

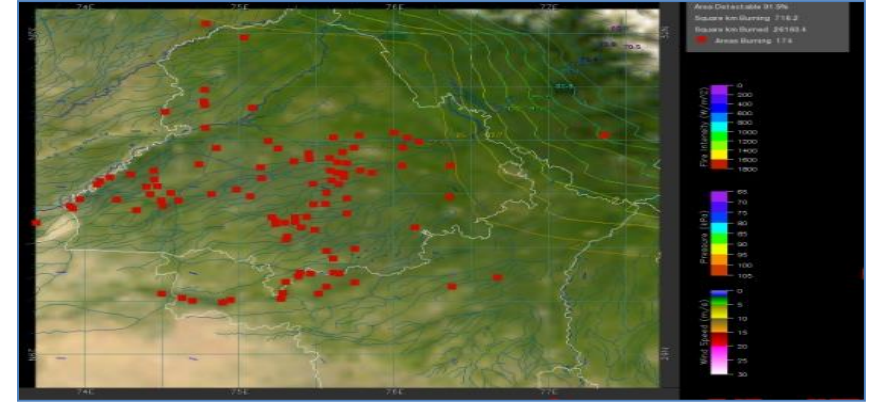
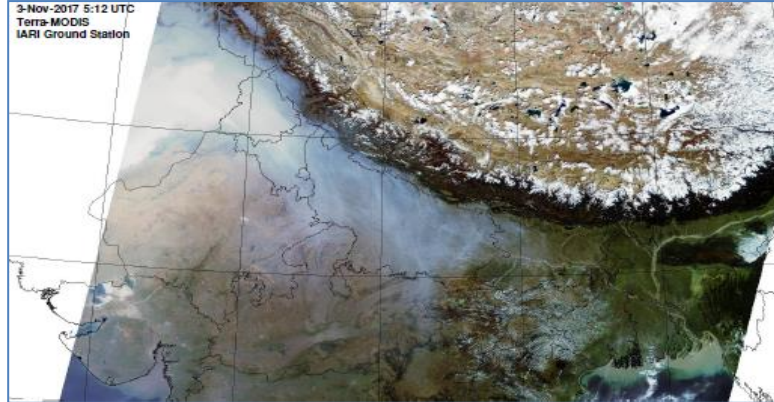


