



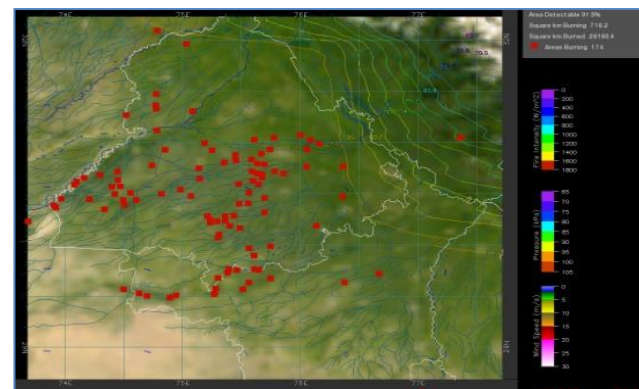
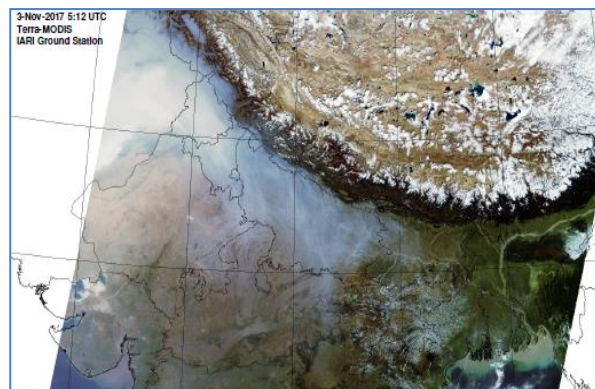
**Bulletin
No. 24**

**Events Date:
08-Oct-2021**

**Issued on:
08-Oct-2021**



MONITORING PADDY RESIDUE BURNING IN INDIA USING SATELLITE REMOTE SENSING DURING 2021



Prepared by:

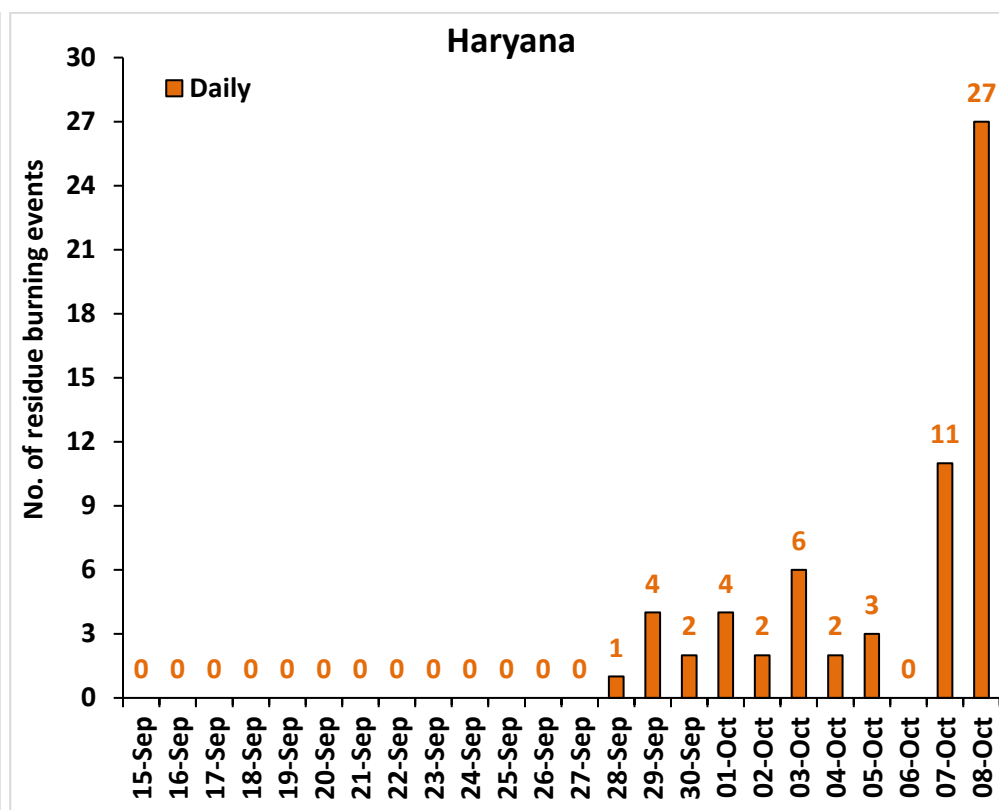
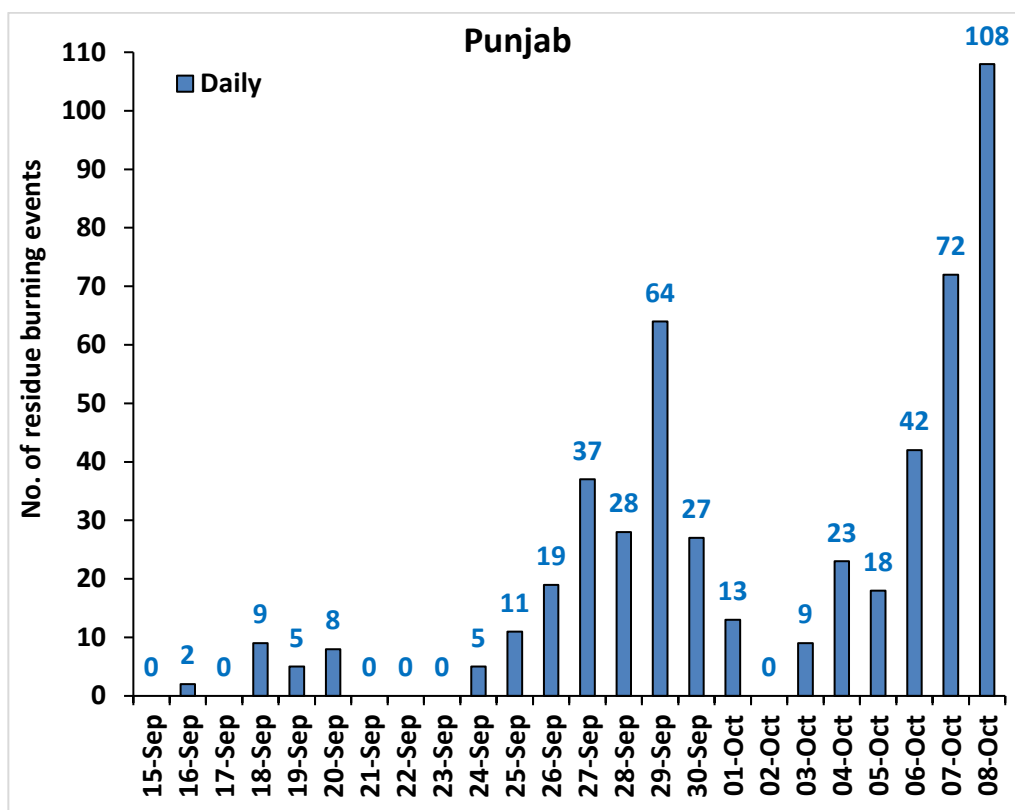
**Consortium for Research on Agroecosystem Monitoring and Modeling from Space (CREAMS) Laboratory,
Division of Agricultural Physics, ICAR – Indian Agricultural Research Institute, New Delhi – 110012**

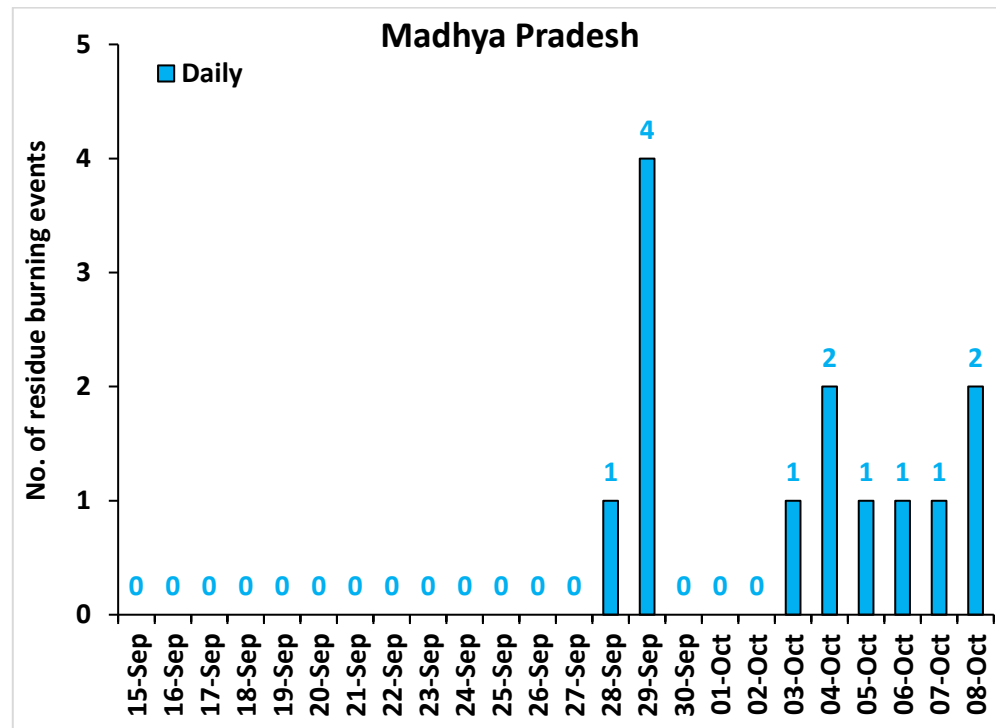
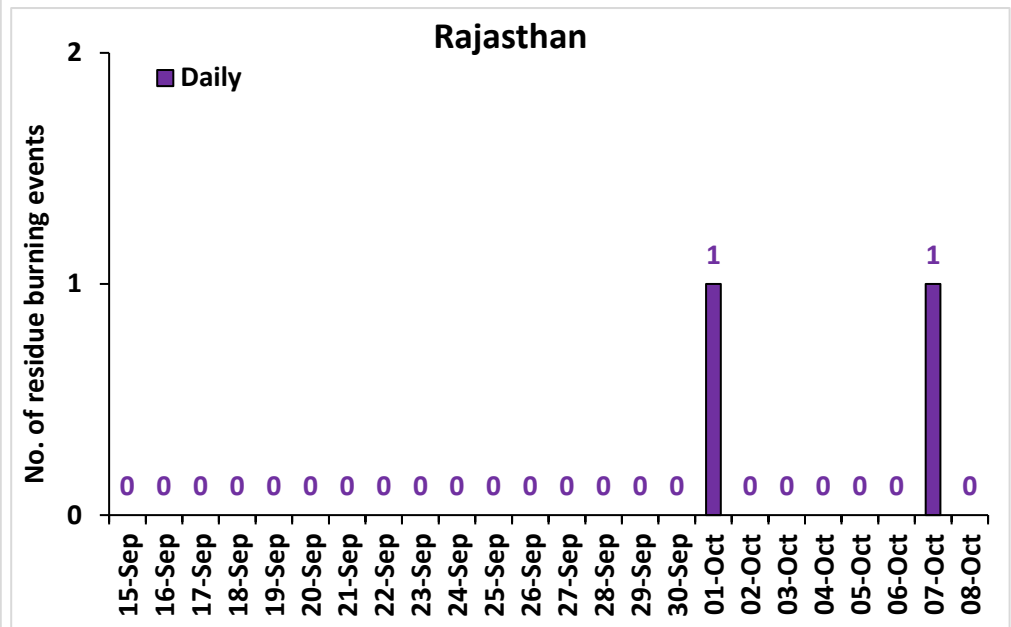
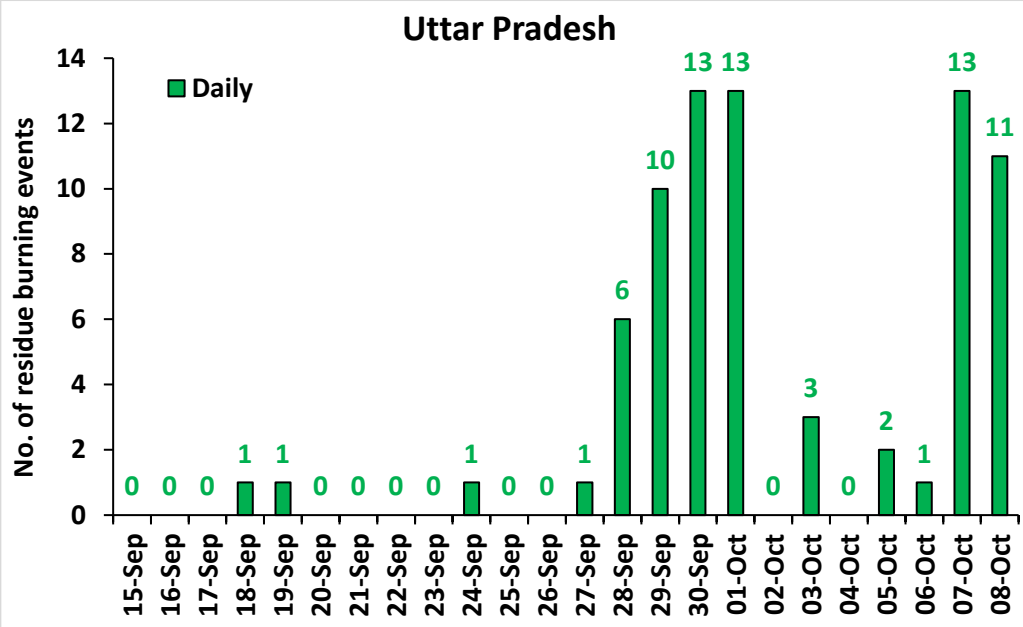
<http://creams.iari.res.in>

