



## Bulletin No. 18

Events Date:  
02-Oct-2022

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02-Oct-2022



# MONITORING PADDY RESIDUE BURNING IN INDIA USING SATELLITE REMOTE SENSING DURING 2022



Prepared by:

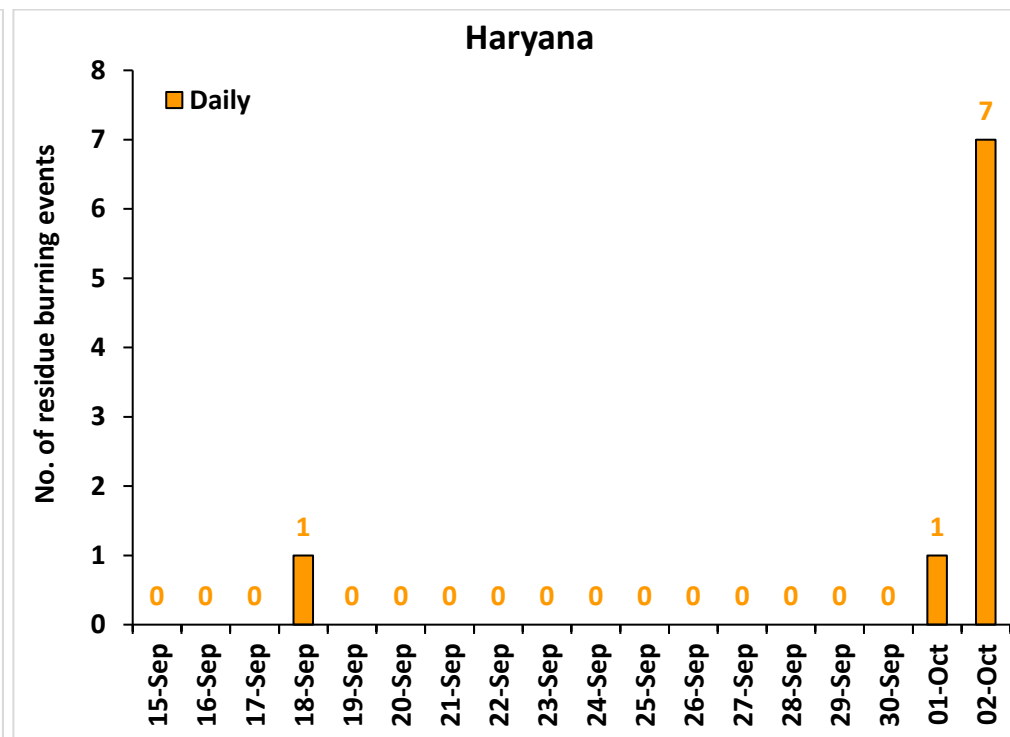
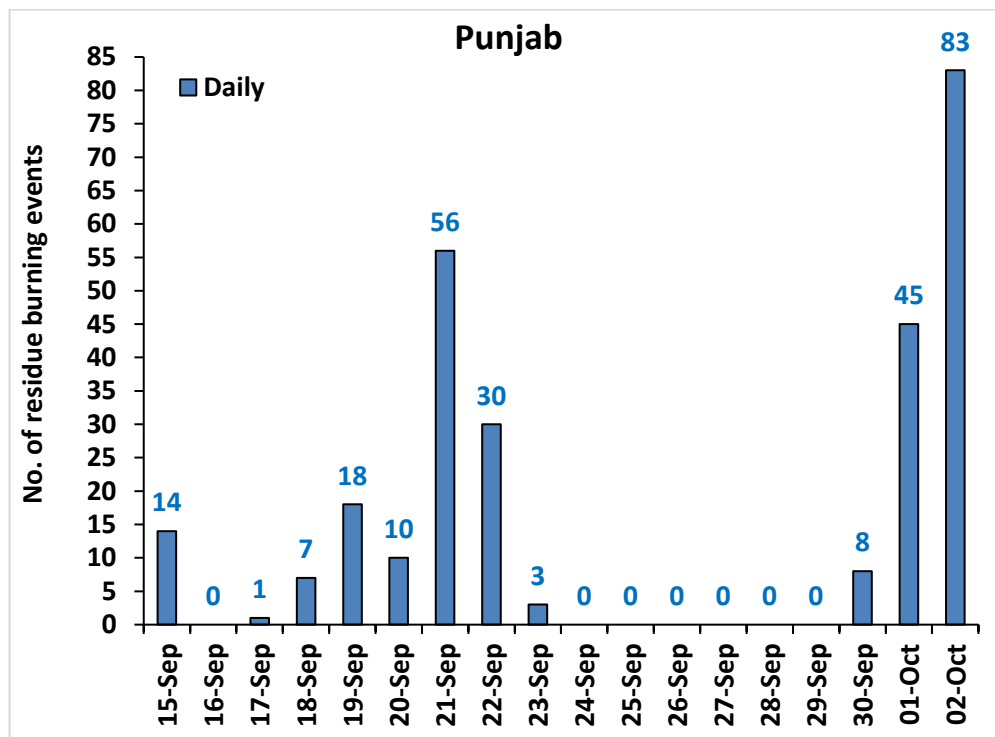
Consortium for Research on Agroecosystem Monitoring and Modeling from Space (CREAMS) Laboratory,  
Division of Agricultural Physics, ICAR – Indian Agricultural Research Institute, New Delhi – 110012

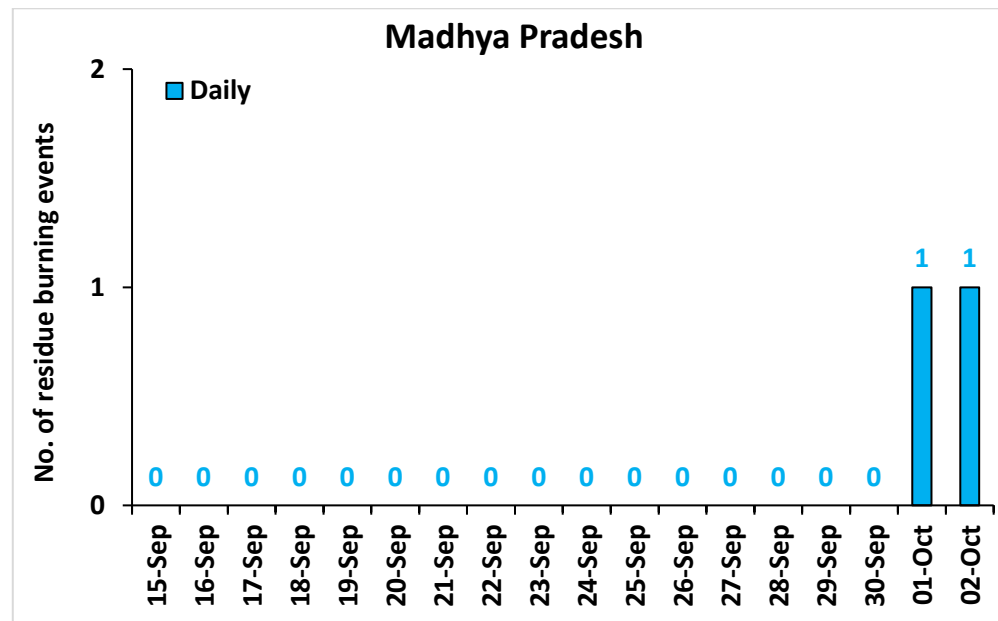
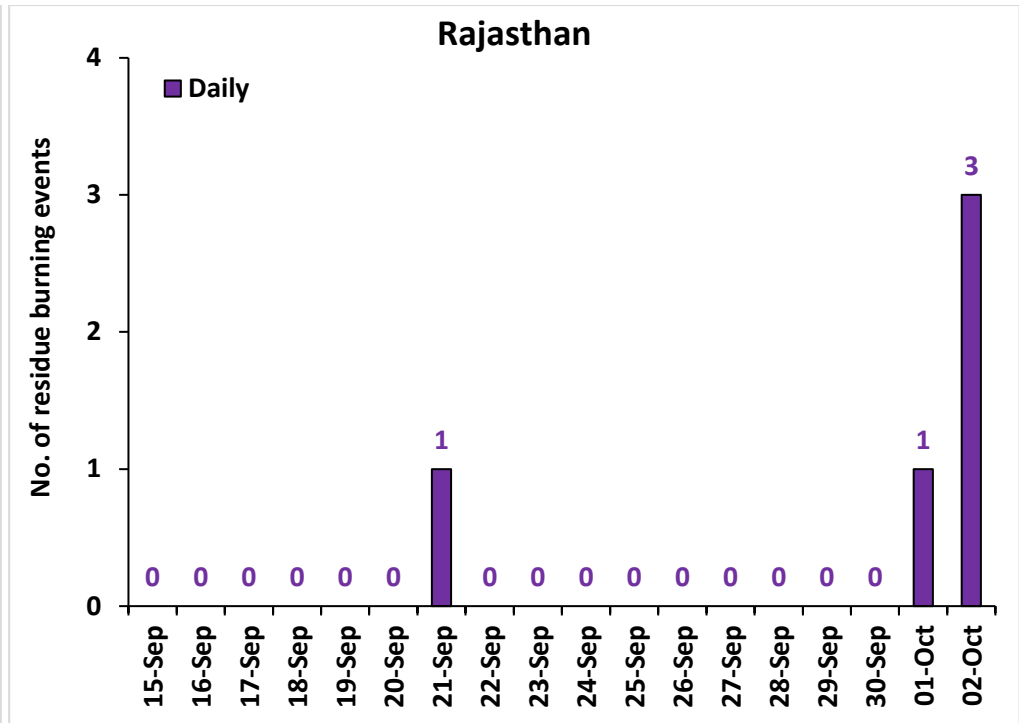
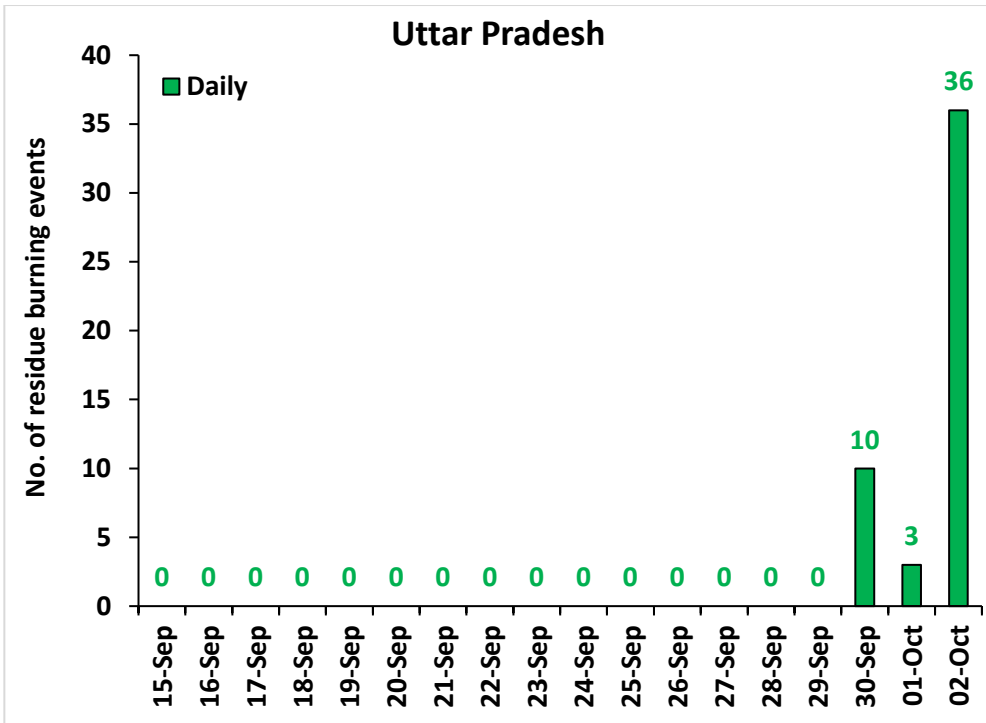
<http://creams.iari.res.in>

## Highlights for 02-Oct-2022

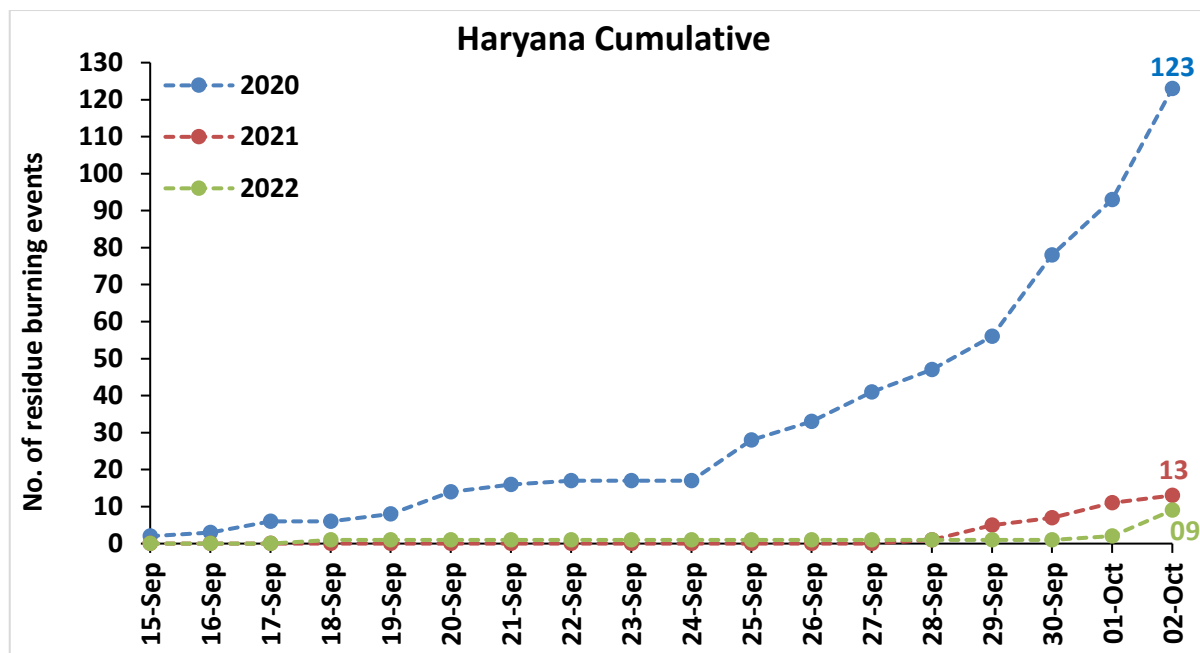
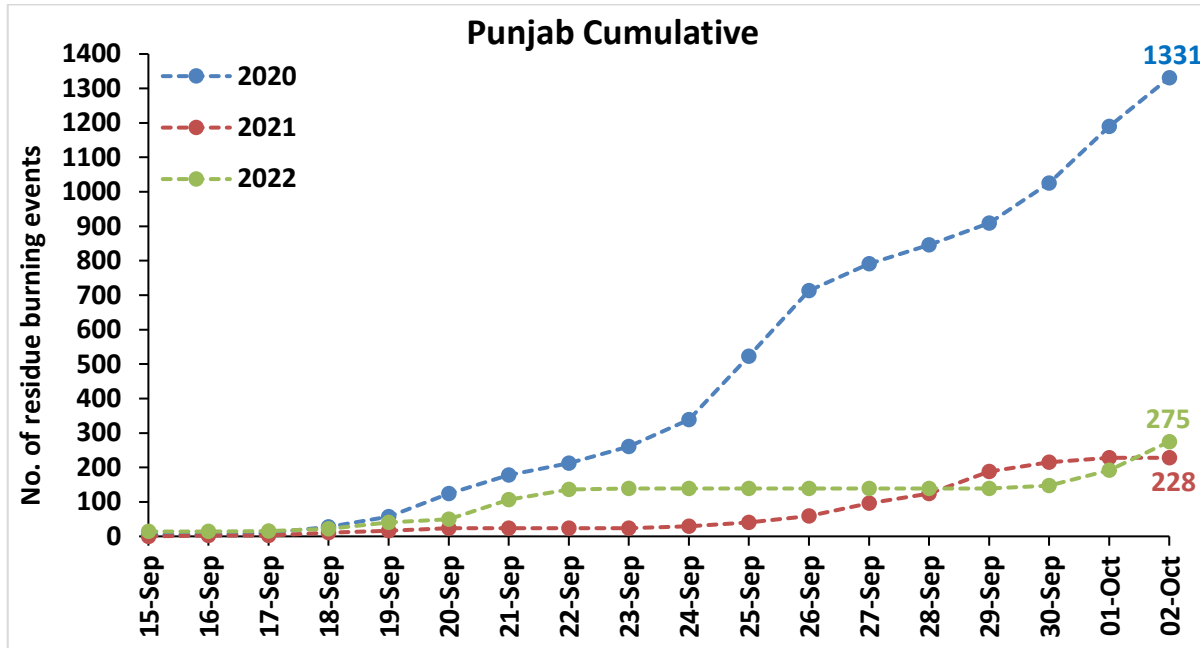
- The active fire events due to rice residue burning were monitored using satellite remote sensing, following the "Standard Protocol for Estimation of Crop Residue Burning Fire Events using Satellite Data".
- Satellites detected **130** residue burning events in the six study States on 02-Oct-2022.
- The state wise events detected on 02-Oct-2022 were **83** in Punjab, **7** in Haryana, **36** in UP, **0** in Delhi, **3** in Rajasthan and **1** in MP.
- Total **340** burning events were detected in the six states between 15-Sept-2022 and 02-Oct-2022, which are distributed as **275**, **9**, **49**, **0**, **5** and **2** in Punjab, Haryana, UP, Delhi, Rajasthan and MP, respectively.

