATEHGARH SAHIB	SIRHIND	S-NPP	30.48913	76.47619	13:41:24	D	8.70
39	FATEHGARH SAHIB	SIRHIND	S-NPP	30.53325	76.48203	13:41:24	D	4.70
40	FATEHGARH SAHIB	SIRHIND	S-NPP	30.57281	76.31188	13:41:24	D	2.80
41	FAZILKA	FAZILKA	AQUA	30.33100	73.96800	14:02:39	D	7.70
42	FAZILKA	FAZILKA	AQUA	30.40900	73.98900	14:02:39	D	4.30
43	FIROZPUR	FIROZPUR	AQUA	30.85200	74.54300	14:02:39	D	19.20
44	FIROZPUR	FIROZPUR	AQUA	30.85400	74.55300	14:02:39	D	5.20
45	FIROZPUR	FIROZPUR	AQUA	30.98100	74.67000	14:02:39	D	6.90
46	FIROZPUR	FIROZPUR	AQUA	31.01000	74.73200	14:02:39	D	8.40
47	FIROZPUR	GHALL KHURD	S-NPP	30.76252	74.90250	13:41:24	D	2.80
48	FIROZPUR	GHALL KHURD	S-NPP	30.78734	74.84843	13:41:24	D	2.30
49	FIROZPUR	GHALL KHURD	S-NPP	30.92919	74.70721	13:41:24	D	2.60
50	FIROZPUR	GURUHAR SAHAI	S-NPP	30.61997	74.35482	13:41:24	D	8.10
51	FIROZPUR	GURUHAR SAHAI	S-NPP	30.63018	74.35296	13:41:24	D	4.60
52	FIROZPUR	MAMDOT	S-NPP	30.78934	74.49591	13:41:24	D	11.40
53	FIROZPUR	MAMDOT	S-NPP	30.87656	74.39725	13:41:24	D	9.50
54	FIROZPUR	MAMDOT	S-NPP	30.88349	74.42236	13:41:24	D	3.00
55	FIROZPUR	MAMDOT	S-NPP	30.89904	74.45917	13:41:24	D	4.90
56	FIROZPUR	MAMDOT	AQUA	30.77900	74.49000	14:02:39	D	16.90
57	FIROZPUR	MAMDOT	AQUA	30.78000	74.50100	14:02:39	D	9.10
58	FIROZPUR	MAMDOT	AQUA	30.78800	74.35500	14:02:39	D	4.40
59	FIROZPUR	MAMDOT	AQUA	30.81700	74.37000	14:02:39	D	5.80
60	FIROZPUR	MAMDOT	AQUA	30.87900	74.41600	14:02:39	D	14.60
61	FIROZPUR	MAMDOT	AQUA	30.88100	74.42600	14:02:39	D	5.20
62	FIROZPUR	ZIRA	AQUA	30.96300	74.86400	14:02:39	D	5.00
63	GURDASPUR	KALANAUR	S-NPP	31.95956	75.16857	13:41:24	D	4.50

64	GURDASPUR	SRI HARGOBINDPUR	S-NPP	31.74316	75.47297	13:41:24	D	3.80
65	JALANDHAR	JALANDHAR WEST	S-NPP	31.48023	75.52801	13:41:24	D	4.60
66	JALANDHAR	LOHIAN	S-NPP	31.15096	75.24484	13:41:24	D	4.20
67	JALANDHAR	LOHIAN	AQUA	31.06600	75.20400	14:02:39	D	12.30
68	JALANDHAR	MEHATPUR	AQUA	30.99100	75.38300	14:02:39	D	5.40
69	JALANDHAR	MEHATPUR	AQUA	30.99800	75.49900	14:02:39	D	7.10
70	JALANDHAR	SHAHKOT	S-NPP	31.10041	75.29374	13:41:24	D	5.50
71	KAPURTHALA	DHILWAN	S-NPP	31.41839	75.22995	13:41:24	D	22.80
72	KAPURTHALA	KAPURTHALA	AQUA	31.29900	75.34200	14:02:39	D	5.20
73	KAPURTHALA	NADALA	S-NPP	31.57213	75.50270	13:41:24	D	1.40
74	KAPURTHALA	SULTANPUR LODHI	S-NPP	31.21733	75.11794	13:41:24	D	6.10
75	KAPURTHALA	SULTANPUR LODHI	S-NPP	31.22085	75.11732	13:41:24	D	6.10
76	KAPURTHALA	SULTANPUR LODHI	S-NPP	31.33707	75.27242	13:41:24	D	6.70
77	KAPURTHALA	SULTANPUR LODHI	AQUA	31.28000	75.14300	14:02:39	D	7.30
78	KAPURTHALA	SULTANPUR LODHI	AQUA	31.31400	75.19000	14:02:39	D	6.90
79	LUDHIANA	JAGRAON	S-NPP	30.69020	75.39579	13:41:24	D	10.70
80	LUDHIANA	JAGRAON	S-NPP	30.71539	75.40224	13:41:24	D	7.10
81	LUDHIANA	JAGRAON	S-NPP	30.73660	75.39861	13:41:24	D	5.10
82	LUDHIANA	JAGRAON	S-NPP	30.74594	75.52928	13:41:24	D	3.60
83	LUDHIANA	JAGRAON	AQUA	30.74200	75.37900	14:02:39	D	8.70
84	LUDHIANA	MACHHIWARA	S-NPP	30.92869	76.16761	13:41:24	D	1.80
85	LUDHIANA	MACHHIWARA	S-NPP	30.99592	76.25860	13:41:24	D	3.00
86	LUDHIANA	PAKHOWAL	AQUA	30.73000	75.76100	14:02:39	D	5.20
87	MANSA	BHIKHI	AQUA	30.11900	75.60400	14:02:39	D	8.20
88	MANSA	BUDHLADA	AQUA	29.82700	75.69400	14:02:39	D	5.60
89	MANSA	SARDULGARH	S-NPP	29.64157	75.20165	13:41:24	D	2.50
90	MANSA	SARDULGARH	S-NPP	29.67232	75.29978	13:41:24	D	11.60
91	MANSA	SARDULGARH	S-NPP	29.79543	75.27987	13:41:24	D	7.50
92	MANSA	SARDULGARH	S-NPP	29.81228	75.27245	13:41:24	D	8.90
93	MANSA	SARDULGARH	AQUA	29.64300	75.23300	14:02:39	D	10.40
94	MANSA	SARDULGARH	AQUA	29.71600	75.23400	14:02:39	D	6.30
95	MOGA	KOT ISE KHAN AT DHARAMKOT	S-NPP	30.87878	75.30084	13:41:24	D	5.90
96	MOGA	KOT ISE KHAN AT DHARAMKOT	S-NPP	31.05271	75.20352	13:41:24	D	2.90

