



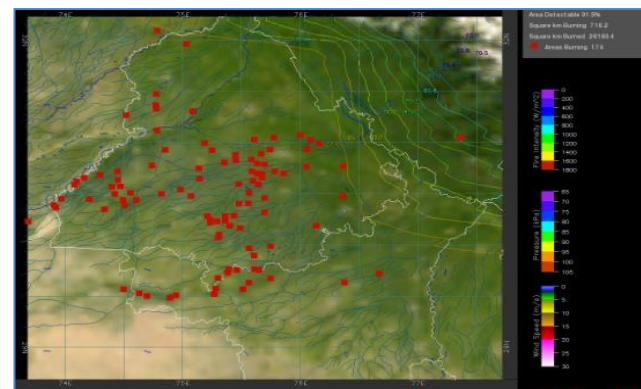
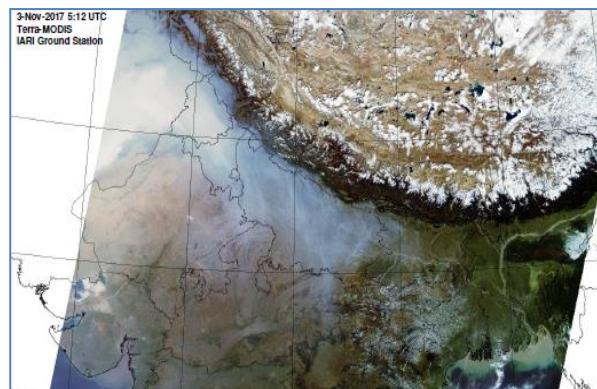
## Bulletin No. 39

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# MONITORING WHEAT RESIDUE BURNING IN INDIA USING SATELLITE REMOTE SENSING DURING 2023



Prepared by:

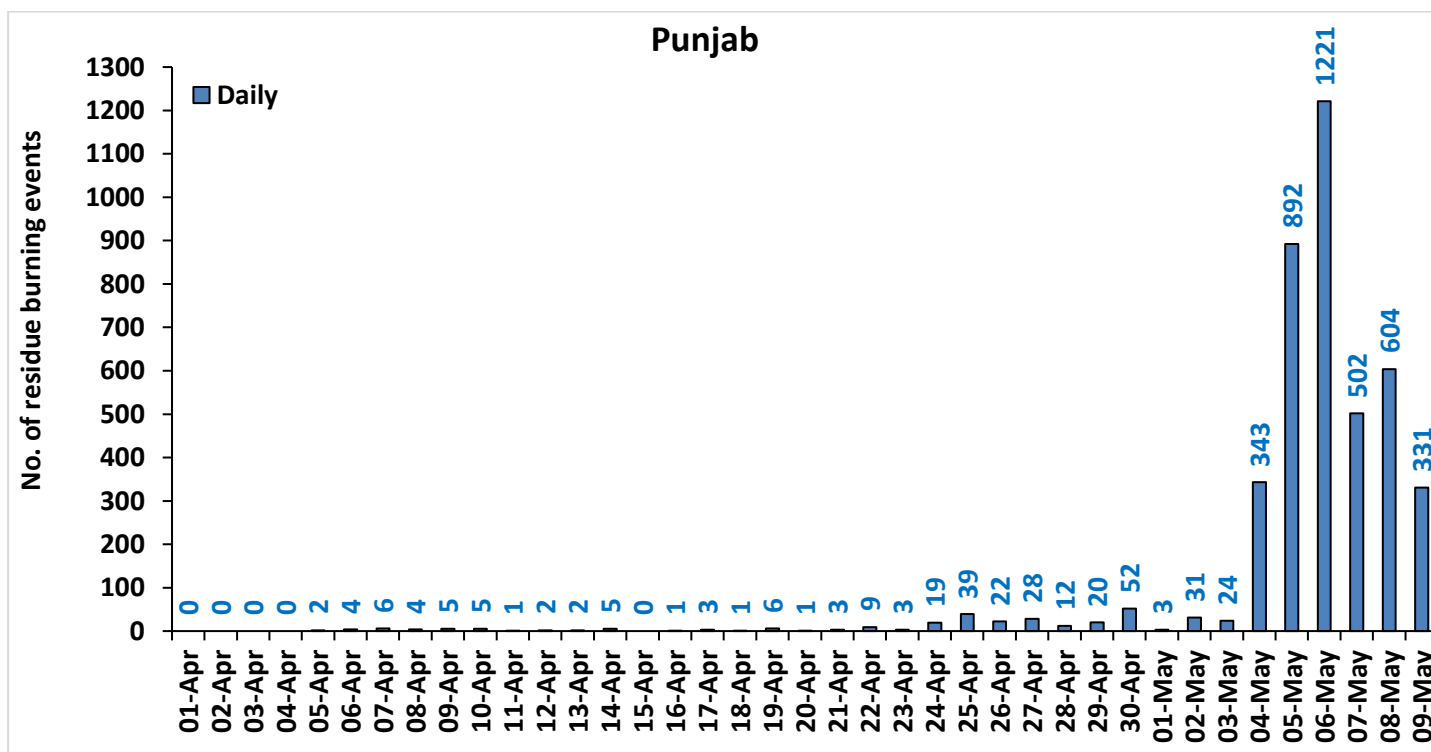
Consortium for Research on Agroecosystem Monitoring and Modeling from Space (CREAMS) Laboratory,  
Division of Agricultural Physics, ICAR – Indian Agricultural Research Institute, New Delhi – 110012

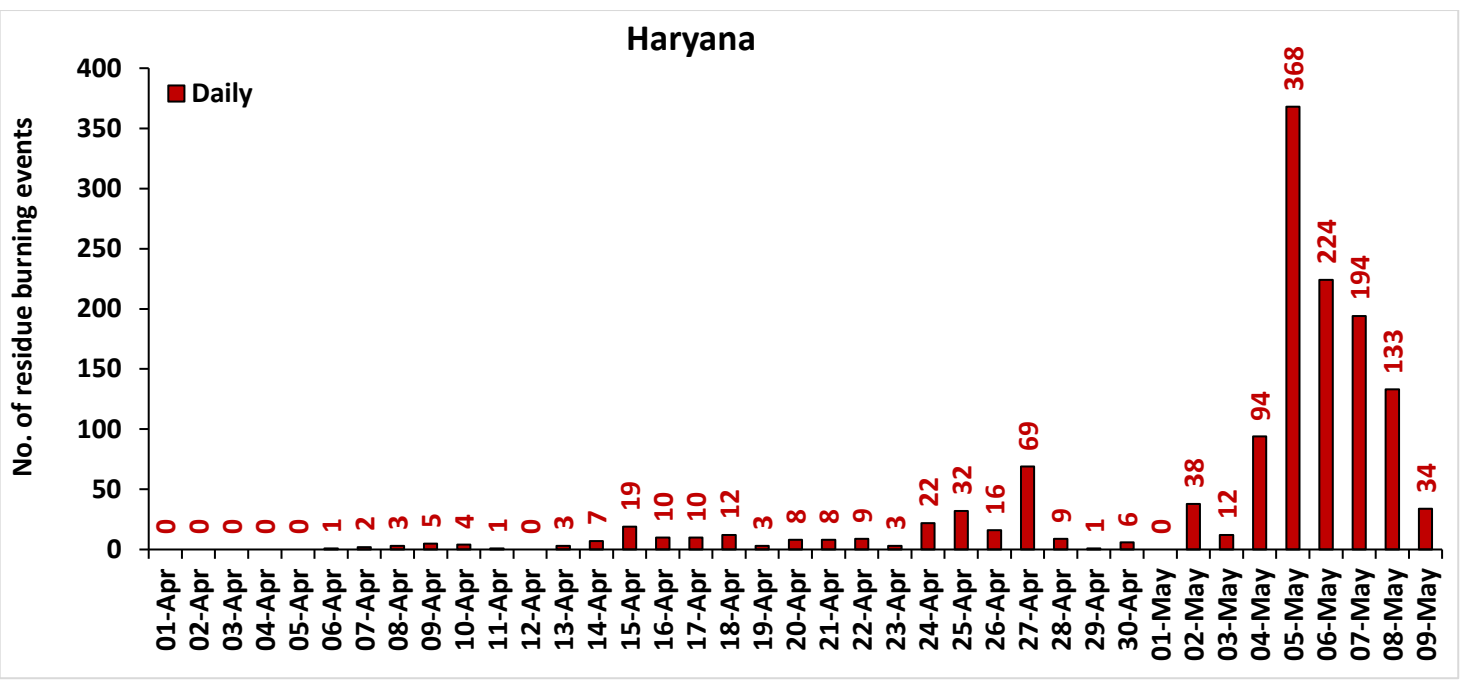
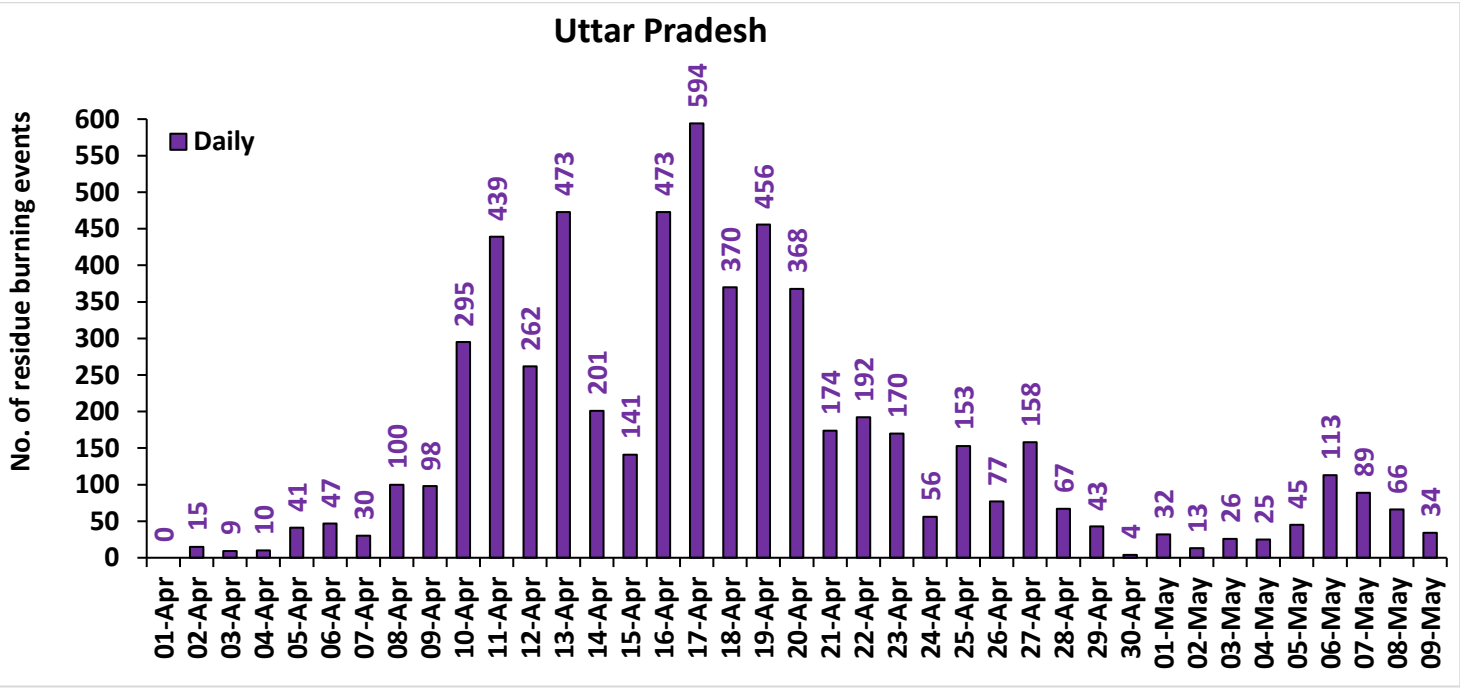
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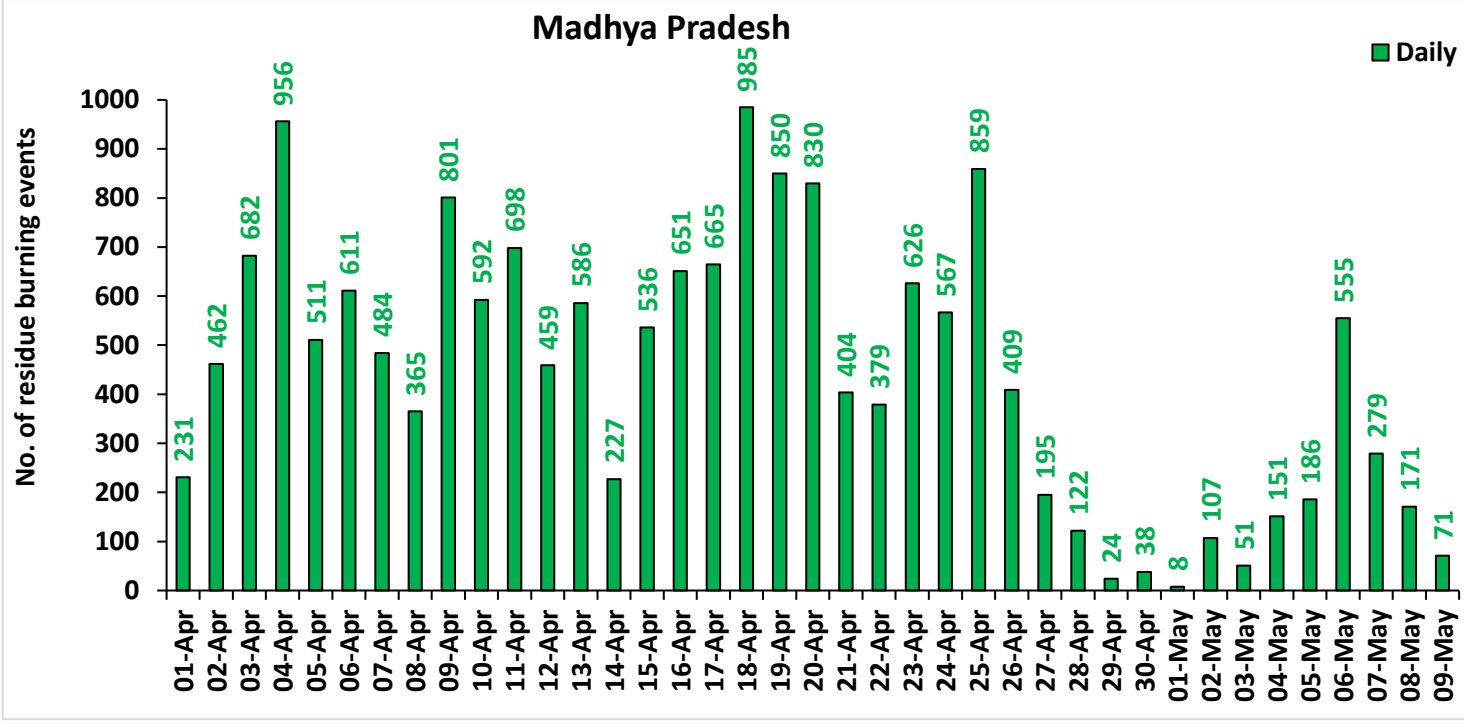
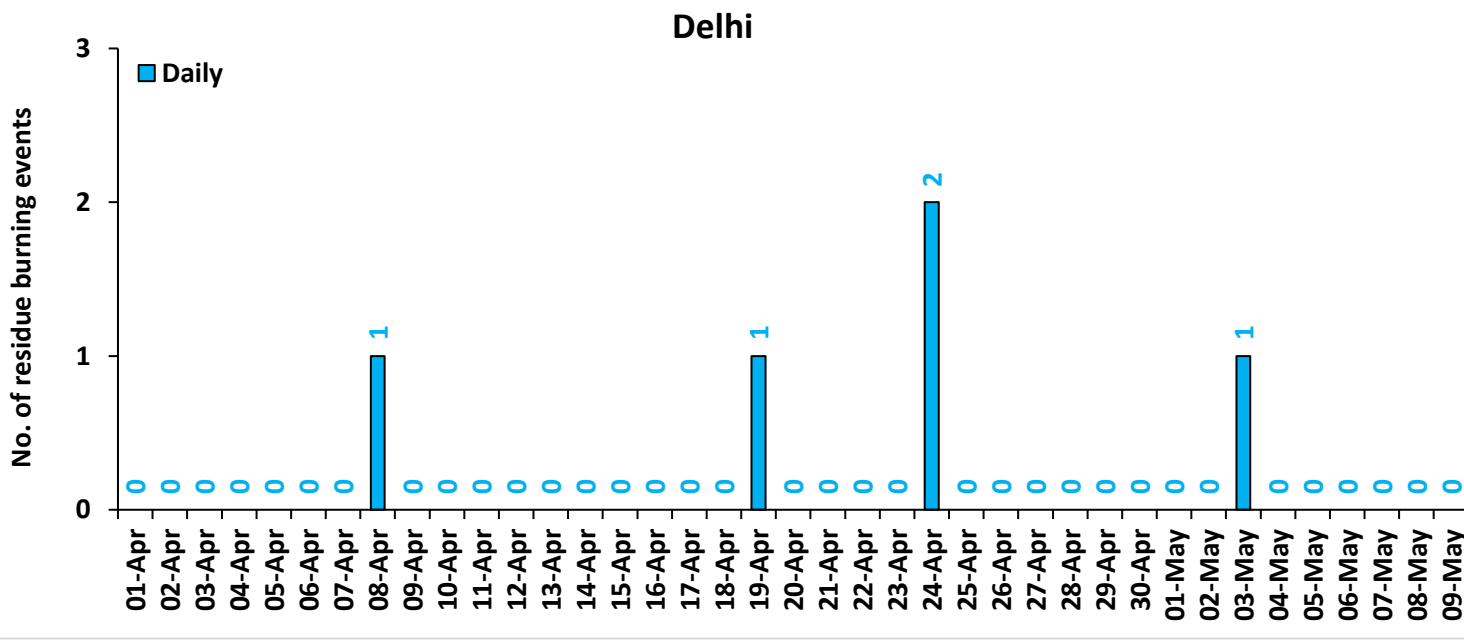
## Highlights for 09-May-2023

