



**INDIA METEOROLOGICAL DEPARTMENT**

# **DISASTROUS WEATHER EVENTS 2020**



**ISSUED BY  
CLIMATE RESEARCH & SERVICES  
PUNE - 411005**

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NDRF, Fire and Rescue personnel engaged in rescue operations. (Photo | Express)



भारत सरकार

GOVERNMENT OF INDIA

भारत मौसम विज्ञान विभाग

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## विपदाकारी मौसम घटनाएँ – 2020

**2020 की सबसे चित्तग्राही विपदाकारी मौसम घटनाएँ इस प्रकार थे :**

- मेघ विद्युत से देश में 652 लोगों की मृत्यु हुई, जिसमें से, 278 ओड़िशा से, 98 बिहार से, 77 उत्तर प्रदेश से, 72 मध्य प्रदेश से हुई हैं। इसके अलावा, अन्य विपदाकारी घटना गर्ज के साथ तूफान से पूर्व और उत्तरपूर्व, मध्य और दक्षिण प्रायद्वीपीय भारत के कुछ हिस्सों से 506 लोगों की मृत्यु हुई, जिसमें से, 186 बिहार से, 167 उत्तर प्रदेश से और 126 झारखंड से हैं।
- शीत लहर की स्थिति मुख्य रूप से देश के पूर्वी और उत्तरी भागों में विशेषतः जनवरी के पहले सप्ताह में बनी रही और इससे लगभग 160 लोगों की मृत्यु हुई। जिनमें से, 88 लोगों की मृत्यु उत्तर प्रदेश से हुई, लेकिन इनमें से 82 लोगों की मृत्यु केवल 1 से 3 जनवरी के दौरान हुई। जबकि, बिहार से 54 लोगों की मृत्यु हुई, जिनमें से एक जनवरी को एकही दिन में 45 लोगों की मृत्यु हुई और जनवरी के पहले सप्ताह के दौरान झारखण्ड में 16 लोगों की मृत्यु हुई।
- वर्ष 2020 के दौरान बाढ़ तथा भारी वर्षा संबंधित घटनाओं के कारण 990 से अधिक लोगों की मृत्यु हुई। हालाँकि, 2020 की ग्रीष्मकालीन मॉनसून के दौरान, 790 से अधिक लोगों की मृत्यु हुई, जिनमें से 142 से पश्चिम बंगाल से, असम से 119, गुजरात से 104, कर्नाटक से 99, केरल से 77 [विशेष रूप से, 6 अगस्त को केरल के पेट्टीमुडी, मुन्नार, इडुक्की जिले से भूस्खलन के कारण एक ही दिन में 65 लोगों की मृत्यु हुई।], और बिहार से 54 लोगों की मृत्यु हुई। जबकि, मानसून पश्चात मौसम 2020 के दौरान, 120 से अधिक लोगों की मृत्यु हुई, जिनमें, 1 से 20 अक्टूबर के दौरान तेलंगाना से 61 लोगों की मृत्यु हुई और महाराष्ट्र से 40 लोगों की मृत्यु हुई। और इसके अलावा अधिक संख्या में पशुधन हानि (66 लाखों से अधिक) एवं कृषि तथा निजी / सार्वजनिक सम्पत्तियों को व्यापक नुकसान हुआ।
- महा चक्रवाती तूफान “अम्फान” (16 से 21 मई), दक्षिणपूर्व बंगाल की खाड़ी (बीओबी) में अक्षांश 10.9 उ. / देशान्तर 86.3 पू. 1200 यू.टी.सी को 16 मई को विकसित हुआ। 20 मई को 1000-1200 यू.टी.सी के दौरान अक्षांश 21.65 उ. और देशान्तर 88.3 पू. पश्चिम बंगाल-बांग्लादेश तट को सुंदरबन के पास एक अति प्रचंड / बहुत गंभीर चक्रवाती तूफान के रूप में पार किया और 21 मई को उत्तरी बांग्लादेश और पड़ोस के क्षेत्र में 1800 यू.टी.सी को कमजोर हो गया। ओड़िशा और पश्चिम बंगाल में 83 लोगों की मृत्यु हुई और ओड़िशा में 4000 पशुधन कुक्कुट पक्षी समेत मारे गए।
- अति प्रचंड / बहुत गंभीर चक्रवाती तूफान “निवार” (22 से 27 नवंबर), दक्षिण-पश्चिम बंगाल की खाड़ी (बीओबी) में अक्षांश 10.0 उ. / देशान्तर 86.0 पू. 0000 यू.टी.सी को 24 नवंबर को विकसित हुआ। 25 नवंबर को 1800-2100 यू.टी.सी के दौरान अक्षांश 12.1 उ. और देशान्तर 79.9 पू.

पुडुचेरी के निकट तमिलनाडु और पुडुचेरी तट को एक अति प्रचंड / बहुत गंभीर चक्रवाती तूफान के रूप में पार किया और 27 नवंबर की सुबह (0000 यू.टी.सी) को दक्षिण तटीय आंध्र प्रदेश और ऊससे संलग्न पश्चिम मध्य बंगाल की खाड़ी के क्षेत्र में को कमजोर हो गया । तमिलनाडु, आंध्र प्रदेश में 14 लोगों की मृत्यु हुई । इसके साथ साथ आंध्र प्रदेश में छोटे जानवर, बड़े जानवर और कुक्कुट पक्षियों सहित 10,836 पशुधन मारे गए ।

- प्रचंड / गंभीर चक्रवाती तूफान “निसर्ग” (1 से 4 जून), अरब सागर में अक्षांश 15.6 उ. / देशान्तर 71.2 पू. 0600 यू.टी.सी को 2 जून को विकसित हुआ । 3 जून को 0700-0900 यू.टी.सी के बीच अक्षांश 18.35 उ. और देशान्तर 72.95 पू. दक्षिण अलिबाग के निकट महाराष्ट्र तट को एक प्रचंड / गंभीर चक्रवाती तूफान के रूप में पार किया और 4 जून को मध्य प्रदेश के मध्य भागों के क्षेत्र में 1200 यू.टी.सी को कमजोर हो गया । महाराष्ट्र में 6 लोगों की मृत्यु हुई और 2000 पशुधन मारे गए ।

- चक्रवाती तूफान “बुरेवी” (30 नवंबर से 5 दिसंबर), दक्षिण-पश्चिम बंगाल की खाड़ी (बीओबी) में अक्षांश 7.9 उ. / देशान्तर 84.8 पू. 1200 यू.टी.सी को 1 दिसंबर को विकसित हुआ । 2 दिसंबर को 1700-1800 यू.टी.सी के दौरान अक्षांश 8.85 उ. और देशान्तर 81.0 पू. उत्तर त्रिंकोमलि के निकट श्रीलंका के तट को एक चक्रवाती तूफान के रूप में पार किया और श्रीलंका के उत्तरी भागों में घूमते हुए, यह सुबह मन्नार की खाड़ी में उभरा और 3 दिसंबर की दोपहर के आसपास 0600 यू.टी.सी को पंबन के करीब केंद्रित रहा और फिर यह 3 दिसंबर को 0800 यू.टी.सी के दौरान अक्षांश 9.20 उ. और देशान्तर 79.35 पू. पंबन क्षेत्र के पास एक चक्रवाती तूफान के रूप में पार किया । 5 दिसंबर को 0600 यू.टी.सी को तमिलनाडु के रामनाथपुरम जिले के निकट मन्नार की खाड़ी के ऊपर एक सुस्पष्ट निम्न दबाव के क्षेत्र में कमजोर हो गया । तमिलनाडु में 9 लोगों की मृत्यु हुई और 200 से अधिक पशुधन मारे गए ।

इन प्राकृतिक आपदाओं का सारांश प्रेस तथा भारत मौसम विज्ञान विभाग के विविध विवरणों की सूचनाओं पर आधारित हैं । प्रतिकूल मौसम स्थितियों से प्रभावित क्षेत्रों को ऋतुवार चार मानचित्रों में दर्शाया गया है ।

## DISASTROUS WEATHER EVENTS OF 2020

The most striking disastrous weather events of 2020 were the following:

- Lightning claimed 652 human lives from the country, of which, 278 deaths reported from Odisha, 98 from Bihar, 77 from Uttar Pradesh, 72 from Madhya Pradesh. Also, the other devastating event Thunderstorm which claimed 506 human lives from the parts of east & northeast, central and south peninsular india, of which, 186 reported from Bihar, 167 from Uttar Pradesh & 126 from Jharkhand.
- Cold Wave conditions mainly prevailed over east & northern parts of the country especially in the first week of January and claimed human lives of about 160. Of which 88 lives claimed from Uttar Pradesh but of these 82 lives claimed during 1<sup>st</sup> to 3<sup>rd</sup> January only. While, 54 lives claimed from Bihar, of which 45 deaths claimed on single day 1<sup>st</sup> January & 16 lives claimed from Jharkhand during 1<sup>st</sup> week of January.
- During the year 2020, Heavy rain & flood related incidences claimed more than 990 human lives. However, during summer monsoon of 2020, it claimed more than 790 human lives, of which 142 from West Bengal, 119 from Assam, 104 from Gujarat, 99 from Karnataka, 77 from Kerala [Specifically, 65 human lives claimed in a single day from Petimudi, Munnar, Idukki district of Kerala on 6<sup>th</sup> August due to landslide], & 54 from Bihar. While, during post monsoon season 2020, it calimed more than 120 human lives, of which 61 from Telangana during 1<sup>st</sup> to 20<sup>th</sup> October & 40 from Maharashtra. Apart from the loss of human lives, large number of livestock (more than 66 lakhs) perished and also extensive damage to agriculture and public/private property reported.
- A Super Cyclonic Storm “AMPHAN” (16 to 21 May) formed over southeast Bay of Bengal near Lat. 10.9<sup>o</sup>N / Long. 86.3<sup>o</sup>E at 1200 UTC of 16<sup>th</sup> May, crossed West Bengal-Bangladesh coasts as a very severe cyclonic storm across Sundarbans, near Lat.21.65<sup>o</sup>N and Long. 88.3<sup>o</sup>E during 1000-1200 UTC of 20<sup>th</sup> May and weakened into a well-marked low-pressure area over North Bangladesh and neighborhood at 1800 UTC on 21<sup>st</sup> May. It took a toll of 83 persons from West Bengal and Odisha & also nearly 4,000 livestock including poultry birds perished from Odisha.
- A Very Severe Cyclonic Storm “NIVAR” (22 to 27 November), formed over southwest Bay of Bengal near Lat. 10.0<sup>o</sup>N / Long. 86.0<sup>o</sup>E at 0000 UTC of 24<sup>th</sup> November, crossed Tamil Nadu & Puducherry coasts near Puducherry as a very severe cyclonic storm near Lat. 12.1<sup>o</sup>N and Long. 79.9<sup>o</sup>E during 1800 – 2100 UTC of 25<sup>th</sup> November and weakened into a well-marked low pressure area over

south coastal Andhra Pradesh and adjoining west central Bay of Bengal in the early morning (0000 UTC) of 27<sup>th</sup> November. It took a toll of 14 persons from Tamil Nadu, Andhra Pradesh. In addition, 10,836 livestock including small animals, large animals and poultry birds perished from Andhra Pradesh.

- A Severe Cyclonic Storm “NISARGA” (1 to 4 June), formed over Arabian Sea near Lat. 15.6°N / Long. 71.2°E, at 0600 UTC of 2<sup>nd</sup> June, crossed Maharashtra coast close to south of Alibag as Severe Cyclonic Storm near Lat. 18.35°N / Long. 72.95°E between 0700-0900 UTC of 3<sup>rd</sup> June and weakened into a well-marked low pressure area over central parts of Madhya Pradesh at 1200 UTC on 4<sup>th</sup> Jun. It took a toll of 6 persons from Maharashtra & also 2000 livestock perished.
- A Cyclonic Storm “BUREVI” (30 November to 5 December), formed over southwest Bay of Bengal near Lat. 7.9°N / Long.84.8°E, at 1200 UTC of 1<sup>st</sup> December, crossed Sri Lanka coast close to north of Trincomalee as a Cyclonic Storm near Lat. 8.85°N & Long. 81.0°E during 1700-1800 UTC of 2<sup>nd</sup> December and moving across northern parts of Sri Lanka, it emerged into Gulf of Mannar in the morning and lay centred close to Pamban around noon 0600 UTC of 3<sup>rd</sup> December and then it crossed Pamban area near Lat. 9.20°N and Long. 79.35°E during 0800 UTC of 3<sup>rd</sup> December as a Cyclonic Storm. It weakened into a well-marked low-pressure area over Gulf of Mannar close to Ramanathapuram district of Tamil Nadu at 0600 UTC of 5<sup>th</sup> December. It took a toll of 9 persons from Tamil Nadu & also more than 200 livestock perished.

The summary of these natural hazards is based on various reports of the India Meteorological Department and press information. The areas affected by the adverse weather conditions are depicted season wise on four maps.