Highlights for 08-October-2021

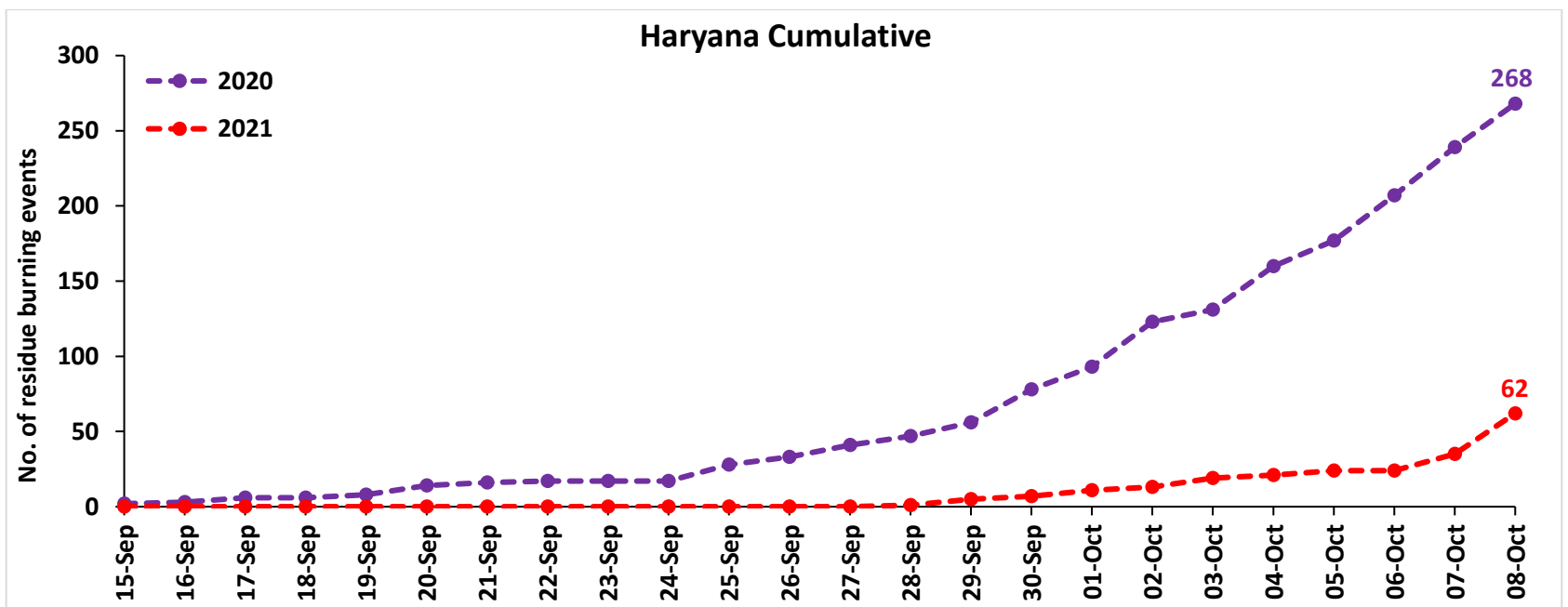
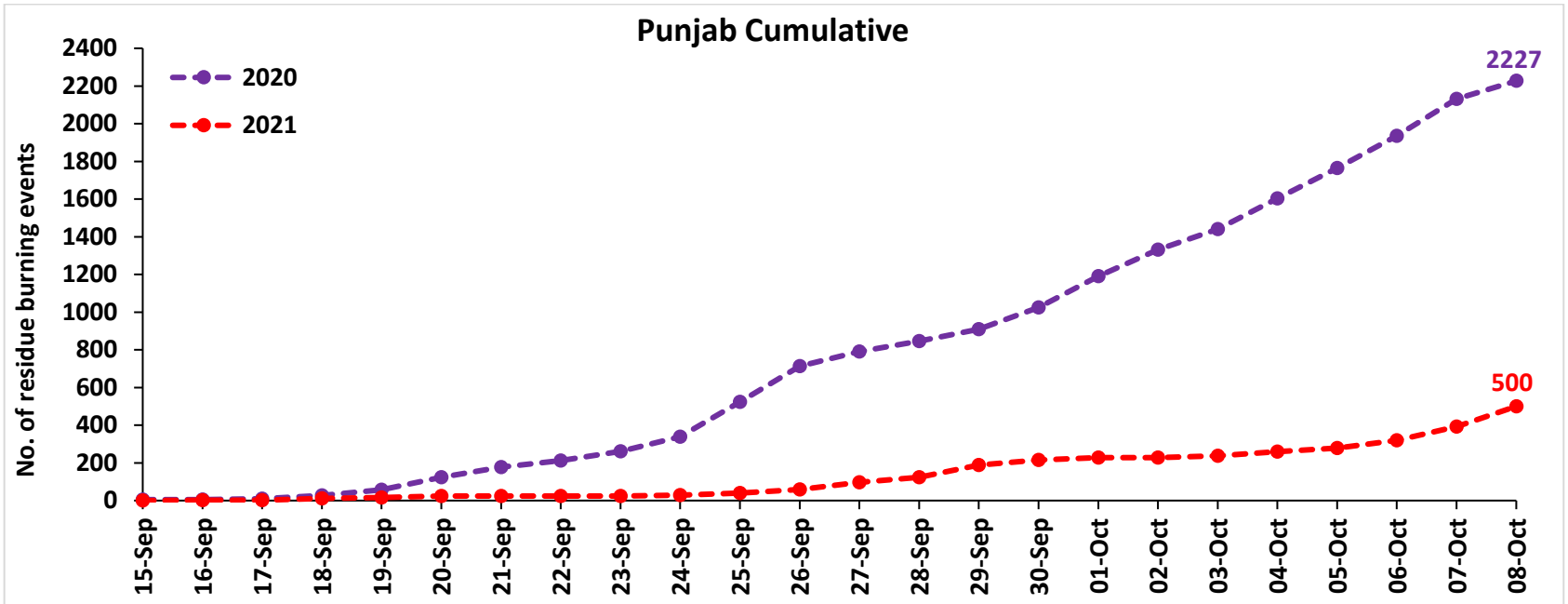
- The active fire events due to rice residue burning were monitored using satellite remote sensing, following the new "Standard Protocol for Estimation of Crop Residue Burning Fire Events using Satellite Data".
- Satellites detected **148** residue burning events in the six study States on 08-Oct-2021.
- The state wise events detected on 08-Oct-2021 were **108** in Punjab, **27** in Haryana, **11** in UP, **0** in Delhi, **0** in Rajasthan and **2** in MP.
- Detection of burning events by satellites was hampered due to scattered clouds over Uttar Pradesh and Madhya Pradesh states.

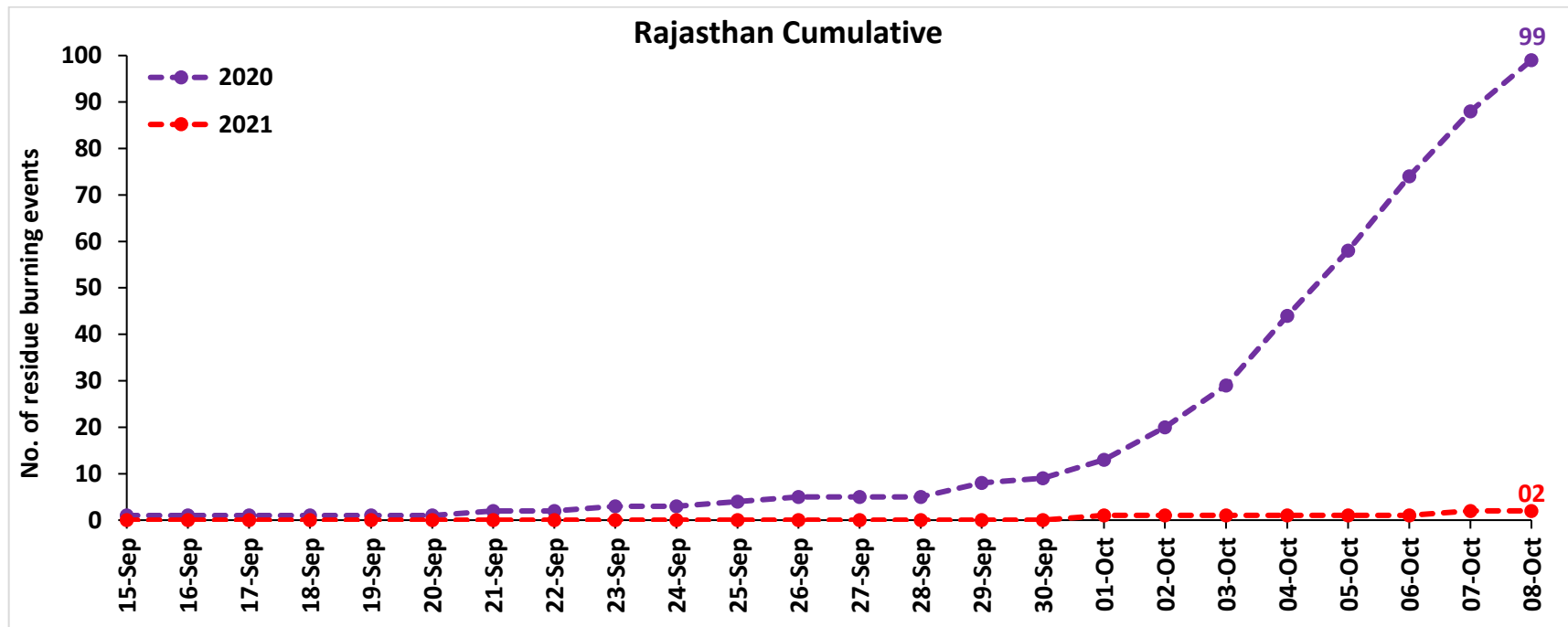
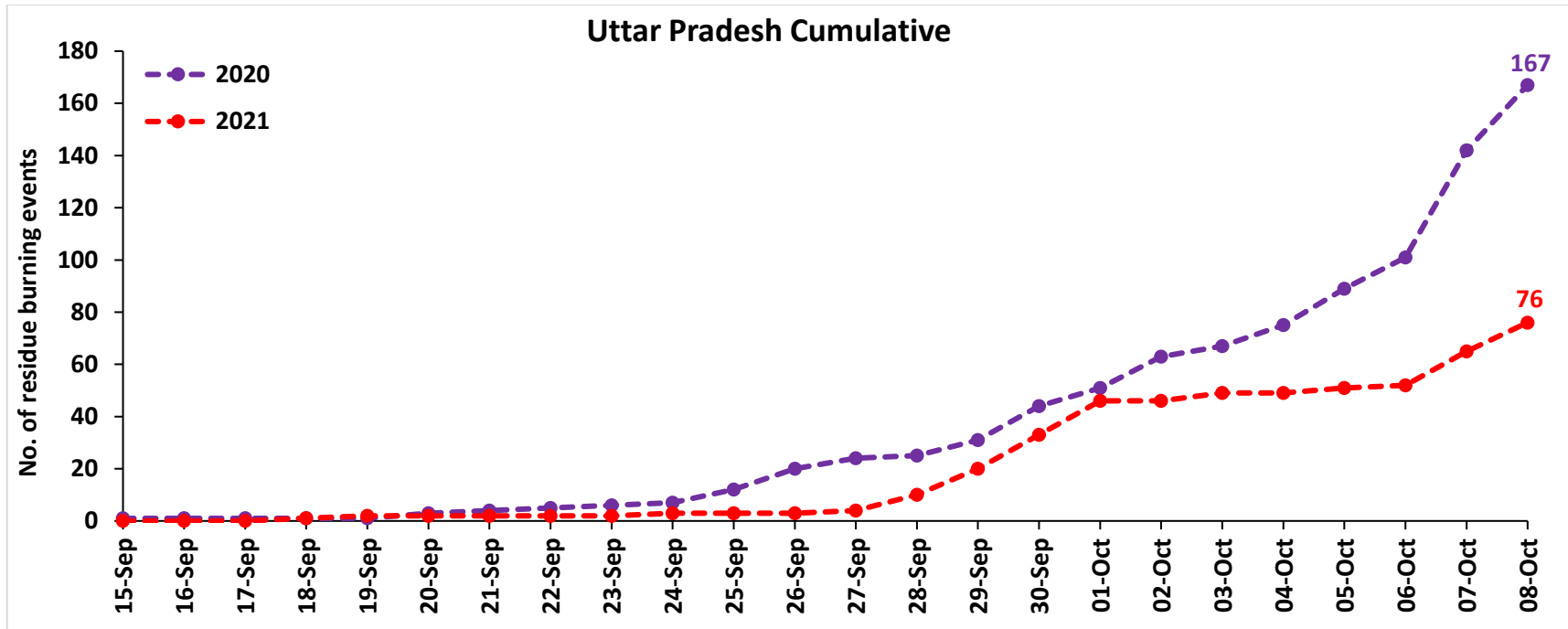
Temporal distribution of rice residue burning events for the study States in 2021

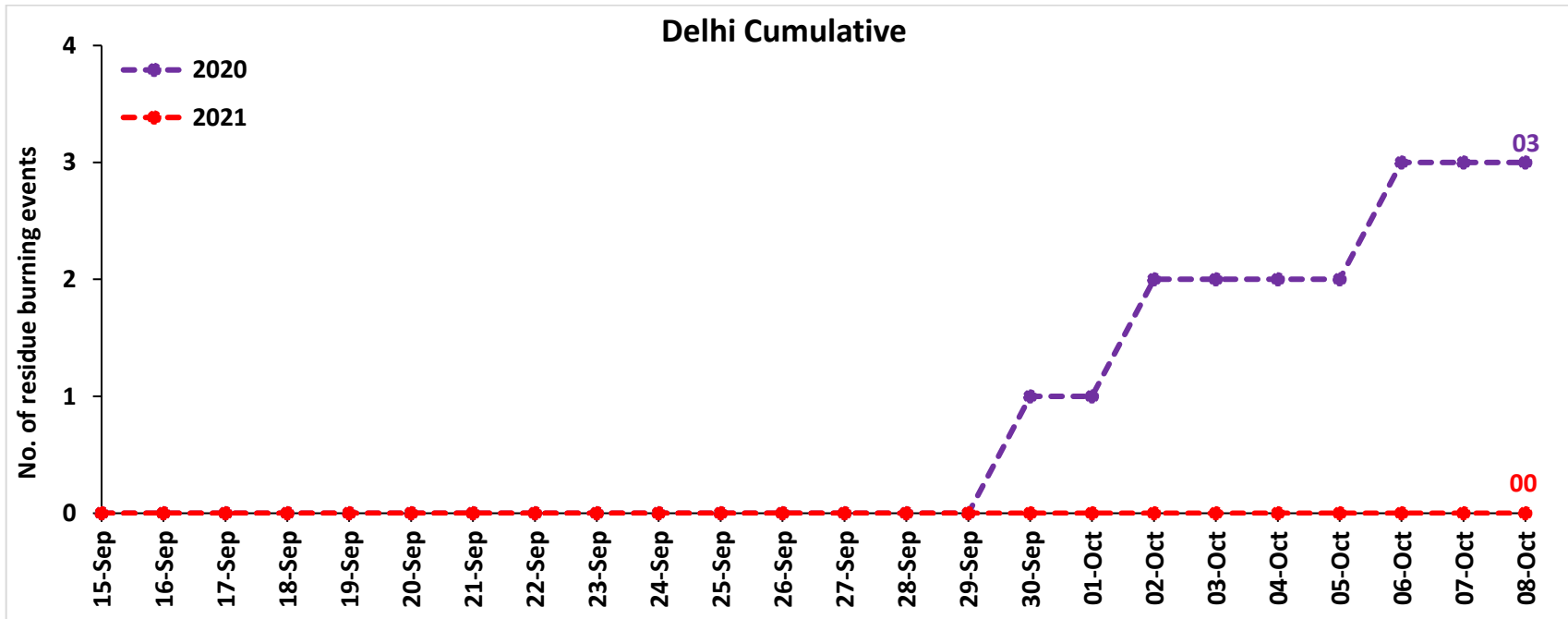
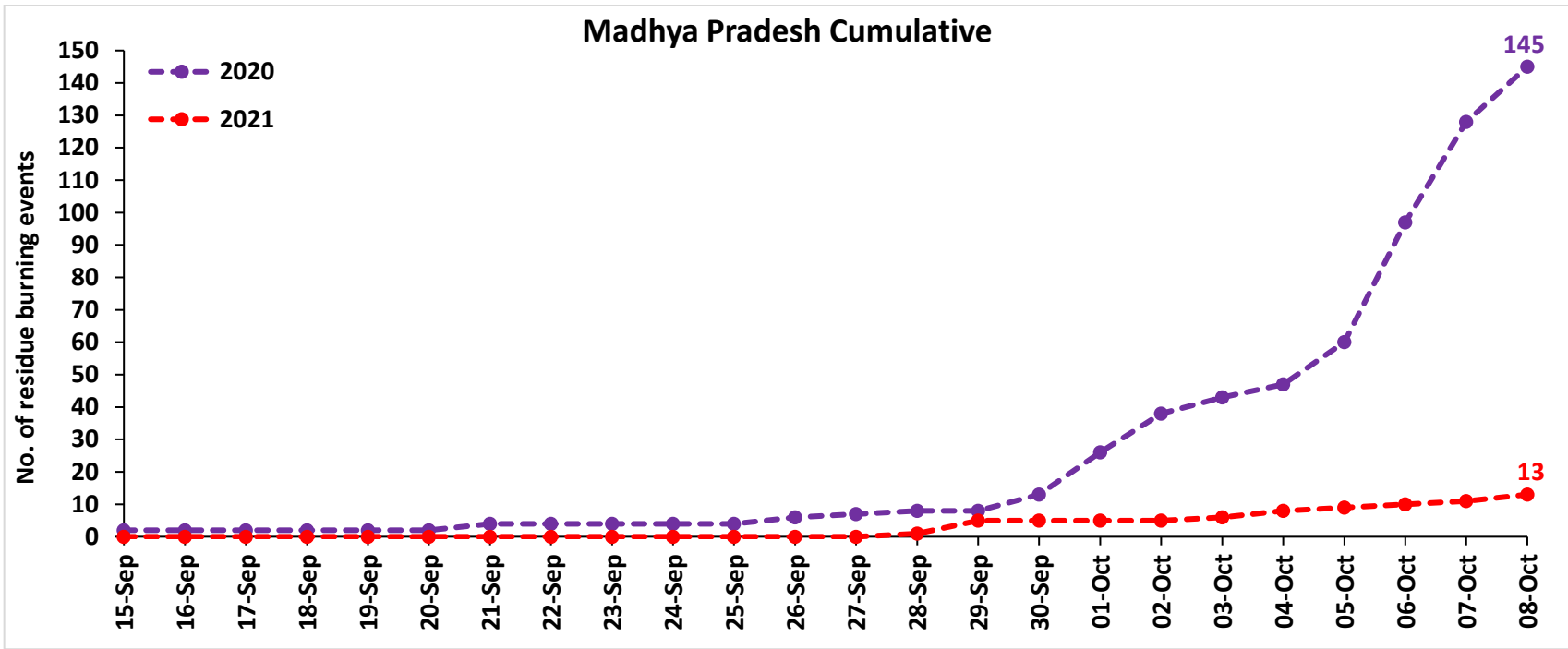