- The active fire events due to wheat 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 **470** residue burning events in the five study States on 09-May-2023.
- The state wise events detected on 09-May-2023 were **331** in Punjab, **34** in Haryana, **00** in Delhi, **34** in Uttar Pradesh and **71** in Madhya Pradesh.
- The number of events has decreased from **974** on 08-May-2023 to **470** on 09-May-2023 in the five study states.
- Total **28914** burning events were detected in the five states between 01-Apr-2023 and 09-May-2023, which are distributed as **4206**, **1360**, **5959**, **05**, and **17384** in Punjab, Haryana, UP, Delhi, and MP, respectively.

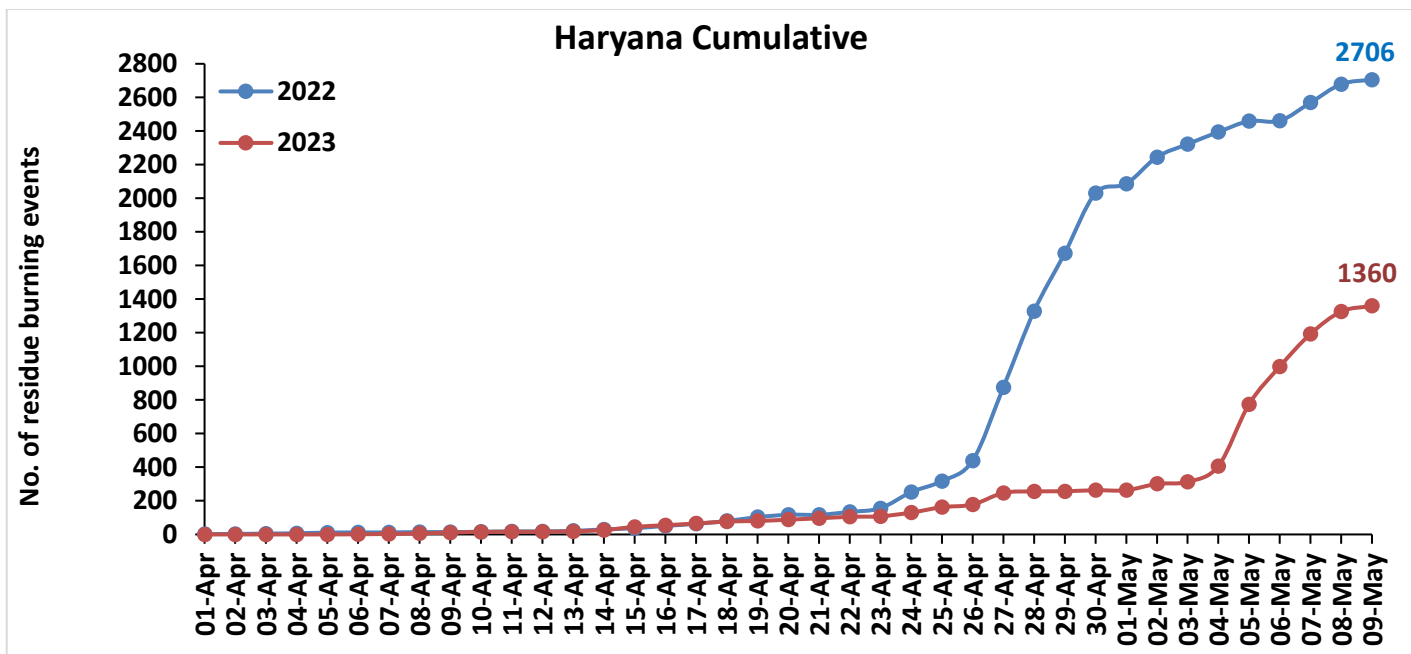
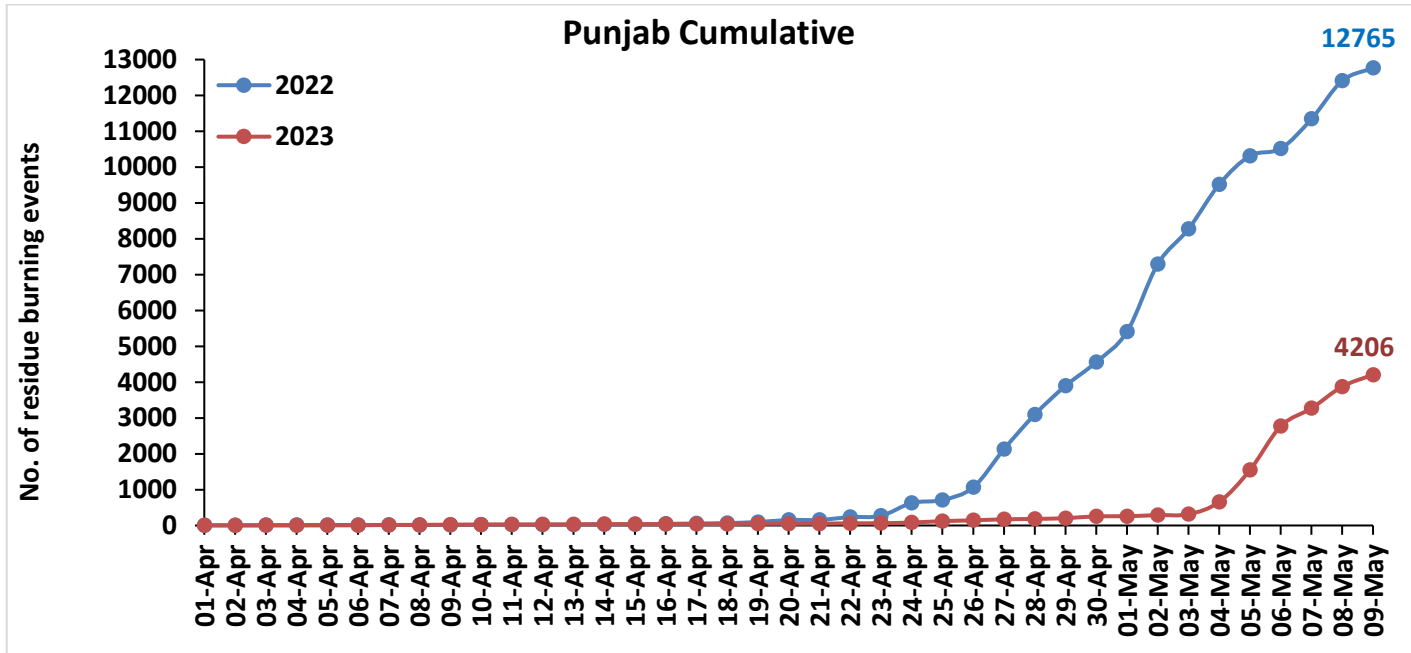
### Temporal distribution of wheat residue burning events for the study States in 2023