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## सारिणी - I : हिमपात 2020

### निकष

हल्की : 10.4 सेमी. या कम 24 घंटेमें ।

मध्यम : 10.5 से 64.4 सेमी. 24 घंटेमें ।

भारी : 64.5 से 115.5 सेमी. 24 घंटेमें ।

बहुत भारी : 115.6 से 204.4 सेमी. 24 घंटेमें ।

अत्यंत भारी : 204.5 सेमी. या अधिक 24 घंटेमें ।

### TABLE - I : SNOWFALL 2020

#### CRITERIA

Light : 10.4 cm or less in 24 hrs.

Moderate : 10.5 to 64.4 cm in 24 hrs.

Heavy : 64.5 to 115.5 cm in 24 hrs.

Very Heavy : 115.6 to 204.4 cm in 24 hrs.

Extremely Heavy : 204.5 cm or more in 24 hrs.

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
1.	7 Jan.	Doda (Jammu & Kashmir)	Heavy	One person died & 3 others injured due to snow avalanche along Line of Control near Sankhpur in Doda Dist.	
2.	13 Jan.	Ganderbal (Jammu & Kashmir)	Heavy	5 persons died due to snow avalanche in Kulan area near Sonamarg in Ganderbal Dist.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
3.	14 Jan.	a) Bandipora, Kupwara (Jammu & Kashmir)	Heavy	Total 7 persons died due to snow avalanche in different incidences.  Bandipora-1, Kupwara - 6.	
		b) Chamba, Lahaul- Spiti (Himachal Pradesh)	Heavy	Total 4 persons died & one injured due to snow avalanche in different incidences.  Chamba – 2 died & one injured.  Lahaul- Spiti – 2 died.	
4.	27 Feb.	Bandipora (Jammu & Kashmir)	Heavy	One army man died due to snow avalanche in Gurez sector along the Line of Control.	
5.	14 Mar.	Shimla (Himachal Pradesh)	Moderate	3 persons injured due to snow avalanche.	Damage to house reported.
6.	27 Mar.	Ganderbal (Jammu & Kashmir)	Heavy	One person died & other injured due to snow avalanche at construction site of a mini hydel power project in Rayil area of Gund.	
7.	4 May	Ganderbal (Jammu & Kashmir)	Heavy	One person died due to snow avalanche.	Damage to vehicle reported.
8.	14 May	North Sikkim (Sikkim)	Heavy	One soldier died & other injured due to snow avalanche in the mountainous Lagnak La region.	

<b>S. No.</b>	<b>Date/Period</b>	<b>Area affected</b>	<b>Intensity</b>	<b>Casualties</b>	<b>Extent of damage</b>
9.	14 Nov.	Bandipora, Baramulla, Ganderbal (Jammu & Kashmir)	Moderate		In the higher reaches of Jammu & Kashmir, in Gulmarg, Sonmarg, Gurez area, the Srinagar-Leh road shut for traffic.
10.	17 Nov.	Kupwara (Jammu & Kashmir)	Heavy	One Jawan died & 2 others injured from the Army post near the Line of Control at Roshan Post in Tangdhar area due to snow avalanche.	Damage to Army post reported.
11.	29 Dec.	Parts of Himachal Pradesh	Heavy		401 roads including NH-3 closed.

## सारिणी - II : शीत लहर 2020

### निकष

(A) जब, वास्तविक न्यूनतम तापमान  $10^{\circ}\text{C}$  या कम मैदानों के लिए और  $0^{\circ}\text{C}$  या कम पहाड़ी क्षेत्रों के लिए है।

शीत लहर : ऋण विचलन सामान्य से  $4.5^{\circ}\text{C}$  से  $6.4^{\circ}\text{C}$  तक।

तिव्र शीत लहर : ऋण विचलन सामान्य से  $6.4^{\circ}\text{C}$  से अधिक।

(B) तटीय स्टेशन के लिए शीत लहर

जब, न्यूनतम तापमान  $15^{\circ}\text{C}$  या कम।

शीत लहर : न्यूनतम विचलन तापमान  $-4.5^{\circ}\text{C}$  या कम।

(C) वास्तविक न्यूनतम तापमान पर आधारित (केवल मैदानों के लिए)

शीत लहर : जब न्यूनतम तापमान  $4^{\circ}\text{C}$  से कम या बराबर है।

तिव्र शीत लहर : जब न्यूनतम तापमान  $2^{\circ}\text{C}$  से कम या बराबर है।

### TABLE – II : COLD WAVE 2020

#### CRITERIA

(A) *When; Actual minimum temperature is  $10^{\circ}\text{C}$  or less for plains &  $0^{\circ}\text{C}$  or less for Hilly regions.*

*Cold wave : Negative departure from normal is  $4.5^{\circ}\text{C}$  to  $6.4^{\circ}\text{C}$ .*

*Severe cold wave : Negative departure from normal is more than  $6.4^{\circ}\text{C}$ .*

(B) *Cold Wave for coastal station*

*When; Minimum temperature  $15^{\circ}\text{C}$  or less.*

*Cold wave : Minimum temperature departure is  $-4.5^{\circ}\text{C}$  or less.*

(C) *Based on Actual Minimum Temperature (For plain stations only)*

*Cold Wave : When minimum temperature is less or equal to  $4^{\circ}\text{C}$ .*

*Severe Cold Wave : When minimum temperature is less or equal to  $2^{\circ}\text{C}$ .*

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
1.	1 Jan.	a) East Champaran, Muzaffarpur, Sheohar, Sitamarhi (Bihar)	Severe (A & C as appropriate)	45 persons died.	
		b) Amroha, Auraiya, Etawah, Farrukhabad, Kannauj, Kanpur Dehat, Kanpur Nagar, Kaushambi, Moradabad, Rampur, Sambhal (Uttar Pradesh)	Severe (A & C as appropriate)	31 Persons Died.	
2.	2 Jan.	a) Parts of Uttar Pradesh	Severe (A & C as appropriate)	28 persons Died.	
		b) Bokaro, Chatra, Dhanbad, East Singhbhum, Garhwa, Koderma (Jharkhand)	Severe (A & C as appropriate)	Total 13 persons died. Bokaro – 1, Chatra – 3, Dhanbad – 2, East Singhbhum – 2, Garhwa -3, Koderma – 2.	
3.	3 Jan.	Parts of Uttar Pradesh	Severe (A & C as appropriate)	23 Persons Died.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
4.	5 Jan.	Dhanbad, Ramgarh (Jharkhand)	Severe (A & C as appropriate)	Total 3 persons died. Dhanbad - 2, Ramgarh -1.	
5.	10 Jan.	Bundi (Rajasthan)	Severe (A & C as appropriate)	2 farmers died.	
6.	11 Jan.	Nainital (Uttarakhand)	Severe (A & C as appropriate)	One 50-year old man died.	
7.	19 Jan.	Parts of Uttar Pradesh	Severe (A & C as appropriate)	5 persons died.	
8.	17 Dec.	Ganganagar (Rajasthan)	Severe (A & C as appropriate)	One person died from Aupgarh town.	
9.	20 Dec.	a) Banda (Uttar Pradesh)	Severe (A & C as appropriate)	One 62-year old farmer died at Pachnehi village.	
		b) Kaimur (Bhabua), Nawada, Saran, Sheohar, Vaishali (Bihar)	Severe (A & C as appropriate)	9 persons died.	

## सारिणी - III : उष्ण लहर 2020

### निकष

(A) जब, अधिकतम तापमान कम से कम 40<sup>0</sup>C या अधिक मैदानों के लिए और 30<sup>0</sup>C या अधिक पहाड़ी स्टेशन के लिए ।

उष्ण लहर : सामान्य से विचलन 4.5<sup>0</sup>C से 6.4<sup>0</sup>C ।

तिव्र उष्ण लहर : सामान्य से विचलन 6.4<sup>0</sup>C से अधिक ।

*(B) तटीय स्टेशन के लिए गर्मी की लहर*

जब, वास्तविक अधिकतम तापमान 37<sup>0</sup>C या अधिक है ।

उष्ण लहर : सामान्य से अधिकतम तापमान विचलन 4.5<sup>0</sup>C या अधिक ।

*(C) वास्तविक अधिकतम तापमान पर आधारित*

उष्ण लहर : जब वास्तविक अधिकतम तापमान 45<sup>0</sup>C या अधिक ।

तिव्र उष्ण लहर : जब वास्तविक अधिकतम तापमान 47<sup>0</sup>C या अधिक ।

## TABLE – III : HEAT WAVE 2020

### CRITERIA

(A) When; Maximum temperature is at least 40<sup>0</sup>C or more for plains & at least 30<sup>0</sup>C or more for Hilly station.

Heat wave : Departure from normal is 4.5<sup>0</sup>C to 6.4<sup>0</sup>C.

Severe heat wave : Departure from normal is greater than 6.4<sup>0</sup>C.

*(B) Heat Wave for coastal station*

When; Actual maximum temperature is 37<sup>0</sup>C or more.

Heat wave : Maximum temperature departure from normal is 4.5<sup>0</sup>C or more.

*(C) Based on Actual Maximum Temperature*

Heat wave : When Actual maximum temperature is greater than or equal to 45<sup>0</sup>C.

Severe heat wave : When Actual maximum temperature is greater than or equal to 47<sup>0</sup>C.

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
1.	21 Feb.	Malappuram (Kerala)	Severe (B)	One person died.	
2.	17 Apr.; 2, 13, 15, 23, 24 25, 27, 28, 29,31 May; 1, 10 Jun.; 31Aug.;	Angul, Cuttack, Dhenkanal, Ganjam, Kendrapara, Mayurbhanj, Sambalpur, Sundergarh (Odisha)	Severe (A & C as appropriate)	Total 16 persons died. Viz. Angul - 2, Cuttack - 1, Dhenkanal - 1, Ganjam - 2, Kendrapara - 2, Mayurbhanj - 2, Sambalpur - 3, Sundergarh - 3.	
3.	25 May	Gaya (Bihar)	Severe (A & C as appropriate)	2 persons died.	
4.	26 May	Nagpur (Maharashtra)	Severe (C)	4 persons died.	
5.	29 May	Nagpur (Maharashtra)	Severe (C)	4 persons died.	



## सारिणी - IV : अंधड़ (स्कॉल) 2020

हवा की गति में कम से कम 29 किलोमीटर (16 KTS) प्रति घंटे से

40 किलोमीटर (22 KTS) प्रति घंटे या अधिक और अचानक वृद्धि

और कम से कम एक मिनट के लिए स्थायी

निकष

मध्यम : सतह हवा की गति (gusts में) 80 किलोमीटर प्रति घंटे तक।

तीव्र : सतह हवा की गति (gusts में) > 80 किलोमीटर प्रति घंटे।

### TABLE – IV : SQUALL 2020

A sudden increase of wind speed by at least 29 kmph (16 kts), the speed rising to 40 kmph (22 kts) or more and lasting for at least one minute

#### CRITERIA

Moderate : Surface wind speed (in gusts) up to 80 kmph.

Severe : Surface wind speed (in gusts) > 80 kmph.

<b>S. No.</b>	<b>Date/Period</b>	<b>Area affected</b>	<b>Intensity</b>	<b>Casualties</b>	<b>Extent of damage</b>
1.	23 Apr.	Dumka, Ramghar (Jharkhand)	Strong	Total 6 persons died. Dumka – 5, Ramghar – 1.	i) Damage to crops reported. ii) Boat sinks in dam. iii) Trees uprooted.
2.	27 Apr.	Hazaribag (Jharkhand)	Strong		i) Damage to 33 KV line & wires of 20 polls reported. ii) Roofs of houses blown away,
3.	29 Apr.	Ranchi (Jharkhand)	Strong	One Ox perished.	Damage to house reported.
4.	6 & 8 May	Ranchi (Jharkhand)	Strong		i) Roofs of houses blown away. ii) Several trees uprooted.
5.	10 May	Nagpur (Maharashtra)	Strong		i) Damage to crops & fruits reported. ii) Damage to houses reported. iii) Trees uprooted.
6.	13 May	Nagpur (Maharashtra)	Strong		i) Damage to crops & fruits reported. ii) Damage to houses reported. iii) Trees uprooted.
7.	15 & 17 May	Ranchi (Jharkhand)	Strong		i) Roofs of houses blown away. ii) Several trees uprooted.
8.	30 May	Nagpur (Maharashtra)	Strong		i) Damage to crops & fruits reported. ii) Damage to houses reported. iii) Trees uprooted.