97	MOGA	KOT ISE KHAN AT DHARAMKOT	S-NPP	31.05622	75.20292	13:41:24	D	10.40
98	MOGA	KOT ISE KHAN AT DHARAMKOT	AQUA	30.88500	75.29300	14:02:39	D	5.50
99	MOGA	MOGA-1	S-NPP	30.71201	75.26273	13:41:24	D	5.40
100	MOGA	MOGA-1	S-NPP	30.78196	75.38615	13:41:24	D	13.70
101	MOGA	MOGA-1	S-NPP	30.80474	75.31358	13:41:24	D	3.20
102	MOGA	MOGA-1	S-NPP	30.81063	75.30322	13:41:24	D	2.30
103	MOGA	MOGA-1	S-NPP	30.84470	75.28801	13:41:24	D	2.90
104	MOGA	MOGA-1	AQUA	30.75700	75.22800	14:02:39	D	7.00
105	MOGA	MOGA-1	AQUA	30.75900	75.23900	14:02:39	D	9.90
106	MOGA	MOGA-1	AQUA	30.78700	75.37100	14:02:39	D	4.80
107	MOGA	MOGA-1	AQUA	30.79300	75.22100	14:02:39	D	4.90
108	MOGA	NIHAL SINGH	S-NPP	30.69904	75.33014	13:41:24	D	12.30
109	MOGA	NIHAL SINGH	AQUA	30.60000	75.35500	14:02:39	D	10.60
110	PATIALA	BHUNARHERI	S-NPP	30.17799	76.44208	13:41:24	D	3.20
111	PATIALA	BHUNARHERI	S-NPP	30.24093	76.47978	13:41:24	D	1.90
112	PATIALA	BHUNARHERI	AQUA	30.23200	76.49100	14:02:39	D	4.90
113	PATIALA	NABHA	S-NPP	30.31366	76.13440	13:41:24	D	3.20
114	PATIALA	NABHA	S-NPP	30.42620	76.17742	13:41:24	D	10.20
115	PATIALA	NABHA	AQUA	30.47900	76.28600	14:02:39	D	8.20
116	PATIALA	PATIALA	S-NPP	30.27086	76.27081	13:41:24	D	4.00
117	PATIALA	PATIALA	S-NPP	30.27093	76.26778	13:41:24	D	4.00
118	PATIALA	PATIALA	S-NPP	30.32931	76.29143	13:41:24	D	2.10
119	PATIALA	PATIALA	S-NPP	30.33297	76.29083	13:41:24	D	3.20
120	PATIALA	PATRAN	S-NPP	29.85036	76.16252	13:41:24	D	2.70
121	PATIALA	PATRAN	S-NPP	29.87881	76.06541	13:41:24	D	3.50
122	PATIALA	PATRAN	S-NPP	29.89322	76.12137	13:41:24	D	7.70
123	PATIALA	PATRAN	S-NPP	29.92685	76.03816	13:41:24	D	4.00
124	PATIALA	PATRAN	S-NPP	29.92771	76.03962	13:41:24	D	8.50
125	PATIALA	PATRAN	S-NPP	29.94431	76.11467	13:41:24	D	4.60
126	PATIALA	PATRAN	S-NPP	29.94490	76.11945	13:41:24	D	8.00
127	PATIALA	PATRAN	S-NPP	29.98708	76.13210	13:41:24	D	13.10
128	PATIALA	PATRAN	AQUA	29.82400	76.14000	14:02:39	D	8.50
129	PATIALA	RAJPURA	S-NPP	30.53644	76.74010	13:41:24	D	1.90