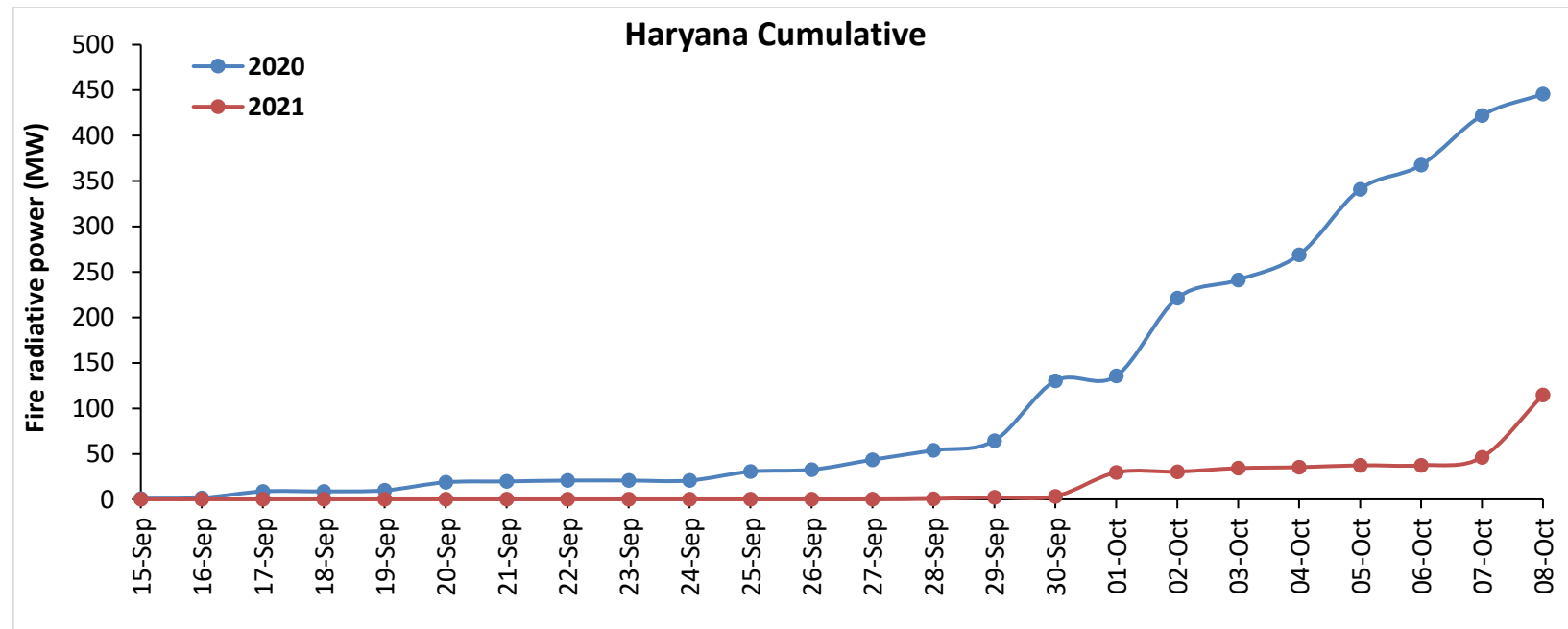
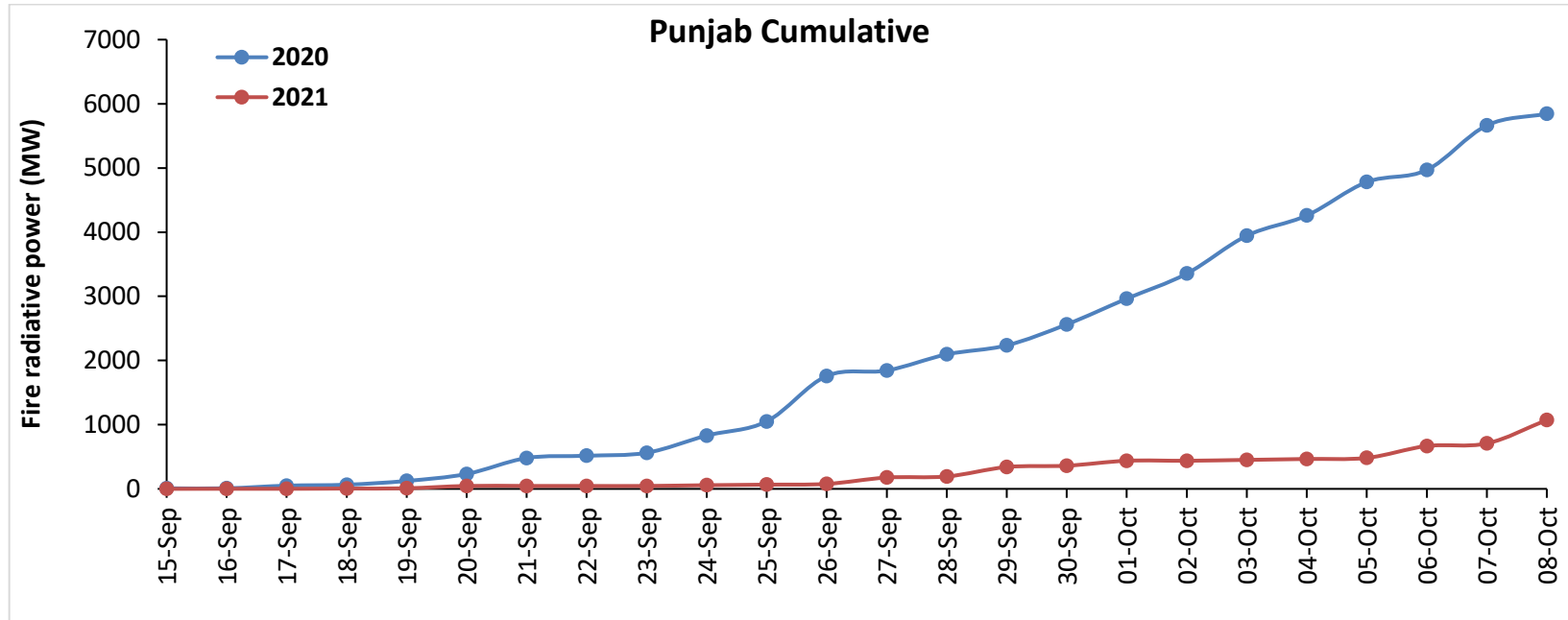
Comparison of residue burning events in current year (2021) with previous year (2020) for the study States

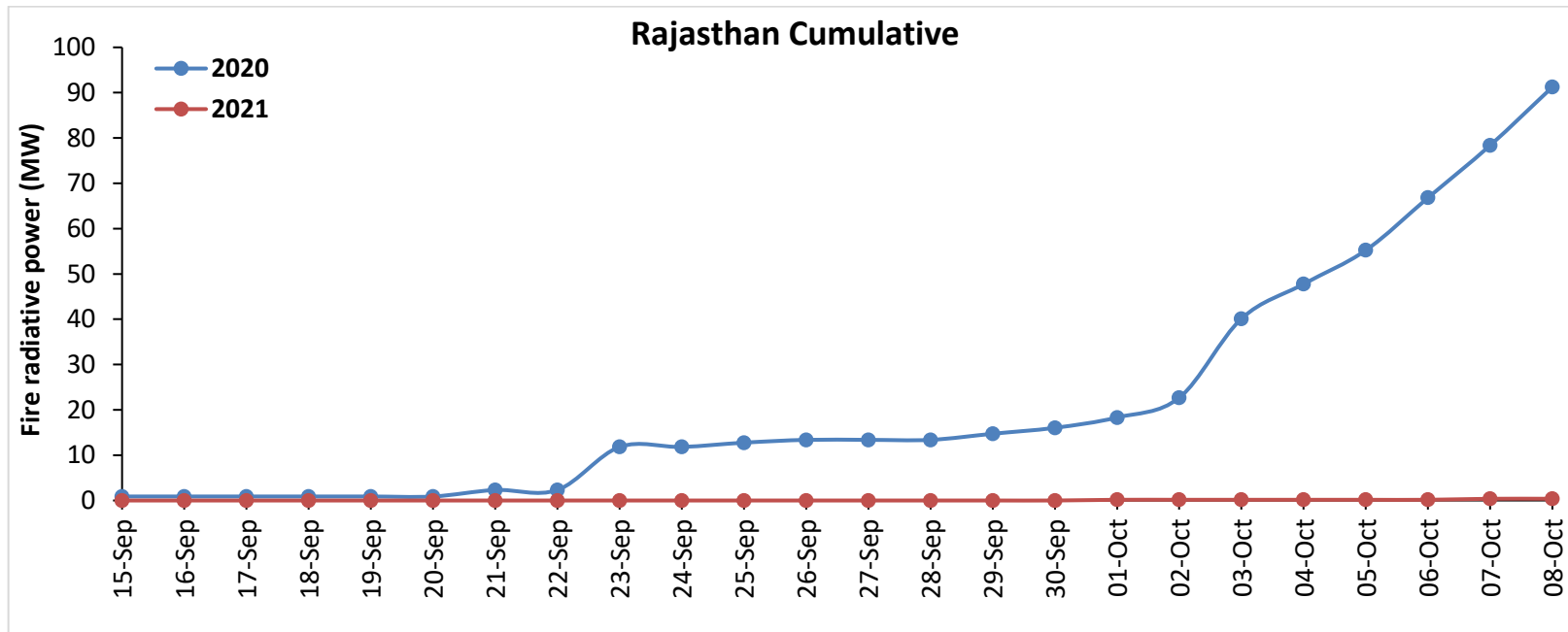
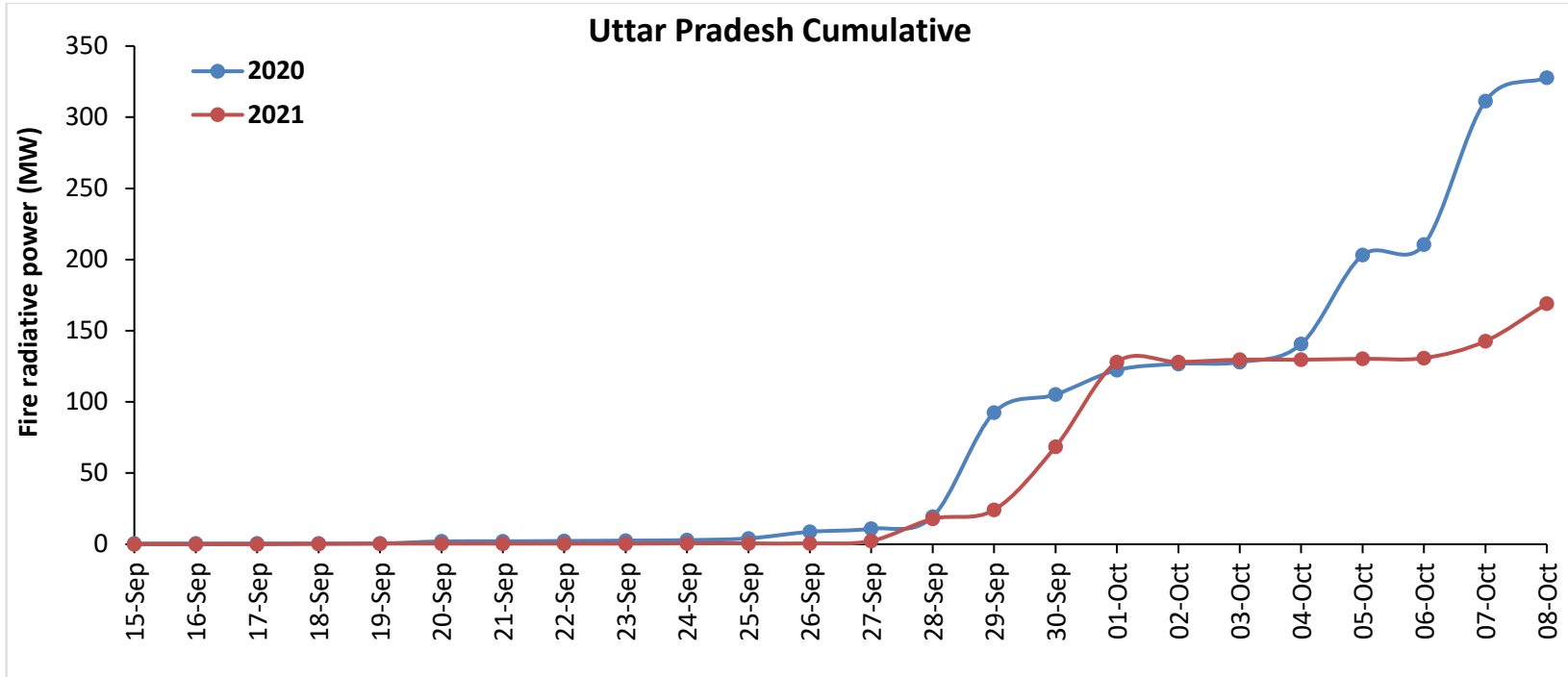


