



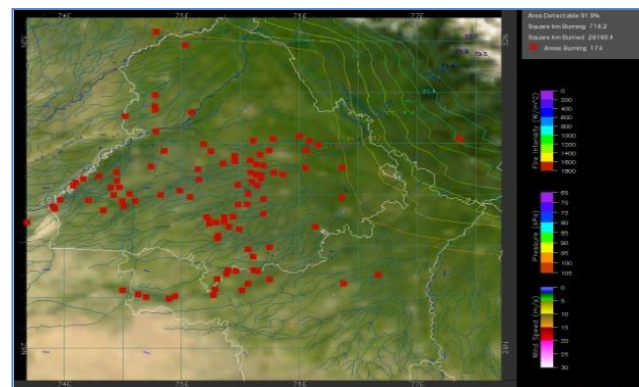
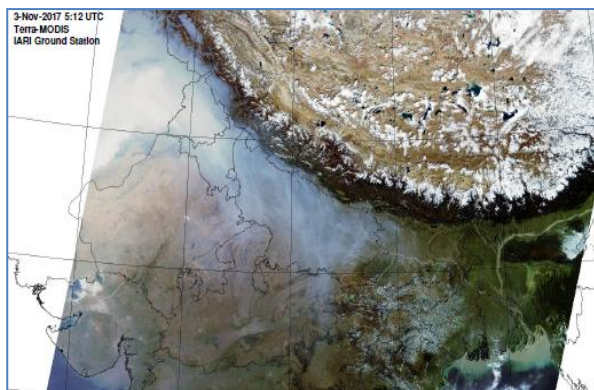
Bulletin No. 2

Events Date:
02-Oct-2018

Issued on:
03-Oct-2018



MONITORING PADDY RESIDUE BURNING IN NORTH INDIA USING SATELLITE REMOTE SENSING DURING 2018



Prepared by:

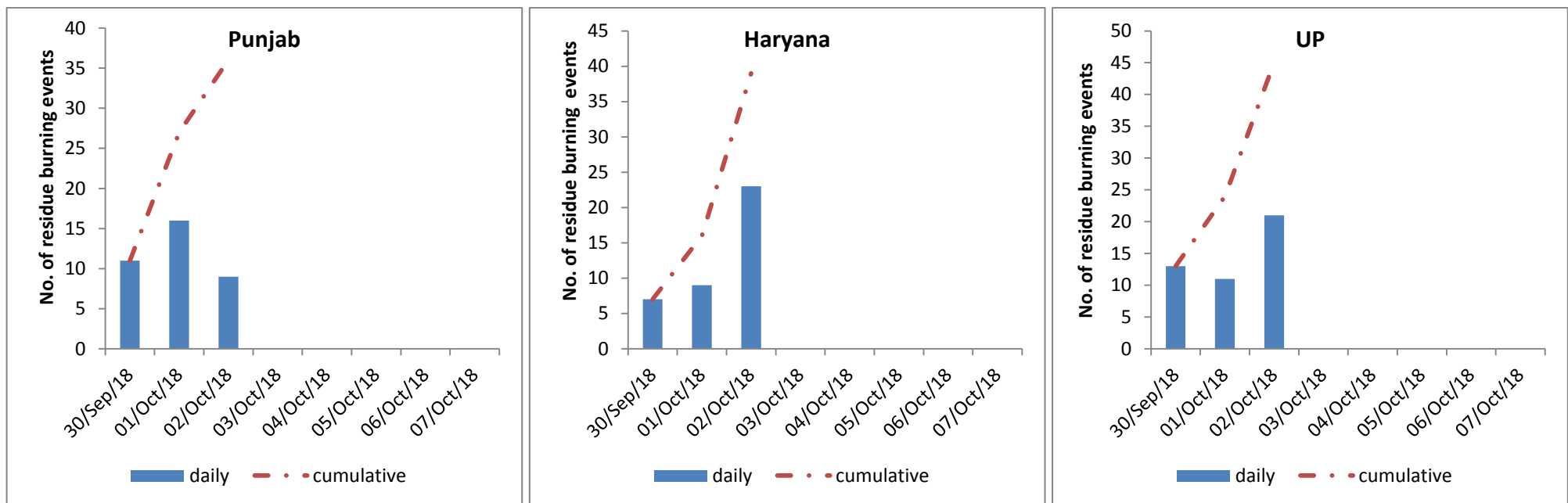
Consortium for Research on Agroecosystem Monitoring and Modeling from Space (CREAMS) Laboratory,
Division of Agricultural Physics, ICAR – Indian Agricultural Research Institute, New Delhi – 110012

