



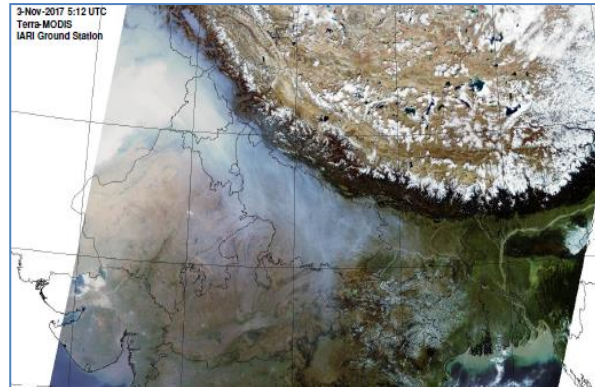
**Bulletin  
No. 27**

**Events Date:  
11-Oct-2021**

**Issued on:  
11-Oct-2021**



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



**Prepared by:**

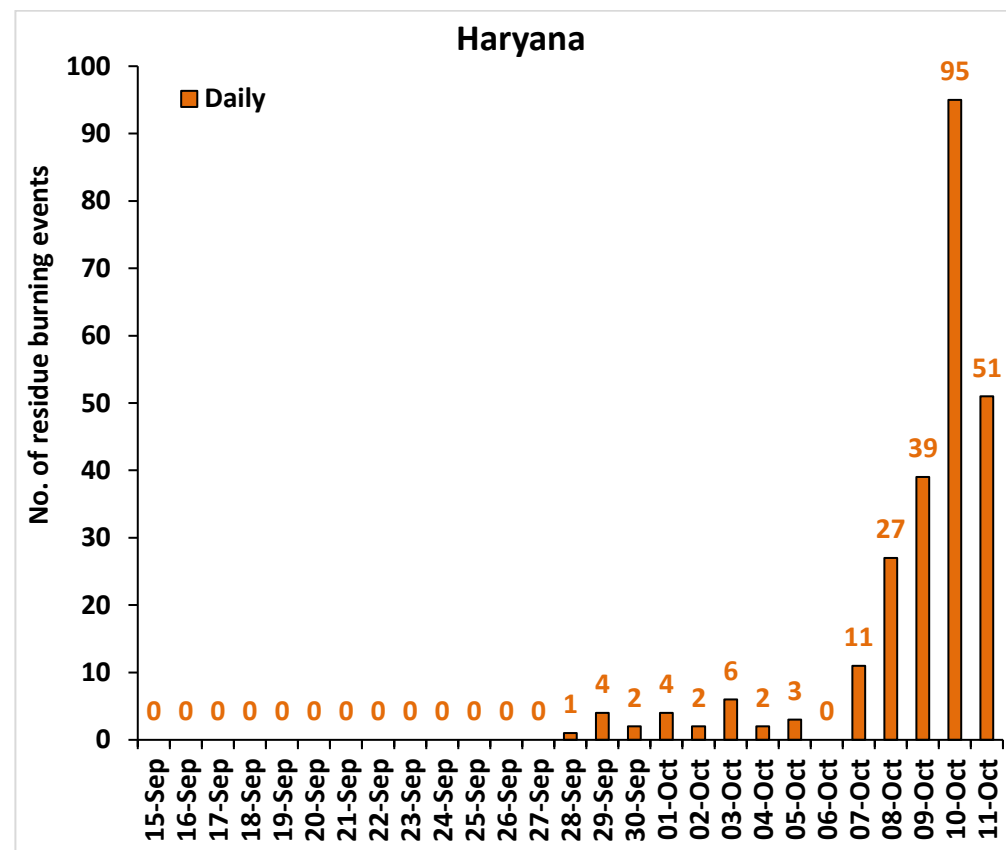
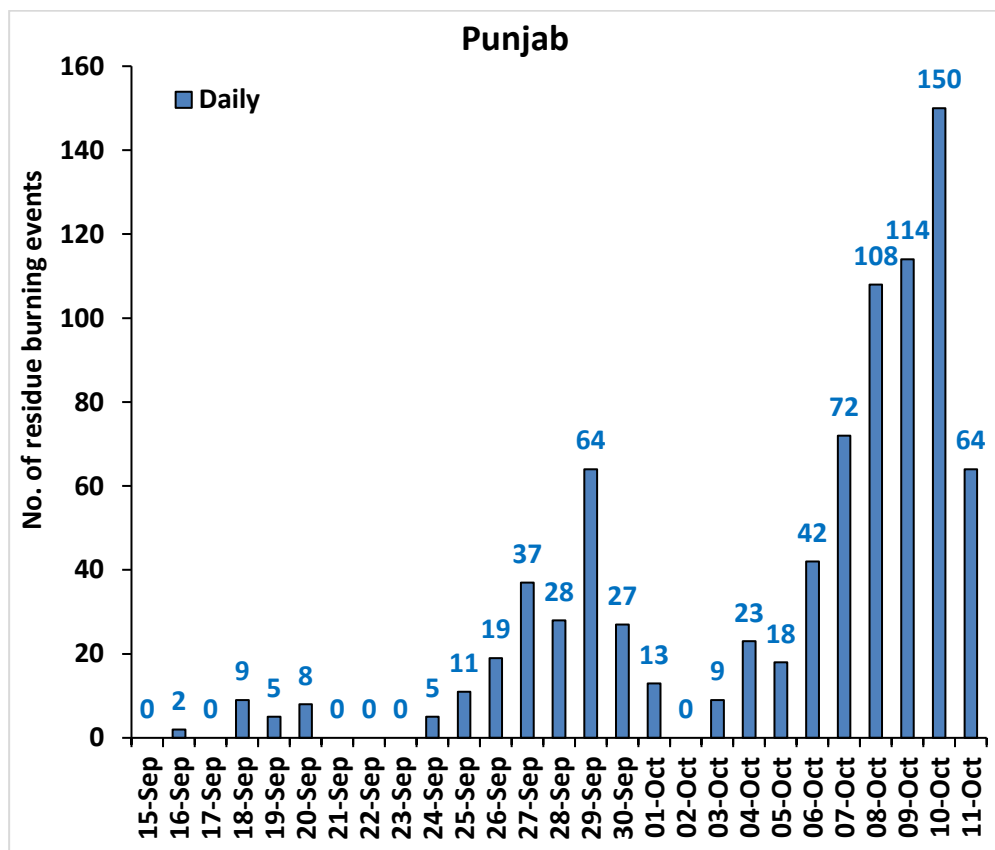
**Consortium for Research on Agroecosystem Monitoring and Modeling from Space (CREAMS) Laboratory,  
Division of Agricultural Physics, ICAR – Indian Agricultural Research Institute, New Delhi – 110012**

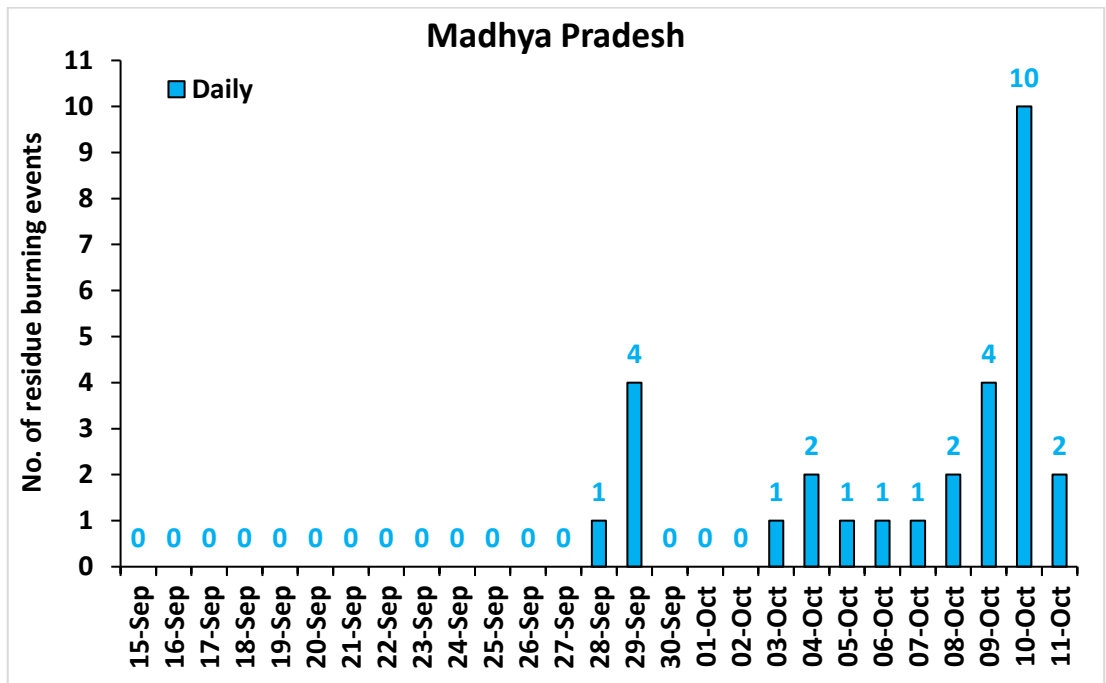
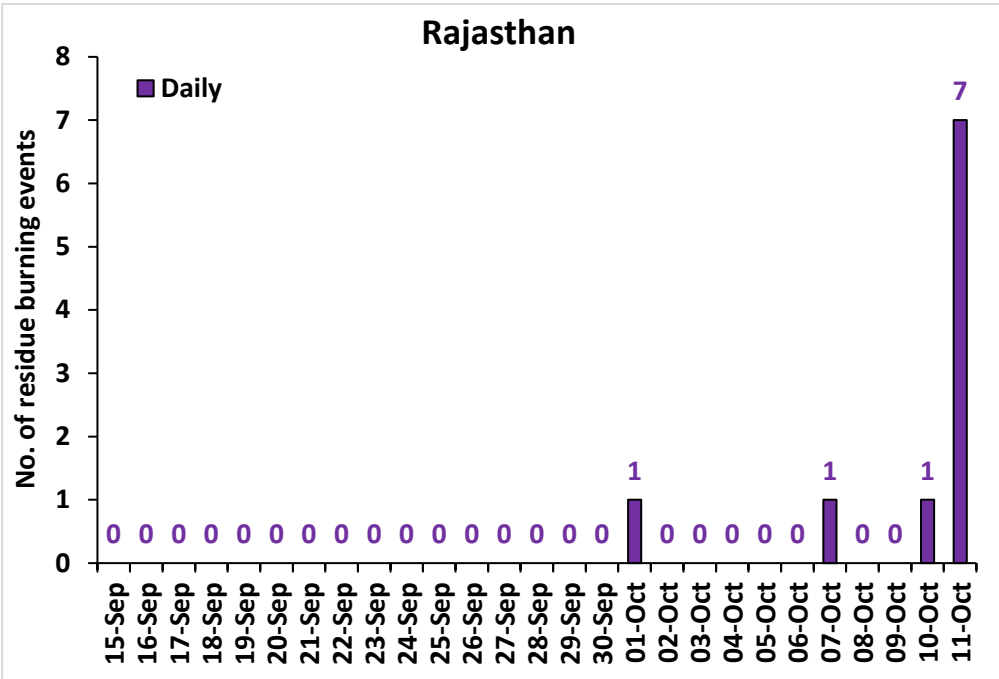
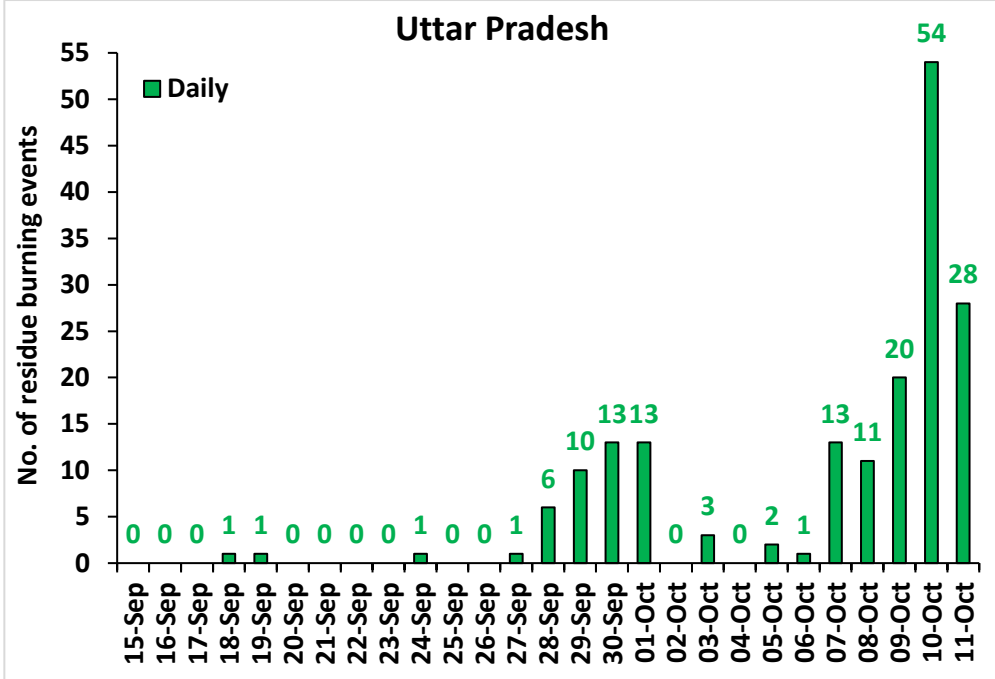
<http://creams.iari.res.in>

## Highlights for 11-October-2021

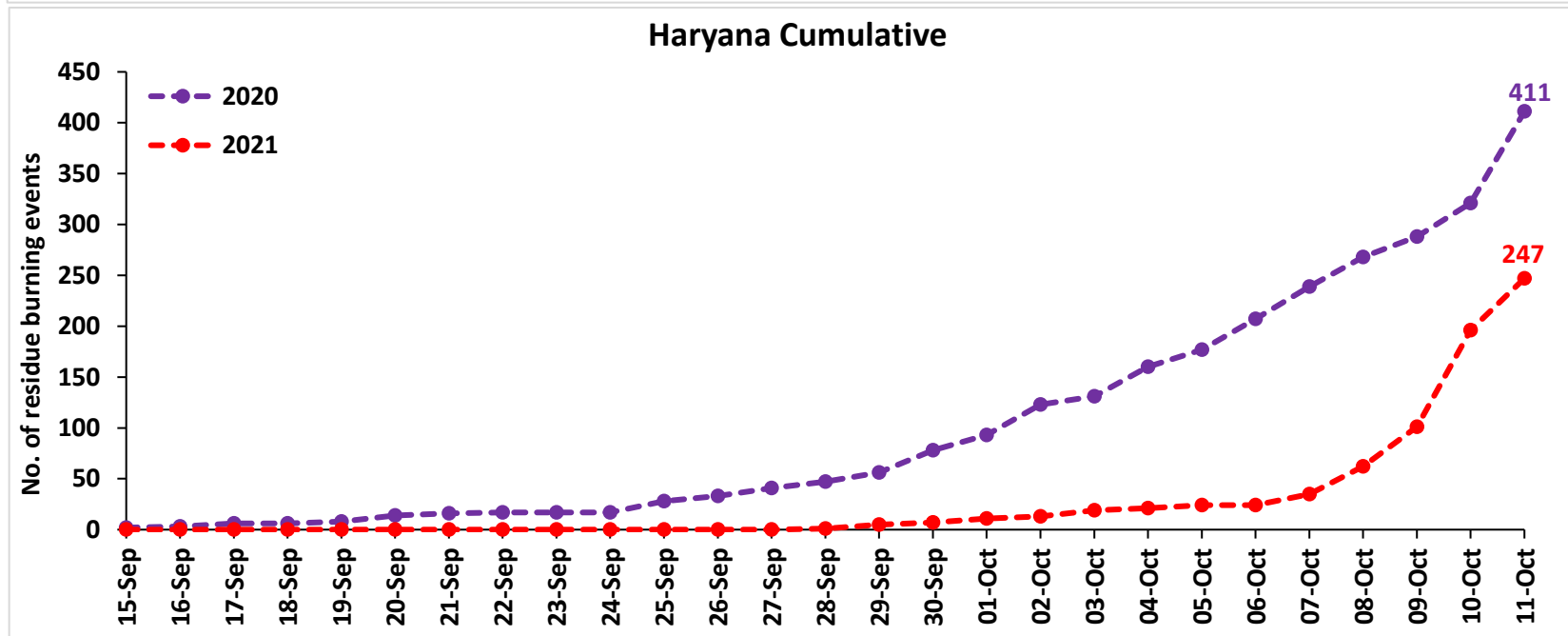
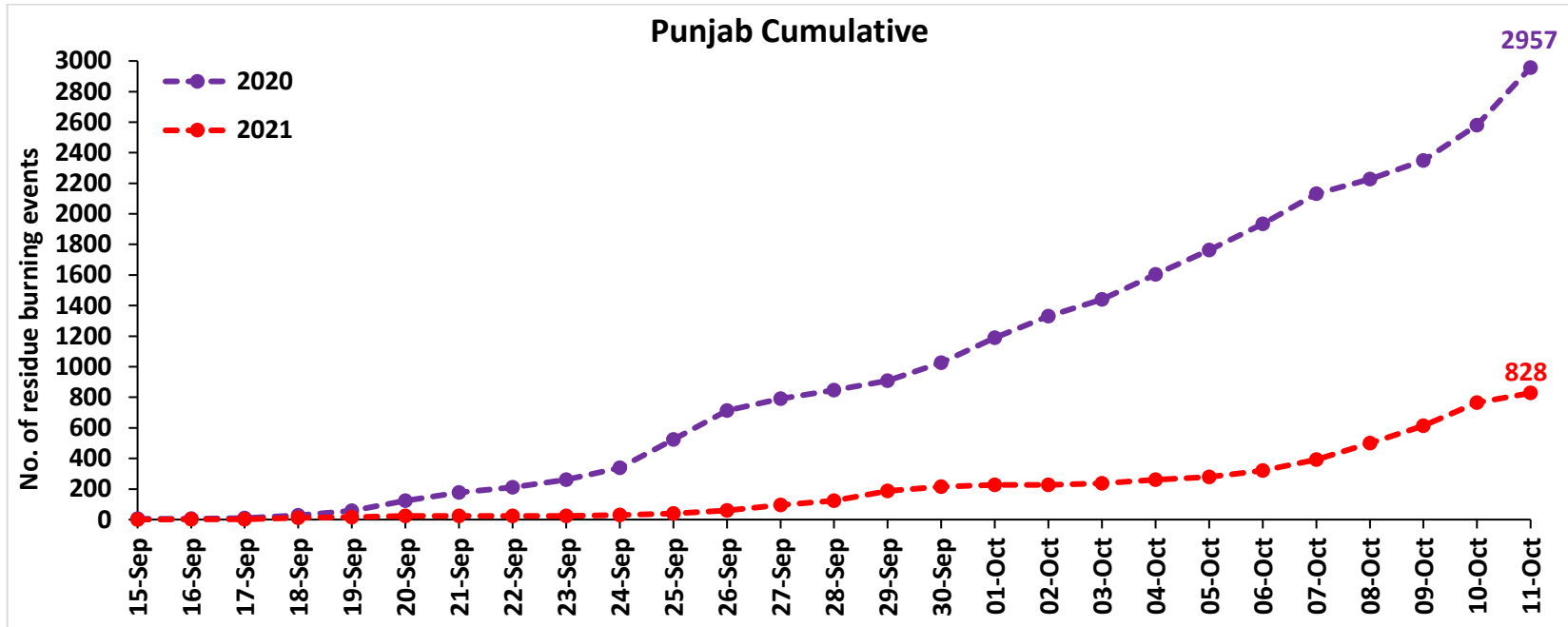
- The active fire events due to rice residue burning were monitored using satellite remote sensing, following the new "Standard Protocol for Estimation of Crop Residue Burning Fire Events using Satellite Data".
- Satellites detected **152** residue burning events in the six study States on 11-Oct-2021.
- The state wise events detected on 11-Oct-2021 were **64** in Punjab, **51** in Haryana, **28** in UP, **0** in Delhi, **7** in Rajasthan and **2** in MP.
- Detection of burning events by satellites was hampered due to scattered clouds over eastern Uttar Pradesh.