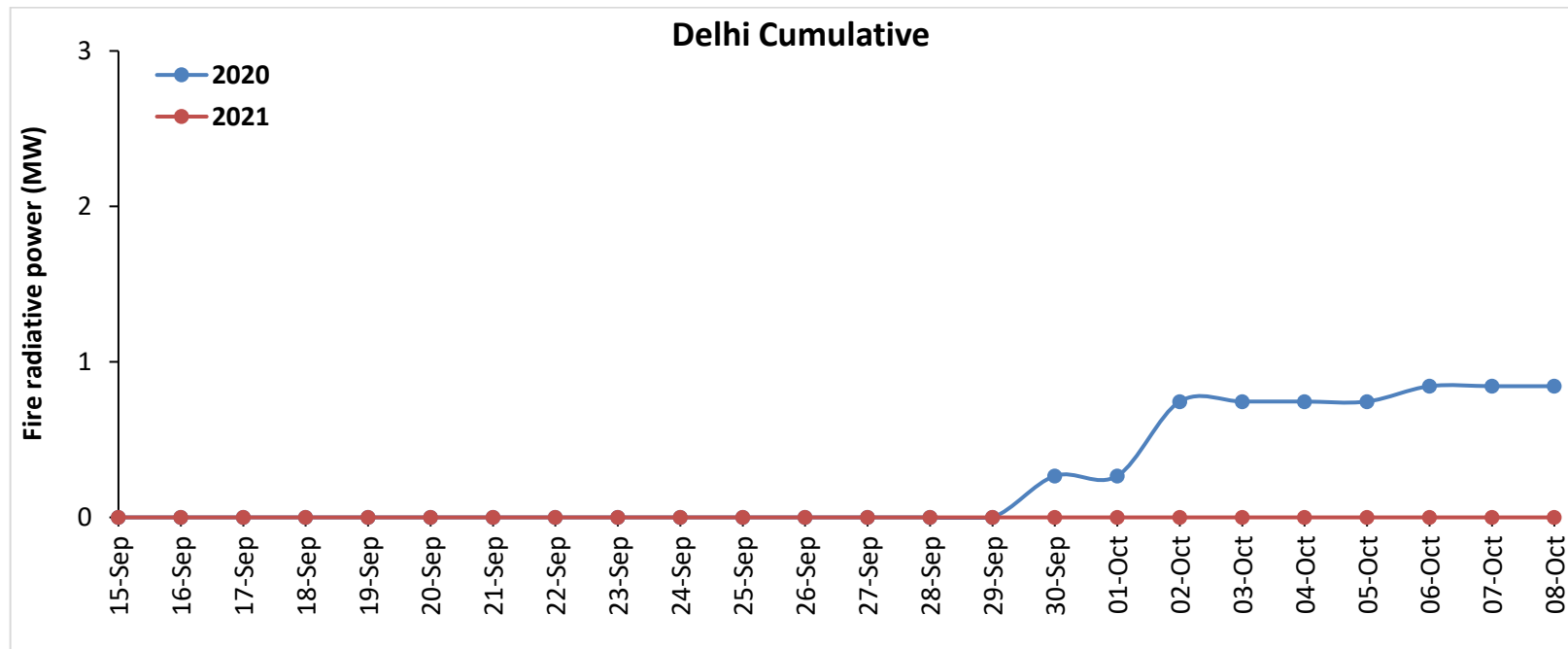
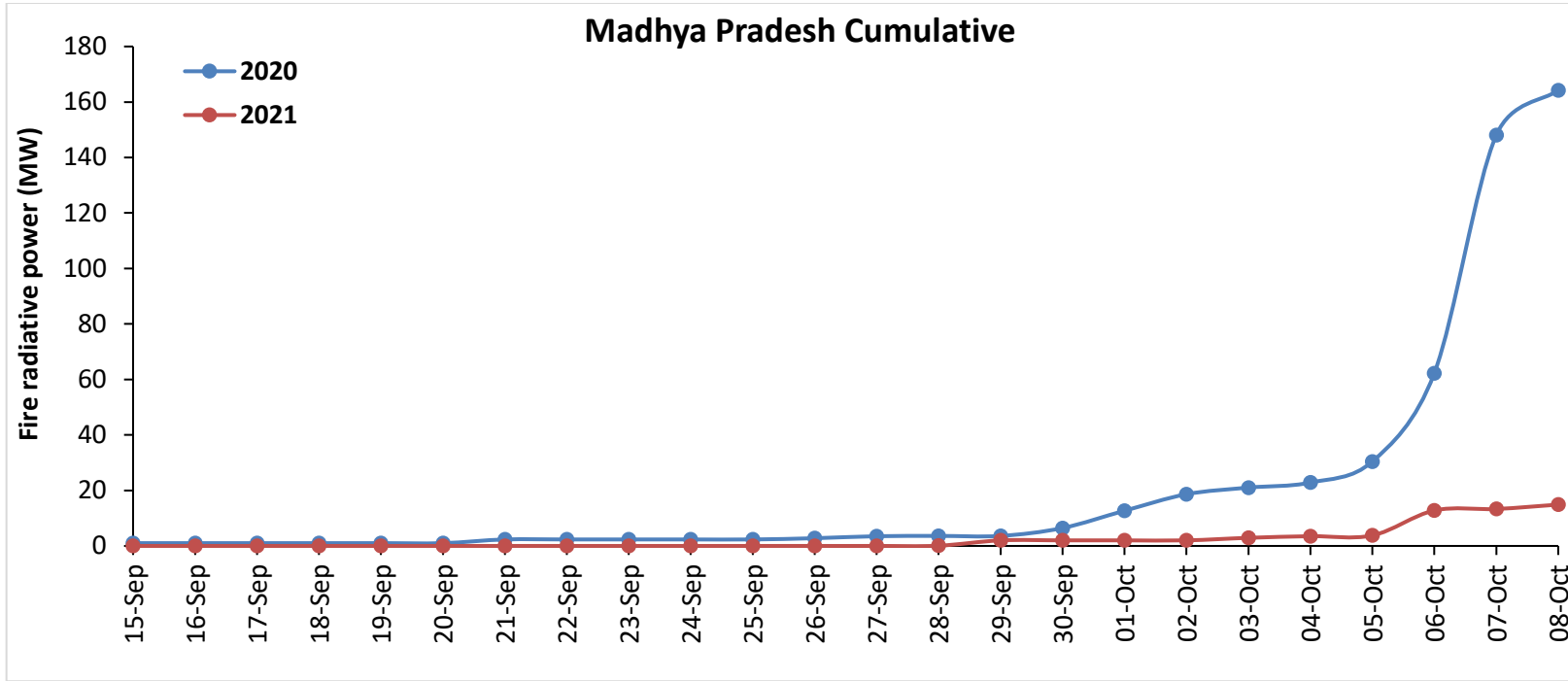




Comparison of residue burning fire power in current year (2021) with previous year (2020) for the study States

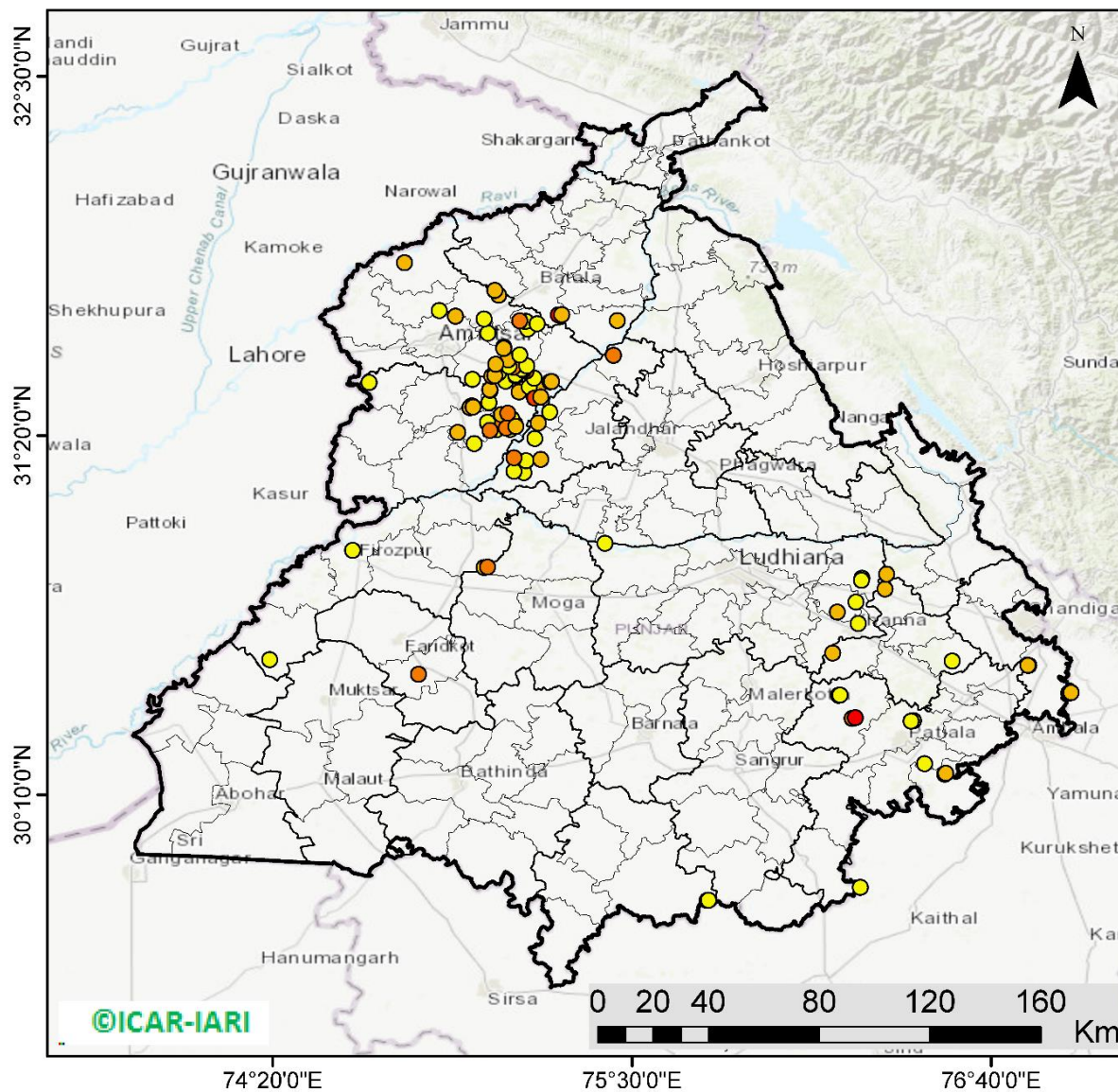






Punjab

RICE RESIDUE BURNING IN PUNJAB



108 burning events detected in Punjab on **08th October 2021**

Fire Intensity (W/m²)

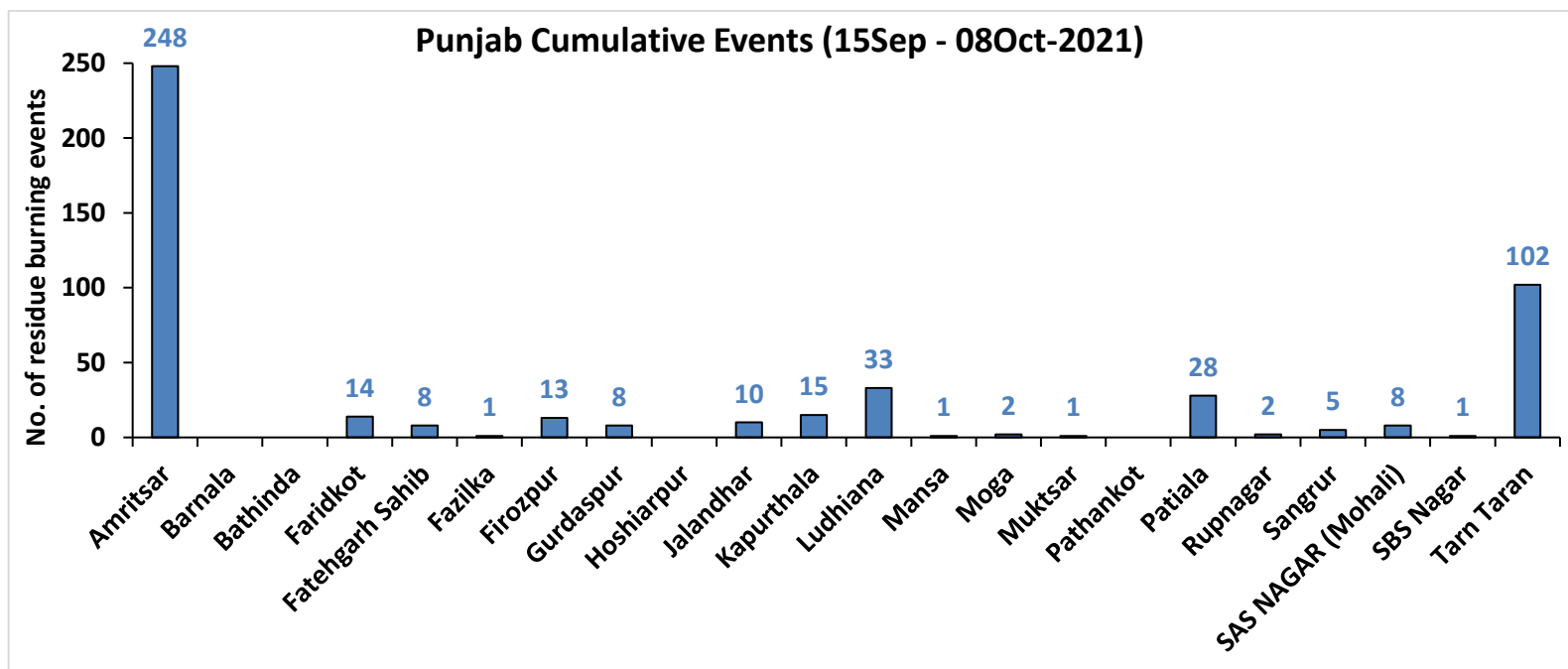
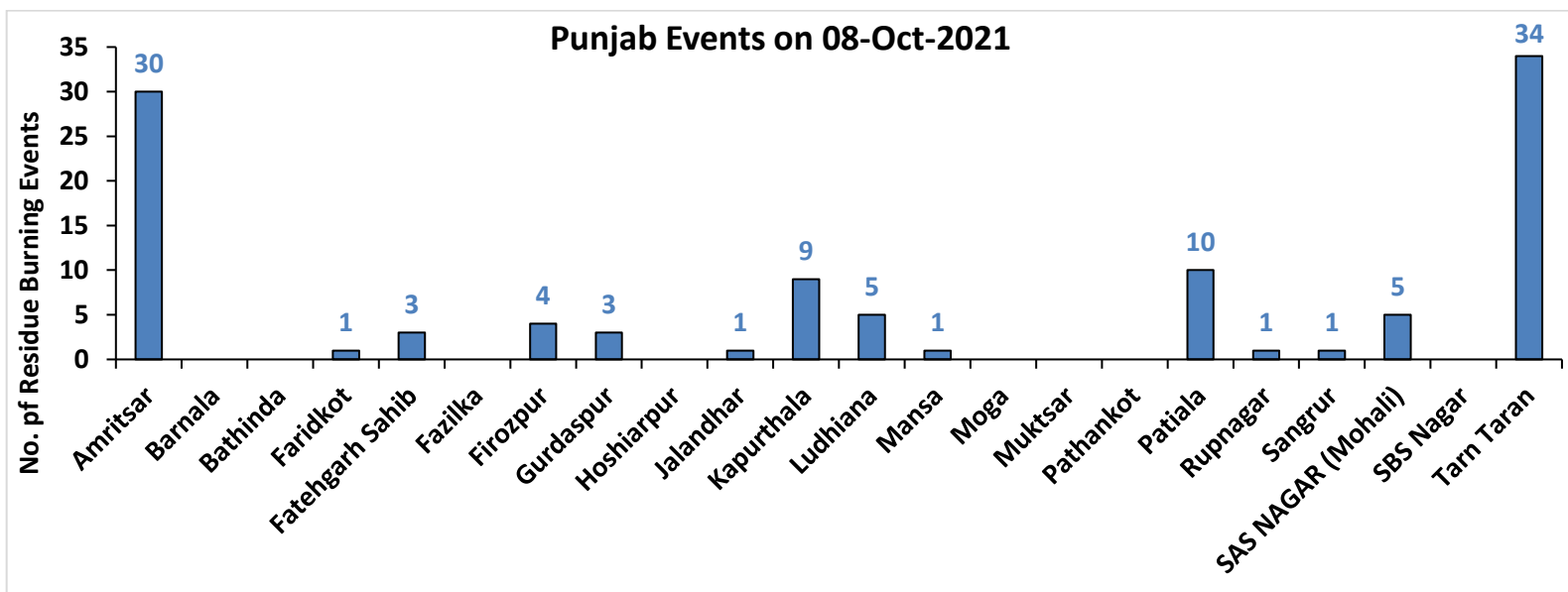
- 0 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- >20