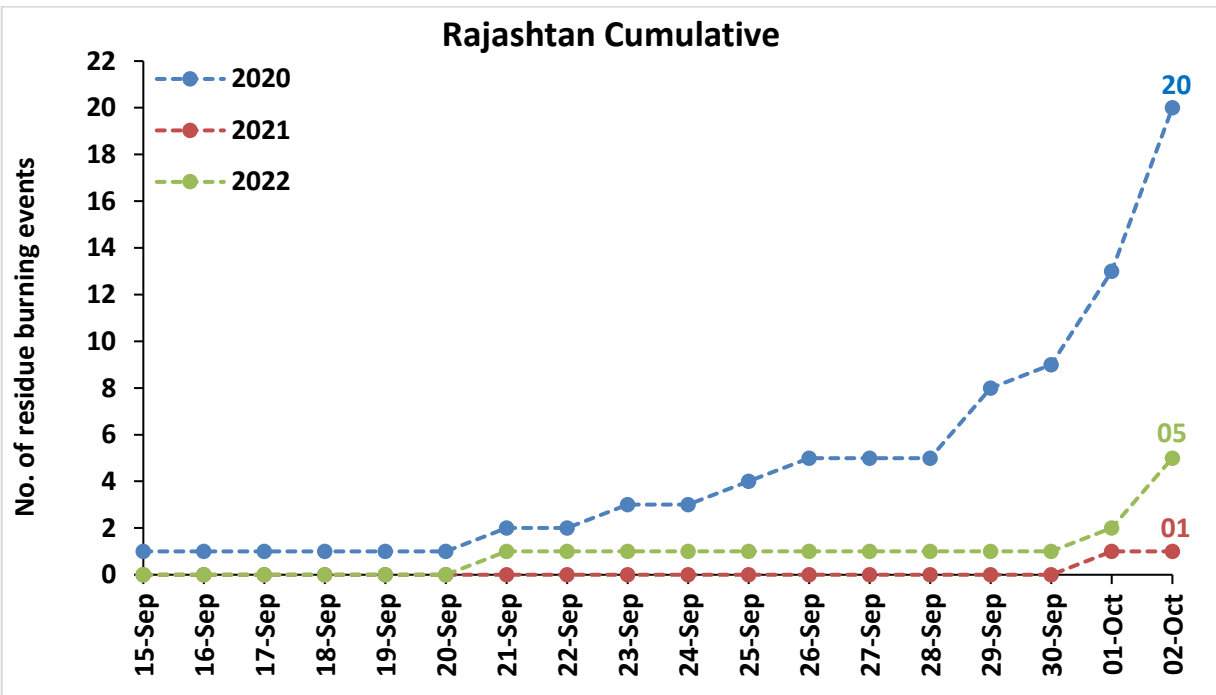
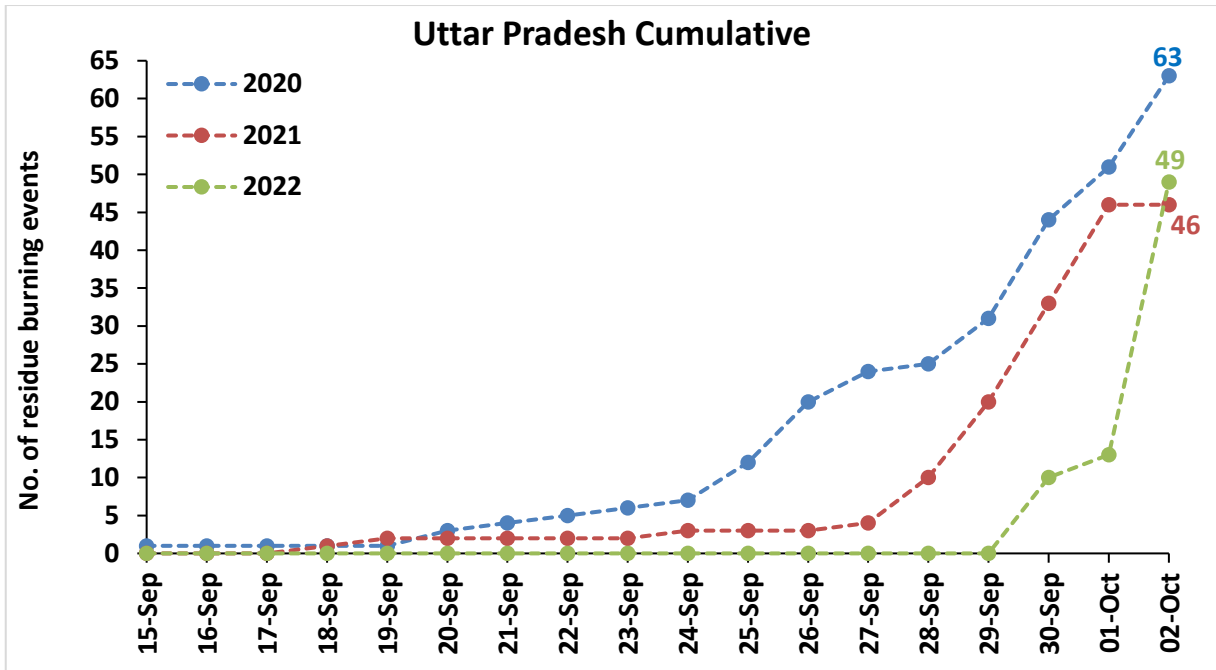
### Temporal distribution of rice residue burning events for the study States in 2022

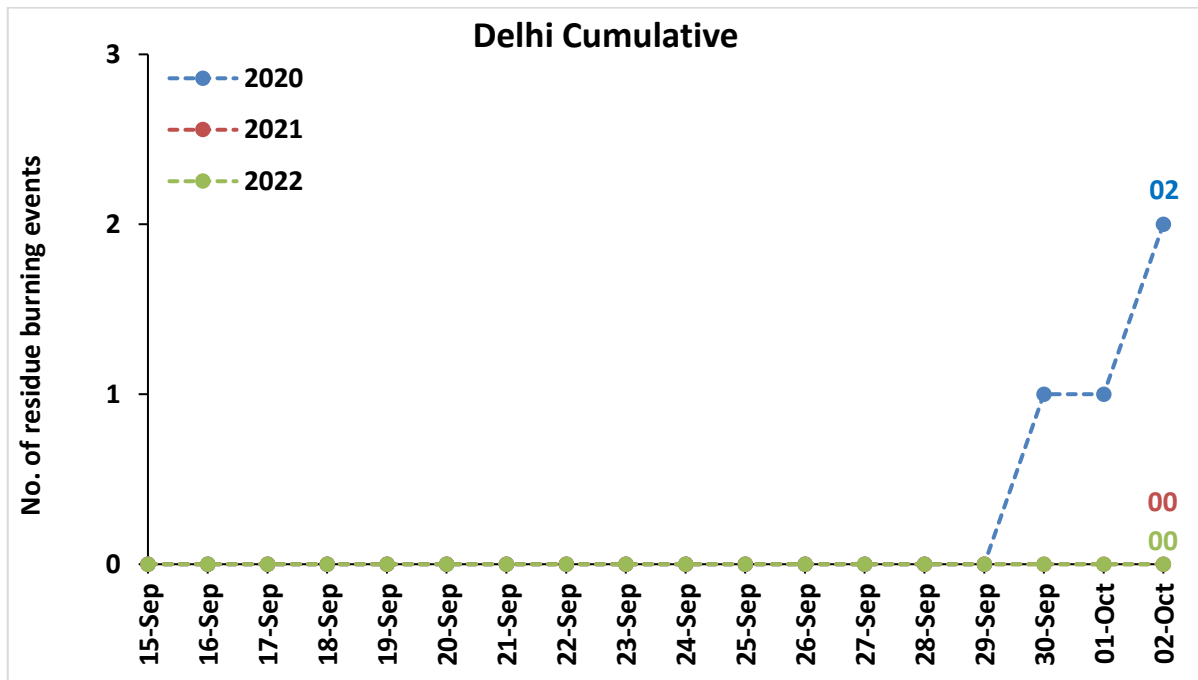
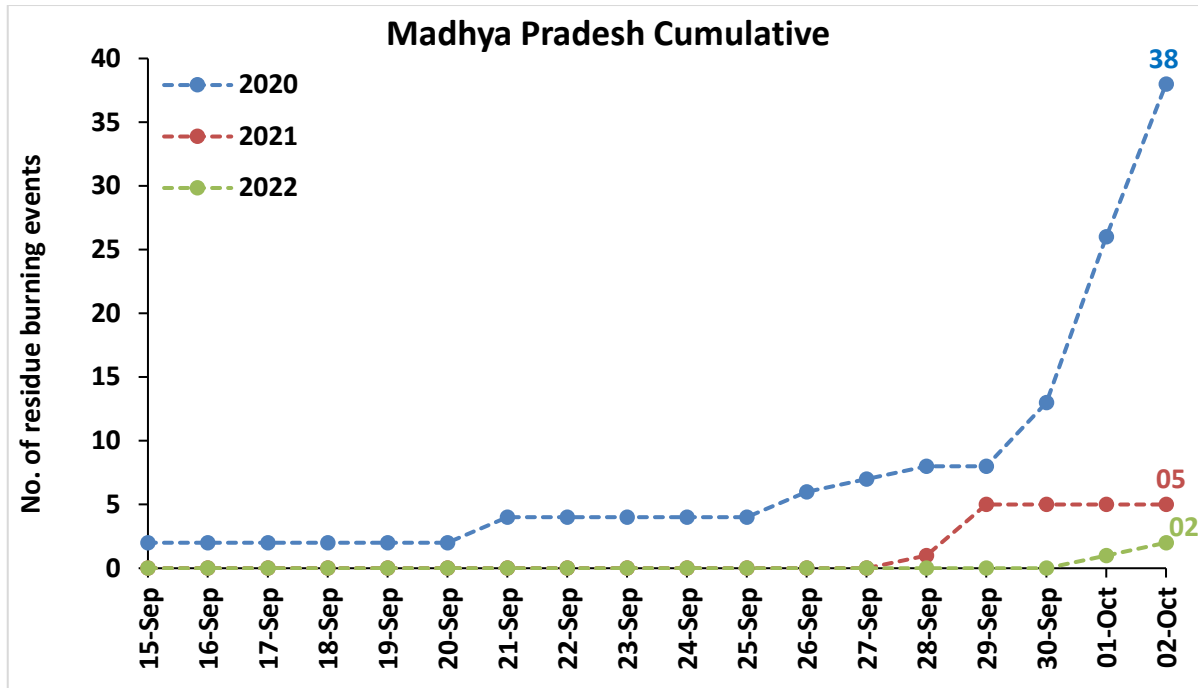




