



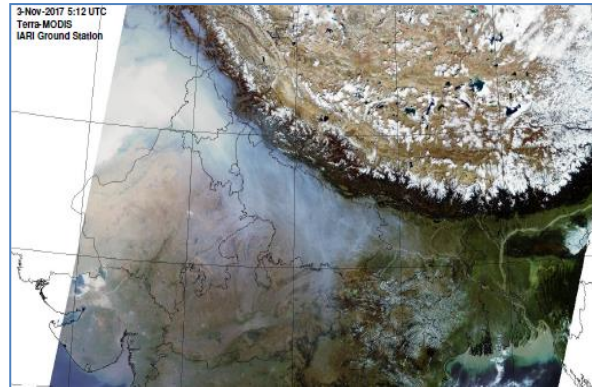
Bulletin No. 4

Events Date:
18-Sep-2021

Issued on:
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MONITORING PADDY RESIDUE BURNING IN INDIA USING SATELLITE REMOTE SENSING DURING 2021



Prepared by:

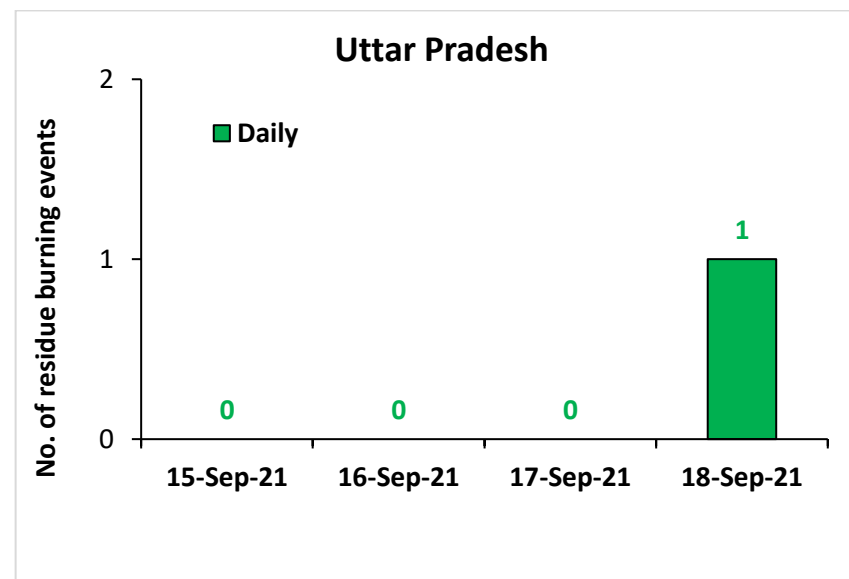
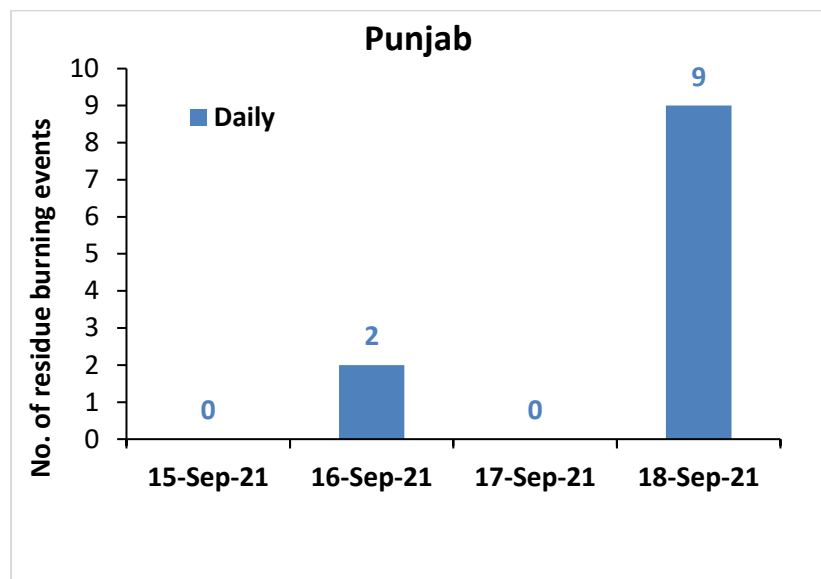
Consortium for Research on Agroecosystem Monitoring and Modeling from Space (CREAMS) Laboratory,
Division of Agricultural Physics, ICAR – Indian Agricultural Research Institute, New Delhi – 110012