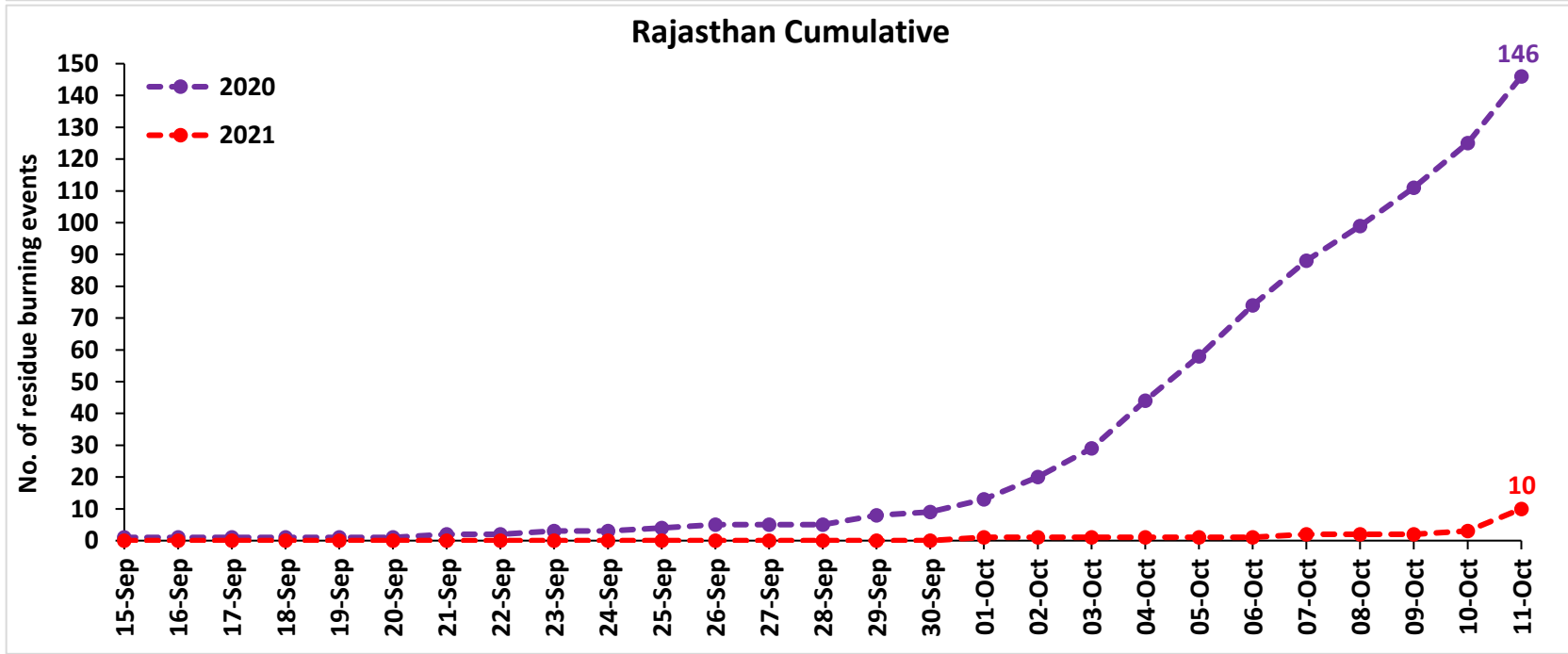
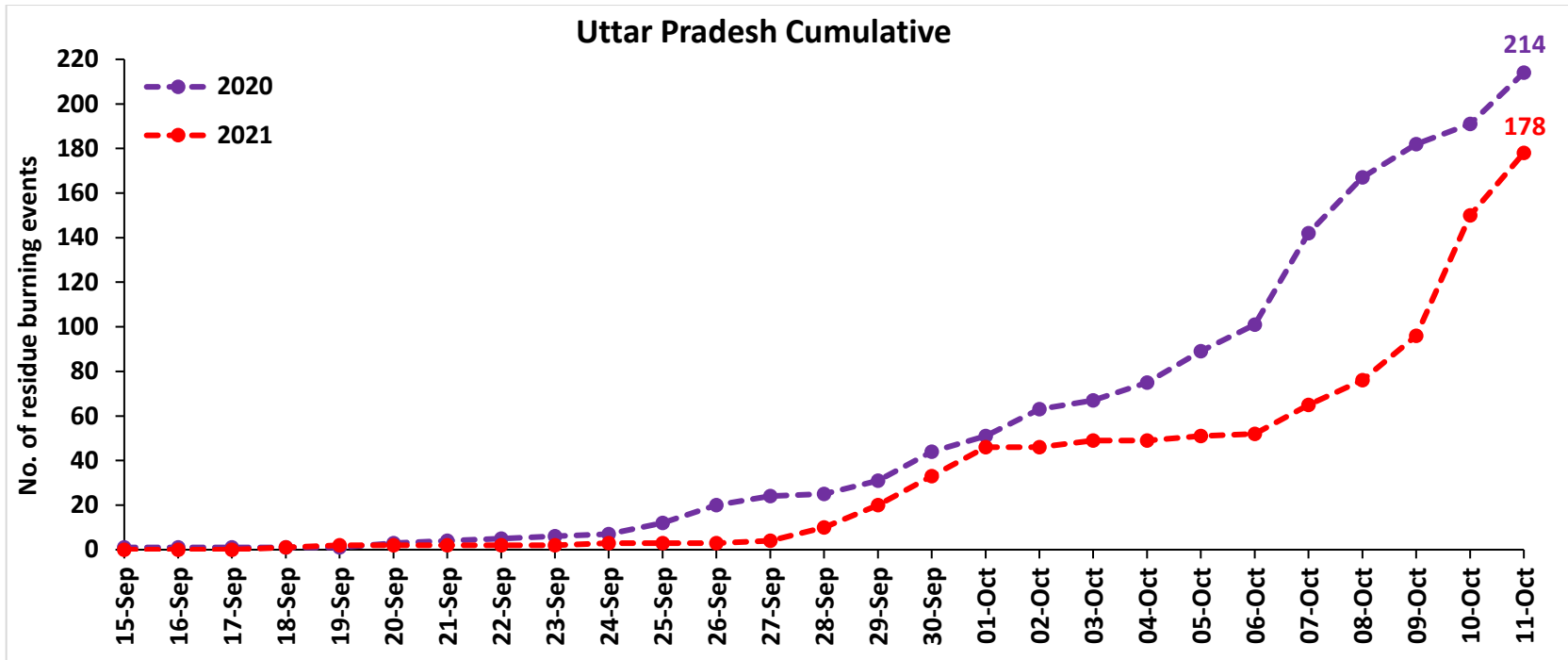
### Temporal distribution of rice residue burning events for the study States in 2021

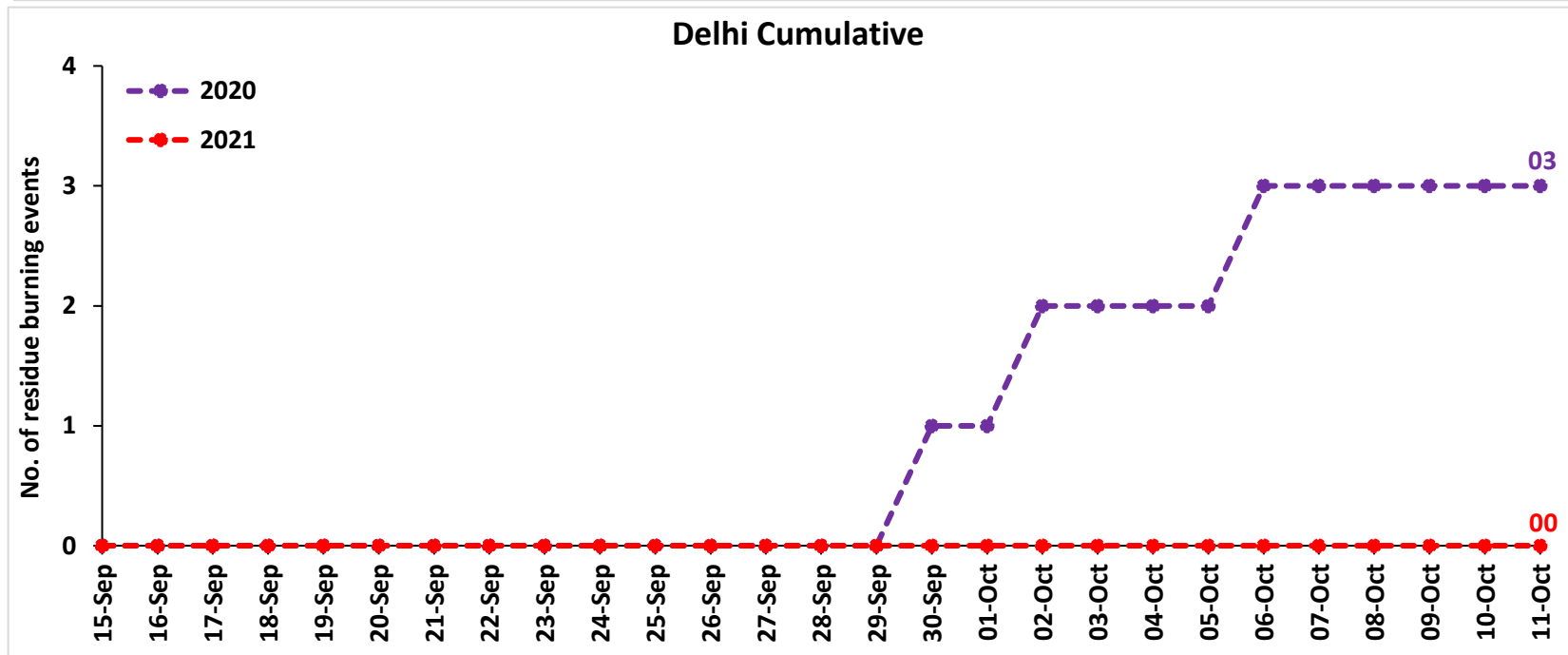
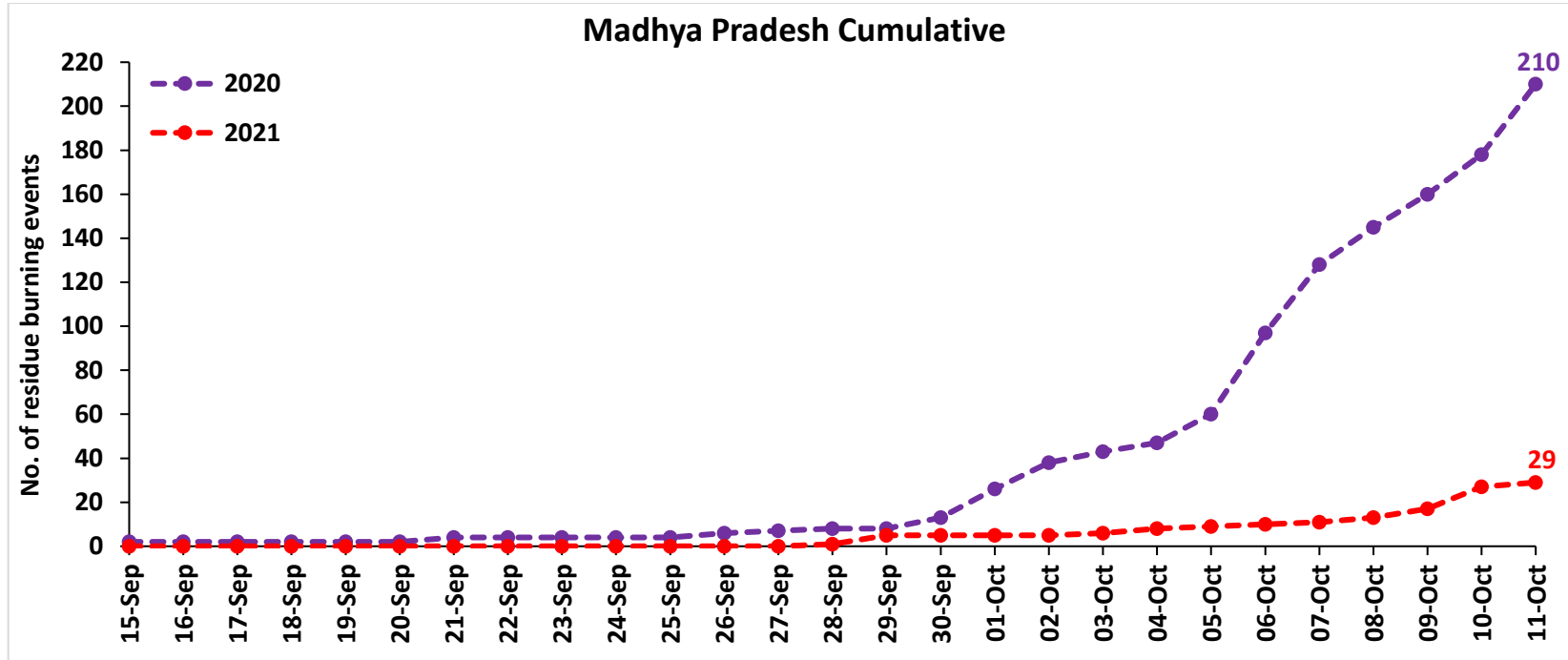