130	PATIALA	SAMANA	S-NPP	30.16392	76.24520	13:41:24	D	3.50
131	PATIALA	SAMANA	S-NPP	30.16433	76.24336	13:41:24	D	4.10
132	PATIALA	SAMANA	S-NPP	30.16982	76.25740	13:41:24	D	5.90
133	PATIALA	SAMANA	S-NPP	30.18333	76.25202	13:41:24	D	10.30
134	PATIALA	SAMANA	S-NPP	30.23563	76.22360	13:41:24	D	6.60
135	PATIALA	SAMANA	AQUA	30.17300	76.26200	14:02:39	D	5.20
136	PATIALA	SAMANA	AQUA	30.23100	76.22400	14:02:39	D	7.20
137	PATIALA	SHAMBU KALAN	S-NPP	30.50585	76.61346	13:41:24	D	3.40
138	PATIALA	SHAMBU KALAN	AQUA	30.44300	76.56800	14:02:39	D	7.90
139	SANGRUR	ANDANA	S-NPP	29.78985	76.01057	13:41:24	D	8.80
140	SANGRUR	ANDANA	S-NPP	29.83699	75.96626	13:41:24	D	26.80
141	SANGRUR	ANDANA	AQUA	29.81300	75.85500	14:02:39	D	14.60
142	SANGRUR	BHAWANIGARH	S-NPP	30.23065	75.97855	13:41:24	D	10.60
143	SANGRUR	BHAWANIGARH	S-NPP	30.29140	76.04449	13:41:24	D	3.70
144	SANGRUR	DIRBA	AQUA	29.95500	76.01300	14:02:39	D	5.10
145	SANGRUR	LEHRA GAGA	S-NPP	29.92362	75.68757	13:41:24	D	2.70
146	SANGRUR	LEHRA GAGA	S-NPP	29.97398	75.76867	13:41:24	D	5.80
147	SANGRUR	LEHRA GAGA	AQUA	29.90000	75.81100	14:02:39	D	28.40
148	SANGRUR	LEHRA GAGA	AQUA	29.91900	75.69100	14:02:39	D	29.80
149	SANGRUR	SANGRUR	S-NPP	30.18303	75.58096	13:41:24	D	4.80
150	SANGRUR	SUNAM	S-NPP	30.07024	75.79218	13:41:24	D	2.60
151	SANGRUR	SUNAM	S-NPP	30.10889	75.78098	13:41:24	D	4.40
152	SANGRUR	SUNAM	S-NPP	30.11008	75.77740	13:41:24	D	3.60
153	SANGRUR	SUNAM	S-NPP	30.13627	75.75399	13:41:24	D	4.80
154	SANGRUR	SUNAM	AQUA	30.14100	75.82800	14:02:39	D	5.30
155	SANGRUR	SUNAM	AQUA	30.15200	75.77800	14:02:39	D	6.80
156	TARN TARAN	BHIKHIWIND	S-NPP	31.25873	74.66234	13:41:24	D	4.10
157	TARN TARAN	BHIKHIWIND	AQUA	31.29800	74.62500	14:02:39	D	6.20
158	TARN TARAN	GANDIWIND TATLA	AQUA	31.54500	74.80800	14:02:39	D	4.20
159	TARN TARAN	GANDIWIND TATLA	AQUA	31.54600	74.81800	14:02:39	D	7.70
160	TARN TARAN	KHADUR SAHIB	S-NPP	31.47680	75.09887	13:41:24	D	8.50
161	TARN TARAN	KHADUR SAHIB	S-NPP	31.48498	75.07870	13:41:24	D	3.80
162	TARN TARAN	KHADUR SAHIB	S-NPP	31.50601	75.04694	13:41:24	D	3.70

163	TARN TARAN	KHADUR SAHIB	AQUA	31.47000	75.11600	14:02:39	D	4.90
164	TARN TARAN	KHADUR SAHIB	AQUA	31.49000	75.19700	14:02:39	D	7.60
165	TARN TARAN	TARN TARAN	S-NPP	31.39324	74.78498	13:41:24	D	4.50
166	TARN TARAN	TARN TARAN	S-NPP	31.42698	74.90759	13:41:24	D	1.80
167	TARN TARAN	TARN TARAN	S-NPP	31.43269	74.81458	13:41:24	D	3.30
168	TARN TARAN	TARN TARAN	S-NPP	31.51594	74.84763	13:41:24	D	2.40
169	TARN TARAN	TARN TARAN	AQUA	31.39500	74.77900	14:02:39	D	6.00
170	TARN TARAN	TARN TARAN	AQUA	31.39600	74.79000	14:02:39	D	5.00
171	TARN TARAN	VALTOHA	S-NPP	31.15635	74.56746	13:41:24	D	2.00
172	TARN TARAN	VALTOHA	S-NPP	31.18574	74.62942	13:41:24	D	3.20
173	TARN TARAN	VALTOHA	S-NPP	31.19188	74.54317	13:41:24	D	4.50
174	TARN TARAN	VALTOHA	AQUA	31.16000	74.63300	14:02:39	D	16.60