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

Highlights for 18-September-2021

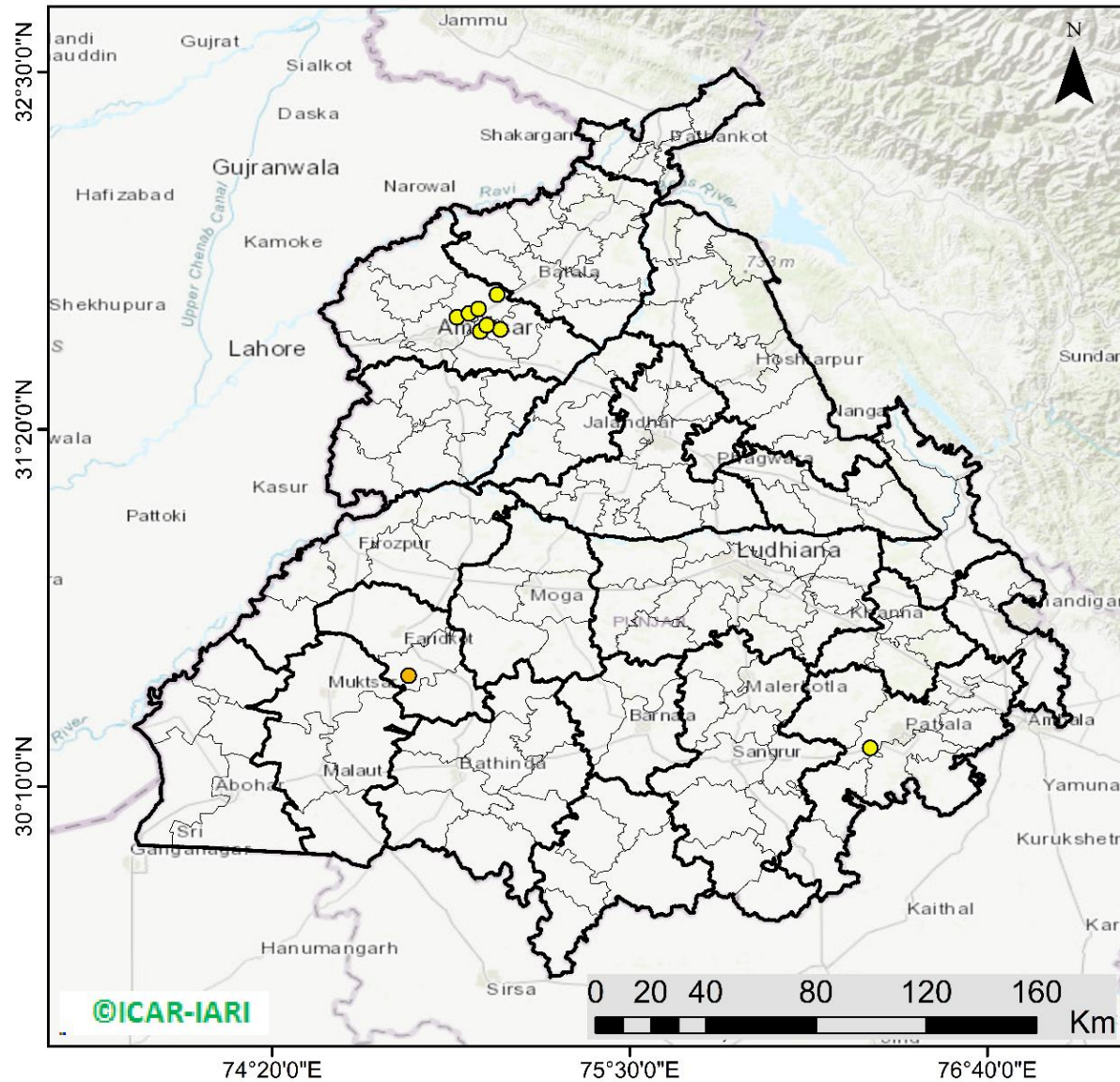
- The active fire events due to rice residue burning were monitored using satellite remote sensing, following the new "Standard Protocol for Estimation of Crop Residue Burning Fire Events using Satellite Data".
- Satellites detected **10** residue burning events in the six study States on 18-Sep-2021.
- The state wise events detected on 18-Sep-2021 were **9** in Punjab, **0** in Haryana, **1** in UP, **0** in Delhi, **0** in Rajasthan and **0** in MP.
- Detection of burning events by satellites was hampered due to cloud cover over Uttar Pradesh, Madhya Pradesh, Southern Haryana and Eastern Rajasthan.