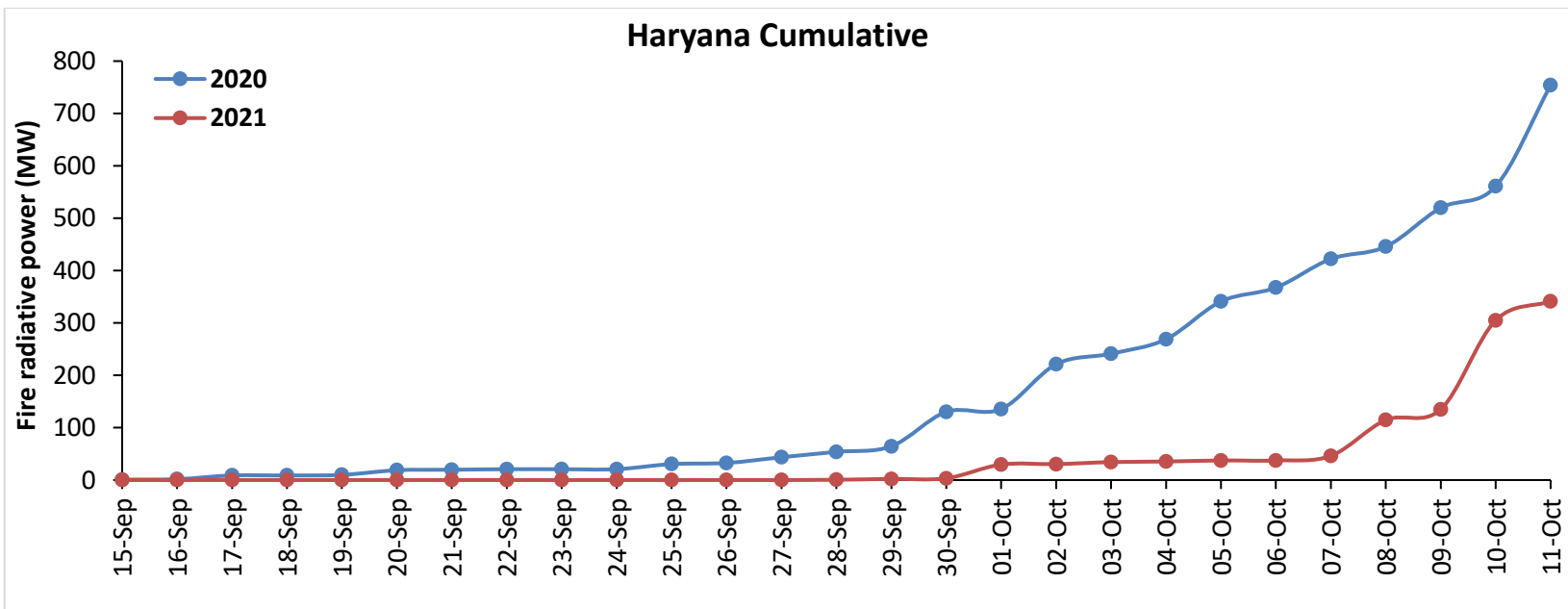
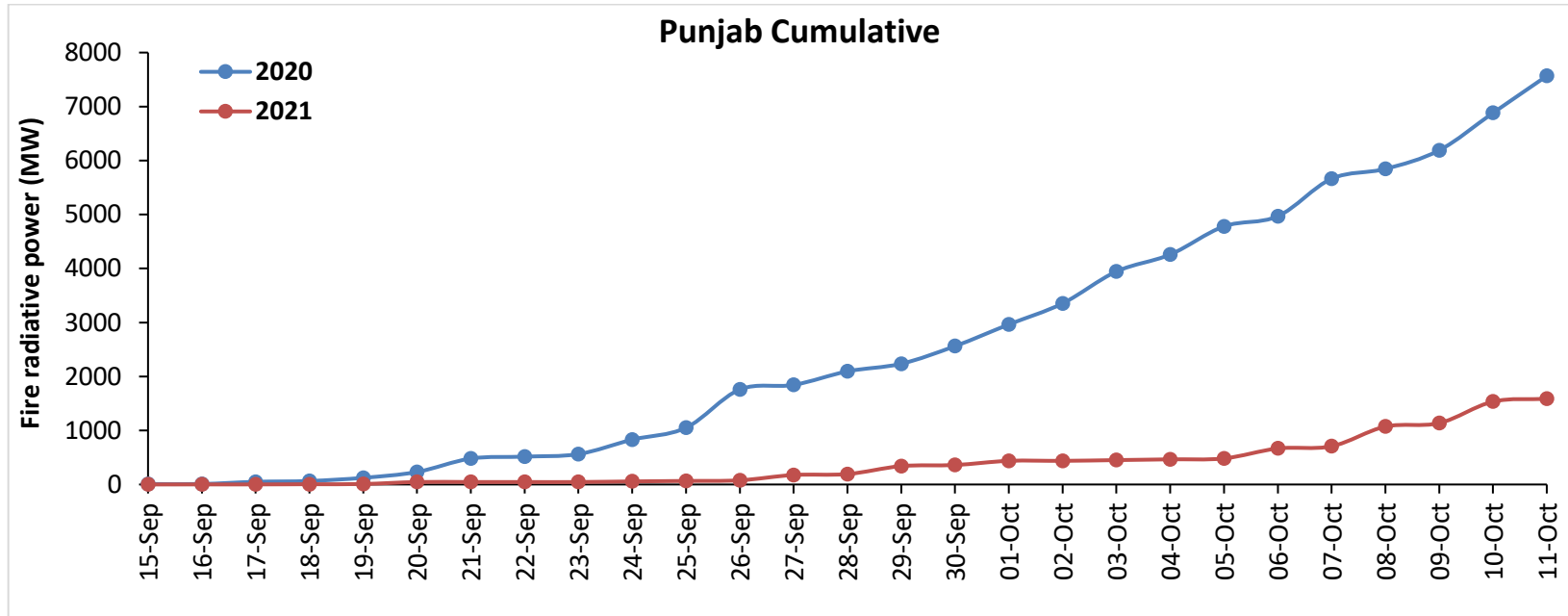
### Comparison of residue burning events in current year (2021) with previous year (2020) for the study States

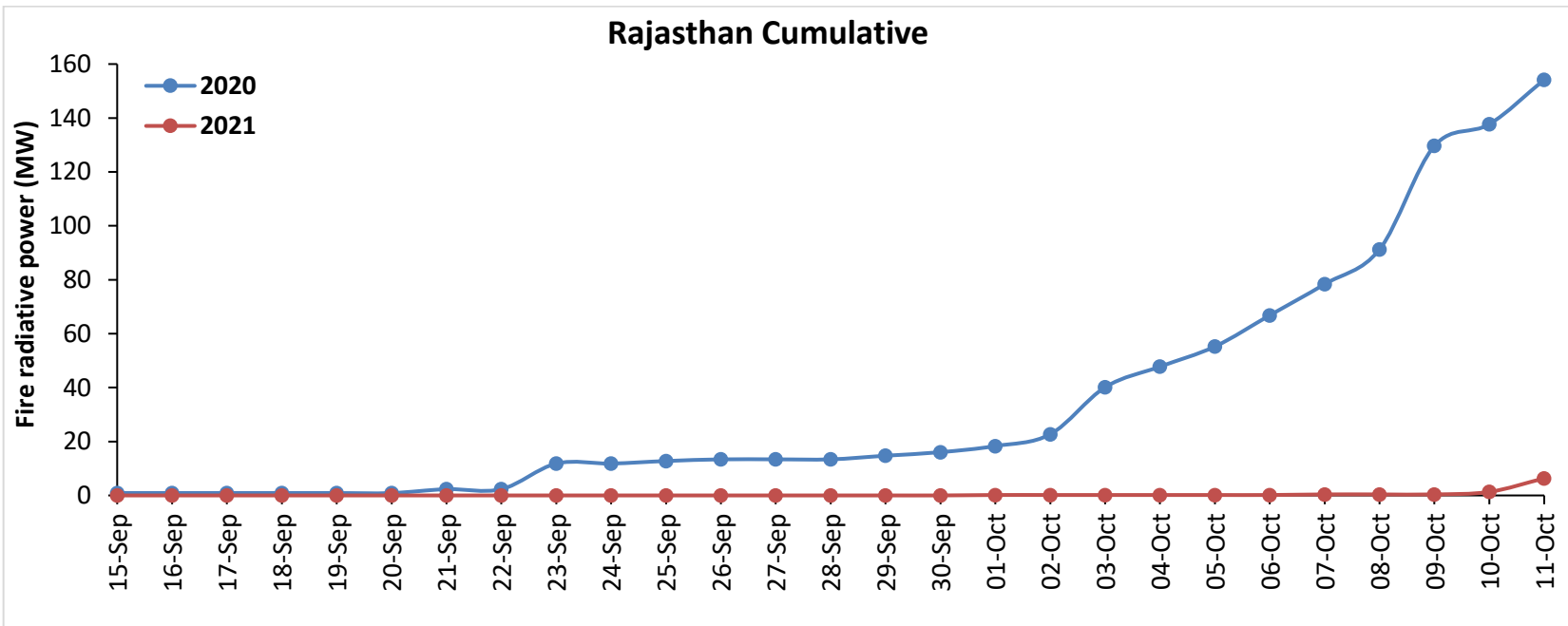
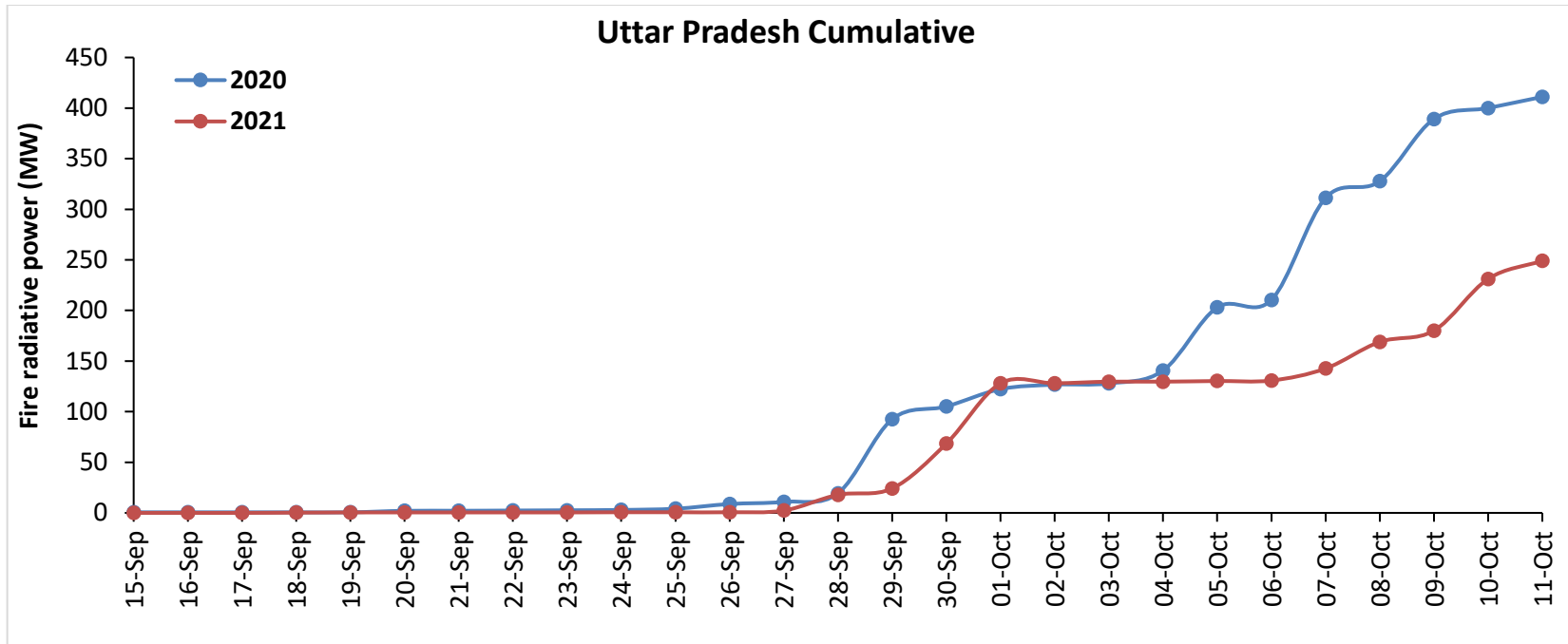




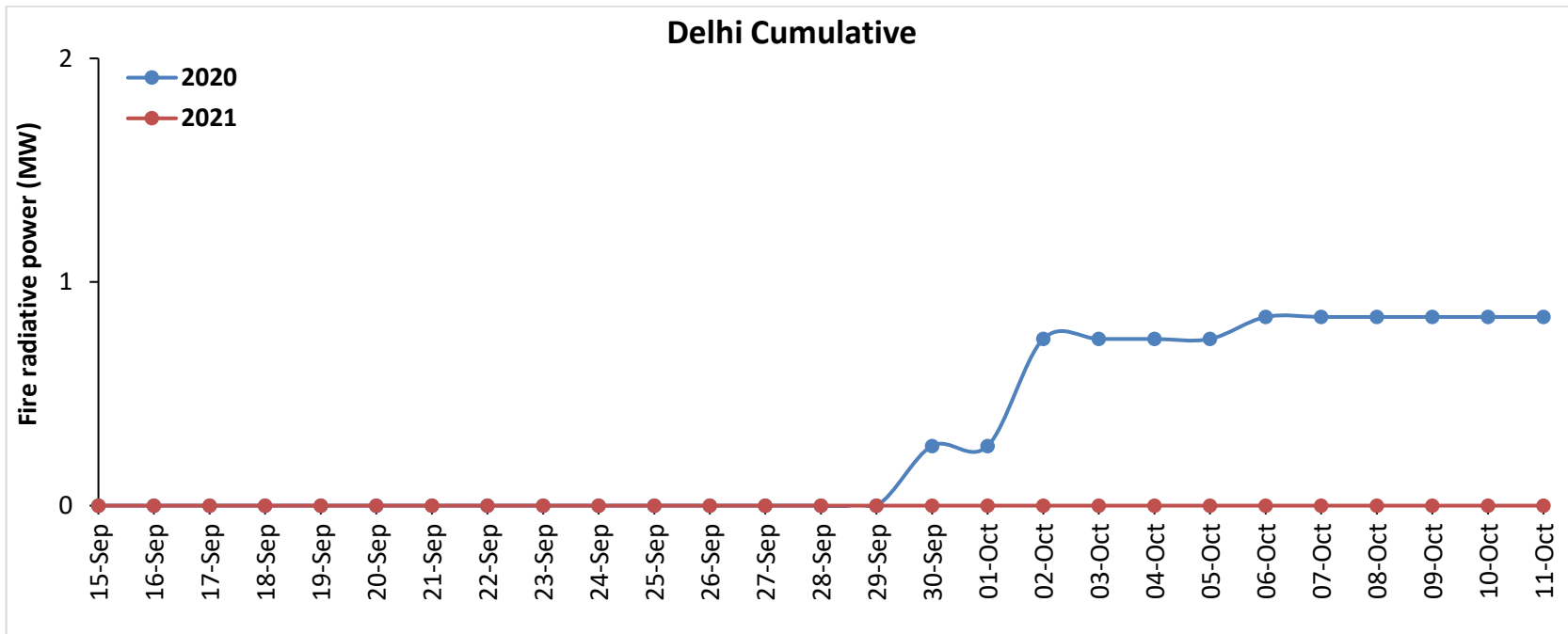
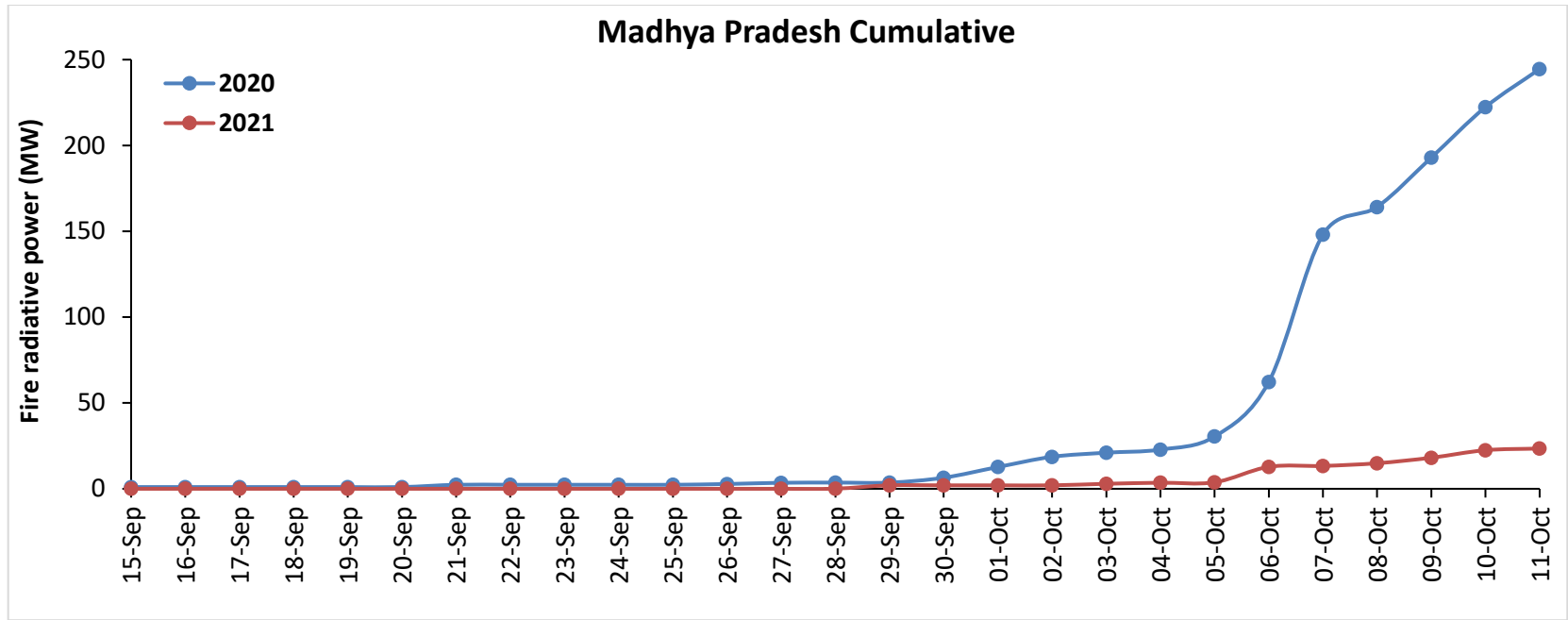