## सारिणी - V : झंझा 2020

निकष

तीव्र : हवा की गति  $\geq 75$  किलोमीटर प्रति घंटे

### TABLE – V : GALE 2020 CRITERIA

**Strong : Wind speed  $\geq 75$  kmph**

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
1.	6 Mar.	Balangir (Odisha)	Strong	One person died.	
2.	23 & 24 Apr.	Thiruvananthpuram (Kerala)	Strong		i) Malayinkeezhu area affected. ii) Damage to houses reported. iii) Many trees uprooted.
3.	24 Apr.	Balasore (Odisha)	Strong		i) Several trees uprooted at several places & power lines snapped at most places leading to disruption in communication. ii) A mobile tower collapsed at Chandmari padia in Sahadevkhunta area.
4.	7 May	Thiruvananthpuram (Kerala)	Strong		Damage to 25,000 plants in plantain farm from Muttappalam area reported.
5.	14 & 17 May	Bhandara, Washim (Maharashtra)	Strong		i) Damage to crops & fruits reported. ii) Damage to houses reported. iii) Trees uprooted.
6.	17 May	a) Thiruvananthpuram (Kerala) b) Dakshina Kannada (Karnataka)	Strong Strong	One person injured. One person died near Tannirbavi in Mangaluru city.	Tiled roof of a house collapsed. Damage to a boat reported.

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
7.	27 May	Anantnag, Shopian (Jammu & Kashmir)	Strong	3 persons died & other critically injured in different incidents.  Anantnag – 1 died, Shopian – 2 died & 1 injured.	i) Roofs of houses blown away. ii) Several trees uprooted.
8.	28 May	Sundergarh (Odisha)	Strong	One person died.	
9.	1, 3, 11, 27 Jun.	Nagpur (Maharashtra)	Strong		i) Damage to crops & fruits reported. ii) Damage to houses reported. iii) Trees uprooted.
10.	8 Jun.	Bandipora, Baramullah, Budgam (Jammu & Kashmir)	Strong		i) Extensive damage to Orchards & standing crops reported. ii) Damage to residential houses reported.
11.	15 Jun.	Kendrapara (Odisha)	Strong		i) Damage to 20 houses reported. ii) Many trees and electric poles uprooted.
12.	23 Jun.	Kupwara (Jammu & Kashmir)	Strong		Damage to several houses, shops & vehicles in Handwara area reported.
13.	1 Jul.	Dhamtari (Chhattisgarh)	Strong	7 livestock perished at Basin village of Nagari tahsil.	
14.	2 Jul.	Keonjhar (Odisha)	Strong	One person died.	
15.	5 Jul.	Budgam, Kupwara, Srinagar (Jammu & Kashmir)	Strong		i) Damage to standing crops & fruits reported. ii) Damage to rooftops of many houses reported.

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
16.	6 Jul.	Ernakulam, Thrissur (Kerala)	Strong		i) Damage to many houses reported. Also, tin roofs of many houses blown away. ii) Damage to a lorry reported. iii) The power connection snapped in many areas. iv) Trees uprooted.
17.	17 Jul.	Kozhikode (Kerala)	Strong		i) Damage to 3 houses reported. ii) Trees uprooted.
18.	27 Jul.	Kozhikode (Kerala)	Strong	One person died.	Damage to a fishing boat reported.
19.	7 Aug.	Mumbai (Maharashtra)	Strong		612 trees uprooted.
20.	9 Sep.	Thiruvananthapuram (Kerala)	Strong	3 persons died.	Damage to a boat reported.
21.	11 Sep.	Buldhana (Maharashtra)	Strong		i) Damage to Cotton crops reported. ii) Several trees uprooted.
22.	14 Sep.	Thiruvananthapuram (Kerala)	Strong	2 persons injured.	Damage to a boat reported.
23.	16 Sep.	Thiruvananthapuram (Kerala)	Strong	One person died & 2 others injured.	Damage to a boat reported.
24.	19 Sep.	Thiruvananthapuram (Kerala)	Strong	One person missing.	Damage to a boat reported.
25.	21 Sep.	Thiruvananthapuram (Kerala)	Strong	One person died.	Damage to a boat reported.

## सारिणी – VI : आंधी 2020

TABLE – VI : DUST STORM 2020

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
1.	3 May	Alwar, Churu, Jaipur, Karauli (Rajasthan)		Total 6 persons died. Alwar - 1, Churu - 1, Jaipur - 3, Karauli - 1	i) Damage to houses reported. ii) Several trees/electric poles uprooted causing disruption in vehicular traffic & power supply.
2.	4 May	Kota, Tonk (Rajasthan)		Total 4 persons died. Kota - 1, Tonk - 3.	i) Damage to houses & tin shed reported. ii) Several trees/electric poles uprooted causing disruption in vehicular traffic & power supply.
3.	10 May	Morena (Madhya Pradesh)			i) Damage to crops reported. ii) Several trees/electric poles uprooted causing disruption in vehicular traffic & power supply.
4.	28 May	Dhaulpur (Rajasthan)		4 persons died due to house collapse. 4 livestock perished.	Damage to houses reported.

## सारिणी - VII : मेघ विद्युत 2020

TABLE – VII: LIGHTNING

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
1.	29 Jan.	Shahjahanpur (Uttar Pradesh)		One teenager died & 3 others injured in Bagiyana village.	
2.	21 Feb.	a) Katni (Madhya Pradesh)		One person died.	
		b) Hardoi, Lakhimpur Kheri, Lucknow, Raebareli, Sitapur, Unnao (Uttar Pradesh)		8 persons died.	
3.	25 Feb.	Barabanki, Chandauli, Lucknow, Sonbhadra, Deoria (Uttar Pradesh)		5 persons died, many others injured & 10 livestock perished.	
4.	13 Mar.	Mandla, Sidhi (Madhya Pradesh)		2 persons died.	
5.	18 Mar.	Chhindwada (Madhya Pradesh)		One woman died & other injured.	
6.	19 Mar.	Damoh, Mandla, Sagar, Shahdol (Madhya Pradesh)		Total 7 persons died. Damoh - 2, Mandla - 2, Sagar - 1, Shahdol - 2.	
7.	21 Mar.	Banda, Chitrakoot, Fatehpur, Hamirpur, Jalaun, Jhansi, Kanpur- Dehat, Kanpur- City, Lalitpur, Mahoba (Uttar Pradesh)		3 persons died & 6 others injured.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
8.	25 Mar.	Dewas, Ratlam (Madhya Pradesh)  Ahmednagar (Maharashtra)		2 persons died, one in each district & 2 others injured.  One 45-year old farmer died at Varudi-Pathar & 2 livestock perished at Gujalwadi-Pathar of Sangamner tehsil.	
9.	31 Mar.	Yeotmal (Maharashtra)		8 persons died.	
10.	3, 4, 7, 8, 10, 11, 15, 17, 18, 21, 22, 23, 24, 25, 26, 27, 28, 29, Apr.	Angul, Balasore, Bargarh, Bhadrak, Bolangir, Cuttack, Gajapati, Ganjam, Kalahandi, Keonjhar, Khordha, Koraput, Mayurbhanj, Nabarangpur, Naupada, Puri, Rayagada, Sambalpur, Sundergarh (Odisha)		Total 50 persons died. Viz. Angul - 3, Balasore - 4, Bargarh - 2, Bhadrak - 3, Bolangir - 2, Cuttack - 3, Gajapati - 1, Ganjam - 5, Kalahandi - 1, Keonjhar - 2, Khordha - 1, Koraput - 2, Mayurbhanj - 8, Nabarangpur - 4, Naupada - 2, Puri - 1, Rayagada - 3, Sambalpur - 2, Sundergarh - 1.	
11.	8 Apr.	Satna (Madhya Pradesh)		One farmer died.	
12.	18 Apr.	Panna, Sagar, Shahdol, Sidhi (Madhya Pradesh)		Total 7 persons died & 14 others injured. Viz. Panna - 2 persons injured, Sagar - 5 persons died including 4 of one family & one injured, Shahdol - 2 persons died & 7 others injured. Sidhi - 4 persons injured.	
13.	19 Apr.	a) Siddipet (Telangana)  b) Wardha (Maharashtra)		A farmer died in Dubbak mandal of the Dist.  2 oxen perished.	



S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
14.	25 Apr.	a) Rajouri (Jammu & Kashmir)		One person died.	
	25 Apr.	b) East Godavari (Andhra Pradesh)		One girl died.	
15.	26 Apr.	a) Ernakulam (Kerala)		One woman died at Mookkannoor village.	
	26 Apr.	b) Dindori, Rewa, Satna, Singrouli, Umaria (Madhya Pradesh)		Total 10 persons died. Dindori - 1, Rewa - 2, Satna - 2 farmers, Singrouli - 1 woman, Umaria - 4. While 3 others injured in Dindori Dist.	
16.	28 Apr.	Gulbarga (Karnataka)		3 persons died.	
17.	29 Apr.	Tuticorin (Tamil Nadu)		2 women died at Therku Sevalapatti.	
18.	1, 3, 4, 5, 10, 16, 17, 28, 29, 31 May	Balasore, Bolangir, Ganjam, Jharsuguda, Kalahandi, Kandhamal, Keonjhar, Khordha, Koraput, Malkangiri, Mayurbhanj, Nabarangpur, Nayagarh, Puri, Sundergarh (Odisha)		Total 35 persons died. Viz. Balasore - 4, Bolangir - 1, Ganjam - 4, Jharsuguda - 1, Kalahandi - 2, Kandhamal - 1, Keonjhar -4, Khordha -2, Koraput - 2, Malkangiri - 1, Mayurbhanj - 2, Nabarangpur - 3, Nayagarh - 2, Puri - 2, Sundergarh - 4.	
19.	10 May	a) Chhindwara (Madhya Pradesh)		One person died & one cow perished.	
		b) Bhandara, Chandrapur (Maharashtra)		One farmer died in Bori village of Tumsar tehsil of Bhandara Dist. One cow perished in Chandrapur.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
20.	11 May	Pune (Maharashtra)			
				2 oxen perished in Underkhand village of Junnar tehsil	
21.	12 May	Dindori, Shajapur (Madhya Pradesh)			
				Total 4 persons died, 2 in each Dist. One person injured in Shajapur Dist. & 2 goats perished in Dindori Dist.	
22.	13 May	Betul, Nimach (Madhya Pradesh)			
				Total 6 persons died. Betul - 5, Nimach – 1. While, 20 goats Perished in Betul Dist.	
23.	15 May	Parbhani (Maharashtra)			
				2 oxen perished.	
24.	16 May	Bhandara (Maharashtra)			
				15 goats perished in Kinhi-Gujepar village of Lakhandur tehsil.	
25.	17 May	a) Warangal (Telangana)			
		b) Mandya, Udipi (Karnataka)			
				2 farmers died in different incidences.	
		c) Kozhikode (Kerala)			
		d) Chittoor (Andhra Pradesh)			
		e) Krishnagiri (Tamil Nadu)			
				Total 2 persons died & 2 others injured. Viz. Mandya - 1 died & 2 injured, Udipi – 1 died at Katpady village. One person died.	
				A farmer died.	
				One person died in Denkanikottai.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
26.	18 May	Khammam (Telangana)		A farmer died at Motlagudem village in Singareni Mandal.	
27.	25 May	Anantapur (Andhra Pradesh)		One person died.	
28.	28 May	Chhatarpur (Madhya Pradesh)		3 persons died.	
29.	29 May	Srikakulam (Andhra Pradesh)		3 persons died & 7 sheeps perished.	
30.	30 May	East Godavari (Andhra Pradesh)		Total 3 persons including a farmer and his 2 daughters died at Gangavaram.	
31.	31 May	Jalana (Maharashtra)		One farmer died from Aland, Jafarabad taluka.	Damage to bicycle reported.
32.	1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 13, 14, 15, 20, 23, 26, 27, 28, 30 Jun.	Angul, Balasore, Bargarh, Bhadrak, Bolangir, Cuttack, Deogarh, Dhenkanal, Gajapati, Ganjam, Jagatsinghpur, Jharsuguda, Kalahandi, Kandhamal, Kendrapara, Keonjhar, Khordha, Koraput, Malkangiri, Mayurbhanj, Nabarangpur, Naupada, Rayagada, Sambalpur, Sundergarh (Odisha)		Total 62 persons died. Viz. Angul - 3, Balasore - 1, Bargarh - 2, Bhadrak - 1, Bolangir - 1, Cuttack - 1, Deogarh - 1, Dhenkanal - 8, Gajapati - 1, Ganjam - 13, Jagatsinghpur - 1, Jharsuguda - 1, Kalahandi - 1, Kandhamal - 1, Kendrapara - 4, Keonjhar - 3, Khordha - 1, Koraput - 1, Malkangiri - 1, Mayurbhanj - 7, Nabarangpur - 4, Naupada - 2, Rayagada - 1, Sambalpur - 1, Sundergarh - 1.	
33.	1 Jun.	Thiruvallur (Tamil Nadu)		A 32-year-old woman farmer died at Thiroor village.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
34.	3 Jun.	Khammam (Telangana)		One person died.	
35.	4 Jun.	a) Visakhapatnam (Andhra Pradesh)		A woman died near Sabbavaram.	
		b) Malda (West Bengal)		3 persons died.	
36.	7 Jun.	Pudukkottai (Tamil Nadu)		One college student died near Keeranur.	
37.	11 Jun.	Anuppur (Madhya Pradesh)		5 persons died.	
38.	12 Jun.	Janjgir Champa (Chhattisgarh)		One person died & other injured.	
39.	16 Jun.	Bhandara (Maharashtra)		2 persons died.	
40.	24 Jun.	Cuddalore (Tamil Nadu)		2 boys died in Srimushnam.	
41.	25 Jun.	Aurangabad, Banka, Bhagalpur, Buxar, Darbhanga, East Champaran, Gopalganj, Jamui, Jehanabad, Kaimur , Khagaria, Kishanganj, Madhepura, Madhubani, Nawada, Purnea, Samastipur, Saran, Sheohar, Sitamarhi, Siwan, Supaul, West Champaran (Bihar)		Total 83 persons died, at least 32 injured & more than 40 livestock perished. Aurangabad - 3, Banka - 5, Bhagalpur - 6, Buxar - 2, Darbhanga - 5, East Champaran -5, Gopalganj - 13, Jehanabad - 2, Jamui - 2, Kaimur - 2, Khagaria - 3, Kishanganj - 2, Madhepura - 1, Madhubani- 8, Nawada- 8, Purnia - 2, Samastipur - 1, Saran - 1, Sheohar - 1, Sitamarhi - 1, Siwan - 6, Supaul - 2, West Champaran - 2.	Damage to property reported.