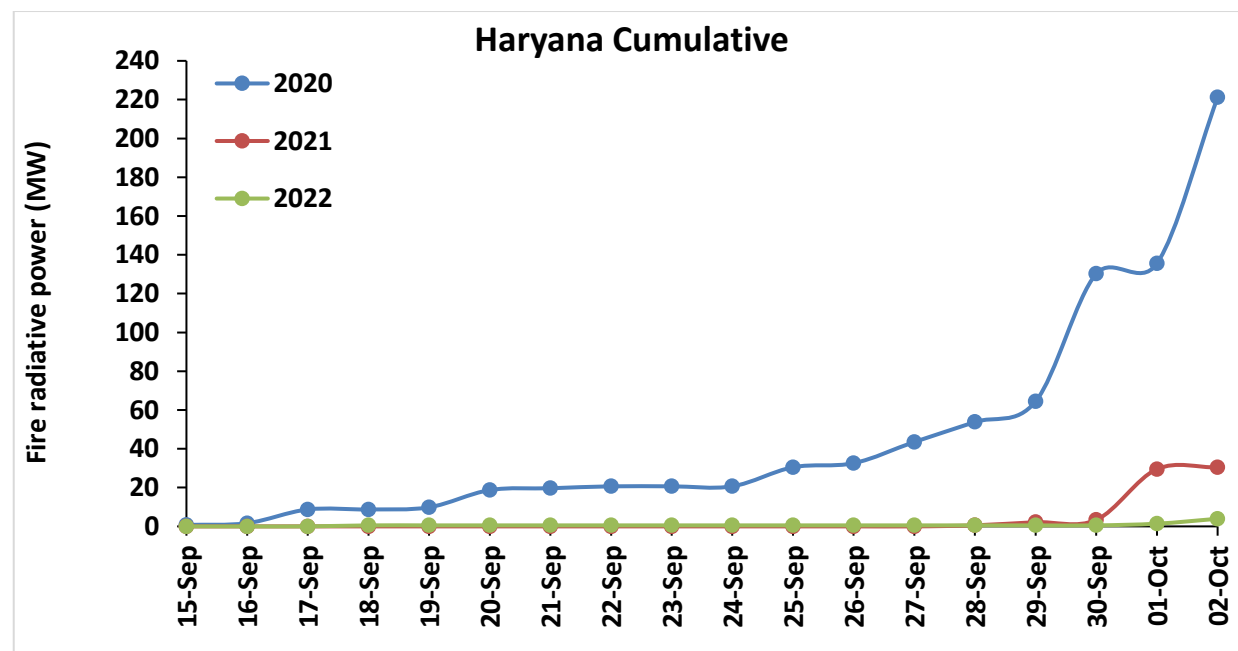
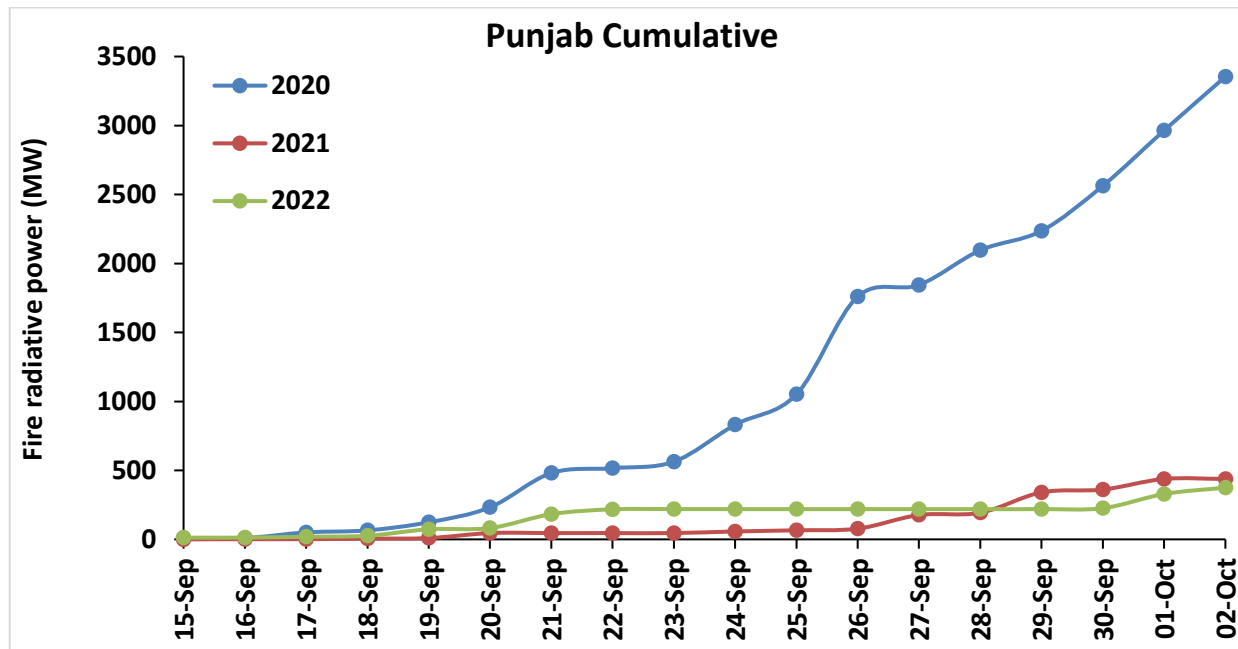
**Comparison of residue burning events in current year (2022) with previous years (2020 and 2021) for the study States**

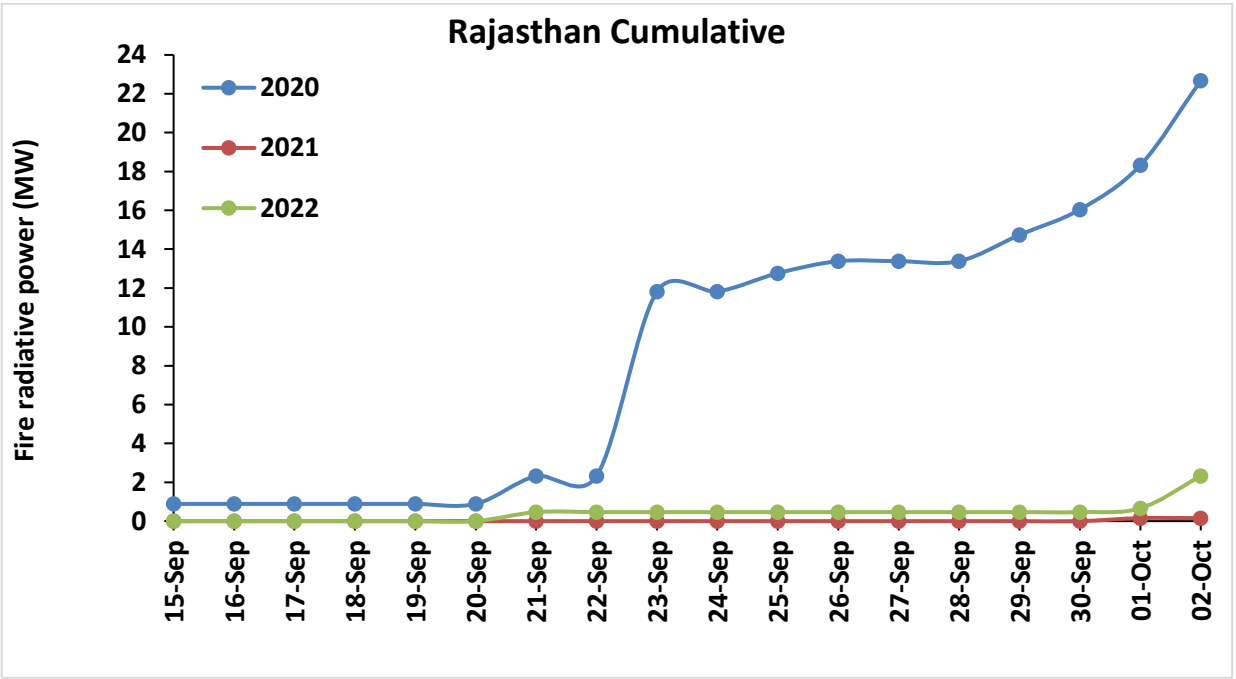
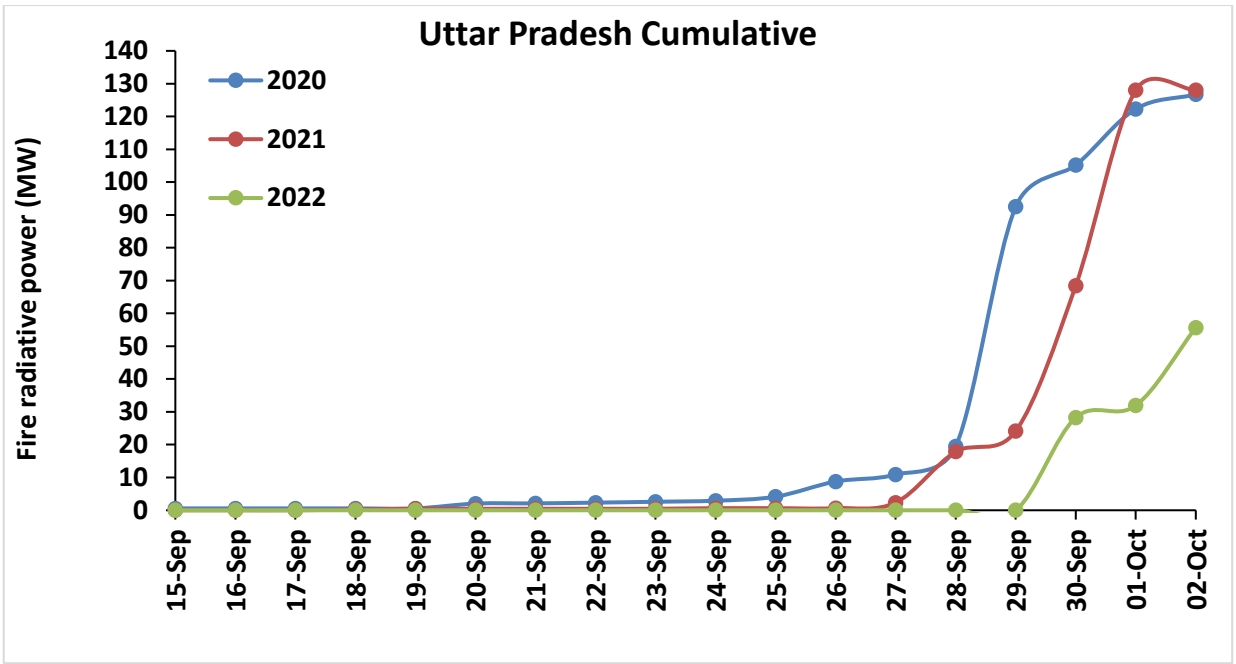




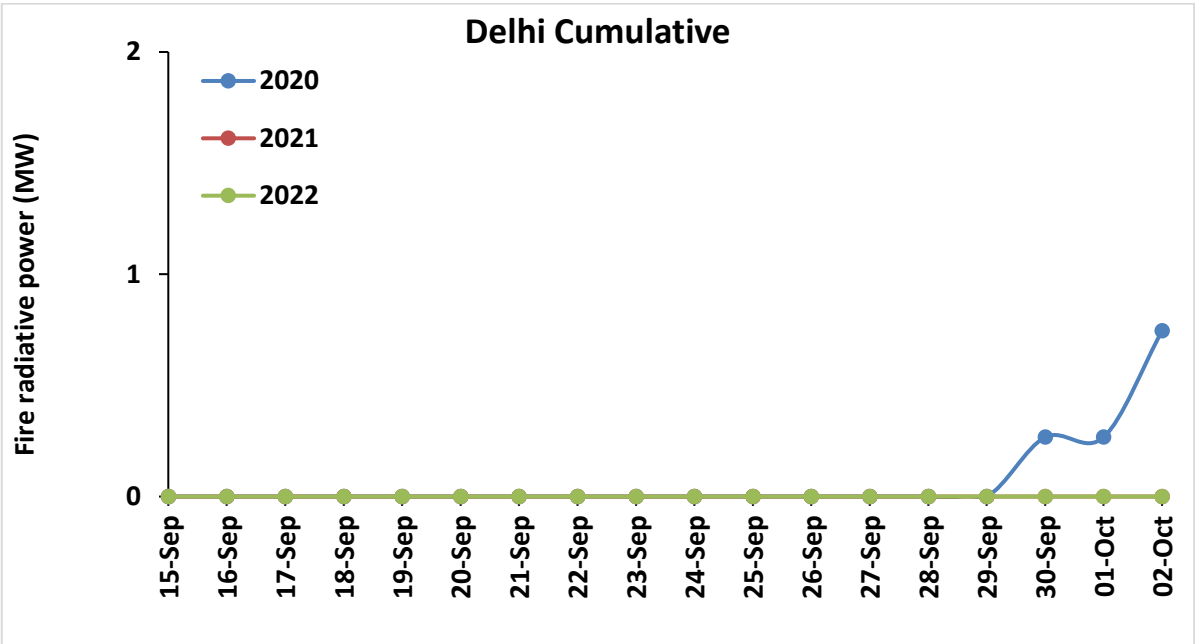
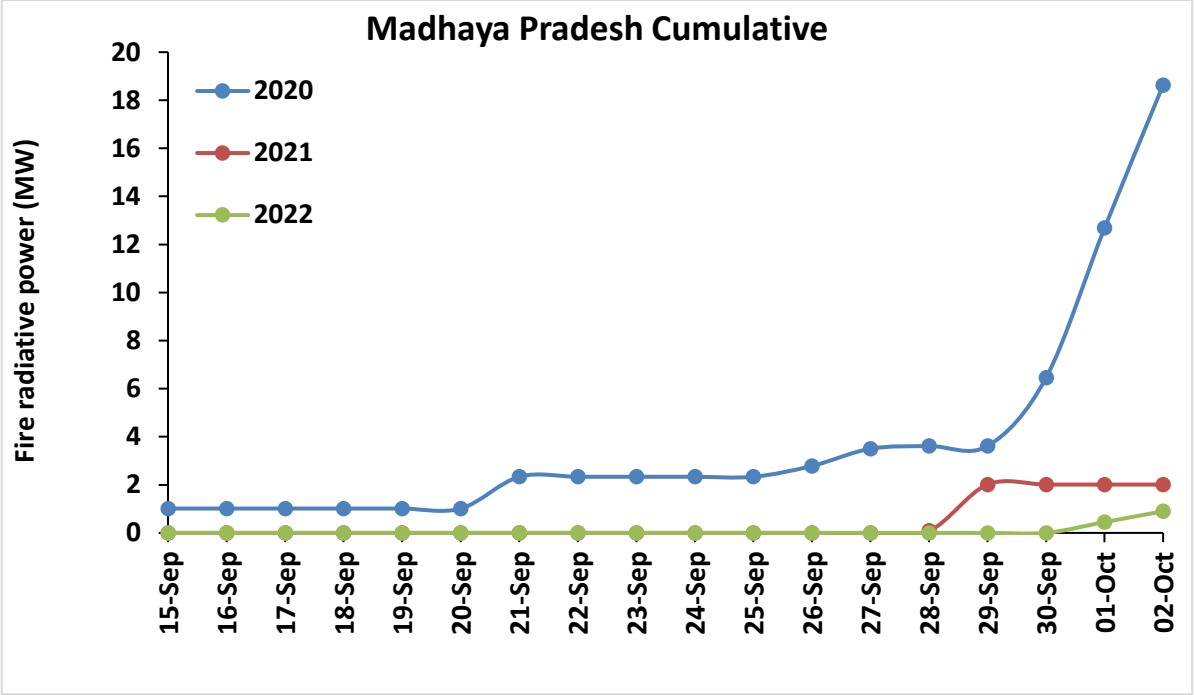


### Comparison of residue burning fire power in current year (2022) with previous years (2021 and 2020) for the study States