MONITORING PADDY RESIDUE BURNING IN INDIA USING SATELLITE REMOTE SENSING DURING 2025

Bulletin
No. 01

Events Date:
15-Sep-2025

Issued on:
15-Sep-2025



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

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

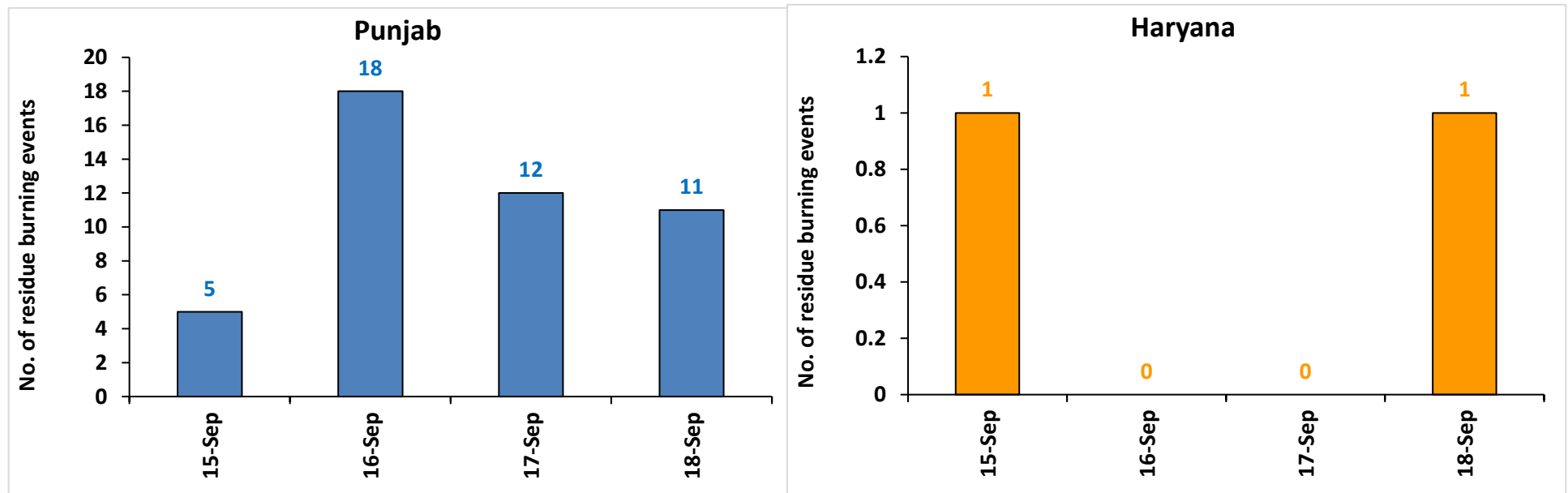
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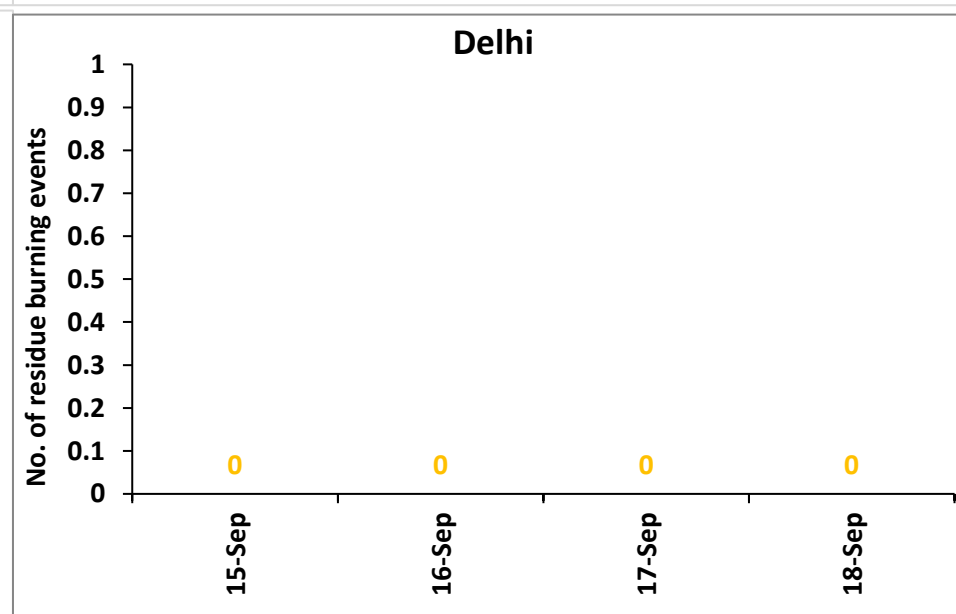
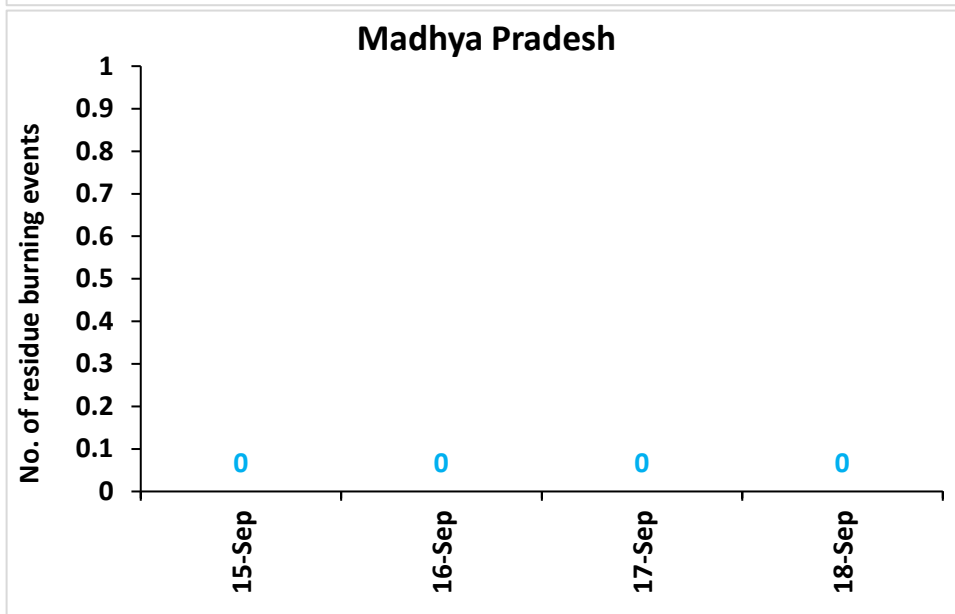
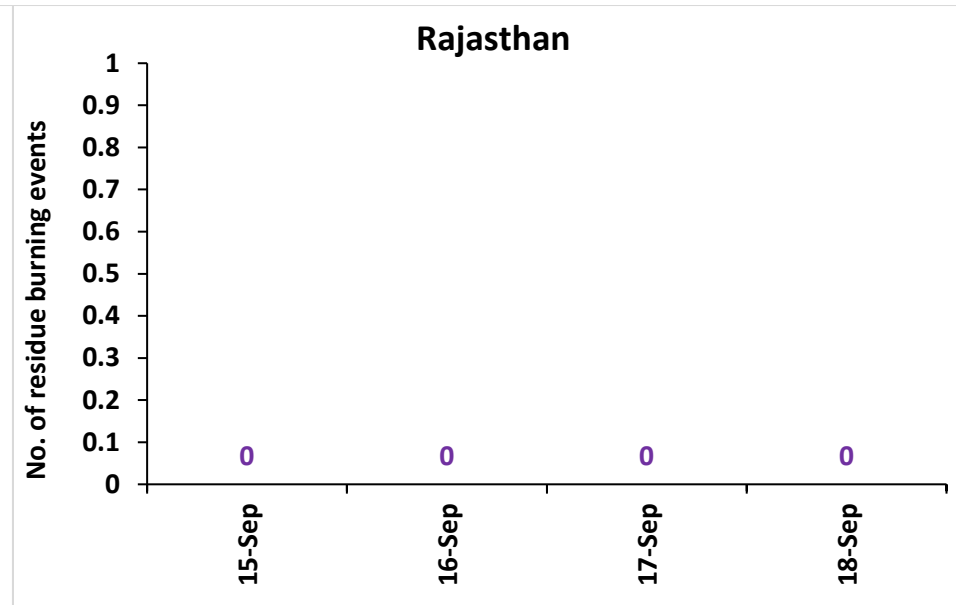
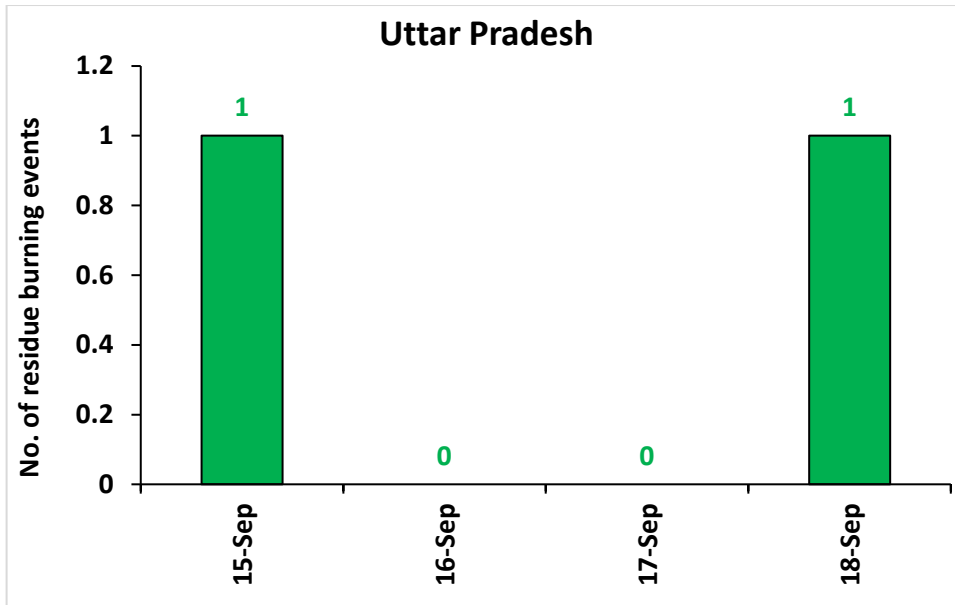