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
	25 Jun.	Ambedkar Nagar, Balrampur, Barabanki, Deoria, Fatehpur, Kushinagar, Prayagraj, Unnao (Uttar Pradesh)		Total 24 persons died & 12 injured. Viz. Ambedkar Nagar- 3, Balrampur- 1, Barabanki- 2, Deoria- 9, Fatehpur- 1, Kushinagar- 1, Prayagraj – 6, Unnao- 1.	
42.	28 Jun.	Nagpur (Maharashtra)		One person died.	
43.	29 Jun.	Baloda Bazar (Chhattisgarh)		One person died.	
44.	30 Jun.	a) Botad, Dwarka, Jamnagar (Gujarat)		Total 7 persons including 2 children died in separate incidences. Botad –3, Dwarka–2, Jamnagar –2.	
		b) Anantapur (Andhra Pradesh)		One person died in Uravakonda.	
45.	1 Jul.	Buldhana (Maharashtra)		One person died & one monkey perished in different incidences.	Damage to a home reported.
46.	4 Jul.	Balrampur (Chhattisgarh)		2 persons died & 2 others injured at Pataru village of Rajpur tahsil.	
47.	6 Jul.	a) Allahabad (Prayagraj), Badaun, Jaunpur, Kaushambi, Mirzapur (Uttar Pradesh)		Total 23 persons died & 25 others injured. Allahabad (Prayagraj) – 8 died & 9 injured, Badaun – 6 died & 6 injured, Jaunpur – 1 died, Kaushambi – 2 died & 4 injured, Mirzapur – 6 died & 6 injured.	
		b) Surendranagar (Gujarat)		One person died.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
48.	7 Jul.	Surguja (Chhattisgarh)		One person died at Kuvarpur of Lakhanpur tehsil.	
49.	8, 12, 15, 19, 20, 21, 22, 23, 27, 28, 29, 30, 31 Jul.	Balasore, Bargarh, Bolangir, Cuttack, Ganjam, Jharsuguda, Kandhamal, Keonjhar, Mayurbhanj, Naupada, Puri, Rayagada, Sambalpur, Sundergarh (Odisha)		Total 27 persons died. Viz. Balasore - 3, Bargarh - 1, Bolangir - 3, Cuttack - 1, Ganjam - 3, Jharsuguda - 2, Kandhamal - 1, Keonjhar - 4, Mayurbhanj - 3, Naupada - 1, Puri - 1, Rayagada - 1, Sambalpur - 1, Sundergarh - 2.	
50.	8 Jul.	Alwar (Rajasthan)		One person died at Bansur.	
51.	9 Jul.	Balod, Janjgir Champa (Chhattisgarh)		Total 2 persons died, one in each district. While, 5 persons injured in Janjgir Champa Dist. & 3 livestock perished in Balod Dist.	
52.	14 Jul.	Nagpur, Washim (Maharashtra)		Total 2 persons died. Viz. Nagpur - One farmer died, Washim - One 35-year-old woman died at Charmoshi.	
53.	20 Jul.	Poonch (Jammu & Kashmir)		3 persons died & 12 livestock perished.	
54.	22 Jul.	a) Gariyaband, Jashpur (Chhattisgarh) b) Amaravati, Gondia (Maharashtra)		Total 4 persons died, 2 in each Dist. Total 3 persons died including 2 women. Amaravati - 2, Gondia - 1. While one severely injured.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
55.	23 Jul.	Prakasam (Andhra Pradesh)		2 persons died in separate incidences.	
56.	24 Jul.	Mahasamund (Chhattisgarh)		One person died at Khusurupali.	
57.	29 Jul.	Nagpur (Maharashtra)		2 persons died in different incidences from Narkhed & Umred taluka.	
58.	1, 2, 3, 4, 6, 7, 8, 11, 12, 13, 15, 16, 20, 21, 23, 25, Aug.	Balasore, Bargarh, Bhadrak, Cuttack, Deogarh, Jagatsinghpur, Kendrapara, Keonjhar, Khordha, Mayurbhanj, Puri, Rayagada, Subranpur, Sundergarh (Odisha)		Total 40 persons died. Viz. Balasore - 5, Bargarh - 1, Bhadrak - 2, Cuttack - 2, Deogarh - 2, Jagatsinghpur - 2, Kendrapara - 2, Keonjhar - 5, Khordha - 5, Mayurbhanj - 6, Puri - 2, Rayagada - 1, Subranpur - 2, Sundergarh - 3.	
59.	9 Aug.	Nagpur (Maharashtra)		2 persons died at Nadata Bhivapur.	
60.	23 Aug.	Rajsmant (Rajasthan)		3 persons died.	
61.	26 Aug.	Udhampur (Jammu & Kashmir)		One person died.	
62.	1, 4, 5, 6, 7, 8, 9, 13, 14, 16, 18, 19, 26, 27, 29, 30 Sep.	Angul, Balasore, Bargarh, Bhadrak, Bolangir, Cuttack, Dhenkanal, Ganjam, Kalahandi, Kendrapara, Keonjhar, Koraput, Mayurbhanj, Rayagada, Subranpur, Sundergarh (Odisha)		Total 39 persons died. Viz. Angul - 5, Balasore - 2, Bargarh - 3, Bhadrak - 1, Bolangir - 1, Cuttack - 1, Dhenkanal - 2, Ganjam - 1, Kalahandi - 1, Kendrapara - 2, Keonjhar - 6, Koraput - 3, Mayurbhanj - 3, Rayagada - 4, Subranpur - 2, Sundergarh - 2.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
63.	6 Sep.	Amreli (Gujarat)		One person died & 2 livestock perished.	
64.	7 Sep.	a) Palgarh (Maharashtra)		2 youths died & 6 others injured from Dahanu & Wada Taluka.	
		b) Chittoor, Nellore (Andhra Pradesh)		Total 4 persons deid & 6 others injured. Viz. Chittoor - 2 died & 3 injured, Nellore - 2 died & 3 injured in Sullurpeta.	
		c) Buldhana (Maharashtra)		2 cows perished at Tunkai-Ladapur of Sangrampur tehsil.	
65.	9 Sep.	Palgarh (Maharashtra)		2 persons, including a teenager died.	
66.	10 Sep.	Badwani (Madhya Pradesh)		4 persons died & 5 others injured in Khapada gaon.	
67.	11 Sep.	Nagpur (Maharashtra)		2 cows perished at Tudka of Kuhi tehsil.	
68.	12 Sep.	Nagpur (Maharashtra)		One woman died at Koradi.	
69.	13 Sep.	a) Dhar (Madhya Pradesh)		2 persons died.	
		b) East Godavari (Andhra Pradesh)		2 agricultural labourers died in Kandrakota village of Peddapuram mandal.	
70.	14 Sep.	Bhojpur, Gopalganj, Kaimur, Rohtas, Saran, Vaishali (Bihar)		Total 15 persons died. Viz. Bhojpur - 3, Gopalganj - 3, Kaimur - 2, Rohtas - 3, Saran - 2, Vaishali- 2.	



S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
71.	15 Sep.	a) Damoh (Madhya Pradesh)		7 persons died & other injured.	
		b) Chitrakoot, Chandauli, Gazipur, Jaunpur, Kaushambi, Kushinagar (Uttar Pradesh)		Total 13 persons died. Chitrakoot - 2, Chandauli -1, Gazipur -4, Jaunpur – 1, Kaushambi – 3, Kushinagar – 2.	
72.	17 Sep.	a) Mandla (Madhya Pradesh)		2 persons died & 2 others injured.	
		b) Nagpur (Maharashtra)		One woman died at Mantrakhedi of Narkhed tehsil.	
		c) Osmanabad (Maharashtra)		One person died in Sawargaon village of Bhoom tahsil.	
		d) Theni (Tamil Nadu)		2 women died & 3 others injured.	
73.	19 Sep.	Khandwa, Sidhi (Madhya Pradesh)		3 persons died & 3 others injured. Sidhi - 3 died & 1 injured, Khandwa – 2 injured.	
74.	29 Sep.	Khammam (Telangana)		One doctor died at Gannavaram.	
75.	30 Sep.	Gulbarga (Karnataka)		38 livestock including sheep & goat perished.	
76.	3, 4, 5, 9, 10, 13, 14, 15, 16, 18, Oct.	Angul, Bargarh, Bolangir, Cuttack, Dhenkanal, Jagatsinghpur, Jajpur, Jharsuguda, Kendrapara, Koraput, Malkangiri, Mayurbhanj, Nayagarh, Naupada, Puri, Sundergarh (Odisha)		Total 24 persons died. Viz. Angul - 1, Bargarh - 3, Bolangir - 1, Cuttack - 4, Dhenkanal - 1, Jagatsinghpur - 3, Jajpur - 1, Jharsuguda - 1, Kendrapara - 1, Koraput - 1, Malkangiri - 1, Mayurbhanj - 1, Nayagarh - 2, Naupada - 1, Puri - 1, Sundergarh – 1.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
77.	4 Oct.	Visakhapatnam (Andhra Pradesh)		One boy died.	
78.	7 Oct.	Nagpur (Maharashtra)		One 47 year old man died at Bhamani of Umered tehsil.	
79.	10 Oct.	Pune (Maharashtra)		A ambulance driver working at the primary health centre in Bhongavali, Bhor died.	
80.	11 Oct.	Yadgir (Karnataka)		25 live stocks perished.	
81.	12 Oct.	a) Buldhana, Washim (Maharashtra)		Total 3 persons died & 3 others injured.  Buldhana -1, Washim – 2 died & 3 injured.	
		b) Gulbarga (Karnataka)		One person died. 2 goats perished.	
82.	13 Oct.	Hingoli, Osmanabad (Maharashtra)		Total 2 persons died & 2 others injured.  Hingoli - One youth died & 2 others injured, Osmadbad – One farmer died.	
83.	14 Oct.	Ratnagiri (Maharashtra)		One woman died & 2 others injured.	
84.	18 Oct.	Jhabua (Madhya Pradesh)		3 persons died.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
85.	20 Oct.	Bellary, Belgaum, Bijapur (Vijayapura), Gulbarga, Haveri, Koppal (Karnataka)		Total 9 persons died, 2 others injured & 45 livestock perished. Viz. Ballary - 2 women died at Bhairapur village of Siruguppa taluka, Belgaum – 2 died in Chikka Ulligeri village of Soudatti taluka, 2 injured & 45 sheep perished from Hukkeri taluka on the outskirts of Munavalli, Bijapur (Vijayapura) – 1 died at Hathalli in Chadchan taluka, Gulbarga - One 26-year old person died at Astaga village in Kalaburagi taluka, Haveri - 2 farmers died at Devaragudda road in Ranebennur, Koppal – One 14-year old girl died at Gedageri tanda in Yelburga taluka.	
86.	21 Oct.	Nashik (Maharashtra)		2 persons died from Niphad in different incidences.	
87.	23 Oct.	Washim (Maharashtra)		One ox perished.	
88.	24 Oct.	Thane (Maharashtra)		One woman died in Murbad Taluka.	
89.	5 Nov.	Rayagada (Odisha)		One person died.	
90.	15 Nov.	Morena (Madhya Pradesh)		One person died.	
91.	25 Nov.	Pathankot (Punjab)		Around 3 dozen livestock including sheep & goats perished at Adaeli village in Shahpur Kandi area.	