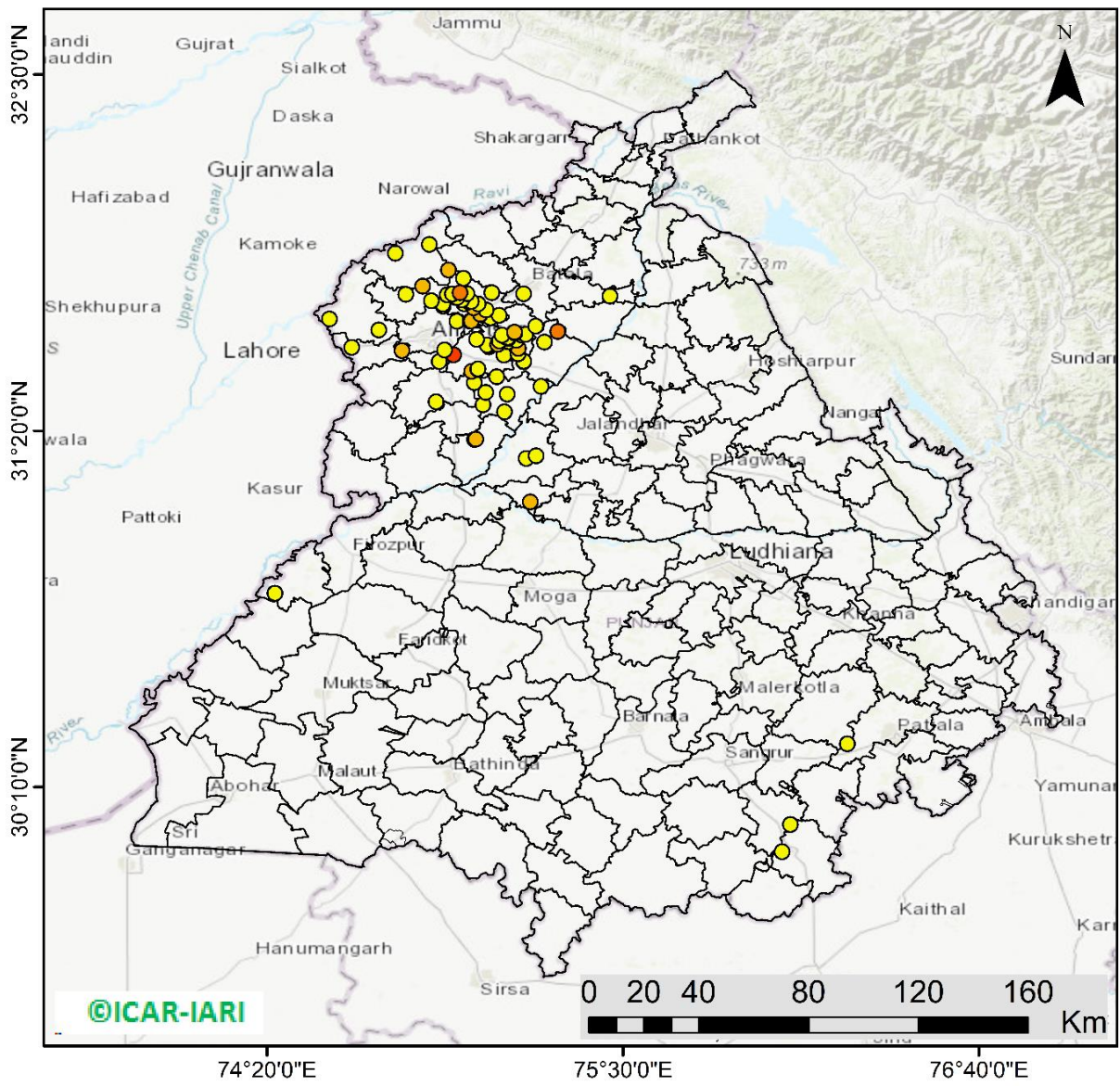






# Punjab

## RICE RESIDUE BURNING IN PUNJAB



**83** burning events detected in Punjab during (02nd Oct 2022)

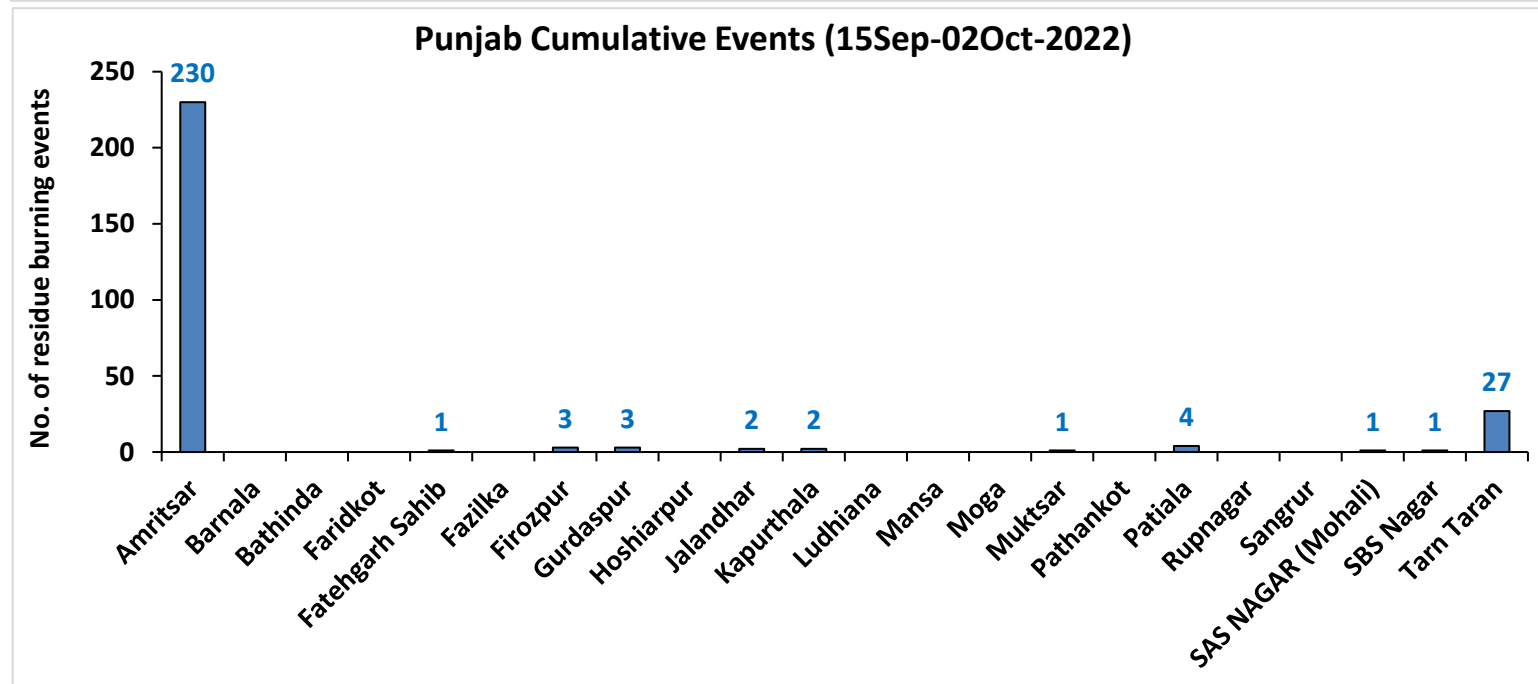
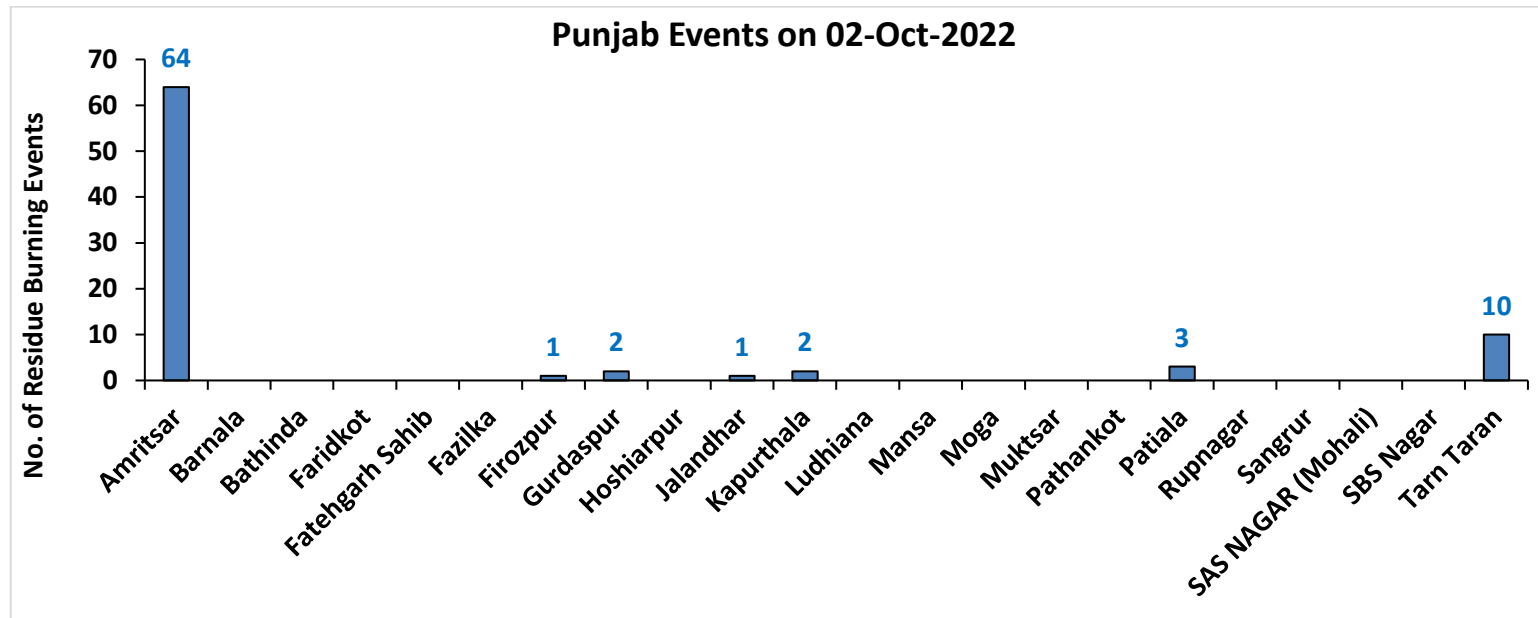
### Fire Intensity (W/m<sup>2</sup>)

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



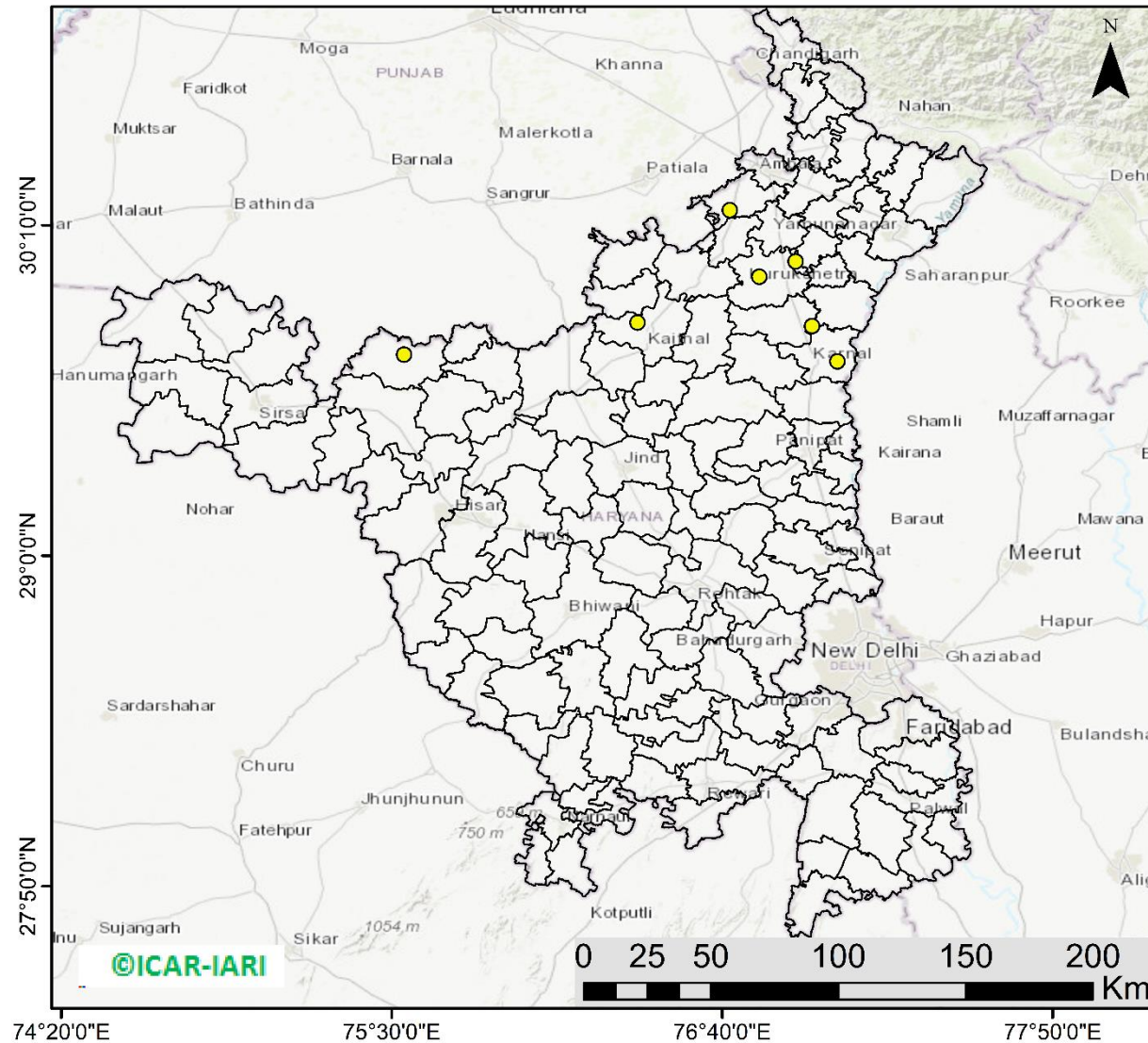
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