Highlights for 18-Sep-2025

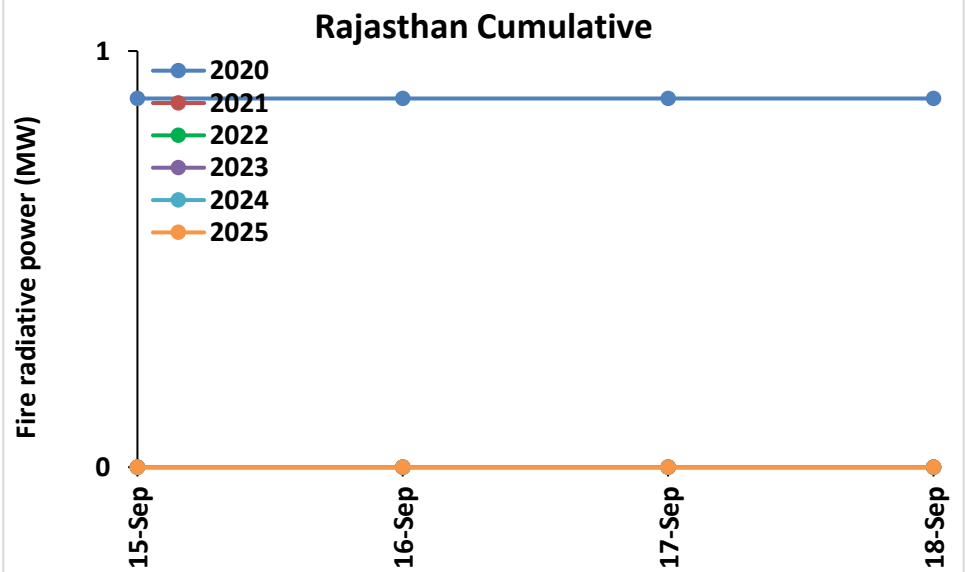
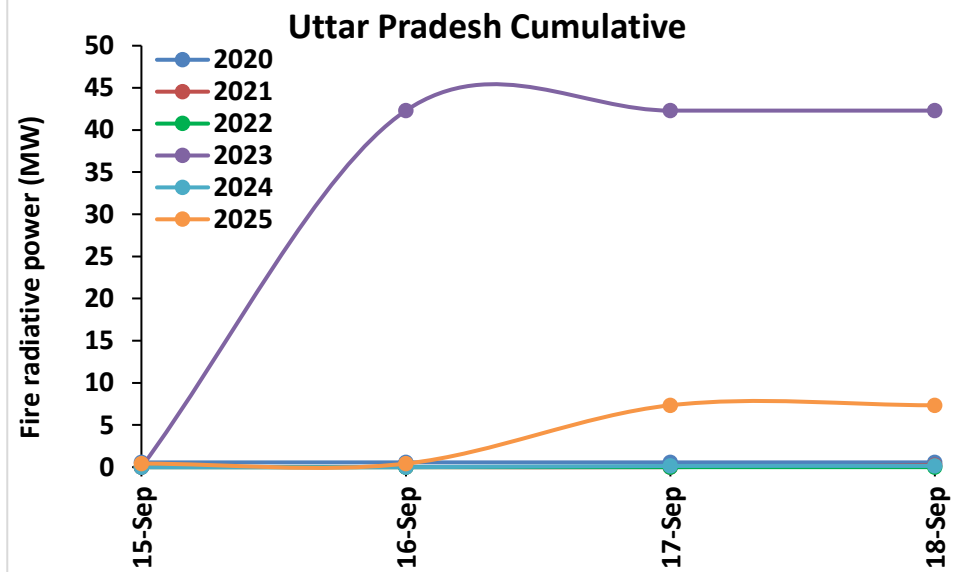
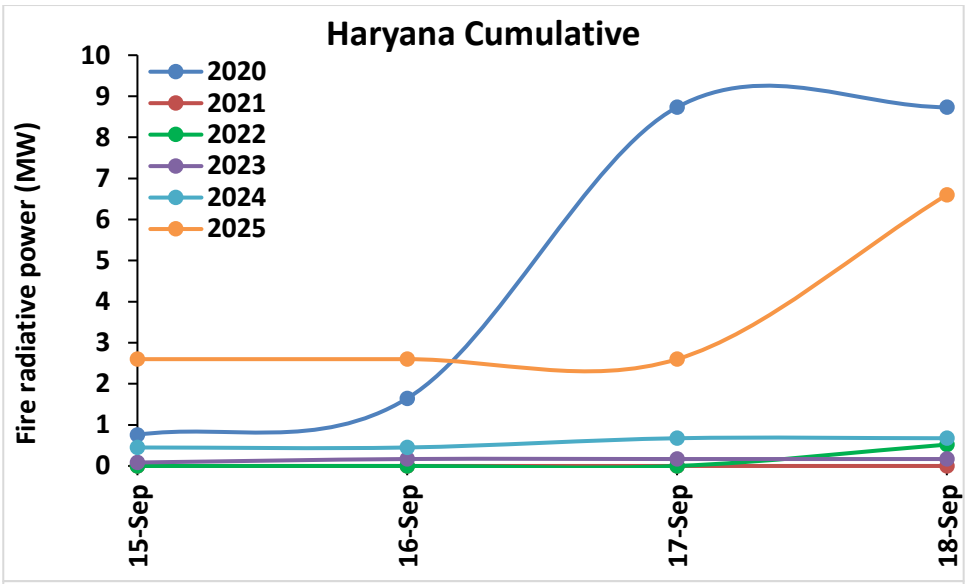
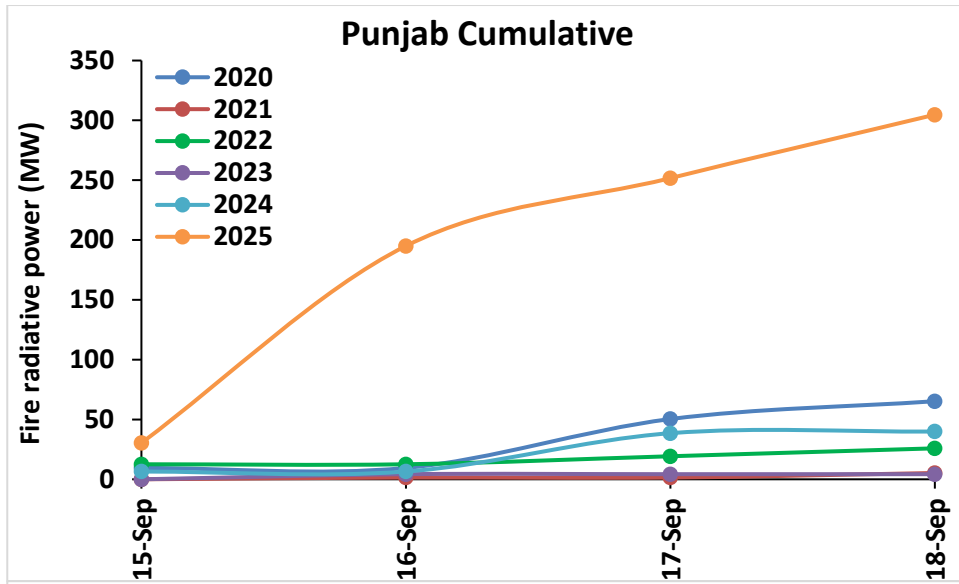
- The active fire events due to rice residue burning were monitored using satellite remote sensing, following the "Standard Protocol for Estimation of Crop Residue Burning Fire Events using Satellite Data".
- Satellites detected **12** residue burning events in the six study States on 18-Sep-2025.
- The state wise events detected on 18-Sep-2025 were **11** in Punjab, **01** in Haryana, **00** in UP, **00** in Delhi, **00** in Rajasthan and **00** in MP.
- Detection of residue burning events was hampered by the presence of clouds over Uttar Pradesh and Madhya Pradesh states.

