

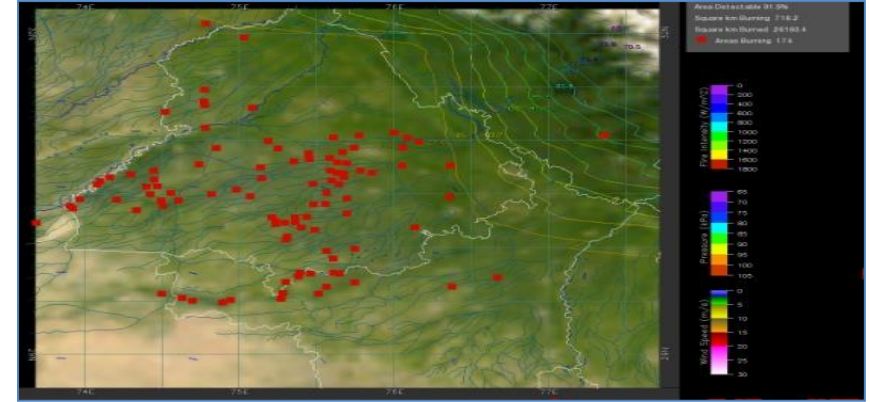
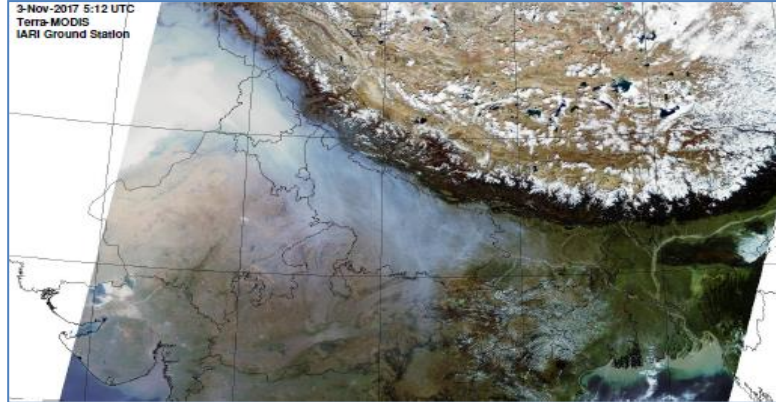


MONITORING PADDY RESIDUE BURNING IN INDIA USING SATELLITE REMOTE SENSING DURING 2024

Bulletin
No. 25

Events Date:
09-Oct-2024

Issued on:
09-Oct-2024



Consortium for Research on Agroecosystem Monitoring and Modeling from Space (CREAMS)
Laboratory,

Division of Agricultural Physics, ICAR – Indian Agricultural Research Institute, New Delhi – 110012

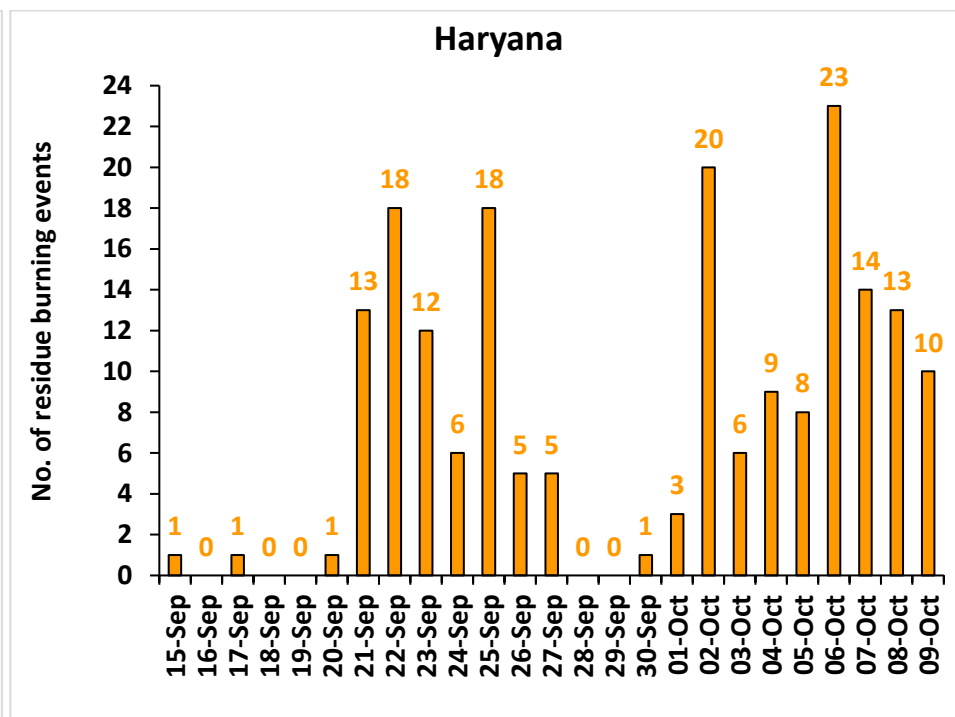
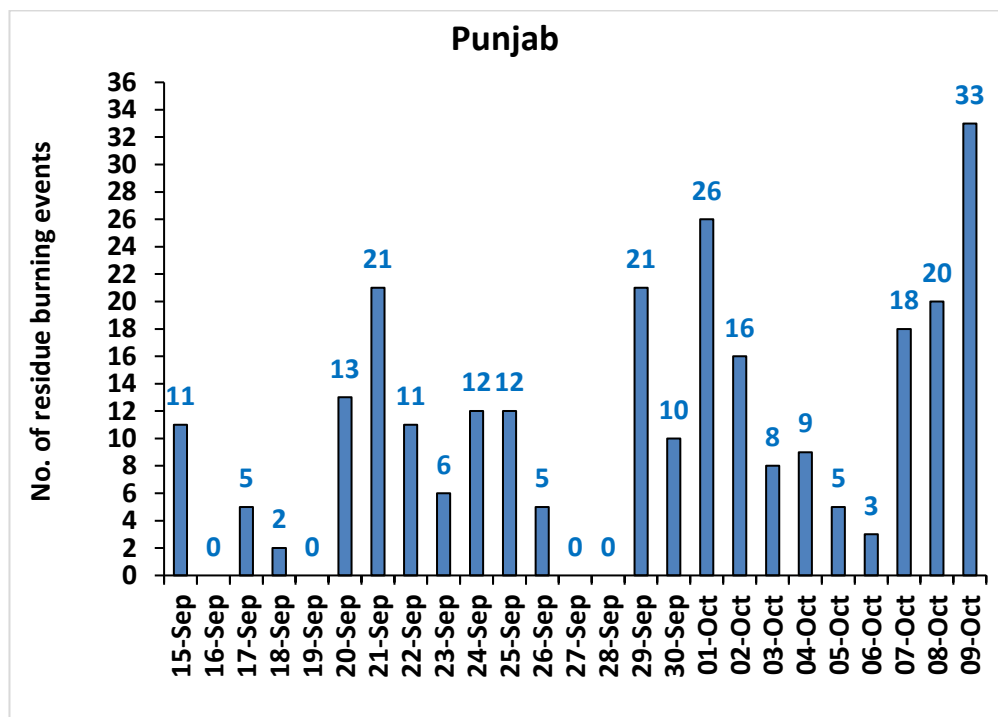
<https://creams.iari.res.in>



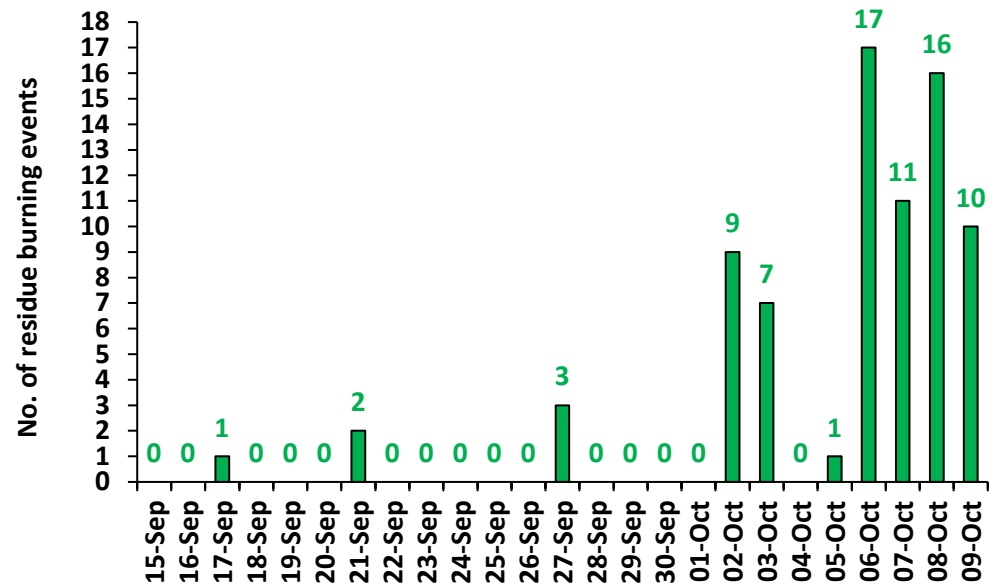
Highlights for 09-Oct-2024

- 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 **56** residue burning events in the six study States on **09-Oct-2024**.
- The state wise events detected on **09-Oct-2024** were **33** in Punjab, **10** in Haryana, **10** in UP, **00** in Delhi, **01** in Rajasthan and **02** in MP.
- Total **602** burning events were detected in the six states between **15-Sept-2024** and **09-Oct-2024**, which are distributed as **267**, **187**, **77**, **00**, **18** and **53** in Punjab, Haryana, UP, Delhi, Rajasthan and MP, respectively.
- Detection of burning events was hampered by the presence of scattered clouds over parts of Rajasthan and Madhya Pradesh states.

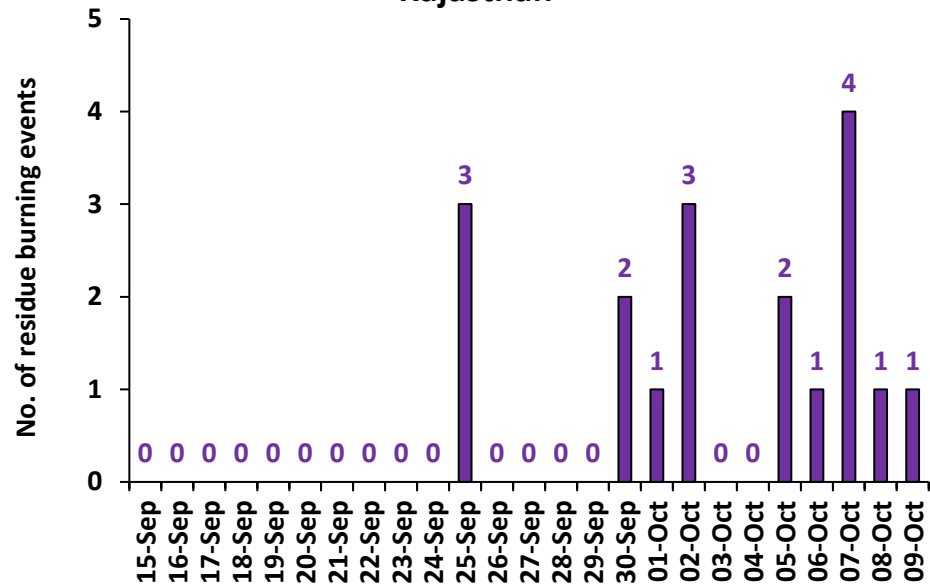
Temporal distribution of rice residue burning events for the study States in 2024