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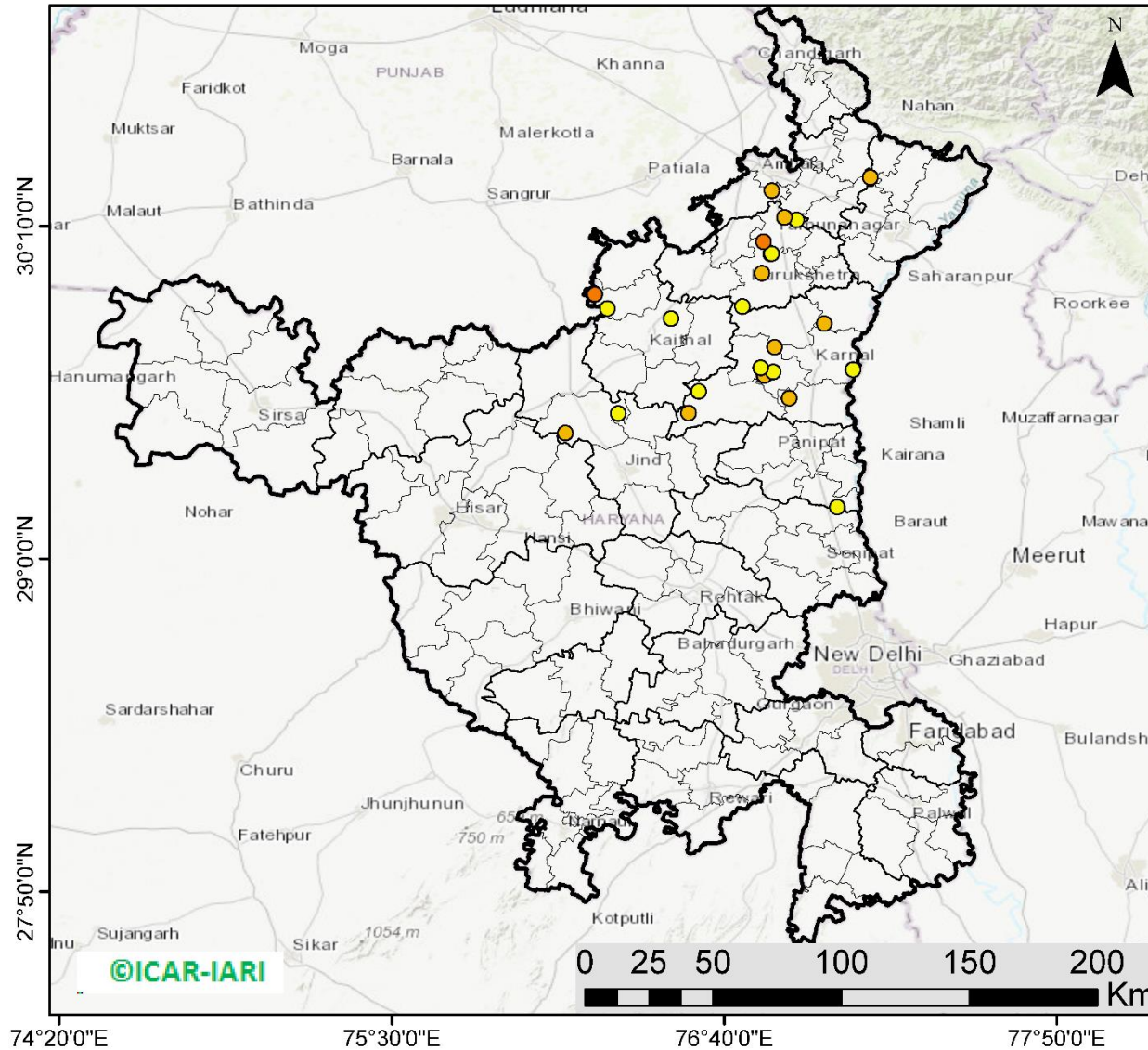
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise cumulative number of residues burning events in Punjab (15Sep - 08Oct-2021)



Haryana

RICE RESIDUE BURNING IN HARYANA



27 burning events detected in Haryana on **08th October 2021**

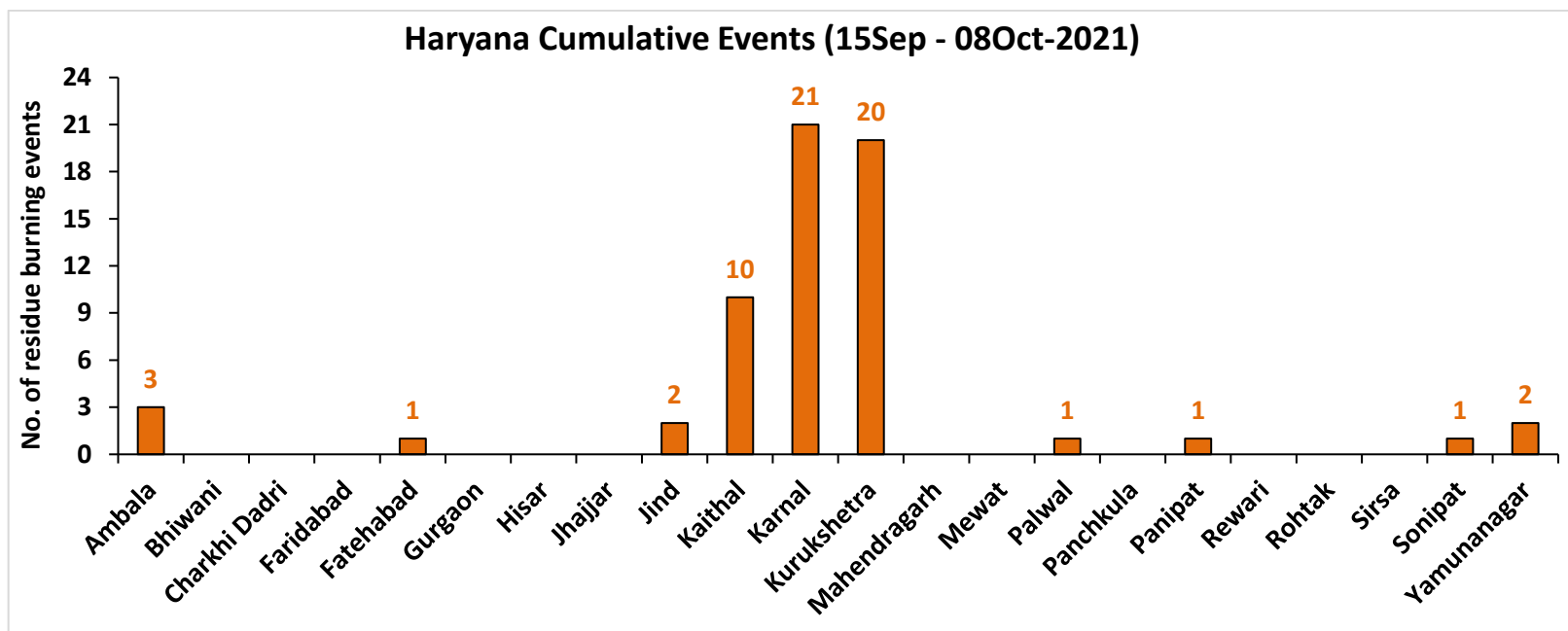
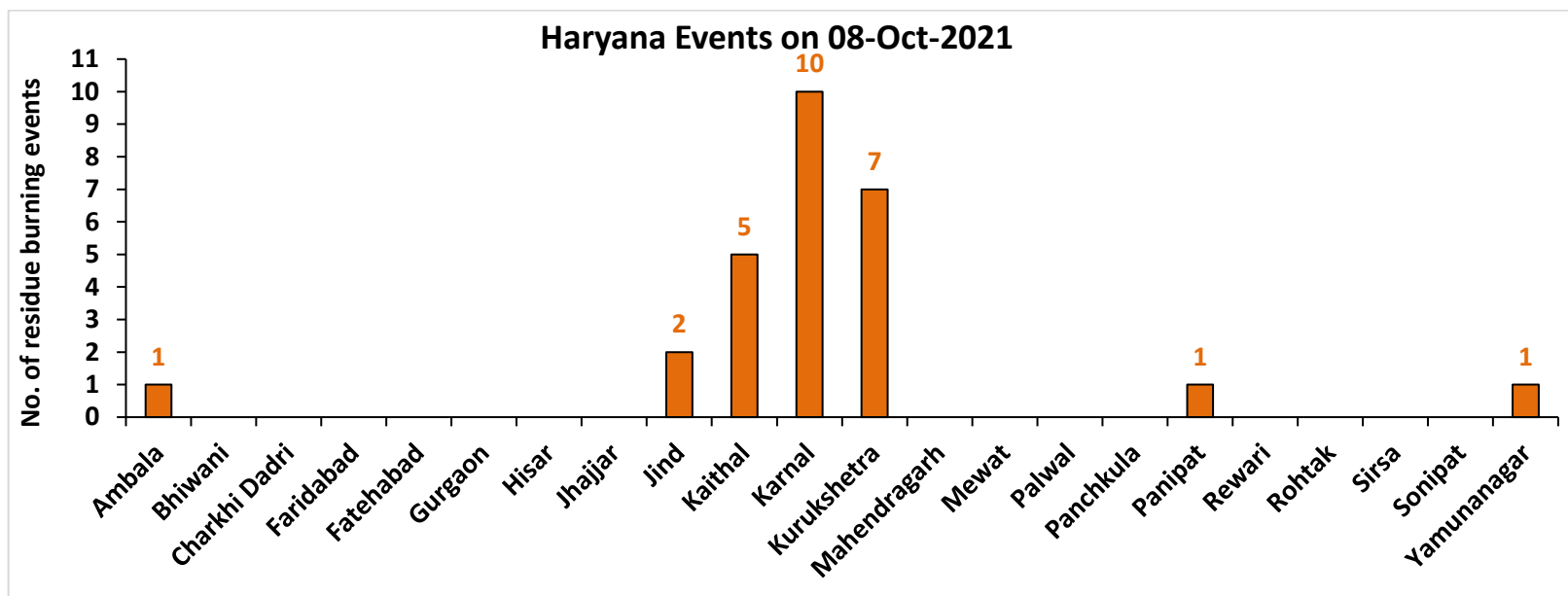
Fire Intensity (W/m²)

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



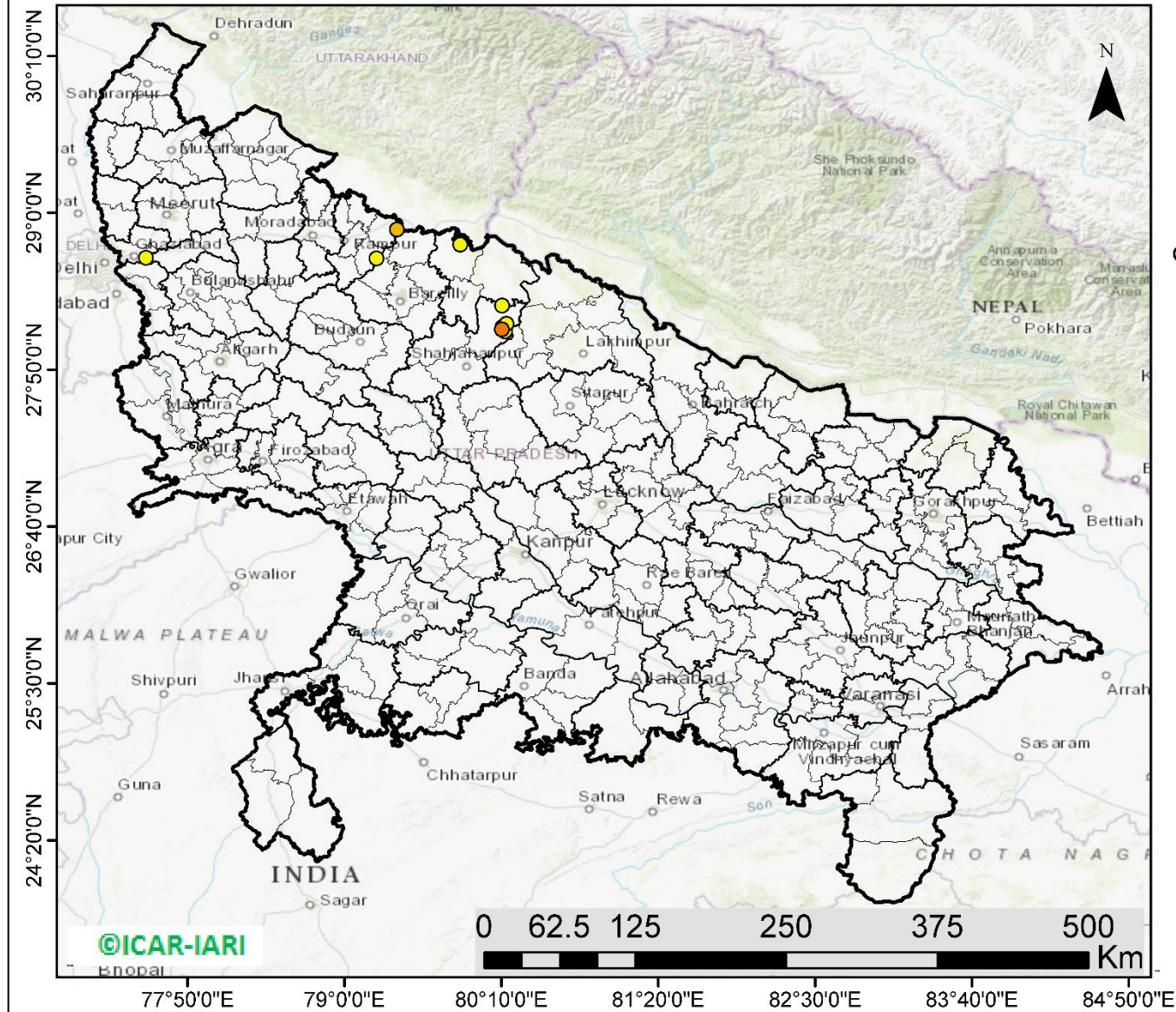
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District-wise cumulative number of residues burning events in Haryana (15Sep - 08Oct-2021)