## District-wise cumulative number of residues burning events in Punjab (15Sep- 02Oct-2022)



# Haryana

## RICE RESIDUE BURNING IN HARYANA



**07** burning events  
detected in Haryana on  
**(02nd Oct 2022)**

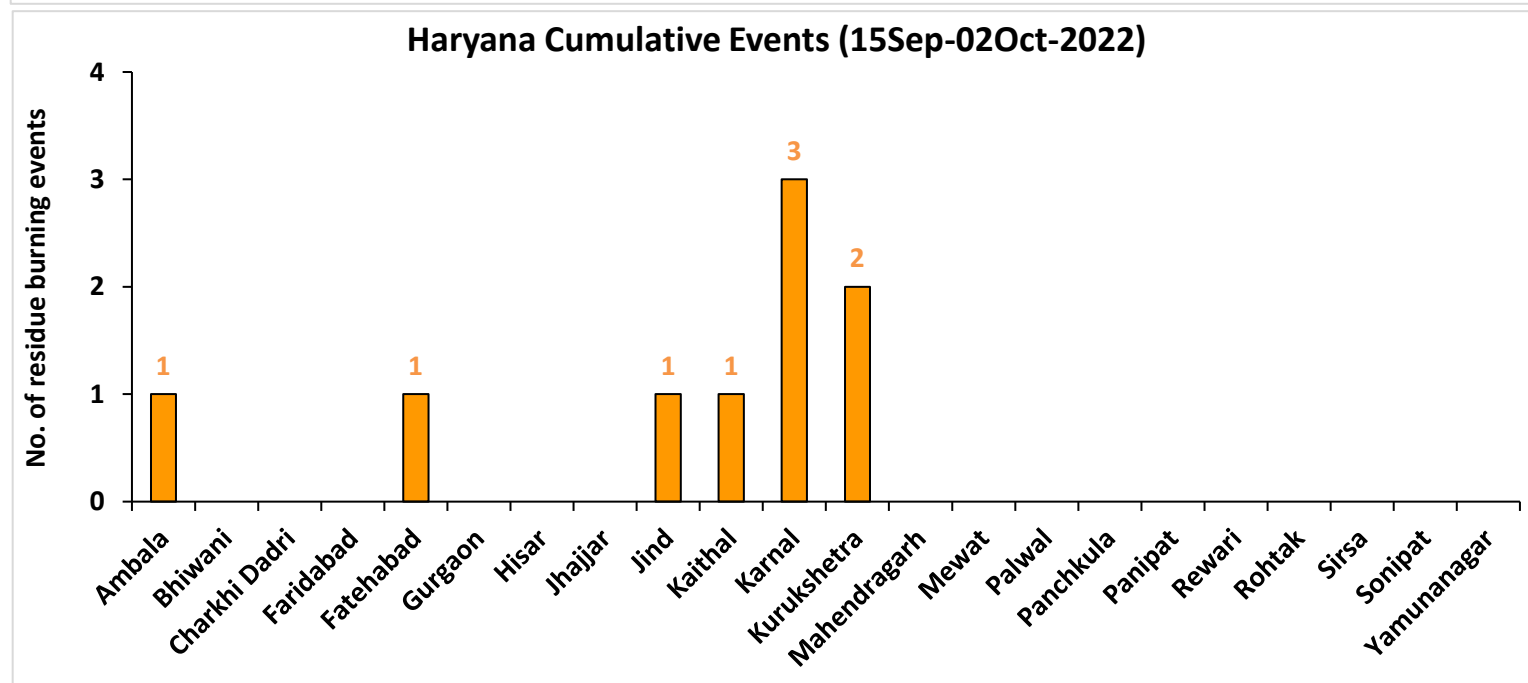
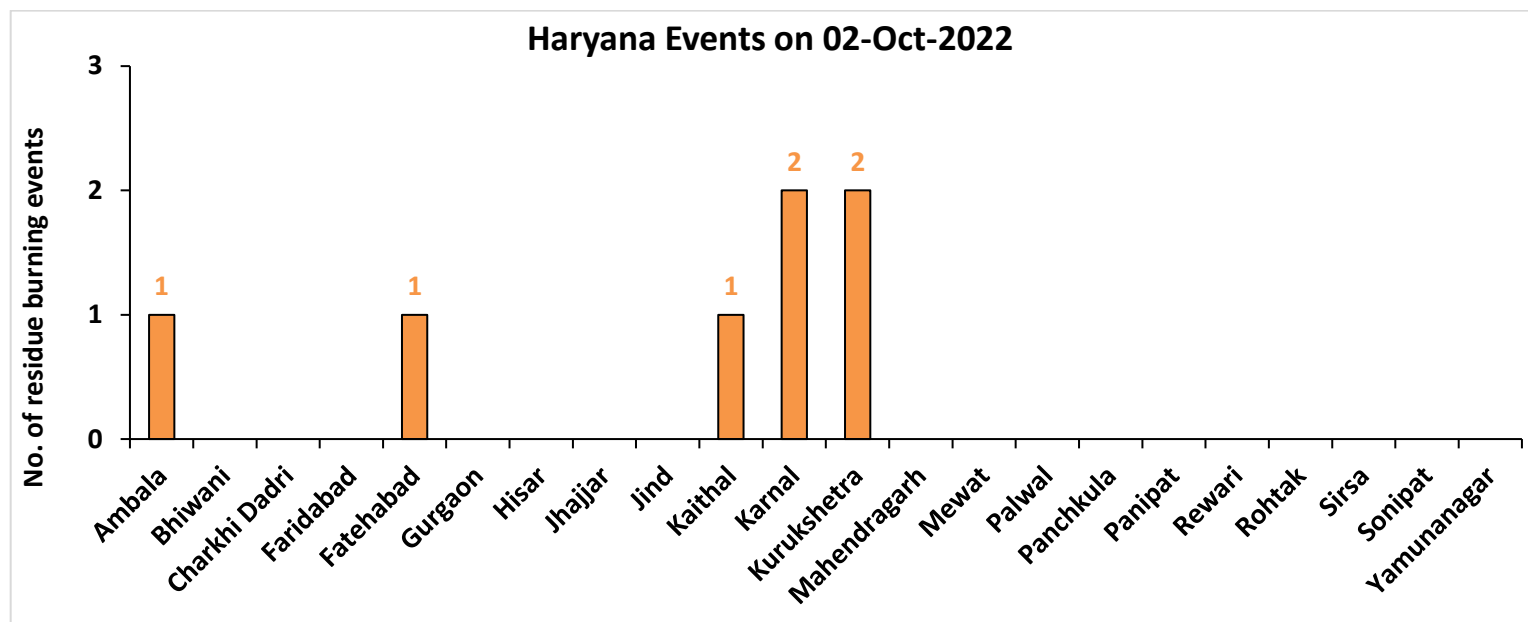
### Fire Intensity (W/m<sup>2</sup>)

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



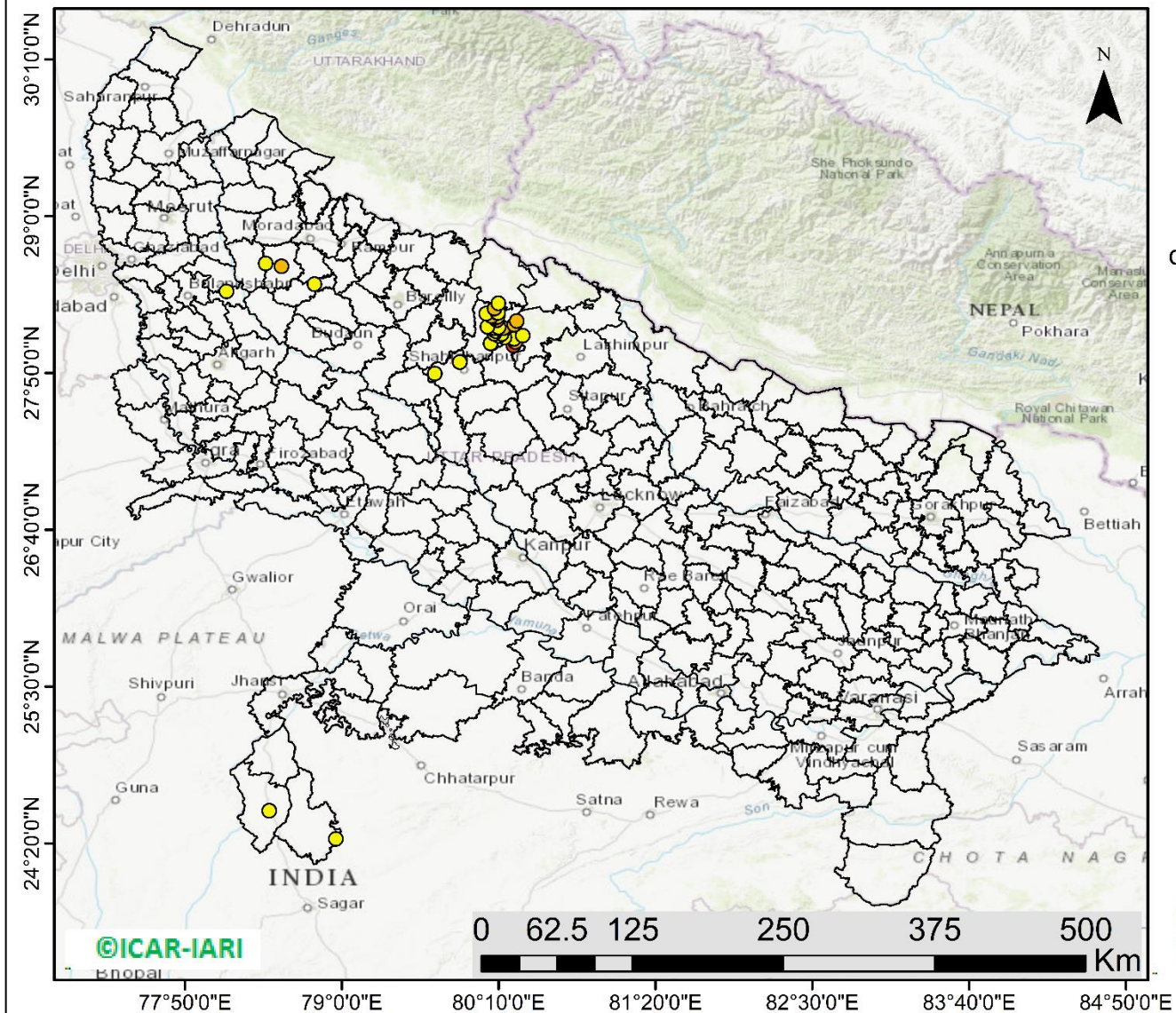
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

## District-wise cumulative number of residues burning events in Haryana (15Sep- 02Oct-2022)



## Uttar Pradesh

### RICE RESIDUE BURNING IN UTTAR PRADESH



**36** burning events  
detected in Uttar Pradesh on  
(02nd Oct 2022)

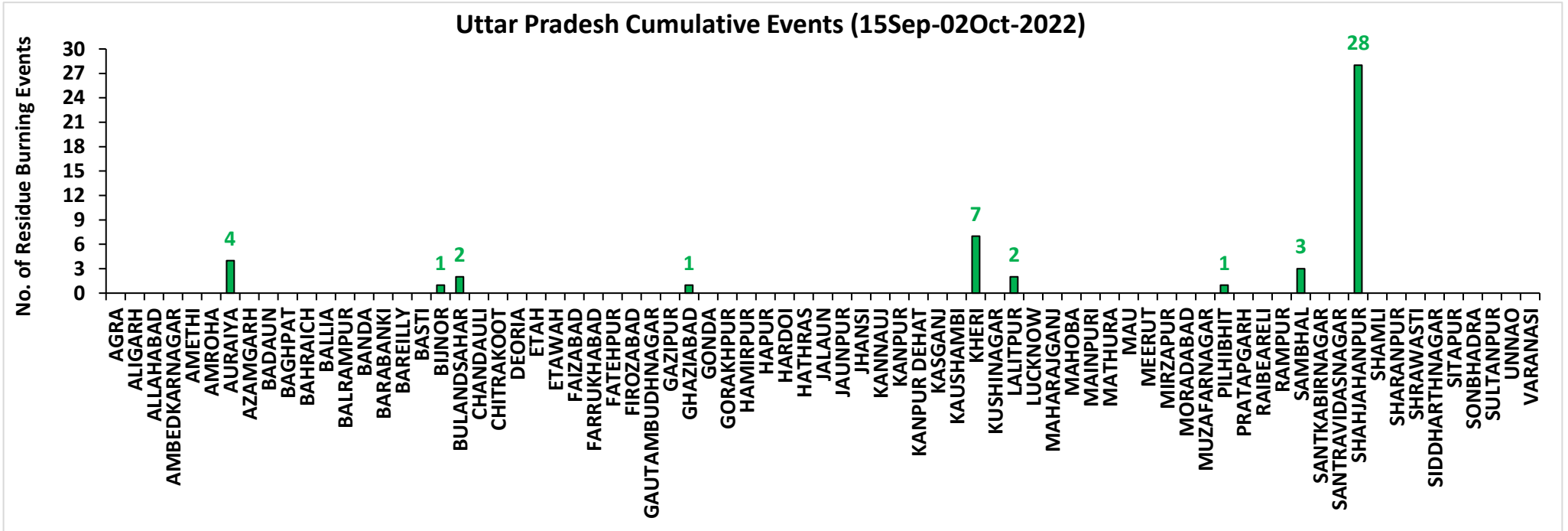
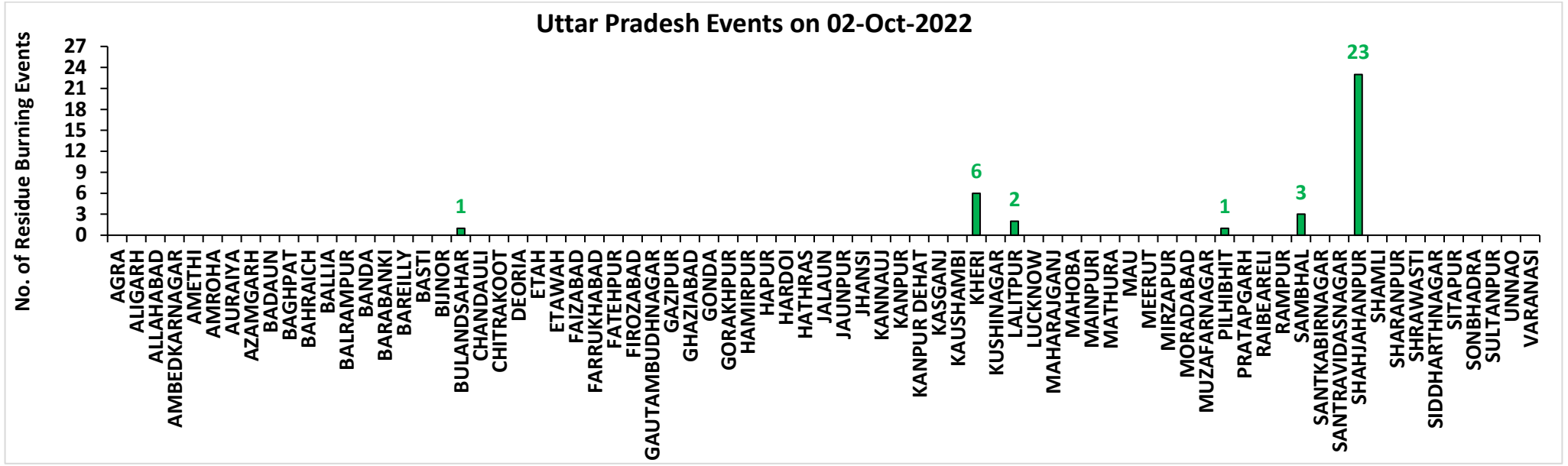
#### Fire Intensity (W/m<sup>2</sup>)