**Comparison of residue burning fire power in current year (2021) with previous year (2020) for the study States**



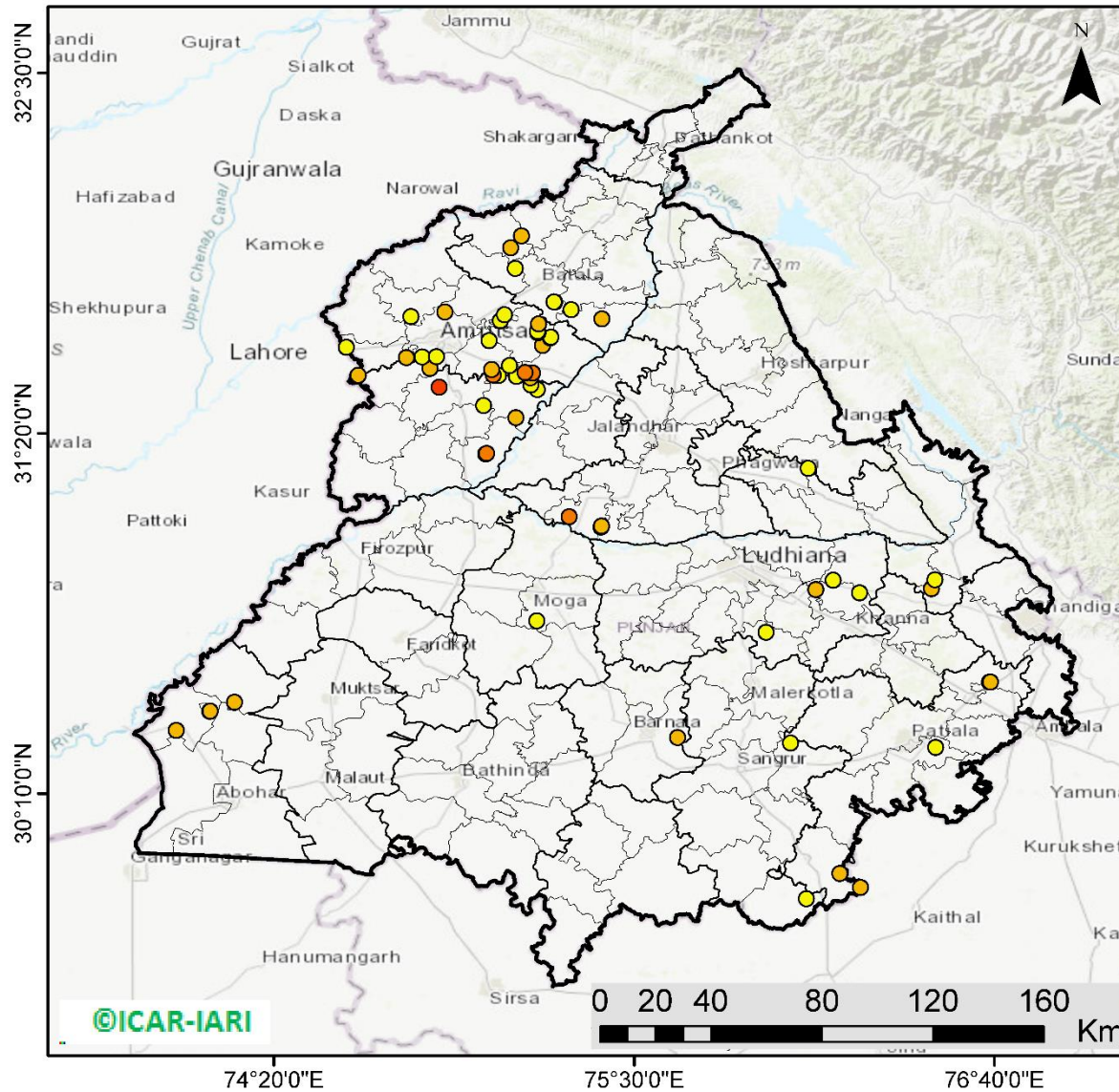






# Punjab

## RICE RESIDUE BURNING IN PUNJAB



**64** burning events detected in Punjab on 11th October 2021

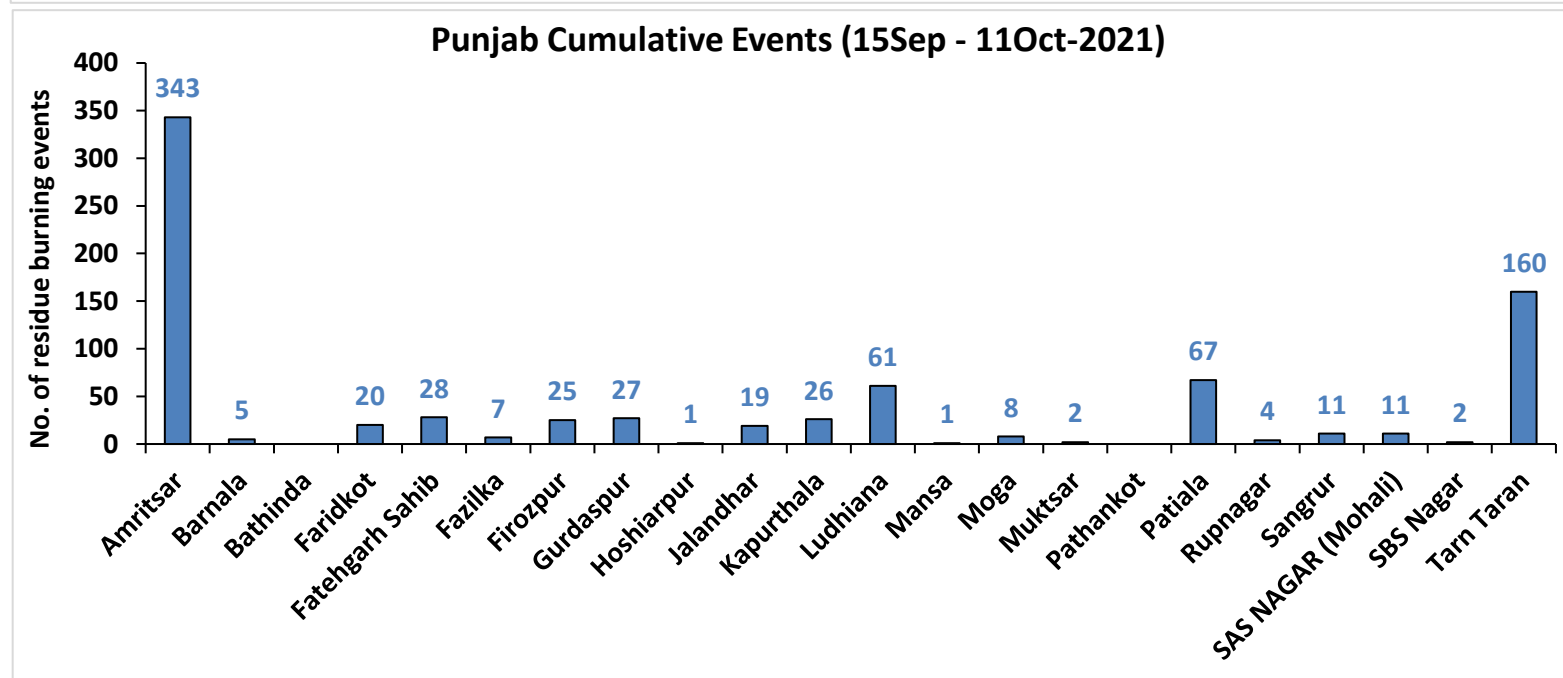
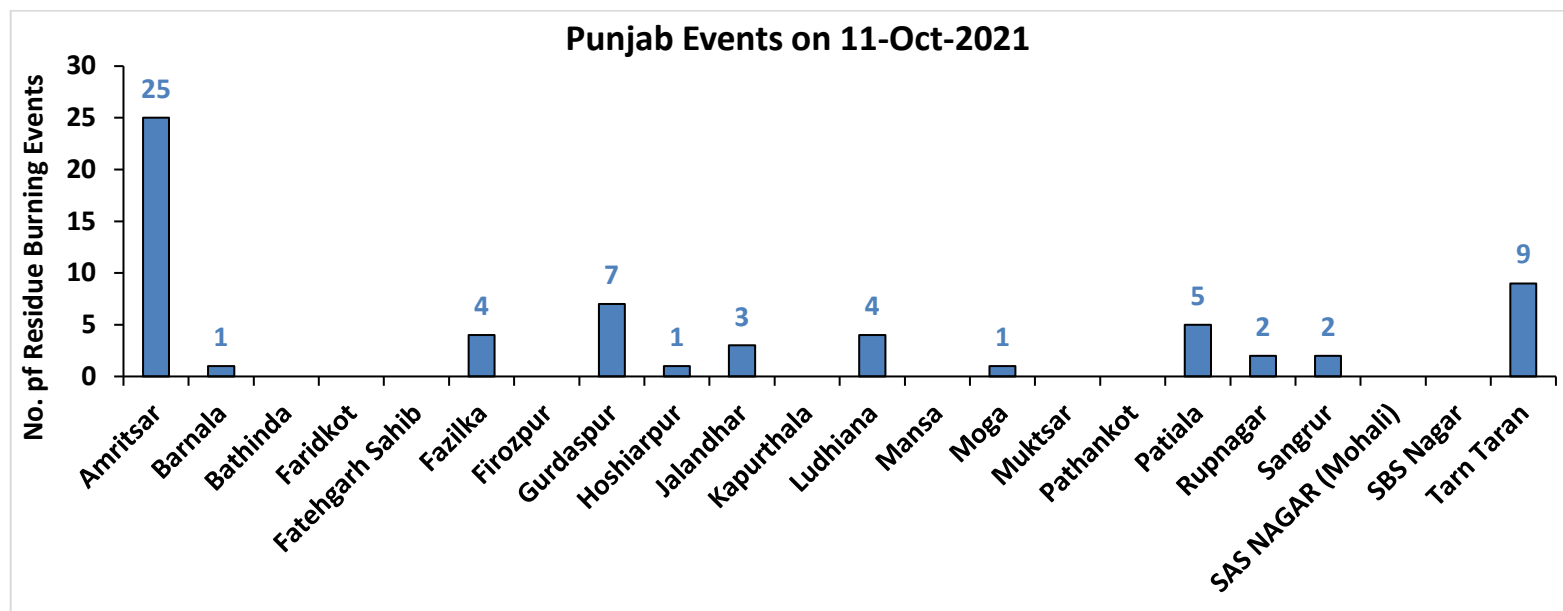
### Fire Intensity (W/m<sup>2</sup>)

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



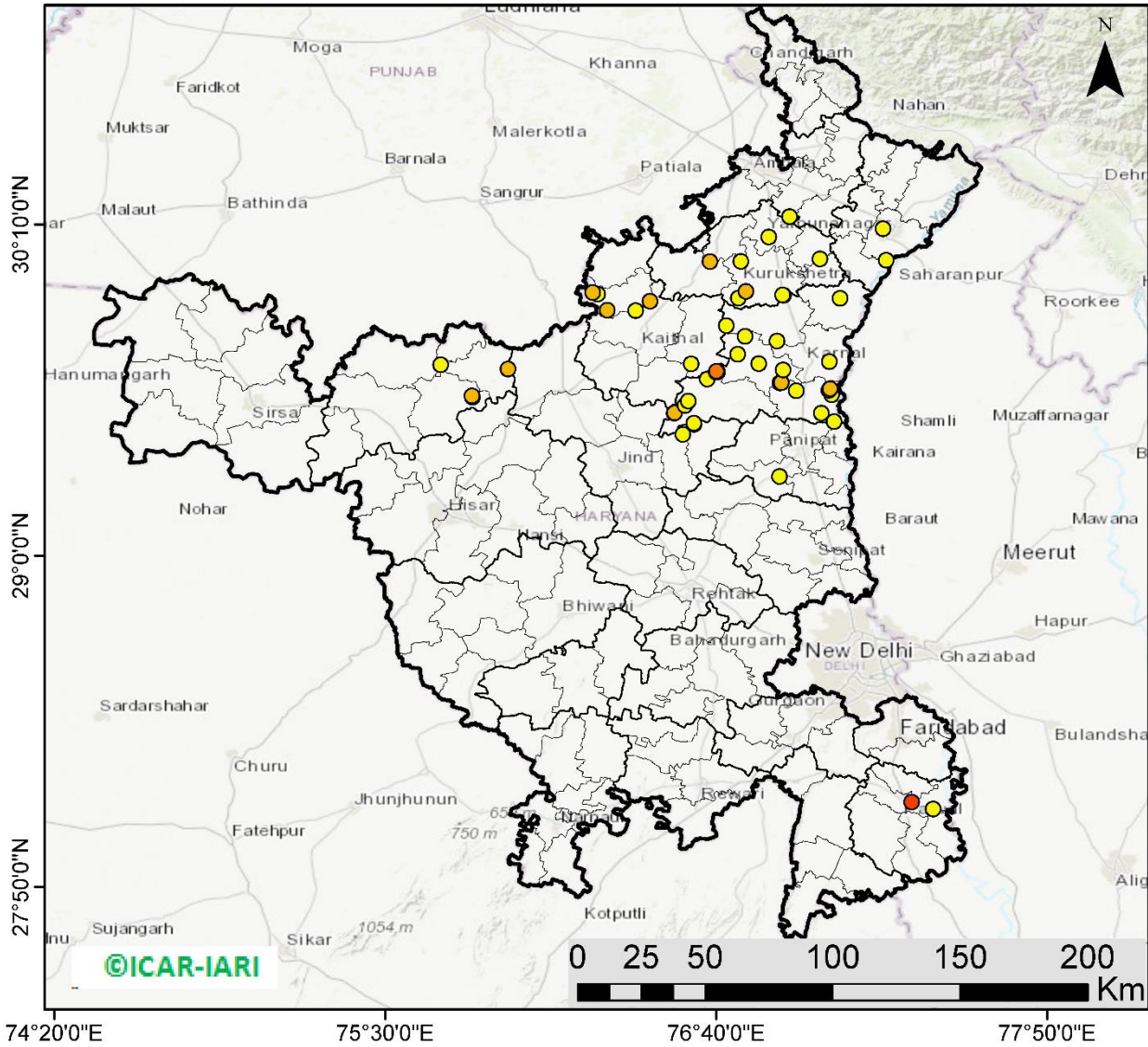
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