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

Highlights for 02-October-2018

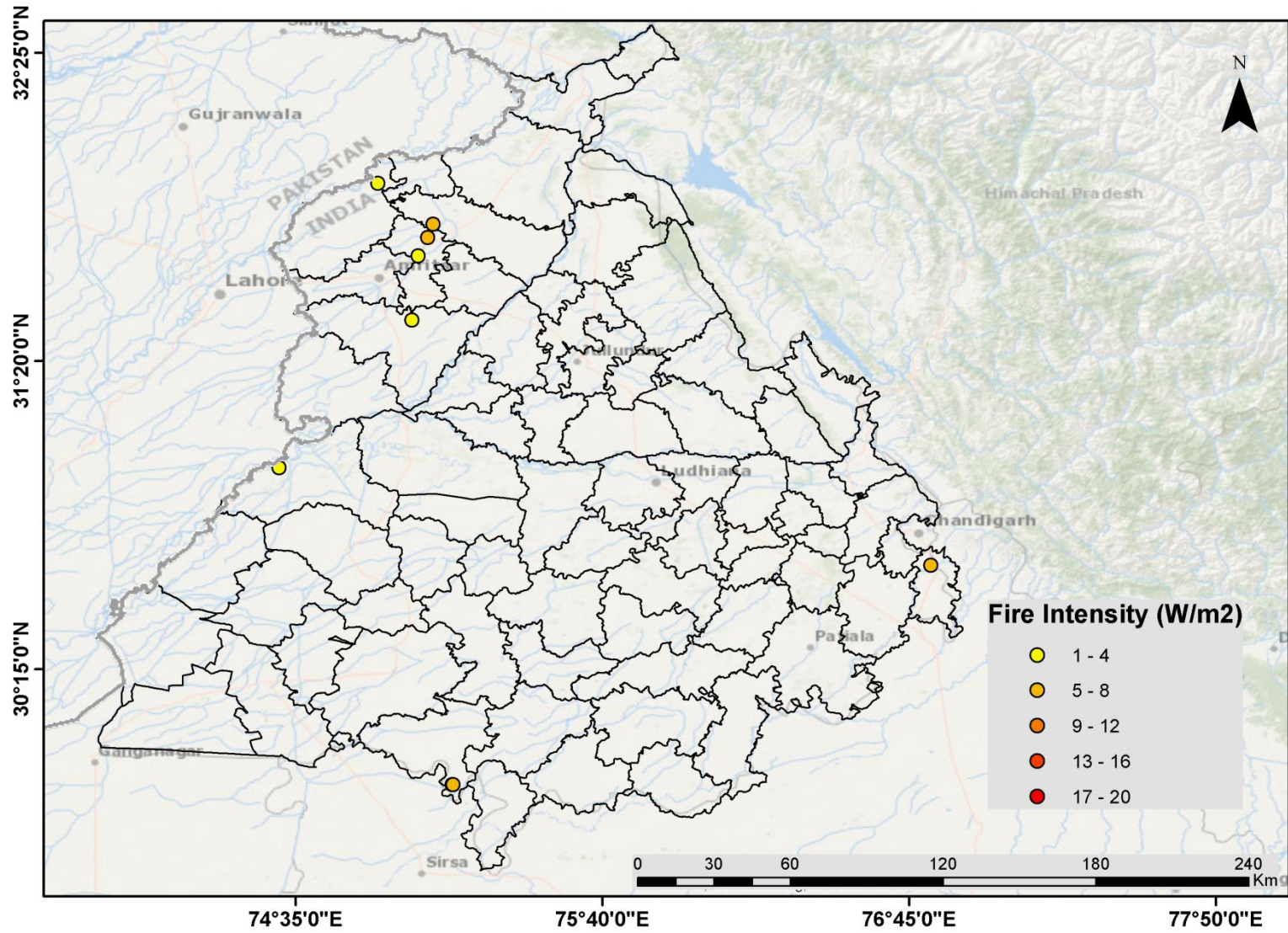
- Satellites detected 53 residue burning events in the three study States on 02-Oct-2018.
- Most of the day was cloud free in the three study States, so the confidence in event detection is high.
- Amritsar in Punjab, Karnal and Kurukshetra in Haryana, and Shahjahanpur in UP have accounted for the most of the burning events till date.
- Overall, the residue burning/fire events are very few till date in the three study States being monitored.