Temporal distribution of rice residue burning events for the study States in 2021



(a) Punjab

RICE RESIDUE BURNING IN PUNJAB



09 burning events detected in Punjab on 18th September 2021

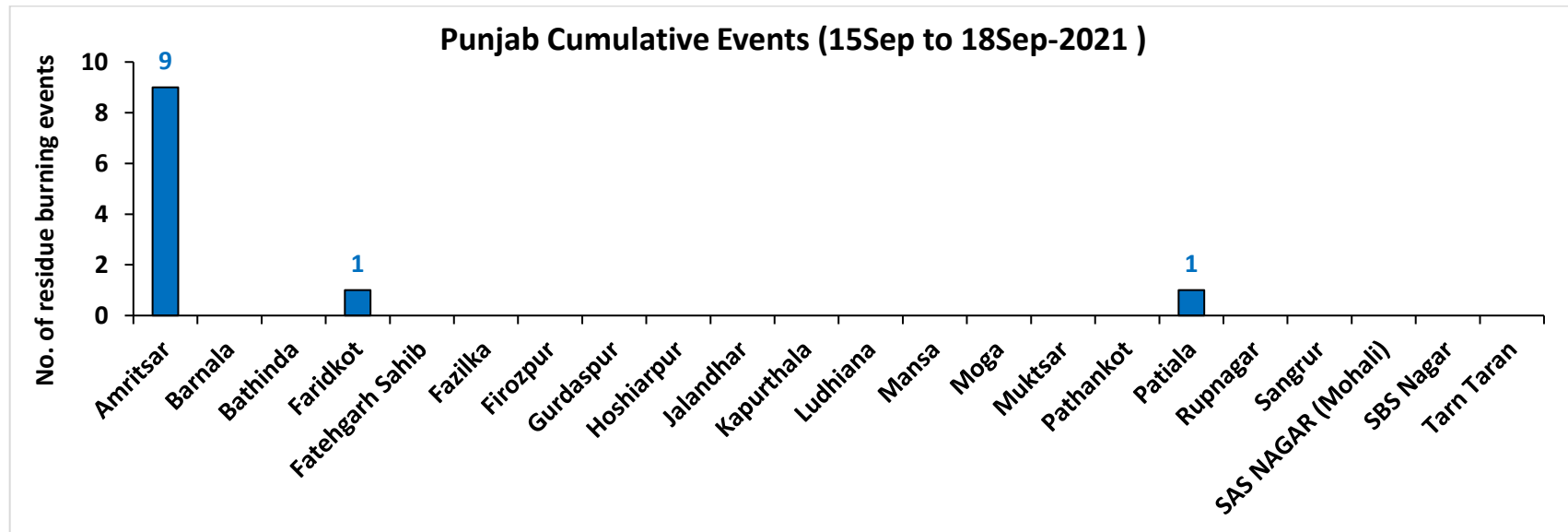
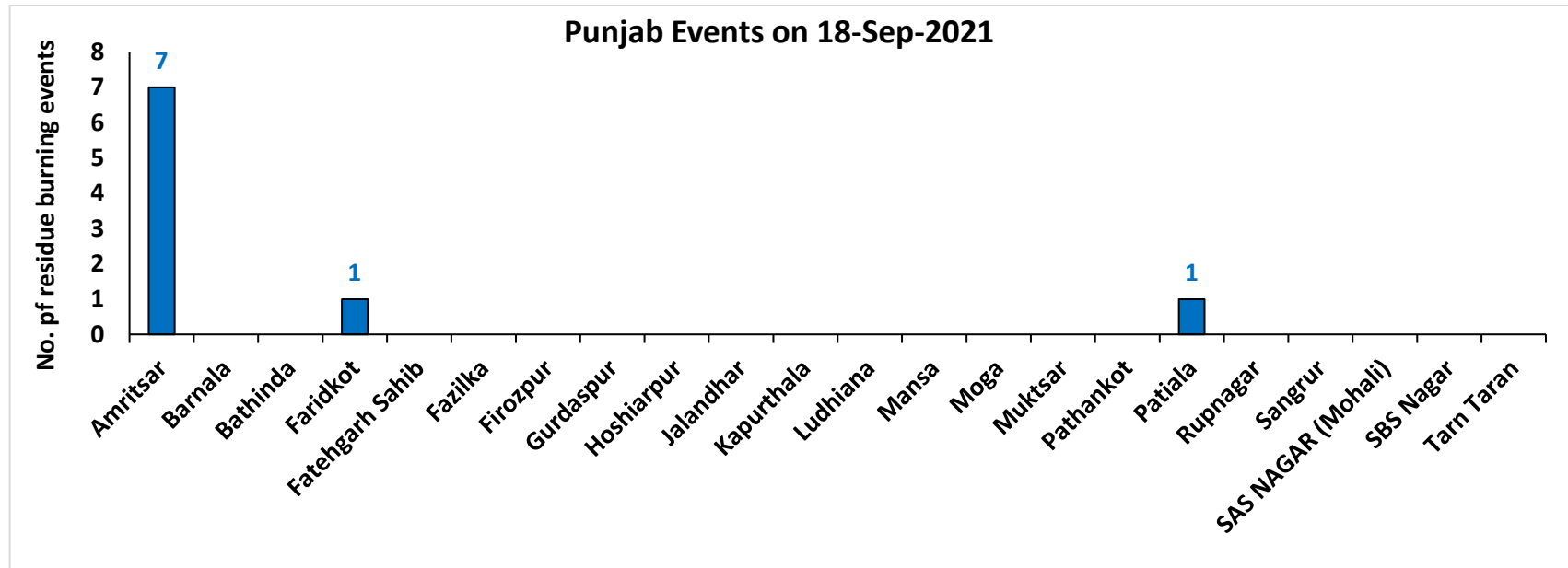
Fire Intensity (W/m²)