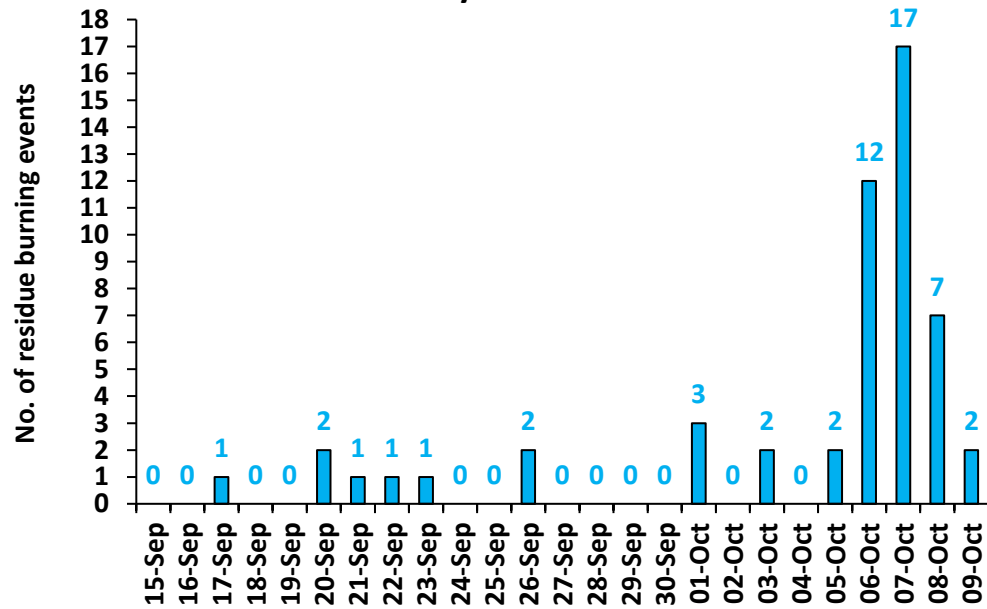
Uttar Pradesh



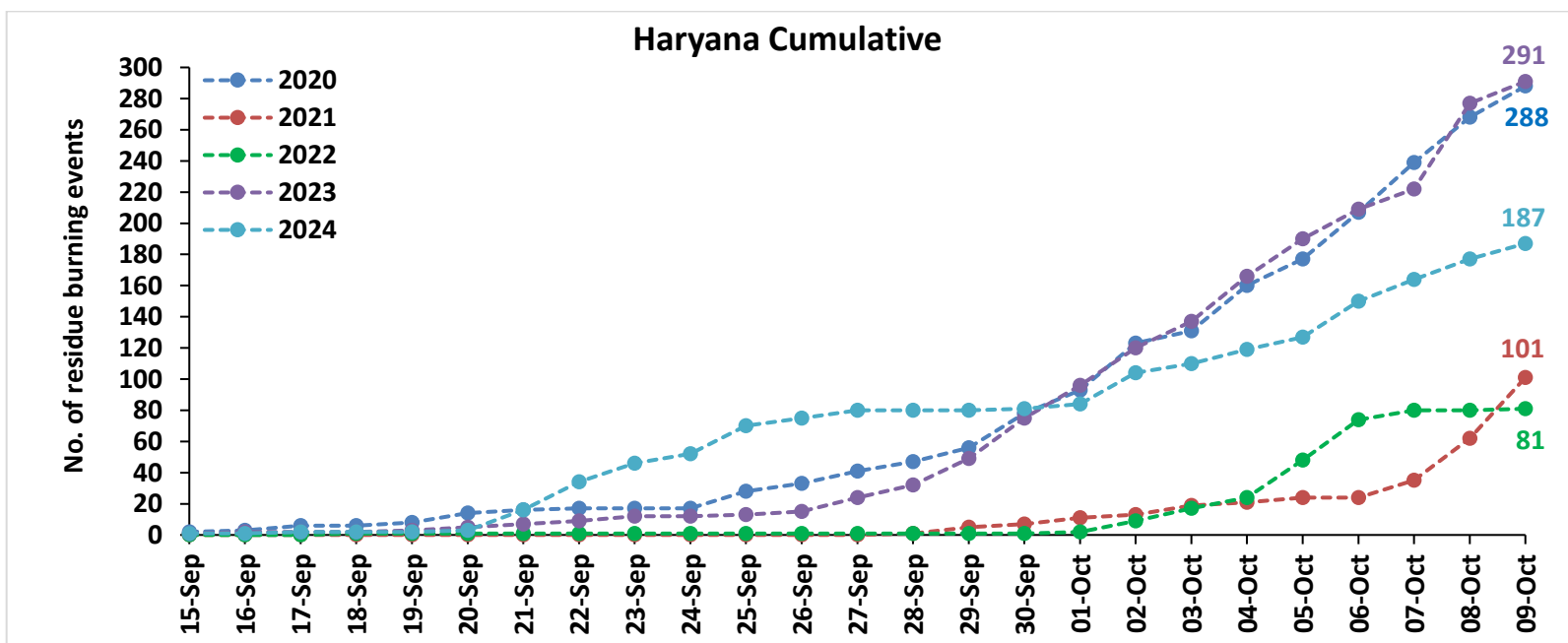
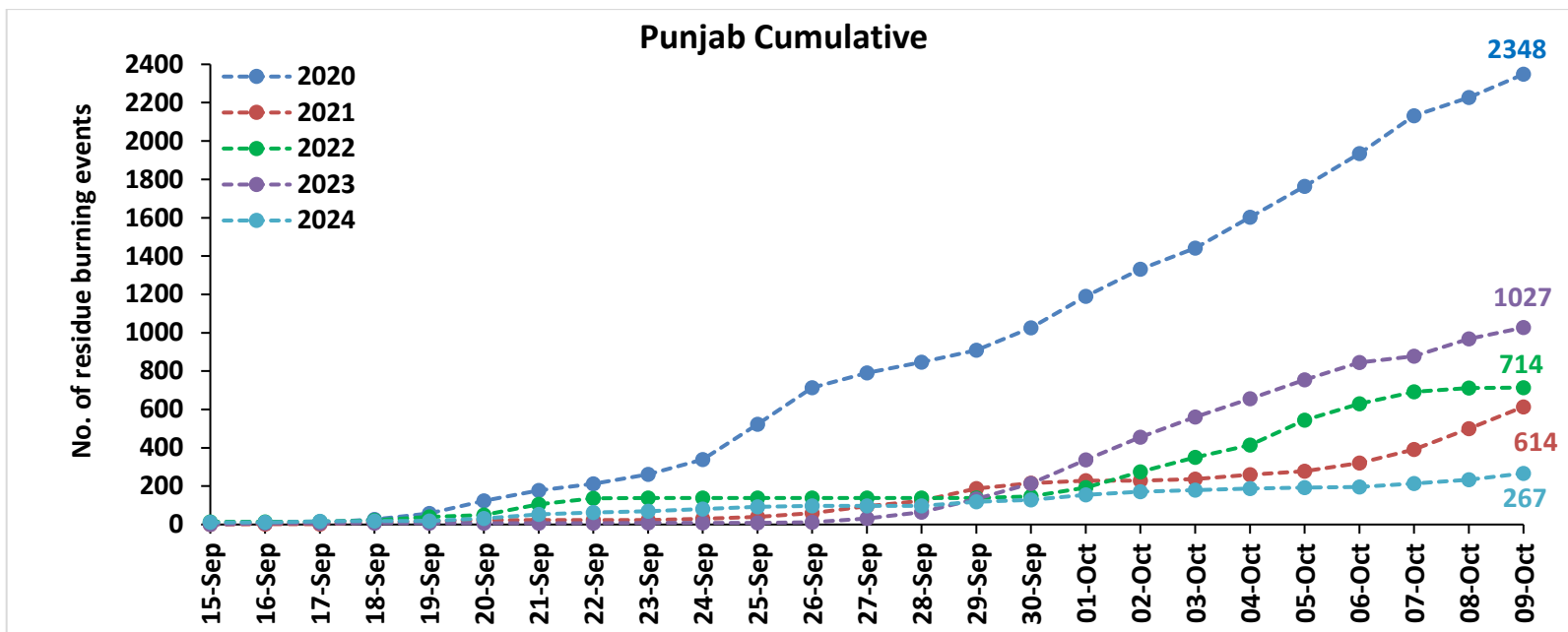
Rajasthan

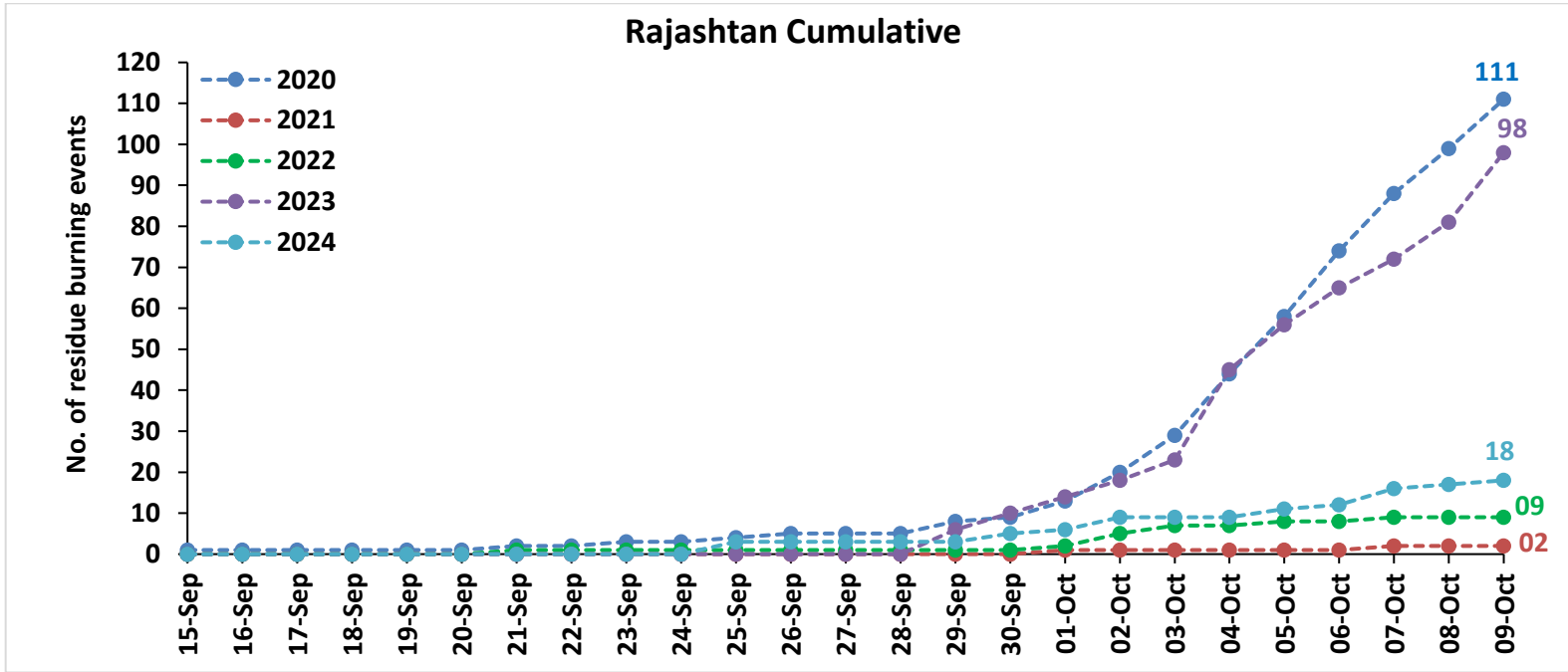
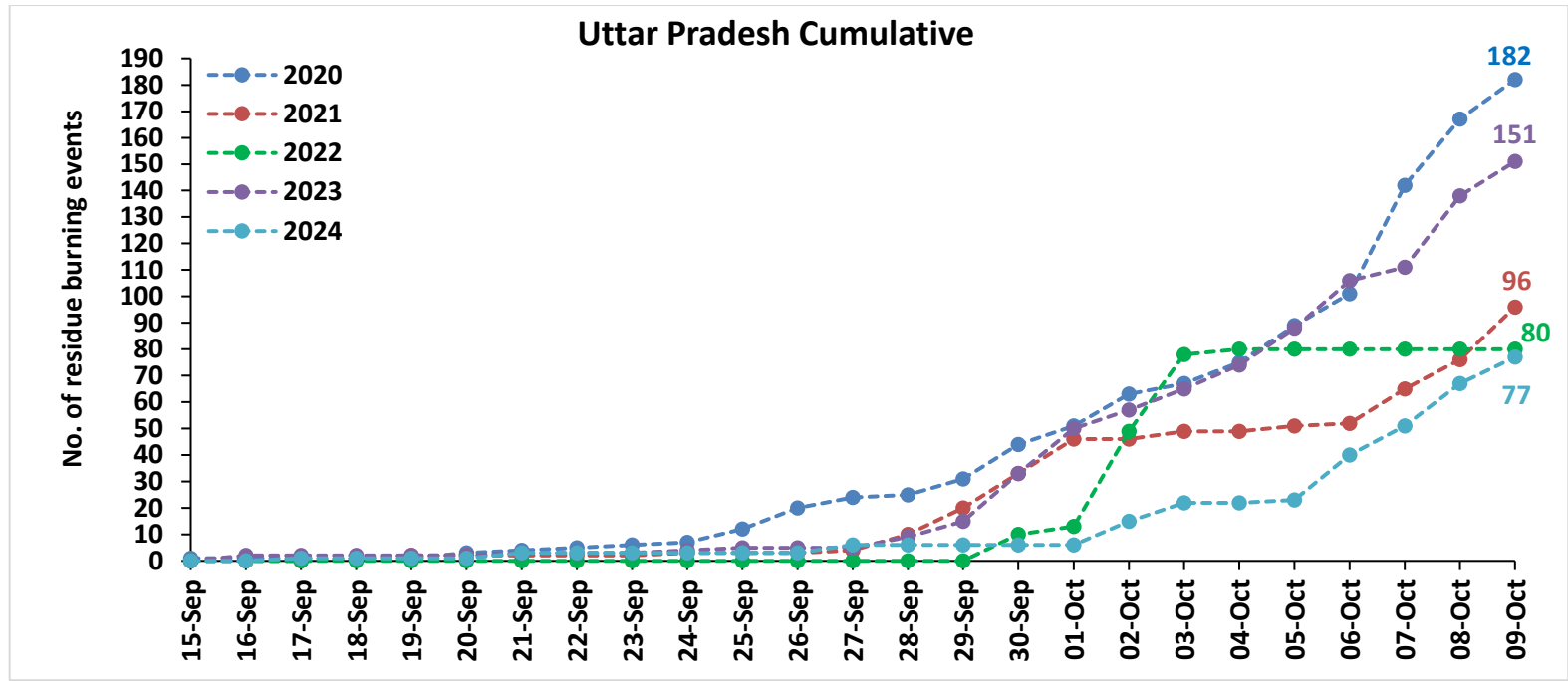