Temporal distribution of residue burning events for the three study States



(a) Punjab

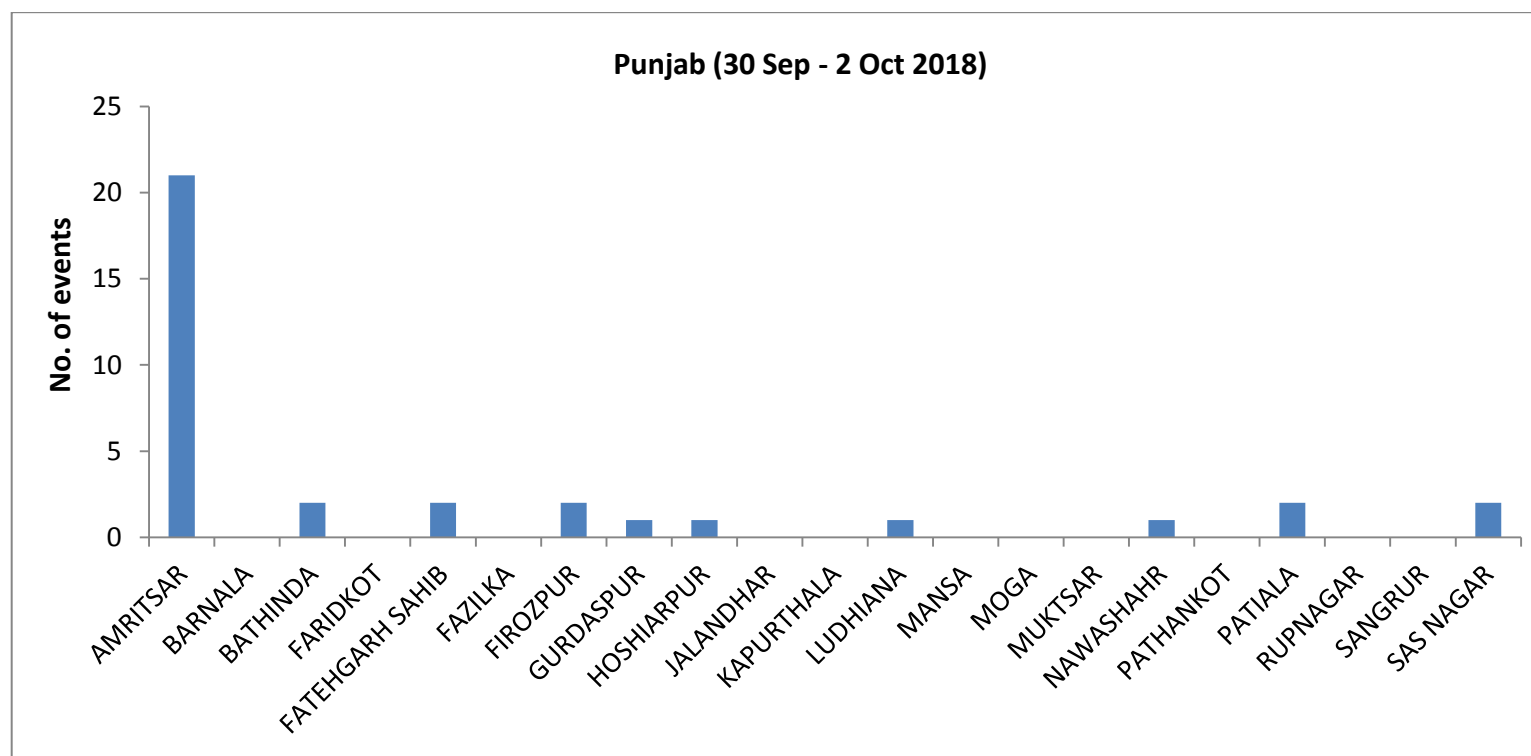
Paddy Residue Burning in Punjab on 2nd Oct 2018