## District-wise cumulative number of residues burning events in Punjab (15Sep - 11Oct-2021)



# Haryana

## RICE RESIDUE BURNING IN HARYANA



**51** burning events detected in Haryana on 11th October 2021

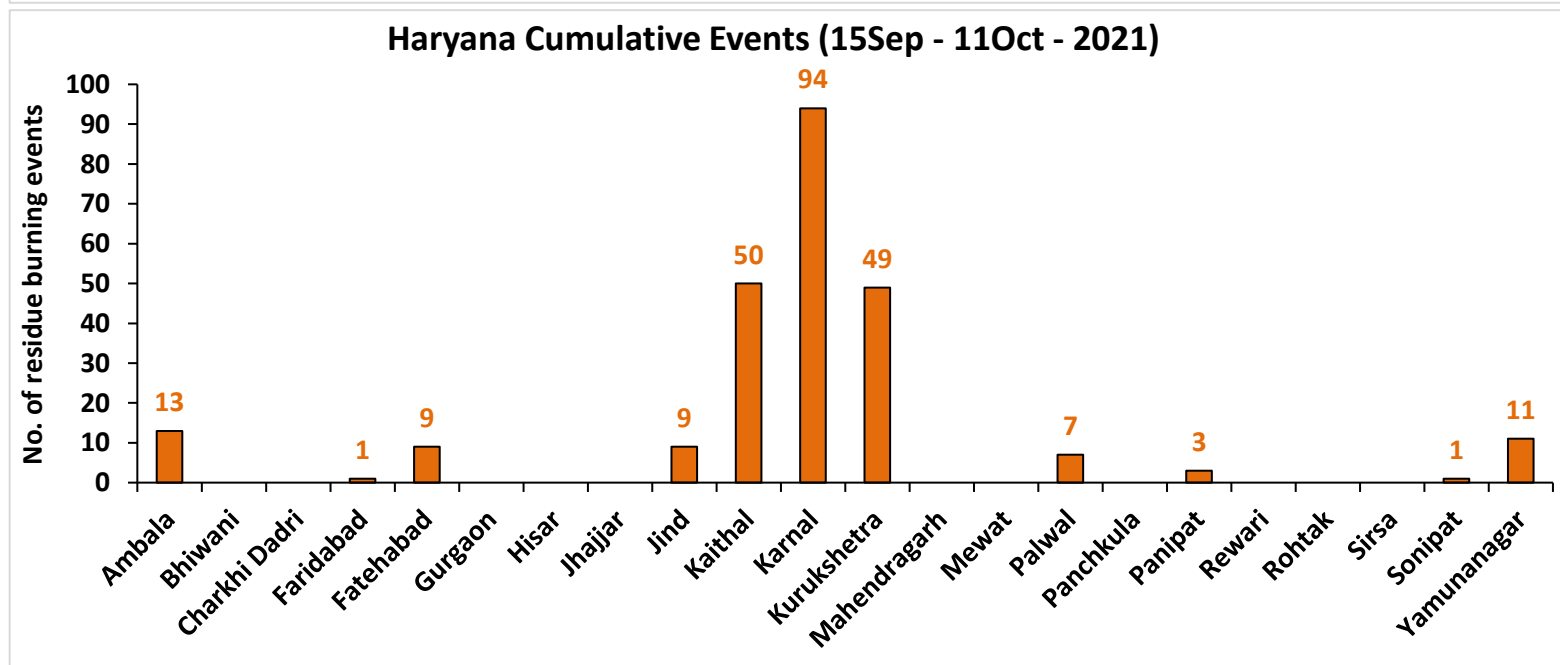
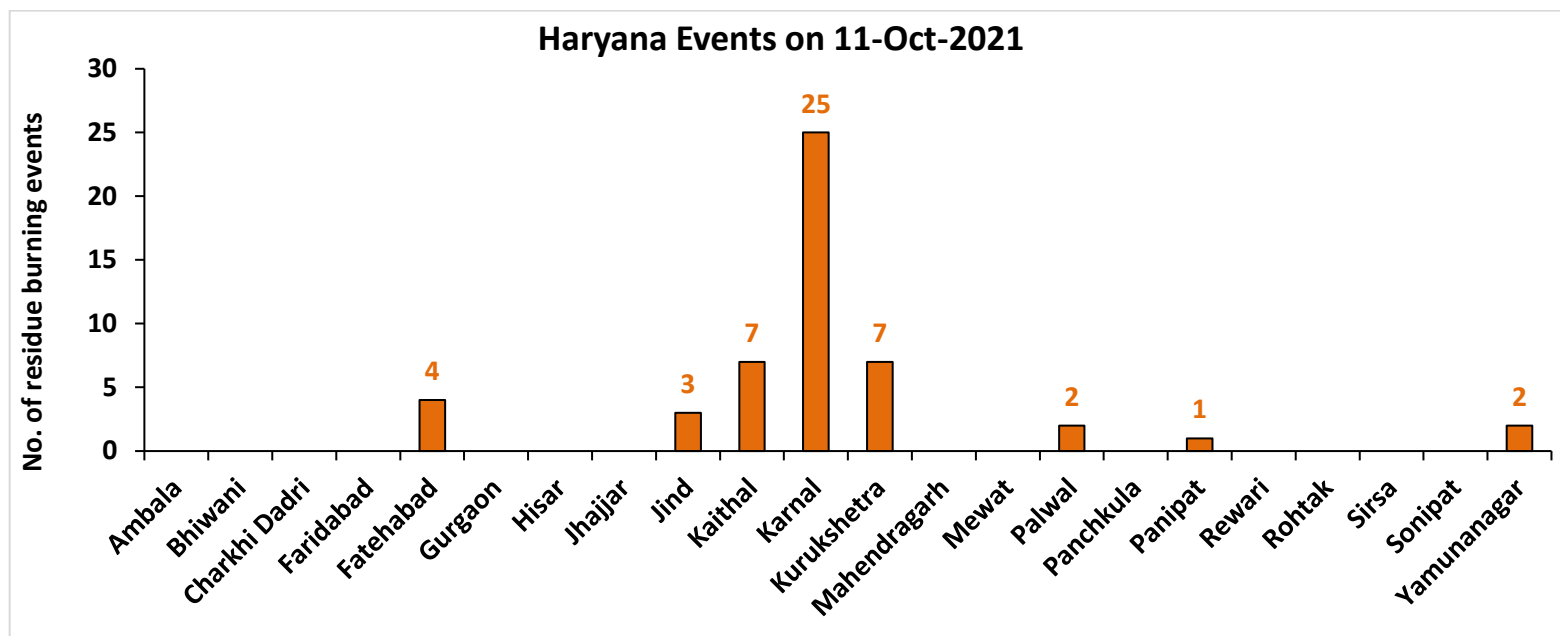
### Fire Intensity (W/m<sup>2</sup>)

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



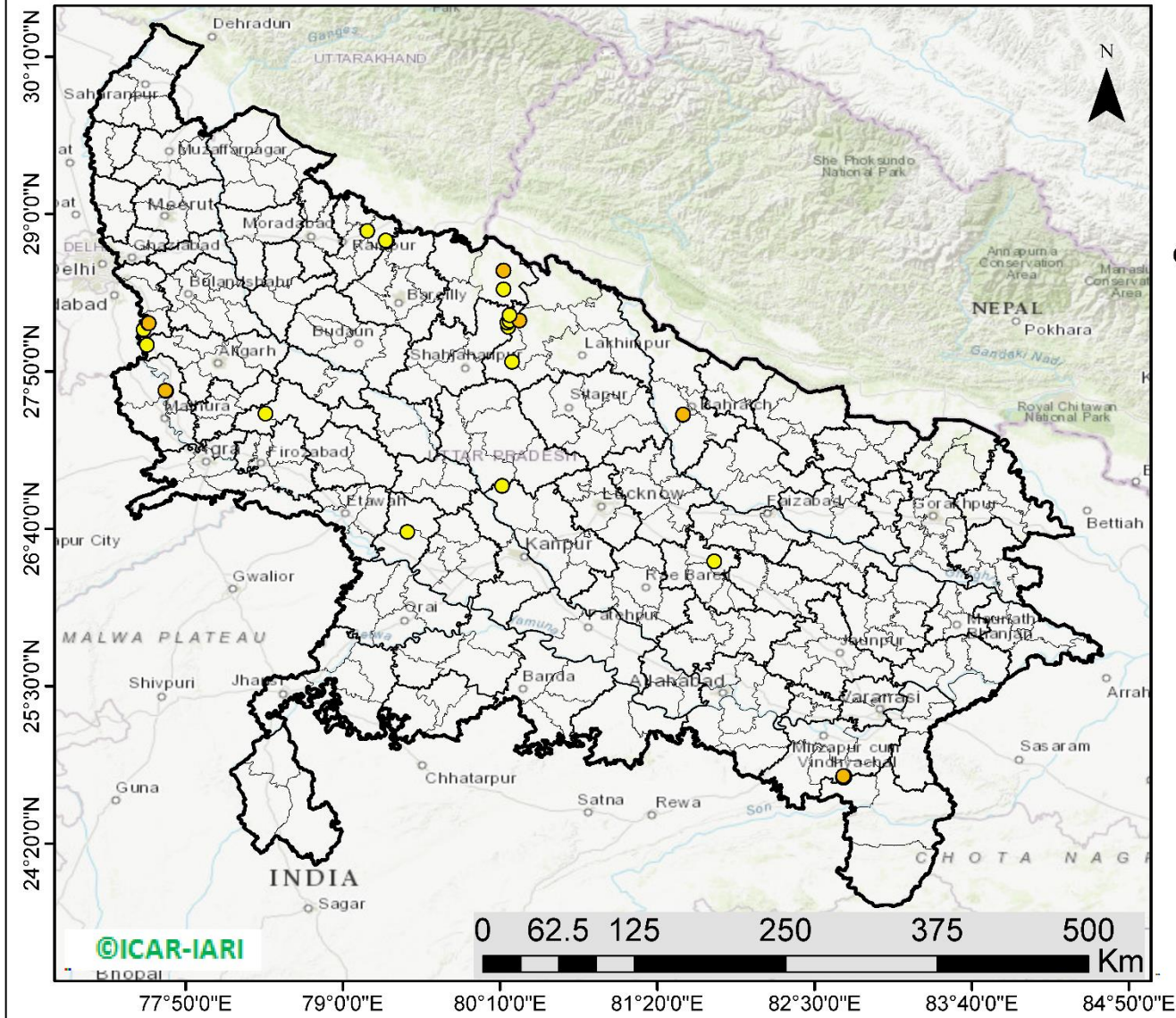
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

## District-wise cumulative number of residues burning events in Haryana (15Sep - 11Oct-2021)



# Uttar Pradesh

## RICE RESIDUE BURNING IN UTTAR PRADESH



**28** burning events detected in Uttar Pradesh on **11th October 2021**

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

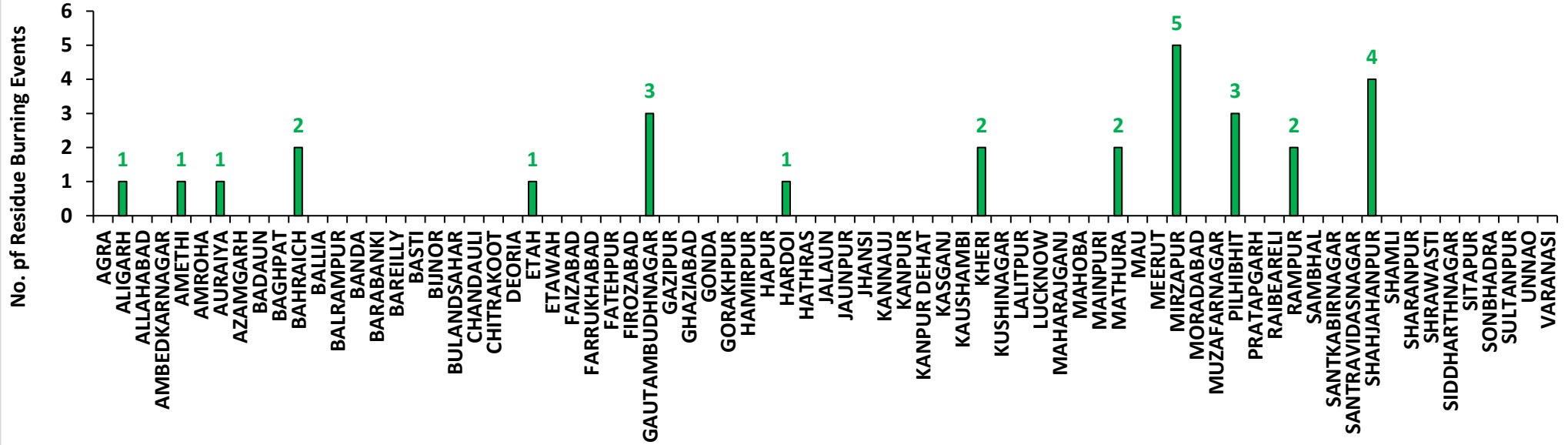
- 0 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- >20



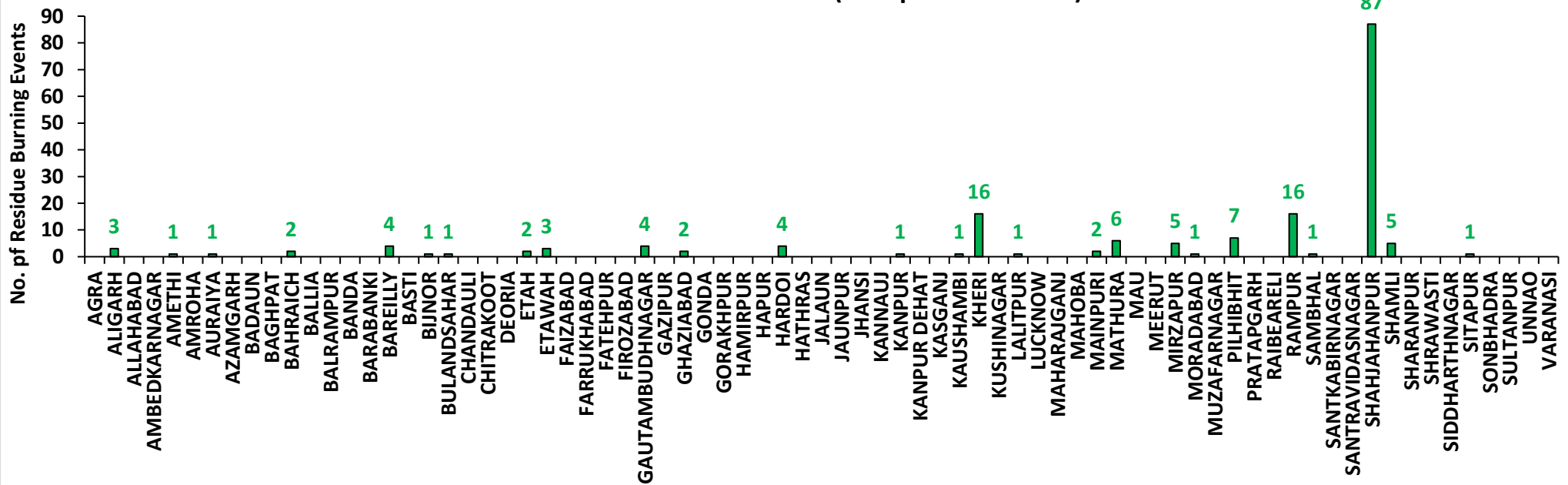
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