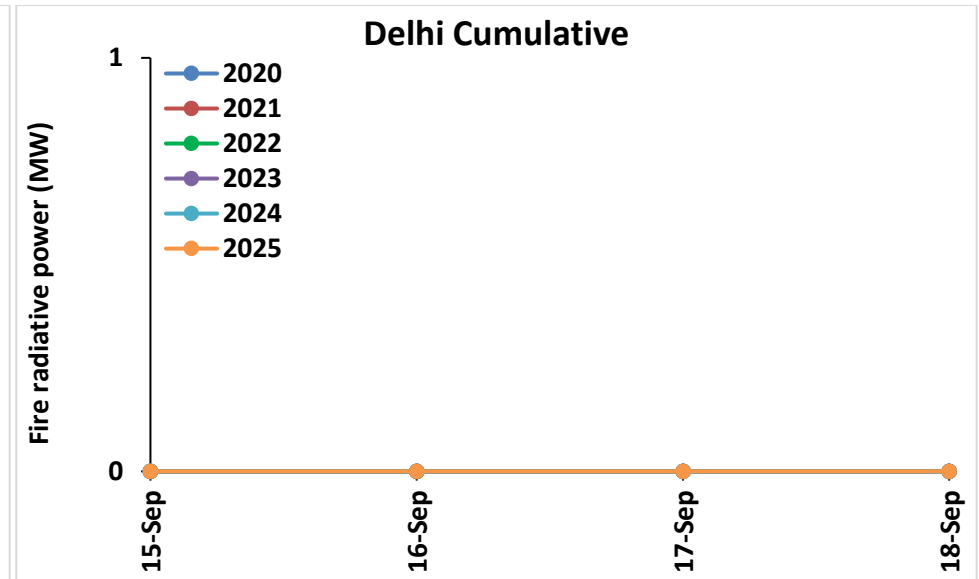
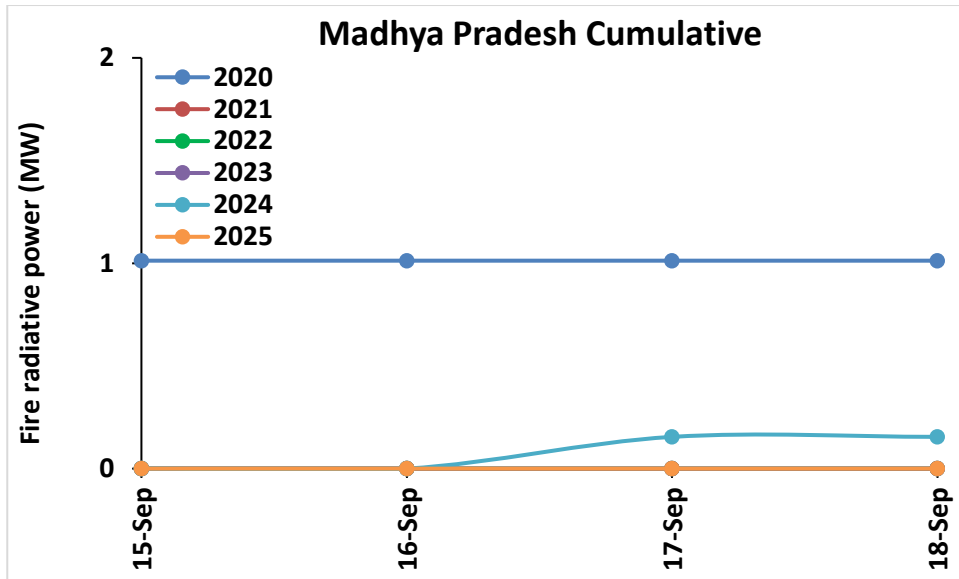
Temporal distribution of rice residue burning events for the study States in 2025