Details of residue burning events in Haryana on 20-Oct-2023

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	AMBALA	AMBALA-II	S-NPP	30.24016	76.56709	13:41:24	D	3.10
2	AMBALA	AMBALA-II	S-NPP	30.25321	76.80499	13:41:24	D	2.30
3	AMBALA	BARARA	S-NPP	30.23045	77.09564	13:41:24	D	4.00
4	AMBALA	SAHA	S-NPP	30.31754	76.99261	13:41:24	D	1.60
5	AMBALA	SAHA	S-NPP	30.35162	76.95498	13:41:24	D	3.00
6	FATEHABAD	BHUNA	S-NPP	29.53509	75.76035	13:41:24	D	3.00
7	FATEHABAD	BHUNA	S-NPP	29.54967	75.62471	13:41:24	D	6.50
8	FATEHABAD	BHUNA	S-NPP	29.55029	75.62790	13:41:24	D	5.20
9	FATEHABAD	TOHANA	AQUA	29.63900	75.93100	14:02:39	D	9.40
10	HISAR	HANSI-I	S-NPP	29.06404	76.07957	13:41:24	D	4.80
11	HISAR	HANSI-I	S-NPP	29.21374	76.02493	13:41:24	D	2.80
12	HISAR	UKLANA	S-NPP	29.48330	75.96521	13:41:24	D	4.20
13	HISAR	UKLANA	AQUA	29.46700	75.81700	14:02:39	D	5.20
14	JHAJJAR	MATANHAIL	S-NPP	28.54846	76.57101	13:41:24	D	3.00
15	JIND	JIND	S-NPP	29.28661	76.42764	13:41:24	D	7.40
16	JIND	NARWANA	S-NPP	29.51000	75.96213	13:41:24	D	2.70
17	JIND	NARWANA	S-NPP	29.51645	76.01340	13:41:24	D	5.70
18	JIND	NARWANA	S-NPP	29.52774	76.04497	13:41:24	D	6.90
19	JIND	NARWANA	S-NPP	29.59050	75.99166	13:41:24	D	8.40
20	JIND	NARWANA	S-NPP	29.66346	76.00512	13:41:24	D	3.20
21	JIND	NARWANA	AQUA	29.50700	76.04200	14:02:39	D	4.60
22	JIND	NARWANA	AQUA	29.53100	76.00900	14:02:39	D	5.20
23	JIND	NARWANA	AQUA	29.55700	75.99400	14:02:39	D	5.40
24	JIND	NARWANA	AQUA	29.62700	76.17200	14:02:39	D	5.00
25	JIND	SAFIDON	S-NPP	29.46514	76.58781	13:41:24	D	4.40
26	JIND	UCHANA	S-NPP	29.41640	76.27889	13:41:24	D	4.50
27	JIND	UCHANA	S-NPP	29.49113	76.02572	13:41:24	D	17.30
28	JIND	UCHANA	S-NPP	29.50331	76.20642	13:41:24	D	1.40
29	KAITHAL	GUHLA	S-NPP	30.07333	76.40601	13:41:24	D	2.60
30	KAITHAL	GUHLA	S-NPP	30.07700	76.40542	13:41:24	D	2.00
31	KAITHAL	GUHLA	S-NPP	30.09951	76.44451	13:41:24	D	4.50

32	KAITHAL	GUHLA	AQUA	30.13900	76.42000	14:02:39	D	4.10
33	KAITHAL	KAITHAL	S-NPP	29.84564	76.42329	13:41:24	D	4.00
34	KAITHAL	KAITHAL	S-NPP	29.85485	76.55797	13:41:24	D	6.30
35	KAITHAL	PUNDRI	S-NPP	29.76406	76.53921	13:41:24	D	2.70
36	KARNAL	ASSANDH	S-NPP	29.54237	76.57551	13:41:24	D	6.10
37	KARNAL	ASSANDH	S-NPP	29.54911	76.56940	13:41:24	D	10.40
38	KURUKSHETRA	ISMAILABAD	S-NPP	30.08767	76.76810	13:41:24	D	4.20
39	KURUKSHETRA	LADWA	S-NPP	30.02613	77.05107	13:41:24	D	1.90
40	KURUKSHETRA	PEHOWA	S-NPP	29.96309	76.68668	13:41:24	D	3.50
41	KURUKSHETRA	PEHOWA	S-NPP	29.98175	76.54736	13:41:24	D	3.20
42	KURUKSHETRA	PEHOWA	AQUA	30.03200	76.44100	14:02:39	D	13.70
43	PALWAL	HODAL	S-NPP	27.94768	77.42052	13:41:24	D	3.20
44	PALWAL	HODAL	AQUA	27.95100	77.38800	14:02:39	D	19.80
45	PALWAL	HODAL	AQUA	27.95300	77.39800	14:02:39	D	11.90
46	PALWAL	PALWAL	S-NPP	28.10837	77.35273	13:41:24	D	5.30
47	PALWAL	PALWAL	S-NPP	28.10900	77.35786	13:41:24	D	5.30
48	PANIPAT	MADLAUDA	S-NPP	29.34950	76.90693	13:41:24	D	4.30
49	SIRSA	SIRSA	S-NPP	29.45367	74.90923	13:41:24	D	1.90
50	SONIPAT	SONIPAT	S-NPP	28.96408	76.98021	13:41:24	D	1.40
51	YAMUNANAGAR	BILASPUR	S-NPP	30.26931	77.26026	13:41:24	D	4.60

Details of residue burning events in Uttar Pradesh on 20-Oct-2023

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m ²)
1	ALIGARH	KHAIR	S-NPP	27.98751	77.77409	13:41:24	D	2.90
2	ALIGARH	KHAIR	S-NPP	27.98918	77.77653	13:41:24	D	8.60
3	ALIGARH	KHAIR	S-NPP	27.99135	77.77353	13:41:24	D	3.40
4	ALIGARH	KOL	S-NPP	27.80228	78.35541	13:41:24	D	2.10
5	BARABANKI	FATEHPUR	S-NPP	27.20881	81.19012	13:41:24	D	4.80
6	BARABANKI	NAWABGANJ	S-NPP	26.95496	81.13346	13:41:24	D	6.70
7	BARABANKI	NAWABGANJ	S-NPP	26.95788	81.13210	13:41:24	D	7.50
8	ETAH	ETAH	S-NPP	27.42116	78.83618	13:41:24	D	1.60
9	ETAH	ETAH	S-NPP	27.45529	78.77503	13:41:24	D	2.00
10	ETAH	JALESAR	S-NPP	27.48678	78.44069	13:41:24	D	9.90
11	ETAWAH	ETAWAH	S-NPP	26.80677	79.11462	13:41:24	D	1.70
12	ETAWAH	ETAWAH	S-NPP	26.90497	79.15063	13:41:24	D	2.40
13	FATEHPUR	FATEHPUR	S-NPP	25.95795	80.75480	13:41:24	D	2.60
14	GHAZIABAD	GHAZIABAD	S-NPP	28.81882	77.24168	13:41:24	D	2.10
15	JHANSI	JHANSI	S-NPP	25.51892	78.71253	13:41:24	D	3.50
16	JHANSI	JHANSI	S-NPP	25.53677	78.65990	13:41:24	D	3.90
17	MAINPURI	MAINPURI	S-NPP	27.24818	78.83497	13:41:24	D	2.80
18	MATHURA	CHHATA	S-NPP	27.64291	77.46487	13:41:24	D	4.80
19	MATHURA	CHHATA	S-NPP	27.73251	77.47958	13:41:24	D	3.10
20	MATHURA	CHHATA	S-NPP	27.73327	77.48241	13:41:24	D	4.20
21	PILHIBHIT	PILHIBHIT	AQUA	28.58600	79.90800	14:02:39	D	10.80
22	PILHIBHIT	PURANPUR	S-NPP	28.48414	80.09559	13:41:24	D	1.90
23	RAMPUR	MILAK	S-NPP	28.75434	79.18794	13:41:24	D	2.60
24	SAMBHAL	SAMBHAL	S-NPP	28.63180	78.55774	13:41:24	D	2.30
25	UNNAO	UNNAO	S-NPP	26.40627	80.64469	13:41:24	D	2.30