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



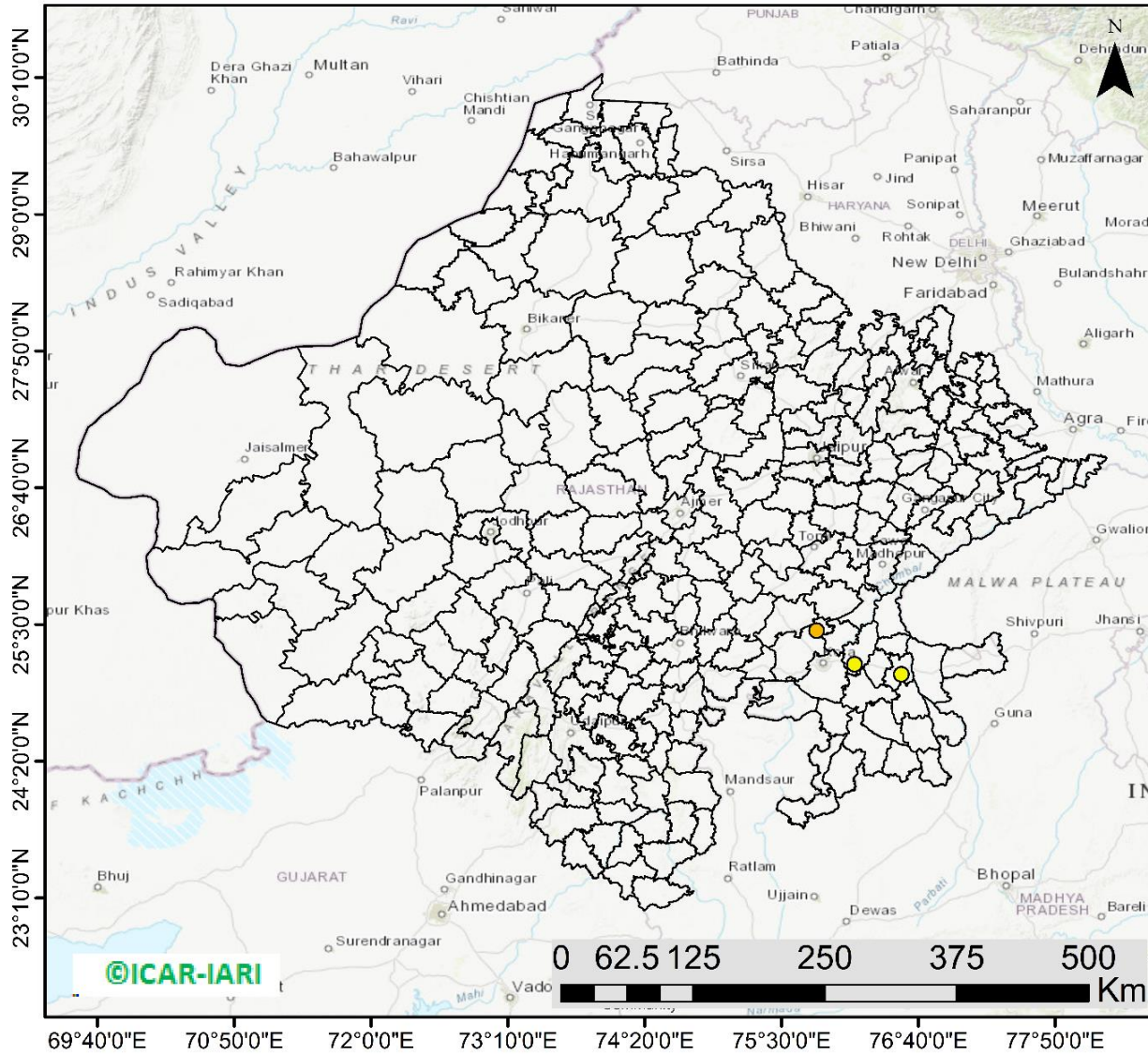
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

## District-wise cumulative number of residues burning events in Uttar Pradesh (15Sep- 02Oct-2022)



# Rajasthan

## RICE RESIDUE BURNING IN RAJASTHAN



**03** burning events detected in Rajasthan on (02nd Oct 2022)

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

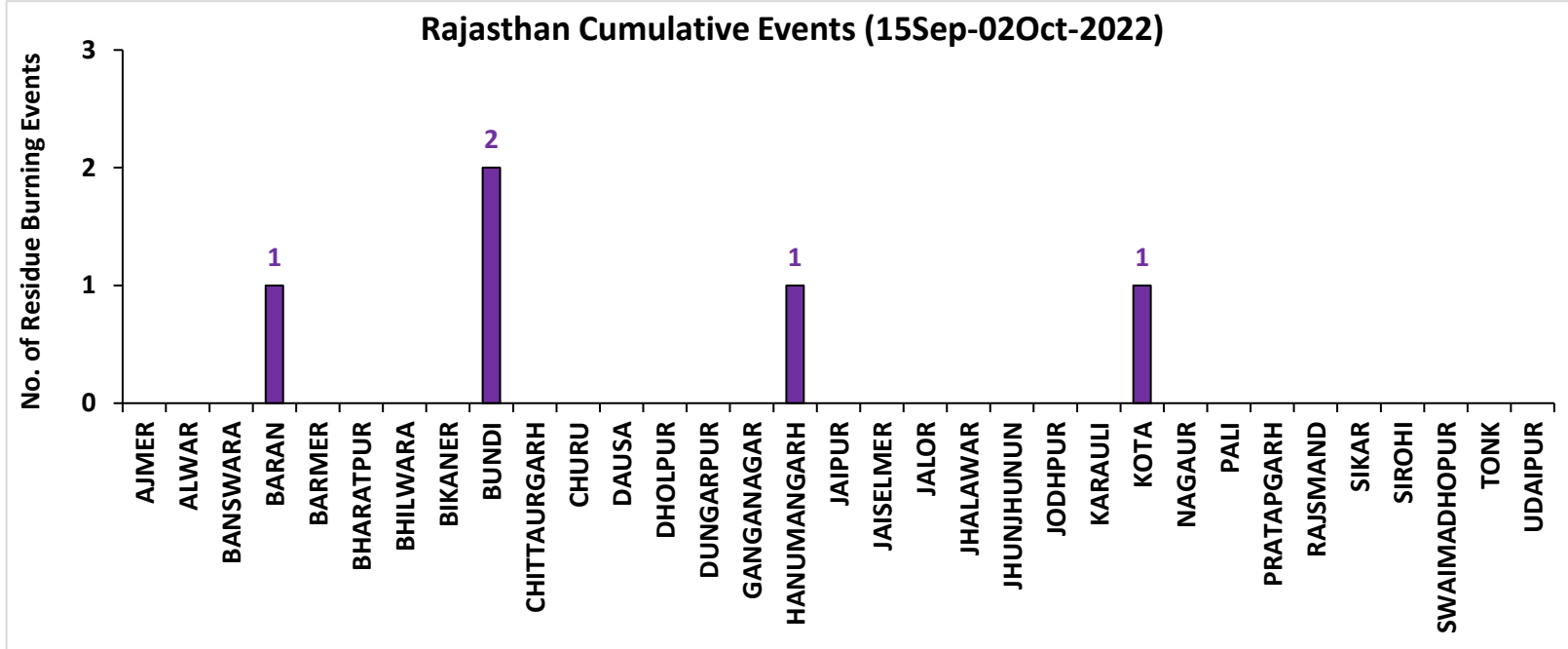
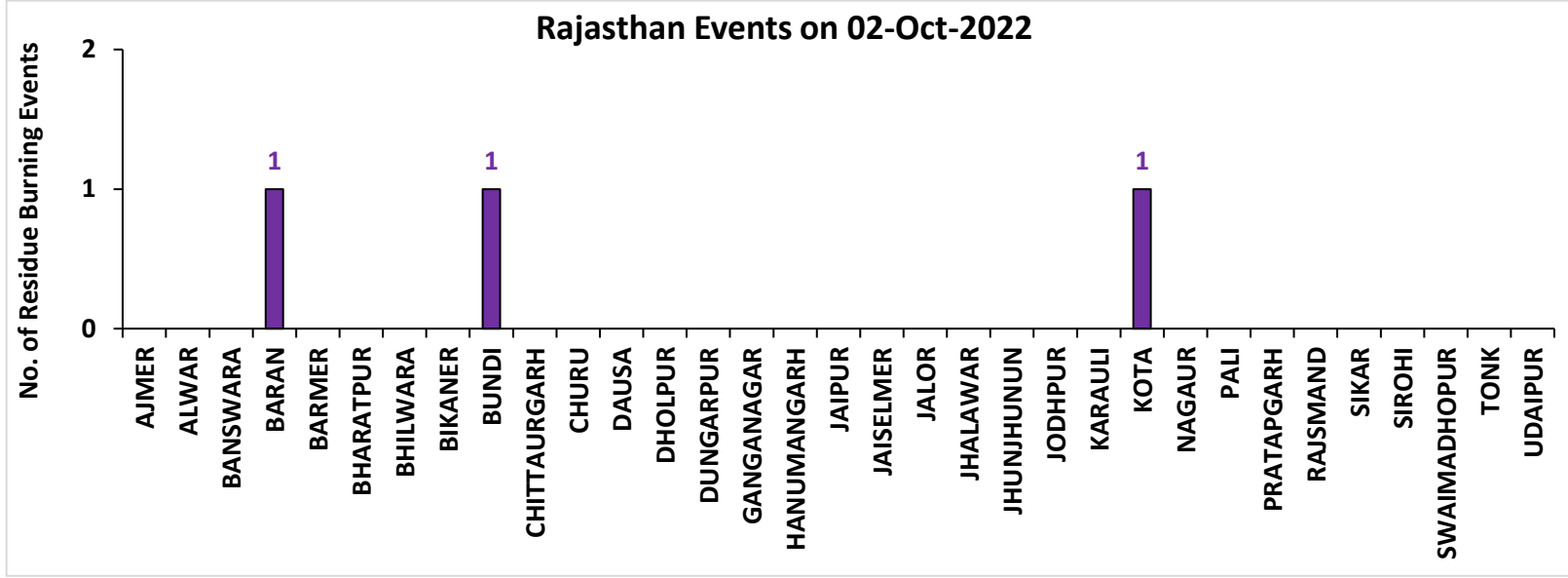
- 0 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- >20



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

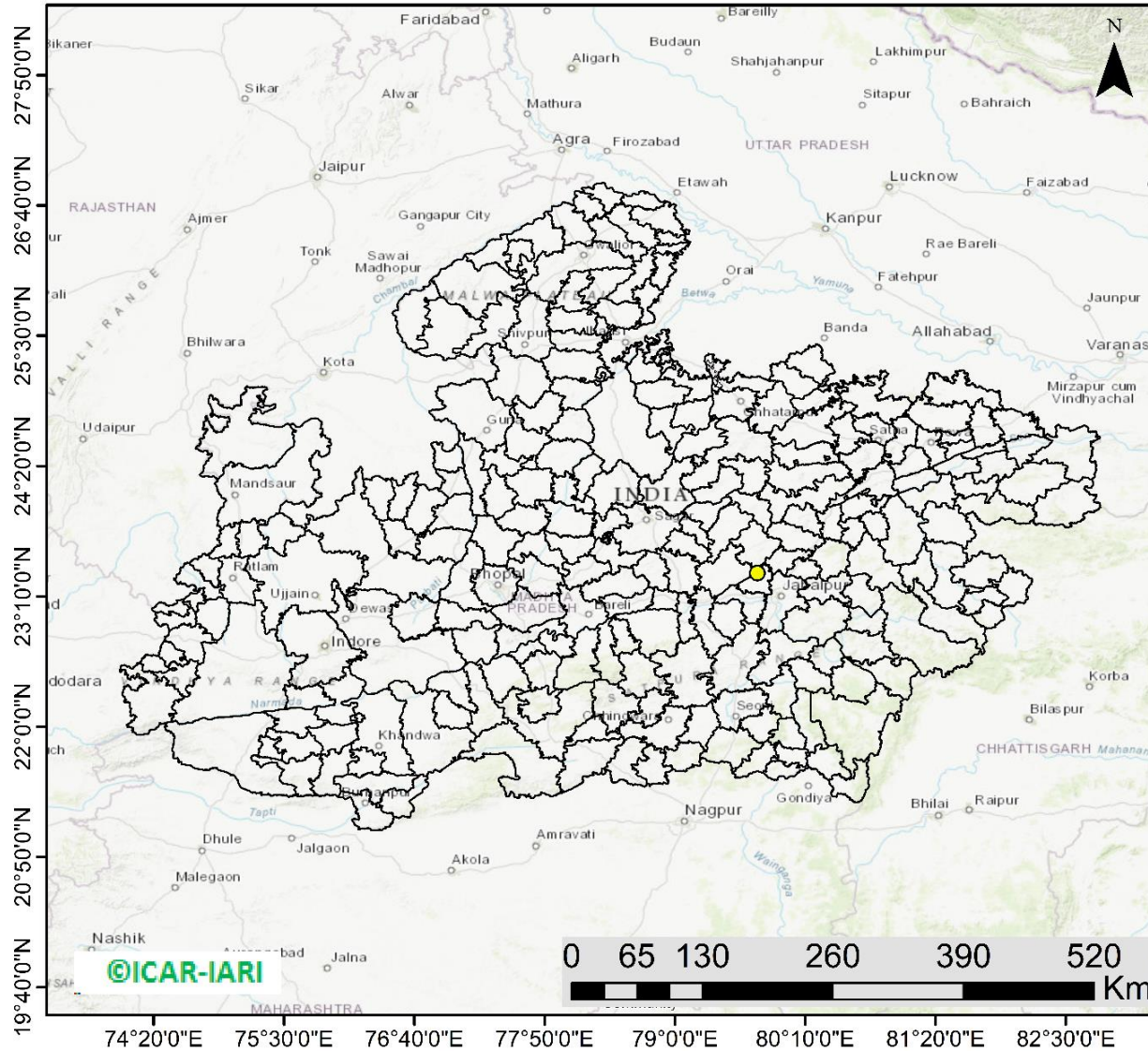


District-wise cumulative number of residues burning events in Rajasthan (15Sep- 02Oct -2022)