सारिणी –VIII : गर्ज के साथ तूफान (थंडरस्टॉर्म) 2020

TABLE –VIII : THUNDERSTORM 2020

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
1.	3 Jan.	Chatra (Jharkhand)		2 persons died and other injured.	
2.	9 Jan.	Jamtara (Jharkhand)		3 persons died and other 6 injured.	
3.	24 Feb.	Durg (Chhattisgarh)			Damage to 5 houses in Bhilai city reported.
4.	25 Feb.	a) Chatra, Garhwa, Latehar (Jharkhand)		Total 4 persons died. Chatra –1, Garhwa–2, Latehar – 1. While, one person injured from Garhwa Dist.	
		b) Aurangabad, Banka, Bhagalpur, Gopalganj, Jamui, Munger, Saran (Bihar)		11 persons died & 4 others injured.	
5.	26 Feb.	Balrampur, Bemetara, Durg, Gariaband, Janjgir Champa, Korba, Koriya, Raipur, Surguja (Chhattisgarh)			i) Damage to Mustard, Wheat, vegetables reported. ii) Damage to tents in the fair reported. iii) Many trees uprooted.
6.	28 Feb.	Raipur (Chhattisgarh)			Damage to vegetable farms from Datrenga village reported.
7.	6 Mar.	Hardoi, Lakhimpur Kheri, Lucknow, Raebareli, Sitapur, Unnao (Uttar Pradesh)		3 persons died and other injured.	Damage Oilseeds, Wheat, Peas, Tomatoes, Mango blossoms & poppy crops reported.

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
8.	13 Mar.	Ayodhya, Bahraich, Barabanki, Chandauli, Gorakhpur, Jaunpur, Kanpur-Dehat, Kanpur-City, Lakhimpur, Lucknow, Mirzapur Siddharthnagar, Sitapur, Sonbhadra, Varanasi (Uttar Pradesh)		30 persons died, 5 others injured and 34 livestock perished.	Extensive damage to Oilseeds, Pulses, Potatoes, Wheat, Peas, Tomatoes and Mango blossom and Poppy crops reported.
9.	13 & 14 Mar.	Aurangabad, Rohtas (Bihar)		3 persons died in Rohtas Dist. on 13 <sup>th</sup> & 935 Sheep's perished in Aurangabad Dist. on 14 <sup>th</sup> .	
10.	14 Mar.	Gumla, Ranchi (Jharkhand)		8 livestock perished, Of which 2 from Gumla & 6 from Ranchi.	i) Damage to crops reported. ii) Damage to many houses reported.
11.	18 Mar.	Amaravati, Bhandara, Chandrapur, Dhule, Gondia, Hingoli, Jalgaon, Nagpur, Nanded, Nandurbar, Parabhani, Wardha (Maharashtra)		One person died in Shirpur Taluka of Dhule Dist due to shed collapsed.	i) Damage to rabbi crops including Wheat, Jawar, Gram, Corn, Cotton and Onion crops reported. Also damage to fruit crops like Bananas, Mangoes, Papaya, & Grapes reported. ii) Damage to shed reported. iii) Several trees, electric/telephone poles uprooted causing disruption in communication and power supply.
12.	27 Mar.	Hardoi, Lakhimpur Kheri, Lucknow, Raebareli, Sitapur, Unnao (Uttar Pradesh)		2 persons died and other injured.	Damage to Oilseeds, Pulses, Wheat, Peas, Mango blossoms & other crops reported.
13.	10 Apr.	Narayanpur (Chhattisgarh)		6 livestock perished in Bharanda village.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
14.	18 Apr.	Damoh, Hoshangabad, Rajgarh, Sehore (Madhya Pradesh)		One woman died due to wall collapsed & 4 goats perished in Damoh Dist.	i) Damage to 78 Wheat centers reported. ii) Damage to house reported iii) Several trees, electric/telephone poles uprooted causing disruption in communication and power supply.
15.	19 Apr.	a) Chandrapur, Gadchiroli, Raigad, Wardha, Yavatmal (Maharashtra)			i) Damage to Rice, Wheat, Cotton, Chilli crops, vegetables & fruits like Mango, Cashew nut reported. ii) Roofs of many houses, huts blown away. iii) Damage of lakhs of rupees reported. iv) Damage to 3 towers reported. Also, several electric poles uprooted causing disruption in power supply.
		b) Deoria, Gorakhpur, Kushinagar & other parts of Uttar Pradesh		16 persons died & many others injured.	i) Damage to Oilseeds, Pulses, Wheat, Poppy crops and Mango blossoms reported. ii) Several trees, electric/telephone poles uprooted causing disruption in communication and power supply.
16.	21 Apr.	a) Ranchi (Jharkhand)			Damage to Electrical Insulator reported.
		b) Balod, Dhamtari, Durg (Chhattisgarh)			i) Damage to Rice crops reported. ii) 20 electric poles & 100 trees uprooted.
17.	22 Apr.	Baloda Bazar, Korba (Chhattisgarh)		One person died in Korba & 15 others injured in Baloda Bazar.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
18.	23 Apr.	a) Jashpur (Chhattisgarh)			i) Extensive damage to vegetables reported. ii) Damage to houses reported. iii) Damage to hoardings & boards reported.
		b) Dhanbad, Giridih, Gumla, Ranchi (Jharkhand)		Total 4 persons died, one from each district. While, 2 others injured & 9 livestock perished from Gumla Dist.	i) Damage to crops reported. ii) Roofs of houses blown away. iii) Tree uprooted.
19.	24 Apr.	Jashpur (Chhattisgarh)			i) Damage to vegetable crops reported. ii) Damage to katcha houses reported.
20.	25 Apr.	Baloda Bazar, Surajpur, Surguja (Chhattisgarh)			i) Extensive damage to Banana, Wheat, Rice, Mustard, vegetable crops reported. ii) Damage to katcha houses reported. iii) Electric poles uprooted.
21.	26 Apr.	a) Bhojpur, Jamui, Saran (Bihar)		12 persons died.	
		b) Ambedkar Nagar, Balrampur, Barabanki, Lakhimpur Kheri, Mirzapur, Raibareli, Sitapur & other parts of Uttar Pradesh		7 persons died & 4 others injured.	i) Damage to Oilseeds, Pulses, Wheat, Poppy crops and Mango blossoms reported. ii) Several trees, electric/telephone poles uprooted causing disruption in communication and power supply.
22.	27 Apr.	a) Banda, Etawah, Farrukhabad, Unnao & other parts of Uttar Pradesh		5 persons died, 2 others injured & 4 livestock perished.	Damage to Oilseeds, Pulses, Wheat, Poppy crops and Mango blossoms reported.

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
		b) Lohardaga, (Jharkhand)	Ranchi		
				One person died from Ranchi Dist. While 3 others injured, viz. Lohardaga – 2 & Ranchi -1.	Several trees, electric poles uprooted.
23.	28 Apr.	Deoghar, Ranchi, (Jharkhand)	Gumla, Ramghar	Total 6 persons died & 3 others injured. Deoghar – 1 died, Gumla - 2 died, 1 injured, Ranchi – 2 died, 1 injured, Ramghar- 1 died, 1 injured. While, 2 livestock perished from Ranchi Dist.	Tree uprooted.
24.	1 May	Pune (Maharashtra)		One person injured.	i) Damage to Wheat, Mango, vegetables reported. ii) Roofs of houses blown away. iii) Damage to mobile tower, directional panel reported. iv) More than 75 trees & Electric poles uprooted causing disruption power supply.
25.	2 May	Giridih (Jharkhand)		3 persons died & other injured.	
26.	3 May	Kanker (Chhattisgarh)			i) Damage to tent reported. ii) Trees uprooted.
27.	4 May	a) Baloda Bazar, Dhamtari, Jashpur, Kanker, Surajpur (Chhattisgarh)		Total 3 persons died. Viz. Jashpur – 1, Surajpur – 2. While one injured at Jashpur Dist.	i) Damage to transformer reported. ii) Damage to sheds & tent reported. iii) Trees uprooted.



S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
		b) Gadwa, Gumla, Lohardaga, Palamu, Ranchi (Jharkhand)		Total 6 persons died & other injured.  Gadwa – 1 died, Gumla – 1 died, Lohardaga – 1 died, Palamu – 1 died, Ranchi - 2 died & 1 injured.	
28.	5 May	a) Rajouri (Jammu & Kashmir)		About 155 sheep & goats perished.	
		b) Ambedkar Nagar, Barabanki, Lakhimpur Kheri, Sitapur & other parts of Uttar Pradesh.		15 persons died.	i) Damage to Oilseeds, Pulses, Wheat, Poppy crops & Mango blossoms reported.  ii) Several trees, electric/telephone poles uprooted causing disruption in communication and power supply.
		c) Arwal, Banka, Darbhanga, Gaya, Jamui, Jehanabad, Katihar, Nalanda, Patna, Rohtas, Saharsa, Samastipur, Sheikhpura, Sitamarhi, Siwan (Bihar)		23 persons died.	
29.	6 May	a) Balrampur, Durg, Kabirdham (Chhattisgarh)		3 persons injured in Balrampur Dist. & 100 parrots perished in Kabirdham Dist.	
		b) Sidhi, Singrauli (Madhya Pradesh)		One person died in Singrauli Dist.	i) Damage to houses reported.  ii) Several trees, electric/telephone poles uprooted causing disruption in communication and power supply.

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
30.	7 May	a) Bhagalpur, Nawada (Bihar)		2 persons died.	
		b) Allahabad, Ambedkar Nagar, Amethi, Ayodhya, Bahraich, Balrampur, Barabanki, Basti, Fatehpur, Faizabad, Gonda, Hardoi, Jaunpur, Kanpur, Kaushambi, Iakhimpur Kheri, Lucknow, Pratapgarh, Raebareli, Sant Kabir Nagar, Shravasti, Siddharth Nagar, Shravasti, Shravasti, Sitapur, Sultanpur, Unnao (Uttar Pradesh)		2 persons died.	i) Damage to Oilseeds, Pulses, Wheat, Poppy crops & Mango blossoms reported. ii) Several trees, electric/telephone poles uprooted causing disruption in communication and power supply.
31.	8 May	Bemetara, Durg, Janjgir- Champa, Jashpur, Korba (Chhattisgarh)		Total 3 persons died, one each from Bemetara, Durg, Janjgir- Champa Dist.  While 4 others injured, 2 each from Janjgir Champa, Jashpur Dist.	Damage to houses reported.
32.	9 May	a) Balod (Chhattisgarh)			i) Damage to tin shed reported. ii) Many trees uprooted.
		b) West Singhbhum (Jharkhand)		One person died.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
33.	10 May	a) Ayodhya, Bahraich, Balrampur, Gonda, Lakhimpur Kheri, Lucknow, Raibareli, Shravasti, Sitapur & other parts of uttar Pradesh		30 persons died.	<ul style="list-style-type: none"> <li>i) Damage to Oilseeds, Pulses, Wheat, Poppy crops &amp; Mango blossoms reported.</li> <li>ii) Several trees, electric/telephone poles uprooted causing disruption in communication and power supply.</li> </ul>
		b) Amaravati, Bhandara, Chandrapur (Maharashtra)		5 animals perished in Goyagaon village of Rajur tehsil from Chandrapur Dist.	<ul style="list-style-type: none"> <li>i) Damage to cotton &amp; grains stored in the houses reported.</li> <li>ii) Damage to many houses reported.</li> <li>iii) Several trees, electric/telephone poles uprooted causing disruption in communication and power supply.</li> </ul>
		c) Kanker (Chhattisgarh)			Damage to houses reported.
34.	12 & 13 May	Ranchi (Jharkhand)		One person injured & one livestock perished.	<ul style="list-style-type: none"> <li>i) Damage to houses reported.</li> <li>ii) Trees uprooted.</li> </ul>
35.	13 & 15 May	Latur, Osmanabad, Parbhani (Maharashtra)		4 livestock perished on 13 <sup>th</sup> .	<ul style="list-style-type: none"> <li>i) Damage to vegetables, Onion, Watermelons, Banana and Drumstick reported.</li> <li>ii) Damage to lakhs of rupees reported.</li> <li>iii) Roof tops of shed blown away.</li> <li>iv) Damage to farm equipments reported.</li> </ul>
36.	14 May	Jashpur (Chhattisgarh)		One person injured.	
37.	15 May	a) Dindori, Panna (Madhya Pradesh)			<ul style="list-style-type: none"> <li>i) Damage to houses reported.</li> <li>ii) Several trees, electric/telephone poles uprooted causing disruption in communication and power supply.</li> </ul>

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
		b) Dhamtari, Rajnandgaon (Chhattisgarh)		3 persons died from Dhamtari Dist.	Electric poles & trees uprooted.
38.	16 May	Osmanabad, Parbhani, Solapur (Maharashtra)		2 livestock perished.	i) Damage to Mango, Mellon crops reported. ii) Roofs of houses blown away. iii) Damage to solar equipments reported. iv) Several trees, electric/telephone poles uprooted causing disruption in communication and power supply.
39.	17 May	Thiruvananthpuram (Kerala)			Electronic equipment's of many houses in the Nemom region reported.
40.	19 May	Purnea (Bihar)		5 persons died.	
41.	27 May	Ranchi (Jharkhand)		2 persons died & other injured.	
42.	28 May	a) Khunti (Jharkhand)		One person died & 2 other injured.	
		b) Datia (Madhya Pradesh)		3 persons died.	Several trees, electric/telephone poles uprooted causing disruption in communication and power supply.
43.	29 May	a) Dhanbad, Giridih, Koderma (Jharkhand)		Total 3 persons died & 7 others injured. Dhanbad – 1 died & 2 injured, Giridih – 5 injured, Koderma – 2 died.	
		b) East Sikkim (Sikkim)		One woman died & 2 others injured at Aritar Chalisey under Rhenock constituency.	i) Damage to house reported. ii) Huge tree uprooted.