Details of residue burning events in Punjab on 02-Oct-2018

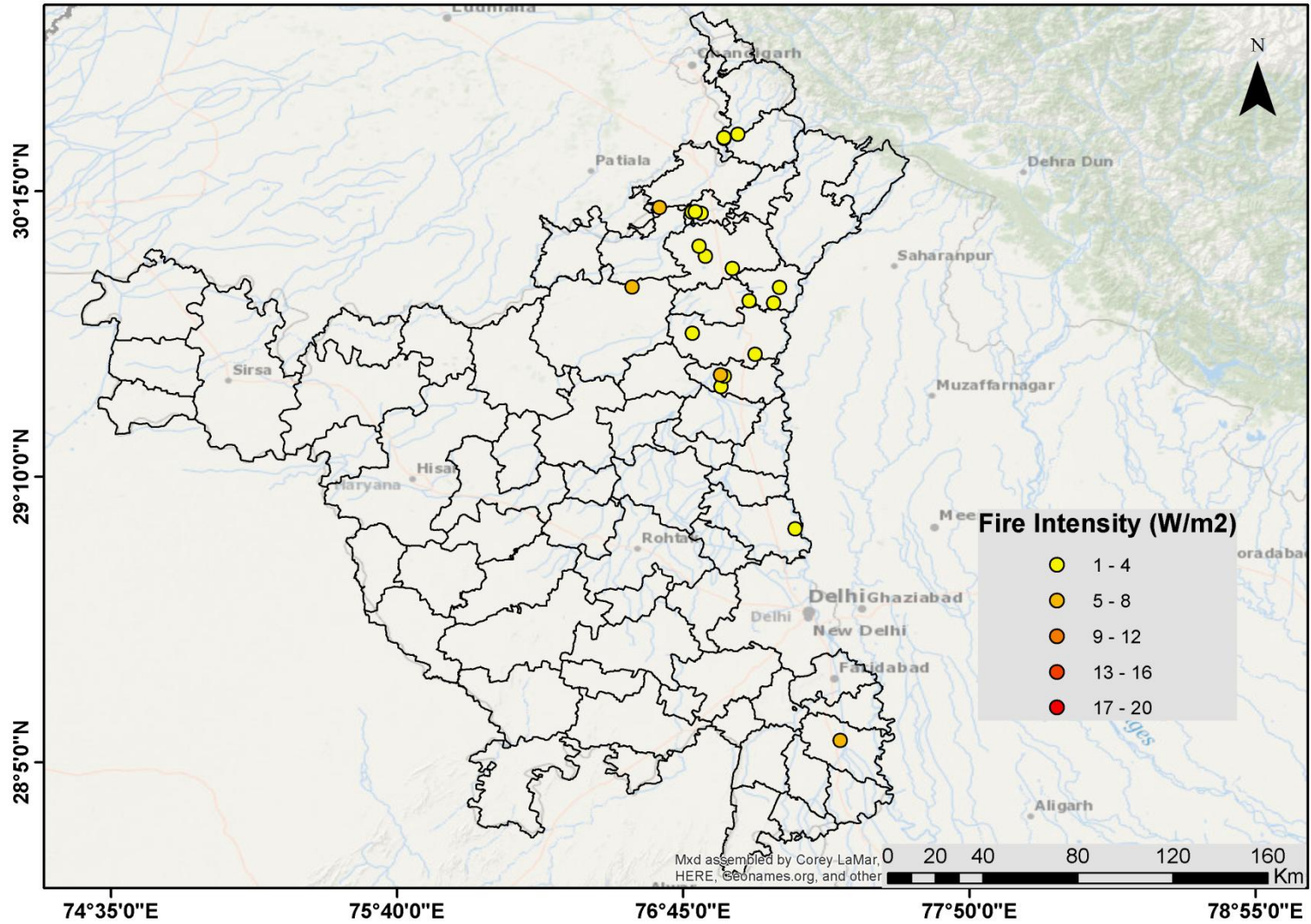
Event S. No.	District	Block	Satellite	Longitude	Latitude	Time (IST)	Day / Night	Fire Power (W/m ²)
1	BATHINDA	TALWANDI SABO	S-NPP	75.136	29.843	13:18:00	D	4.00
2	BATHINDA	TALWANDI SABO	S-NPP	75.138	29.843	13:18:00	D	4.10
3	SAS NAGAR	DERABASSI	S-NPP	76.826	30.615	13:18:00	D	5.20
4	FIROZPUR	FIROZPUR	S-NPP	74.525	30.958	13:18:00	D	3.00
5	TARN TARAN	KHADOOR SAHIB	S-NPP	74.993	31.477	13:18:00	D	4.00
6	AMRITSAR	AMRITSAR II	S-NPP	75.016	31.703	13:18:00	D	3.70
7	AMRITSAR	AMRITSAR I	S-NPP	75.049	31.768	13:18:00	D	6.30
8	AMRITSAR	AJNALA	S-NPP	74.873	31.958	13:18:00	D	1.70
9	GURDASPUR	BATALA	S-NPP	75.068	31.814	13:18:00	D	4.70