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



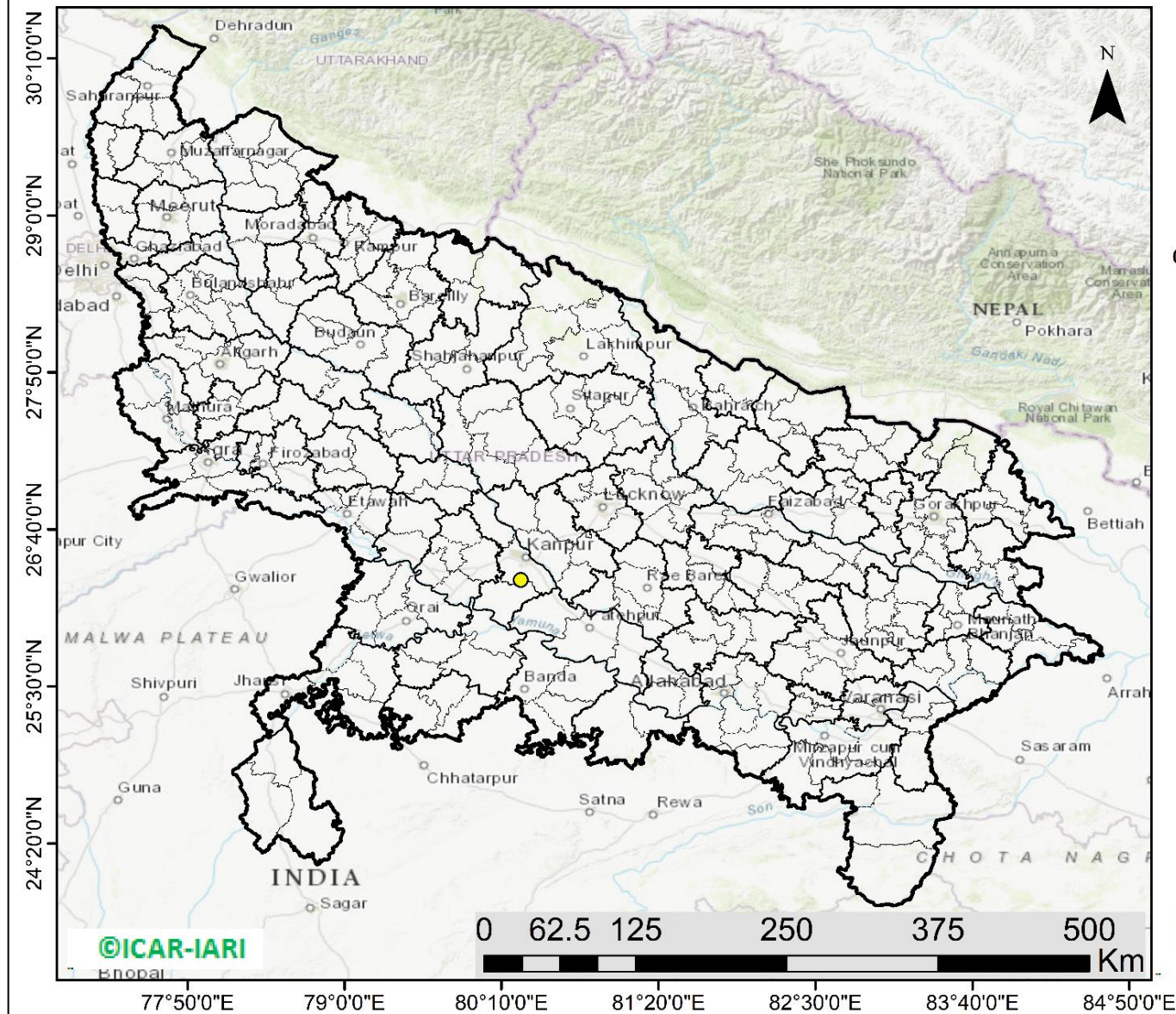
<http://geoportal.icar.gov.in:8080/geoexplorer/composer/>