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
44.	30 May	a) Arwal, Aurangabad, Gaya, Kaimur, Rohtas (Bihar)		7 persons died.	
		b) Agra, Allahabad, Gonda, Kannauj, Kaushambi, Lakhimpur Kheri, Mainpuri, Muzaffarnagar, Pratapgarh, Pilibhit, Raibareli, Unnao & other parts of Uttar Pradesh.		43 persons died & 9 others injured.	i) Damage to Oilseeds, Pulses, Wheat, Poppy crops and Mangoblossoms reported. ii) Several trees, electric/telephone poles uprooted causing disruption in communication and power supply.
45.	31 May	a) Agra, Gorakhpur, Kannauj, Sant Kabir Nagar, Unnao & other parts of Uttar Pradesh.		9 persons died.	i) Damage to Oilseeds, Pulses, Wheat, Poppy crops and Mangoblossoms reported. ii) Damage to main gate, railing & fencing of Tajmahal reported. iii) Roof of waiting area of Tajmahal blown away. iv) Several trees, electric/telephone poles uprooted causing disruption in communication and power supply.
		b) Hingoli, Jalana (Maharashtra)			i) Roofs of many houses blown away. ii) Damage in Rajur area, Jambasmarth reported.
46.	1 & 2 Jun.	Hazaribag, Ranchi (Jharkhand)		Total 3 persons died. Hazaribag - 1, Ranchi - 2. While, 2 persons injured & 4 livestock perished from Ranchi Dist.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
47.	10 Jun.	Ranchi (Jharkhand)		One person died.	
48.	10 & 11 Jun.	Agar-Malwa, Mandsaur, Rajgarh, Vidisha (Madhya Pradesh)		2 persons died in Mandsaur Dist. on 10 <sup>th</sup> .	i) Damage to crops reported. ii) Damage to houses reported. iii) Several trees, electric/telephone poles uprooted causing disruption in communication and power supply.
49.	11 Jun.	Dhamtari (Chhattisgarh)		One person died.	i) Damage to houses reported. ii) 50 trees uprooted.
50.	12 Jun.	a) Ranchi (Jharkhand)  b) Banda, Chitrakoot, Etawah, Hamirpur, Jalaun, Jhansi, Lalitpur, Mahoba, Mainpuri (Uttar Pradesh)		One person died.  5 persons died & 2 other injured.	  Damage to crops reported.
51.	14 Jun.	Rajnandgaon (Chhattisgarh)		One person died.	Damage to many electric instruments reported.
52.	17 Jun.	Dumka (Jharkhand)		2 persons died.	
53.	27 & 28 Jun.	Giridih, Ranchi (Jharkhand)		Total 5 persons died, 16 others injured & 3 livestock perished.  Viz. Giridih – 3 died & 2 injured,  Ranchi – 2 died, 14 injured & 3 livestock perished.	
54.	30 Jun.	a) Jamui, Lakhisarai, Nawada, Patna, Saran (Bihar)		11 persons died.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
		b) Raigarh (Chhattisgarh)		One person died.	
55.	1 & 2 Jul.	Giridih (Jharkhand)		5 persons died & other injured.	
56.	1 Jul.	Rajnandgaon (Chhattisgarh)		One person injured & one livestock perished.	
57.	2 Jul.	East Champaran, Katihar, Madhepura, Samastipur, Sheohar, West Champaran (Bihar)		27 persons died.	
58.	3 Jul.	Banka, Gaya, Jamui, Lakhisarai, Samastipur, Vaishali (Bihar)		15 persons died.	
59.	4 Jul.	Aurangabad, Bhojpur, Buxar, Jehanabad, Rohtas, Saran (Bihar)		25 persons died.	
60.	5 Jul.	a) Khunti (Jharkhand)		2 persons died & other injured.	
		b) Dhamtari, Korba (Chhattisgarh)		4 livestock perished in Korba Dist.	Many houses damaged.
61.	8 Jul.	a) Gumla (Jharkhand)		3 persons died & 2 others injured.	
		b) Begusarai, Bhagalpur, Gaya, Jamui, Kaimur, Munger (Bihar)		12 persons died.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
62.	9 Jul.	a) Giridih, Godda, Lohardaga (Jharkhand)		Total 7 persons died. Giridih –3, Godda –2, Lohardaga-2.	
		b) Kabirdham (Chhattisgarh)			Damage to transformer reported.
63.	10 Jul.	Giridih, Godda, Sahebganj (Jharkhand)		Total 7 persons died & 5 others injured. Giridih – 1 died & 1 injured, Godda – 3 died, Sahebganj - 3 died & 4 injured.	
64.	12 Jul.	Bokaro, Dumka, Ranchi (Jharkhand)		Total 5 persons died & 4 others injured. Bokaro – 1 died, Dumka – 3 died & 3 injured, Ranchi – 1 died & One injured.	
65.	13 Jul.	Giridih, Palamu, Ranchi (Jharkhand)		Total 8 persons died & other injured. Giridih – 4 died & one injured, Palamu – 1 died, Ranchi – 3 died.	
66.	14 Jul.	Garhwa (Jharkhand)		One person died & other injured.	
67.	16 Jul.	West Singhbhum (Jharkhand)		6 persons injured.	
68.	19 Jul.	Begusarai, Darbhanga, East Champaran, Madhepura, Patna, Purnea, Saharsa (Bihar)		10 persons died.	



S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
69.	21 Jul.	Ranchi (Jharkhand)		One person died, 2 persons injured & 7 livestock perished.	
70.	22 Jul.	Gumla (Jharkhand)		One person died.	
71.	23 Jul.	Garhwa (Jharkhand)		One person died.	
72.	27 Jul.	Gumla, Palamu, West Singhbhum (Jharkhand)		Total 6 persons died, 2 in each Dist & 5 others injured in Palamu Dist.	
73.	30 Jul.	Jamui, Khagadia, Sheikhpura (Bihar)		9 persons died.	
74.	31 Jul.	a) Giridih (Jharkhand) b) Aurangabad (Bihar)		One person died. 6 persons died.	
75.	1 Aug.	Ranchi (Jharkhand)		2 persons died & 3 others injured.	
76.	3 Aug.	Gumla (Jharkhand)		4 persons died.	
77.	12 Aug.	Simdega (Jharkhand)		2 persons died.	
78.	18 Aug.	Chatra (Jharkhand)		One person died.	
79.	23 Aug.	Giridih, Ranchi (Jharkhand)		Total 3 persons died. Giridih – 2, Ranchi – 1. While, 3 person injured in Ranchi Dist.	Damage to houses reported.
80.	6 Sep.	Ranchi (Jharkhand)		One person died.	

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
81.	7 Sep.	Ramgarh, Ranchi (Jharkhand)		Total 3 persons died. Ramgarh – 2, Ranchi – 1. & One cow perished in Ranchi Dist.	
82.	9 Sep.	Khunti (Jharkhand)		One person died & 4 others injured.	
83.	10 Sep.	Ranchi (Jharkhand)		One person died.	
84.	11 Sep.	Dhanbad (Jharkhand)		One person died.	
85.	15 Sep.	Arariya, Begusarai, Buxar, Jamui, Kagaria, Katihar, Patna, Supaul, (Bihar)		8 persons died.	
86.	17 Sep.	Deoghar, Dumka, Gumla, Pakud, Ranchi (Jharkhand)		Total 7 persons died & 6 others injured. Deoghar (Madhupur)–1,Dumka-2, Gumla – 3 died & 6 injured, Pakud – 1. While 11 livestock including 9 goats & 2 oxen perished in Ranchi Dist.	
87.	3 Oct.	Chatra, Palamu (Jharkhand)		Total 3 persons died & 2 others injured. Chatra – 1 died. Palamu - 2 died & 2 others injured.	
88.	5 Oct.	Giridih (Jharkhand)		One person died.	
89.	6 Oct.	Ranchi (Jharkhand)			Damage to house reported.
90.	7 Nov.	Kozhikode (Kerala)		One person electrocuted.	Damage to household electronic appliances in Balusserry reported.

## सारिणी – IX : ओलावृष्टि 2020

### निकष

हलका : विरल, आमतौर पर छोटे आकार और अक्सर बारिश के साथ संमिश्र ।

मध्यम : पर्याप्त प्रचुर मात्रा में जमीन सफेद करने के लिए।

भारी : बड़े पत्थरों के कम से कम एक अनुपात भी शामिल है।

TABLE – IX: HAILSTORM 2020

### CRITERIA

**Slight : Sparse, usually small size and often mixed with rain.**

**Moderate : Fall abundant enough to whiten ground.**

**Heavy : Includes at least a proportion of large stones.**

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
1.	1 Jan.	Amaravati, Bhandara, Chandrapur, Nagpur (Maharashtra)	Moderate		Damage to Gram, Tur, Wheat crops reported.
2.	2 & 3 Jan.	a) Akola, Amaravati, Hingoli, Nagpur, Nanded, Wardha, Washim, Yavatmal, (Maharashtra)	Moderate		Damage to Gram, Tur, Wheat crops in 21000 hectares reported.
		b) Parts of Uttar Pradesh	Moderate		Extensive damage to crops reported.
3.	8 Jan.	a) Akola, Amaravati, Buldhana, Yavatmal, Washim (Maharashtra)	Moderate		i) Damage to Wheat & Gram crops reported. ii) Damage to about lakhs of rupees reported.

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
		b) Narsinghpur, Seoni, Vidisha (Madhya Pradesh)	Moderate		Damage to Rice, Gram, Mustard crops reported.
4.	25 Jan.	Bhandara, Gondia (Maharashtra)	Moderate		Damage to Gram, Tur, Wheat crops reported.
5.	21 Feb.	Katni, Satna (Madhya Pradesh)	Moderate		Damage to Gram, Wheat and Mustard crops reported.
6.	22 Feb.	Shahdol, Sidhi, Singrauli (Madhya Pradesh)	Moderate		Damage to Gram, Wheat and Pulses crops reported.
7.	23 Feb.	Anuppur, Mandla, Seoni, Shahdol, Sidhi, Uamaria (Madhya Pradesh)	Moderate		Damage to Wheat and Pulses crops reported.
8.	24 Feb.	a) Anuppur, Balaghat, Seoni, Shahdol (Madhya Pradesh)	Moderate		Damage to Gram, Wheat and Pulses crops reported.
		b) Gondia (Maharashtra)	Moderate		Damage to rabbi crops including Wheat & Tur reported.
9.	1 Mar.	Ahmednagar, Aurangabad, Jalana, Jalagaon, Nasik, Osmanabad, Satara, Solapur, Washim (Maharashtra)	Moderate		Damage to Pomegranates, Orange & Grapes crops reported.
10.	2 Mar.	Anuppur, Seoni (Madhya Pradesh)	Moderate		Damage to Gram, Wheat and Lentil crops reported.
11.	3 Mar.	Ranchi (Jharkhand)	Moderate		Damage crops reported.

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
12.	4 Mar.	Chhattarpur, Panna, Sheopur, Tikamgarh (Madhya Pradesh)	Moderate		Damage crops reported.
13.	4 & 5 Mar.	Parts of Uttar Pradesh	Moderate		Damage Oilseeds, Wheat, Peas, Tomatoes, Mango blossoms & poppy crops reported.
14.	6 Mar.	Bhind, Morena, Shahdol, Sidhi, Uamaria (Madhya Pradesh)	Moderate		Damage to Wheat crops reported.
15.	13 Mar.	Anuppur, Seoni, Uamaria (Madhya Pradesh)	Moderate		Damage to crops reported.
16.	14 Mar.	Kangra (Himachal Pradesh)	Moderate		Damage to crops in Palampur Tehsil reported.
17.	18 Mar.	a) Betul, Hoshangabd, Khandwa, Narsingpur (Madhya Pradesh)	Moderate		Damage to Gram, Wheat crops reported.
		b) Akola, Amaravati, Bhandara, Chandrapur, Dhule, Gondia, Hingoli, Jalgaon, Nagpur, Nanded, Nandurbar, Parabhani, Wardha, Washim (Maharashtra)	Heavy		Damage to rabbi crops including Wheat, Jawar, Gram, Maka, Cotton and Onion crops reported. Also damage to fruit crops like Bananas, Mangoes, Papaya, & Grapes reported.
18.	19 Mar.	Balaghat, Jabalpur, Katni, Mandla, Raisen, Sagar, Sahahdol, Seoni, Vidisha, Uamaria (Madhya Pradesh)	Moderate		Extensive damage to crops reported.