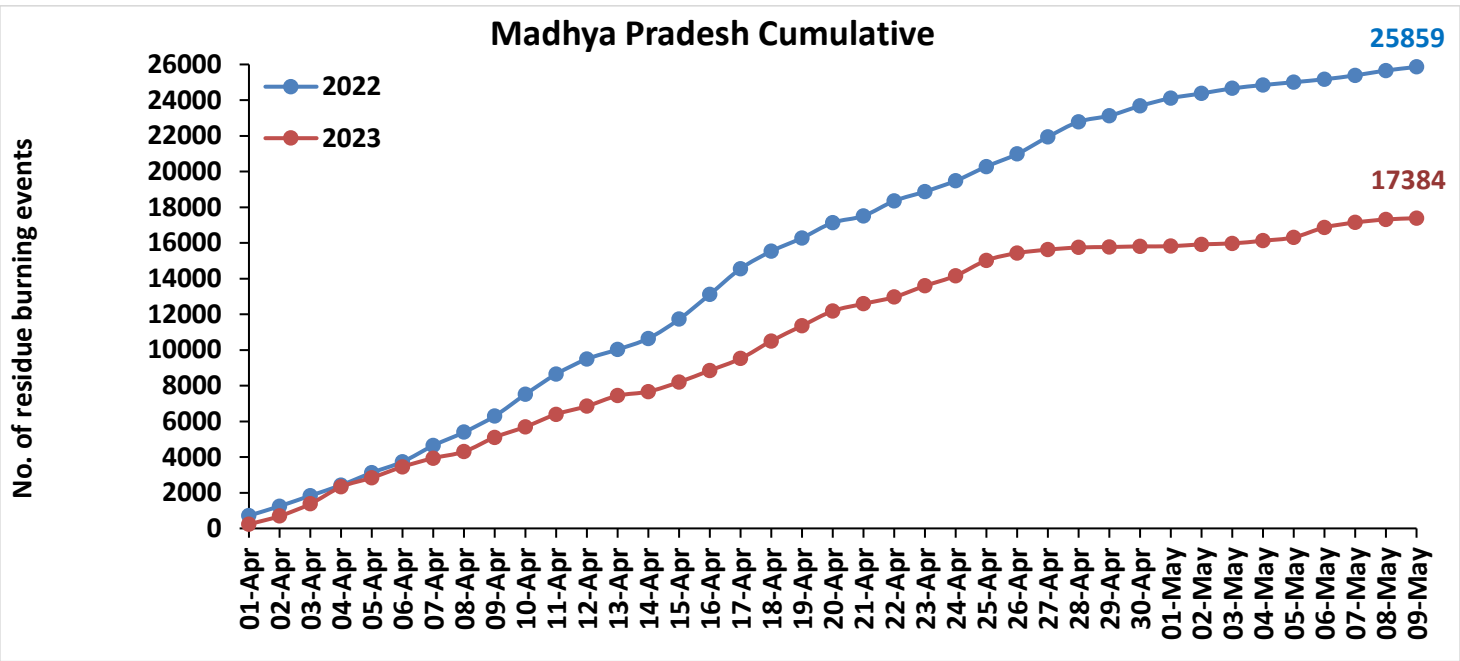
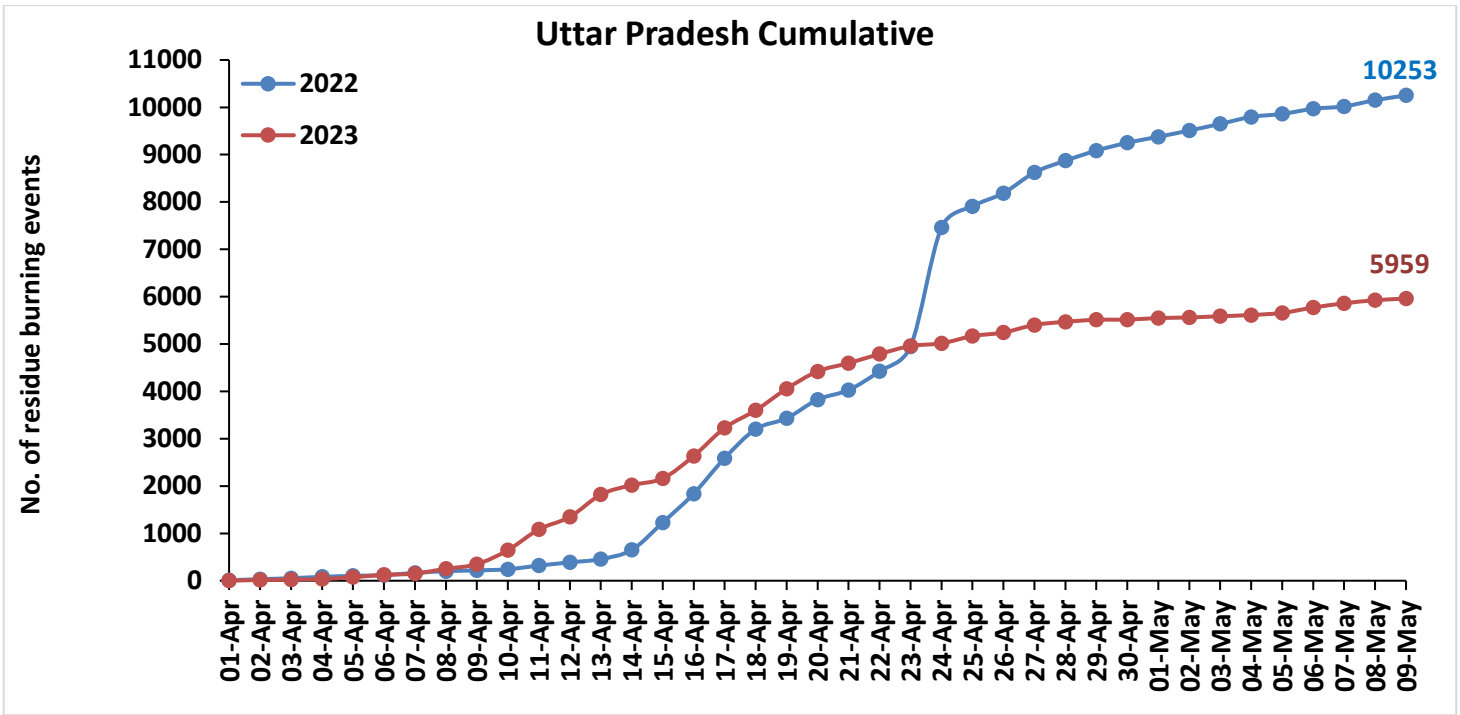


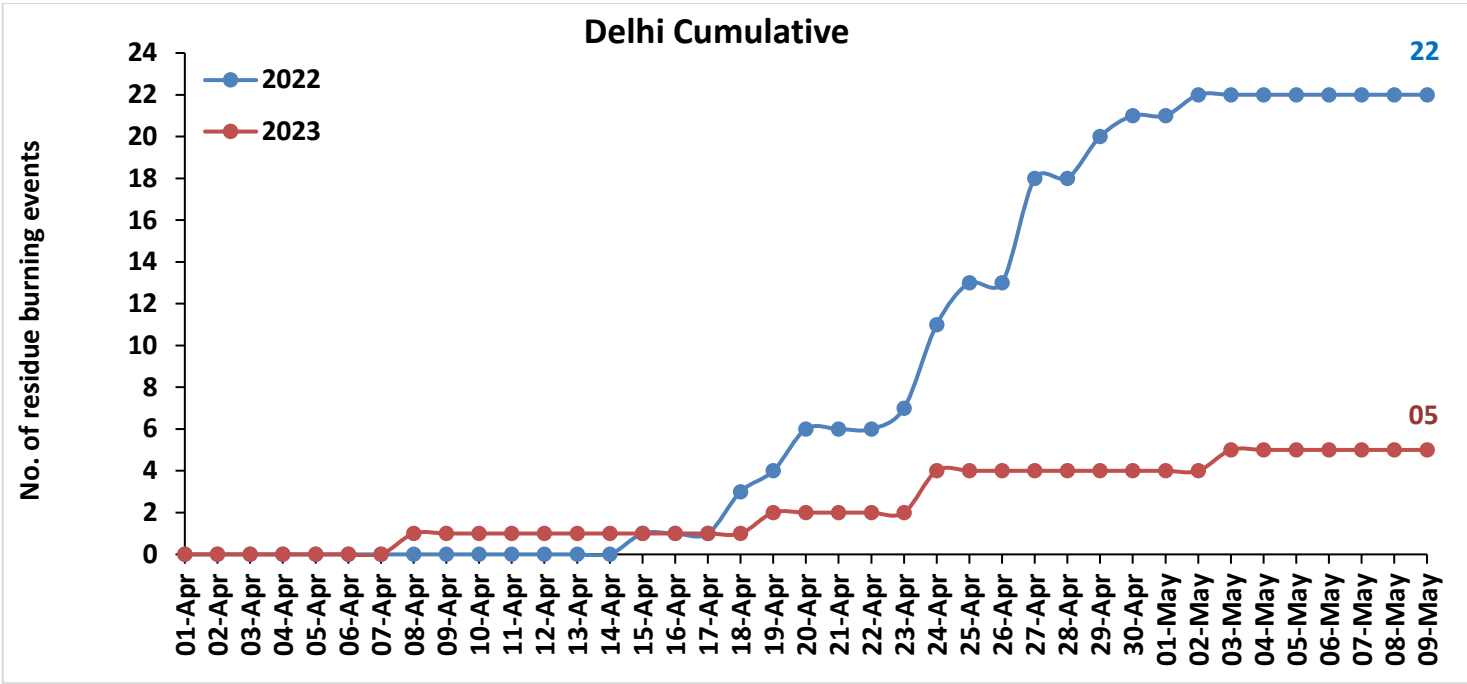




**Comparison of residue burning events in current year (2023) with previous year (2022) for the study States**







**District-wise cumulative number of wheat residue burning events detected in 2022 and 2023**  
**(Period: 01 April-09 May)**

**(a) Punjab**

District	01 Apr-09 May	
	2022	2023
Amritsar	1165	128
Barnala	448	467
Bathinda	786	383
Faridkot	476	131
Fatehgarh Sahib	49	16
Fazilka	498	215
Firozpur	1354	280
Gurdaspur	1066	120
Hoshiarpur	427	179
Jalandhar	502	89
Kapurthala	574	84
Ludhiana	722	239
Mansa	400	300
Moga	1031	330
Muktsar	647	276
Pathankot	137	33
Patiala	381	228
Rupnagar	41	3
Sangrur	909	626
SAS NAGAR (Mohali)	22	6
SBS Nagar	113	15
Tarn Taran	1017	58
<b>Total</b>	<b>12765</b>	<b>4206</b>

**(b) Haryana**

District	01 Apr-09 May	
	2022	2023
AMBALA	84	45
BHIWANI	72	17
CHARKHI DADRI	8	4
FARIDABAD	11	10
FATEHABAD	260	244
GURGAON	6	9
HISAR	133	91
JHAJJAR	119	52
JIND	332	117
KAITHAL	271	137
KARNAL	367	159
KURUKSHETRA	131	30
MAHENDRAGARH	0	0
MEWAT	0	8
PALWAL	33	27
PANCHKULA	3	0
PANIPAT	206	65
REWARI	3	3
ROHTAK	209	53
SIRSA	176	203
SONIPAT	266	72
YAMUNANAGAR	16	14
<b>Total</b>	<b>2706</b>	<b>1360</b>