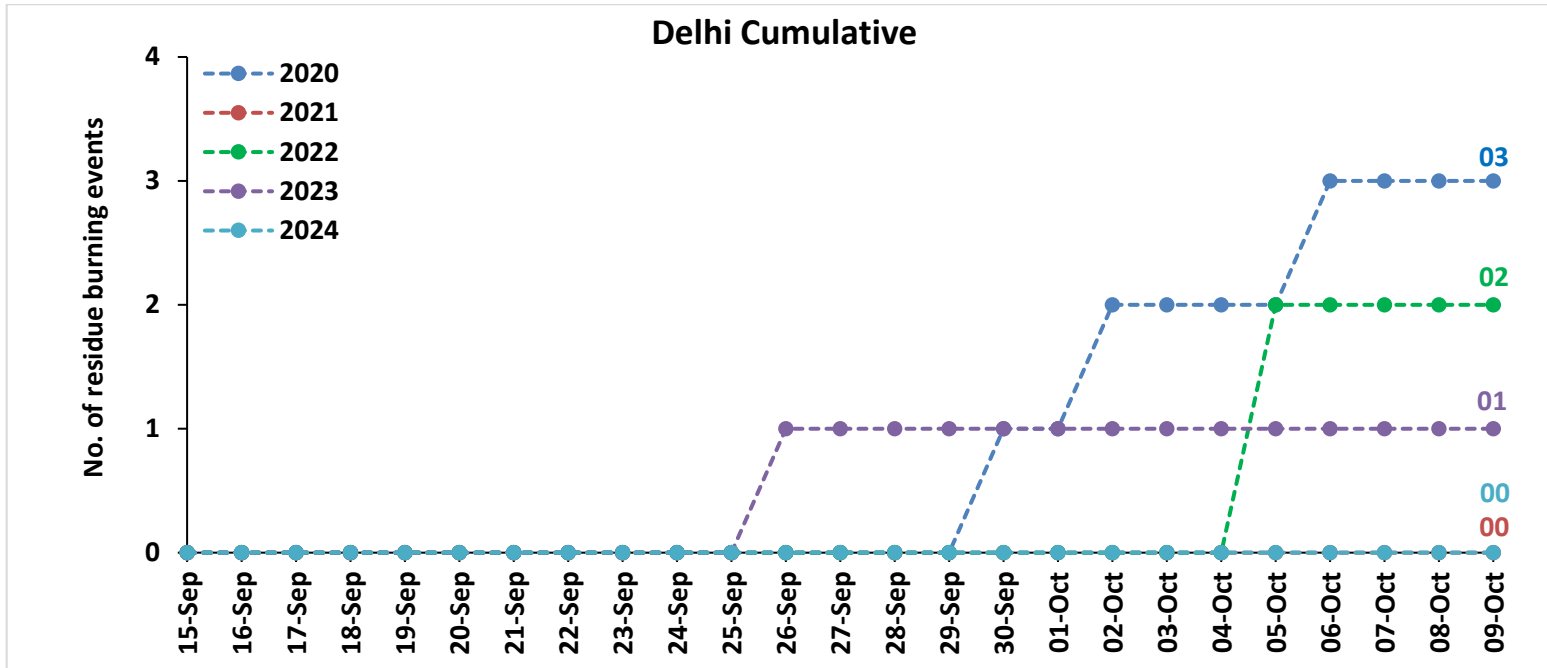
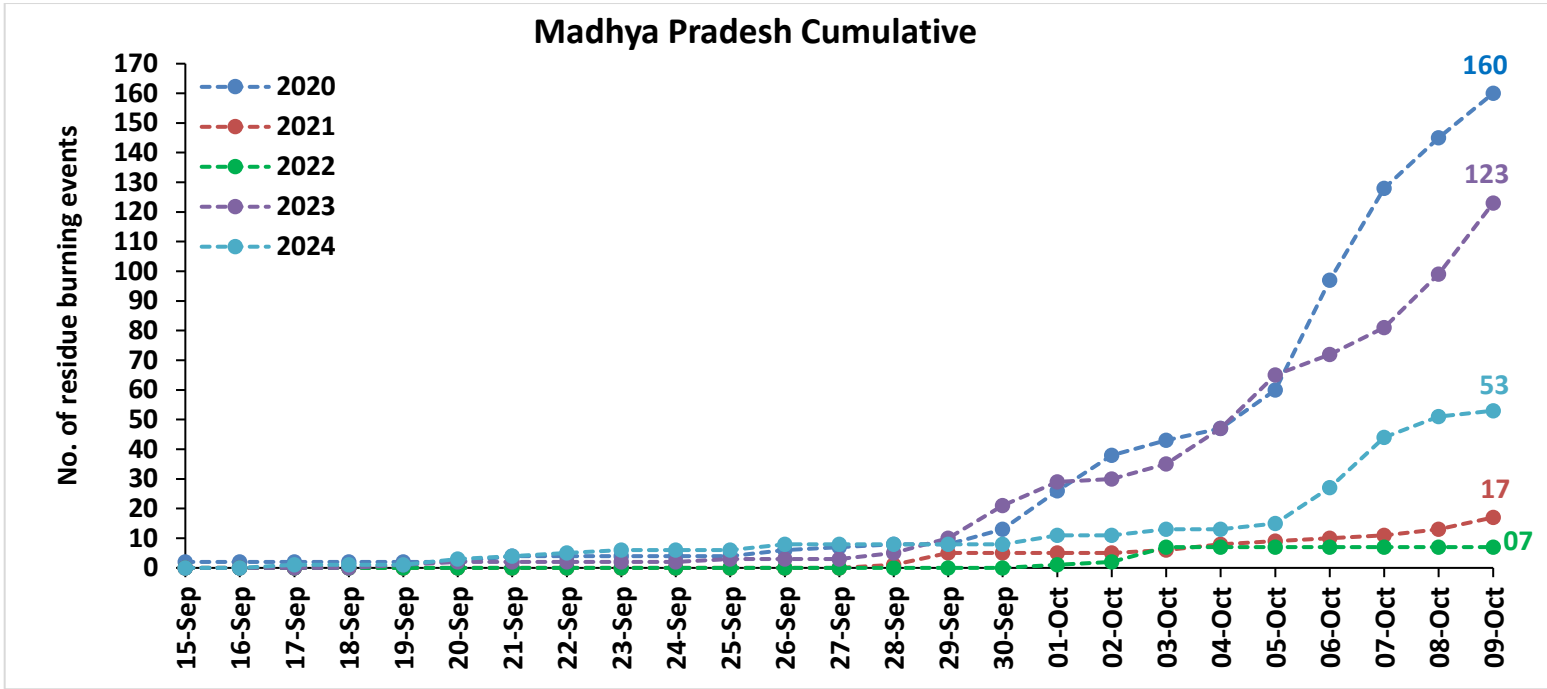
Madhya Pradesh



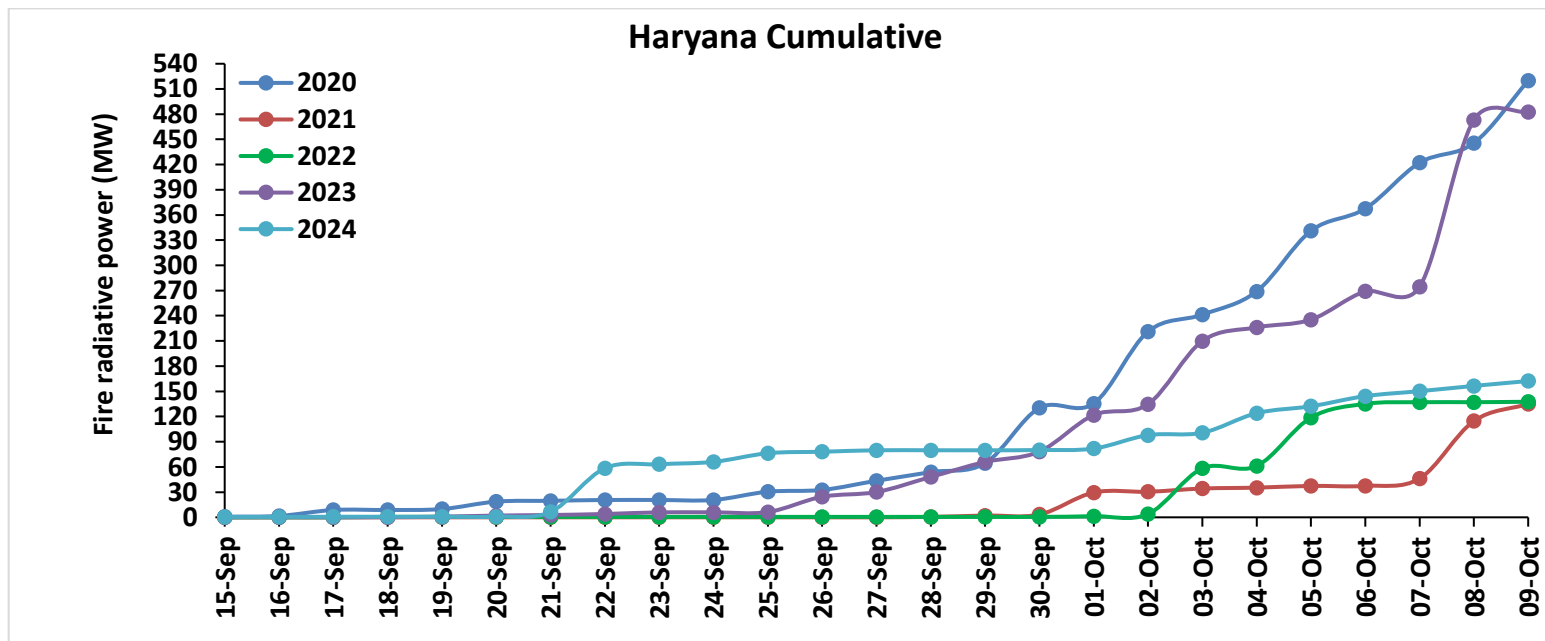
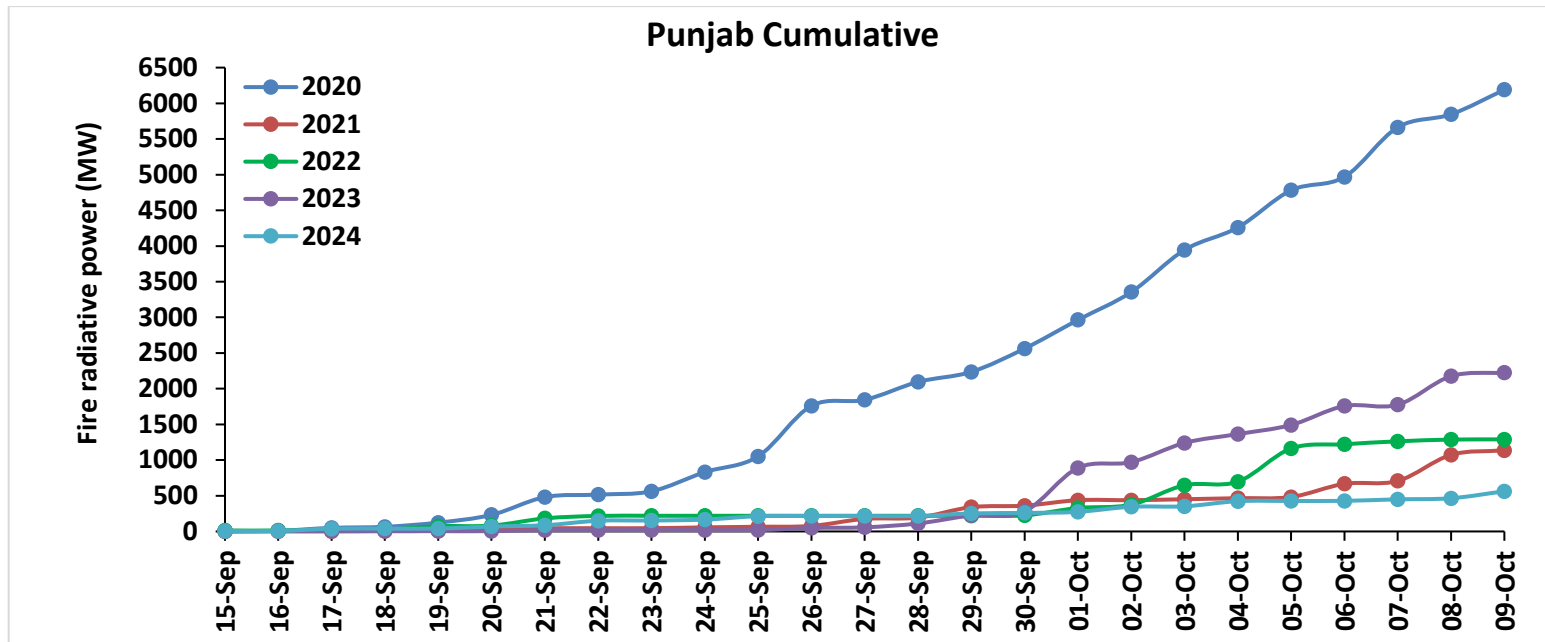
Comparison of residue burning events in current year (2024) with previous years (2020, 2021, 2022 and 2023) for the study States

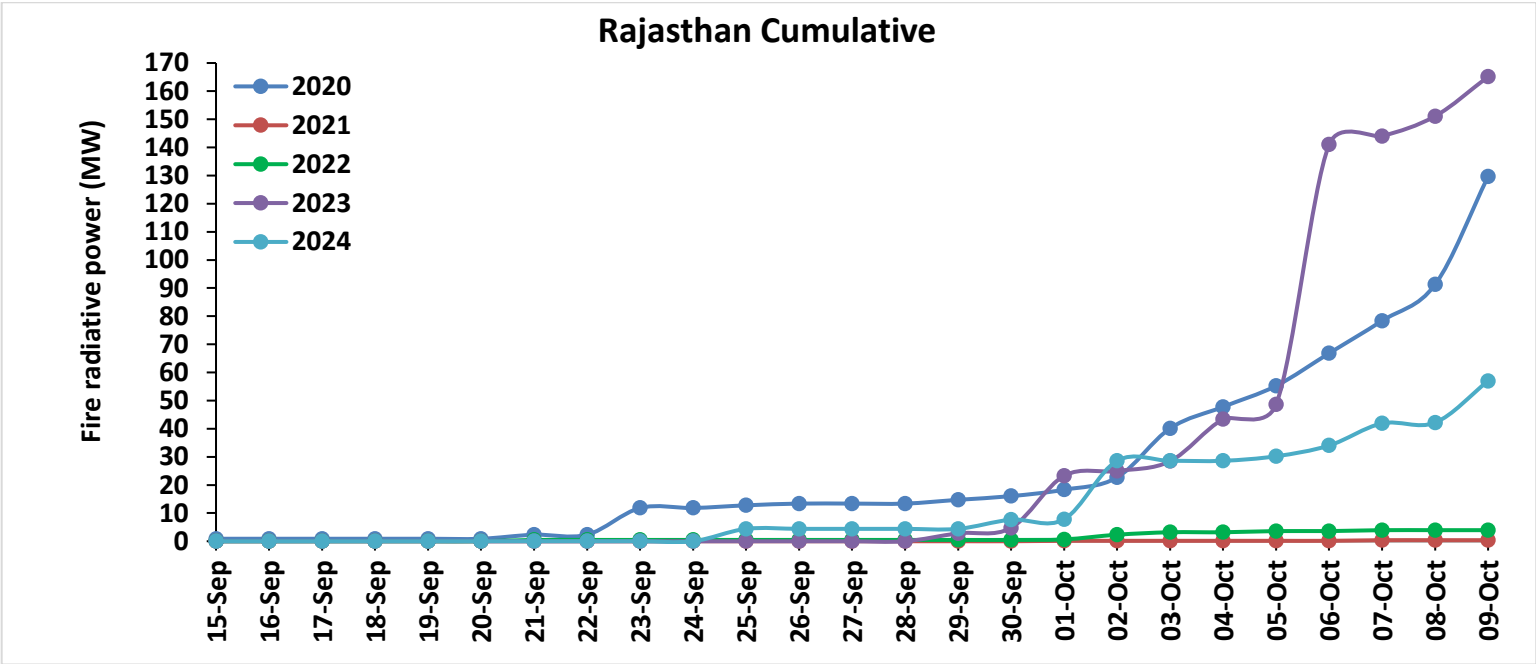
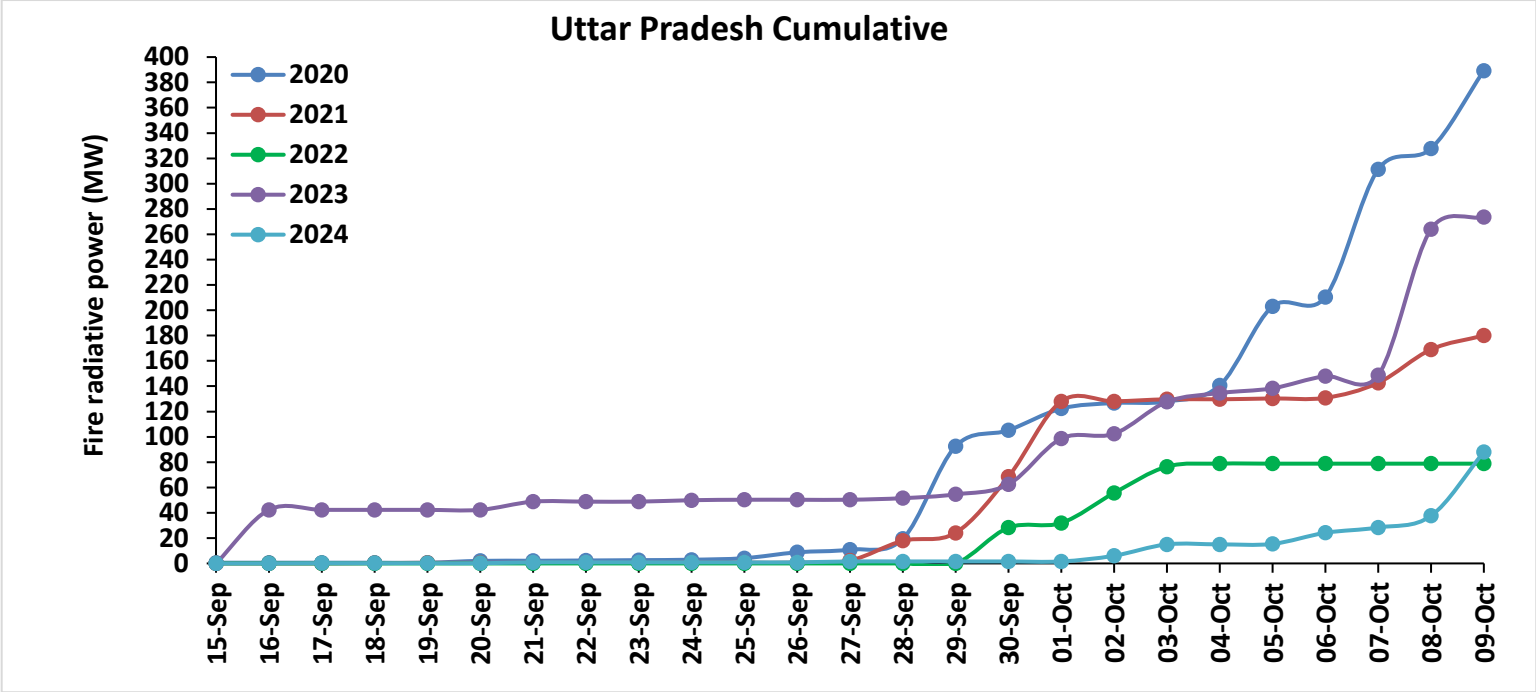