Uttar Pradesh

RICE RESIDUE BURNING IN UTTAR PRADESH



11 burning events detected in Uttar Pradesh on 08th October 2021

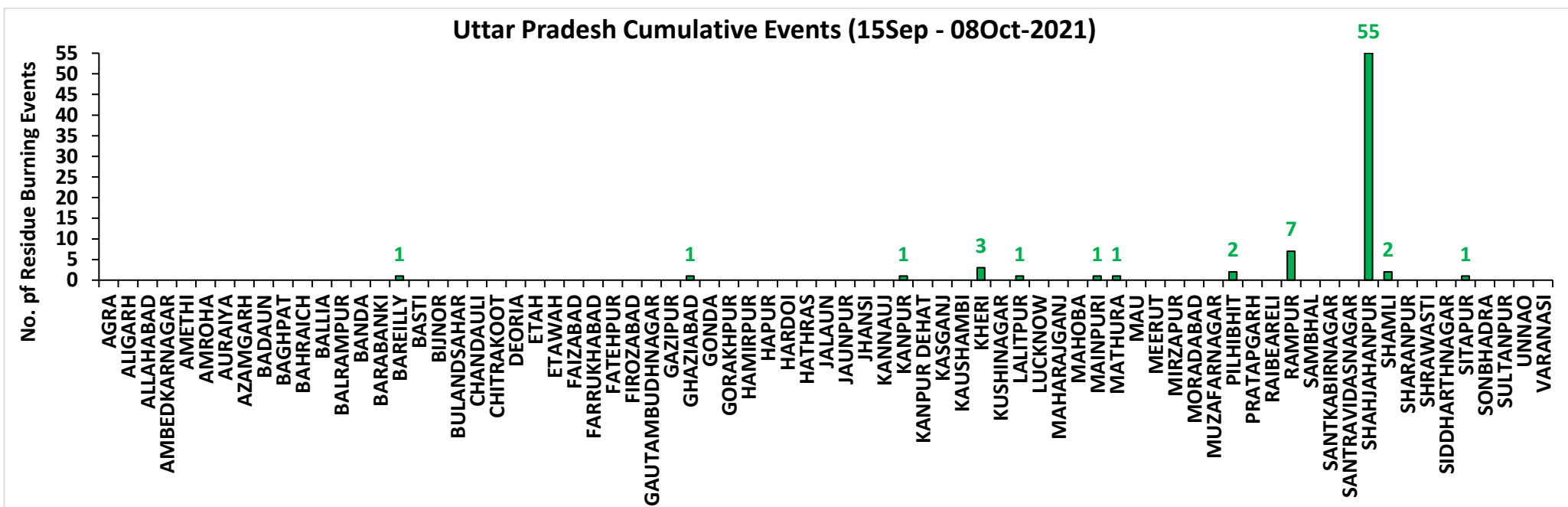
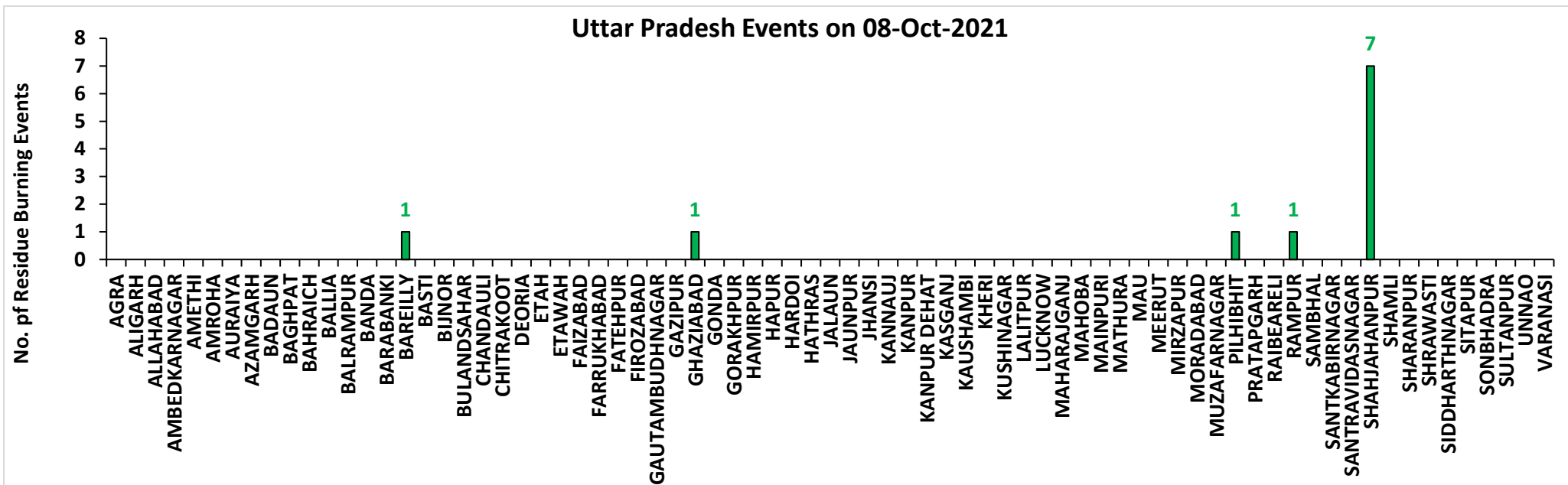
Fire Intensity (W/m²)

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



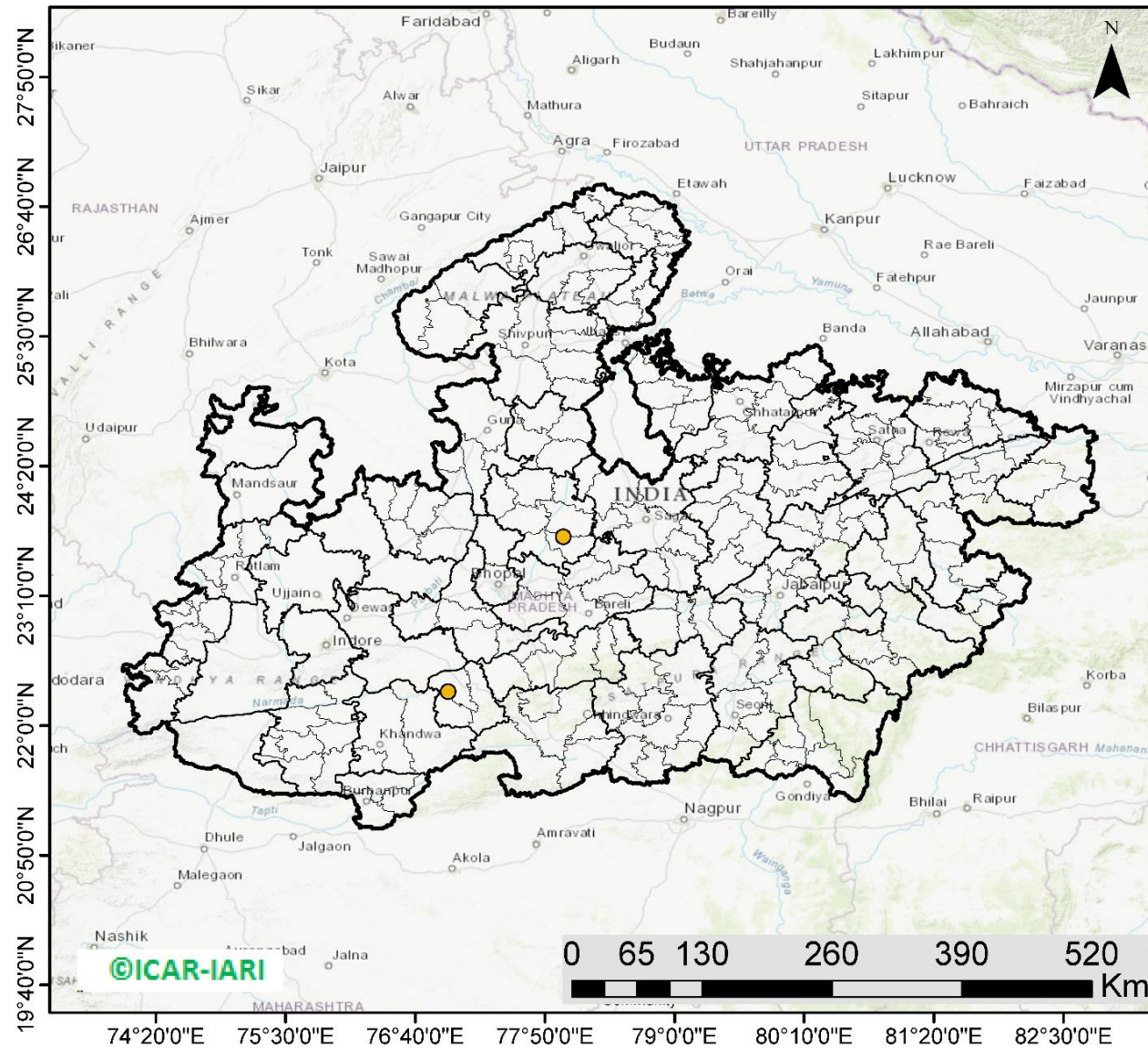
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise cumulative number of residues burning events in Uttar Pradesh (15 Sep - 08 Oct-2021)



Madhya Pradesh

RICE RESIDUE BURNING IN MADHYA PRADESH



02 burning events detected in MP on **08th October 2021**

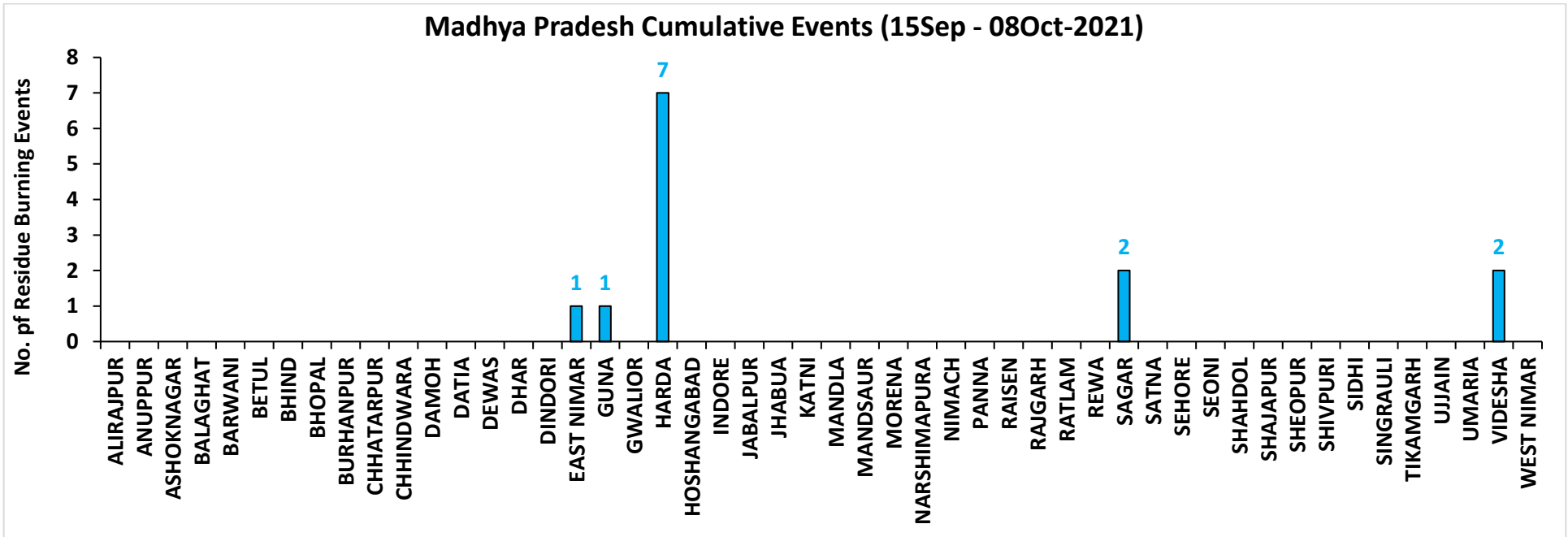
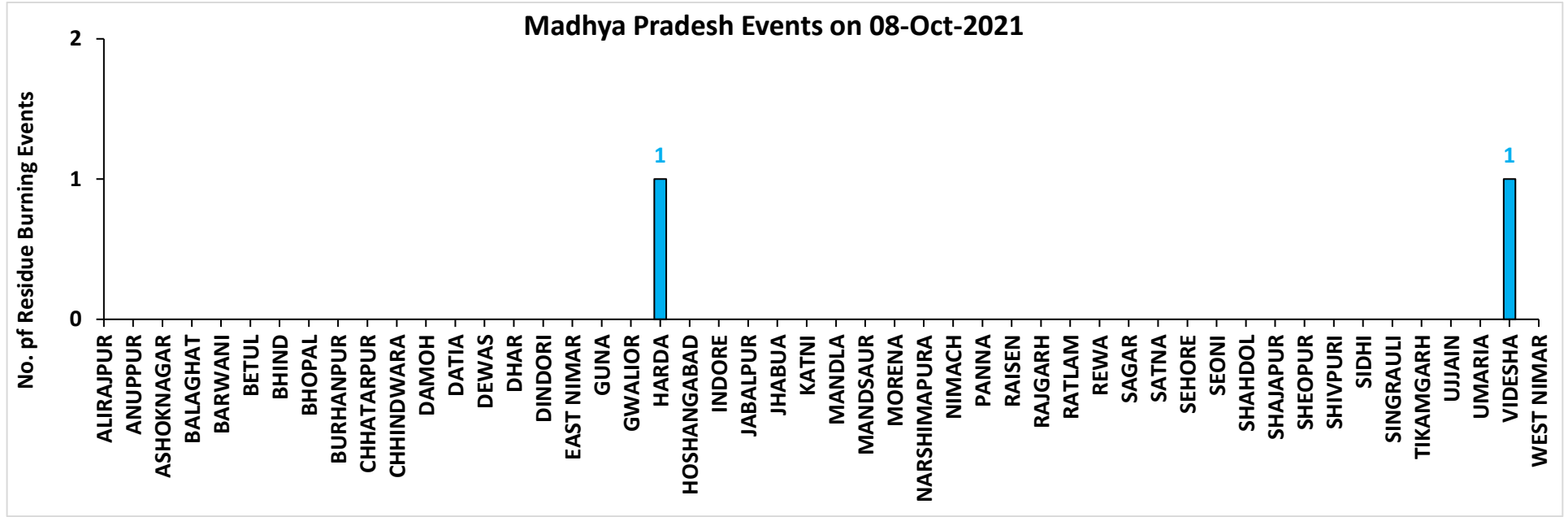
Fire Intensity (W/m²)

- 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 (15 Sep - 08 Oct-2021)



District-wise cumulative number of residues burning events detected in 2020 and 2021
(Period: 15 September - 08 October)

(a) Punjab

District	15 Sep – 08 Oct	
	2020	2021
AMRITSAR	1243	248
BARNALA	5	0
BATHINDA	0	0
FARIDKOT	14	14
FATEHGARH SAHIB	28	8
FAZILKA	1	1
FIROZPUR	59	13
GURDASPUR	101	8
HOSHIARPUR	4	0
JALANDHAR	21	10
KAPURTHALA	35	15
LUDHIANA	59	33
MANSA	4	1
MOGA	14	2
MUKTSAR	1	1
PATHANKOT	0	0
PATIALA	118	28
RUPNAGAR	6	2
SANGRUR	48	5
SAS NAGAR (MOHALI)	11	8
SBS NAGAR	5	1
TARN TARAN	450	102
Total	2227	500

(b) Haryana

District	15 Sep – 08 Oct	
	2020	2021
AMBALA	37	3
BHIWANI	0	0
CHARKHI DADRI	0	0
FARIDABAD	0	0
FATEHABAD	19	1
GURGAON	0	0
HISAR	3	0
JHAJJAR	1	0
JIND	3	2
KAITHAL	39	10
KARNAL	67	21
KURUKSHETRA	62	20
MAHENDRAGARH	0	0
MEWAT	0	0
PALWAL	5	1
PANCHKULA	0	0
PANIPAT	6	1
REWARI	0	0
ROHTAK	0	0
SIRSA	2	0
SONIPAT	6	1
YAMUNANAGAR	18	2
Total	268	62