(c) Uttar Pradesh

District	01 Apr-09 May							
	2022	2023						
			GAUTAMBUDHNAGAR	27	22	MUZAFARNAGAR	49	31
			GAZIPUR	87	46	PILHIBHIT	290	54
AGRA	2	0	GHAZIABAD	13	7	PRATAPGARH	18	14
ALIGARH	19	28	GONDA	20	25	RAIBEARELI	88	14
ALLAHABAD	90	30	GORAKHPUR	950	364	RAMPUR	103	16
AMBEDKARNAGAR	10	11	HAMIRPUR	13	26	SANTKABIRNAGAR	676	430
AURAIYA	84	10	HARDOI	88	53	SANTRAVIDASNAGAR	1	2
AZAMGARH	85	70	JALAUN	17	9	SHAHJAHANPUR	297	64
BADAUN	6	4	JAUNPUR	19	6	SHARANPUR	30	10
BAGHPAT	6	1	JHANSI	95	106	SHRAWASTI	85	41
BAHRAICH	101	39	JYOTIBAPHULE NAGAR	8	3	SIDDHARTH NAGAR	2525	1846
BALLIA	125	200	KANNAUJ	0	1	SITAPUR	17	19
BALRAMPUR	234	93	KANPUR	6	2	SONBHADRA	113	21
BANDA	4	1	KANPUR DEHAT	20	9	SULTANPUR	59	25
BARABANKI	6	3	KAUSHAMBI	5	4	UNNAO	37	9
BAREILLY	97	16	KHERI	149	64	VARANASI	1	0
BASTI	422	220	KUSHINAGAR	216	94	<b>Total</b>	<b>10253</b>	<b>5959</b>
BIJNOR	45	23	LACKNOW	4	0			
BULANDSAHAR	8	9	LALITPUR	45	52			
CHANDAULI	286	55	MAHAMAYANAGAR	0	1			
CHITRAKOOT	22	3	MAHARAJGANJ	1483	977			
DEORIA	724	439	MAHOBA	2	40			
ETAH	1	2	MAINPURI	2	5			
ETAWAH	3	3	MATHURA	24	53			
FAIZABAD	3	9	MAU	73	59			
FARRUKHABAD	3	2	MEERUT	17	15			
FATEHPUR	29	23	MIRZAPUR	60	12			
FIROZABAD	1	0	MORADABAD	5	14			

(d) Madhya Pradesh

District	01 Apr-09 May				
	2022	2023	PANNA	138	61
ALIRAJPUR	0	0	RAISEN	2570	1619
ANUPPUR	33	1	RAJGARH	126	157
ASHOKNAGAR	623	225	RATLAM	185	285
BALAGHAT	26	1	REWA	96	27
BARWANI	4	7	SAGAR	718	520
BETUL	171	46	SATNA	678	122
BHIND	53	41	SEHORE	921	640
BHOPAL	934	465	SEONI	1521	696
BURHANPUR	11	2	SHAHDOL	99	8
CHHATARPUR	134	89	SHAJAPUR	357	525
CHHINDWARA	479	237	SHEOPUR	350	439
DAMOH	199	232	SHIVPURI	155	94
DATIA	353	267	SIDHI	20	1
DEWAS	557	559	SINGRAULI	105	3
DHAR	1004	872	TIKAMGARH	29	66
DINDORI	43	4	UJJAIN	1203	1742
EAST NIMAR	80	103	UMARIA	47	5
GUNA	694	373	VIDESHA	3678	1647
GWALIOR	519	358	WEST NIMAR	31	51
HARDA	374	270	<b>Total</b>	<b>25859</b>	<b>17384</b>
HOSHANGABAD	4060	2754			
INDORE	966	1005			
JABALPUR	861	429			
JHABUA	2	6			
KATNI	268	71			
MANDLA	170	24			
MANDSAUR	63	99			
MORENA	3	0			
NARSHIMAPURA	128	96			
NIMACH	20	40			

**(e) Delhi**

District	01 Apr-09 May	
	2022	2023
CENTRAL	0	0
EAST	0	0
NEW DELHI	0	0
NORTH	18	2
NORTH EAST	0	0
NORTH WEST DELHI	1	0
SHAHADRA	0	0
SOUTH	1	0
SOUTH EAST	0	0
SOUTH WEST DELHI	1	2
WEST DELHI	1	1
<b>Total</b>	<b>22</b>	<b>5</b>

**State-wise and date-wise number of wheat residue burning events detected in 2022 and 2023**  
**(Period: 01 April-09 May)**

Date	Punjab		Haryana		Uttar Pradesh		Delhi		Madhya Pradesh	
	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023
01-Apr	6	0	2	0	10	0	0	0	715	231
02-Apr	1	0	1	0	22	15	0	0	531	462
03-Apr	3	0	2	0	21	9	0	0	589	682
04-Apr	2	0	2	0	29	10	0	0	589	956
05-Apr	2	2	4	0	21	41	0	0	698	511
06-Apr	0	4	1	1	16	47	0	0	612	611
07-Apr	0	6	0	2	46	30	0	0	908	484
08-Apr	1	4	2	3	37	100	0	1	749	365
09-Apr	0	5	0	5	16	98	0	0	907	801
10-Apr	4	5	2	4	24	295	0	0	1217	592
11-Apr	2	1	2	1	78	439	0	0	1129	698
12-Apr	0	2	0	0	67	262	0	0	847	459
13-Apr	3	2	3	3	70	473	0	0	537	586
14-Apr	7	5	9	7	193	201	0	0	618	227
15-Apr	1	0	7	19	579	141	1	0	1079	536
16-Apr	13	1	14	10	609	473	0	0	1390	651
17-Apr	10	3	12	10	751	594	0	0	1441	665
18-Apr	12	1	17	12	611	370	2	0	972	985
19-Apr	29	6	23	3	231	456	1	1	748	850
20-Apr	56	1	14	8	395	368	2	0	856	830
21-Apr	4	3	0	8	202	174	0	0	379	404
22-Apr	77	9	17	9	398	192	0	0	839	379
23-Apr	35	3	22	2	519	170	1	0	524	626
24-Apr	360	19	96	22	2515	56	4	2	605	567
25-Apr	82	39	65	32	450	153	2	0	796	859

<b>26-Apr</b>	354	22	122	16	277	77	0	0	706	409
<b>27-Apr</b>	1064	28	436	69	436	158	5	0	955	195
<b>28-Apr</b>	965	12	453	9	249	67	0	0	849	122
<b>29-Apr</b>	802	20	345	1	213	43	2	0	340	24
<b>30-Apr</b>	662	52	357	6	166	4	1	0	547	38
<b>01-May</b>	848	3	56	0	126	32	0	0	437	8
<b>02-May</b>	1887	31	159	38	132	13	1	0	265	107
<b>03-May</b>	979	24	77	12	141	26	0	1	283	51
<b>04-May</b>	1247	343	72	94	147	25	0	0	188	151
<b>05-May</b>	796	892	65	368	64	45	0	0	159	186
<b>06-May</b>	202	1221	2	224	107	113	0	0	166	555
<b>07-May</b>	827	502	108	194	52	89	0	0	215	279
<b>08-May</b>	1065	604	110	133	130	66	0	0	275	171
<b>09-May</b>	357	331	27	34	103	34	0	0	199	71
<b>Total</b>	<b>12765</b>	<b>4206</b>	<b>2706</b>	<b>1360</b>	<b>10253</b>	<b>5959</b>	<b>22</b>	<b>5</b>	<b>25859</b>	<b>17384</b>

### Details of residue burning events in Punjab on 09-May-2023

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	AMRITSAR	AJNALA	S-NPP	31.85962	74.77852	13:18:02	D	3.80
2	AMRITSAR	ATTARI	AQUA	31.54600	74.70800	14:07:43	D	18.00
3	AMRITSAR	ATTARI	AQUA	31.60000	74.71800	14:07:43	D	20.40
4	AMRITSAR	ATTARI	AQUA	31.60100	74.64000	14:07:43	D	14.20
5	AMRITSAR	ATTARI	AQUA	31.60200	74.65300	14:07:43	D	15.60
6	AMRITSAR	ATTARI	AQUA	31.62400	74.58500	14:07:43	D	15.70
7	AMRITSAR	ATTARI	S-NPP	31.58118	74.85770	13:18:02	D	3.60
8	AMRITSAR	CHOGAWAN	AQUA	31.63600	74.68600	14:07:43	D	13.30
9	AMRITSAR	CHOGAWAN	AQUA	31.65500	74.58700	14:07:43	D	16.80
10	AMRITSAR	CHOGAWAN	AQUA	31.65700	74.60000	14:07:43	D	28.10
11	AMRITSAR	CHOGAWAN	AQUA	31.66400	74.66300	14:07:43	D	14.40
12	AMRITSAR	CHOGAWAN	AQUA	31.67400	74.66100	14:07:43	D	20.20
13	AMRITSAR	CHOGAWAN	AQUA	31.68400	74.66000	14:07:43	D	14.20
14	AMRITSAR	CHOGAWAN	AQUA	31.73800	74.61200	14:07:43	D	12.50
15	AMRITSAR	CHOGAWAN	AQUA	31.74100	74.61800	14:07:43	D	13.50
16	AMRITSAR	HARSHA CHHINA	AQUA	31.73000	74.71700	14:07:43	D	21.40
17	AMRITSAR	HARSHA CHHINA	S-NPP	31.77062	74.72013	13:18:02	D	2.70
18	AMRITSAR	MAJITHA	AQUA	31.74100	75.06200	14:07:43	D	23.50
19	AMRITSAR	MAJITHA	AQUA	31.74200	75.07500	14:07:43	D	29.40
20	AMRITSAR	RAYYA	AQUA	31.50800	75.24000	14:07:43	D	24.20
21	AMRITSAR	RAYYA	S-NPP	31.50698	75.24630	13:18:02	D	7.10
22	AMRITSAR	RAYYA	S-NPP	31.56094	75.18617	13:18:02	D	4.60
23	AMRITSAR	TARSIKKA	AQUA	31.64700	75.12300	14:07:43	D	19.10
24	AMRITSAR	TARSIKKA	AQUA	31.66800	75.21600	14:07:43	D	11.50
25	AMRITSAR	TARSIKKA	AQUA	31.69200	75.15700	14:07:43	D	21.00
26	AMRITSAR	TARSIKKA	AQUA	31.69400	75.17100	14:07:43	D	16.50
27	AMRITSAR	TARSIKKA	S-NPP	31.62695	75.08901	13:18:02	D	9.90
28	AMRITSAR	VERKA	AQUA	31.66100	74.81300	14:07:43	D	21.70
29	BARNALA	BARNALA	S-NPP	30.24721	75.68401	13:18:02	D	7.30