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
19.	16 Apr.	Kullu, Mandi, Shimla (Himachal Pradesh)	Moderate		Damage to crops reported.
20.	23 Apr.	Shimla (Himachal Pradesh)	Heavy		Damage to crops from Kotgarh valley reported.
21.	25 Apr.	Dindori, Satna (Madhya Pradesh)	Heavy		Damage to Wheat crops reported.
22.	26 Apr.	Anuppur, Bhind, Datia, Dindori, Gwalior, Rewa, Satna, Shahdol, Umaria (Madhya Pradesh)	Heavy		i) Extensive damage to crops reported. ii) Damage to houses reported. iii) Several trees uprooted.
23.	27 & 28 Apr.	Hingoli, Nanded, Wardha (Maharashtra)	Heavy		Damage to Gram, Wheat, Mango, Banana, Melon, Turmeric and vegetables reported.
24.	29 Apr.	Shimla (Himachal Pradesh)	Heavy		Damage to Apple flowering from Nankheri Area reported.
25.	2 May	Baramulla, Budgam (Jammu & Kashmir)	Heavy		Extensive damage to crops & fruits in Uri & Boniyar tehsils of Baramulla district and Khansahib area in Budgam district reported.
26.	3 May	Chambal, Guna, Gwalior, Morena (Madhya Pradesh)	Heavy		i) Many birds injured. ii) Extensive damage to crops reported. iii) Damage to houses reported. iv) Several trees uprooted.
27.	5 May	Kupwara (Jammu & Kashmir)	Heavy		Damage to Orchards, Walnut trees & other crops in many villages including Kralpora, Thehgram, Hirri, Ramhal reported.
28.	13 May	Balaghat (Madhya Pradesh)	Moderate		Damage to crops reported.

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of damage
29.	10 May	Akola, Bhandara, Chandrapur, Gondia, Washim (Maharashtra)	Moderate	More than 200 sparrow perished in Neri area of Chimur tehsil from Chandrapur Dist.	Damage to Gram, Wheat, vegetable crops reported.
30.	12 May	Jashpur (Chhattisgarh)	Moderate		Damage to vegetable farm reported.
31.	17 May	Anantnag (Jammu & Kashmir)	Heavy		Huge damage to crops & Orchards at Aishmuqam, Sallar & adjacent villages of Pahalgam belt reported.
32.	29 May	a) Budgam, Pulwama (Jammu & Kashmir)	Heavy		Extensive damage to fruit Orchards, vegetables & rice saplings in dozens of villages including Rajpora, Abhama, bagh Sangerwani, Drakladan, Achgoza & Drabgam areas of Pulwama district and Dalwan, Nagbal, Futlipora, Jedan, Negu, Darwan & other villages of Budgam district reported.
		b) Shimla (Himachal Pradesh)	Heavy		Damage to Apple & vegetable crops reported.
33.	31 May	Sangli (Maharashtra)	Moderate		Extensive damage to Grapes crops reported.
34.	6 Jun.	Shimla (Himachal Pradesh)	Heavy		Damage to vegetable crops reported.
35.	8 Sep.	Nagpur (Maharashtra)	Heavy		Damage to many houses at Kharbadi of Narkhed tehsil reported.
36.	7, 9 & 13 Oct.	Nagpur (Maharashtra)	Heavy		Damage to paddy crops reported.
37.	15 Nov.	Gwalior, Morena (Madhya Pradesh)	Heavy		Damage to Wheat, Mustard, Green Peas, Potato crops reported.

**सारिणी X - बाढ और भारी बारिश 2020**  
**TABLE X – FLOODS AND HEAVY RAINS 2020**

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
<b>STATES</b>					
<b>ANDHRA PRADESH</b>					
1.	28 to 30 Jun.	Anantapur	Heavy rains	2 persons electrocuted in Uravakonda.	
2.	3 Sep.	East Godavari	Heavy Rains & Flood (Godavari River)	4 persons missing.	Damage to a small boat reported.
3.	13 Sep.	Anantapur, Chittoor, Cuddapah, Kurnool, West Godavari	Heavy Rains & Flood	One person drowned in a canal at Suddhagadda in Prattipadu of West Godavari Dist.	A motorcycle was washed away in a flooding canal at Chenchugudempalem village of Rudravaram mandal in Rayalaseema.
4.	14 Sep.	Krishna, West Godavari	Heavy Rains & Flood	3 persons died.	
5.	25 Sep.	West Godavari	Heavy Rains	One person died.	
6.	26 Sep.	Prakasham	Flash flood	One person died.	
7.	13 & 14 Oct.	East Godavari, Guntur, Krishna, Visakhapatnam, West Godavari, YSR Kadapa	Heavy Rains & Flood	9 persons drowned.	<ul style="list-style-type: none"> <li>i) More than 54,000 hectares of cropland affected.</li> <li>ii) Damage to 415 houses reported.</li> <li>iii) About 150,000 populations from 198 villages badly affected. While, 6,616 people evacuated with 4,864 of them staying in 32 relief camps.</li> <li>iv) Damage to infrastructure including 1317.36 Km length of roads reported.</li> <li>v) Disruption in power supply reported in several districts.</li> </ul>



S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
8.	24 Oct.	Visakhapatnam, West Godavari	Heavy Rains & Flood	3 persons drowned.	
	* Whole year	Area affected 0.213 m.ha.		i) 45 human lives lost. ii) 18663 cattle lost.	i) Crops in 0.213 m.ha. damaged. ii) 1.770 millions population affected. iii) 7651 houses damaged.
<b>ARUNACHAL PRADESH</b>					
1.	25 May	Dibang Valley	Landslide	3 persons died including a 28 year old woman & her 2 children in the Arzoo village.	i) Damage to a house reported. ii) Many roads including a major road leading to Tawang completely damaged.
2.	23 to 25 Jun.	Itanagar	Landslide	One minor girl died at Doni Colony.	
3.	10 Jul.	Itanagar, Papum Pare	Heavy rain triggered landslips	Total 8 persons died. Itanagar – 4, Papum Pare – 4.	i) Damage to houses reported. ii) Damage to road reported. iii) Low-lying areas inundated.
	* Whole year	Area affected 0.006 m.ha.		i) 21 human lives lost. ii) 149 cattle lost.	i) Crops in 0.006 m.ha. damaged. ii) 0.670 millions population affected. iii) 693 houses damaged.
<b>ASSAM</b>					
1.	25 to 31 May	Barpeta, Darrang, Dhemaji, Dibrugarh, Goalpara, Hojai, Kamrup, Lakhimpur, Nagaon, Nalbari, Karbi Anglong, Tinsukia,	Floods & Heavy rains	Total 6 persons died from Goalpara – 4 (on 28 <sup>th</sup> May, on 29 <sup>th</sup> May & on 31 <sup>st</sup> May), Hojai – 1 (on 29 <sup>th</sup> May), Nagaon – 1 (on 30 <sup>th</sup> May). While, more than 35,000 livestock perished.	i) Cropland of area 25,000 hectares affected. ii) More than 2,90,000 population of more than 300 villages in 12 districts affected. iii) Damage to many RCC roads, bridge & sub way connectivity reported.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
2.	1 to 30 Jun.	Barpeta, Biswanath, Bongaigaon, Chirang, Darang, Dhemaji, Dhubri, Dibrugarh, Goalpara, Golaghat, Hojai, Jorhat, Karbi Anlong, Kamrup, Kokrajhar, Lakhimpur, Majuli, Morigaon, Nagaon, Nalbari, Salmara, Sivasagar, Tinsukia, Udalguri	Heavy Rains & Flood (Brahmaputra and tributaries)	27 persons died & many others injured.  More than 20 lakhs livestock including big, small animals & poultry birds perished.	i) Cropland of area more than 83,000 hectares affected.  ii) More than 14,90,000 population of more than 2400 villages in 24 districts affected.  iii) Damage to roads, RCC Bridge/Culvert, reported. Also, National Highways/ Sub ways blocked the road connectivity due to flooded water.
3.	1 to 31 Jul.	Baksa, Barpeta, Biswanath, Bongaigaon, Cachar, Charaideo, Chirang, Darrang, Dibrugarh, Dhemaji, Dhubri, Goalpara, Golaghat, Hojai, Jorhat, Karbi Anglong, Kamrup, Kamrup Metropolitan, Kokrajhar, Lakhimpur, Majuli, Morigaon, Nagaon, Nalbari, Sivasagar, Sonitpur, South Salmara-Mankachar, Tinsukia	Heavy Rains & Flood (Brahmaputra and tributaries)	81 persons died & many others injured.  More than 35 lakhs livestock including big, small animals & poultry birds perished.	i) Crop land of area more than 1,31,300 hectares affected.  ii) More than 39,79,000 population of more than 3200 villages in 28 districts affected.  iii) Damage to roads, RCC Bridge/Culvert, sub ways reported. Also, National Highways/ Sub ways blocked the road connectivity due to flooded water /Landslide.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
4.	1 to 31 Aug.	Baksa, Barpeta, Biswanath, Bongaigaon, Charaideo, Chirang, Darrang, Dhemaji, Dhubri, Goalpara, Golaghat, Jorhat, Kamrup, Kamrup(M), Kokrajhar, Lakhimpur, Majuli, Morigaon, Nagaon, Nalbari, Sivasagar, South Salmara, Tinsukia	Heavy Rains & Flood (Brahmaputra and tributaries)	4 persons died & many others injured. More than 9 lakh livestock including big, small animals & poultry birds perished.	i) Crop land of area more than 75,710 hectares affected. ii) More than 10,62,000 population of more than 1000 villages in 23 districts affected. iii) Damage to roads, RCC Bridge / Culvert, sub ways reported. Also, National Highways/ Sub ways blocked the road connectivity due to flooded water /Landslide.
5.	1 to 30 Sep.	Biswanath, Chirang, Dhemaji, Dibrugarh, Golaghat, Hojai, Jorhat, Lakhimpur, Majuli, Morigaon, Nagaon, Sivasagar, Tinsukia, West Karbi Anglong	Heavy Rains & Flood (Brahmaputra and tributaries)	7 persons died & many others injured. More than 73,000 livestock including big, small animals & poultry birds perished.	i) Cropland of area more than 26,652 hectares affected. ii) More than 2,80,000 population of more than 450 villages in 14 districts affected. iii) Damage to roads, RCC Bridge / Culvert, sub ways reported. Also, National Highways/ Sub ways blocked the road connectivity due to flooded water /Landslide.
6.	1 to 31 Oct.	Barpeta, Biswanath, Dhemaji, Goalpara, Hojai, Morigaon, Nagaon, Sonitpur, West Karbi Anglong	Heavy Rains & Flood (Brahmaputra and tributaries)	4 persons died & many others injured. More than 74,000 livestock including big, small animals & poultry birds perished.	i) Cropland of area more than 25,300 hectares affected. ii) More than 2,70,700 population of more than 400 villages in 9 districts affected. iii) Damage to roads, RCC Bridge / Culvert, sub ways reported. Also, National Highways/ Sub ways blocked the road connectivity due to flooded water /Landslide.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
	<i>* Whole year</i>	<i>Area affected 0.118 m.ha.</i>		<i>i) 150 human lives lost. ii) 702 cattle lost.</i>	<i>i) Crops in 0.118 m.ha. damaged. ii) 5.789 millions Population affected. iii) 8122 houses damaged.</i>
<b>BIHAR</b>					
1.	26 Jul.	Darbhanga, Champaran, Madhubani, Muzaffarpur, Samastipur	East	Heavy Rains & flood	27 persons died.  i) Damage to agricultural crops reported. ii) Damage to property reported.
2.	1 to 20 Aug.	Darbhanga, Champaran, Gopalganj, Kishanganj, Madhepura, Madhubani, Muzaffarpur, Saharsa, Samastipur, Saran, Sheohar, Sitamarhi, Siwan, Supaul, West Champaran	East	Heavy Rains & floods in Ganga & tributaries	Total 27 persons died. Darbhanga - 11, Khagaria - 2, Muzaffarpur - 6, Saran - 2, Siwan – 2, West Champaran – 4.  i) 81,79,257 population of 1,317 panchayats of 130 blocks in 16 districts affected. ii) People shifted to 8 Relief Camps, 12,239 inmates by 26 teams of National Disaster Response Force (NDRF) and State Disaster Response Force (SDRF).
	<i>* Whole year</i>	<i>Area affected 0.772 m.ha.</i>		<i>i) 62 human lives lost. ii) 133 cattle lost.</i>	<i>i) Crops in 0.517 m.ha. damaged. ii) 10.230 millions Populations affected. iii) 18775 houses damaged.</i>
<b>CHHATTISGARH</b>					
1.	18 Jun.	Korba		Heavy Rains	Damage to 6 houses reported.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
2.	26, 27 Aug.	Balodabazar- Bhatapara, Bilaspur, Durg, Janjgir-Champa, Raigarh, Raipur, Rajnandgaon	Heavy Rains & Floods (Mahanadi)		<ul style="list-style-type: none"> <li>i) Damage to about 12,000 houses in various districts of the state including 4000 houses only from Janjgir-Champa district reported.</li> <li>ii) Several urban areas inundated.</li> <li>iii) Thousand people shifted to relief camps.</li> </ul>
	<i>* Whole year</i>	<i>Area affected 0.016 m.ha.</i>		<ul style="list-style-type: none"> <li>i) 42 human lives lost.</li> <li>ii) 154 cattle lost.</li> </ul>	<ul style="list-style-type: none"> <li>i) Crops in 0.005 m.ha. damaged.</li> <li>ii) 0.040 millions population affected.</li> <li>iii) 22312 houses damaged.</li> </ul>