District-wise number of residue burning events in Punjab (18-Sep-2021)



(b) Uttar Pradesh

RICE RESIDUE BURNING IN UTTAR PRADESH



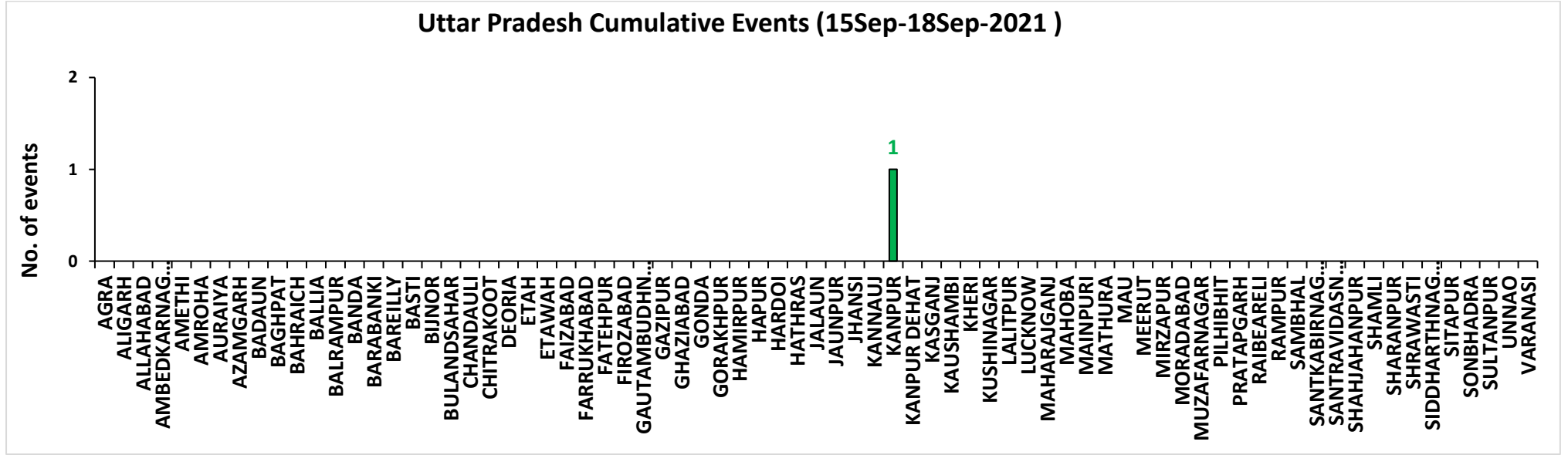
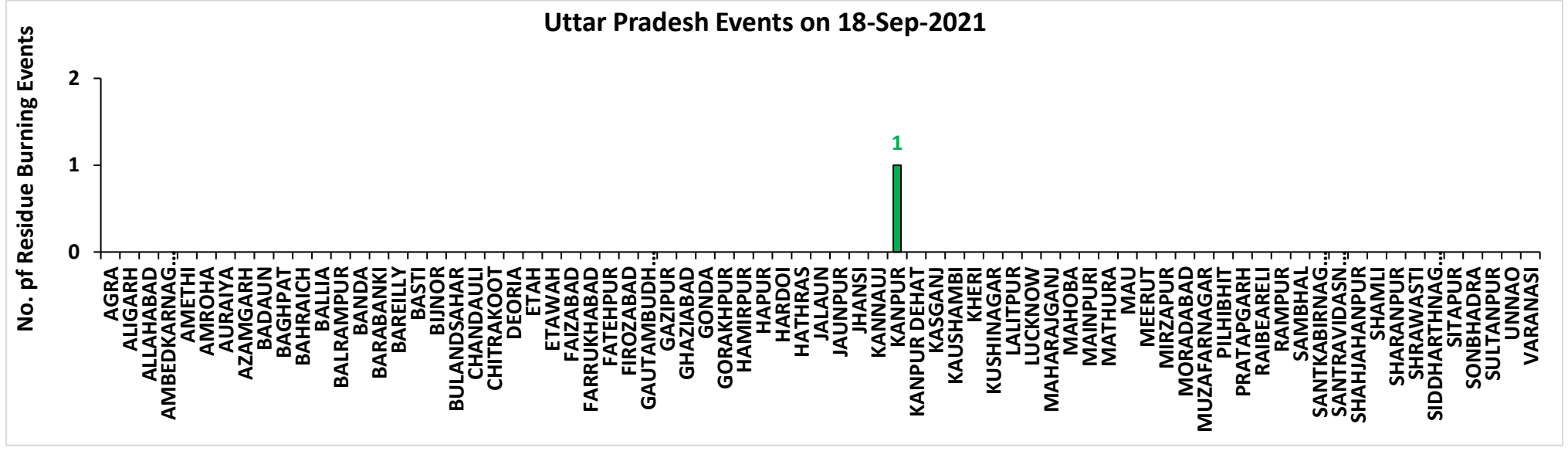
01 burning events detected in Uttar Pradesh on 18th September 2021