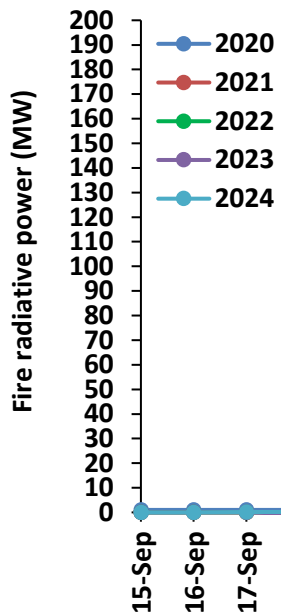


Comparison of residue burning fire power in current year (2024) with previous years (2020,2021,2022 and 2023) for the study States

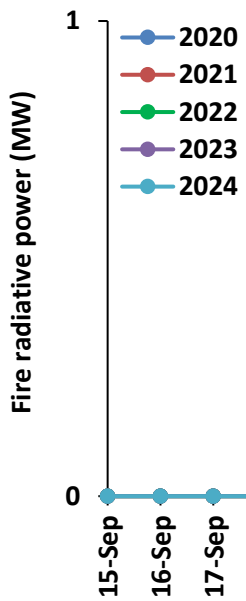




Madhya Pradesh Cumulative

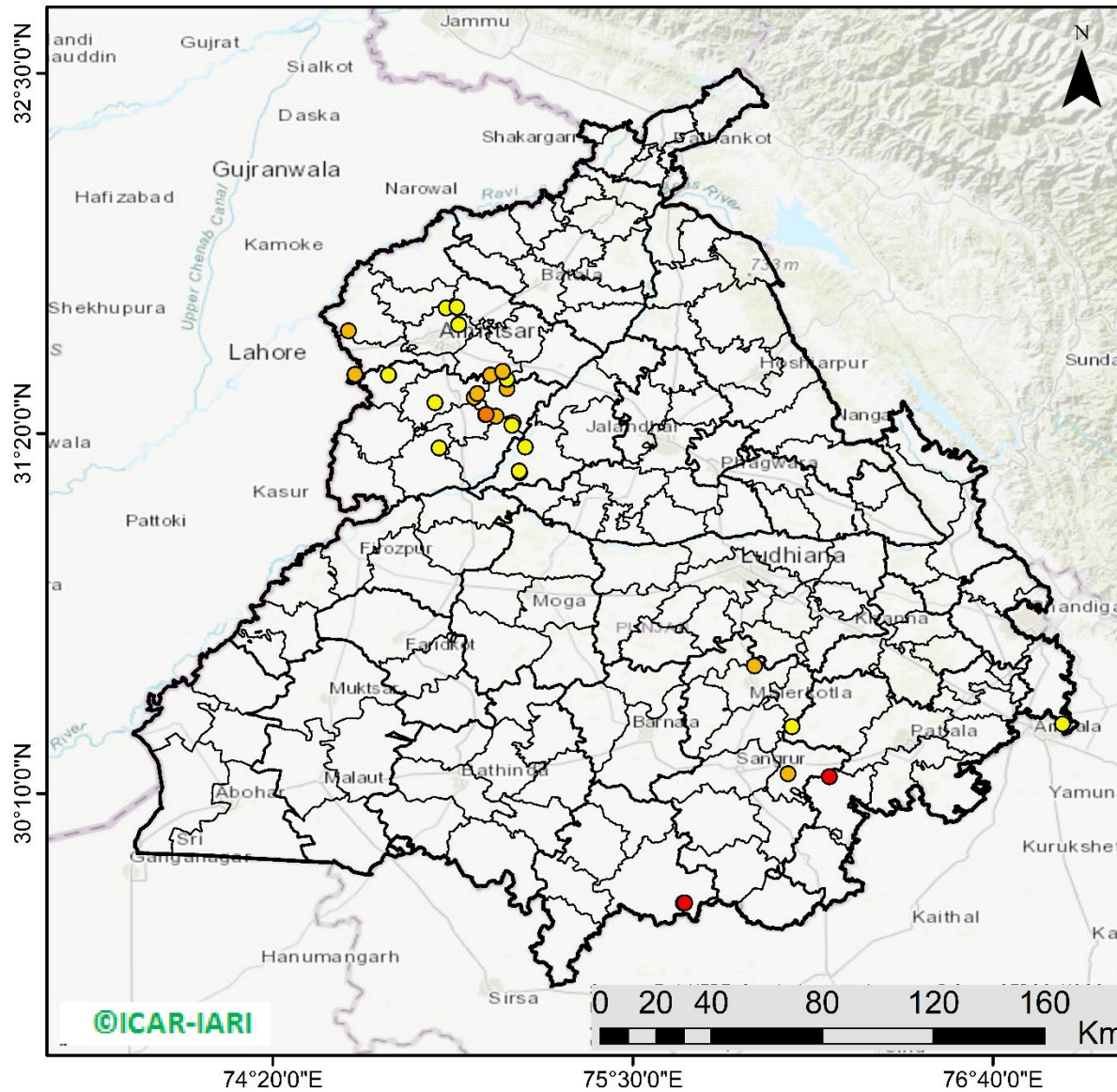


Delhi Cumulative



Punjab

RICE RESIDUE BURNING IN PUNJAB



33 burning events detected in Punjab during (09th Oct 2024)

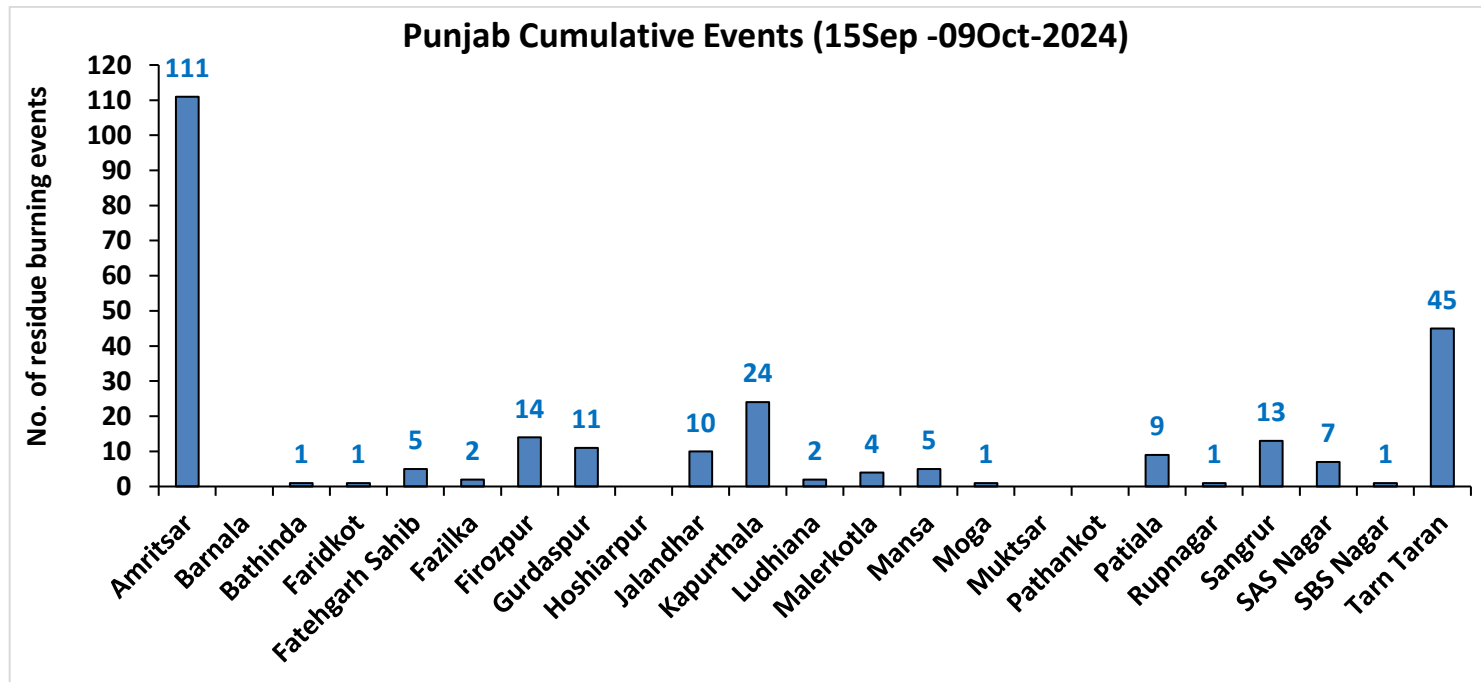
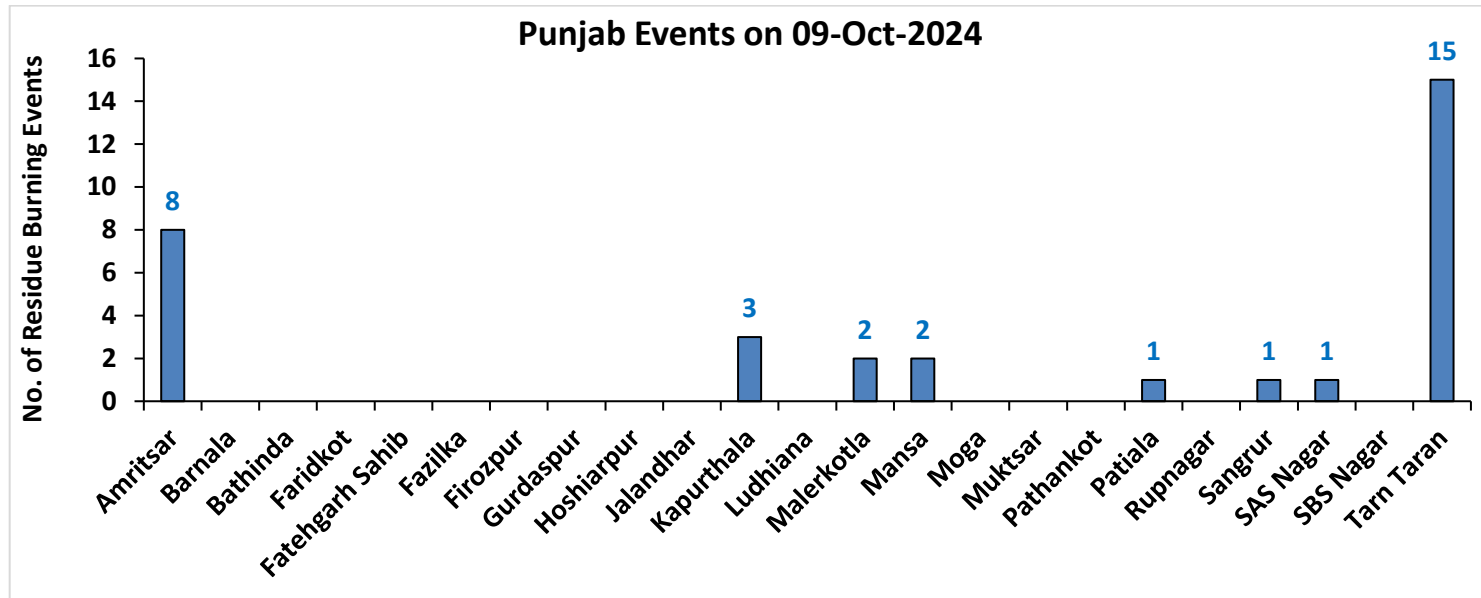
Fire Intensity (W/m²)