## District-wise cumulative number of residues burning events in Uttar Pradesh (15 Sep - 11 Oct-2021)

### Uttar Pradesh Events on 11-Oct-2021

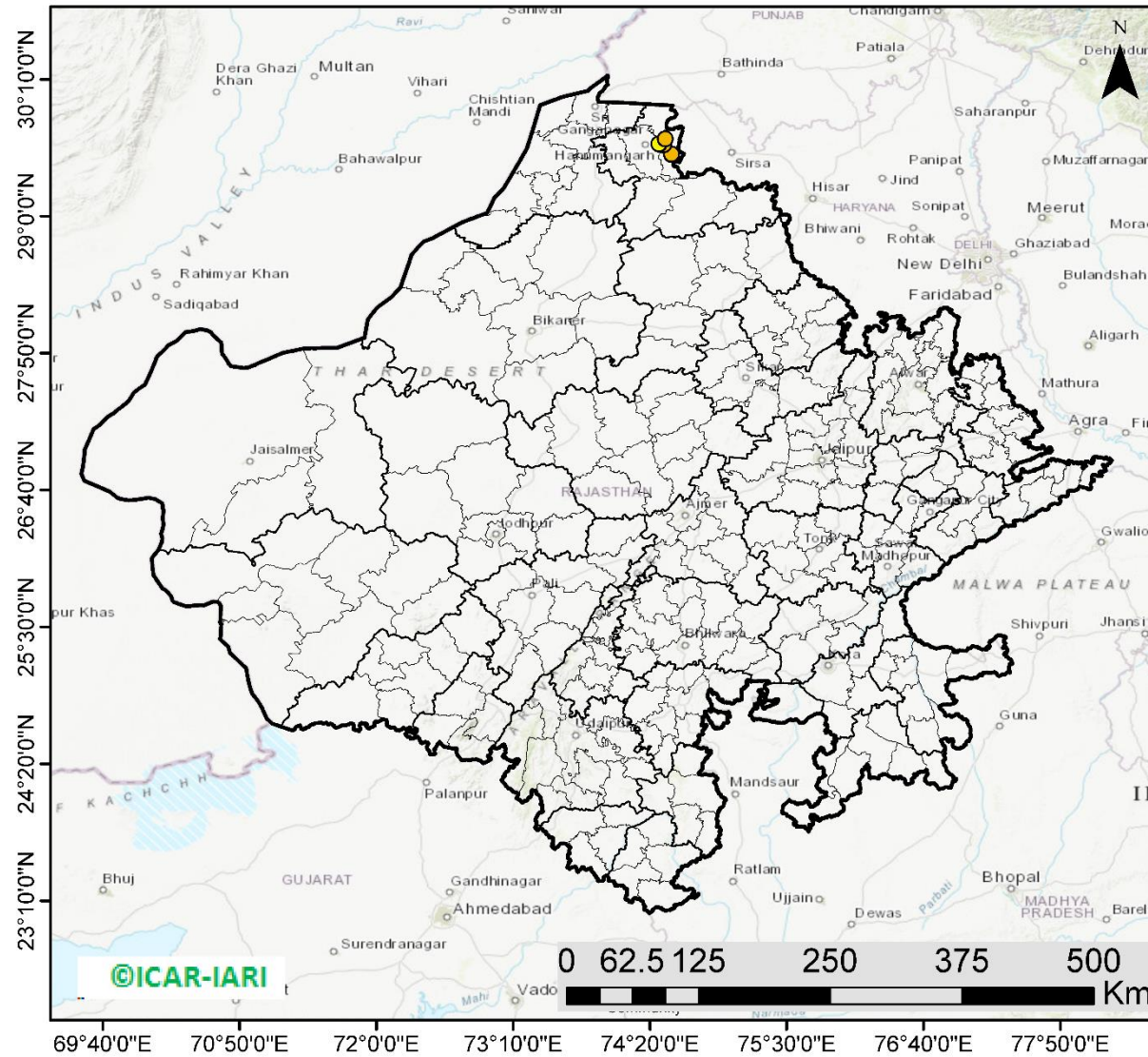


### Uttar Pradesh Cumulative Events (15Sep - 11Oct-2021)



# Rajasthan

## RICE RESIDUE BURNING IN RAJASTHAN



**07** burning events detected in Rajasthan on **11th October 2021**

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

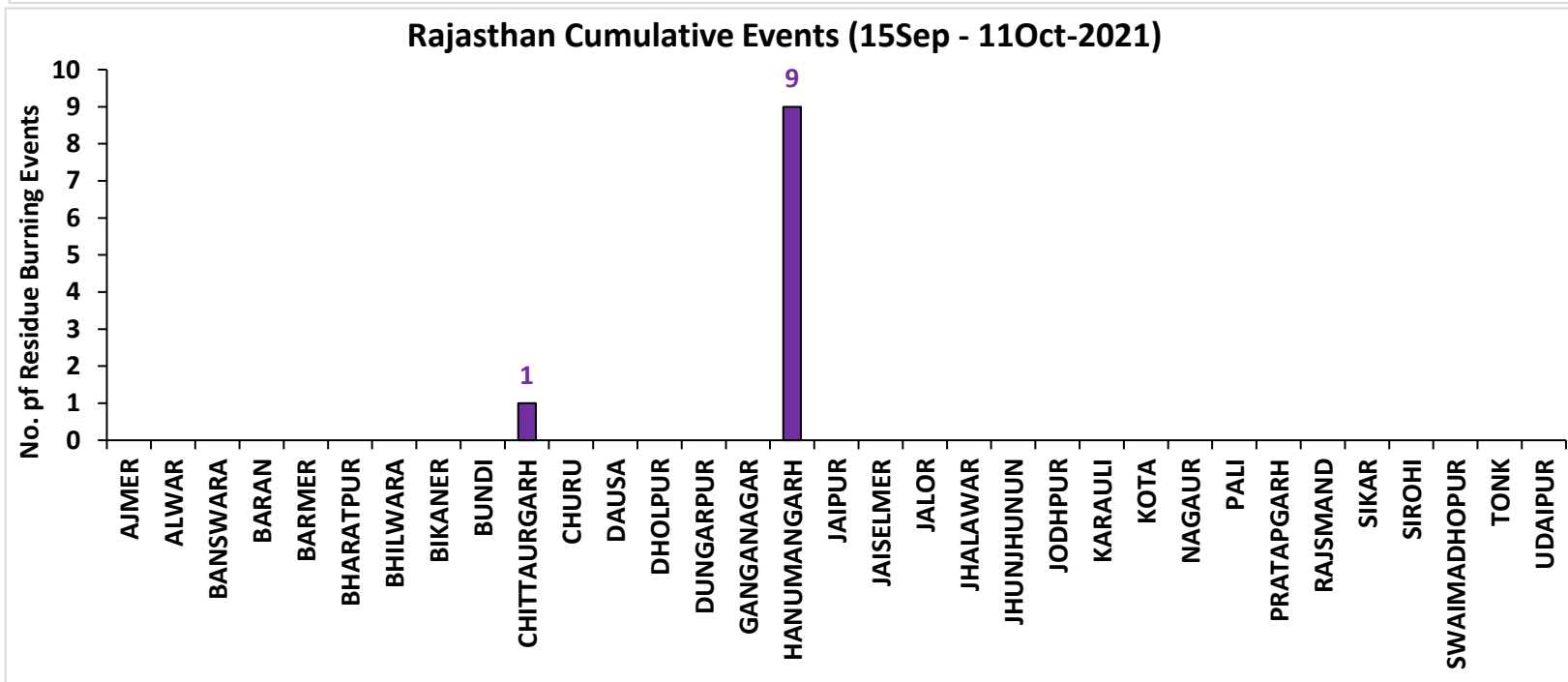
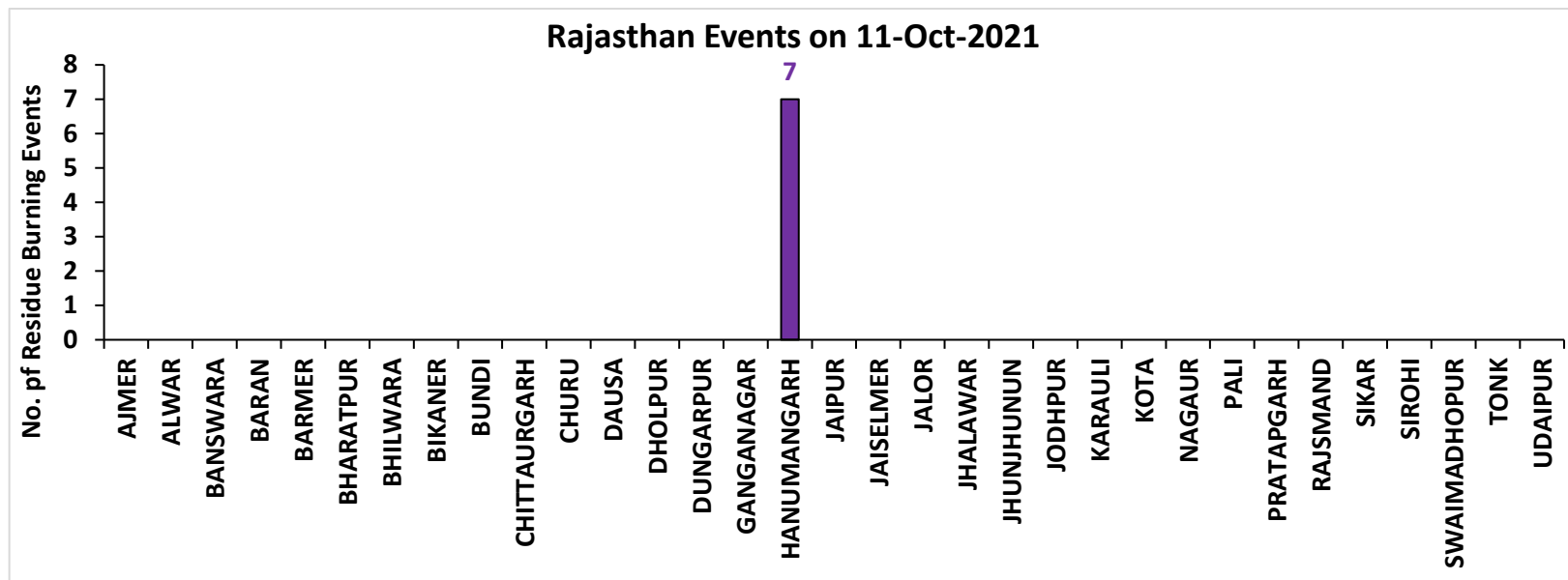
- 0 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- >20



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

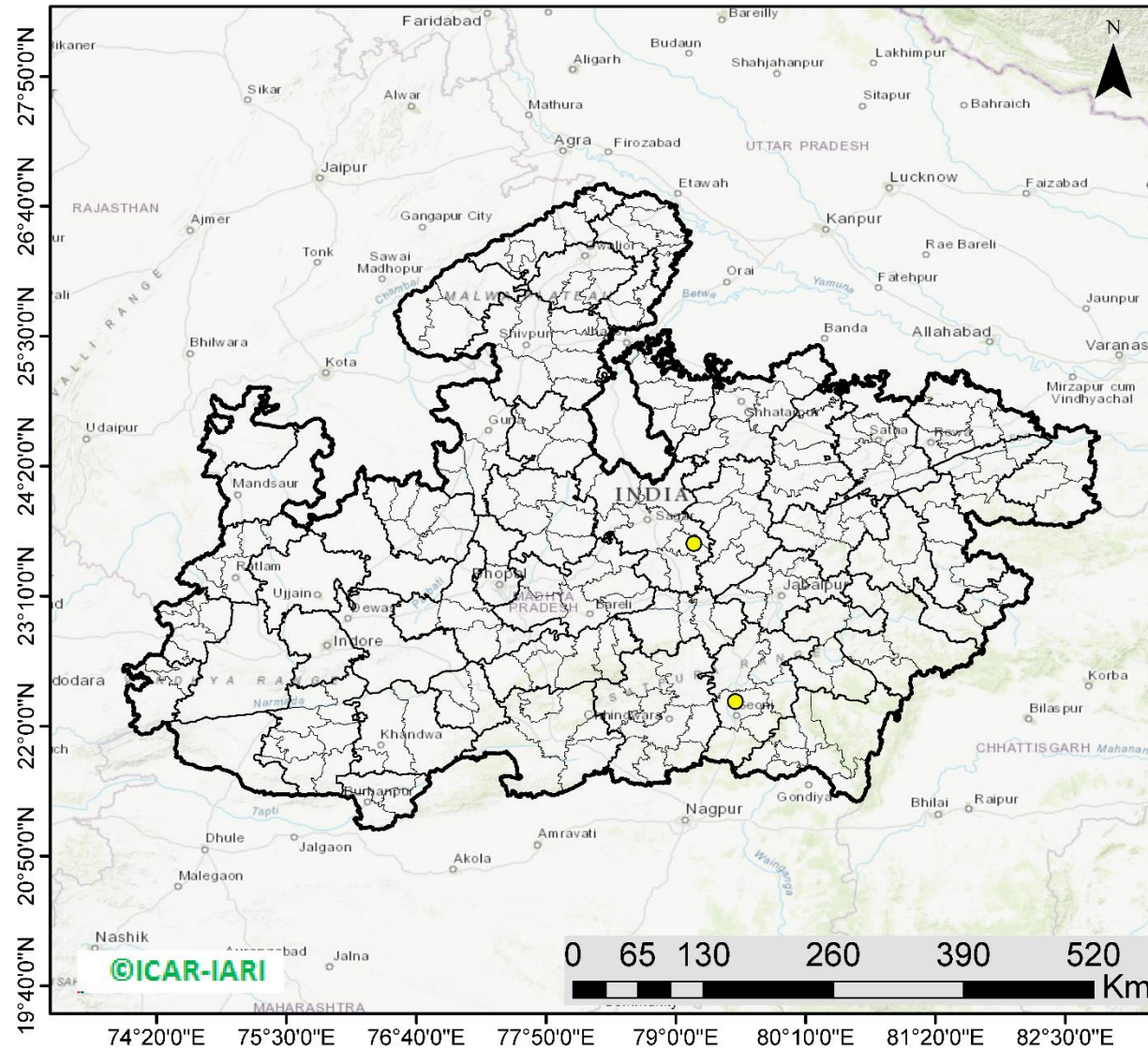


## District-wise cumulative number of residues burning events in Rajasthan (15 Sep - 11 Oct-2021)



# Madhya Pradesh

## RICE RESIDUE BURNING IN MADHYA PRADESH



**02** burning events detected in MP on 11th October 2021

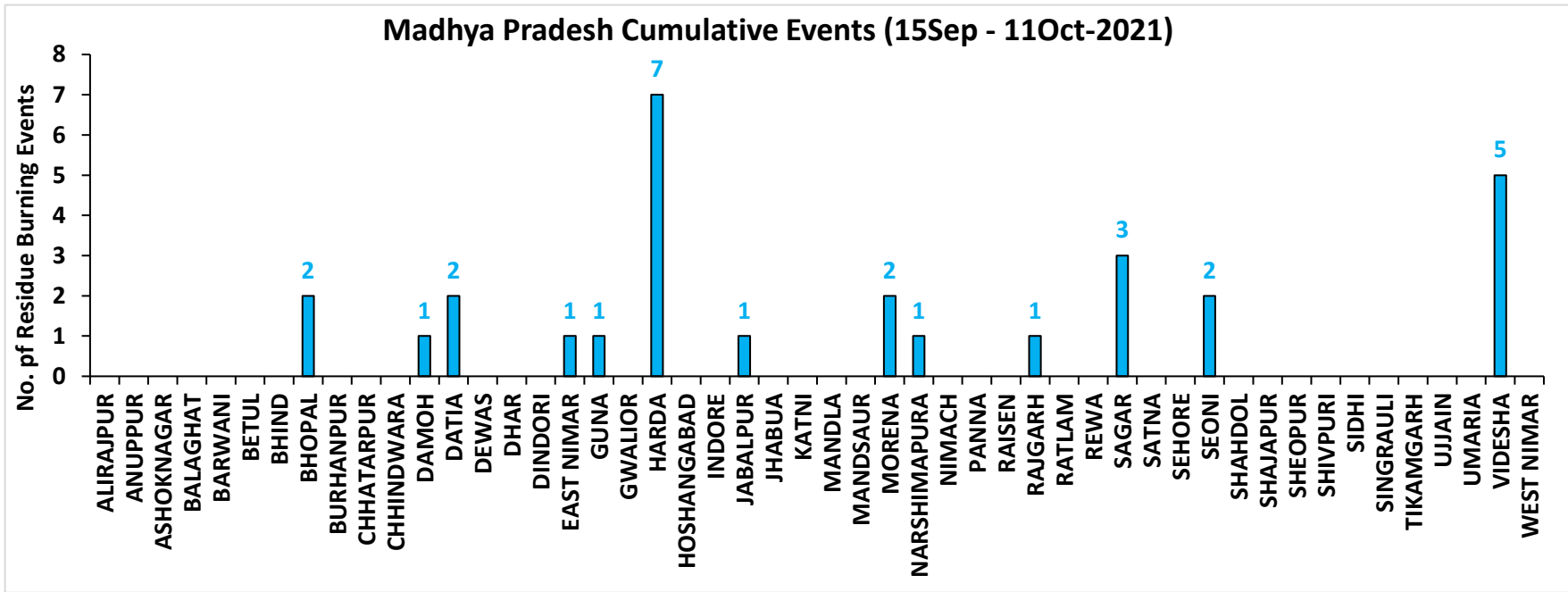
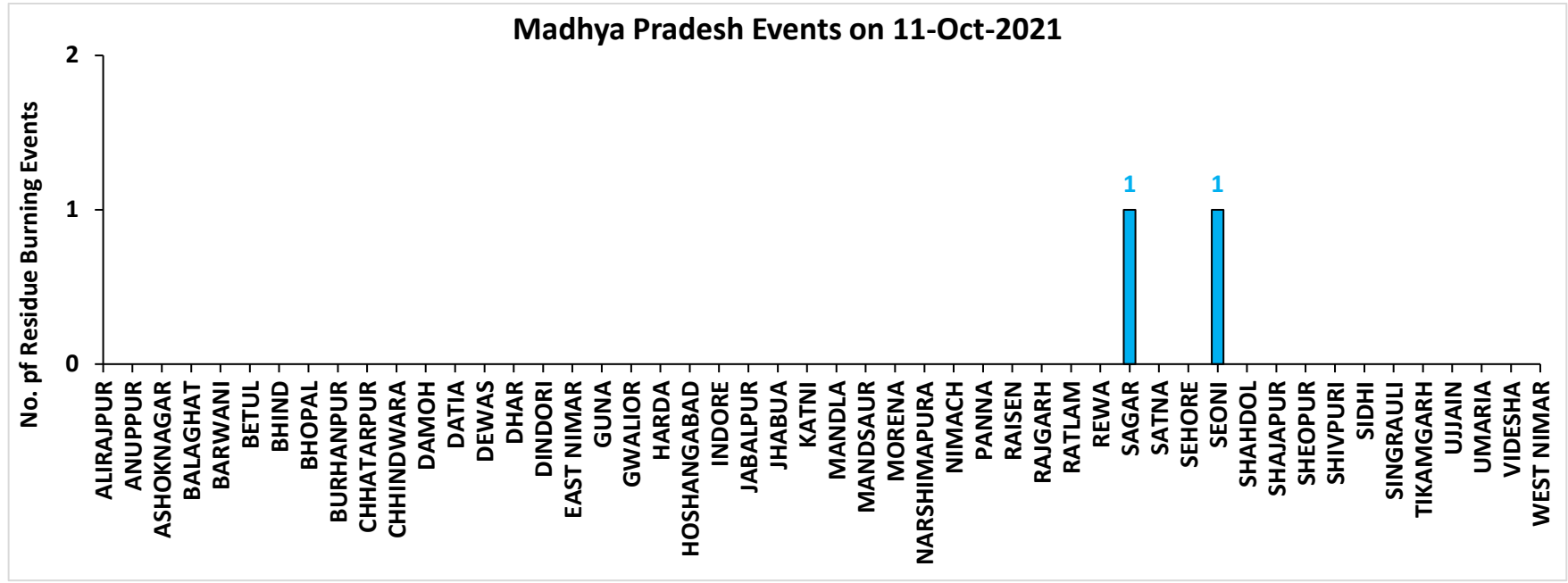
### Fire Intensity (W/m<sup>2</sup>)

- 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 - 11 Oct-2021)**



**District-wise cumulative number of residues burning events detected in 2020 and 2021**  
**(Period: 15 September - 11 October)**