# Madhya Pradesh

## RICE RESIDUE BURNING IN MADHYA PRADESH



**01** burning events detected in MP on (02nd Oct 2022)

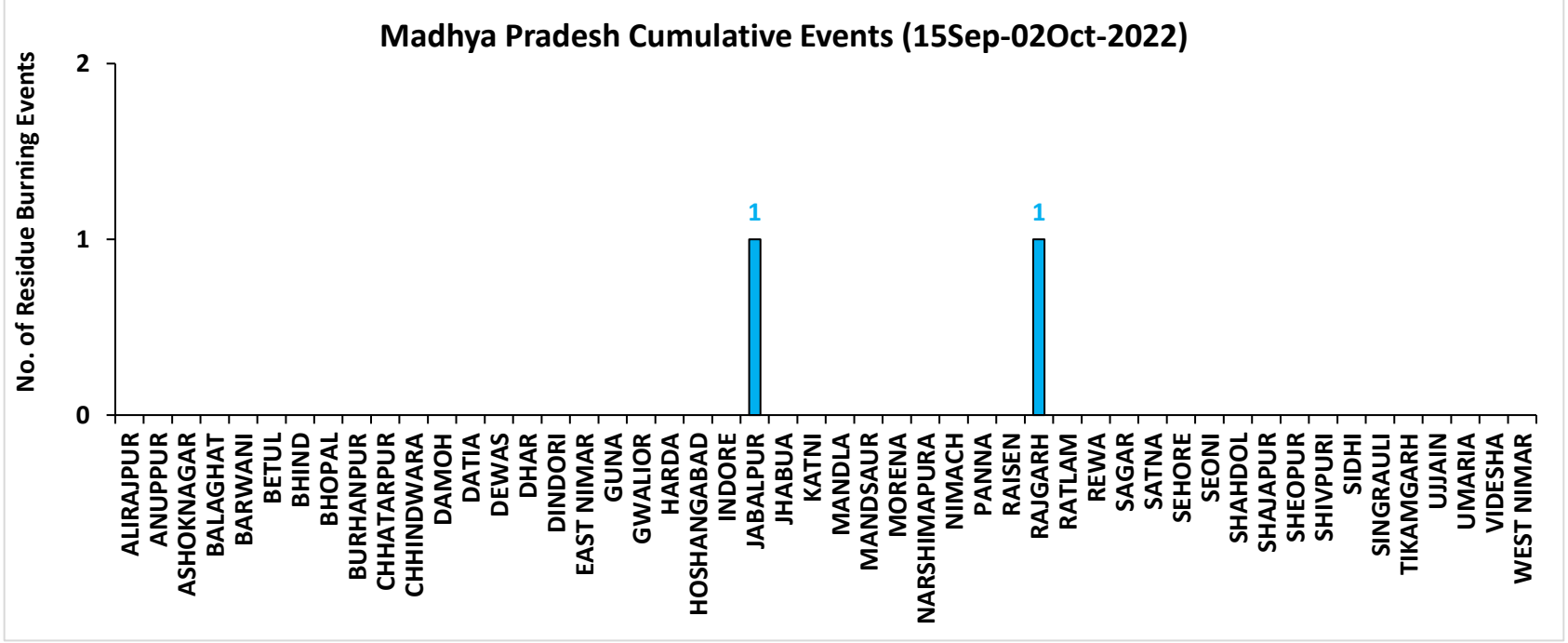
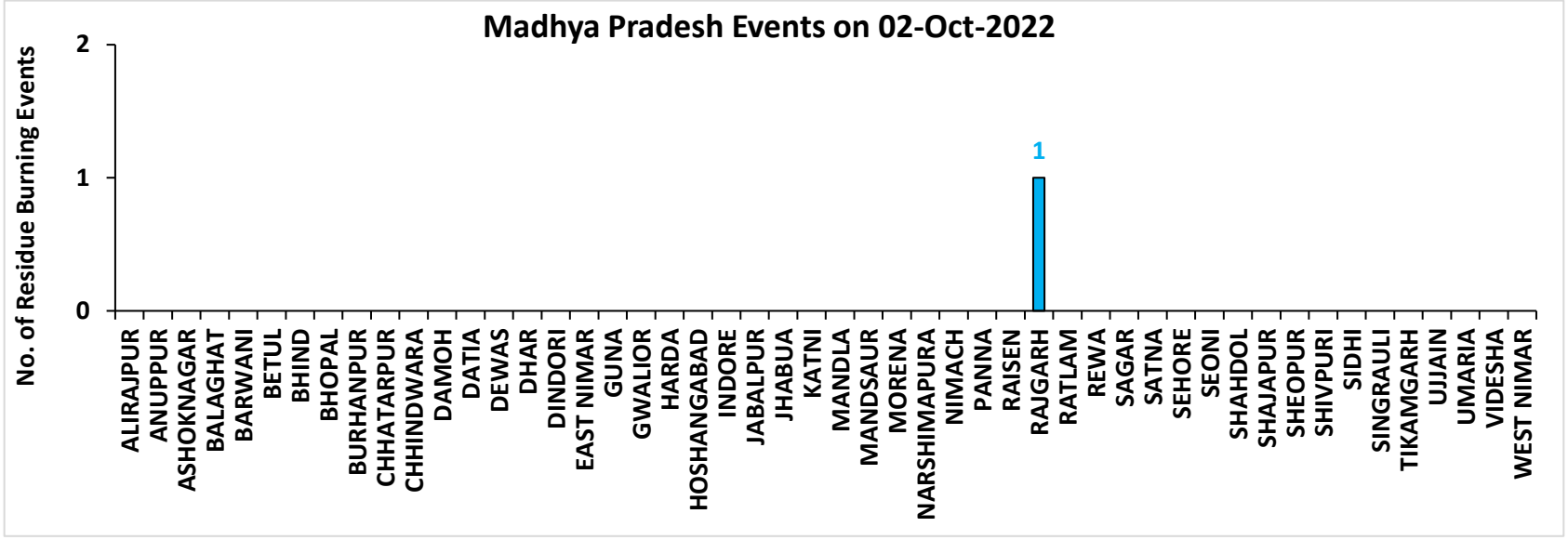
### Fire Intensity (W/m<sup>2</sup>)

- 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 (15Sep- 02Oct -2022)



**District-wise cumulative number of residues burning events detected in 2020 ,2021 and 2022**  
**(Period: 15 September-02 October)**

**(a) Punjab**

District	15 Sep-02 Oct 2022		
	2020	2021	2022
Amritsar	891	157	230
Barnala	2	0	0
Bathinda	0	0	0
Faridkot	3	9	0
Fatehgarh Sahib	12	0	1
Fazilka	0	1	0
Firozpur	12	3	3
Gurdaspur	44	4	3
Hoshiarpur	3	0	0
Jalandhar	11	1	2
Kapurthala	11	2	2
Ludhiana	30	7	0
Mansa	1	0	0
Moga	7	0	0
Muktsar	1	0	1
Pathankot	0	0	0
Patiala	46	10	4
Rupnagar	1	0	0
Sangrur	14	3	0
SAS NAGAR (Mohali)	7	0	1
SBS Nagar	2	0	1
Tarn Taran	233	31	27
<b>Total</b>	<b>1331</b>	<b>228</b>	<b>275</b>

**(b) Haryana**

District	15 Sep-02 Oct 2022		
	2020	2021	2022
AMBALA	17	0	1
BHIWANI	0	0	0
CHARKHI DADRI	0	0	0
FARIDABAD	0	0	0
FATEHABAD	12	0	1
GURGAON	0	0	0
HISAR	2	0	0
JHAJJAR	0	0	0
JIND	0	0	1
KAITHAL	15	2	1
KARNAL	35	2	3
KURUKSHETRA	27	8	2
MAHENDRAGARH	0	0	0
MEWAT	0	0	0
PALWAL	1	0	0
PANCHKULA	0	0	0
PANIPAT	6	0	0
REWARI	0	0	0
ROHTAK	0	0	0
SIRSA	1	0	0
SONIPAT	1	0	0
YAMUNANAGAR	6	1	0
<b>Total</b>	<b>123</b>	<b>13</b>	<b>9</b>

(c) Uttar Pradesh

District	15 Sep-02 Oct 2022										
	2020	2021	2022	GAUTAMBUDHNAGAR	1	0	0	MUZAFARNAGAR	0	0	0
AGRA	0	0	0	GAZIPUR	0	0	0	PILHIBHIT	1	1	1
ALIGARH	4	0	0	GHAZIABAD	1	0	1	PRATAPGARH	0	0	0
ALLAHABAD	0	0	0	GONDA	0	0	0	RAIBEARELI	1	0	0
AMBEDKARNAGAR	0	0	0	GORAKHPUR	0	0	0	RAMPUR	2	3	0
AMETHI	0	0	0	HAMIRPUR	0	0	0	SAMBHAL	5	0	3
AMROHA	0	0	0	HAPUR	1	0	0	SANTKABIRNAGAR	0	0	0
AURAIYA	10	0	4	HARDOI	0	0	0	SANTRAVIDASNAGAR	0	0	0
AZAMGARH	0	0	0	HATHRAS	0	0	0	SHAHJAHANPUR	5	36	28
BADAUN	0	0	0	JALAUN	0	0	0	SHAMLI	7	0	0
BAGHPAT	1	0	0	JAUNPUR	0	0	0	SHARANPUR	3	0	0
BAHRAICH	0	0	0	JHANSI	2	0	0	SHRAWASTI	0	0	0
BALLIA	0	0	0	KANNAUJ	1	0	0	SIDDHARTHANAGAR	0	0	0
BALRAMPUR	0	0	0	KANPUR	0	1	0	SITAPUR	1	0	0
BANDA	0	0	0	KANPUR DEHAT	1	0	0	SONBHADRA	0	0	0
BARABANKI	0	0	0	KASGANJ	0	0	0	SULTANPUR	0	0	0
BAREILLY	0	0	0	KAUSHAMBI	1	0	0	UNNAO	2	0	0
BASTI	0	0	0	KHERI	1	3	7	VARANASI	0	0	0
BIJNOR	1	0	1	KUSHINAGAR	0	0	0	<b>Total</b>	<b>63</b>	<b>46</b>	<b>49</b>
BULANDSAHAR	1	0	2	LALITPUR	0	1	2				
CHANDAULI	0	0	0	LUCKNOW	0	0	0				
CHITRAKOOT	0	0	0	MAHARAJGANJ	0	0	0				
DEORIA	0	0	0	MAHOBA	0	0	0				
ETAH	1	0	0	MAINPURI	0	0	0				
ETAWAH	0	0	0	MATHURA	2	1	0				
FAIZABAD	0	0	0	MAU	0	0	0				
FARRUKHABAD	0	0	0	MEERUT	6	0	0				
FATEHPUR	1	0	0	MIRZAPUR	0	0	0				
FIROZABAD	0	0	0	MORADABAD	0	0	0				

**(d) Delhi**

District	15 Sep-02 Oct 2022		
	2020	2021	2022
CENTRAL	0	0	0
EAST	0	0	0
NEW DELHI	0	0	0
NORTH	1	0	0
NORTH EAST	0	0	0
NORTH WEST DELHI	0	0	0
SHAHADRA	0	0	0
SOUTH	1	0	0
SOUTH EAST	0	0	0
SOUTH WEST DELHI	0	0	0
WEST DELHI	0	0	0
<b>Total</b>	<b>2</b>	<b>0</b>	<b>0</b>

**(e) Rajasthan**

District	15 Sep-02 Oct 2022		
	2020	2021	2022
AJMER	0	0	0
ALWAR	1	0	0
BANSWARA	0	0	0
BARAN	7	0	1
BARMER	2	0	0
BHARATPUR	0	0	0
BHILWARA	1	0	0
BIKANER	0	0	0
BUNDI	1	0	2
CHITTAURGARH	0	1	0
CHURU	0	0	0
DAUSA	0	0	0
DHOLPUR	0	0	0
DUNGARPUR	0	0	0
GANGANAGAR	1	0	0
HANUMANGARH	4	0	1
JAIPUR	0	0	0
JAISELMER	1	0	0
JALOR	0	0	0
JHALAWAR	0	0	0
JHUNJHUNUN	0	0	0
JODHPUR	1	0	0
KARALI	0	0	0
KOTA	0	0	1
NAGOUR	0	0	0
PALI	1	0	0
PRATAPGARH	0	0	0
RAJSMAND	0	0	0
SIKAR	0	0	0
SIROHI	0	0	0
SWAIMADHOPUR	0	0	0
TONK	0	0	0
UDAIPUR	0	0	0
<b>Total</b>	<b>20</b>	<b>1</b>	<b>5</b>

(f) Madhya Pradesh

District	15 Sep-02 Oct 2022						
	2020	2021	2022				
				PANNA	0	0	0
ALIRAJPUR	0	0	0	RAISEN	0	0	0
ANUPPUR	0	0	0	RAJGARH	1	0	2
ASHOKNAGAR	5	0	0	RATLAM	0	0	0
BALAGHAT	0	0	0	REWA	0	0	0
BARWANI	0	0	0	SAGAR	2	2	0
BETUL	0	0	0	SATNA	1	0	0
BHIND	0	0	0	SEHORE	1	0	0
BHOPAL	1	0	0	SEONI	0	0	0
BURHANPUR	0	0	0	SHAHDOL	0	0	0
CHHATARPUR	0	0	0	SHAJAPUR	2	0	0
CHHINDWARA	0	0	0	SHEOPUR	0	0	0
DAMOH	5	0	0	SHIVPURI	0	0	0
DATIA	0	0	0	SIDHI	0	0	0
DEWAS	0	0	0	SINGRAULI	0	0	0
DHAR	2	0	0	TIKAMGARH	0	0	0
DINDORI	0	0	0	UJJAIN	3	0	0
EAST NIMAR	0	0	0	UMARIA	0	0	0
GUNA	4	1	0	VIDESHA	4	1	0
GWALIOR	3	0	0	WEST NIMAR	0	0	0
HARDA	2	1	0	<b>Total</b>	<b>38</b>	<b>5</b>	<b>2</b>
HOSHANGABAD	0	0	0				
INDORE	1	0	0				
JABALPUR	1	0	0				
JHABUA	0	0	0				
KATNI	0	0	0				
MANDLA	0	0	0				
MANDSAUR	0	0	0				
MORENA	0	0	0				
NARSHIMAPURA	0	0	0				
NIMACH	0	0	0				

**State-wise and date-wise number of paddy residue burning events detected in 2020, 2021 and 2022**  
**(Period: 15 September- 02 October 2022)**

**Number of Paddy Residue Burning Events Detected**

	Punjab			Haryana			Uttar Pradesh			Delhi			Rajasthan			Madhya Pradesh		
	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022
15-Sep	5	0	14	2	0	0	1	0	0	0	0	0	1	0	0	2	0	0
16-Sep	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17-Sep	5	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18-Sep	17	9	7	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
19-Sep	30	5	18	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0
20-Sep	67	8	10	6	0	0	2	0	0	0	0	0	0	0	0	0	0	0
21-Sep	54	0	56	2	0	0	1	0	0	0	0	0	1	0	1	2	0	0
22-Sep	34	0	30	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
23-Sep	49	0	3	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
24-Sep	78	5	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
25-Sep	184	11	0	11	0	0	5	0	0	0	0	0	1	0	0	0	0	0
26-Sep	190	19	0	5	0	0	8	0	0	0	0	0	1	0	0	2	0	0
27-Sep	78	37	0	8	0	0	4	1	0	0	0	0	0	0	0	1	0	0
28-Sep	55	28	0	6	1	0	1	6	0	0	0	0	0	0	0	1	1	0
29-Sep	63	64	0	9	4	0	6	10	0	0	0	0	3	0	0	0	4	0
30-Sep	116	27	8	22	2	0	13	13	10	1	0	0	1	0	0	5	0	0
01-Oct	165	13	45	15	4	1	7	13	3	0	0	0	4	1	1	13	0	1
02-Oct	141	0	83	30	2	7	12	0	36	1	0	0	7	0	3	12	0	1
<b>Total</b>	<b>1331</b>	<b>228</b>	<b>275</b>	<b>123</b>	<b>13</b>	<b>9</b>	<b>63</b>	<b>46</b>	<b>49</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>1</b>	<b>5</b>	<b>38</b>	<b>5</b>	<b>2</b>