30	BARNALA	BARNALA	S-NPP	30.29153	75.58902	13:18:02	D	7.30
31	BARNALA	BARNALA	S-NPP	30.36978	75.63752	13:18:02	D	7.70
32	BARNALA	MAHAL KALAN	AQUA	30.56600	75.62200	14:07:43	D	24.20
33	BARNALA	MAHAL KALAN	S-NPP	30.50406	75.61900	13:18:02	D	13.10
34	BARNALA	MAHAL KALAN	S-NPP	30.51180	75.55988	13:18:02	D	5.90
35	BARNALA	SEHNA	S-NPP	30.33154	75.33730	13:18:02	D	11.70
36	BARNALA	SEHNA	S-NPP	30.34280	75.35909	13:18:02	D	10.70
37	BARNALA	SEHNA	S-NPP	30.37984	75.43076	13:18:02	D	13.90
38	BARNALA	SEHNA	S-NPP	30.43265	75.29124	13:18:02	D	9.50
39	BATHINDA	BATHINDA	S-NPP	30.22934	74.73365	13:18:02	D	14.10
40	BATHINDA	BATHINDA	S-NPP	30.23098	74.73523	13:18:02	D	14.00
41	BATHINDA	BATHINDA	S-NPP	30.25392	74.96655	13:18:02	D	6.50
42	BATHINDA	BHAGTA BHAI KA	AQUA	30.57500	75.16700	14:07:43	D	13.40
43	BATHINDA	BHAGTA BHAI KA	S-NPP	30.39928	75.14584	13:18:02	D	7.40
44	BATHINDA	BHAGTA BHAI KA	S-NPP	30.40831	75.07037	13:18:02	D	3.50
45	BATHINDA	BHAGTA BHAI KA	S-NPP	30.47570	75.04910	13:18:02	D	4.60
46	BATHINDA	BHAGTA BHAI KA	S-NPP	30.49798	75.06879	13:18:02	D	11.30
47	BATHINDA	GONIANA MANDI	S-NPP	30.29873	74.90258	13:18:02	D	7.20
48	BATHINDA	GONIANA MANDI	S-NPP	30.33703	74.80075	13:18:02	D	10.30
49	BATHINDA	GONIANA MANDI	S-NPP	30.34867	74.74821	13:18:02	D	7.20
50	BATHINDA	GONIANA MANDI	S-NPP	30.34879	74.82368	13:18:02	D	9.80
51	BATHINDA	MAUR	AQUA	30.00200	75.22900	14:07:43	D	13.50
52	BATHINDA	MAUR	S-NPP	30.05363	75.21220	13:18:02	D	17.10
53	BATHINDA	NATHANA	AQUA	30.30600	75.05900	14:07:43	D	13.50
54	BATHINDA	NATHANA	AQUA	30.33200	75.10700	14:07:43	D	14.30
55	BATHINDA	NATHANA	S-NPP	30.27423	74.97476	13:18:02	D	11.10
56	BATHINDA	NATHANA	S-NPP	30.40233	75.10015	13:18:02	D	8.00
57	BATHINDA	NATHANA	S-NPP	30.40592	75.09928	13:18:02	D	8.00
58	BATHINDA	PHUL	S-NPP	30.30112	75.27078	13:18:02	D	12.10
59	BATHINDA	PHUL	S-NPP	30.32685	75.13831	13:18:02	D	4.10
60	BATHINDA	PHUL	S-NPP	30.34135	75.25892	13:18:02	D	6.60
61	BATHINDA	RAMPURA	AQUA	30.24900	75.33600	14:07:43	D	14.20
62	BATHINDA	RAMPURA	S-NPP	30.18300	75.30225	13:18:02	D	6.40

63	BATHINDA	SANGAT	S-NPP	30.15765	74.66941	13:18:02	D	5.20
64	FARIDKOT	FARIDKOT	AQUA	30.65200	74.72400	14:07:43	D	10.60
65	FARIDKOT	FARIDKOT	S-NPP	30.63731	74.80064	13:18:02	D	10.90
66	FARIDKOT	FARIDKOT	S-NPP	30.73233	74.49321	13:18:02	D	5.10
67	FARIDKOT	FARIDKOT	S-NPP	30.74211	74.57832	13:18:02	D	12.50
68	FARIDKOT	FARIDKOT	S-NPP	30.74429	74.57968	13:18:02	D	12.50
69	FARIDKOT	FARIDKOT	S-NPP	30.74826	74.52958	13:18:02	D	11.40
70	FARIDKOT	FARIDKOT	S-NPP	30.75870	74.74230	13:18:02	D	6.90
71	FARIDKOT	JAITON	AQUA	30.50000	74.97700	14:07:43	D	28.90
72	FARIDKOT	JAITON	AQUA	30.50100	74.99000	14:07:43	D	13.20
73	FARIDKOT	JAITON	AQUA	30.50300	74.98300	14:07:43	D	23.20
74	FARIDKOT	KOT KAPURA	AQUA	30.55200	74.73400	14:07:43	D	20.30
75	FARIDKOT	KOT KAPURA	AQUA	30.55400	74.74600	14:07:43	D	15.90
76	FARIDKOT	KOT KAPURA	AQUA	30.65000	74.95400	14:07:43	D	20.20
77	FARIDKOT	KOT KAPURA	S-NPP	30.53841	74.72998	13:18:02	D	4.20
78	FARIDKOT	KOT KAPURA	S-NPP	30.54295	74.73404	13:18:02	D	8.40
79	FAZILKA	ABOHAR	AQUA	30.09000	74.35900	14:07:43	D	22.50
80	FAZILKA	ABOHAR	AQUA	30.12400	74.24700	14:07:43	D	14.00
81	FAZILKA	ABOHAR	S-NPP	30.05635	74.37647	13:18:02	D	12.90
82	FAZILKA	ARNIWALA SHEIKH SUBANPUR	S-NPP	30.31104	74.19621	13:18:02	D	4.60
83	FAZILKA	ARNIWALA SHEIKH SUBANPUR	S-NPP	30.40861	74.27889	13:18:02	D	7.00
84	FAZILKA	FAZILKA	AQUA	30.39400	73.93200	14:07:43	D	27.50
85	FAZILKA	FAZILKA	AQUA	30.43300	74.08800	14:07:43	D	10.60
86	FAZILKA	FAZILKA	S-NPP	30.39555	73.92942	13:18:02	D	9.20
87	FAZILKA	FAZILKA	S-NPP	30.40026	73.94220	13:18:02	D	6.60
88	FAZILKA	FAZILKA	S-NPP	30.40143	73.93925	13:18:02	D	6.40
89	FAZILKA	FAZILKA	S-NPP	30.42473	74.00931	13:18:02	D	5.50
90	FAZILKA	FAZILKA	S-NPP	30.47867	74.03221	13:18:02	D	7.00
91	FAZILKA	JALALABAD	AQUA	30.55200	74.08500	14:07:43	D	13.80
92	FAZILKA	JALALABAD	AQUA	30.58100	74.16300	14:07:43	D	13.30
93	FAZILKA	JALALABAD	AQUA	30.59900	74.10600	14:07:43	D	21.10
94	FAZILKA	JALALABAD	S-NPP	30.49353	74.17266	13:18:02	D	5.60
95	FAZILKA	JALALABAD	S-NPP	30.50545	74.33863	13:18:02	D	10.70



96	FAZILKA	JALALABAD	S-NPP	30.50855	74.37557	13:18:02	D	16.40
97	FAZILKA	JALALABAD	S-NPP	30.51880	74.07781	13:18:02	D	8.30
98	FAZILKA	JALALABAD	S-NPP	30.53032	74.20187	13:18:02	D	2.60
99	FAZILKA	JALALABAD	S-NPP	30.54647	74.12074	13:18:02	D	5.40
100	FAZILKA	JALALABAD	S-NPP	30.56532	74.26402	13:18:02	D	7.00
101	FAZILKA	JALALABAD	S-NPP	30.56904	74.26309	13:18:02	D	7.00
102	FAZILKA	JALALABAD	S-NPP	30.57441	74.22906	13:18:02	D	10.50
103	FAZILKA	JALALABAD	S-NPP	30.57519	74.23180	13:18:02	D	19.90
104	FAZILKA	JALALABAD	S-NPP	30.57538	74.23427	13:18:02	D	10.50
105	FAZILKA	JALALABAD	S-NPP	30.58140	74.20296	13:18:02	D	6.60
106	FAZILKA	JALALABAD	S-NPP	30.62828	74.22398	13:18:02	D	10.00
107	FAZILKA	JALALABAD	S-NPP	30.63200	74.22304	13:18:02	D	19.60
108	FAZILKA	KHUIAN SARWAR	AQUA	30.06200	74.05900	14:07:43	D	11.00
109	FAZILKA	KHUIAN SARWAR	AQUA	30.31000	74.08000	14:07:43	D	11.70
110	FAZILKA	KHUIAN SARWAR	S-NPP	30.30263	74.10966	13:18:02	D	6.30
111	FIROZPUR	FIROZPUR	S-NPP	30.85543	74.55801	13:18:02	D	5.80
112	FIROZPUR	GHALL KHURD	S-NPP	30.82621	74.68240	13:18:02	D	4.30
113	FIROZPUR	GHALL KHURD	S-NPP	30.86613	74.69320	13:18:02	D	9.50
114	FIROZPUR	GHALL KHURD	S-NPP	30.87686	74.69297	13:18:02	D	9.50
115	FIROZPUR	GHALL KHURD	S-NPP	30.87702	74.69051	13:18:02	D	10.10
116	FIROZPUR	GHALL KHURD	S-NPP	30.87813	74.90477	13:18:02	D	8.70
117	FIROZPUR	GURUHAR SAHAI	AQUA	30.65200	74.45700	14:07:43	D	42.90
118	FIROZPUR	GURUHAR SAHAI	AQUA	30.65400	74.46900	14:07:43	D	26.40
119	FIROZPUR	GURUHAR SAHAI	AQUA	30.66900	74.43000	14:07:43	D	14.80
120	FIROZPUR	GURUHAR SAHAI	AQUA	30.68200	74.30600	14:07:43	D	8.10
121	FIROZPUR	GURUHAR SAHAI	AQUA	30.75800	74.33700	14:07:43	D	10.30
122	FIROZPUR	GURUHAR SAHAI	AQUA	30.76700	74.33500	14:07:43	D	17.70
123	FIROZPUR	GURUHAR SAHAI	S-NPP	30.59545	74.29735	13:18:02	D	8.50
124	FIROZPUR	GURUHAR SAHAI	S-NPP	30.59566	74.38607	13:18:02	D	8.30
125	FIROZPUR	GURUHAR SAHAI	S-NPP	30.60971	74.33161	13:18:02	D	9.10
126	FIROZPUR	GURUHAR SAHAI	S-NPP	30.63219	74.24477	13:18:02	D	4.10
127	FIROZPUR	GURUHAR SAHAI	S-NPP	30.66237	74.30225	13:18:02	D	7.70
128	FIROZPUR	GURUHAR SAHAI	S-NPP	30.67225	74.25102	13:18:02	D	6.00

129	FIROZPUR	GURUHAR SAHAI	S-NPP	30.68065	74.27431	13:18:02	D	10.60
130	FIROZPUR	GURUHAR SAHAI	S-NPP	30.68077	74.27601	13:18:02	D	18.30
131	FIROZPUR	GURUHAR SAHAI	S-NPP	30.68139	74.25788	13:18:02	D	8.00
132	FIROZPUR	GURUHAR SAHAI	S-NPP	30.68155	74.42625	13:18:02	D	6.60
133	FIROZPUR	GURUHAR SAHAI	S-NPP	30.68160	74.25951	13:18:02	D	6.70
134	FIROZPUR	GURUHAR SAHAI	S-NPP	30.68238	74.26305	13:18:02	D	6.70
135	FIROZPUR	GURUHAR SAHAI	S-NPP	30.68281	74.30794	13:18:02	D	6.00
136	FIROZPUR	GURUHAR SAHAI	S-NPP	30.70246	74.35147	13:18:02	D	4.40
137	FIROZPUR	GURUHAR SAHAI	S-NPP	30.70275	74.34964	13:18:02	D	3.20
138	FIROZPUR	GURUHAR SAHAI	S-NPP	30.72024	74.42724	13:18:02	D	5.70
139	FIROZPUR	GURUHAR SAHAI	S-NPP	30.72925	74.42852	13:18:02	D	5.60
140	FIROZPUR	GURUHAR SAHAI	S-NPP	30.74206	74.41469	13:18:02	D	8.80
141	FIROZPUR	GURUHAR SAHAI	S-NPP	30.77936	74.32511	13:18:02	D	3.80
142	FIROZPUR	MAKHU	S-NPP	31.04749	75.03106	13:18:02	D	4.30
143	FIROZPUR	MAMDOT	AQUA	30.84200	74.35200	14:07:43	D	31.40
144	FIROZPUR	MAMDOT	AQUA	30.84200	74.42600	14:07:43	D	11.20
145	FIROZPUR	MAMDOT	AQUA	30.85600	74.46000	14:07:43	D	17.90
146	FIROZPUR	MAMDOT	AQUA	30.92100	74.49300	14:07:43	D	11.50
147	FIROZPUR	MAMDOT	S-NPP	30.79103	74.45030	13:18:02	D	3.90
148	FIROZPUR	MAMDOT	S-NPP	30.81601	74.52328	13:18:02	D	4.60
149	FIROZPUR	MAMDOT	S-NPP	30.86493	74.44515	13:18:02	D	4.40
150	FIROZPUR	MAMDOT	S-NPP	30.87666	74.40510	13:18:02	D	19.50
151	FIROZPUR	ZIRA	AQUA	30.89800	74.97300	14:07:43	D	16.50
152	FIROZPUR	ZIRA	AQUA	30.95000	74.99000	14:07:43	D	22.20
153	FIROZPUR	ZIRA	AQUA	31.00500	74.85900	14:07:43	D	9.10
154	FIROZPUR	ZIRA	S-NPP	30.91129	74.91906	13:18:02	D	6.50
155	FIROZPUR	ZIRA	S-NPP	30.93621	74.99333	13:18:02	D	7.40
156	FIROZPUR	ZIRA	S-NPP	30.97173	74.81818	13:18:02	D	5.70
157	FIROZPUR	ZIRA	S-NPP	30.98793	75.01071	13:18:02	D	5.20
158	GURDASPUR	BATALA	AQUA	31.76000	75.14100	14:07:43	D	14.60
159	GURDASPUR	BATALA	AQUA	31.83300	75.15000	14:07:43	D	10.30
160	GURDASPUR	DERA BABA NANAK	AQUA	31.92400	75.15800	14:07:43	D	13.90
161	GURDASPUR	DERA BABA NANAK	AQUA	32.00400	75.04200	14:07:43	D	12.30