**(a) Punjab**

District	15 Sep – 11 Oct	
	2020	2021
AMRITSAR	1426	343
BARNALA	6	5
BATHINDA	10	0
FARIDKOT	27	20
FATEHGARH SAHIB	45	28
FAZILKA	7	7
FIROZPUR	98	25
GURDASPUR	155	27
HOSHIARPUR	6	1
JALANDHAR	40	19
KAPURTHALA	63	26
LUDHIANA	85	61
MANSA	8	1
MOGA	22	8
MUKTSAR	4	2
PATHANKOT	0	0
PATIALA	209	67
RUPNAGAR	10	4
SANGRUR	70	11
SAS NAGAR (MOHALI)	17	11
SBS NAGAR	9	2
TARN TARAN	640	160
<b>Total</b>	<b>2957</b>	<b>828</b>

**(b) Haryana**

District	15 Sep – 11 Oct	
	2020	2021
AMBALA	57	13
BHIWANI	0	0
CHARKHI DADRI	0	0
FARIDABAD	0	1
FATEHABAD	29	9
GURGAON	0	0
HISAR	4	0
JHAJJAR	1	0
JIND	9	9
KAITHAL	65	50
KARNAL	116	94
KURUKSHETRA	81	49
MAHENDRAGARH	0	0
MEWAT	0	0
PALWAL	5	7
PANCHKULA	0	0
PANIPAT	6	3
REWARI	0	0
ROHTAK	0	0
SIRSA	3	0
SONIPAT	6	1
YAMUNANAGAR	29	11
<b>Total</b>	<b>411</b>	<b>247</b>

(c) Uttar Pradesh

District	15 Sep – 11 Oct							
	2020	2021	GAUTAMBUDHNAGAR	1	4	MUZAFARNAGAR	2	0
AGRA	1	0	GAZIPUR	0	0	PILHIBHIT	4	7
ALIGARH	17	3	GHAZIABAD	1	2	PRATAPGARH	0	0
ALLAHABAD	0	0	GONDA	0	0	RAIBEARELI	1	0
AMBEDKARNAGAR	0	0	GORAKHPUR	0	0	RAMPUR	8	16
AMETHI	0	1	HAMIRPUR	0	0	SAMBHAL	6	1
AMROHA	1	0	HAPUR	3	0	SANTKABIRNAGAR	0	0
AURAIYA	12	1	HARDOI	2	4	SANTRAVIDASNAGAR	0	0
AZAMGARH	0	0	HATHRAS	0	0	SHAHJAHANPUR	16	87
BADAUN	0	0	JALAUN	0	0	SHAMLI	17	5
BAGHPAT	1	0	JAUNPUR	0	0	SHARANPUR	15	0
BAHRAICH	2	2	JHANSI	5	0	SHRAWASTI	0	0
BALLIA	0	0	KANNAUJ	2	0	SIDDHARTHANAGAR	0	0
BALRAMPUR	0	0	KANPUR	0	1	SITAPUR	8	1
BANDA	0	0	KANPUR DEHAT	2	0	SONBHADRA	0	0
BARABANKI	10	0	KASGANJ	1	0	SULTANPUR	0	0
BAREILLY	7	4	KAUSHAMBI	7	1	UNNAO	2	0
BASTI	2	0	KHERI	16	16	VARANASI	0	0
BIJNOR	3	1	KUSHINAGAR	0	0	<b>Total</b>	<b>214</b>	<b>178</b>
BULANDSAHAR	3	1	LALITPUR	0	1			
CHANDAULI	0	0	LUCKNOW	2	0			
CHITRAKOOT	0	0	MAHARAJGANJ	0	0			
DEORIA	0	0	MAHOPA	0	0			
ETAH	4	2	MAINPURI	0	2			
ETAWAH	2	3	MATHURA	5	6			
FAIZABAD	0	0	MAU	0	0			
FARRUKHABAD	0	0	MEERUT	9	0			
FATEHPUR	7	0	MIRZAPUR	5	5			
FIROZABAD	1	0	MORADABAD	1	1			

**(d) Delhi**

District	15 Sep – 11 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
<b>Total</b>	<b>3</b>	<b>0</b>

**(e) Rajasthan**

District	15 Sep – 11 Oct	
	2020	2021
AJMER	0	0
ALWAR	1	0
BANSWARA	0	0
BARAN	67	0
BARMER	2	0
BHARATPUR	0	0
BHILWARA	2	0
BIKANER	0	0
BUNDI	3	0
CHITTAURGARH	0	1
CHURU	0	0
DAUSA	0	0
DHOLPUR	0	0
DUNGARPUR	0	0
GANGANAGAR	2	0
HANUMANGARH	40	9
JAIPUR	0	0
JAISELMER	2	0
JALOR	0	0
JHALAWAR	0	0
JHUNJHUNUN	1	0
JODHPUR	1	0
KARALI	1	0
KOTA	19	0
NAGAUR	0	0
PALI	1	0
PRATAPGARH	0	0
RAJSMAND	0	0
SIKAR	0	0
SIROHI	1	0
SWAIMADHOPUR	2	0
TONK	1	0
UDAIPUR	0	0
<b>Total</b>	<b>146</b>	<b>10</b>

(f) Madhya Pradesh

District	15 Sep – 11 Oct				
	2020	2021			
			PANNA	1	0
ALIRAJPUR	0	0	RAISEN	3	0
ANUPPUR	0	0	RAJGARH	6	1
ASHOKNAGAR	7	0	RATLAM	0	0
BALAGHAT	0	0	REWA	2	0
BARWANI	0	0	SAGAR	10	3
BETUL	0	0	SATNA	3	0
BHIND	0	0	SEHORE	4	0
BHOPAL	3	2	SEONI	2	2
BURHANPUR	0	0	SHAHDOL	0	0
CHHATARPUR	3	0	SHAJAPUR	4	0
CHHINDWARA	0	0	SHEOPUR	5	0
DAMOH	11	1	SHIVPURI	3	0
DATIA	17	2	SIDHI	0	0
DEWAS	3	0	SINGRAULI	0	0
DHAR	16	0	TIKAMGARH	1	0
DINDORI	0	0	UJJAIN	5	0
EAST NIMAR	1	1	UMARIA	0	0
GUNA	9	1	VIDESHA	42	5
GWALIOR	18	0	WEST NIMAR	2	0
HARDA	8	7	<b>Total</b>	<b>210</b>	<b>29</b>
HOSHANGABAD	7	0			
INDORE	2	0			
JABALPUR	6	1			
JHABUA	0	0			
KATNI	0	0			
MANDLA	0	0			
MANDSAUR	0	0			
MORENA	5	2			
NARSHIMAPURA	1	1			
NIMACH	0	0			

**State-wise and date-wise number of paddy residue burning events detected in 2020 and 2021**  
**(Period: 15 September – 11 October)**

<b>Number of Paddy Residue Burning Events Detected</b>												
	<b>Punjab</b>		<b>Haryana</b>		<b>Uttar Pradesh</b>		<b>Delhi</b>		<b>Rajasthan</b>		<b>Madhya Pradesh</b>	
	<b>2020</b>	<b>2021</b>	<b>2020</b>	<b>2021</b>	<b>2020</b>	<b>2021</b>	<b>2020</b>	<b>2021</b>	<b>2020</b>	<b>2021</b>	<b>2020</b>	<b>2021</b>
<b>15-Sep</b>	5	0	2	0	1	0	0	0	1	0	2	0
<b>16-Sep</b>	0	2	1	0	0	0	0	0	0	0	0	0
<b>17-Sep</b>	5	0	3	0	0	0	0	0	0	0	0	0
<b>18-Sep</b>	17	9	0	0	0	1	0	0	0	0	0	0
<b>19-Sep</b>	30	5	2	0	0	1	0	0	0	0	0	0
<b>20-Sep</b>	67	8	6	0	2	0	0	0	0	0	0	0
<b>21-Sep</b>	54	0	2	0	1	0	0	0	1	0	2	0
<b>22-Sep</b>	34	0	1	0	1	0	0	0	0	0	0	0
<b>23-Sep</b>	49	0	0	0	1	0	0	0	1	0	0	0
<b>24-Sep</b>	78	5	0	0	1	1	0	0	0	0	0	0
<b>25-Sep</b>	184	11	11	0	5	0	0	0	1	0	0	0
<b>26-Sep</b>	190	19	5	0	8	0	0	0	1	0	2	0
<b>27-Sep</b>	78	37	8	0	4	1	0	0	0	0	1	0
<b>28-Sep</b>	55	28	6	1	1	6	0	0	0	0	1	1
<b>29-Sep</b>	63	64	9	4	6	10	0	0	3	0	0	4
<b>30-Sep</b>	116	27	22	2	13	13	1	0	1	0	5	0
<b>01-Oct</b>	165	13	15	4	7	13	0	0	4	1	13	0
<b>02-Oct</b>	141	0	30	2	12	0	1	0	7	0	12	0
<b>03-Oct</b>	110	9	8	6	4	3	0	0	9	0	5	1
<b>04-Oct</b>	162	23	29	2	8	0	0	0	15	0	4	2
<b>05-Oct</b>	161	18	17	3	14	2	0	0	14	0	13	1
<b>06-Oct</b>	171	42	30	0	12	1	1	0	16	0	37	1
<b>07-Oct</b>	197	72	32	11	41	13	0	0	14	1	31	1
<b>08-Oct</b>	95	108	29	27	25	11	0	0	11	0	17	2
<b>09-Oct</b>	121	114	20	39	15	20	0	0	12	0	15	4
<b>10-Oct</b>	232	150	33	95	9	54	0	0	14	1	18	1
<b>11-Oct</b>	377	64	90	51	23	28	0	0	21	7	32	2
<b>Total</b>	<b>2957</b>	<b>828</b>	<b>411</b>	<b>247</b>	<b>214</b>	<b>178</b>	<b>3</b>	<b>0</b>	<b>146</b>	<b>10</b>	<b>210</b>	<b>20</b>



### Details of residue burning events in Punjab on 11-Oct-2021

S. No.	District	Block	Satellite	Latitude	Longitude	ACQ_DATE	ACQ_TIME	Day / Night	Fire Power (W/m <sup>2</sup> )
1	AMRITSAR	ATTARI	S-NPP	31.51870	74.60430	10/11/2021	12:58:34	D	3.70
2	AMRITSAR	ATTARI	S-NPP	31.52100	74.60620	10/11/2021	12:58:34	D	5.20
3	AMRITSAR	ATTARI	S-NPP	31.54310	74.83910	10/11/2021	12:58:34	D	8.20
4	AMRITSAR	ATTARI	S-NPP	31.57840	74.76230	10/11/2021	12:58:34	D	7.50
5	AMRITSAR	ATTARI	S-NPP	31.58020	74.81370	10/11/2021	12:58:34	D	2.60
6	AMRITSAR	ATTARI	S-NPP	31.58090	74.85930	10/11/2021	12:58:34	D	3.40
7	AMRITSAR	ATTARI	S-NPP	31.61130	74.56810	10/11/2021	12:58:34	D	3.40
8	AMRITSAR	HARSHA CHHINA	S-NPP	31.71140	74.77750	10/11/2021	12:58:34	D	4.80
9	AMRITSAR	JANDIALA GURU	S-NPP	31.52060	75.06090	10/11/2021	12:58:34	D	2.10
10	AMRITSAR	JANDIALA GURU	S-NPP	31.53930	75.03860	10/11/2021	12:58:34	D	6.30
11	AMRITSAR	JANDIALA GURU	S-NPP	31.55200	75.09610	10/11/2021	12:58:34	D	3.40
12	AMRITSAR	JANDIALA GURU	S-NPP	31.63310	75.03020	10/11/2021	12:58:34	D	3.00
13	AMRITSAR	MAJITHA	S-NPP	31.69770	75.06660	10/11/2021	12:58:34	D	2.40
14	AMRITSAR	MAJITHA	S-NPP	31.71690	75.08020	10/11/2021	12:58:34	D	3.80
15	AMRITSAR	RAYYA	S-NPP	31.51720	75.11880	10/11/2021	12:58:34	D	2.60
16	AMRITSAR	RAYYA	S-NPP	31.52830	75.14870	10/11/2021	12:58:34	D	7.00
17	AMRITSAR	RAYYA	S-NPP	31.52840	75.17080	10/11/2021	12:58:34	D	12.50
18	AMRITSAR	RAYYA	S-NPP	31.53020	75.14680	10/11/2021	12:58:34	D	11.20
19	AMRITSAR	RAYYA	S-NPP	31.61760	75.20330	10/11/2021	12:58:34	D	5.50
20	AMRITSAR	RAYYA	S-NPP	31.64180	75.22890	10/11/2021	12:58:34	D	3.40
21	AMRITSAR	RAYYA	S-NPP	31.64450	75.23040	10/11/2021	12:58:34	D	2.60
22	AMRITSAR	TARSIKKA	S-NPP	31.65860	75.18820	10/11/2021	12:58:34	D	3.70
23	AMRITSAR	TARSIKKA	S-NPP	31.66300	75.18690	10/11/2021	12:58:34	D	3.70
24	AMRITSAR	TARSIKKA	S-NPP	31.68720	75.19060	10/11/2021	12:58:34	D	5.60
25	AMRITSAR	VERKA	S-NPP	31.72620	74.88730	10/11/2021	12:58:34	D	6.90
26	BARNALA	BARNALA	S-NPP	30.34800	75.64040	10/11/2021	12:58:34	D	5.60
27	FAZILKA	ARNIWALA SHEIKH SUBANPUR	S-NPP	30.43270	74.12500	10/11/2021	14:38:09	D	6.70
28	FAZILKA	ARNIWALA SHEIKH SUBANPUR	S-NPP	30.43310	74.12690	10/11/2021	14:38:09	D	7.50
29	FAZILKA	FAZILKA	S-NPP	30.37070	74.01700	10/11/2021	14:38:09	D	7.20

30	FAZILKA	JALALABAD	S-NPP	30.46270	74.20560	10/11/2021	12:58:34	D	5.70
31	GURDASPUR	BATALA	S-NPP	31.75770	75.24290	10/11/2021	12:58:34	D	2.90
32	GURDASPUR	BATALA	S-NPP	31.75850	75.24010	10/11/2021	12:58:34	D	4.10
33	GURDASPUR	DERA BABA NANAK	S-NPP	31.93420	75.10040	10/11/2021	12:58:34	D	5.50
34	GURDASPUR	FATEHGARH CHURIAN	S-NPP	31.86730	75.11490	10/11/2021	12:58:34	D	3.70
35	GURDASPUR	KALANAUR	S-NPP	31.97270	75.13530	10/11/2021	12:58:34	D	8.10
36	GURDASPUR	SRI HARGOBINDPUR	S-NPP	31.70400	75.39530	10/11/2021	12:58:34	D	5.80
37	GURDASPUR	SRI HARGOBINDPUR	S-NPP	31.73340	75.29610	10/11/2021	12:58:34	D	4.70
38	HOSHIARPUR	GARH SHANKAR	S-NPP	31.21990	76.06350	10/11/2021	12:58:34	D	3.20
39	JALANDHAR	SHAHKOT	S-NPP	31.02940	75.39250	10/11/2021	12:58:34	D	7.90
40	JALANDHAR	SHAHKOT	S-NPP	31.03290	75.39440	10/11/2021	12:58:34	D	8.60
41	JALANDHAR	SHAHKOT	S-NPP	31.06320	75.28970	10/11/2021	12:58:34	D	13.20
42	LUDHIANA	MACHHIWARA	S-NPP	30.85700	76.14490	10/11/2021	12:58:34	D	1.40
43	LUDHIANA	MALAUD	S-NPP	30.68860	75.92700	10/11/2021	12:58:34	D	4.90
44	LUDHIANA	SAMRALA	S-NPP	30.81650	76.23020	10/11/2021	12:58:34	D	2.50
45	LUDHIANA	SAMRALA	S-NPP	30.82720	76.08850	10/11/2021	12:58:34	D	7.60
46	MOGA	MOGA-1	S-NPP	30.72590	75.18440	10/11/2021	12:58:34	D	3.30
47	PATIALA	PATRAM	S-NPP	29.86280	76.23270	10/11/2021	12:58:34	D	7.80
48	PATIALA	PATRAM	S-NPP	29.90790	76.16590	10/11/2021	12:58:34	D	10.00
49	PATIALA	RAJPURA	S-NPP	30.52740	76.65080	10/11/2021	12:58:34	D	6.40
50	PATIALA	RAJPURA	S-NPP	30.52790	76.65410	10/11/2021	12:58:34	D	5.10
51	PATIALA	SANAUR	S-NPP	30.31580	76.47630	10/11/2021	12:58:34	D	3.70
52	RUPNAGAR	MORINDA	S-NPP	30.83000	76.46330	10/11/2021	12:58:34	D	5.10
53	RUPNAGAR	MORINDA	S-NPP	30.85880	76.47430	10/11/2021	12:58:34	D	3.70
54	SANGRUR	ANDANA	S-NPP	29.82610	76.05770	10/11/2021	12:58:34	D	2.40
55	SANGRUR	BHAWANIGARH	S-NPP	30.33050	76.00640	10/11/2021	12:58:34	D	4.70
56	TARN TARAN	CHOHLA SAHIB	S-NPP	31.26650	75.01940	10/11/2021	12:58:34	D	13.50
57	TARN TARAN	CHOHLA SAHIB	S-NPP	31.26780	75.02190	10/11/2021	12:58:34	D	10.60
58	TARN TARAN	KHADUR SAHIB	S-NPP	31.38360	75.11700	10/11/2021	12:58:34	D	6.10
59	TARN TARAN	KHADUR SAHIB	S-NPP	31.47540	75.18640	10/11/2021	12:58:34	D	4.40
60	TARN TARAN	KHADUR SAHIB	S-NPP	31.48970	75.16560	10/11/2021	12:58:34	D	4.30
61	TARN TARAN	KHADUR SAHIB	S-NPP	31.51290	75.16430	10/11/2021	12:58:34	D	5.20
62	TARN TARAN	TARN TARAN	S-NPP	31.42310	75.01250	10/11/2021	12:58:34	D	3.70