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



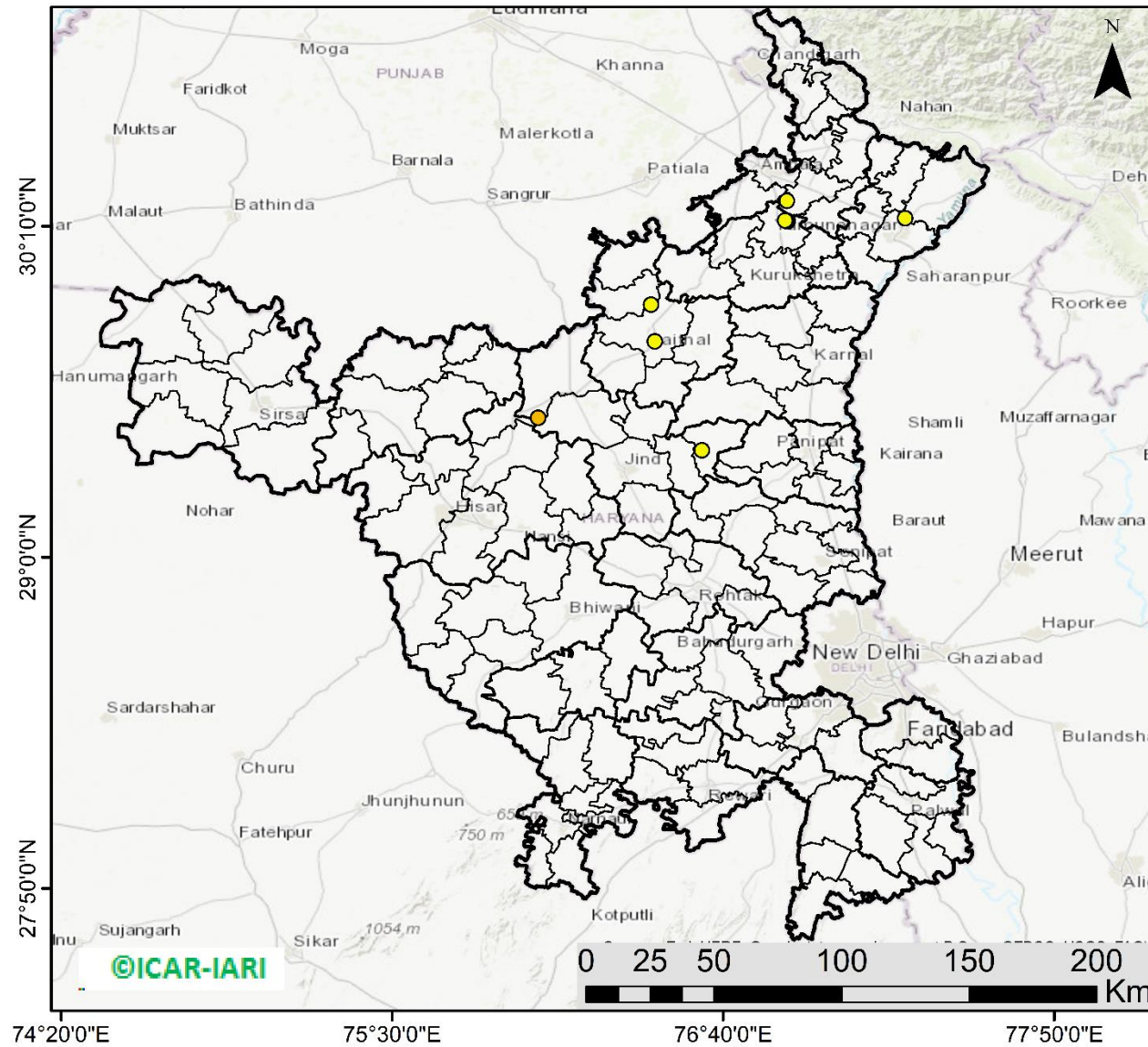
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise cumulative number of residues burning events in Punjab (15Sep-09Oct-2024)



Haryana

RICE RESIDUE BURNING IN HARYANA



10 burning events detected in Haryana on (09th Oct 2024)

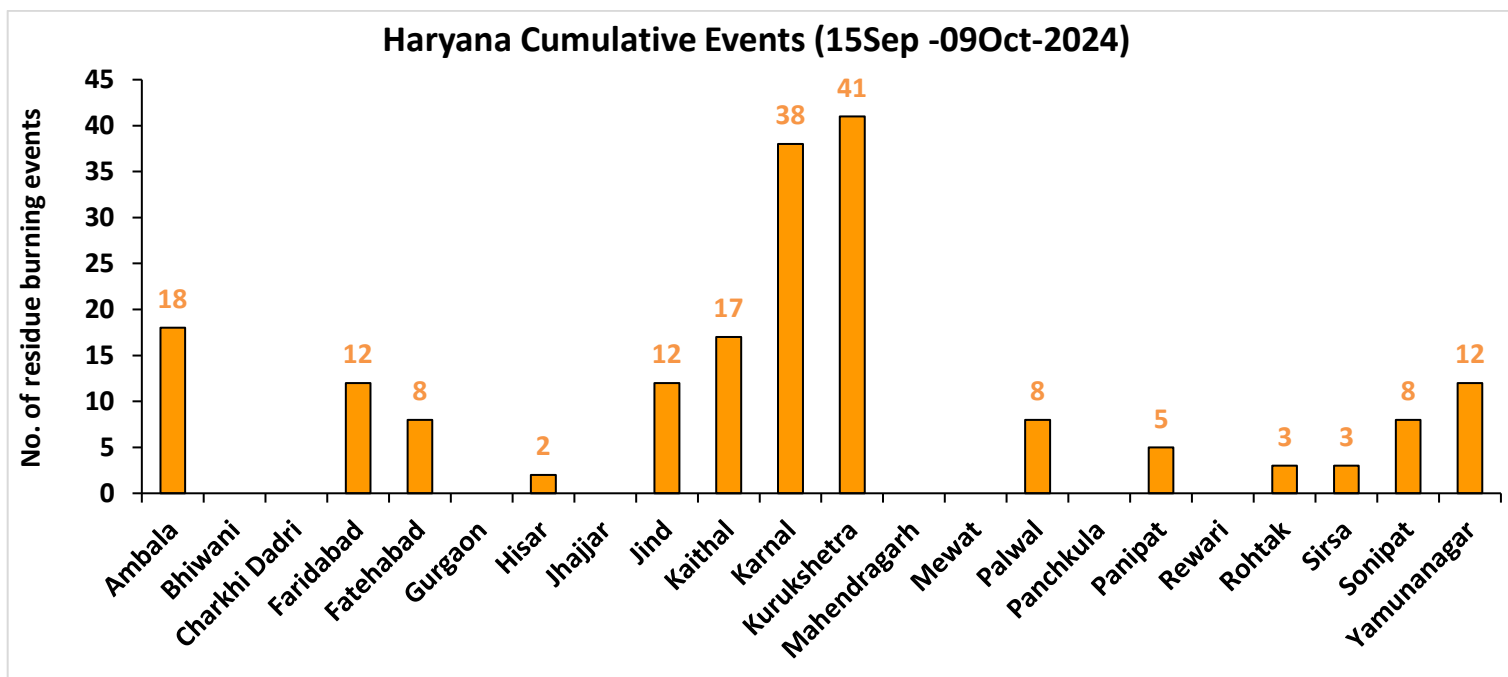
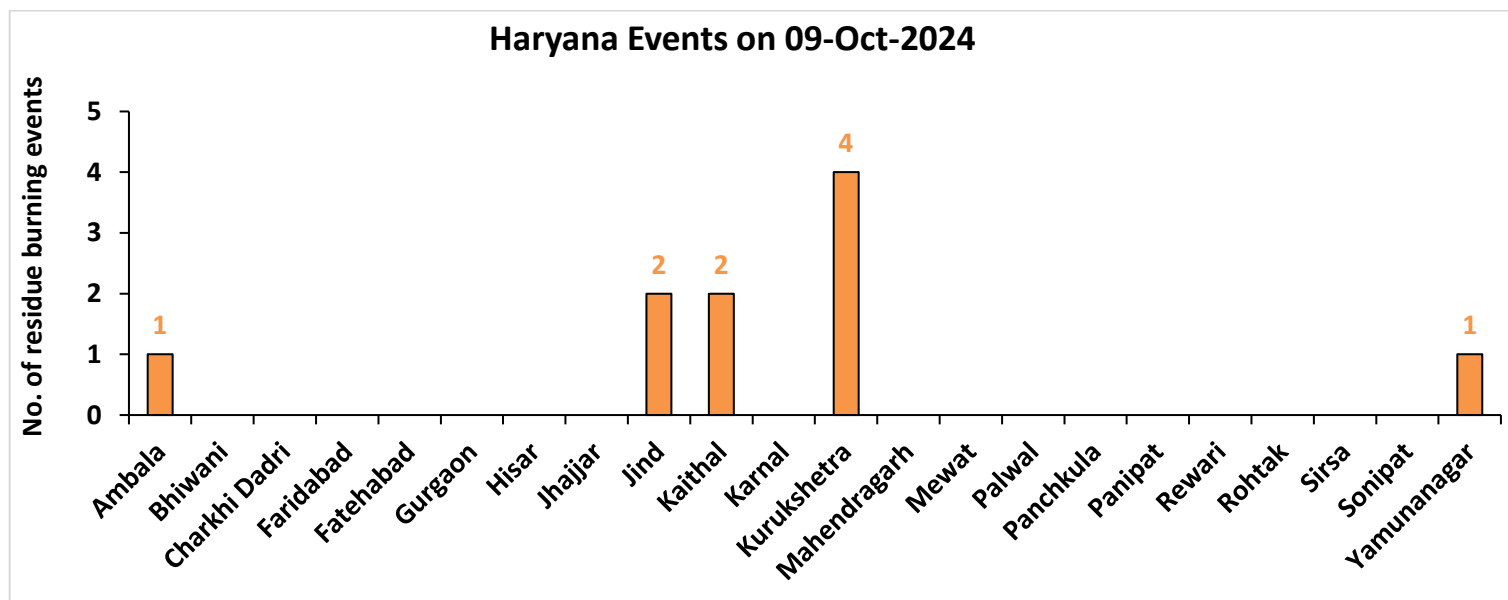
Fire Intensity (W/m²)

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



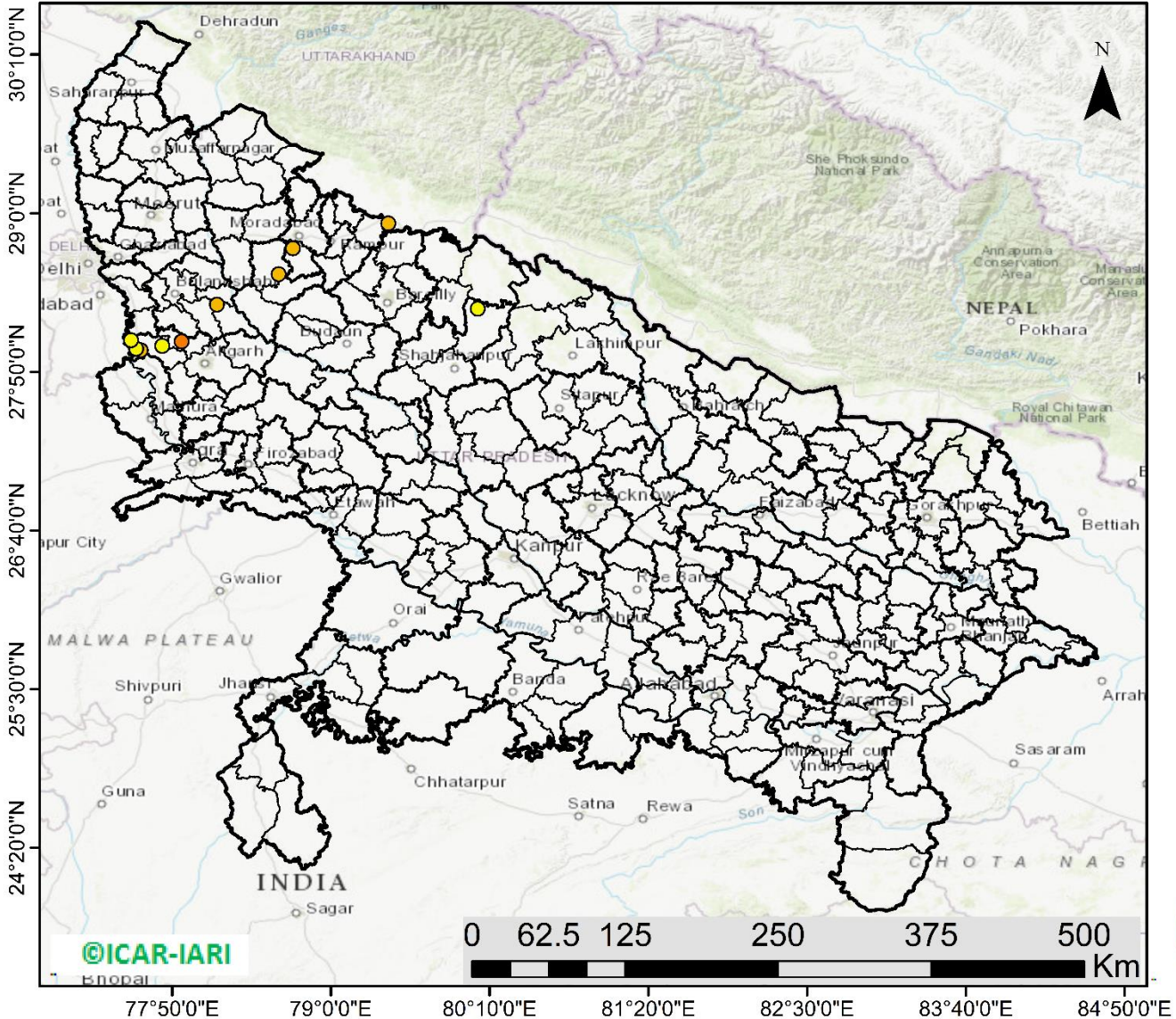
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise cumulative number of residues burning events in Haryana (15Sep-09Oct-2024)