162	GURDASPUR	DHARIWAL	AQUA	31.91900	75.20000	14:07:43	D	25.10
163	GURDASPUR	DHARIWAL	S-NPP	31.87004	75.32906	13:18:02	D	3.80
164	GURDASPUR	DINA NAGAR	S-NPP	32.07616	75.53132	13:18:02	D	19.70
165	GURDASPUR	DINA NAGAR	S-NPP	32.07883	75.52600	13:18:02	D	19.70
166	GURDASPUR	DORANGALA	S-NPP	32.15034	75.33059	13:18:02	D	1.50
167	GURDASPUR	FATEHGARH CHURIAN	AQUA	31.80700	75.09900	14:07:43	D	11.50
168	GURDASPUR	FATEHGARH CHURIAN	AQUA	31.83600	74.99900	14:07:43	D	21.80
169	GURDASPUR	KAHNUWAN	AQUA	31.84600	75.35800	14:07:43	D	39.30
170	GURDASPUR	QADIAN	AQUA	31.77200	75.33400	14:07:43	D	14.20
171	GURDASPUR	SRI HARGOBINDPUR	AQUA	31.67700	75.38300	14:07:43	D	33.40
172	GURDASPUR	SRI HARGOBINDPUR	AQUA	31.74700	75.48000	14:07:43	D	12.00
173	HOSHIARPUR	DASUYA	AQUA	31.74900	75.55800	14:07:43	D	65.50
174	HOSHIARPUR	DASUYA	AQUA	31.80400	75.61600	14:07:43	D	18.80
175	HOSHIARPUR	HAJIPUR	AQUA	31.92400	75.67900	14:07:43	D	14.60
176	HOSHIARPUR	HAJIPUR	S-NPP	31.94331	75.68954	02:08:03	N	0.50
177	HOSHIARPUR	HOSHIARPUR-1	AQUA	31.54100	75.80700	14:07:43	D	8.90
178	HOSHIARPUR	MUKERIAN	AQUA	31.93000	75.54600	14:07:43	D	33.90
179	HOSHIARPUR	MUKERIAN	AQUA	31.93300	75.57500	14:07:43	D	18.60
180	HOSHIARPUR	MUKERIAN	AQUA	31.93500	75.58900	14:07:43	D	24.90
181	HOSHIARPUR	MUKERIAN	AQUA	31.94100	75.58300	14:07:43	D	31.90
182	HOSHIARPUR	MUKERIAN	S-NPP	31.92581	75.56160	13:18:02	D	5.90
183	HOSHIARPUR	MUKERIAN	S-NPP	31.92926	75.56076	13:18:02	D	5.50
184	HOSHIARPUR	TANDA	AQUA	31.69700	75.56600	14:07:43	D	14.00
185	HOSHIARPUR	TANDA	S-NPP	31.67093	75.60346	13:18:02	D	22.90
186	HOSHIARPUR	TANDA	S-NPP	31.67439	75.60262	13:18:02	D	11.60
187	HOSHIARPUR	TANDA	S-NPP	31.69639	75.62550	13:18:02	D	13.50
188	HOSHIARPUR	TANDA	S-NPP	31.69717	75.62999	13:18:02	D	5.50
189	HOSHIARPUR	TANDA	S-NPP	31.70235	75.60829	02:08:03	N	0.30
190	JALANDHAR	ADAMPUR	AQUA	31.49200	75.71800	14:07:43	D	24.80
191	JALANDHAR	BHOGPUR	S-NPP	31.58610	75.63658	13:18:02	D	13.10
192	JALANDHAR	BHOGPUR	S-NPP	31.58669	75.63764	13:18:02	D	13.00
193	JALANDHAR	JALANDHAR WEST	AQUA	31.45500	75.57900	14:07:43	D	14.60
194	JALANDHAR	LOHIAN	AQUA	31.07500	75.19100	14:07:43	D	19.60

195	JALANDHAR	LOHIAN	AQUA	31.07600	75.19700	14:07:43	D	9.50
196	JALANDHAR	LOHIAN	AQUA	31.12900	75.21600	14:07:43	D	17.30
197	JALANDHAR	MEHATPUR	AQUA	31.00700	75.38400	14:07:43	D	11.00
198	JALANDHAR	MEHATPUR	S-NPP	31.01341	75.45901	13:18:02	D	8.80
199	JALANDHAR	SHAHKOT	AQUA	31.05400	75.27500	14:07:43	D	18.00
200	JALANDHAR	SHAHKOT	AQUA	31.11000	75.31400	14:07:43	D	16.40
201	JALANDHAR	SHAHKOT	S-NPP	31.12047	75.36763	13:18:02	D	17.80
202	KAPURTHALA	DHILWAN	AQUA	31.49100	75.35400	14:07:43	D	20.20
203	KAPURTHALA	NADALA	AQUA	31.51600	75.49100	14:07:43	D	33.20
204	KAPURTHALA	NADALA	AQUA	31.51800	75.50500	14:07:43	D	16.60
205	KAPURTHALA	NADALA	S-NPP	31.58566	75.52977	13:18:02	D	3.40
206	KAPURTHALA	NADALA	S-NPP	31.59956	75.52644	13:18:02	D	12.30
207	KAPURTHALA	NADALA	S-NPP	31.60755	75.57165	13:18:02	D	12.40
208	KAPURTHALA	NADALA	S-NPP	31.61905	75.55478	13:18:02	D	13.10
209	KAPURTHALA	SULTANPUR LODHI	AQUA	31.22800	75.11300	14:07:43	D	10.90
210	KAPURTHALA	SULTANPUR LODHI	S-NPP	31.23813	75.12682	13:18:02	D	4.50
211	LUDHIANA	DEHLON	AQUA	30.72400	75.85500	14:07:43	D	10.70
212	LUDHIANA	JAGRAON	AQUA	30.67000	75.46900	14:07:43	D	11.10
213	LUDHIANA	JAGRAON	AQUA	30.67100	75.48300	14:07:43	D	26.40
214	LUDHIANA	JAGRAON	AQUA	30.71900	75.44800	14:07:43	D	72.30
215	LUDHIANA	JAGRAON	AQUA	30.73400	75.40400	14:07:43	D	16.90
216	LUDHIANA	JAGRAON	AQUA	30.75800	75.43500	14:07:43	D	16.00
217	LUDHIANA	JAGRAON	S-NPP	30.72600	75.49779	13:18:02	D	8.90
218	LUDHIANA	LUDHIANA-1	AQUA	30.82400	75.83300	14:07:43	D	19.30
219	LUDHIANA	RAIKOT	AQUA	30.59000	75.65300	14:07:43	D	17.80
220	LUDHIANA	RAIKOT	AQUA	30.64100	75.56200	14:07:43	D	13.10
221	LUDHIANA	RAIKOT	S-NPP	30.63937	75.62194	13:18:02	D	27.70
222	LUDHIANA	SIDHWAN BET	S-NPP	30.90254	75.61005	13:18:02	D	10.00
223	MANSA	BUDHLADA	AQUA	29.75100	75.59800	14:07:43	D	15.80
224	MANSA	BUDHLADA	AQUA	29.75300	75.61100	14:07:43	D	14.50
225	MANSA	BUDHLADA	S-NPP	29.84119	75.60441	13:18:02	D	2.70
226	MOGA	BAGHA PURANA	AQUA	30.64700	75.09700	14:07:43	D	13.20
227	MOGA	BAGHA PURANA	AQUA	30.70000	75.01700	14:07:43	D	11.60

228	MOGA	BAGHA PURANA	S-NPP	30.60385	75.05022	13:18:02	D	4.40
229	MOGA	KOT ISE KHAN AT DHARAMKOT	AQUA	31.00500	75.20200	14:07:43	D	33.30
230	MOGA	KOT ISE KHAN AT DHARAMKOT	AQUA	31.05700	75.12600	14:07:43	D	16.80
231	MOGA	KOT ISE KHAN AT DHARAMKOT	AQUA	31.08000	75.14200	14:07:43	D	23.20
232	MOGA	KOT ISE KHAN AT DHARAMKOT	S-NPP	30.96166	75.26665	13:18:02	D	4.50
233	MOGA	KOT ISE KHAN AT DHARAMKOT	S-NPP	30.99481	75.29465	13:18:02	D	4.70
234	MOGA	MOGA-1	AQUA	30.77300	75.29600	14:07:43	D	24.70
235	MOGA	MOGA-1	S-NPP	30.71644	75.13441	13:18:02	D	7.00
236	MOGA	MOGA-1	S-NPP	30.72545	75.12232	13:18:02	D	5.10
237	MOGA	MOGA-1	S-NPP	30.80372	75.21898	13:18:02	D	10.50
238	MOGA	MOGA-1	S-NPP	30.84677	75.25272	13:18:02	D	6.60
239	MOGA	MOGA-2	AQUA	30.72000	75.10500	14:07:43	D	34.10
240	MOGA	MOGA-2	AQUA	30.80200	75.11300	14:07:43	D	48.60
241	MOGA	MOGA-2	AQUA	30.84700	75.15900	14:07:43	D	13.40
242	MOGA	MOGA-2	AQUA	30.88800	74.97400	14:07:43	D	28.70
243	MOGA	MOGA-2	AQUA	30.88900	74.98700	14:07:43	D	10.40
244	MOGA	MOGA-2	S-NPP	30.83660	74.98540	13:18:02	D	7.90
245	MOGA	MOGA-2	S-NPP	30.84077	75.06933	13:18:02	D	7.90
246	MOGA	NIHAL SINGH	AQUA	30.55400	75.25000	14:07:43	D	16.70
247	MOGA	NIHAL SINGH	AQUA	30.61100	75.21400	14:07:43	D	16.50
248	MOGA	NIHAL SINGH	AQUA	30.62200	75.22600	14:07:43	D	18.50
249	MOGA	NIHAL SINGH	S-NPP	30.53673	75.21555	13:18:02	D	7.00
250	MOGA	NIHAL SINGH	S-NPP	30.59750	75.18121	13:18:02	D	7.40
251	MOGA	NIHAL SINGH	S-NPP	30.63301	75.35909	13:18:02	D	10.10
252	MUKTSAR	KOT BHAI AT GIDDERBAHA	AQUA	30.15900	74.60000	14:07:43	D	13.00
253	MUKTSAR	KOT BHAI AT GIDDERBAHA	AQUA	30.22800	74.58300	14:07:43	D	11.60
254	MUKTSAR	KOT BHAI AT GIDDERBAHA	AQUA	30.28400	74.60400	14:07:43	D	10.80
255	MUKTSAR	KOT BHAI AT GIDDERBAHA	AQUA	30.33100	74.51100	14:07:43	D	20.10
256	MUKTSAR	KOT BHAI AT GIDDERBAHA	AQUA	30.39800	74.71600	14:07:43	D	14.00
257	MUKTSAR	KOT BHAI AT GIDDERBAHA	AQUA	30.40000	74.72800	14:07:43	D	9.10
258	MUKTSAR	KOT BHAI AT GIDDERBAHA	AQUA	30.42100	74.66200	14:07:43	D	13.10
259	MUKTSAR	KOT BHAI AT GIDDERBAHA	AQUA	30.47100	74.63500	14:07:43	D	23.90
260	MUKTSAR	KOT BHAI AT GIDDERBAHA	S-NPP	30.16482	74.60437	13:18:02	D	7.40