63	TARN TARAN	TARN TARAN	S-NPP	31.48260	74.86860	10/11/2021	12:58:34	D	18.10
64	TARN TARAN	TARN TARAN	S-NPP	31.52150	75.04390	10/11/2021	12:58:34	D	10.30

### Details of residue burning events in Haryana on 11-Oct-2021

S. No.	District	Block	Satellite	Latitude	Longitude	ACQ_DATE	ACQ_TIME	Day / Night	Fire Power (W/m <sup>2</sup> )
1	FATEHABAD	BHUNA	S-NPP	29.55820	75.80740	10/11/2021	12:58:34	D	12.30
2	FATEHABAD	BHUNA	S-NPP	29.56260	75.80620	10/11/2021	12:58:34	D	9.90
3	FATEHABAD	TOHANA	S-NPP	29.65700	75.93270	10/11/2021	12:58:34	D	8.60
4	FATEHABAD	TOHANA	S-NPP	29.67230	75.69580	10/11/2021	12:58:34	D	4.80
5	JIND	SAFIDON	S-NPP	29.42680	76.54920	10/11/2021	12:58:34	D	4.60
6	JIND	SAFIDON	S-NPP	29.46220	76.58890	10/11/2021	12:58:34	D	2.80
7	JIND	SAFIDON	S-NPP	29.46640	76.58780	10/11/2021	12:58:34	D	2.80
8	KAITHAL	KAITHAL	S-NPP	29.89580	76.43390	10/11/2021	12:58:34	D	5.80
9	KAITHAL	PUNDRI	S-NPP	29.67490	76.57830	10/11/2021	12:58:34	D	3.80
10	KAITHAL	PUNDRI	S-NPP	29.81020	76.70220	10/11/2021	12:58:34	D	3.10
11	KAITHAL	SIWAN	S-NPP	29.86270	76.38350	10/11/2021	12:58:34	D	4.70
12	KAITHAL	SIWAN	S-NPP	29.86430	76.28290	10/11/2021	12:58:34	D	8.20
13	KAITHAL	SIWAN	S-NPP	29.92100	76.24880	10/11/2021	12:58:34	D	4.00
14	KAITHAL	SIWAN	S-NPP	29.92650	76.23210	10/11/2021	12:58:34	D	7.50
15	KARNAL	ASSANDH	S-NPP	29.50170	76.51910	10/11/2021	12:58:34	D	6.10
16	KARNAL	ASSANDH	S-NPP	29.50300	76.52020	10/11/2021	12:58:34	D	5.40
17	KARNAL	ASSANDH	S-NPP	29.52890	76.55750	10/11/2021	12:58:34	D	3.00
18	KARNAL	ASSANDH	S-NPP	29.54460	76.56800	10/11/2021	12:58:34	D	3.60
19	KARNAL	ASSANDH	S-NPP	29.62140	76.63510	10/11/2021	12:58:34	D	2.50
20	KARNAL	ASSANDH	S-NPP	29.64580	76.66730	10/11/2021	12:58:34	D	5.20
21	KARNAL	ASSANDH	S-NPP	29.64680	76.67190	10/11/2021	12:58:34	D	5.20
22	KARNAL	ASSANDH	S-NPP	29.64900	76.66770	10/11/2021	12:58:34	D	11.70
23	KARNAL	CHIRAO	S-NPP	29.60800	76.89170	10/11/2021	12:58:34	D	8.90
24	KARNAL	CHIRAO	S-NPP	29.60890	76.89610	10/11/2021	12:58:34	D	8.70
25	KARNAL	CHIRAO	S-NPP	29.65420	76.90280	10/11/2021	12:58:34	D	2.50
26	KARNAL	CHIRAO	S-NPP	29.67630	76.81680	10/11/2021	12:58:34	D	2.80

27	KARNAL	CHIRAO	S-NPP	29.70920	76.74270	10/11/2021	12:58:34	D	2.60
28	KARNAL	CHIRAO	S-NPP	29.77200	76.76850	10/11/2021	12:58:34	D	3.70
29	KARNAL	GHARAUNDA	S-NPP	29.47200	77.08250	10/11/2021	12:58:34	D	3.00
30	KARNAL	GHARAUNDA	S-NPP	29.50220	77.03760	10/11/2021	12:58:34	D	3.10
31	KARNAL	GHARAUNDA	S-NPP	29.56680	77.07340	10/11/2021	12:58:34	D	1.00
32	KARNAL	GHARAUNDA	S-NPP	29.58090	76.94940	10/11/2021	12:58:34	D	2.50
33	KARNAL	GHARAUNDA	S-NPP	29.58250	77.06460	10/11/2021	12:58:34	D	7.60
34	KARNAL	GHARAUNDA	S-NPP	29.58750	77.06790	10/11/2021	12:58:34	D	8.30
35	KARNAL	INDRI	S-NPP	29.90610	77.10390	10/11/2021	12:58:34	D	3.00
36	KARNAL	KARNAL	S-NPP	29.68330	77.06620	10/11/2021	12:58:34	D	4.10
37	KARNAL	NILOKHERI	S-NPP	29.75550	76.88140	10/11/2021	12:58:34	D	4.50
38	KARNAL	NILOKHERI	S-NPP	29.91770	76.90390	10/11/2021	12:58:34	D	5.90
39	KARNAL	NILOKHERI	S-NPP	29.91780	76.90140	10/11/2021	12:58:34	D	4.50
40	KURUKSHETRA	ISMAILABAD	S-NPP	30.03550	76.64480	10/11/2021	12:58:34	D	7.50
41	KURUKSHETRA	LADWA	S-NPP	30.04480	77.03260	10/11/2021	12:58:34	D	4.20
42	KURUKSHETRA	SHAHBAD	S-NPP	30.12190	76.85200	10/11/2021	12:58:34	D	2.70
43	KURUKSHETRA	SHAHBAD	S-NPP	30.19440	76.92580	10/11/2021	12:58:34	D	3.10
44	KURUKSHETRA	THANESAR	S-NPP	29.90710	76.74500	10/11/2021	12:58:34	D	4.20
45	KURUKSHETRA	THANESAR	S-NPP	29.93040	76.77180	10/11/2021	12:58:34	D	7.10
46	KURUKSHETRA	THANESAR	S-NPP	30.03600	76.75370	10/11/2021	12:58:34	D	2.00
47	PALWAL	PALWAL	S-NPP	28.10750	77.43160	10/11/2021	12:58:34	D	3.70
48	PALWAL	PALWAL	S-NPP	28.13180	77.35600	10/11/2021	12:58:34	D	15.40
49	PANIPAT	ISRANA	S-NPP	29.27900	76.88990	10/11/2021	12:58:34	D	2.60
50	YAMUNANAGAR	JAGADHRI	S-NPP	30.15170	77.25510	10/11/2021	12:58:34	D	2.60
51	YAMUNANAGAR	RADAUR	S-NPP	30.04050	77.26640	10/11/2021	12:58:34	D	1.60

### Details of residue burning events in Uttar Pradesh on 11-Oct-2021

S. No.	District	Block	Satellite	Latitude	Longitude	ACQ_DATE	ACQ_TIME	Day / Night	Fire Power (W/m <sup>2</sup> )
1	ALIGARH	KHAIR	S-NPP	28.02980	77.54630	10/11/2021	12:58:34	D	2.80
2	AMETHI	MUSAFIRKHANA	S-NPP	26.42570	81.75670	10/11/2021	12:58:34	D	3.40
3	AURAIYA	BIDHUNA	S-NPP	26.64280	79.47870	10/11/2021	01:47:52	N	3.20
4	BAHRAICH	MAHASI	S-NPP	27.51140	81.52330	10/11/2021	12:58:34	D	5.00
5	BAHRAICH	MAHASI	S-NPP	27.51360	81.52560	10/11/2021	12:58:34	D	7.00
6	ETAH	JALESAR	S-NPP	27.51980	78.42620	10/11/2021	12:58:34	D	4.00
7	GAUTAMBUDHNAGAR	JEVAR	S-NPP	28.14340	77.52280	10/11/2021	12:58:34	D	5.00
8	GAUTAMBUDHNAGAR	JEVAR	S-NPP	28.19000	77.55820	10/11/2021	12:58:34	D	3.20
9	GAUTAMBUDHNAGAR	JEVAR	S-NPP	28.19020	77.56080	10/11/2021	12:58:34	D	5.70
10	HARDOI	BILGRAM	S-NPP	26.98480	80.18290	10/11/2021	12:58:34	D	3.80
11	KHERI	GOLA	S-NPP	28.21150	80.31080	10/11/2021	12:58:34	D	6.50
12	KHERI	MOHMADI	S-NPP	27.90460	80.25660	10/11/2021	12:58:34	D	3.30
13	MATHURA	CHHATA	S-NPP	27.68730	77.68950	10/11/2021	12:58:34	D	7.90
14	MATHURA	CHHATA	S-NPP	27.69060	77.68410	10/11/2021	12:58:34	D	6.30
15	MIRZAPUR	MARIHAN	S-NPP	24.82090	82.71610	10/11/2021	12:58:34	D	5.20
16	MIRZAPUR	MARIHAN	S-NPP	24.82360	82.71140	10/11/2021	12:58:34	D	5.20
17	MIRZAPUR	MARIHAN	S-NPP	24.82900	82.72290	10/11/2021	12:58:34	D	4.40
18	MIRZAPUR	MARIHAN	S-NPP	24.83240	82.72220	10/11/2021	12:58:34	D	4.40
19	MIRZAPUR	MARIHAN	S-NPP	24.83450	82.71340	10/11/2021	12:58:34	D	7.70
20	PILHIBHIT	PURANPUR	S-NPP	28.44190	80.19280	10/11/2021	12:58:34	D	1.50
21	PILHIBHIT	PURANPUR	S-NPP	28.58040	80.19210	10/11/2021	12:58:34	D	3.60
22	PILHIBHIT	PURANPUR	S-NPP	28.58150	80.19370	10/11/2021	12:58:34	D	7.10
23	RAMPUR	BILASPUR	S-NPP	28.80340	79.31970	10/11/2021	12:58:34	D	4.60
24	RAMPUR	SUAR	S-NPP	28.87500	79.18130	10/11/2021	12:58:34	D	3.10
25	SHAHJAHANPUR	PUWANYA	S-NPP	28.16280	80.22860	10/11/2021	12:58:34	D	3.00
26	SHAHJAHANPUR	PUWANYA	S-NPP	28.19520	80.22120	10/11/2021	12:58:34	D	3.90
27	SHAHJAHANPUR	PUWANYA	S-NPP	28.20950	80.23770	10/11/2021	12:58:34	D	3.00
28	SHAHJAHANPUR	PUWANYA	S-NPP	28.25070	80.23800	10/11/2021	12:58:34	D	3.70

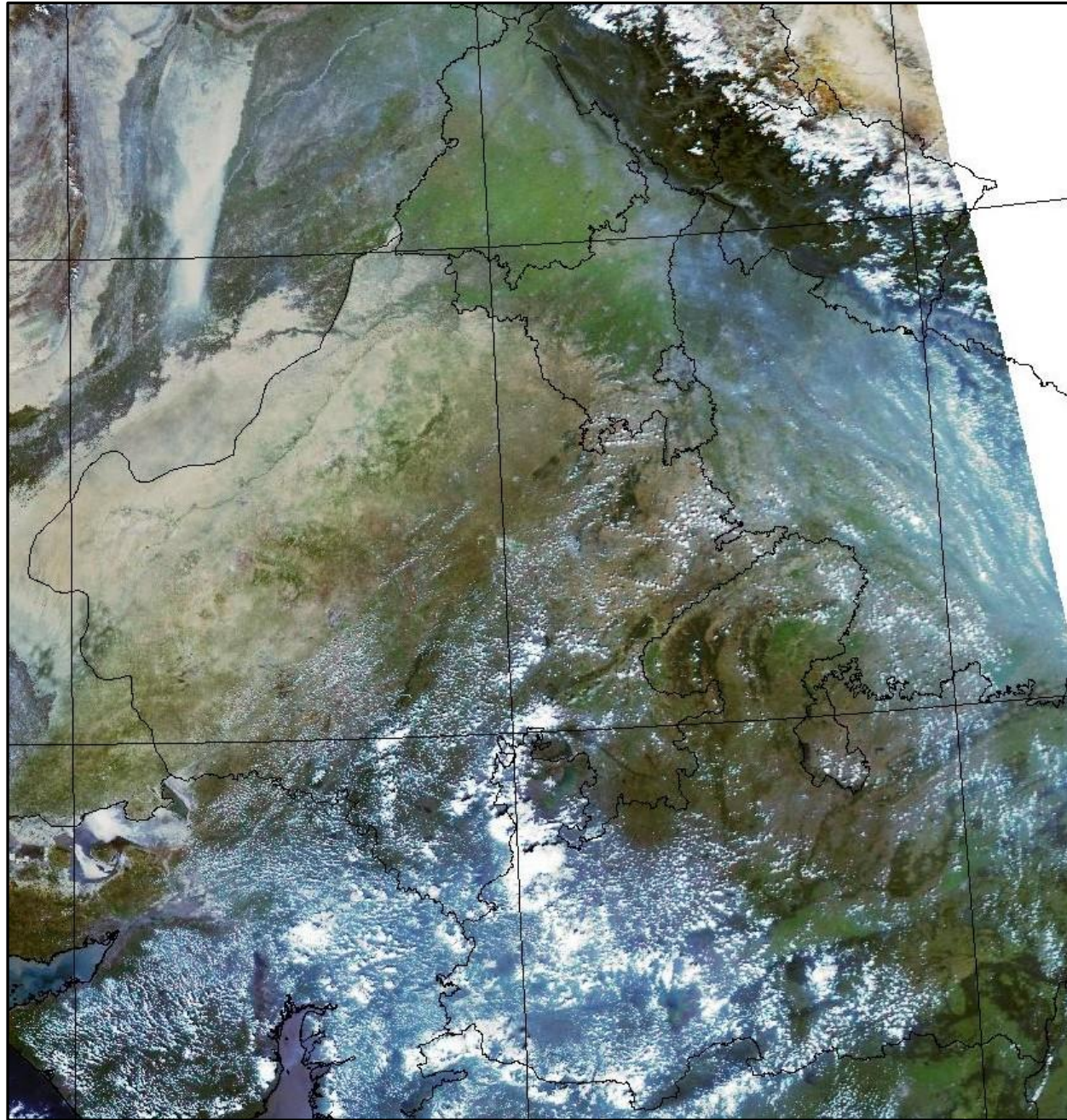
### Details of residue burning events in Rajasthan on 11-Oct-2021

S. No.	District	Block	Satellite	Latitude	Longitude	ACQ_DATE	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	HANUMANGARH	SANGHRIYA	S-NPP	29.61340	74.41300	10/11/2021	12:58:34	D	3.50
2	HANUMANGARH	SANGHRIYA	S-NPP	29.61540	74.41060	10/11/2021	12:58:34	D	4.40
3	HANUMANGARH	TIBI	S-NPP	29.52460	74.51740	10/11/2021	12:58:34	D	3.90
4	HANUMANGARH	TIBI	S-NPP	29.52750	74.51860	10/11/2021	12:58:34	D	7.50
5	HANUMANGARH	TIBI	S-NPP	29.60590	74.44800	10/11/2021	12:58:34	D	3.70
6	HANUMANGARH	TIBI	S-NPP	29.60940	74.45170	10/11/2021	12:58:34	D	7.50
7	HANUMANGARH	TIBI	S-NPP	29.65810	74.46350	10/11/2021	12:58:34	D	5.30

### Details of residue burning events in Madhya Pradesh on 11-Oct-2021

S. No.	District	Block	Satellite	Latitude	Longitude	ACQ_DATE	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	SAGAR	REHLI	S-NPP	23.63800	79.16220	10/11/2021	12:58:34	D	3.80
2	SEONI	SEONI	S-NPP	22.21910	79.53550	10/11/2021	12:58:34	D	3.00

[AQUA \(MODIS\) Satellite image \(TCC\) of North and Central India Acquired on 11-Oct-2021 at 13:11:21 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)

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