District-wise cumulative number of residue burning events in Punjab (30-Sep-2018 to 02-Oct-2018)



(b) Haryana

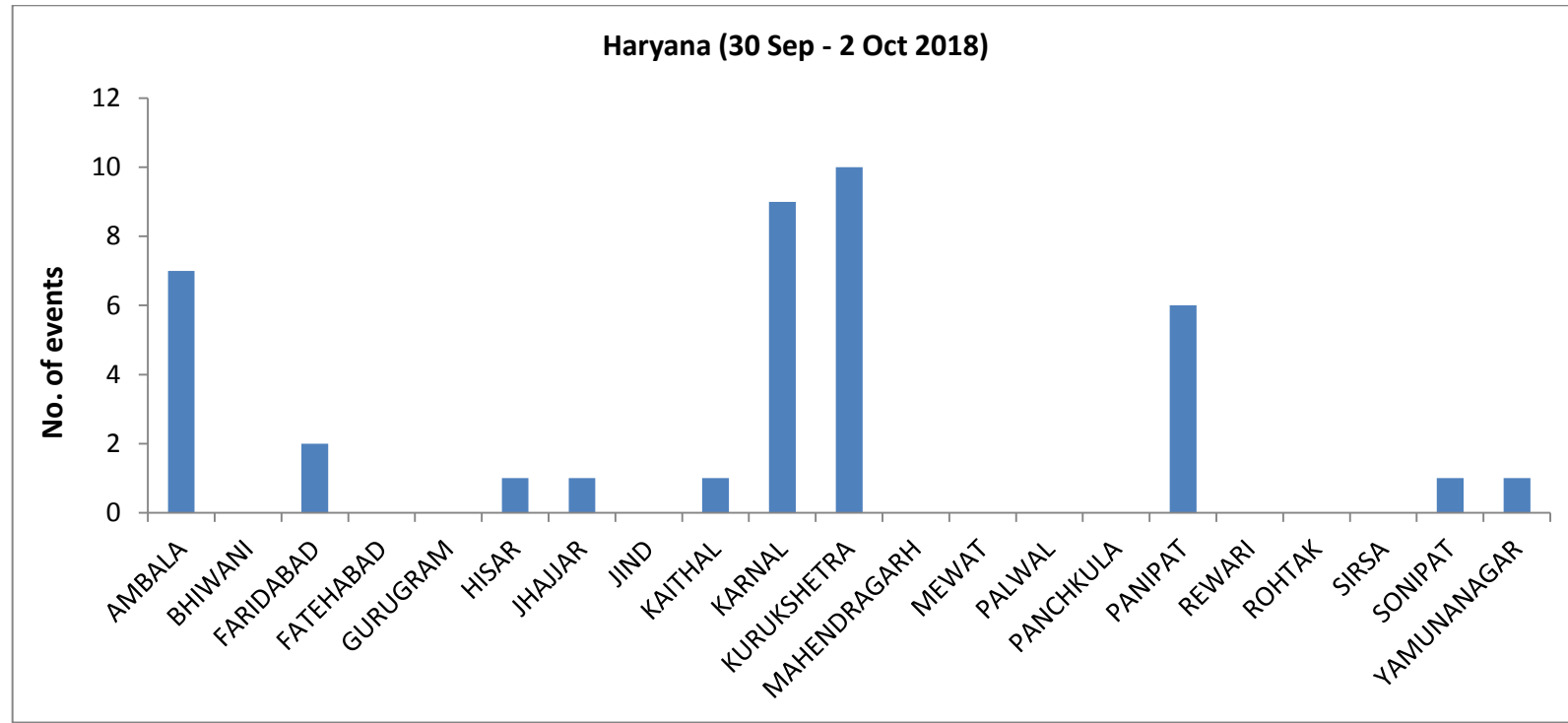
Paddy Residue Burning in Haryana on 2nd Oct 2018