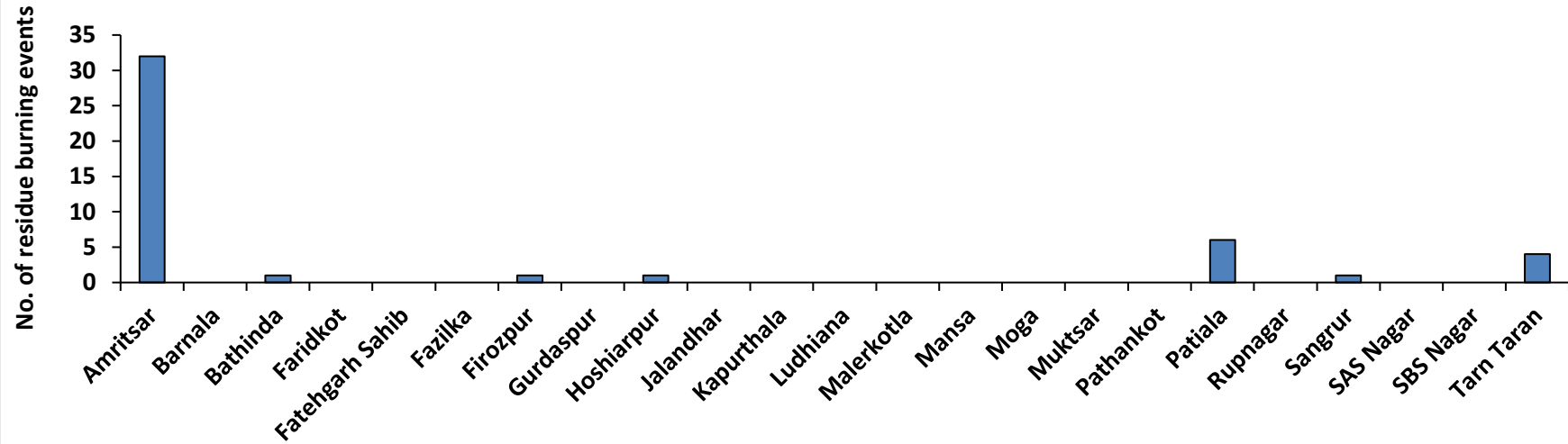
Comparison of residue burning fire power in current year (2025) with previous years (2020,2021,2022, 2023 and 2024) for the study States



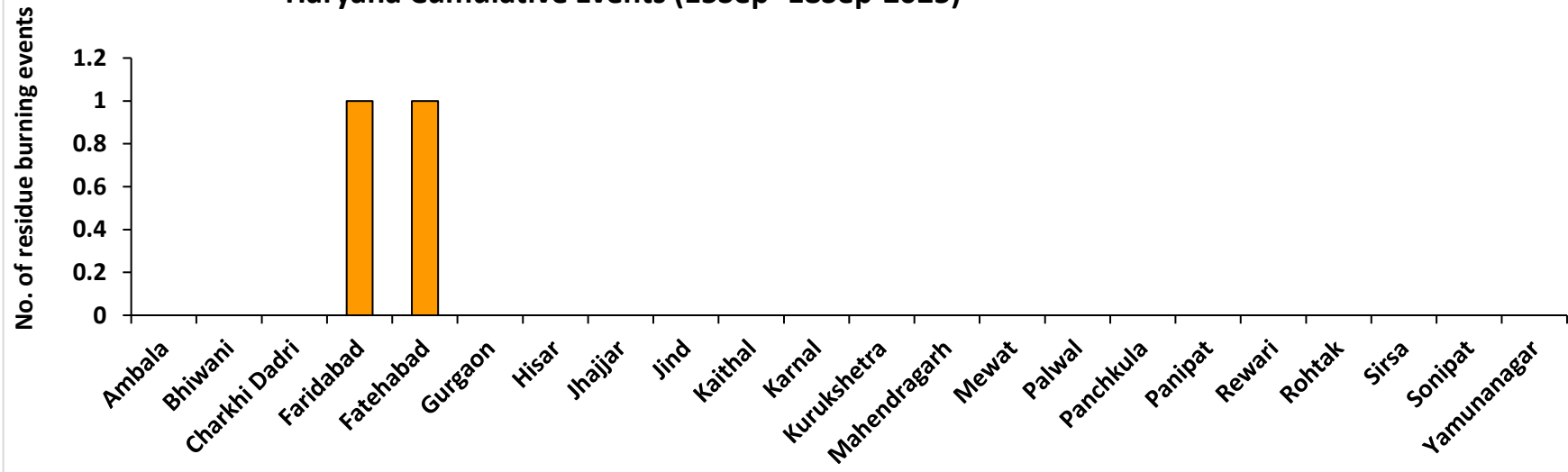


District-wise cumulative number of residues burning events (15-18 Sep-2025)