261	MUKTSAR	KOT BHAI AT GIDDERBAHA	S-NPP	30.20034	74.62017	13:18:02	D	36.30
262	MUKTSAR	KOT BHAI AT GIDDERBAHA	S-NPP	30.20259	74.62152	13:18:02	D	41.00
263	MUKTSAR	KOT BHAI AT GIDDERBAHA	S-NPP	30.23607	74.58499	13:18:02	D	10.50
264	MUKTSAR	KOT BHAI AT GIDDERBAHA	S-NPP	30.28398	74.59438	13:18:02	D	9.10
265	MUKTSAR	KOT BHAI AT GIDDERBAHA	S-NPP	30.30419	74.57882	13:18:02	D	12.10
266	MUKTSAR	KOT BHAI AT GIDDERBAHA	S-NPP	30.30787	74.57791	13:18:02	D	12.40
267	MUKTSAR	KOT BHAI AT GIDDERBAHA	S-NPP	30.31938	74.55087	13:18:02	D	11.60
268	MUKTSAR	KOT BHAI AT GIDDERBAHA	S-NPP	30.32623	74.69952	13:18:02	D	5.00
269	MUKTSAR	KOT BHAI AT GIDDERBAHA	S-NPP	30.32841	74.51681	13:18:02	D	7.70
270	MUKTSAR	KOT BHAI AT GIDDERBAHA	S-NPP	30.34789	74.53856	13:18:02	D	29.40
271	MUKTSAR	KOT BHAI AT GIDDERBAHA	S-NPP	30.37959	74.68861	13:18:02	D	6.70
272	MUKTSAR	KOT BHAI AT GIDDERBAHA	S-NPP	30.42614	74.75517	13:18:02	D	7.10
273	MUKTSAR	KOT BHAI AT GIDDERBAHA	S-NPP	30.43343	74.75339	13:18:02	D	4.70
274	MUKTSAR	KOT BHAI AT GIDDERBAHA	S-NPP	30.43353	74.69859	13:18:02	D	7.70
275	MUKTSAR	LAMBI	AQUA	29.99500	74.60300	14:07:43	D	10.30
276	MUKTSAR	LAMBI	AQUA	29.99800	74.59700	14:07:43	D	10.90
277	MUKTSAR	LAMBI	S-NPP	29.95919	74.54877	13:18:02	D	5.40
278	MUKTSAR	LAMBI	S-NPP	30.03148	74.43146	13:18:02	D	15.80
279	MUKTSAR	LAMBI	S-NPP	30.08319	74.62737	13:18:02	D	12.20
280	MUKTSAR	LAMBI	S-NPP	30.13451	74.62766	13:18:02	D	4.90
281	MUKTSAR	MUKTSAR	AQUA	30.46400	74.69200	14:07:43	D	10.70
282	MUKTSAR	MUKTSAR	AQUA	30.50900	74.70300	14:07:43	D	12.80
283	MUKTSAR	MUKTSAR	AQUA	30.55000	74.45700	14:07:43	D	21.10
284	MUKTSAR	MUKTSAR	AQUA	30.56400	74.49100	14:07:43	D	23.40
285	MUKTSAR	MUKTSAR	S-NPP	30.46731	74.69553	13:18:02	D	9.00
286	MUKTSAR	MUKTSAR	S-NPP	30.48558	74.71182	13:18:02	D	5.70
287	MUKTSAR	MUKTSAR	S-NPP	30.48923	74.71093	13:18:02	D	7.40
288	MUKTSAR	MUKTSAR	S-NPP	30.50163	74.48717	13:18:02	D	8.90
289	MUKTSAR	MUKTSAR	S-NPP	30.54502	74.42548	13:18:02	D	7.00
290	MUKTSAR	MUKTSAR	S-NPP	30.60711	74.51110	13:18:02	D	9.70
291	PATIALA	BHUNARHERI	AQUA	30.13500	76.50800	14:07:43	D	15.80
292	PATIALA	BHUNARHERI	AQUA	30.16200	76.55000	14:07:43	D	17.30
293	PATIALA	BHUNARHERI	AQUA	30.22800	76.42700	14:07:43	D	29.70

294	PATIALA	BHUNARHERI	AQUA	30.23000	76.44200	14:07:43	D	48.50
295	PATIALA	GHANAUR	AQUA	30.36100	76.60300	14:07:43	D	17.20
296	PATIALA	NABHA	AQUA	30.46000	76.28900	14:07:43	D	16.70
297	PATIALA	NABHA	S-NPP	30.49980	76.14993	13:18:02	D	5.80
298	PATIALA	PATRAN	S-NPP	29.86843	76.09357	13:18:02	D	7.10
299	PATIALA	RAJPURA	AQUA	30.51200	76.75200	14:07:43	D	19.70
300	PATIALA	SAMANA	AQUA	30.16900	76.12700	14:07:43	D	14.40
301	PATIALA	SAMANA	S-NPP	30.15179	76.13425	13:18:02	D	5.30
302	PATIALA	SANAUR	S-NPP	30.17044	76.31127	13:18:02	D	6.30
303	PATIALA	SHAMBU KALAN	S-NPP	30.46125	76.47709	13:18:02	D	9.00
304	SANGRUR	ANDANA	S-NPP	29.84282	76.02994	13:18:02	D	8.20
305	SANGRUR	BHAWANIGARH	S-NPP	30.28013	76.20206	13:18:02	D	8.00
306	SANGRUR	DIRBA	AQUA	30.16300	75.98300	14:07:43	D	15.40
307	SANGRUR	MALERKOTLA-1	AQUA	30.41600	75.89800	14:07:43	D	24.10
308	SANGRUR	MALERKOTLA-1	AQUA	30.42400	75.90400	14:07:43	D	14.20
309	SANGRUR	MALERKOTLA-1	S-NPP	30.46357	75.83965	13:18:02	D	5.20
310	SANGRUR	MALERKOTLA-2	AQUA	30.57600	75.79000	14:07:43	D	20.10
311	SANGRUR	MALERKOTLA-2	S-NPP	30.55268	75.81062	13:18:02	D	12.70
312	SANGRUR	SANGRUR	AQUA	30.30300	75.89200	14:07:43	D	14.40
313	SANGRUR	SANGRUR	S-NPP	30.20209	75.77979	13:18:02	D	5.10
314	SANGRUR	SANGRUR	S-NPP	30.21515	75.89413	13:18:02	D	14.70
315	SANGRUR	SHER PUR	AQUA	30.40400	75.80000	14:07:43	D	15.00
316	SANGRUR	SHER PUR	AQUA	30.41900	75.76200	14:07:43	D	15.40
317	SANGRUR	SUNAM	S-NPP	30.07995	75.78658	13:18:02	D	12.40
318	TARN TARAN	BHIKHIWIND	S-NPP	31.27094	74.64412	13:18:02	D	11.20
319	TARN TARAN	BHIKHIWIND	S-NPP	31.29624	74.63783	13:18:02	D	5.30
320	TARN TARAN	BHIKHIWIND	S-NPP	31.41204	74.63190	13:18:02	D	5.60
321	TARN TARAN	CHOHLA SAHIB	AQUA	31.23300	74.98000	14:07:43	D	13.00
322	TARN TARAN	CHOHLA SAHIB	AQUA	31.25900	75.02100	14:07:43	D	18.00
323	TARN TARAN	CHOHLA SAHIB	AQUA	31.26900	75.02000	14:07:43	D	13.90
324	TARN TARAN	CHOHLA SAHIB	AQUA	31.30100	75.02800	14:07:43	D	12.70
325	TARN TARAN	CHOHLA SAHIB	S-NPP	31.28755	75.04341	13:18:02	D	4.50
326	TARN TARAN	CHOHLA SAHIB	S-NPP	31.29595	74.96690	13:18:02	D	8.30

327	TARN TARAN	CHOHLA SAHIB	S-NPP	31.32749	75.03861	13:18:02	D	5.00
328	TARN TARAN	KHADUR SAHIB	AQUA	31.47400	75.12300	14:07:43	D	14.60
329	TARN TARAN	KHADUR SAHIB	AQUA	31.48600	75.13400	14:07:43	D	11.30
330	TARN TARAN	NAUSHERA PANNUAN	S-NPP	31.38568	74.95132	02:08:03	N	0.60
331	TARN TARAN	VALTOHA	S-NPP	31.18918	74.52989	13:18:02	D	4.00



### Details of residue burning events in Haryana on 09-May-2023

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m <sup>2</sup> )
1	AMBALA	AMBALA-II	AQUA	30.28800	76.68400	14:07:43	D	39.00
2	AMBALA	AMBALA-II	S-NPP	30.21631	76.72906	13:18:02	D	7.50
3	FATEHABAD	RATIA	AQUA	29.75000	75.60500	14:07:43	D	15.10
4	FATEHABAD	RATIA	S-NPP	29.69806	75.55874	13:18:02	D	5.80
5	FATEHABAD	RATIA	S-NPP	29.77313	75.45028	13:18:02	D	9.40
6	JHAJJAR	BAHADURGARH	AQUA	28.69200	76.80600	14:07:43	D	16.90
7	JHAJJAR	BAHADURGARH	S-NPP	28.74215	76.92878	02:08:03	N	0.50
8	JIND	ALEWA	S-NPP	29.50059	76.35995	13:18:02	D	4.50
9	JIND	NARWANA	S-NPP	29.70106	76.13412	13:18:02	D	7.00
10	JIND	SAFIDON	AQUA	29.45600	76.67100	14:07:43	D	20.80
11	KAITHAL	PUNDRI	AQUA	29.85400	76.57300	14:07:43	D	20.30
12	KAITHAL	PUNDRI	AQUA	29.85600	76.56700	14:07:43	D	29.00
13	KAITHAL	PUNDRI	AQUA	29.86500	76.57200	14:07:43	D	17.90
14	KAITHAL	SIWAN	S-NPP	29.93028	76.43052	13:18:02	D	8.90
15	KARNAL	ASSANDH	AQUA	29.56300	76.52800	14:07:43	D	17.70
16	KARNAL	CHIRAO	S-NPP	29.61248	76.83065	13:18:02	D	7.40
17	KARNAL	CHIRAO	S-NPP	29.66780	76.84978	13:18:02	D	7.70
18	KURUKSHETRA	PEHOWA	S-NPP	29.95010	76.67136	13:18:02	D	11.30
19	MEWAT	TAORU	S-NPP	28.14595	76.95824	02:08:03	N	3.30
20	MEWAT	TAORU	S-NPP	28.14863	76.95834	02:08:03	N	2.00
21	PANIPAT	ISRANA	AQUA	29.21800	76.91100	14:07:43	D	16.50
22	PANIPAT	MADLAUDA	AQUA	29.42900	76.86800	14:07:43	D	20.10
23	PANIPAT	MADLAUDA	S-NPP	29.38279	76.80063	13:18:02	D	6.60
24	ROHTAK	LAKHAN MAJRA	AQUA	29.03800	76.48500	14:07:43	D	23.20
25	ROHTAK	LAKHAN MAJRA	AQUA	29.04000	76.50000	14:07:43	D	21.40
26	ROHTAK	LAKHAN MAJRA	S-NPP	29.01012	76.48630	13:18:02	D	6.60
27	ROHTAK	MEHAM	S-NPP	28.97340	76.44004	13:18:02	D	6.90
28	SIRSA	ELLENABAD	AQUA	29.42800	74.85500	14:07:43	D	10.00
29	SIRSA	ELLENABAD	S-NPP	29.55158	74.70621	13:18:02	D	9.20
30	SIRSA	SIRSA	S-NPP	29.53623	74.95621	13:18:02	D	18.40
31	SONIPAT	KATHURA	AQUA	29.10300	76.49100	14:07:43	D	25.20