Details of residue burning events in Rajasthan on 20-Oct-2023

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	BARAN	CHHABRA	S-NPP	24.60748	76.84710	13:41:24	D	1.60
2	BARAN	CHHABRA	S-NPP	24.61043	76.84220	13:41:24	D	2.80
3	BARAN	CHHABRA	S-NPP	24.62869	76.84379	13:41:24	D	8.60
4	BARAN	CHHABRA	S-NPP	24.63689	76.87798	13:41:24	D	5.40
5	BARAN	CHHABRA	S-NPP	24.66648	76.94624	13:41:24	D	2.60
6	BARAN	CHHABRA	S-NPP	24.66752	76.97130	13:41:24	D	4.10
7	BARAN	CHHABRA	S-NPP	24.67657	76.94018	13:41:24	D	8.70
8	BARAN	CHHABRA	AQUA	24.60800	76.84200	14:02:39	D	6.30
9	BARAN	CHHIPABAROD	S-NPP	24.59767	76.77362	13:41:24	D	4.20
10	BARAN	KISHANGUNJ	S-NPP	24.94963	76.69479	13:41:24	D	4.00
11	BARAN	KISHANGUNJ	S-NPP	24.94968	76.69584	13:41:24	D	2.70
12	BARAN	KISHANGUNJ	S-NPP	25.23545	76.71065	13:41:24	D	2.30
13	BARAN	KISHANGUNJ	S-NPP	25.30765	76.88420	13:41:24	D	6.00
14	BARAN	MANGROL	S-NPP	25.40233	76.56171	13:41:24	D	2.90
15	BARAN	SHAHBAD	S-NPP	25.10294	76.90961	13:41:24	D	4.70
16	BARAN	SHAHBAD	S-NPP	25.15213	77.12067	13:41:24	D	5.80
17	BARAN	SHAHBAD	S-NPP	25.30352	77.20157	13:41:24	D	2.90
18	BUNDI	BUNDI	S-NPP	25.32854	75.65635	13:41:24	D	7.60
19	BUNDI	BUNDI	AQUA	25.25600	75.84000	14:02:39	D	11.10
20	BUNDI	INDRAGARH	S-NPP	25.48946	76.14344	13:41:24	D	2.50
21	BUNDI	INDRAGARH	S-NPP	25.58122	76.23339	13:41:24	D	2.60
22	BUNDI	KESHORAIPATAN	S-NPP	25.26935	75.98288	13:41:24	D	3.60
23	BUNDI	KESHORAIPATAN	S-NPP	25.26992	75.98700	13:41:24	D	3.60
24	BUNDI	KESHORAIPATAN	S-NPP	25.37341	75.95367	13:41:24	D	7.10
25	BUNDI	KESHORAIPATAN	S-NPP	25.37571	75.94487	13:41:24	D	4.80
26	BUNDI	KESHORAIPATAN	S-NPP	25.42589	75.98770	13:41:24	D	2.00
27	BUNDI	KESHORAIPATAN	S-NPP	25.43595	76.08805	13:41:24	D	2.60
28	BUNDI	KESHORAIPATAN	S-NPP	25.44074	76.01917	13:41:24	D	4.10
29	BUNDI	KESHORAIPATAN	S-NPP	25.46934	76.09966	13:41:24	D	2.00
30	BUNDI	KESHORAIPATAN	S-NPP	25.47460	76.06039	13:41:24	D	2.90