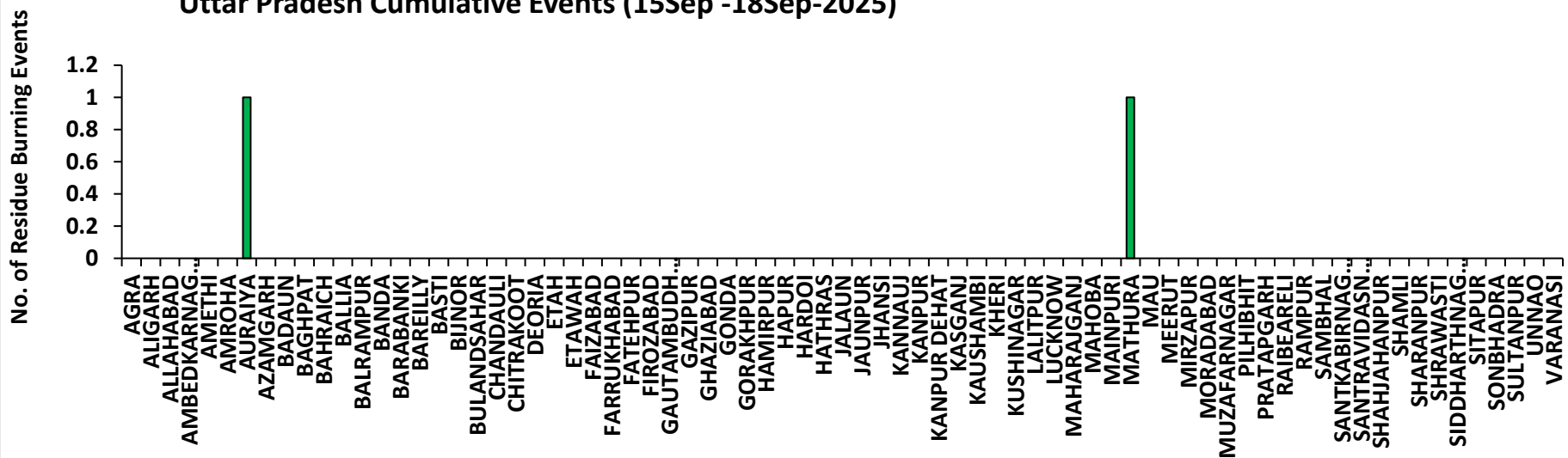
Punjab Cumulative Events (15Sep -18Sep-2025)



Haryana Cumulative Events (15Sep -18Sep-2025)



Uttar Pradesh Cumulative Events (15Sep -18Sep-2025)



District-wise cumulative number of residues burning events detected in 2020, 2021, 2022, 2023, 2024 and 2025
(Period: 15-18 September)

(a) Punjab

District	15- 18 Sep					
	2020	2021	2022	2023	2024	2025
Amritsar	27	9	16	6	15	32
Barnala	0	0	0	0	0	0
Bathinda	0	0	0	0	0	1
Faridkot	0	1	0	0	0	0
Fatehgarh Sahib	0	0	0	0	0	0
Fazilka	0	0	0	0	0	0
Firozpur	0	0	0	0	1	1
Gurdaspur	0	0	0	0	0	0
Hoshiarpur	0	0	0	0	0	1
Jalandhar	0	0	0	0	0	0
Kapurthala	0	0	0	0	0	0
Ludhiana	0	0	0	0	0	0
Malerkotla	0	0	0	0	0	0
Mansa	0	0	0	0	0	0
Moga	0	0	0	0	0	0
Muktsar	0	0	0	0	0	0
Pathankot	0	0	0	0	0	0
Patiala	0	1	0	0	0	6
Rupnagar	0	0	0	0	0	0
Sangrur	0	0	0	0	0	1
SAS NAGAR (Mohali)	0	0	1	0	0	0
SBS Nagar	0	0	0	0	0	0
Tarn Taran	0	0	5	0	2	4
Total	27	11	22	6	18	46

(b) Haryana

District	15 Sep-18 Sep					
	2020	2021	2022	2023	2024	2025
AMBALA	0	0	0	0	0	0
BHIWANI	0	0	0	0	0	0
CHARKHI DADRI	0	0	0	0	0	0
FARIDABAD	0	0	0	0	0	1
FATEHABAD	0	0	0	0	0	1
GURGAON	0	0	0	0	0	0
HISAR	0	0	0	0	0	0
JHAJJAR	0	0	0	0	0	0
JIND	0	0	1	0	0	0
KAITHAL	0	0	0	0	0	0
KARNAL	5	0	0	0	0	0
KURUKSHETRA	0	0	0	0	0	0
MAHENDRAGARH	0	0	0	0	0	0
MEWAT	0	0	0	0	0	0
PALWAL	0	0	0	0	0	0
PANCHKULA	0	0	0	0	0	0
PANIPAT	0	0	0	0	0	0
REWARI	0	0	0	0	0	0
ROHTAK	0	0	0	1	1	0
SIRSA	1	0	0	0	1	0
SONIPAT	0	0	0	1	0	0
YAMUNANAGAR	0	0	0	0	0	0
Total	6	0	1	2	2	2