Fire Intensity (W/m²)

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

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

District-wise number of residues burning events in Uttar Pradesh (18-Sep-2021)



State-wise and date-wise number of rice residue burning events detected in 2020 and 2021
(Period: 15 - 18 September)

Number of Rice Residue Burning Events Detected												
	Punjab		Haryana		Uttar Pradesh		Delhi		Rajasthan		Madhya Pradesh	
	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021
15-Sep	6	0	1	0	0	0	0	0	1	0	4	0
16-Sep	0	2	2	0	0	0	0	0	0	0	1	0
17-Sep	4	0	4	0	0	0	0	0	0	0	0	0
18-Sep	18	9	0	0	0	1	0	0	1	0	0	0
Total	28	11	7	0	0	1	0	0	2	0	5	0

Details of residue burning events in Punjab on 18-Sep-2021

S. No.	District	Block	Satellite	Latitude	Longitude	ACQ_DATE	ACQ_TIME	Day/Night	Fire Power (W/m2)
1	AMRITSAR	JANDIALA GURU	S-NPP	31.65240	75.01240	9/18/2021	13:29:05	D	4.30
2	AMRITSAR	MAJITHA	S-NPP	31.71130	74.97510	9/18/2021	13:29:05	D	3.10
3	AMRITSAR	MAJITHA	S-NPP	31.72600	75.00580	9/18/2021	13:29:05	D	2.00
4	AMRITSAR	MAJITHA	S-NPP	31.77280	75.06680	9/18/2021	13:29:05	D	4.10
5	AMRITSAR	TARSIKKA	S-NPP	31.65900	75.07760	9/18/2021	13:29:05	D	2.00
6	AMRITSAR	TARSIKKA	S-NPP	31.67260	75.03310	9/18/2021	13:29:05	D	2.20
7	AMRITSAR	VERKA	S-NPP	31.69860	74.93620	9/18/2021	13:29:05	D	2.20
8	FARIDKOT	KOT KAPURA	S-NPP	30.52800	74.77840	9/18/2021	13:29:05	D	5.40
9	PATIALA	PATIALA	S-NPP	30.29190	76.28470	9/18/2021	13:29:05	D	1.80

Details of residue burning events in Uttar Pradesh on 18-Sep-2021

S. No.	District	Block	Satellite	Latitude	Longitude	ACQ_DATE	ACQ_TIME	Day/Night	Fire Power (W/m2)
1	KANPUR	KANPUR NAGAR	S-NPP	26.28920	80.31010	9/18/2021	2:19:05	N	1.60

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

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)