## Details of residue burning events in Punjab on 02-Oct-2022

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	AMRITSAR	AJNALA	S-NPP	31.80670	74.84360	13:23:18	D	8.20
2	AMRITSAR	AJNALA	S-NPP	31.85960	74.92800	13:23:18	D	6.60
3	AMRITSAR	AJNALA	S-NPP	31.91430	74.75380	13:23:18	D	2.10
4	AMRITSAR	AJNALA	S-NPP	31.94320	74.86530	13:23:18	D	2.70
5	AMRITSAR	ATTARI	S-NPP	31.55970	74.89770	13:23:18	D	2.90
6	AMRITSAR	ATTARI	S-NPP	31.59530	74.77580	13:23:18	D	6.60
7	AMRITSAR	ATTARI	S-NPP	31.60600	74.61090	13:23:18	D	2.80
8	AMRITSAR	CHOGAWAN	S-NPP	31.66310	74.69940	13:23:18	D	2.40
9	AMRITSAR	CHOGAWAN	S-NPP	31.69920	74.53770	13:23:18	D	4.60
10	AMRITSAR	HARSHA CHHINA	S-NPP	31.75910	74.87200	13:23:18	D	1.80
11	AMRITSAR	HARSHA CHHINA	S-NPP	31.78000	74.78840	13:23:18	D	3.70
12	AMRITSAR	JANDIALA GURU	S-NPP	31.52760	75.00420	13:23:18	D	6.00
13	AMRITSAR	JANDIALA GURU	S-NPP	31.53440	75.02440	13:23:18	D	2.30
14	AMRITSAR	JANDIALA GURU	S-NPP	31.53570	75.02490	13:23:18	D	2.80
15	AMRITSAR	JANDIALA GURU	S-NPP	31.58150	74.94510	13:23:18	D	17.40
16	AMRITSAR	JANDIALA GURU	S-NPP	31.60760	75.06070	13:23:18	D	1.50
17	AMRITSAR	JANDIALA GURU	S-NPP	31.61100	75.05990	13:23:18	D	3.40
18	AMRITSAR	JANDIALA GURU	S-NPP	31.61360	75.05500	13:23:18	D	3.40
19	AMRITSAR	JANDIALA GURU	S-NPP	31.63230	75.02040	13:23:18	D	1.60
20	AMRITSAR	MAJITHA	S-NPP	31.69200	74.99890	13:23:18	D	5.80
21	AMRITSAR	MAJITHA	S-NPP	31.69270	75.00300	13:23:18	D	7.70
22	AMRITSAR	MAJITHA	S-NPP	31.70310	75.06570	13:23:18	D	2.80
23	AMRITSAR	MAJITHA	S-NPP	31.71130	75.09410	13:23:18	D	4.50
24	AMRITSAR	MAJITHA	S-NPP	31.71500	75.03270	13:23:18	D	6.60
25	AMRITSAR	MAJITHA	S-NPP	31.72850	75.05130	13:23:18	D	2.90
26	AMRITSAR	MAJITHA	S-NPP	31.73570	75.01060	13:23:18	D	7.70
27	AMRITSAR	MAJITHA	S-NPP	31.74120	74.91090	13:23:18	D	2.50
28	AMRITSAR	MAJITHA	S-NPP	31.74790	74.90940	13:23:18	D	3.90
29	AMRITSAR	MAJITHA	S-NPP	31.74850	75.02510	13:23:18	D	4.00
30	AMRITSAR	MAJITHA	S-NPP	31.74900	74.97870	13:23:18	D	0.90
31	AMRITSAR	MAJITHA	S-NPP	31.75520	74.99470	13:23:18	D	1.70
32	AMRITSAR	MAJITHA	S-NPP	31.75660	75.00300	13:23:18	D	3.80

33	AMRITSAR	MAJITHA	S-NPP	31.76170	74.97150	13:23:18	D	3.50
34	AMRITSAR	MAJITHA	S-NPP	31.76900	74.95240	13:23:18	D	3.20
35	AMRITSAR	MAJITHA	S-NPP	31.76970	74.95660	13:23:18	D	3.20
36	AMRITSAR	MAJITHA	S-NPP	31.77820	74.92420	13:23:18	D	2.10
37	AMRITSAR	MAJITHA	S-NPP	31.78100	74.94100	13:23:18	D	4.80
38	AMRITSAR	MAJITHA	S-NPP	31.78200	74.98860	13:23:18	D	3.40
39	AMRITSAR	MAJITHA	S-NPP	31.78510	75.07020	13:23:18	D	1.50
40	AMRITSAR	MAJITHA	S-NPP	31.78520	74.96610	13:23:18	D	11.70
41	AMRITSAR	MAJITHA	S-NPP	31.83220	74.97720	13:23:18	D	4.60
42	AMRITSAR	RAYYA	S-NPP	31.55900	75.17440	13:23:18	D	1.60
43	AMRITSAR	RAYYA	S-NPP	31.56060	75.17480	13:23:18	D	2.50
44	AMRITSAR	RAYYA	S-NPP	31.62360	75.24230	13:23:18	D	4.50
45	AMRITSAR	RAYYA	S-NPP	31.65840	75.28600	13:23:18	D	13.00
46	AMRITSAR	TARSIKKA	S-NPP	31.58100	75.10990	13:23:18	D	2.20
47	AMRITSAR	TARSIKKA	S-NPP	31.58530	75.15630	13:23:18	D	2.60
48	AMRITSAR	TARSIKKA	S-NPP	31.60260	75.15680	13:23:18	D	6.50
49	AMRITSAR	TARSIKKA	S-NPP	31.61580	75.08910	13:23:18	D	7.00
50	AMRITSAR	TARSIKKA	S-NPP	31.62460	75.12160	13:23:18	D	2.10
51	AMRITSAR	TARSIKKA	S-NPP	31.62530	75.12580	13:23:18	D	2.10
52	AMRITSAR	TARSIKKA	S-NPP	31.62720	75.09520	13:23:18	D	2.50
53	AMRITSAR	TARSIKKA	S-NPP	31.62940	75.15070	13:23:18	D	3.40
54	AMRITSAR	TARSIKKA	S-NPP	31.63530	75.12350	13:23:18	D	2.70
55	AMRITSAR	TARSIKKA	S-NPP	31.63800	75.11860	13:23:18	D	2.70
56	AMRITSAR	TARSIKKA	S-NPP	31.63870	75.12280	13:23:18	D	2.70
57	AMRITSAR	TARSIKKA	S-NPP	31.64600	75.10390	13:23:18	D	2.00
58	AMRITSAR	TARSIKKA	S-NPP	31.64620	75.16850	13:23:18	D	3.10
59	AMRITSAR	TARSIKKA	S-NPP	31.64820	75.18090	13:23:18	D	4.40
60	AMRITSAR	TARSIKKA	S-NPP	31.65280	75.14550	13:23:18	D	5.50
61	AMRITSAR	TARSIKKA	S-NPP	31.65610	75.14470	13:23:18	D	5.50
62	AMRITSAR	TARSIKKA	S-NPP	31.67560	75.21410	13:23:18	D	2.10
63	AMRITSAR	VERKA	S-NPP	31.59750	74.91530	13:23:18	D	3.60
64	AMRITSAR	VERKA	S-NPP	31.69180	74.95550	13:23:18	D	3.60
65	FIROZPUR	MAMDOT	S-NPP	30.80060	74.35920	13:23:18	D	5.00
66	GURDASPUR	BATALA	S-NPP	31.78150	75.17450	13:23:18	D	2.10
67	GURDASPUR	QADIAN	S-NPP	31.77400	75.45720	13:23:18	D	1.80
68	JALANDHAR	LOHIAN	S-NPP	31.10000	75.19640	13:23:18	D	7.70

69	KAPURTHALA	SULTANPUR LODHI	S-NPP	31.24230	75.18300	13:23:18	D	2.60
70	KAPURTHALA	SULTANPUR LODHI	S-NPP	31.25110	75.21550	13:23:18	D	3.00
71	PATIALA	NABHA	S-NPP	30.30750	76.23530	13:23:18	D	3.20
72	PATIALA	PATRAN	S-NPP	29.95450	76.02150	13:23:18	D	3.30
73	PATIALA	PATRAN	S-NPP	30.04360	76.04890	13:23:18	D	2.00
74	TARN TARAN	CHOHLA SAHIB	S-NPP	31.30460	75.01340	13:23:18	D	5.90
75	TARN TARAN	CHOHLA SAHIB	S-NPP	31.30530	75.01760	13:23:18	D	6.20
76	TARN TARAN	KHADUR SAHIB	S-NPP	31.39500	75.11150	13:23:18	D	3.10
77	TARN TARAN	KHADUR SAHIB	S-NPP	31.41820	75.04140	13:23:18	D	2.50
78	TARN TARAN	KHADUR SAHIB	S-NPP	31.45300	75.12060	13:23:18	D	1.30
79	TARN TARAN	KHADUR SAHIB	S-NPP	31.45870	75.05010	13:23:18	D	3.20
80	TARN TARAN	KHADUR SAHIB	S-NPP	31.47820	75.23120	13:23:18	D	2.60
81	TARN TARAN	KHADUR SAHIB	S-NPP	31.50980	75.08620	13:23:18	D	2.90
82	TARN TARAN	TARN TARAN	S-NPP	31.42800	74.88750	13:23:18	D	3.80
83	TARN TARAN	TARN TARAN	S-NPP	31.49070	75.01260	13:23:18	D	3.30

**Details of residue burning events in Haryana on 02-Oct-2022**

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m <sup>2</sup> )
1	AMBALA	AMBALA-II	S-NPP	30.21940	76.69400	13:23:18	D	4.20
2	FATEHABAD	RATIA	S-NPP	29.70960	75.54350	13:23:18	D	2.10
3	KAITHAL	KAITHAL	S-NPP	29.82250	76.36800	13:23:18	D	2.20
4	KARNAL	KARNAL	S-NPP	29.68540	77.07360	13:23:18	D	1.80
5	KARNAL	KARNAL	S-NPP	29.81020	76.98440	13:23:18	D	1.70
6	KURUKSHETRA	LADWA	S-NPP	30.03850	76.92640	13:23:18	D	2.10
7	KURUKSHETRA	THANESAR	S-NPP	29.98460	76.79830	13:23:18	D	3.90

### Details of residue burning events in Uttar Pradesh on 02-Oct-2022

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	BULANSAHAR	ANUP SHAHR	S-NPP	28.43890	78.14270	13:23:18	D	2.90
2	KHERI	GOLA	S-NPP	28.10980	80.34620	13:23:18	D	4.50
3	KHERI	GOLA	S-NPP	28.21910	80.30220	13:23:18	D	5.50
4	KHERI	MOHMADI	S-NPP	28.03600	80.27750	13:23:18	D	18.90
5	KHERI	MOHMADI	S-NPP	28.06270	80.29070	13:23:18	D	8.90
6	KHERI	MOHMADI	S-NPP	28.08590	80.27790	13:23:18	D	4.30
7	KHERI	MOHMADI	S-NPP	28.08650	80.28230	13:23:18	D	4.30
8	LALITPUR	KHAGA	S-NPP	24.36590	78.95610	13:23:18	D	2.60
9	LALITPUR	LALITPUR	S-NPP	24.57540	78.46030	13:23:18	D	2.20
10	PILHIBHIT	PURANPUR	S-NPP	28.35130	80.16560	13:23:18	D	3.40
11	SAMBHAL	CHANDAUSI	S-NPP	28.49310	78.79670	13:23:18	D	2.00
12	SAMBHAL	SAMBHAL	S-NPP	28.62610	78.55170	13:23:18	D	7.50
13	SAMBHAL	SAMBHAL	S-NPP	28.64660	78.43340	13:23:18	D	3.40
14	SHAHJAHANPUR	PUWANYA	S-NPP	28.05220	80.10710	13:23:18	D	2.20
15	SHAHJAHANPUR	PUWANYA	S-NPP	28.09550	80.21070	13:23:18	D	3.00
16	SHAHJAHANPUR	PUWANYA	S-NPP	28.10780	80.16880	13:23:18	D	4.50
17	SHAHJAHANPUR	PUWANYA	S-NPP	28.12110	80.18860	13:23:18	D	3.00
18	SHAHJAHANPUR	PUWANYA	S-NPP	28.12460	80.13510	13:23:18	D	3.10
19	SHAHJAHANPUR	PUWANYA	S-NPP	28.14370	80.14510	13:23:18	D	2.30
20	SHAHJAHANPUR	PUWANYA	S-NPP	28.16160	80.17290	13:23:18	D	2.50
21	SHAHJAHANPUR	PUWANYA	S-NPP	28.16390	80.11080	13:23:18	D	3.60
22	SHAHJAHANPUR	PUWANYA	S-NPP	28.16570	80.20320	13:23:18	D	6.20
23	SHAHJAHANPUR	PUWANYA	S-NPP	28.16740	80.13660	13:23:18	D	3.00
24	SHAHJAHANPUR	PUWANYA	S-NPP	28.17140	80.16680	13:23:18	D	2.70
25	SHAHJAHANPUR	PUWANYA	S-NPP	28.17610	80.08340	13:23:18	D	3.80
26	SHAHJAHANPUR	PUWANYA	S-NPP	28.19070	80.28340	13:23:18	D	5.80
27	SHAHJAHANPUR	PUWANYA	S-NPP	28.22450	80.15450	13:23:18	D	12.00
28	SHAHJAHANPUR	PUWANYA	S-NPP	28.24420	80.14230	13:23:18	D	3.70
29	SHAHJAHANPUR	PUWANYA	S-NPP	28.25000	80.15900	13:23:18	D	2.90
30	SHAHJAHANPUR	PUWANYA	S-NPP	28.25460	80.11400	13:23:18	D	6.00

31	SHAHJAHANPUR	PUWANYA	S-NPP	28.27430	80.07540	13:23:18	D	2.50
32	SHAHJAHANPUR	PUWANYA	S-NPP	28.27840	80.15860	13:23:18	D	4.40
33	SHAHJAHANPUR	PUWANYA	S-NPP	28.27900	80.16300	13:23:18	D	4.40
34	SHAHJAHANPUR	PUWANYA	S-NPP	28.31200	80.13680	13:23:18	D	9.40
35	SHAHJAHANPUR	SHAHJAHANPUR	S-NPP	27.82770	79.69210	13:23:18	D	2.40
36	SHAHJAHANPUR	SHAHJAHANPUR	S-NPP	27.91280	79.87820	13:23:18	D	4.70

### Details of residue burning events in Rajasthan on 02-Oct-2022

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	BARAN	BARAN	S-NPP	25.07310	76.52210	13:23:18	D	2.40
2	BUNDI	BUNDI	S-NPP	25.44690	75.80020	13:23:18	D	5.80
3	KOTA	DIGOD	S-NPP	25.16060	76.12270	13:23:18	D	3.60

### Details of residue burning events in Madhya Pradesh on 02-Oct-2022

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	JABALPUR	PATAN	S-NPP	23.37340	79.73860	13:23:18	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**

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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)

and on IARI CREAMS website (<http://creams.iari.res.in/cms2/index.php>)

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