(c) Uttar Pradesh

District							15 Sep-18 Sep															
	2020	2021	2022	2023	2024	2025	GAUTAMBUDHNAGAR	0	0	0	0	0	0	MUZAFARNAGAR	0	0	0	0	0	0		
AGRA	0	0	0	0	0	0	GAZIPUR	0	0	0	0	0	0	PILHIBHIT	0	0	0	0	0	0		
ALIGARH	0	0	0	0	0	0	GHAZIABAD	0	0	0	0	1	0	PRATAPGARH	0	0	0	0	0	0		
ALLAHABAD	0	0	0	0	0	0	GONDA	0	0	0	0	0	0	RAIBEARELI	1	0	0	0	0	0		
AMBEDKARNAGAR	0	0	0	0	0	0	GORAKHPUR	0	0	0	0	0	0	RAMPUR	0	0	0	0	0	0		
AMETHI	0	0	0	0	0	0	HAMIRPUR	0	0	0	0	0	0	SAMBHAL	0	0	0	0	0	0		
AMROHA	0	0	0	0	0	0	HAPUR	0	0	0	0	0	0	SANTKABIRNAGAR	0	0	0	0	0	0		
AURAIYA	0	0	0	0	0	1	HARDOI	0	0	0	0	0	0	SANTRAVIDASNAGAR	0	0	0	0	0	0		
AZAMGARH	0	0	0	0	0	0	HATHRAS	0	0	0	0	0	0	SHAHJAHANPUR	0	0	0	0	0	0		
BADAUN	0	0	0	0	0	0	JALAUN	0	0	0	0	0	0	SHAMLI	0	0	0	0	0	0		
BAGHPAT	0	0	0	0	0	0	JAUNPUR	0	0	0	0	0	0	SHARANPUR	0	0	0	0	0	0		
BAHRAICH	0	0	0	0	0	0	JHANSI	0	0	0	0	0	0	SHRAWASTI	0	0	0	0	0	0		
BALLIA	0	0	0	0	0	0	KANNAUJ	0	0	0	0	0	0	SIDDHARTHANAGAR	0	0	0	0	0	0		
BALRAMPUR	0	0	0	0	0	0	KANPUR	0	1	0	0	0	0	SITAPUR	0	0	0	0	0	0		
BANDA	0	0	0	0	0	0	KANPUR DEHAT	0	0	0	0	0	0	SONBHADRA	0	0	0	0	0	0		
BARABANKI	0	0	0	0	0	0	KASGANJ	0	0	0	0	0	0	SULTANPUR	0	0	0	0	0	0		
BAREILLY	0	0	0	0	0	0	KAUSHAMBI	0	0	0	0	0	0	UNNAO	0	0	0	0	0	0		
BASTI	0	0	0	0	0	0	KHERI	0	0	0	0	0	0	VARANASI	0	0	0	0	0	0		
BIJNOR	0	0	0	0	0	0	KUSHINAGAR	0	0	0	0	0	0	Total	1	1	0	2	1	2		
BULANDSAHAR	0	0	0	0	0	0	LALITPUR	0	0	0	0	0	0									
CHANDAULI	0	0	0	0	0	0	LUCKNOW	0	0	0	0	0	0									
CHITRAKOOT	0	0	0	0	0	0	MAHARAJGANJ	0	0	0	0	0	0									
DEORIA	0	0	0	2	0	0	MAHOBA	0	0	0	0	0	0									
ETAH	0	0	0	0	0	0	MAINPURI	0	0	0	0	0	0									
ETAWAH	0	0	0	0	0	0	MATHURA	0	0	0	0	0	1									
FAIZABAD	0	0	0	0	0	0	MAU	0	0	0	0	0	0									
FARRUKHABAD	0	0	0	0	0	0	MEERUT	0	0	0	0	0	0									
FATEHPUR	0	0	0	0	0	0	MIRZAPUR	0	0	0	0	0	0									
FIROZABAD	0	0	0	0	0	0	MORADABAD	0	0	0	0	0	0									

(d) Delhi

District	15 Sep-18 Sep					
	2020	2021	2022	2023	2024	2025
CENTRAL	0	0	0	0	0	0
EAST	0	0	0	0	0	0
NEW DELHI	0	0	0	0	0	0
NORTH	0	0	0	0	0	0
NORTH EAST	0	0	0	0	0	0
NORTH WEST DELHI	0	0	0	0	0	0
SHAHADRA	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0
SOUTH EAST	0	0	0	0	0	0
SOUTH WEST DELHI	0	0	0	0	0	0
WEST DELHI	0	0	0	0	0	0
Total	0	0	0	0	0	0

(e) Rajasthan

District	15 Sep-18 Sep					2025
	2020	2021	2022	2023	2024	
AJMER	0	0	0	0	0	0
ALWAR	0	0	0	0	0	0
BANSWARA	0	0	0	0	0	0
BARAN	0	0	0	0	0	0
BARMER	0	0	0	0	0	0
BHARATPUR	0	0	0	0	0	0
BHILWARA	1	0	0	0	0	0
BIKANER	0	0	0	0	0	0
BUNDI	0	0	0	0	0	0
CHITTAURGARH	0	0	0	0	0	0
CHURU	0	0	0	0	0	0
DAUSA	0	0	0	0	0	0
DHOLPUR	0	0	0	0	0	0
DUNGARPUR	0	0	0	0	0	0
GANGANAGAR	0	0	0	0	0	0
HANUMANGARH	0	0	0	0	0	0
JAIPUR	0	0	0	0	0	0
JAISELMER	0	0	0	0	0	0
JALOR	0	0	0	0	0	0
JHALAWAR	0	0	0	0	0	0
JHUNJHUNUN	0	0	0	0	0	0
JODHPUR	0	0	0	0	0	0
KARALI	0	0	0	0	0	0
KOTA	0	0	0	0	0	0
NAGOUR	0	0	0	0	0	0
PALI	0	0	0	0	0	0
PRATAPGARH	0	0	0	0	0	0
RAJSMAND	0	0	0	0	0	0
SIKAR	0	0	0	0	0	0
SIROHI	0	0	0	0	0	0
SWAIMADHOPUR	0	0	0	0	0	0
TONK	0	0	0	0	0	0
UDAIPUR	0	0	0	0	0	0
Total	1	0	0	0	0	0