Uttar Pradesh

RICE RESIDUE BURNING IN UTTAR PRADESH



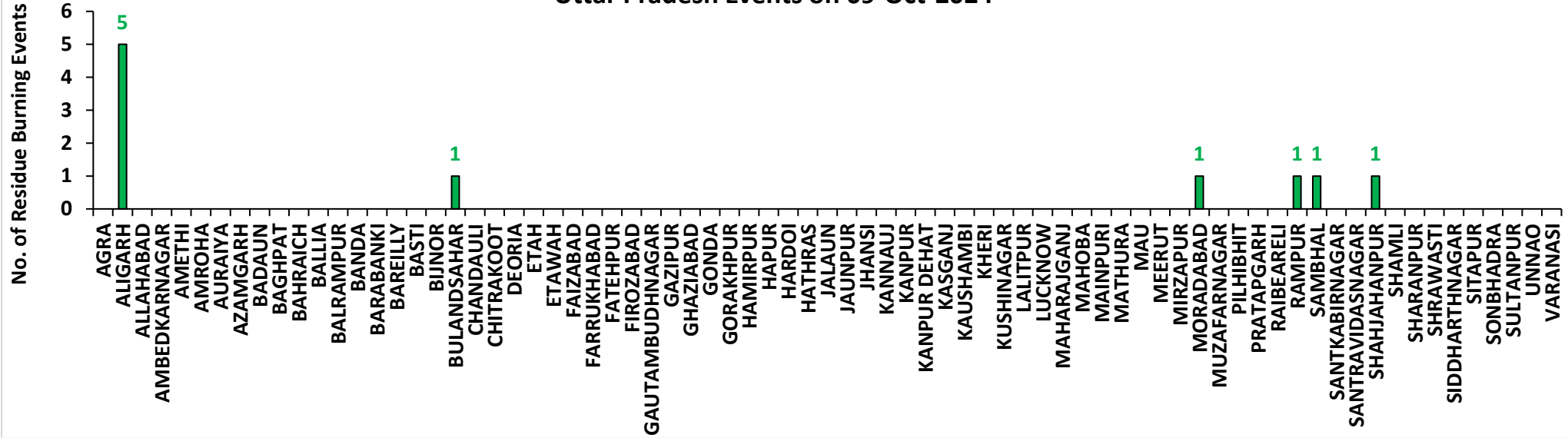
10 burning events detected in Uttar Pradesh on (09th Oct 2024)

Fire Intensity (W/m2)

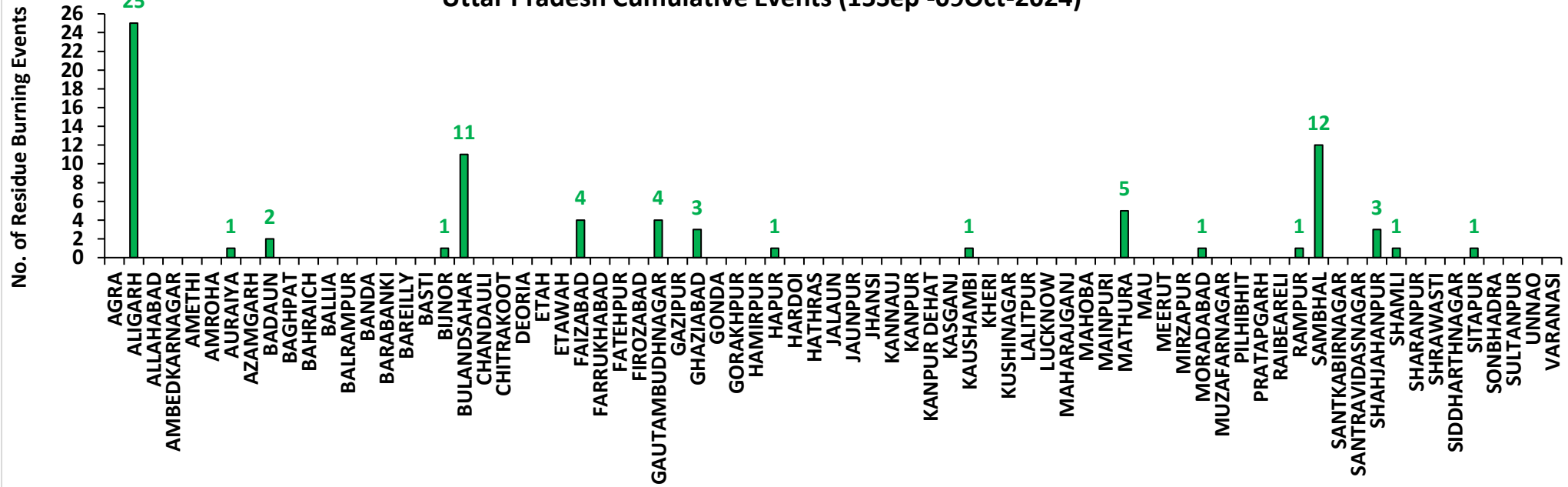
- 0 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- >20

District-wise cumulative number of residues burning events in Uttar Pradesh (15Sep-09Oct-2024)

Uttar Pradesh Events on 09-Oct-2024

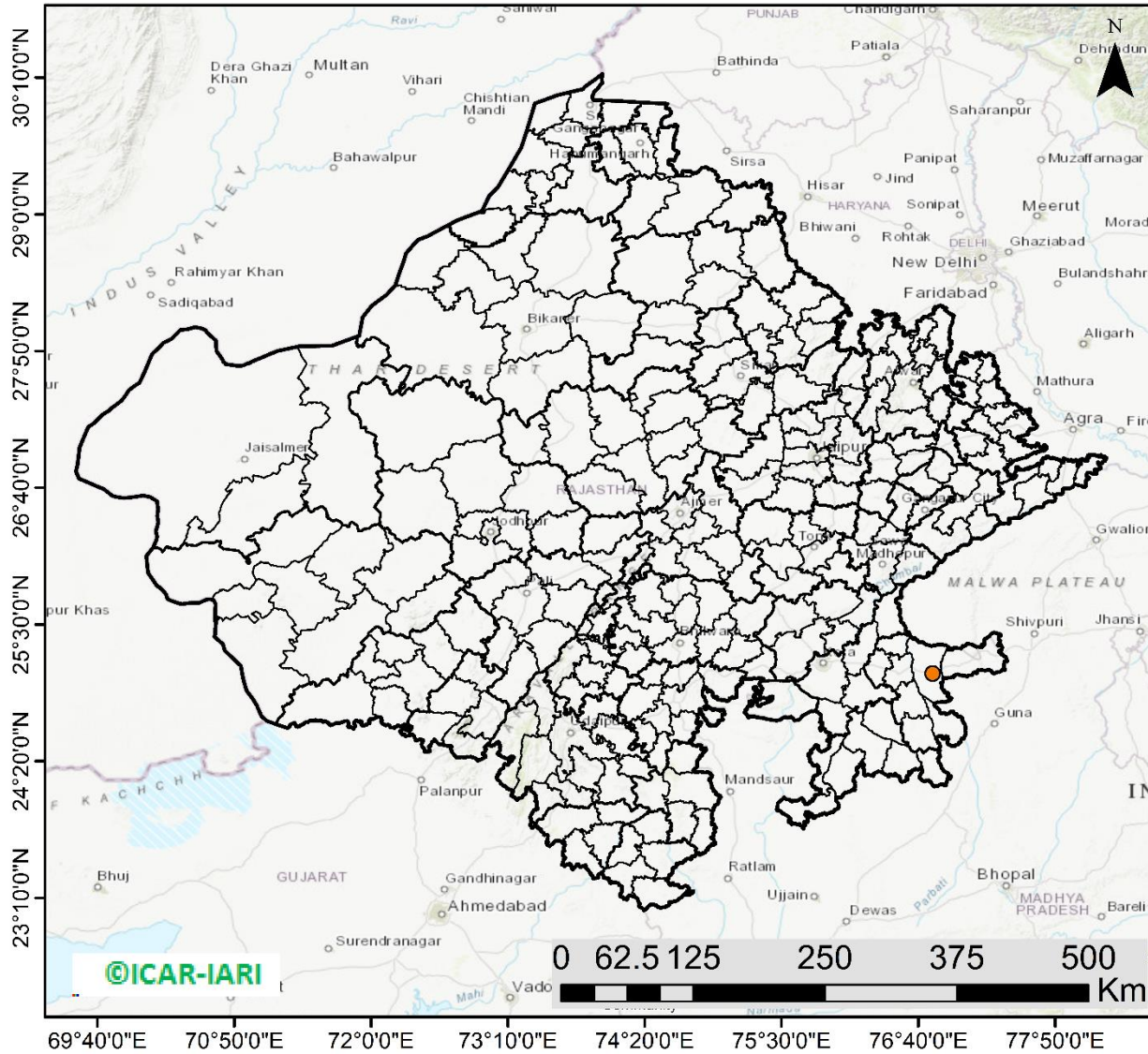


Uttar Pradesh Cumulative Events (15Sep -09Oct-2024)



Rajasthan

RICE RESIDUE BURNING IN RAJASTHAN



01 burning events
detected in Rajasthan on
(09th Oct 2024)

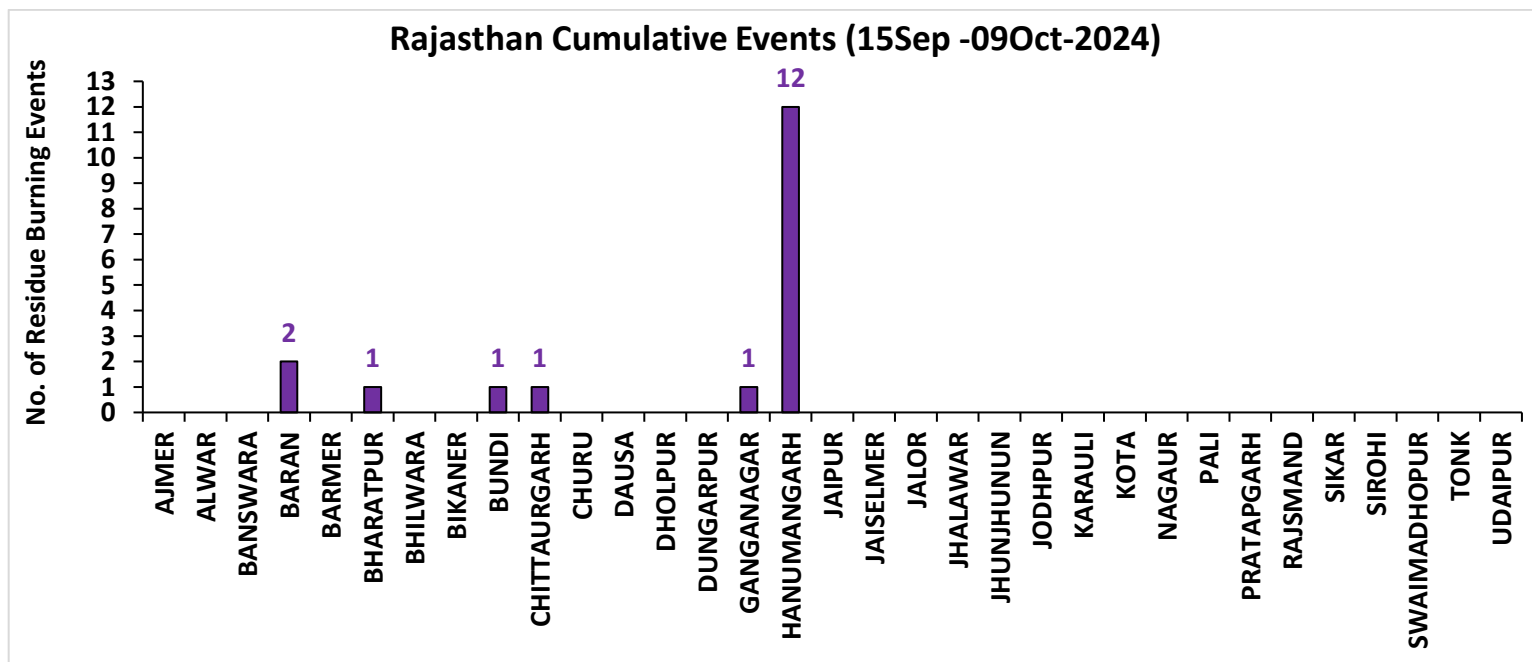
Fire Intensity (W/m²)

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



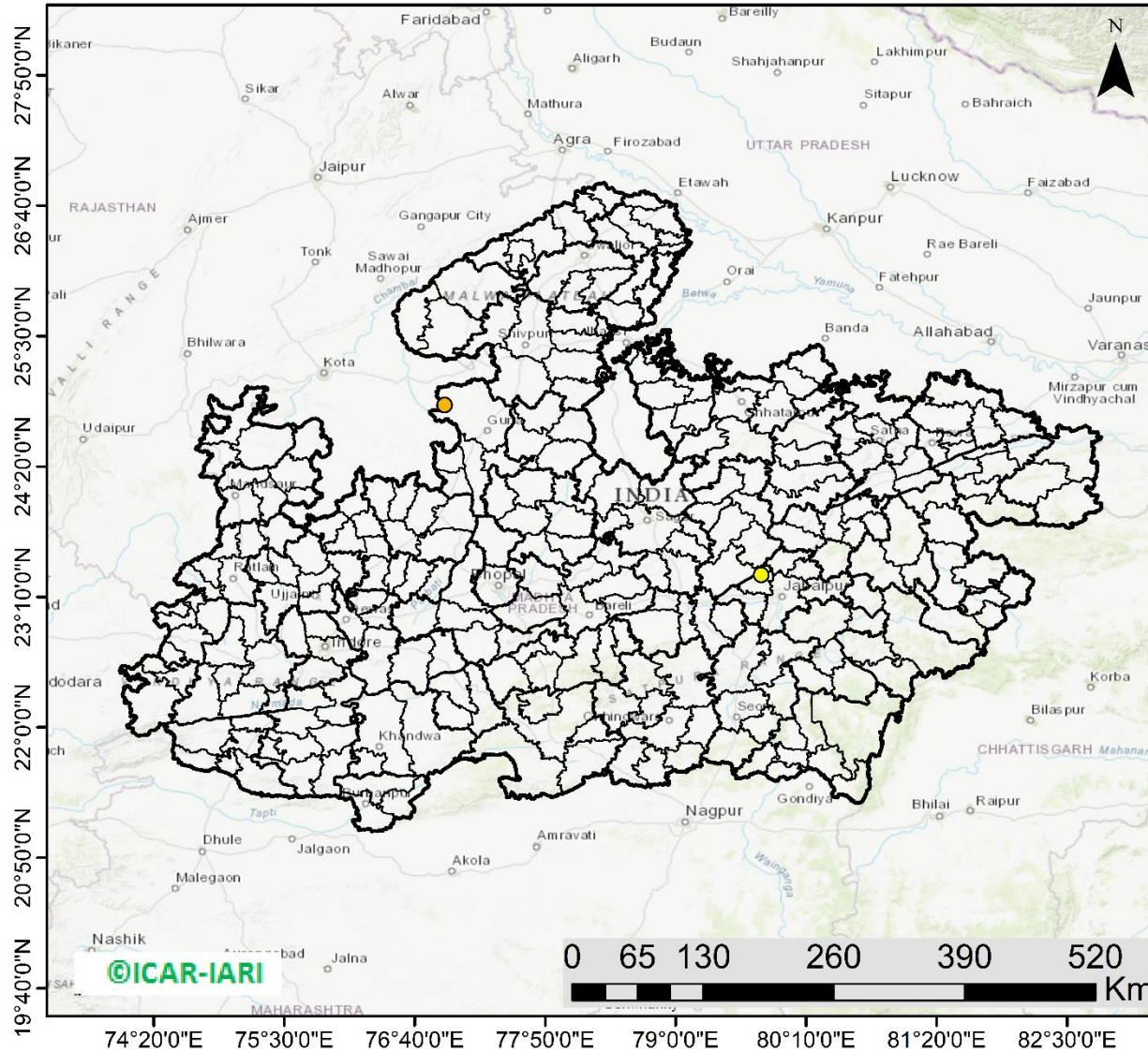
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise cumulative number of residues burning events in Rajasthan (15Sep-09Oct-2024)