31	BUNDI	KESHORAIPATAN	S-NPP	25.47574	76.06873	13:41:24	D	2.20
32	BUNDI	KESHORAIPATAN	AQUA	25.26700	75.97800	14:02:39	D	10.40
33	BUNDI	KESHORAIPATAN	AQUA	25.26800	75.98800	14:02:39	D	16.50
34	HANUMANGARH	HANUMANGARH	AQUA	29.58400	74.33900	14:02:39	D	17.20
35	HANUMANGARH	HANUMANGARH	AQUA	29.64400	74.37000	14:02:39	D	16.40
36	HANUMANGARH	HANUMANGARH	AQUA	29.64500	74.38000	14:02:39	D	6.60
37	HANUMANGARH	TIBI	S-NPP	29.45071	74.43257	13:41:24	D	2.20
38	HANUMANGARH	TIBI	S-NPP	29.54589	74.44207	13:41:24	D	3.90
39	HANUMANGARH	TIBI	AQUA	29.52100	74.52600	14:02:39	D	5.60
40	HANUMANGARH	TIBI	AQUA	29.52200	74.53600	14:02:39	D	11.70
41	HANUMANGARH	TIBI	AQUA	29.55000	74.47800	14:02:39	D	6.30
42	JHALAWAR	KHANPUR	S-NPP	24.68652	76.30775	13:41:24	D	3.70
43	KOTA	DIGOD	S-NPP	25.08623	76.14302	13:41:24	D	2.30
44	KOTA	DIGOD	S-NPP	25.13789	76.14372	13:41:24	D	3.90
45	KOTA	DIGOD	S-NPP	25.22105	76.04148	13:41:24	D	4.00
46	KOTA	DIGOD	S-NPP	25.22450	76.04092	13:41:24	D	4.00
47	KOTA	LADPURA	S-NPP	25.11458	76.05008	13:41:24	D	3.40
48	KOTA	LADPURA	S-NPP	25.19879	76.00714	13:41:24	D	5.10
49	KOTA	LADPURA	S-NPP	25.23391	75.92985	13:41:24	D	2.70
50	KOTA	LADPURA	S-NPP	25.25505	75.95576	13:41:24	D	4.80
51	KOTA	LADPURA	AQUA	25.24500	75.95200	14:02:39	D	6.40
52	KOTA	PIPALDA	S-NPP	25.44055	76.49821	13:41:24	D	1.40
53	KOTA	PIPALDA	AQUA	25.44700	76.52000	14:02:39	D	8.60
54	SWAIMADHOPUR	KHANDAR	S-NPP	25.88288	76.52930	13:41:24	D	4.60
55	SWAIMADHOPUR	KHANDAR	S-NPP	26.00811	76.74539	13:41:24	D	1.90
56	SWAIMADHOPUR	KHANDAR	AQUA	25.88100	76.52400	14:02:39	D	11.80
57	SWAIMADHOPUR	KHANDAR	AQUA	25.96800	76.61400	14:02:39	D	10.90

Details of residue burning events in Madhya Pradesh on 20-Oct-2023

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	ASHOKNAGAR	ASHOKNAGAR	S-NPP	24.40210	77.51671	13:41:24	D	2.40
2	ASHOKNAGAR	ASHOKNAGAR	S-NPP	24.45802	77.75238	13:41:24	D	3.60
3	ASHOKNAGAR	ASHOKNAGAR	S-NPP	24.46437	77.50888	13:41:24	D	10.70
4	ASHOKNAGAR	ASHOKNAGAR	S-NPP	24.46801	77.50832	13:41:24	D	5.20
5	ASHOKNAGAR	ASHOKNAGAR	S-NPP	24.49189	77.69440	13:41:24	D	2.60
6	ASHOKNAGAR	ASHOKNAGAR	S-NPP	24.64503	77.75950	13:41:24	D	2.40
7	ASHOKNAGAR	ASHOKNAGAR	S-NPP	24.65625	77.61999	13:41:24	D	12.90
8	ASHOKNAGAR	ASHOKNAGAR	AQUA	24.46200	77.50900	14:02:39	D	24.10
9	ASHOKNAGAR	CHANDERI	S-NPP	24.68657	78.02436	13:41:24	D	4.80
10	ASHOKNAGAR	CHANDERI	S-NPP	24.68707	78.02144	13:41:24	D	4.60
11	ASHOKNAGAR	ISAGARH	S-NPP	24.91357	77.77908	13:41:24	D	5.40
12	BETUL	BETUL	S-NPP	22.10145	78.02176	13:41:24	D	4.20
13	BHIND	BHIND	S-NPP	26.55963	78.64836	13:41:24	D	3.20
14	BHIND	LAHAR	S-NPP	26.08759	78.79180	13:41:24	D	5.00
15	CHHINDWARA	CHAURAI	S-NPP	22.04090	79.36611	13:41:24	D	8.50
16	DAMOH	JABERA	S-NPP	23.64965	79.85610	13:41:24	D	7.70
17	DAMOH	PATERA	S-NPP	23.93082	79.61845	13:41:24	D	3.60
18	DATIA	DATIA	S-NPP	25.58119	78.53225	13:41:24	D	7.20
19	DATIA	DATIA	S-NPP	25.75903	78.49091	13:41:24	D	3.20
20	DATIA	DATIA	AQUA	25.75500	78.45800	14:02:39	D	9.40
21	DATIA	SEONDHA	S-NPP	25.81359	78.54914	13:41:24	D	5.10
22	DATIA	SEONDHA	S-NPP	25.81750	78.54858	13:41:24	D	8.50
23	DATIA	SEONDHA	S-NPP	25.83187	78.56866	13:41:24	D	7.30
24	DATIA	SEONDHA	S-NPP	25.83231	78.57279	13:41:24	D	8.40
25	DATIA	SEONDHA	S-NPP	25.83559	78.56678	13:41:24	D	8.40
26	DATIA	SEONDHA	S-NPP	25.83578	78.56811	13:41:24	D	9.10
27	DATIA	SEONDHA	S-NPP	25.89040	78.49262	13:41:24	D	2.50
28	DATIA	SEONDHA	S-NPP	25.93062	78.56719	13:41:24	D	2.70
29	DATIA	SEONDHA	S-NPP	25.93082	78.56431	13:41:24	D	3.00