(f) Madhya Pradesh

District							15 Sep-18 Sep							
	2020	2021	2022	2023	2024	2025	PANNA	0	0	0	0	0	0	
ALIRAJPUR	0	0	0	0	0	0	RAISEN	0	0	0	0	0	0	
ANUPPUR	0	0	0	0	0	0	RAJGARH	0	0	0	0	0	0	
ASHOKNAGAR	0	0	0	0	0	0	RATLAM	0	0	0	0	0	0	
BALAGHAT	0	0	0	0	0	0	REWA	0	0	0	0	0	0	
BARWANI	0	0	0	0	0	0	SAGAR	0	0	0	0	0	0	
BETUL	0	0	0	0	0	0	SATNA	0	0	0	0	0	0	
BHIND	0	0	0	0	0	0	SEHORE	0	0	0	0	0	0	
BHOPAL	0	0	0	0	0	0	SEONI	0	0	0	0	0	0	
BURHANPUR	0	0	0	0	0	0	SHAHDOL	0	0	0	0	0	0	
CHHATARPUR	0	0	0	0	0	0	SHAJAPUR	0	0	0	0	0	0	
CHHINDWARA	0	0	0	0	0	0	SHEOPUR	0	0	0	0	0	0	
DAMOH	0	0	0	0	0	0	SHIVPURI	0	0	0	0	0	0	
DATIA	0	0	0	0	0	0	SIDHI	0	0	0	0	0	0	
DEWAS	0	0	0	0	0	0	SINGRAULI	0	0	0	0	0	0	
DHAR	0	0	0	0	1	0	TIKAMGARH	0	0	0	0	0	0	
DINDORI	0	0	0	0	0	0	UJJAIN	0	0	0	0	0	0	
EAST NIMAR	0	0	0	0	0	0	UMARIA	0	0	0	0	0	0	
GUNA	0	0	0	0	0	0	VIDESHA	0	0	0	0	0	0	
GWALIOR	0	0	0	0	0	0	WEST NIMAR	0	0	0	0	0	0	
HARDA	2	0	0	0	0	0	Total	2	0	0	0	1	0	
HOSHANGABAD	0	0	0	0	0	0								
INDORE	0	0	0	0	0	0								
JABALPUR	0	0	0	0	0	0								
JHABUA	0	0	0	0	0	0								
KATNI	0	0	0	0	0	0								
MANDLA	0	0	0	0	0	0								
MANDSAUR	0	0	0	0	0	0								
MORENA	0	0	0	0	0	0								
NARSHIMAPURA	0	0	0	0	0	0								
NIMACH	0	0	0	0	0	0								

State-wise and date-wise number of paddy residue burning events detected in 2020 ,2021 ,2022, 2023, 2024 and 2025

(Period: 15-18 September)

Number of Paddy Residue Burning Events Detected

Date	Punjab						Haryana						Uttar Pradesh					
	2020	2021	2022	2023	2024	2025	2020	2021	2022	2023	2024	2025	2020	2021	2022	2023	2024	2025
15-Sep	5	0	14	0	11	5	2	0	0	1	1	1	1	0	0	0	0	1
16-Sep	0	2	0	6	0	18	1	0	0	1	0	0	0	0	0	2	0	0
17-Sep	5	0	1	0	5	11	3	0	0	0	1	0	0	0	0	0	1	0
18-Sep	17	9	7	0	2	12	0	0	1	0	0	1	0	1	0	0	0	1
Total	27	11	22	6	18	47	6	0	1	2	2	2	1	1	0	2	1	2

Number of Paddy Residue Burning Events Detected

Date	Delhi						Rajasthan						Madhya Pradesh					
	2020	2021	2022	2023	2024	2025	2020	2021	2022	2023	2024	2025	2020	2021	2022	2023	2024	2025
15-Sep	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0
16-Sep	0	0	0	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	0	0	1	0
18-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	1	0

Details of residue burning events in Punjab on 18-Sep-2025

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m2)
1.	SANGRUR	ANDANA	S-NPP	31.69911	74.98472	13:38:08	D	2
2.	BATHINDA	GONIANA MANDI	S-NPP	31.49088	74.62878	13:38:08	D	2
3.	FIROZPUR	ZIRA	S-NPP	29.80183	75.83893	02:27:26	N	8
4.	TARN TARAN	TARN TARAN	S-NPP	30.27258	74.90372	13:38:08	D	4
5.	TARN TARAN	TARN TARAN	S-NPP	31.03925	74.90069	13:38:08	D	2
6.	AMRITSAR	RAYYA	S-NPP	31.47887	74.97485	13:38:08	D	3
7.	TARN TARAN	GANDIWIND TATLA	S-NPP	31.49184	74.99359	13:38:08	D	2
8.	AMRITSAR	RAYYA	S-NPP	31.50098	75.20558	13:38:08	D	3
9.	AMRITSAR	TARSIKKA	S-NPP	31.50126	74.77137	13:38:08	D	9
10.	AMRITSAR	JANDIALA GURU	S-NPP	31.56174	75.14675	13:38:08	D	10
11.	AMRITSAR	CHOGAWAN	AQUA	31.61800	75.11500	14:44:14	D	3
12.	SANGRUR	ANDANA	AQUA	31.62700	74.98600	14:44:14	D	2
13.	BATHINDA	GONIANA MANDI	S-NPP	31.70045	74.55693	13:38:08	D	2

Details of residue burning events in Haryana on 18-Sep-2025

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m2)
1.	FARIDABAD	FARIDABAD	S-NPP	28.34645	77.23123	01:43:55	N	2.6
2.	FATEHABAD	JAKHAL	S-NPP	29.75035	75.76771	13:38:08	D	4

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

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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)