(c) Uttar Pradesh

District	15 Sep – 08 Oct							
	2020	2021	GAUTAMBUDHNAGAR	1	0	MUZAFARNAGAR	2	0
AGRA	0	0	GAZIPUR	0	0	PILHIBHIT	3	2
ALIGARH	15	0	GHAZIABAD	1	1	PRATAPGARH	0	0
ALLAHABAD	0	0	GONDA	0	0	RAIBEARELI	1	0
AMBEDKARNAGAR	0	0	GORAKHPUR	0	0	RAMPUR	5	7
AMETHI	0	0	HAMIRPUR	0	0	SAMBHAL	6	0
AMROHA	1	0	HAPUR	2	0	SANTKABIRNAGAR	0	0
AURAIYA	12	0	HARDOI	0	0	SANTRAVIDASNAGAR	0	0
AZAMGARH	0	0	HATHRAS	0	0	SHAHJAHANPUR	10	55
BADAUN	0	0	JALAUN	0	0	SHAMLI	17	2
BAGHPAT	1	0	JAUNPUR	0	0	SHARANPUR	11	0
BAHRAICH	2	0	JHANSI	5	0	SHRAWASTI	0	0
BALLIA	0	0	KANNAUJ	2	0	SIDDHARTHANAGAR	0	0
BALRAMPUR	0	0	KANPUR	0	1	SITAPUR	4	1
BANDA	0	0	KANPUR DEHAT	1	0	SONBHADRA	0	0
BARABANKI	6	0	KASGANJ	1	0	SULTANPUR	0	0
BAREILLY	5	1	KAUSHAMBI	6	0	UNNAO	2	0
BASTI	0	0	KHERI	13	3	VARANASI	0	0
BIJNOR	3	0	KUSHINAGAR	0	0	Total	167	76
BULANDSAHAR	1	0	LALITPUR	0	1			
CHANDAULI	0	0	LUCKNOW	1	0			
CHITRAKOOT	0	0	MAHARAJGANJ	0	0			
DEORIA	0	0	MAHOPA	0	0			
ETAH	4	0	MAINPURI	0	1			
ETAWAH	0	0	MATHURA	3	1			
FAIZABAD	0	0	MAU	0	0			
FARRUKHABAD	0	0	MEERUT	8	0			
FATEHPUR	5	0	MIRZAPUR	5	0			
FIROZABAD	1	0	MORADABAD	1	0			

(d) Delhi

District	15 Sep – 08 Oct	
	2020	2021
CENTRAL	0	0
EAST	0	0
NEW DELHI	0	0
NORTH	2	0
NORTH EAST	0	0
NORTH WEST DELHI	0	0
SHAHADRA	0	0
SOUTH	1	0
SOUTH EAST	0	0
SOUTH WEST DELHI	0	0
WEST DELHI	0	0
Total	3	0

(e) Rajasthan

District	15 Sep – 08 Oct	
	2020	2021
AJMER	0	0
ALWAR	1	0
BANSWARA	0	0
BARAN	48	0
BARMER	2	0
BHARATPUR	0	0
BHILWARA	2	0
BIKANER	0	0
BUNDI	1	0
CHITTAURGARH	0	1
CHURU	0	0
DAUSA	0	0
DHOLPUR	0	0
DUNGARPUR	0	0
GANGANAGAR	2	0
HANUMANGARH	23	1
JAIPUR	0	0
JAISELMER	2	0
JALOR	0	0
JHALAWAR	0	0
JHUNJHUNUN	1	0
JODHPUR	1	0
KARAULI	1	0
KOTA	13	0
NAGAUR	0	0
PALI	1	0
PRATAPGARH	0	0
RAJSMAND	0	0
SIKAR	0	0
SIROHI	0	0
SWAIMADHOPUR	0	0
TONK	1	0
UDAIPUR	0	0
Total	99	2

(f) Madhya Pradesh

District	15 Sep – 08 Oct				
	2020	2021			
			PANNA	1	0
ALIRAJPUR	0	0	RAISEN	2	0
ANUPPUR	0	0	RAJGARH	1	0
ASHOKNAGAR	7	0	RATLAM	0	0
BALAGHAT	0	0	REWA	1	0
BARWANI	0	0	SAGAR	8	2
BETUL	0	0	SATNA	3	0
BHIND	0	0	SEHORE	4	0
BHOPAL	2	0	SEONI	2	0
BURHANPUR	0	0	SHAHDOL	0	0
CHHATARPUR	2	0	SHAJAPUR	4	0
CHHINDWARA	0	0	SHEOPUR	2	0
DAMOH	6	0	SHIVPURI	1	0
DATIA	5	0	SIDHI	0	0
DEWAS	3	0	SINGRAULI	0	0
DHAR	13	0	TIKAMGARH	1	0
DINDORI	0	0	UJJAIN	5	0
EAST NIMAR	0	1	UMARIA	0	0
GUNA	7	1	VIDESHA	26	2
GWALIOR	14	0	WEST NIMAR	1	0
HARDA	8	7	Total	145	13
HOSHANGABAD	3	0			
INDORE	2	0			
JABALPUR	5	0			
JHABUA	0	0			
KATNI	0	0			
MANDLA	0	0			
MANDSAUR	0	0			
MORENA	5	0			
NARSHIMAPURA	1	0			
NIMACH	0	0			

State-wise and date-wise number of paddy residue burning events detected in 2020 and 2021
(Period: 15 September – 08 October)

Number of Paddy Residue Burning Events Detected

	Punjab		Haryana		Uttar Pradesh		Delhi		Rajasthan		Madhya Pradesh	
	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021
15-Sep	5	0	2	0	1	0	0	0	1	0	2	0
16-Sep	0	2	1	0	0	0	0	0	0	0	0	0
17-Sep	5	0	3	0	0	0	0	0	0	0	0	0
18-Sep	17	9	0	0	0	1	0	0	0	0	0	0
19-Sep	30	5	2	0	0	1	0	0	0	0	0	0
20-Sep	67	8	6	0	2	0	0	0	0	0	0	0
21-Sep	54	0	2	0	1	0	0	0	1	0	2	0
22-Sep	34	0	1	0	1	0	0	0	0	0	0	0
23-Sep	49	0	0	0	1	0	0	0	1	0	0	0
24-Sep	78	5	0	0	1	1	0	0	0	0	0	0
25-Sep	184	11	11	0	5	0	0	0	1	0	0	0
26-Sep	190	19	5	0	8	0	0	0	1	0	2	0
27-Sep	78	37	8	0	4	1	0	0	0	0	1	0
28-Sep	55	28	6	1	1	6	0	0	0	0	1	1
29-Sep	63	64	9	4	6	10	0	0	3	0	0	4
30-Sep	116	27	22	2	13	13	1	0	1	0	5	0
01-Oct	165	13	15	4	7	13	0	0	4	1	13	0
02-Oct	141	0	30	2	12	0	1	0	7	0	12	0
03-Oct	110	9	8	6	4	3	0	0	9	0	5	1
04-Oct	162	23	29	2	8	0	0	0	15	0	4	2
05-Oct	161	18	17	3	14	2	0	0	14	0	13	1
06-Oct	171	42	30	0	12	1	1	0	16	0	37	1
07-Oct	197	72	32	11	41	13	0	0	14	1	31	1
08-Oct	95	108	29	27	25	11	0	0	11	0	17	2
Total	2227	500	268	62	167	76	3	0	99	2	145	13

Details of residue burning events in Punjab on 08-Oct-2021

S. No.	District	Block	Satellite	Latitude	Longitude	ACQ_DATE	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	AMRITSAR	AJNALA	S-NPP	31.89460	74.76180	10/8/2021	13:54:38	D	6.30
2	AMRITSAR	JANDIALA GURU	S-NPP	31.53160	75.05080	10/8/2021	13:54:38	D	3.00
3	AMRITSAR	JANDIALA GURU	S-NPP	31.53760	75.06780	10/8/2021	13:54:38	D	3.30
4	AMRITSAR	JANDIALA GURU	S-NPP	31.55510	75.11460	10/8/2021	13:54:38	D	10.60
5	AMRITSAR	JANDIALA GURU	S-NPP	31.55790	75.10070	10/8/2021	13:54:38	D	3.80
6	AMRITSAR	JANDIALA GURU	S-NPP	31.57880	75.09780	10/8/2021	13:54:38	D	6.10
7	AMRITSAR	JANDIALA GURU	S-NPP	31.66570	75.03280	10/8/2021	13:54:38	D	2.30
8	AMRITSAR	JANDIALA GURU	AQUA	31.52800	75.05500	10/8/2021	13:38:17	D	6.10
9	AMRITSAR	JANDIALA GURU	AQUA	31.56500	75.05800	10/8/2021	13:38:17	D	6.10
10	AMRITSAR	MAJITHA	S-NPP	31.71220	75.01970	10/8/2021	13:54:38	D	2.70
11	AMRITSAR	MAJITHA	S-NPP	31.78890	75.06730	10/8/2021	13:54:38	D	8.40
12	AMRITSAR	MAJITHA	AQUA	31.72100	74.92700	10/8/2021	13:38:17	D	6.30
13	AMRITSAR	MAJITHA	AQUA	31.80500	75.05500	10/8/2021	13:38:17	D	5.40
14	AMRITSAR	RAYYA	S-NPP	31.50800	75.23410	10/8/2021	13:54:38	D	6.90
15	AMRITSAR	RAYYA	S-NPP	31.50840	75.23860	10/8/2021	13:54:38	D	6.90
16	AMRITSAR	RAYYA	S-NPP	31.52640	75.12300	10/8/2021	13:54:38	D	2.60
17	AMRITSAR	RAYYA	S-NPP	31.53060	75.12240	10/8/2021	13:54:38	D	2.60
18	AMRITSAR	RAYYA	S-NPP	31.54260	75.15680	10/8/2021	13:54:38	D	17.00
19	AMRITSAR	RAYYA	S-NPP	31.54580	75.14730	10/8/2021	13:54:38	D	6.20
20	AMRITSAR	RAYYA	S-NPP	31.54960	75.14230	10/8/2021	13:54:38	D	4.10
21	AMRITSAR	RAYYA	S-NPP	31.55980	75.15890	10/8/2021	13:54:38	D	1.60
22	AMRITSAR	TARSIKKA	S-NPP	31.59550	75.13600	10/8/2021	13:54:38	D	2.40
23	AMRITSAR	TARSIKKA	S-NPP	31.62040	75.08380	10/8/2021	13:54:38	D	8.10
24	AMRITSAR	TARSIKKA	S-NPP	31.67930	75.16140	10/8/2021	13:54:38	D	3.30
25	AMRITSAR	TARSIKKA	S-NPP	31.70390	75.15350	10/8/2021	13:54:38	D	4.90
26	AMRITSAR	TARSIKKA	S-NPP	31.70470	75.15580	10/8/2021	13:54:38	D	4.20
27	AMRITSAR	TARSIKKA	AQUA	31.61600	75.08400	10/8/2021	13:38:17	D	6.20
28	AMRITSAR	TARSIKKA	AQUA	31.69600	75.19200	10/8/2021	13:38:17	D	4.90
29	AMRITSAR	TARSIKKA	AQUA	31.70600	75.13600	10/8/2021	13:38:17	D	12.20

30	AMRITSAR	VERKA	S-NPP	31.73910	74.87430	10/8/2021	13:54:38	D	3.10
31	FARIDKOT	KOT KAPURA	AQUA	30.55800	74.80700	10/8/2021	13:38:17	D	12.80
32	FATEHGARH SAHIB	AMLOH	AQUA	30.62700	76.15200	10/8/2021	13:38:17	D	6.20
33	FATEHGARH SAHIB	KHAMANON	AQUA	30.83500	76.32200	10/8/2021	13:38:17	D	9.70
34	FATEHGARH SAHIB	KHERA	S-NPP	30.60100	76.54050	10/8/2021	13:54:38	D	4.10
35	FIROZPUR	FIROZPUR	S-NPP	30.96040	74.59300	10/8/2021	13:54:38	D	2.60
36	FIROZPUR	GURUHAR SAHAI	S-NPP	30.60580	74.32320	10/8/2021	13:54:38	D	2.90
37	FIROZPUR	ZIRA	AQUA	30.90500	75.02000	10/8/2021	13:38:17	D	7.20
38	FIROZPUR	ZIRA	AQUA	30.90600	75.03100	10/8/2021	13:38:17	D	12.90
39	GURDASPUR	BATALA	AQUA	31.72500	75.26100	10/8/2021	13:38:17	D	29.50
40	GURDASPUR	SRI HARGOBINDPUR	AQUA	31.70700	75.45300	10/8/2021	13:38:17	D	5.40
41	GURDASPUR	SRI HARGOBINDPUR	AQUA	31.72600	75.27200	10/8/2021	13:38:17	D	6.80
42	JALANDHAR	MEHATPUR	S-NPP	30.98370	75.41270	10/8/2021	13:54:38	D	0.80
43	KAPURTHALA	DHILWAN	S-NPP	31.40940	75.23270	10/8/2021	13:54:38	D	4.10
44	KAPURTHALA	DHILWAN	AQUA	31.37400	75.19600	10/8/2021	13:38:17	D	6.30
45	KAPURTHALA	NADALA	AQUA	31.59400	75.44000	10/8/2021	13:38:17	D	12.30
46	KAPURTHALA	SULTANPUR LODHI	S-NPP	31.21260	75.14890	10/8/2021	13:54:38	D	3.00
47	KAPURTHALA	SULTANPUR LODHI	S-NPP	31.21770	75.11700	10/8/2021	13:54:38	D	4.10
48	KAPURTHALA	SULTANPUR LODHI	S-NPP	31.25150	75.15690	10/8/2021	13:54:38	D	2.60
49	KAPURTHALA	SULTANPUR LODHI	S-NPP	31.32340	75.18510	10/8/2021	13:54:38	D	2.40
50	KAPURTHALA	SULTANPUR LODHI	AQUA	31.25600	75.20400	10/8/2021	13:38:17	D	7.60
51	KAPURTHALA	SULTANPUR LODHI	AQUA	31.26100	75.11700	10/8/2021	13:38:17	D	10.20
52	LUDHIANA	KHANNA	S-NPP	30.72270	76.23500	10/8/2021	13:54:38	D	4.50
53	LUDHIANA	MACHHIWARA	S-NPP	30.86960	76.24690	10/8/2021	13:54:38	D	4.30
54	LUDHIANA	MACHHIWARA	AQUA	30.86300	76.24600	10/8/2021	13:38:17	D	4.80
55	LUDHIANA	SAMRALA	S-NPP	30.76030	76.16720	10/8/2021	13:54:38	D	5.10
56	LUDHIANA	SAMRALA	S-NPP	30.79300	76.22820	10/8/2021	13:54:38	D	3.50
57	MANSA	BUDHLADA	S-NPP	29.82410	75.74470	10/8/2021	13:54:38	D	2.90
58	PATIALA	BHUNARHERI	S-NPP	30.23390	76.51630	10/8/2021	13:54:38	D	8.90
59	PATIALA	BHUNARHERI	S-NPP	30.23650	76.51930	10/8/2021	13:54:38	D	7.30
60	PATIALA	NABHA	S-NPP	30.48980	76.17130	10/8/2021	13:54:38	D	3.40
61	PATIALA	NABHA	S-NPP	30.49030	76.17620	10/8/2021	13:54:38	D	4.00
62	PATIALA	NABHA	AQUA	30.41500	76.21500	10/8/2021	13:38:17	D	10.90