30	DATIA	SEONDHA	AQUA	25.83300	78.56400	14:02:39	D	8.50
31	DEWAS	KHATEGOAN	S-NPP	22.55136	76.88808	13:41:24	D	3.50
32	GUNA	ARON	S-NPP	24.37355	77.55388	13:41:24	D	2.20
33	GUNA	ARON	AQUA	24.53000	77.47100	14:02:39	D	6.70
34	GUNA	GUNA	S-NPP	24.58993	77.39261	13:41:24	D	6.20
35	GUNA	GUNA	S-NPP	24.68717	77.07805	13:41:24	D	2.30
36	GUNA	GUNA	S-NPP	24.70930	77.05198	13:41:24	D	5.90
37	GUNA	GUNA	S-NPP	24.71749	77.08689	13:41:24	D	3.90
38	GUNA	GUNA	S-NPP	24.72676	77.15827	13:41:24	D	2.60
39	GUNA	GUNA	S-NPP	24.75998	77.44520	13:41:24	D	2.90
40	GUNA	GUNA	S-NPP	24.86439	77.07880	13:41:24	D	16.40
41	GUNA	GUNA	S-NPP	24.86797	77.07822	13:41:24	D	16.40
42	GUNA	GUNA	S-NPP	24.89114	77.17069	13:41:24	D	10.10
43	GUNA	GUNA	S-NPP	24.89889	77.20164	13:41:24	D	7.10
44	GUNA	GUNA	S-NPP	24.91372	77.19588	13:41:24	D	6.30
45	GUNA	GUNA	S-NPP	24.91495	77.06280	13:41:24	D	4.90
46	GUNA	GUNA	S-NPP	24.96663	77.15093	13:41:24	D	3.20
47	GUNA	GUNA	S-NPP	24.98581	76.89027	13:41:24	D	4.00
48	GUNA	GUNA	S-NPP	25.03640	76.99972	13:41:24	D	5.30
49	GUNA	GUNA	AQUA	24.68400	77.05900	14:02:39	D	11.70
50	GUNA	GUNA	AQUA	24.71500	77.00700	14:02:39	D	8.40
51	GUNA	GUNA	AQUA	24.72500	77.41600	14:02:39	D	22.70
52	GUNA	GUNA	AQUA	24.72600	77.42600	14:02:39	D	6.90
53	GUNA	GUNA	AQUA	24.86200	77.07700	14:02:39	D	9.10
54	GWALIOR	DABRA	S-NPP	25.91110	78.40211	13:41:24	D	4.20
55	GWALIOR	DABRA	S-NPP	25.92924	78.42127	13:41:24	D	4.50
56	GWALIOR	DABRA	S-NPP	25.92929	78.41848	13:41:24	D	3.90
57	GWALIOR	DABRA	S-NPP	25.93054	78.42924	13:41:24	D	2.10
58	GWALIOR	GWALIOR	S-NPP	26.21321	78.33984	13:41:24	D	4.90
59	GWALIOR	GWALIOR	S-NPP	26.28705	78.15989	13:41:24	D	5.10
60	HARDA	TIMURNI	S-NPP	22.31396	77.28056	13:41:24	D	3.10
61	HOSHANGABAD	BABAI	S-NPP	22.70349	77.97300	13:41:24	D	4.00
62	HOSHANGABAD	BABAI	AQUA	22.70300	77.97100	14:02:39	D	12.00
63	HOSHANGABAD	HOSHANGABAD	S-NPP	22.59611	77.60081	13:41:24	D	1.30

64	HOSHANGABAD	ITARSI	S-NPP	22.62008	77.79069	13:41:24	D	7.20
65	HOSHANGABAD	SEONI MALWA	S-NPP	22.35604	77.43052	13:41:24	D	3.00
66	HOSHANGABAD	SEONI MALWA	S-NPP	22.37798	77.35872	13:41:24	D	1.90
67	HOSHANGABAD	SEONI MALWA	S-NPP	22.44415	77.52856	13:41:24	D	4.80
68	HOSHANGABAD	SEONI MALWA	S-NPP	22.52697	77.47716	13:41:24	D	4.50
69	HOSHANGABAD	SEONI MALWA	S-NPP	22.53525	77.48474	13:41:24	D	4.70
70	HOSHANGABAD	SEONI MALWA	S-NPP	22.59950	77.40504	13:41:24	D	9.20
71	HOSHANGABAD	SEONI MALWA	AQUA	22.46900	77.54800	14:02:39	D	7.90
72	JABALPUR	PATAN	S-NPP	23.21603	79.66562	13:41:24	D	4.20
73	JABALPUR	PATAN	S-NPP	23.31243	79.82463	13:41:24	D	6.50
74	JABALPUR	SAHPURA	S-NPP	23.14150	79.73412	13:41:24	D	3.40
75	JABALPUR	SAHPURA	S-NPP	23.19810	79.51389	13:41:24	D	3.80
76	MORENA	MORENA	S-NPP	26.53502	78.14560	13:41:24	D	1.40
77	MORENA	MORENA	S-NPP	26.53585	78.14272	13:41:24	D	2.60
78	MORENA	SABALGARH	S-NPP	26.26606	77.48993	13:41:24	D	3.50
79	MORENA	SABALGARH	S-NPP	26.27227	77.47905	13:41:24	D	3.10
80	NARSHIMAPURA	GOTECAON	S-NPP	23.11944	79.54964	13:41:24	D	4.40
81	RAISEN	BARELI	S-NPP	23.15413	77.98718	13:41:24	D	4.00
82	RAISEN	BARELI	S-NPP	23.17429	77.99834	13:41:24	D	4.50
83	RAISEN	BARELI	AQUA	23.21200	78.12700	14:02:39	D	7.80
84	RAISEN	GAIRATGANJ	S-NPP	23.34959	78.18698	13:41:24	D	3.70
85	RAISEN	GOHARGANJ	S-NPP	22.98853	77.49036	13:41:24	D	3.40
86	RAISEN	GOHARGANJ	S-NPP	23.16334	77.94328	13:41:24	D	6.60
87	RAISEN	GOHARGANJ	AQUA	23.15800	77.93800	14:02:39	D	6.60
88	RAJGARH	BIYAVRA	S-NPP	23.87912	77.17561	13:41:24	D	4.20
89	RAJGARH	NARSINGHGAR	S-NPP	23.68031	76.94827	13:41:24	D	2.80
90	SAGAR	BINA	S-NPP	24.03728	78.13742	13:41:24	D	3.80
91	SEHORE	BUDHNI	S-NPP	22.77264	77.45894	13:41:24	D	1.40
92	SEHORE	NASRULLAHGANJ	S-NPP	22.64576	77.34521	13:41:24	D	2.90
93	SEONI	GHANSAUR	S-NPP	22.45931	79.88393	13:41:24	D	2.20
94	SEONI	KEWLARI	S-NPP	22.35382	79.89522	13:41:24	D	4.30
95	SEONI	KEWLARI	S-NPP	22.35427	79.89904	13:41:24	D	4.30
96	SEONI	KEWLARI	S-NPP	22.35751	79.78687	13:41:24	D	5.00
97	SEONI	KEWLARI	S-NPP	22.35787	79.89465	13:41:24	D	4.30