Details of residue burning events in Haryana on 02-Oct-2018

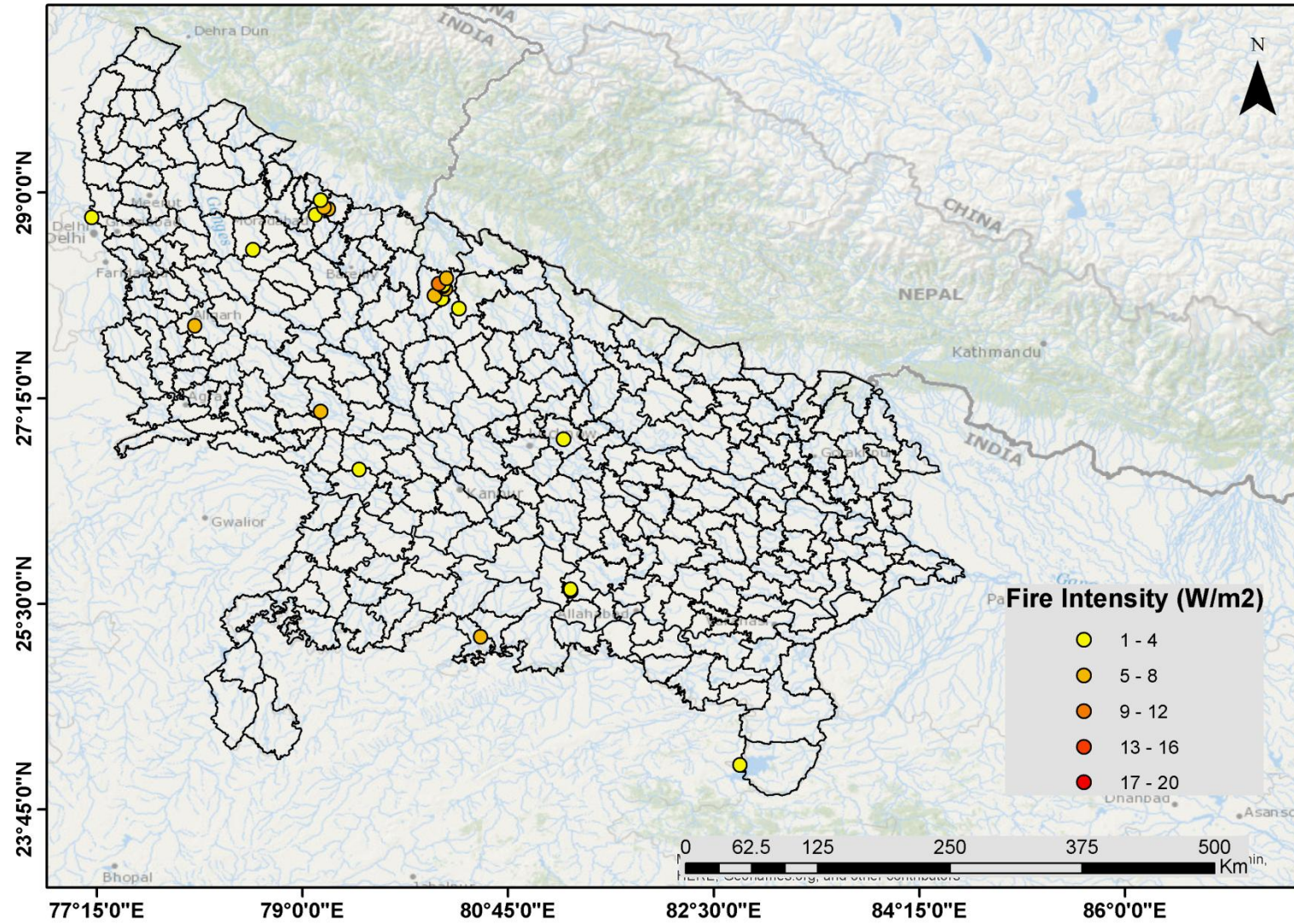
Event S. No.	District	Block	Satellite	Longitude	Latitude	Time (IST)	Day / Night	Fire Power (W/m²)
1	FARIDABAD	PALWAL	S-NPP	77.344	28.166	13:18:00	D	5.80
2	JHAJJAR	BAHADURGARH	S-NPP	76.896	28.753	02:00:00	N	0.60
3	SONIPAT	SONIPAT	S-NPP	77.173	28.968	13:18:00	D	3.30
4	PANIPAT	PANIPAT	S-NPP	76.857	29.476	02:00:00	N	1.60
5	KARNAL	GHARAUNDA	S-NPP	76.893	29.507	13:18:00	D	2.90
6	KARNAL	GHARAUNDA	S-NPP	76.905	29.548	13:18:00	D	2.40
7	KARNAL	GHARAUNDA	S-NPP	76.891	29.552	13:18:00	D	5.30
8	KARNAL	KARNAL	S-NPP	77.023	29.631	13:18:00	D	2.50
9	KARNAL	KARNAL	S-NPP	76.784	29.710	13:18:00	D	3.10
10	KARNAL	INDRI	S-NPP	77.093	29.824	13:18:00	D	1.90
11	KARNAL	INDRI	S-NPP	77.000	29.834	13:18:00	D	3.40
12	KARNAL	INDRI	S-NPP	77.115	29.885	13:18:00	D	2.70
13	KAITHAL	KAITHAL	S-NPP	76.557	29.885	13:18:00	D	4.60
14	KURUKSHETRA	THANESAR	S-NPP	76.936	29.956	13:18:00	D	4.00
15	KURUKSHETRA	THANESAR	S-NPP	76.835	30.002	13:18:00	D	3.60
16	KURUKSHETRA	THANESAR	S-NPP	76.810	30.041	13:18:00	D	2.80
17	KURUKSHETRA	SHAHABAD	S-NPP	76.818	30.165	13:18:00	D	3.80
18	KURUKSHETRA	SHAHABAD	S-NPP	76.782	30.169	13:18:00	D	2.20
19	KURUKSHETRA	SHAHABAD	S-NPP	76.795	30.171	13:18:00	D	2.20
20	AMBALA	AMBALA	S-NPP	76.660	30.187	13:18:00	D	4.40
21	AMBALA	NARAYANGARH	S-NPP	76.904	30.449	13:18:00	D	3.10
22	AMBALA	NARAYANGARH	S-NPP	76.904	30.452	13:18:00	D	3.00
23	AMBALA	NARAYANGARH	S-NPP	76.957	30.465	13:18:00	D	2.40