Madhya Pradesh

RICE RESIDUE BURNING IN MADHYA PRADESH



02 burning events detected in MP on (09th Oct 2024)

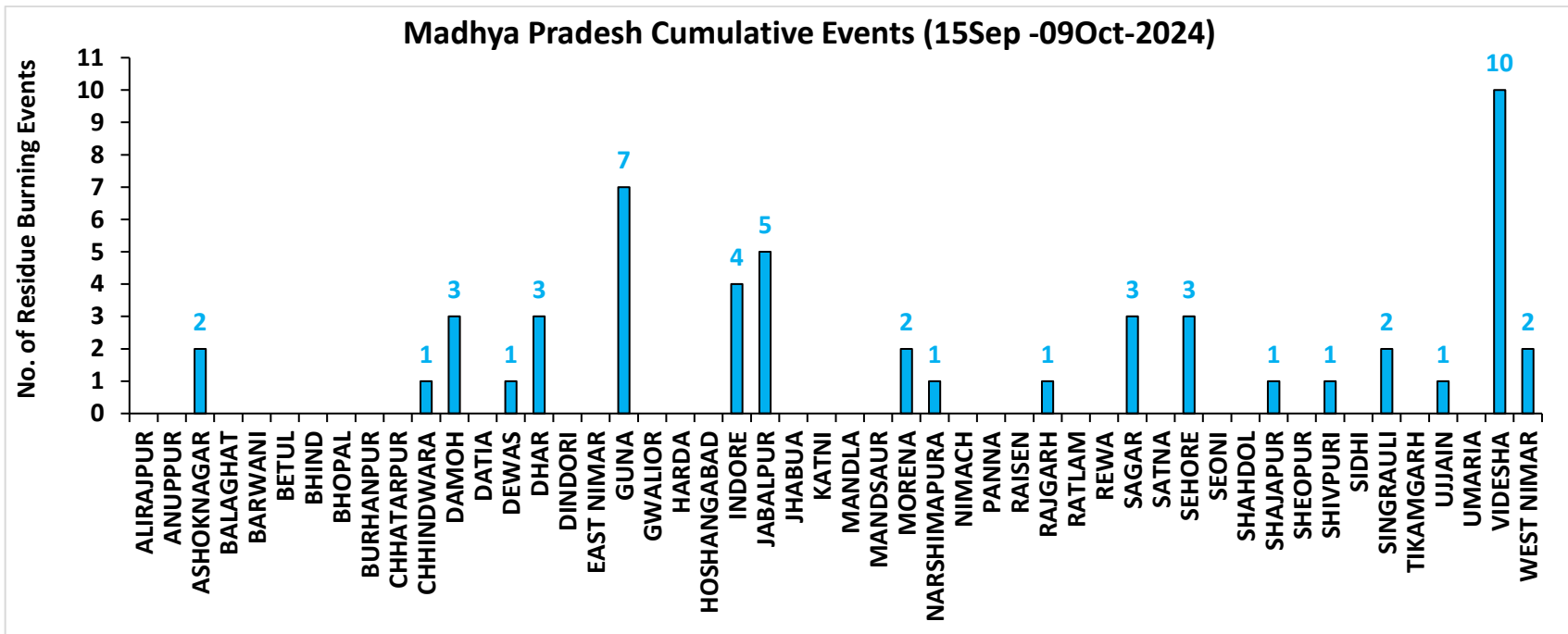
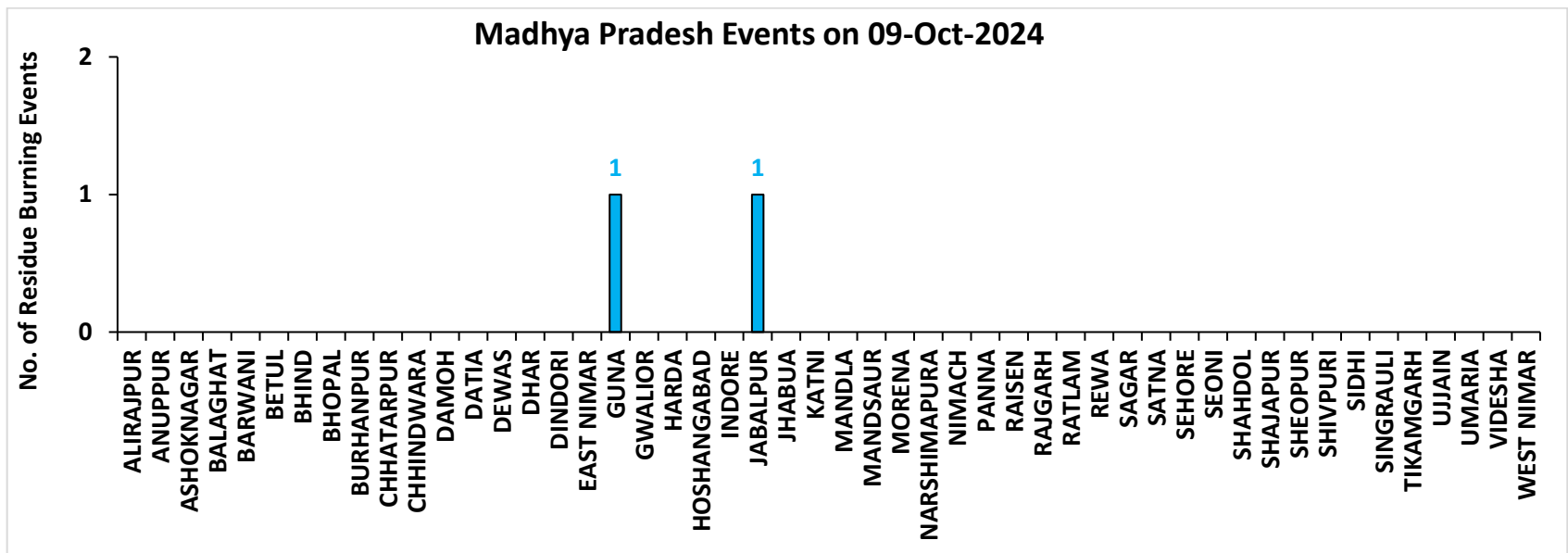
Fire Intensity (W/m²)

- 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-09Oct-2024)



District-wise cumulative number of residues burning events detected in 2020, 2021, 2022, 2023 and 2024
(Period: 15 September-09 October)

(a) Punjab

District	15 Sep-09 Oct				
	2020	2021	2022	2023	2024
Amritsar	1278	279	454	567	111
Barnala	5	2	3	6	0
Bathinda	1	0	0	0	1
Faridkot	17	16	3	8	1
Fatehgarh Sahib	30	17	4	11	5
Fazilka	1	3	0	3	2
Firozpur	69	18	16	23	14
Gurdaspur	103	12	9	10	11
Hoshiarpur	5	0	0	2	0
Jalandhar	24	11	13	16	10
Kapurthala	39	17	22	61	24
Ludhiana	63	42	11	9	2
Malerkotla	0	0	0	2	4
Mansa	4	1	1	5	5
Moga	15	3	2	2	1
Muktsar	1	1	1	0	0
Pathankot	0	0	0	0	0
Patiala	142	46	26	77	9
Rupnagar	7	2	0	1	1
Sangrur	52	9	12	28	13
SAS NAGAR (Mohali)	12	11	4	40	7
SBS Nagar	5	1	2	2	1
Tarn Taran	475	123	131	154	45
Total	2348	614	714	1027	267

(b) Haryana

District	15 Sep-09 Oct				
	2020	2021	2022	2023	2024
AMBALA	41	5	10	58	18
BHIWANI	0	0	0	0	0
CHARKHI DADRI	0	0	0	0	0
FARIDABAD	0	0	0	0	12
FATEHABAD	20	4	3	33	8
GURGAON	0	0	0	0	0
HISAR	3	0	0	9	2
JHAJJAR	1	0	0	2	0
JIND	3	2	8	25	12
KAITHAL	42	18	9	19	17
KARNAL	77	35	20	19	38
KURUKSHETRA	63	27	27	49	41
MAHENDRAGARH	0	0	0	0	0
MEWAT	0	0	0	0	0
PALWAL	5	3	0	7	8
PANCHKULA	0	0	0	0	0
PANIPAT	6	2	1	10	5
REWARI	0	0	0	0	0
ROHTAK	0	0	0	1	3
SIRSA	2	0	0	1	3
SONIPAT	6	1	2	30	8
YAMUNANAGAR	19	4	1	28	12
Total	288	101	81	291	187

(c) Uttar Pradesh

District	15 Sep-09 Oct																
	2020	2021	2022	2023	2024	GAUTAMBUDHNAGAR	1	1	0	3	4	MUZAFARNAGAR	2	0	0	0	0
AGRA	0	0	0	0	0	GAZIPUR	0	0	0	0	0	PILHIBHIT	4	2	2	19	0
ALIGARH	15	0	1	45	25	GHAZIABAD	1	1	1	5	3	PRATAPGARH	0	0	0	0	0
ALLAHABAD	0	0	0	0	0	GONDA	0	0	0	0	0	RAIBEARELI	1	0	0	0	0
AMBEDKARNAGAR	0	0	0	0	0	GORAKHPUR	0	0	0	0	0	RAMPUR	5	9	0	4	1
AMETHI	0	0	0	0	0	HAMIRPUR	0	0	0	0	0	SAMBHAL	6	1	4	8	12
AMROHA	1	0	0	2	0	HAPUR	2	0	0	0	1	SANTKABIRNAGAR	0	0	0	0	0
AURAIYA	12	0	4	3	1	HARDOI	0	0	0	1	0	SANTRAVIDASNAGAR	0	0	0	0	0
AZAMGARH	0	0	0	0	0	HATHRAS	0	0	0	2	0	SHAHJAHANPUR	11	66	53	18	3
BADAUN	0	0	0	0	2	JALAUN	0	0	0	0	0	SHAMLI	17	3	2	2	1
BAGHPAT	1	0	0	0	0	JAUNPUR	0	0	0	0	0	SHARANPUR	13	0	0	0	0
BAHRAICH	2	0	0	0	0	JHANSI	5	0	0	1	0	SHRAWASTI	0	0	0	0	0
BALLIA	0	0	0	0	0	KANNAUJ	2	0	0	0	0	SIDDHARTHANAGAR	0	0	0	0	0
BALRAMPUR	0	0	0	0	0	KANPUR	0	1	0	0	0	SITAPUR	4	1	0	1	1
BANDA	0	0	0	0	0	KANPUR DEHAT	1	0	0	0	0	SONBHADRA	0	0	0	0	0
BARABANKI	7	0	0	2	0	KASGANJ	1	0	0	0	0	SULTANPUR	0	0	0	0	0
BAREILLY	5	1	0	3	0	KAUSHAMBI	6	0	0	1	1	UNNAO	2	0	0	1	0
BASTI	2	0	0	0	0	KHERI	14	5	8	1	0	VARANASI	0	0	0	0	0
BIJNOR	3	0	1	0	1	KUSHINAGAR	0	0	0	0	0	Total	182	96	80	151	77
BULANDSAHAR	2	0	2	2	11	LALITPUR	0	1	2	0	0						
CHANDAULI	0	0	0	0	0	LUCKNOW	2	0	0	1	0						
CHITRAKOOT	0	0	0	0	0	MAHARAJGANJ	0	0	0	0	0						
DEORIA	0	0	0	2	0	MAHOBA	0	0	0	0	0						
ETAH	4	0	0	0	0	MAINPURI	0	1	0	1	0						
ETAWAH	1	0	0	4	0	MATHURA	4	3	0	15	5						
FAIZABAD	0	0	0	0	4	MAU	0	0	0	0	0						
FARRUKHABAD	0	0	0	0	0	MEERUT	9	0	0	2	0						
FATEHPUR	7	0	0	0	0	MIRZAPUR	5	0	0	0	0						
FIROZABAD	1	0	0	0	0	MORADABAD	1	0	0	2	1						

(d) Delhi

District	15 Sep-09 Oct				
	2020	2021	2022	2023	2024
CENTRAL	0	0	0	0	0
EAST	0	0	0	0	0
NEW DELHI	0	0	0	0	0
NORTH	2	0	2	1	0
NORTH EAST	0	0	0	0	0
NORTH WEST DELHI	0	0	0	0	0
SHAHADRA	0	0	0	0	0
SOUTH	1	0	0	0	0
SOUTH EAST	0	0	0	0	0
SOUTH WEST DELHI	0	0	0	0	0
WEST DELHI	0	0	0	0	0
Total	3	0	2	1	0

(e) Rajasthan

District	15 Sep-09 Oct				
	2020	2021	2022	2023	2024
AJMER	0	0	0	0	0
ALWAR	1	0	0	0	0
BANSWARA	0	0	0	0	0
BARAN	53	0	3	40	2
BARMER	2	0	0	0	0
BHARATPUR	0	0	0	2	1
BHILWARA	2	0	0	0	0
BIKANER	0	0	0	0	0
BUNDI	1	0	3	2	1
CHITTAURGARH	0	1	0	3	1
CHURU	0	0	0	0	0
DAUSA	0	0	0	0	0
DHOLPUR	0	0	0	0	0
DUNGARPUR	0	0	0	0	0
GANGANAGAR	2	0	0	5	1
HANUMANGARH	27	1	2	19	12
JAIPUR	0	0	0	0	0
JAISELMER	2	0	0	0	0
JALOR	0	0	0	0	0
JHALAWAR	0	0	0	4	0
JHUNJHUNUN	1	0	0	0	0
JODHPUR	1	0	0	0	0
KARALI	1	0	0	0	0
KOTA	15	0	1	21	0
NAGPUR	0	0	0	0	0
PALI	1	0	0	0	0
PRATAPGARH	0	0	0	0	0
RAJSMAND	0	0	0	0	0
SIKAR	0	0	0	0	0
SIROHI	0	0	0	0	0
SWAIMADHOPUR	1	0	0	2	0
TONK	1	0	0	0	0
UDAIPUR	0	0	0	0	0
Total	111	2	9	98	18