98	SEONI	KEWLARI	S-NPP	22.35831	79.89848	13:41:24	D	4.30
99	SEONI	LAKHNADOU	S-NPP	22.59512	79.67531	13:41:24	D	3.60
100	SEONI	SEONI	S-NPP	22.13731	79.40509	13:41:24	D	5.20
101	SHEOPUR	SHEOPUR	S-NPP	25.44722	76.71036	13:41:24	D	8.40
102	SHEOPUR	SHEOPUR	S-NPP	25.50477	76.55054	13:41:24	D	2.30
103	SHEOPUR	SHEOPUR	S-NPP	25.53390	76.63482	13:41:24	D	3.50
104	SHEOPUR	SHEOPUR	S-NPP	25.56986	76.60677	13:41:24	D	8.70
105	SHEOPUR	SHEOPUR	S-NPP	25.57045	76.61114	13:41:24	D	5.70
106	SHEOPUR	SHEOPUR	S-NPP	25.66514	76.62025	13:41:24	D	3.90
107	SHEOPUR	SHEOPUR	S-NPP	25.70994	76.58263	13:41:24	D	5.30
108	SHEOPUR	SHEOPUR	S-NPP	25.72072	76.52745	13:41:24	D	6.10
109	SHEOPUR	SHEOPUR	S-NPP	25.72130	76.53181	13:41:24	D	6.10
110	SHEOPUR	SHEOPUR	S-NPP	25.79593	76.55106	13:41:24	D	3.10
111	SHEOPUR	SHEOPUR	S-NPP	25.81537	76.64785	13:41:24	D	13.70
112	SHEOPUR	SHEOPUR	S-NPP	25.85638	76.76835	13:41:24	D	11.30
113	SHEOPUR	SHEOPUR	S-NPP	25.85807	76.58708	13:41:24	D	1.80
114	SHEOPUR	SHEOPUR	AQUA	25.44600	76.70100	14:02:39	D	7.30
115	SHEOPUR	SHEOPUR	AQUA	25.44700	76.71100	14:02:39	D	5.10
116	SHEOPUR	SHEOPUR	AQUA	25.59700	76.53200	14:02:39	D	12.10
117	SHEOPUR	SHEOPUR	AQUA	25.85200	76.58000	14:02:39	D	17.80
118	SHEOPUR	SHEOPUR	AQUA	25.85300	76.59000	14:02:39	D	6.70
119	SHEOPUR	SHEOPUR	AQUA	25.91100	76.80300	14:02:39	D	5.40
120	SHEOPUR	SHEOPUR	AQUA	25.91200	76.81300	14:02:39	D	5.50
121	SHEOPUR	VIJAYPUR	S-NPP	26.02767	76.86668	13:41:24	D	3.70
122	SHIVPURI	KOLARAS	S-NPP	24.92195	77.63696	13:41:24	D	5.10
123	SHIVPURI	KOLARAS	S-NPP	25.16575	77.65707	13:41:24	D	6.20
124	SHIVPURI	KOLARAS	AQUA	25.12400	77.64400	14:02:39	D	7.20
125	SHIVPURI	NARWAR	S-NPP	25.60643	77.98590	13:41:24	D	1.40
126	SHIVPURI	NARWAR	S-NPP	25.60746	78.12030	13:41:24	D	5.30
127	SHIVPURI	POHRI	S-NPP	25.77612	77.56280	13:41:24	D	2.50
128	VIDESHA	GYARASPUR	S-NPP	23.66497	78.01034	13:41:24	D	4.40
129	VIDESHA	GYARASPUR	S-NPP	23.71927	77.88860	13:41:24	D	4.40
130	VIDESHA	LETERI	S-NPP	24.27627	77.37659	13:41:24	D	2.60
131	WEST NIMAR	BARWAH	S-NPP	22.14592	75.98241	13:41:24	D	3.20

The study used data received from following Satellites at NRSC 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

**The rice mask for the Punjab and Haryana were provided by MNCFC, MoA&FW, Govt of India
The kharif crop mask for Delhi, Uttar Pradesh, Rajasthan and Madhya Pradesh were provided by NRSC (ISRO)**

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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)

The DASHBOARD for paddy residue burning events is available at weblink: [CREAMS Fire Dashboard](#)