District-wise cumulative number of residue burning events in Haryana (30-Sep-2018 to 02-Oct-2018)



(c) Uttar Pradesh

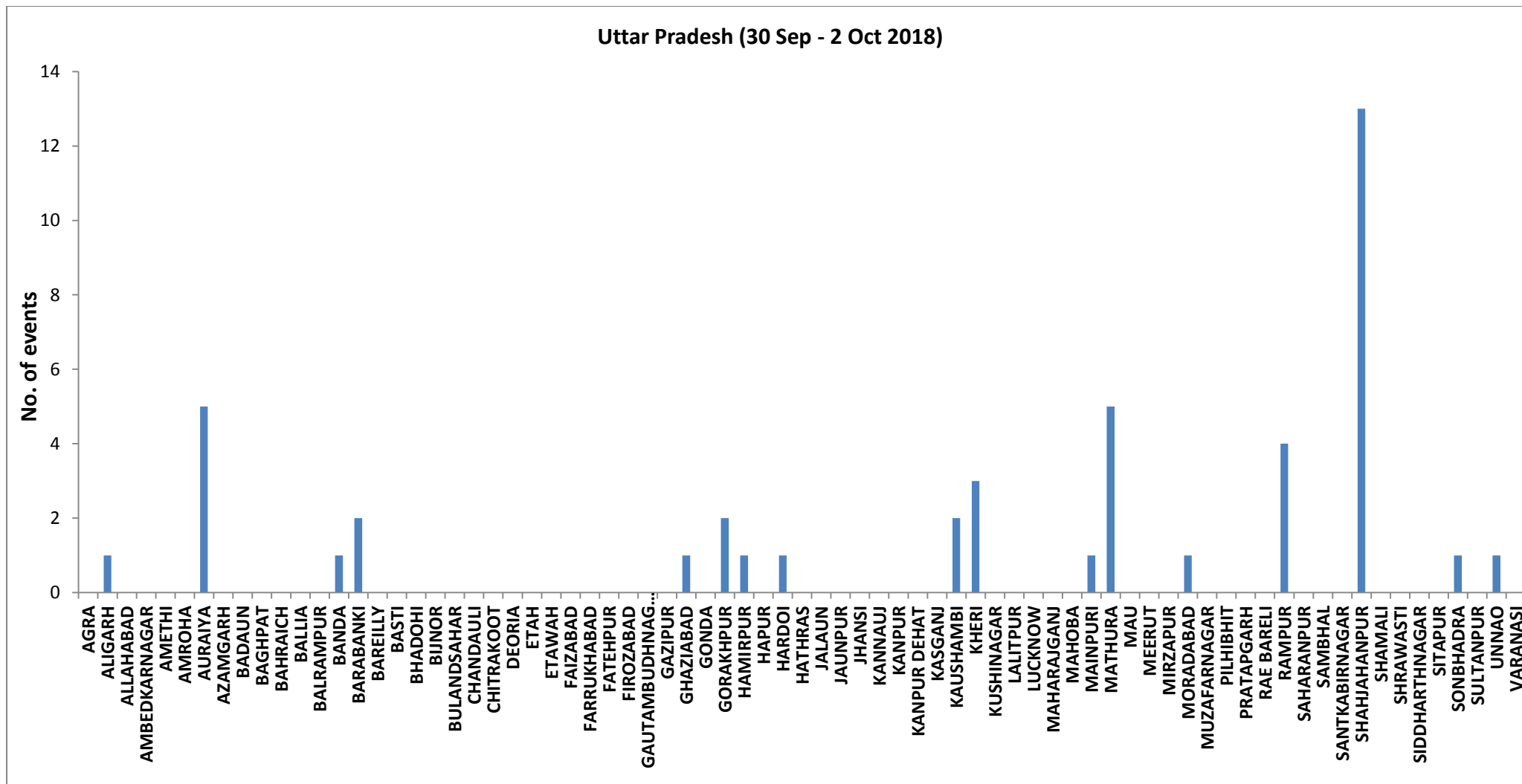
Paddy Residue Burning in Uttar Pradesh on 2nd Oct 2018