32	SONIPAT	KHARKHODA	AQUA	28.94000	76.85900	14:07:43	D	13.70
33	SONIPAT	MUNDLANA	S-NPP	29.22289	76.68882	13:18:02	D	9.20
34	YAMUNANAGAR	RADAUR	S-NPP	29.99678	77.24667	13:18:02	D	5.00

### Details of residue burning events in Uttar Pradesh on 09-May-2023

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m2)
1	ALLAHABAD	BARA	S-NPP	25.16038	81.76179	13:18:02	D	11.20
2	ALLAHABAD	KORAWN	S-NPP	25.02333	82.00034	13:18:02	D	13.30
3	ALLAHABAD	KORAWN	S-NPP	25.02672	81.99977	13:18:02	D	13.60
4	ALLAHABAD	MEZA	S-NPP	25.07367	81.96326	13:18:02	D	7.90
5	AURAIYA	BIDHUNA	AQUA	26.83600	79.39100	14:07:43	D	21.30
6	AURAIYA	BIDHUNA	S-NPP	26.64407	79.47918	02:08:03	N	0.80
7	BARABANKI	HAIARGARH	S-NPP	26.64236	81.47726	13:18:02	D	7.40
8	BAREILLY	FARIDPUR	S-NPP	28.25919	79.70033	13:18:02	D	14.70
9	BASTI	BASTI	S-NPP	26.75251	82.80984	13:18:02	D	7.70
10	BIJNOR	NAJIBABAD	AQUA	29.60800	78.44400	14:07:43	D	19.80
11	CHANDAULI	CHANDAULI	S-NPP	25.28695	83.42254	13:18:02	D	19.30
12	CHITRAKOOT	MAU	S-NPP	25.31684	81.27440	13:18:02	D	9.50
13	FATEHPUR	FATEHPUR	S-NPP	25.73676	80.93924	13:18:02	D	7.90
14	FATEHPUR	FATEHPUR	S-NPP	25.73732	80.94310	13:18:02	D	7.90
15	FATEHPUR	FATEHPUR	S-NPP	25.73788	80.94697	13:18:02	D	9.40
16	FATEHPUR	KHAGA	S-NPP	25.92226	81.11648	02:08:03	N	0.60
17	FATEHPUR	KHAGA	S-NPP	25.92331	81.11885	02:08:03	N	0.90
18	HARDOI	HARDOI	S-NPP	27.54025	80.27817	13:18:02	D	3.60
19	HARDOI	SHAHABAD	S-NPP	27.56293	79.88626	13:18:02	D	9.00
20	HARDOI	SHAHABAD	S-NPP	27.71821	80.22555	13:18:02	D	10.10
21	HARDOI	SHAHABAD	S-NPP	27.77065	80.07948	13:18:02	D	42.10
22	JHANSI	MOTH	AQUA	25.82800	78.88600	14:07:43	D	18.30
23	JHANSI	TAHRAULI	AQUA	25.63000	79.04300	14:07:43	D	21.50
24	KHERI	GOLA	S-NPP	28.15938	80.49729	13:18:02	D	2.20
25	KHERI	MOHMADI	S-NPP	28.00303	80.28249	13:18:02	D	13.50
26	KUSHINAGAR	KASAYA	S-NPP	26.77706	83.92165	13:18:02	D	6.10
27	KUSHINAGAR	PADRAUNA	S-NPP	27.07738	83.74672	02:08:03	N	1.10
28	PILHIBHIT	PURANPUR	S-NPP	28.52641	80.29646	13:18:02	D	10.10
29	PILHIBHIT	PURANPUR	S-NPP	28.52974	80.29584	13:18:02	D	10.10
30	PILHIBHIT	PURANPUR	S-NPP	28.60238	80.05105	13:18:02	D	2.70
31	PRATAPGARH	LALGANJ	S-NPP	25.99712	81.61788	13:18:02	D	9.50

32	SANTKABIRNAGAR	Ghanghata	S-NPP	26.53627	83.08356	13:18:02	D	9.00
33	SHAHJAHANPUR	SHAHJAHANPUR	AQUA	27.82900	79.62000	14:07:43	D	25.30
34	SIDDHARTHANAGAR	SHOHRATGARH	S-NPP	27.45535	82.74545	13:18:02	D	7.40

## Details of wheat residue burning events in Madhya Pradesh on 09-May-2023

S. No.	District	Tehsil / Block	Satellite	Latitude	Longitude	ACQ_TIME	Day / Night	Fire Power (W/m <sup>2</sup> )
1	BETUL	AMLAL	S-NPP	22.01275	78.37743	13:18:02	D	4.00
2	BETUL	MULTAI	S-NPP	21.85011	78.42114	13:18:02	D	13.60
3	BHIND	GOHAD	S-NPP	26.46706	78.25775	02:08:03	N	0.80
4	BHOPAL	HUZUR	S-NPP	23.15232	77.54311	13:18:02	D	8.70
5	BHOPAL	HUZUR	S-NPP	23.35210	77.44155	13:18:02	D	15.50
6	BHOPAL	HUZUR	S-NPP	23.35566	77.44084	13:18:02	D	15.50
7	BHOPAL	HUZUR	S-NPP	23.41449	77.38885	13:18:02	D	13.90
8	CHHINDWARA	CHAURAI	S-NPP	22.01977	79.16476	13:18:02	D	4.50
9	CHHINDWARA	CHHINDWARA	S-NPP	21.96470	79.10622	13:18:02	D	7.60
10	DAMOH	PATHARIA	AQUA	23.84900	79.18800	14:07:43	D	22.00
11	DINDORI	DINDORI	S-NPP	22.75010	81.53817	13:18:02	D	4.50
12	GWALIOR	DABRA	AQUA	25.94400	78.25600	14:07:43	D	17.10
13	GWALIOR	DABRA	S-NPP	25.99546	78.39948	02:08:03	N	1.30
14	INDORE	SANWER	AQUA	22.93800	75.70600	14:07:43	D	22.80
15	JABALPUR	JABALPUR	S-NPP	23.03359	79.95290	13:18:02	D	17.20
16	JABALPUR	JABALPUR	S-NPP	23.03539	79.80733	02:08:03	N	0.40
17	JABALPUR	PATAN	S-NPP	23.21012	79.67467	13:18:02	D	3.70
18	JABALPUR	SAHPURA	AQUA	23.17500	79.63000	14:07:43	D	27.70
19	JABALPUR	SAHPURA	S-NPP	23.13348	79.70079	13:18:02	D	14.60
20	KATNI	BIJERAGHOGARH	S-NPP	23.95374	80.72353	13:18:02	D	11.20
21	KATNI	BIJERAGHOGARH	S-NPP	23.95430	80.72728	13:18:02	D	11.20
22	MANDSAUR	MALHARGARH	S-NPP	24.32901	75.06534	13:18:02	D	14.00
23	MANDSAUR	SUWASRA	S-NPP	24.12445	75.51820	02:08:03	N	1.70
24	NARSHIMAPURA	NARSIMHAPUR	S-NPP	22.87722	79.25082	13:18:02	D	3.70
25	NIMACH	NIMACH	AQUA	24.25200	74.81500	14:07:43	D	10.60
26	RAISEN	RAISEN	S-NPP	23.19006	77.71988	13:18:02	D	9.00
27	RAISEN	RAISEN	S-NPP	23.28055	77.65801	13:18:02	D	9.00
28	RAJGARH	NARSINGGAR	S-NPP	23.65455	76.93964	02:08:03	N	0.50
29	REWA	RAJPUR KUCHULIYAN	S-NPP	24.59988	81.44051	13:18:02	D	7.10
30	REWA	SIRMAUR	S-NPP	24.76016	81.30679	13:18:02	D	11.10

31	REWA	SIRMAUR	S-NPP	24.77288	81.25336	13:18:02	D	6.20
32	REWA	SIRMAUR	S-NPP	24.77345	81.25720	13:18:02	D	9.40
33	REWA	SIRMAUR	S-NPP	24.77622	81.25278	13:18:02	D	6.20
34	REWA	TEONTHAR	S-NPP	25.05468	81.35892	13:18:02	D	3.30
35	REWA	TEONTHAR	S-NPP	25.05802	81.35833	13:18:02	D	5.20
36	SAGAR	BANDA	S-NPP	24.07981	78.87595	13:18:02	D	12.00
37	SAGAR	KESALI	AQUA	23.45200	78.80600	14:07:43	D	24.60
38	SAGAR	SAGAR	S-NPP	23.73262	78.52956	13:18:02	D	8.10
39	SAGAR	SAGAR	S-NPP	23.77781	78.59592	02:08:03	N	0.30
40	SAGAR	SAGAR	S-NPP	23.78121	78.59660	02:08:03	N	0.40
41	SAGAR	SAGAR	S-NPP	23.95651	78.69643	13:18:02	D	6.70
42	SATNA	AMARPATAN	S-NPP	24.47596	81.21415	13:18:02	D	18.10
43	SATNA	NAGOD	S-NPP	24.60918	80.58335	13:18:02	D	7.80
44	SATNA	RAGURAJNAGAR	S-NPP	24.70868	80.70541	13:18:02	D	16.30
45	SATNA	RAGURAJNAGAR	S-NPP	24.71199	80.70483	13:18:02	D	12.20
46	SATNA	RAMPURBAGHLEAN	S-NPP	24.53326	81.02819	13:18:02	D	14.60
47	SEHORE	BUDHNI	S-NPP	22.80546	77.53078	13:18:02	D	7.10
48	SEHORE	SEHORE	AQUA	23.26900	77.11200	14:07:43	D	21.20
49	SEHORE	SEHORE	AQUA	23.38000	77.19400	14:07:43	D	25.90
50	SEHORE	SEHORE	S-NPP	23.32408	77.21647	13:18:02	D	10.80
51	SHAJAPUR	SHAJAPUR	AQUA	23.34500	76.31700	14:07:43	D	9.60
52	SHEOPUR	SHEOPUR	AQUA	25.41600	76.61300	14:07:43	D	40.00
53	SHEOPUR	SHEOPUR	S-NPP	25.53487	76.58842	02:08:03	N	0.60
54	SHEOPUR	SHEOPUR	S-NPP	25.53535	76.65010	13:18:02	D	2.80
55	SHEOPUR	SHEOPUR	S-NPP	25.53819	76.58904	02:08:03	N	0.70
56	SHEOPUR	SHEOPUR	S-NPP	25.75761	76.59286	02:08:03	N	1.30
57	SHEOPUR	SHEOPUR	S-NPP	25.76093	76.59348	02:08:03	N	1.70
58	UJJAIN	BARNAGAR	S-NPP	23.03101	75.38857	13:18:02	D	1.20
59	UJJAIN	KACHROD	AQUA	23.39500	75.27700	14:07:43	D	10.90
60	UJJAIN	KACHROD	S-NPP	23.36101	75.23560	02:08:03	N	0.50
61	UJJAIN	TARANA	AQUA	23.40900	76.10400	14:07:43	D	12.10
62	UJJAIN	UJJAIN	AQUA	23.08700	75.73600	14:07:43	D	16.10
63	VIDESHA	GYARASPUR	AQUA	23.53900	78.07900	14:07:43	D	107.30
64	VIDESHA	GYARASPUR	AQUA	23.54100	78.09300	14:07:43	D	39.10

65	VIDESHA	GYARASPUR	AQUA	23.54200	78.07100	14:07:43	D	31.60
66	VIDESHA	GYARASPUR	AQUA	23.54400	78.08600	14:07:43	D	77.90
67	VIDESHA	GYARASPUR	S-NPP	23.52588	78.05386	13:18:02	D	10.60
68	VIDESHA	VIDESHA	AQUA	23.48400	77.62400	14:07:43	D	16.70
69	VIDESHA	VIDESHA	S-NPP	23.53448	77.68026	13:18:02	D	7.80
70	VIDESHA	VIDESHA	S-NPP	23.56535	77.74606	02:08:03	N	0.40
71	WEST NIMAR	MAHESHWAR	S-NPP	22.25397	75.69166	02:08:03	N	1.90

**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 wheat mask for the Punjab, Haryana and Uttar Pradesh were provided by MNCFC, MoA&FW, Govt of India  
The rabi crop mask for Delhi 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)

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