63	PATIALA	NABHA	AQUA	30.41700	76.22600	10/8/2021	13:38:17	D	21.00
64	PATIALA	PATIALA	S-NPP	30.40750	76.41500	10/8/2021	13:54:38	D	2.80
65	PATIALA	PATIALA	AQUA	30.40600	76.40700	10/8/2021	13:38:17	D	5.00
66	PATIALA	PATRAN	AQUA	29.86600	76.24200	10/8/2021	13:38:17	D	4.80
67	PATIALA	SANAUR	S-NPP	30.26820	76.45070	10/8/2021	13:54:38	D	3.70
68	RUPNAGAR	CHAMKAUR SAHIB	AQUA	30.88300	76.32700	10/8/2021	13:38:17	D	8.80
69	SANGRUR	LEHRA GAGA	S-NPP	29.82460	75.74920	10/8/2021	13:54:38	D	4.90
70	SAS NAGAR (MOHALI)	DERABASSI	S-NPP	30.49730	76.91920	10/8/2021	13:54:38	D	4.30
71	SAS NAGAR (MOHALI)	DERABASSI	S-NPP	30.49780	76.92460	10/8/2021	13:54:38	D	8.30
72	SAS NAGAR (MOHALI)	DERABASSI	S-NPP	30.49860	76.92640	10/8/2021	13:54:38	D	8.20
73	SAS NAGAR (MOHALI)	DERABASSI	S-NPP	30.58690	76.78900	10/8/2021	13:54:38	D	5.10
74	SAS NAGAR (MOHALI)	DERABASSI	S-NPP	30.58720	76.78630	10/8/2021	13:54:38	D	5.80
75	TARN TARAN	CHOHLA SAHIB	S-NPP	31.30710	74.98770	10/8/2021	13:54:38	D	3.80
76	TARN TARAN	CHOHLA SAHIB	S-NPP	31.35260	75.06060	10/8/2021	13:54:38	D	3.40
77	TARN TARAN	CHOHLA SAHIB	S-NPP	31.35300	75.10490	10/8/2021	13:54:38	D	4.70
78	TARN TARAN	CHOHLA SAHIB	S-NPP	31.36820	75.04960	10/8/2021	13:54:38	D	9.10
79	TARN TARAN	CHOHLA SAHIB	S-NPP	31.36870	75.05390	10/8/2021	13:54:38	D	8.50
80	TARN TARAN	CHOHLA SAHIB	S-NPP	31.36970	75.04990	10/8/2021	13:54:38	D	12.90
81	TARN TARAN	CHOHLA SAHIB	S-NPP	31.38840	75.10950	10/8/2021	13:54:38	D	3.90
82	TARN TARAN	CHOHLA SAHIB	AQUA	31.35000	75.03900	10/8/2021	13:38:17	D	11.30
83	TARN TARAN	CHOHLA SAHIB	AQUA	31.35800	75.09200	10/8/2021	13:38:17	D	10.50
84	TARN TARAN	GANDIWIND TATLA	S-NPP	31.50540	74.64680	10/8/2021	13:54:38	D	3.00
85	TARN TARAN	KHADUR SAHIB	S-NPP	31.37150	75.12020	10/8/2021	13:54:38	D	10.00
86	TARN TARAN	KHADUR SAHIB	S-NPP	31.40190	75.07650	10/8/2021	13:54:38	D	6.00
87	TARN TARAN	KHADUR SAHIB	S-NPP	31.43980	75.03570	10/8/2021	13:54:38	D	2.60
88	TARN TARAN	KHADUR SAHIB	S-NPP	31.47540	75.13330	10/8/2021	13:54:38	D	8.30
89	TARN TARAN	KHADUR SAHIB	S-NPP	31.48000	75.04020	10/8/2021	13:54:38	D	5.50
90	TARN TARAN	KHADUR SAHIB	S-NPP	31.48220	75.03870	10/8/2021	13:54:38	D	9.00
91	TARN TARAN	KHADUR SAHIB	S-NPP	31.49040	75.19430	10/8/2021	13:54:38	D	8.70
92	TARN TARAN	KHADUR SAHIB	S-NPP	31.49090	75.19100	10/8/2021	13:54:38	D	5.60
93	TARN TARAN	KHADUR SAHIB	S-NPP	31.49140	75.19550	10/8/2021	13:54:38	D	5.60
94	TARN TARAN	KHADUR SAHIB	S-NPP	31.49170	75.16710	10/8/2021	13:54:38	D	4.70
95	TARN TARAN	KHADUR SAHIB	S-NPP	31.51030	75.08940	10/8/2021	13:54:38	D	3.40

96	TARN TARAN	KHADUR SAHIB	S-NPP	31.51980	75.18250	10/8/2021	13:54:38	D	4.10
97	TARN TARAN	KHADUR SAHIB	AQUA	31.36300	75.12300	10/8/2021	13:38:17	D	5.40
98	TARN TARAN	KHADUR SAHIB	AQUA	31.40600	75.09700	10/8/2021	13:38:17	D	12.40
99	TARN TARAN	KHADUR SAHIB	AQUA	31.45500	75.18400	10/8/2021	13:38:17	D	15.60
100	TARN TARAN	KHADUR SAHIB	AQUA	31.45900	75.20400	10/8/2021	13:38:17	D	5.20
101	TARN TARAN	NAUSHERA PANNUAN	S-NPP	31.34330	74.93460	10/8/2021	13:54:38	D	5.40
102	TARN TARAN	NAUSHERA PANNUAN	S-NPP	31.37460	75.03100	10/8/2021	13:54:38	D	3.20
103	TARN TARAN	NAUSHERA PANNUAN	S-NPP	31.37630	75.03130	10/8/2021	13:54:38	D	3.70
104	TARN TARAN	NAUSHERA PANNUAN	AQUA	31.42400	74.97400	10/8/2021	13:38:17	D	8.80
105	TARN TARAN	TARN TARAN	S-NPP	31.42970	74.97980	10/8/2021	13:54:38	D	5.40
106	TARN TARAN	TARN TARAN	S-NPP	31.51600	74.98200	10/8/2021	13:54:38	D	2.40
107	TARN TARAN	TARN TARAN	AQUA	31.42600	74.98400	10/8/2021	13:38:17	D	6.70
108	TARN TARAN	TARN TARAN	AQUA	31.52600	75.04500	10/8/2021	13:38:17	D	6.50

Details of residue burning events in Haryana on 08-Oct-2021

S. No.	District	Block	Satellite	Latitude	Longitude	ACQ_DATE	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	AMBALA	AMBALA-II	AQUA	30.29000	76.83400	10/8/2021	13:38:17	D	6.80
2	JIND	UCHANA	S-NPP	29.44030	76.10980	10/8/2021	13:54:38	D	8.70
3	JIND	UCHANA	S-NPP	29.50890	76.29510	10/8/2021	13:54:38	D	2.80
4	KAITHAL	KAITHAL	S-NPP	29.84170	76.48000	10/8/2021	13:54:38	D	3.00
5	KAITHAL	SIWAN	S-NPP	29.87750	76.25710	10/8/2021	13:54:38	D	1.50
6	KAITHAL	SIWAN	S-NPP	29.92610	76.21000	10/8/2021	13:54:38	D	6.70
7	KAITHAL	SIWAN	S-NPP	29.93050	76.20950	10/8/2021	13:54:38	D	9.60
8	KAITHAL	SIWAN	AQUA	29.92700	76.21300	10/8/2021	13:38:17	D	13.90
9	KARNAL	ASSANDH	S-NPP	29.51090	76.54150	10/8/2021	13:54:38	D	6.70
10	KARNAL	ASSANDH	S-NPP	29.58630	76.57740	10/8/2021	13:54:38	D	3.10
11	KARNAL	CHIRAO	S-NPP	29.64110	76.80680	10/8/2021	13:54:38	D	7.40
12	KARNAL	CHIRAO	S-NPP	29.64250	76.80850	10/8/2021	13:54:38	D	9.30
13	KARNAL	CHIRAO	S-NPP	29.65450	76.83840	10/8/2021	13:54:38	D	3.20
14	KARNAL	CHIRAO	S-NPP	29.66860	76.79480	10/8/2021	13:54:38	D	4.40
15	KARNAL	CHIRAO	S-NPP	29.74190	76.84350	10/8/2021	13:54:38	D	6.00
16	KARNAL	GHARAUNDA	S-NPP	29.56290	76.89510	10/8/2021	13:54:38	D	9.80
17	KARNAL	INDRI	S-NPP	29.82400	77.01790	10/8/2021	13:54:38	D	6.50
18	KARNAL	KARNAL	S-NPP	29.66300	77.11890	10/8/2021	13:54:38	D	4.10
19	KURUKSHETRA	SHAHBAD	S-NPP	30.06890	76.83010	10/8/2021	13:54:38	D	5.30
20	KURUKSHETRA	SHAHBAD	S-NPP	30.06910	76.83350	10/8/2021	13:54:38	D	4.70
21	KURUKSHETRA	SHAHBAD	S-NPP	30.18810	76.92050	10/8/2021	13:54:38	D	2.90
22	KURUKSHETRA	SHAHBAD	AQUA	30.19600	76.87800	10/8/2021	13:38:17	D	9.90
23	KURUKSHETRA	THANESAR	S-NPP	29.88410	76.73090	10/8/2021	13:54:38	D	2.70
24	KURUKSHETRA	THANESAR	AQUA	30.00100	76.79900	10/8/2021	13:38:17	D	5.30
25	KURUKSHETRA	THANESAR	AQUA	30.11100	76.80500	10/8/2021	13:38:17	D	10.60
26	PANIPAT	SAMALKHA	S-NPP	29.18130	77.06380	10/8/2021	13:54:38	D	3.90
27	YAMUNANAGAR	SADHAURA	AQUA	30.33700	77.17900	10/8/2021	13:38:17	D	6.20

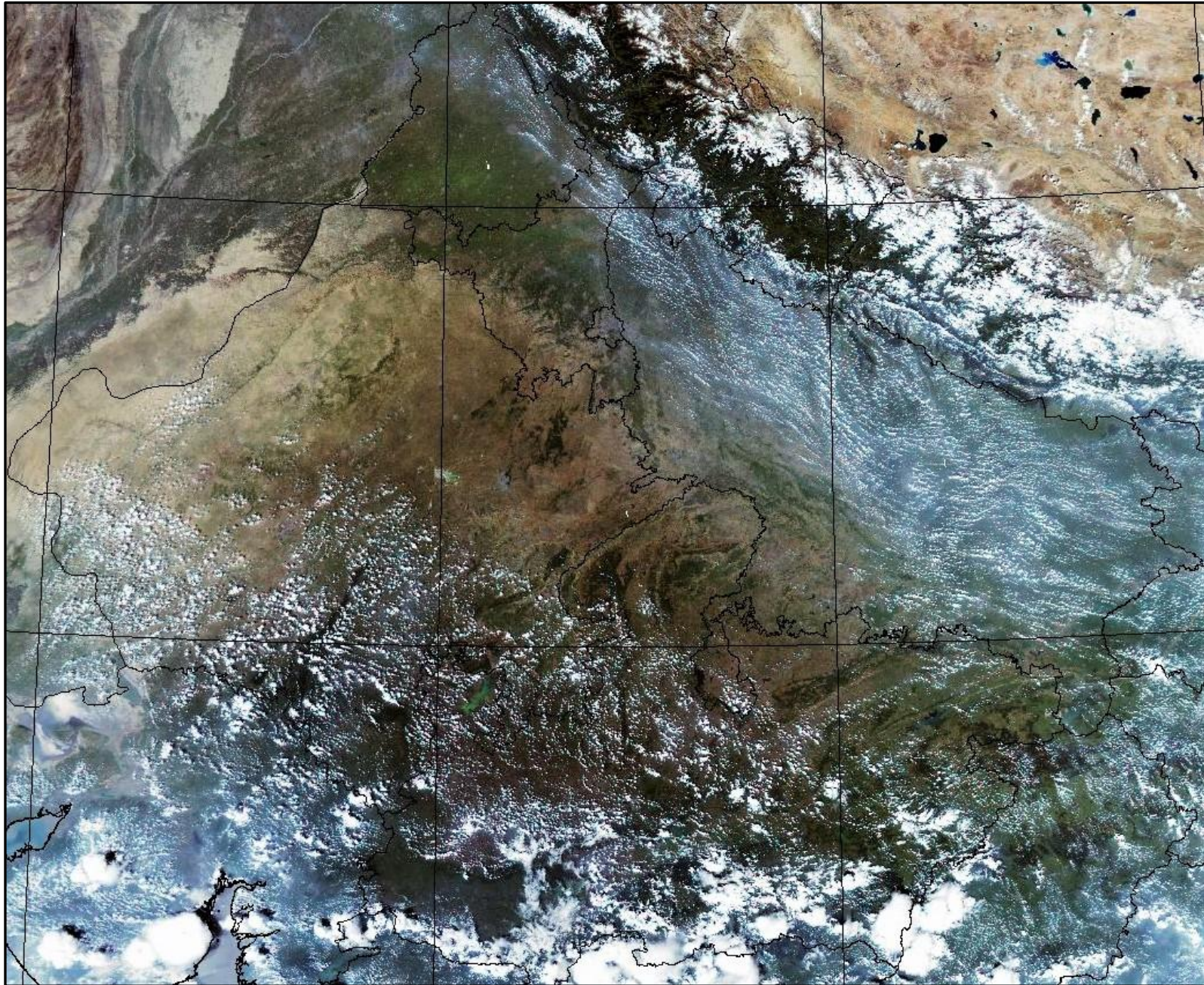
Details of residue burning events in Uttar Pradesh on 08-Oct-2021

S. No.	District	Block	Satellite	Latitude	Longitude	ACQ_DATE	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	BAREILLY	MIRGANJ	S-NPP	28.66120	79.23810	10/8/2021	13:54:38	D	2.50
2	GHAZIABAD	GHAZIABAD	S-NPP	28.66630	77.52390	10/8/2021	13:54:38	D	4.30
3	PILHIBHIT	PILHIBHIT	S-NPP	28.76420	79.86150	10/8/2021	13:54:38	D	5.00
4	RAMPUR	BILASPUR	AQUA	28.87600	79.39100	10/8/2021	13:38:17	D	6.60
5	SHAHJAHANPUR	PUWANYA	S-NPP	28.11770	80.19560	10/8/2021	13:54:38	D	2.00
6	SHAHJAHANPUR	PUWANYA	S-NPP	28.11860	80.19550	10/8/2021	13:54:38	D	3.00
7	SHAHJAHANPUR	PUWANYA	S-NPP	28.15020	80.17660	10/8/2021	13:54:38	D	8.10
8	SHAHJAHANPUR	PUWANYA	S-NPP	28.15050	80.18050	10/8/2021	13:54:38	D	15.10
9	SHAHJAHANPUR	PUWANYA	S-NPP	28.17450	80.20630	10/8/2021	13:54:38	D	3.90
10	SHAHJAHANPUR	PUWANYA	S-NPP	28.31010	80.17270	10/8/2021	13:54:38	D	2.40
11	SHAHJAHANPUR	PUWANYA	AQUA	28.13400	80.17100	10/8/2021	13:38:17	D	13.20

Details of residue burning events in Madhya Pradesh on 08-Oct-2021

S. No.	District	Block	Satellite	Latitude	Longitude	ACQ_DATE	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	HARDA	KHIRKIYAN	S-NPP	22.30230	76.96380	10/8/2021	13:54:38	D	5.20
2	VIDESHA	GYARASPUR	S-NPP	23.69520	78.00010	10/8/2021	13:54:38	D	6.00

AQUA (MODIS) Satellite image (TCC) of North and Central India Acquired on 08-Oct-2021 at 13:35:40 IST by IARI Ground Station



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

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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)