(f) Madhya Pradesh

District	15 Sep-09 Oct										
	2020	2021	2022	2023	2024	PANNA	1	0	0	0	0
ALIRAJPUR	0	0	0	0	0	RAISEN	2	0	0	1	0
ANUPPUR	0	0	0	0	0	RAJGARH	6	0	2	5	1
ASHOKNAGAR	7	0	0	4	2	RATLAM	0	0	0	1	0
BALAGHAT	0	0	0	0	0	REWA	2	0	0	0	0
BARWANI	0	0	0	0	0	SAGAR	8	2	1	3	3
BETUL	0	0	0	0	0	SATNA	3	0	0	1	0
BHIND	0	0	0	4	0	SEHORE	4	0	1	6	3
BHOPAL	2	1	0	3	0	SEONI	2	0	0	0	0
BURHANPUR	0	0	0	0	0	SHAHDOL	0	0	0	0	0
CHHATARPUR	2	0	0	1	0	SHAJAPUR	4	0	0	3	1
CHHINDWARA	0	0	0	0	1	SHEOPUR	3	0	0	2	0
DAMOH	6	0	0	4	3	SHIVPURI	3	0	0	0	1
DATIA	5	0	0	6	0	SIDHI	0	0	0	0	0
DEWAS	3	0	0	3	1	SINGRAULI	0	0	0	0	2
DHAR	13	0	0	11	3	TIKAMGARH	1	0	0	0	0
DINDORI	0	0	0	0	0	UJJAIN	5	0	0	3	1
EAST NIMAR	0	1	0	0	0	UMARIA	0	0	0	0	0
GUNA	8	1	1	23	7	VIDESHA	28	4	1	10	10
GWALIOR	16	0	1	2	0	WEST NIMAR	1	0	0	0	2
HARDA	8	7	0	8	0	Total	160	17	7	123	53
HOSHANGABAD	3	0	0	2	0						
INDORE	2	0	0	7	4						
JABALPUR	6	0	0	0	5						
JHABUA	0	0	0	0	0						
KATNI	0	0	0	0	0						
MANDLA	0	0	0	0	0						
MANDSAUR	0	0	0	1	0						
MORENA	5	1	0	9	2						
NARSHIMAPURA	1	0	0	0	1						
NIMACH	0	0	0	0	0						

State-wise and date-wise number of paddy residue burning events detected in 2020 ,2021 ,2022, 2023 and 2024
(Period: 15 September-09 October)

Number of Paddy Residue Burning Events Detected

Date	Punjab					Haryana					Uttar Pradesh				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
15-Sep	5	0	14	0	11	2	0	0	1	1	1	0	0	0	0
16-Sep	0	2	0	6	0	1	0	0	1	0	0	0	0	2	0
17-Sep	5	0	1	0	5	3	0	0	0	1	0	0	0	0	1
18-Sep	17	9	7	0	2	0	0	1	0	0	0	1	0	0	0
19-Sep	30	5	18	0	0	2	0	0	1	0	0	1	0	0	0
20-Sep	67	8	10	0	13	6	0	0	2	1	2	0	0	0	0
21-Sep	54	0	56	1	21	2	0	0	2	13	1	0	0	1	2
22-Sep	34	0	30	0	11	1	0	0	2	18	1	0	0	0	0
23-Sep	49	0	3	1	6	0	0	0	3	12	1	0	0	0	0
24-Sep	78	5	0	0	12	0	0	0	0	6	1	1	0	1	0
25-Sep	184	11	0	0	12	11	0	0	1	18	5	0	0	1	0
26-Sep	190	19	0	3	5	5	0	0	2	5	8	0	0	0	0
27-Sep	78	37	0	21	0	8	0	0	9	5	4	1	0	0	3
28-Sep	55	28	0	33	0	6	1	0	8	0	1	6	0	4	0
29-Sep	63	64	0	68	21	9	4	0	17	0	6	10	0	6	0
30-Sep	116	27	8	81	10	22	2	0	26	1	13	13	10	18	0
01-Oct	165	13	45	123	26	15	4	1	21	3	7	13	3	17	0
02-Oct	141	0	83	119	16	30	2	7	24	20	12	0	36	7	9
03-Oct	110	9	75	105	8	8	6	8	17	6	4	3	29	8	7
04-Oct	162	23	65	95	9	29	2	7	29	9	8	0	2	9	0
05-Oct	161	18	130	98	5	17	3	24	24	8	14	2	0	14	1
06-Oct	171	42	85	91	3	30	0	26	19	23	12	1	0	18	17
07-Oct	197	72	62	32	18	32	11	6	13	14	41	13	0	5	11
08-Oct	95	108	19	92	20	29	27	0	55	13	25	11	0	27	16
09-Oct	121	114	3	58	33	20	39	1	14	10	15	20	0	13	10
Total	2348	614	714	1027	267	288	101	81	291	187	182	96	80	151	77

Number of Paddy Residue Burning Events Detected

Date	Delhi					Rajasthan					Madhya Pradesh				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
15-Sep	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0
16-Sep	0	0	0	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	0	0	1
18-Sep	0	0	0	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	0	0	1	0
20-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
21-Sep	0	0	0	0	0	1	0	1	0	0	2	0	0	0	1
22-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
23-Sep	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
24-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-Sep	0	0	0	0	0	1	0	0	0	3	0	0	0	1	0
26-Sep	0	0	0	1	0	1	0	0	0	0	2	0	0	0	2
27-Sep	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
28-Sep	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0
29-Sep	0	0	0	0	0	3	0	0	6	0	0	4	0	5	0
30-Sep	1	0	0	0	0	1	0	0	4	2	5	0	0	11	0
01-Oct	0	0	0	0	0	4	1	1	4	1	13	0	1	8	3
02-Oct	1	0	0	0	0	7	0	3	4	3	12	0	1	1	0
03-Oct	0	0	0	0	0	9	0	2	5	0	5	1	5	5	2
04-Oct	0	0	0	0	0	15	0	0	22	0	4	2	0	12	0
05-Oct	0	0	2	0	0	14	0	1	11	2	13	1	0	18	2
06-Oct	1	0	0	0	0	16	0	0	9	1	37	1	0	7	12
07-Oct	0	0	0	0	0	14	1	1	7	4	31	1	0	9	17
08-Oct	0	0	0	0	0	11	0	0	9	1	17	2	0	18	7
09-Oct	0	0	0	0	0	12	0	0	17	1	15	4	0	24	2
Total	3	0	2	1	0	111	2	9	98	18	160	17	7	123	53

Details of residue burning events in Punjab on 09-Oct-2024

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	AMRITSAR	ATTARI	S-NPP	31.52421	74.59967	12:44:04	D	5.20
2	AMRITSAR	CHOGAWAN	S-NPP	31.66548	74.57819	14:24:21	D	5.20
3	AMRITSAR	JANDIALA GURU	S-NPP	31.53298	75.07858	14:24:21	D	5.30
4	AMRITSAR	JANDIALA GURU	S-NPP	31.53413	75.07812	14:24:21	D	6.40
5	AMRITSAR	MAJITHA	S-NPP	31.73929	74.89514	12:44:04	D	3.60
6	AMRITSAR	MAJITHA	S-NPP	31.74220	74.92999	12:44:04	D	1.90
7	AMRITSAR	VERKA	S-NPP	31.68523	74.93551	12:44:04	D	1.50
8	AMRITSAR	VERKA	S-NPP	31.68538	74.93573	12:44:04	D	1.80
9	KAPURTHALA	SULTANPUR LODHI	S-NPP	31.20590	75.13347	12:44:04	D	3.10
10	KAPURTHALA	SULTANPUR LODHI	S-NPP	31.21128	75.13168	12:44:04	D	3.60
11	KAPURTHALA	SULTANPUR LODHI	S-NPP	31.28920	75.15100	14:24:21	D	4.00
12	MALERKOTLA	AHMEDGARH	AQUA	30.58000	75.89400	14:13:04	D	9.00
13	MALERKOTLA	AMARGARH	S-NPP	30.38329	76.01574	12:44:04	D	2.80
14	MANSA	BUDHLADA	S-NPP	29.81159	75.66382	12:44:04	D	16.00
15	MANSA	BUDHLADA	S-NPP	29.81259	75.66789	12:44:04	D	20.20
16	PATIALA	SAMANA	AQUA	30.22100	76.13700	14:13:04	D	24.40
17	SANGRUR	BHAWANIGARH	S-NPP	30.23099	76.00289	12:44:04	D	8.40
18	SAS NAGAR	DERABASSI	S-NPP	30.39194	76.89248	12:44:04	D	3.30
19	TARN TARAN	CHOHLA SAHIB	S-NPP	31.35942	75.10864	14:24:21	D	2.50
20	TARN TARAN	GANDIWIND TATLA	S-NPP	31.52170	74.70824	14:24:21	D	2.50
21	TARN TARAN	GANDIWIND TATLA	S-NPP	31.52273	74.70815	14:24:21	D	3.50
22	TARN TARAN	KHADUR SAHIB	AQUA	31.36800	75.11200	14:13:04	D	8.60
23	TARN TARAN	KHADUR SAHIB	AQUA	31.38900	75.05700	14:13:04	D	9.50
24	TARN TARAN	KHADUR SAHIB	AQUA	31.47800	75.09200	14:13:04	D	7.10
25	TARN TARAN	KHADUR SAHIB	S-NPP	31.50740	75.09270	14:24:21	D	5.10
26	TARN TARAN	KHADUR SAHIB	S-NPP	31.50863	75.09213	14:24:21	D	3.00
27	TARN TARAN	NAUSHERA PANNUAN	S-NPP	31.39441	75.02274	14:24:21	D	7.00
28	TARN TARAN	NAUSHERA PANNUAN	S-NPP	31.39466	75.02480	14:24:21	D	13.10
29	TARN TARAN	PATTI	S-NPP	31.28617	74.87222	12:44:04	D	2.80
30	TARN TARAN	TARN TARAN	AQUA	31.45000	74.98600	14:13:04	D	7.10

31	TARN TARAN	TARN TARAN	AQUA	31.46200	74.99600	14:13:04	D	6.30
32	TARN TARAN	TARN TARAN	AQUA	31.52200	75.03900	14:13:04	D	7.00
33	TARN TARAN	TARN TARAN	S-NPP	31.43257	74.85918	14:24:21	D	3.70

Details of residue burning events in Haryana on 09-Oct-2024

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	AMBALA	SAHA	S-NPP	30.25532	76.89105	14:24:21	D	4.90
2	JIND	NARWANA	S-NPP	29.49103	76.01493	14:24:21	D	5.80
3	JIND	SAFIDON	S-NPP	29.37638	76.59209	12:44:04	D	2.20
4	KAITHAL	KAITHAL	S-NPP	29.75994	76.42576	12:44:04	D	2.50
5	KAITHAL	SIWAN	S-NPP	29.88955	76.41279	12:44:04	D	2.60
6	KURUKSHETRA	SHAHBAD	S-NPP	30.18314	76.89357	12:44:04	D	4.30
7	KURUKSHETRA	SHAHBAD	S-NPP	30.18419	76.89391	14:24:21	D	8.70
8	KURUKSHETRA	SHAHBAD	S-NPP	30.18571	76.89160	12:44:04	D	4.10
9	KURUKSHETRA	SHAHBAD	S-NPP	30.18657	76.88519	12:44:04	D	2.60
10	YAMUNANAGAR	JAGADHRI	S-NPP	30.19426	77.30774	12:44:04	D	3.80

Details of residue burning events in Uttar Pradesh on 09-Oct-2024

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	ALIGARH	GABHANA	AQUA	28.05500	77.90400	14:13:04	D	10.50
2	ALIGARH	KHAIR	AQUA	27.99100	77.60300	14:13:04	D	7.80
3	ALIGARH	KHAIR	S-NPP	28.00195	77.56983	12:44:04	D	4.10
4	ALIGARH	KHAIR	S-NPP	28.02296	77.76204	14:24:21	D	4.50
5	ALIGARH	KHAIR	S-NPP	28.06476	77.53215	12:44:04	D	2.90
6	BULANSAHAR	DIBAI	AQUA	28.32600	78.16400	14:13:04	D	7.20
7	MORADABAD	BILARI	AQUA	28.74100	78.72200	14:13:04	D	7.30
8	RAMPUR	BILASPUR	AQUA	28.92400	79.42300	14:13:04	D	6.40
9	SAMBHAL	SAMBHAL	AQUA	28.55000	78.61700	14:13:04	D	9.50
10	SHAHJAHANPUR	PUWANYA	S-NPP	28.29643	80.07984	01:34:04	N	0.40

Details of residue burning events in Rajasthan on 09-Oct-2024

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	BARAN	KISHANGUNJ	AQUA	25.08100	76.78900	14:13:04	D	14.80

Details of residue burning events in Madhya Pradesh on 09-Oct-2024

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	GUNA	GUNA	S-NPP	24.88267	76.93501	12:44:04	D	5.60
2	JABALPUR	PATAN	S-NPP	23.36296	79.76527	12:44:04	D	4.60

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**

Study Team

ICAR - HQ	Dr Rajbir Singh	ADG-NRM (AAF&CC)	adgagroandaf@gmail.com
ICAR - IARI	Dr V.K. Sehgal	Principal & Nodal Scientist	iaricreams@gmail.com
	Dr Rajkumar Dhakar	Senior Scientist	raidhakar.iari@gmail.com
	Mr Mohd Jahangir	Lab Assistant (KRISHI)	mjahangir198@gmail.com
ICAR - ATARI	Dr Parvender Sheoran	Director ATARI (Zone-I) Ludhiana	zcu1ldh@gmail.com
	Dr. J.P. Mishra	Director ATARI (Zone-II) Jodhpur	jp.mishra67@gov.in
	Dr S.K. Dubey	Director ATARI (Zone-III) Kanpur	zpdicarkanpur@gmail.com
ICAR - IASRI	Dr Rajender Parsad	Director	rajender.parsad@icar.gov.in

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](#)