Details of residue burning events in Uttar Pradesh on 02-Oct-2018

Event S. No.	District	Block	Satellite	Longitude	Latitude	Time (IST)	Day / Night	Fire Power (W/m²)
1	BANDA	NARAINI	METOP-2	80.515	25.222	21:07:00	N	6.00
2	KAUSHAMBI	SIRATHU	S-NPP	81.284	25.611	13:18:00	D	1.80
3	KAUSHAMBI	SIRATHU	S-NPP	81.281	25.624	13:18:00	D	2.60
4	AURAIYA	BIDHUNA	S-NPP	79.481	26.644	02:00:00	N	1.70
5	BARABANKI	NAWABGANJ	S-NPP	81.222	26.902	13:18:00	D	0.90
6	MAINPURI	BHOGAON	S-NPP	79.153	27.139	13:18:00	D	4.90
7	ALIGARH	KOL	METOP-2	78.085	27.868	21:07:00	N	6.00
8	KHERI	MOHMADI	S-NPP	80.329	28.016	13:18:00	D	3.80
9	SHAHJAHANPUR	PUWANYA	S-NPP	80.185	28.096	13:18:00	D	2.30
10	SHAHJAHANPUR	PUWANYA	S-NPP	80.124	28.124	13:18:00	D	4.40
11	SHAHJAHANPUR	PUWANYA	S-NPP	80.214	28.181	13:18:00	D	6.60
12	SHAHJAHANPUR	PUWANYA	S-NPP	80.194	28.202	13:18:00	D	1.70
13	SHAHJAHANPUR	PUWANYA	S-NPP	80.196	28.213	13:18:00	D	2.30
14	SHAHJAHANPUR	PUWANYA	S-NPP	80.158	28.224	13:18:00	D	8.10
15	SHAHJAHANPUR	PUWANYA	S-NPP	80.226	28.272	13:18:00	D	4.10
16	MORADABAD	SAMBHAL	S-NPP	78.580	28.513	13:18:00	D	2.80
17	GHAZIABAD	GHAZIABAD	S-NPP	77.208	28.790	02:00:00	N	0.80
18	RAMPUR	RAMPUR	S-NPP	79.111	28.812	13:18:00	D	1.80
19	RAMPUR	BILASPUR	S-NPP	79.222	28.863	13:18:00	D	6.00
20	RAMPUR	SUAR	S-NPP	79.183	28.877	13:18:00	D	4.10
21	RAMPUR	SUAR	S-NPP	79.152	28.937	13:18:00	D	1.90

District-wise cumulative number of residue burning events in Uttar Pradesh (30-Sep-2018 to 02-Oct-2018)



The study used images received from following Satellites at IARI Satellite Ground Station

S. No.	Satellite Name	Sensor	Resolution (meter)	Day / Night Passes
1.	Suomi NPP	VIIRS	375 / 1000	Both
2.	Terra	MODIS	1000	Both
3.	Aqua	MODIS	1000	Both
4.	NOAA – 18	AVHRR	1000	Night
5.	NOAA – 19	AVHRR	1000	Night
6.	Metop - 1	AVHRR	1000	Night
7.	Metop - 2	AVHRR	1000	Night

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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/>