### GUJARAT

1.	1 Jun. to 7 Jul.	Devbhumi Dwarka, Jamnagar, Junagadh, Kachchh, Navsari, Porbandar, Rajkot, Surat, Valsad & parts of Gujarat	Heavy Rains & Floods	Total 74 persons died & several livestock perished.	<ul style="list-style-type: none"> <li>i) Worst affected district Rajkot.</li> <li>ii) Nearly 30-year-old bridge in Junagadh district caved in.</li> <li>iii) 7 National Disaster Response Force (NDRF) teams deployed.</li> <li>iv) Around 100 people have been evacuated in Devbhumi Dwarka District.</li> </ul>
2.	15 & 16 Aug.	Devbhumi Dwarka, Porbandar, Surat & Parts of Gujarat	Heavy Rains & Floods	<p>Total 7 persons died.</p> <p>Viz. Devbhumi Dwarka – 1 man swept away in Lalparda village of Khambhaliya taluka,</p> <p>Surat – 1 died in Limbayat zone,</p> <p>Parts of Gujarat – 5 died.</p>	<ul style="list-style-type: none"> <li>i) At least three fishing boats capsized off Porbandar coast.</li> <li>ii) Traffic suspended on 195 roads, including 16 state highways.</li> <li>iii) Many areas in the state lashed including Mandvi taluka in Surat.</li> <li>iv) Water-logging in various districts reported.</li> <li>v) Several people shifted to safer places.</li> <li>vi) 13 teams of the National Disaster Response Force (NDRF) deployed to tackle the emergency situation.</li> </ul>

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
3.	24 Aug.	Ahmedabad, Bhavnagar, Junagadh, Mehsana, Morbi, Narmada, Patan, Sabarkantha, Tapi	Heavy Rains & Floods	Total 9 persons died. Viz. Bhavnagar - 1, Junagadh – 2, Mehsana- 1, Morbi – 2 persons including a father & son swept away near Raisangpar village while going to attend a state competitive exam, Narmada - 1, Tapi - 2.	i) Damage to houses reported. ii) Normal life disrupted. iii) About 1,900 people shifted to safer places.
4.	29 Aug.	Bhavnagar, Botad, Gandhinagar, Gir Somnath, Junagadh, Kutch, Narmada, Patan, Tapi	Heavy Rains & Floods	Total 12 persons died. Viz. Bhavnagar - 1, Botad- 1 died in Dharpipla village in Ranpur taluka due to wall collapsed, Gandhi-nagar - 2, Gir Somnath – 2, Junagadh- 1, Kutch- 1, Narmada - 1, Patan - 1, Tapi – 2.	
5.	30 Aug.	Ahmedabad, Amreli, Banaskantha, Bharuch, Botad, Devbhumi Dwarka, Junagadh, Kutch, Rajkot, Mahisagar, Narmada, Panchmahal, Porbandar Surat, Vadodara, Valsad	Heavy Rains & Floods	Total 2 persons died & 2 others missing. Viz. Banaskantha – 1 swept away & 1 missing, Botad – 1 died & 1 missing.	i) Major damage of roads in Kutch, Mahisagar, Surat, Valsad, Rajkot, Devbhumi Dwarka, Junagadh, Porbandar districts reported. ii) Damage to about 1000 houses reported. iii) As many as 149 roads, including one national highway & 15 state highways, closed. iv) Thousands of people shifted from 19 villages of Bharuch, 3 villages of Narmada & 2 villages of Vadodara districts to safer places by teams of the National Disaster Response Force (NDRF) and state agencies. Also, many persons rescued from Amreli, Junagadh, Rajkot & Vadodara districts.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
6.	22 Oct.	Parts of Gujarat	Heavy Rains & floods	2 persons died due to wall collapsed.	Damage to 6 houses reported.
	<i>* Whole year</i>	<i>Area affected 2.902 m.ha.</i>		<i>i) 195 human lives lost. ii) 726 cattle lost.</i>	<i>i) Crops in 2.902 m.ha. damaged. ii) 0.340 million population affected. iii) 4548 houses damaged.</i>
<b>HARAYANA</b>					
1.	19 Aug.	Gurgaon	Heavy Rains	One person electrocuted in Gurugram.	Damage to house reported.
<b>HIMACHAL PRADESH</b>					
1.	24 Jun. to 30 Sep.	Bilaspur, Chamba, Hamirpur, Kangra, Kinnaur, Kullu, Lahul & Spiti, Mandi, Shimla, Sirmaur, Solan, Una	Heavy Rains & Landslide	Total 32 persons died due to Landslide or by drowning. Bilaspur - 2, Chamba - 5, Hamirpur - 2, Kangra - 8, Lahul & Spiti - 1, Mandi - 5, Shimla - 5, Sirmaur - 2, Solan - 2. While, 88 livestock perished.	i) Damage to Agricultural & Horticultural crops reported. ii) Damage to 689 Pacca & Kacha houses fully or partially reported. Damage to shops & cow sheds also reported. iii) Damage to NH-05 of about 07 to 08-meter road reported due to which people were not able to cross the road on foot. Also, NH -03 blocked.
2.	28 Jun.	Solan	Landslide	2 persons were died at Kandaghat Tehsil.	
3.	14 Aug.	Mandi	Landslide	2 persons died and 2 others injured due to landslide at Hanogi Mata Temple at Sub Division Sadar.	
4.	14 & 15 Aug.	Mandi	Heavy Rains		Damage to 13 houses at Sadher Thanehara Muhalla due to heavy rainfall reported.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
5.	18 Aug.	Kangra	Heavy Rains & Landslide	2 persons died at Dharamshala.	
	<i>* Whole year</i>	<i>Area affected 0.002 m.ha.</i>		<i>i) 11 human lives lost. ii) 84 cattle lost.</i>	<i>i) Crops in 0.001 m.ha. damaged. ii) 0.500 million population affected. iii) 1307 houses damaged.</i>
<b>JHARKHAND</b>					
1.	14 Mar.	Bokaro, Chatra, Dhanbad, Hazaribag, Palamu, Ramghah	Heavy rains	Total 4 persons died & 5 others injured.  Bokaro – 1, Dhanbad - 1 died & 2 injured, Hazaribag – 1 died & 3 injured, Palamu – 1 died.  While, 14 livestock perished from Chatra Dist.	i) Damage to crops reported. ii) Water filled in mines, production stopped. iii) Damage to Bridge reported. iv) Damage to houses reported.
2.	4 Oct.	Gumla	Heavy rains		Damage to crops reported.
3.	6 Oct.	Ranchi	Heavy rains		Damage to house reported.
	<i>* Whole year</i>	<i>Area affected 0.016 m.ha.</i>		<i>5 human lives lost.</i>	<i>i) Crops in 0.013 m.ha. damaged. ii) 0.028 million population affected. iii) 268 houses damaged.</i>



S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
<b>KARNATAKA</b>					
1.	1 to 30 Apr.	Bangalore Rural, Belgaum, Bellary, Bidar, Bijapur, Chamarajanagar, Chikmagalur, Chitradurga, Dakshina Kannada, Dharwad, Davangere, Gadag, Gulbarga, Hassan, Haveri, Kodagu, Kolar, Koppal, Mandya, Mysore, Raichur, Ramanagara, Shimoga, Tumkur, Udupi, Uttara Kannada	Heavy rains & Flood	Total 12 persons died. Viz. Belgaum-2, Bijapur-1, Gadag - 1, Gulbarga - 1, Hassan - 1, Raichur - 2, Ramanagara - 2, Shimoga - 1, Uttara Kannada - 1. While, 121 livestock perished. Viz. Bellary- 13, Bidar - 3, Bijapur - 1, Chamarajanagar - 1, Chitradurga - 24, Dharwad - 10, Gadag- 9, Gulbarga - 10, Hassan- 1, Haveri- 1, Koppal - 7, Mysore - 5, Raichur - 15, Ramanagara - 15, Tumkur - 1, Udupi - 4, Uttara Kannada - 1.	Damage to 350 houses reported.
2.	1 to 31 May	Bagakote, Bangalore Rural, Bangalore Urban, Belgaum, Bellary, Bidar, Bijapur, Chamarajanagar, Chikmagalur, Chitradurga, Dakshina Kannada, Dharwad, Davangere, Gadag, Gulbarga, Hassan, Haveri, Kodagu, Kolar, Koppal, Mandya, Mysore, Raichur,	Heavy rains & Flood	Total 32 persons died. Viz. Bagakote - 1, Bangalore Urban - 2, Belgaum - 4, Bellary - 3, Bijapur -1, Chikmagalur- 3, Chitradurga - 3, Dakshina Kannada-1, Dharwad -1, Gadag -2, Gulbarga-3, Hassan-1, Raichur - 2, Shimoga -1, Udupi -1, Uttara Kannada - 2, Yadgiri -1.	Damage to 1115 houses reported.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
		Shimoga, Tumkur, Udupi, Uttara Kannada, Yadgiri		While 106 livestock perished. Viz. Bellary -13, Bidar -3, Bijapur-1, Chamarajanagar -1, Chitradurga - 24, Dharwad - 10, Gadag - 9, Gulbarga - 10, Hassan - 1, Haveri - 1, Koppal - 7, Mysore - 5, Raichur - 15, Tumkur - 1, Udupi - 4, Uttara Kannada – 1.	
3.	1 to 30 Jun.	Bagalkote, Bangalore Rural, Belgaum, Bellary, Bijapur, Chamarajanagar, Chitradurga, Dakshina Kannada, Davanagere, Dharwad, Gadag, Gulbarga, Hassan, Haveri, Mandya, Mysore, Raichur, Ramanagara, Shimoga, Udupi, Uttara Kannada, Yadgiri	Heavy rains & Flood	Total 11 persons died. Bagalkote- 1, Bangalore Rural - 1, Chamarajanagar - 1, Dakshina Kannada - 1, Dharwad - 1, Gulbarga - 4, Haveri - 1, Uttara Kannada – 1. While 98 livestock perished. Belgaum - 17, Bellary - 26, Bijapur - 5, Chamarajanagar - 2, Gadag-8, Gulbarga-2, Hassan- 5, Raichur - 5, Ramanagara - 2, Shimoga - 8, Udupi - 3, Uttara Kannada - 12, Yadgiri – 3.	Damage to 1686 houses reported.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
4.	1 to 31 Jul.	Bagalkote, Belgaum, Bellary, Bidar, Bijapur, Chamarajanagar, Chikkaballapura, Chikmagalur, Chitradurga, Dakshina Kannada, Davangere, Gadag, Haveri, Mysore, Raichur, Ramanagara, Shimoga, Tumkur, Udupi, Uttara Kannada, Yadgiri	Heavy rains & Flood	Total 23 persons died. Belgaum - 1, Bellary - 1, Bidar - 4, Bijapur - 2, Chamarajanagar - 1, Chitradurga - 1, Dakshina Kannada-3, Gadag - 1, Haveri - 1, Raichur - 6, Tumkur -1, Udupi - 1. While 22 livestock perished. Bagalkote - 2, Belgaum - 2, Bellary - 1, Bijapur - 5, Chikmagalur - 6, Dakshina Kannada - 2, Shimoga - 2, Udupi - 2.	i) Damage to standing crops including paddy, green gram, cotton, red gram reported. ii) A bridges between 4 villages inundated on 23 <sup>rd</sup> in Yadgiri Dist. iii) Damage to 927 houses reported.
5.	1 to 31 Aug.	Bagalkote, Bangalore Urban, Belgaum, Bellary, Bijapur, Chamarajanagar, Chikkaballapura, Chikmagalur, Dakshina Kannada, Dharwad, Davangere, Gadag, Gulbarga, Hassan, Haveri, Kodagu, Koppal, Mandya, Mysore, Raichur, Shimoga, Tumkur, Udupi, Uttara Kannada, Yadgiri	Heavy rains & Flood	Total 43 persons died. Bagalkote - 3, Bangalore Urban -2, Belgaum - 2, Chikkaballapura - 2, Chikmagalur - 6, Dakshina Kannada - 1, Dharwad - 2, Gulbarga -3, Hassan -1, Haveri - 1, Kodagu -3, Mandya -1, Mysore - 1, Raichur - 6, Tumkur - 3, Udupi - 5, Yadgiri - 1. While 53 livestock perished. Belgaum - 13, Bijapur - 1, Chikmagalur - 2, Dakshina	Damage to 9,148 houses reported.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
				Kannada-2, Dharwad-1, Gadag- 1, Hassan-1, Kodagu -14,Mysore - 2, Shimoga - 6, Udupi - 2, Uttara Kannada - 7, Yadgiri – 1.	
6.	1 to 30 Sep.	Bagalkote, Bangalore Urban, Belgaum, Bellary, Bidar, Bijapur, Chamarajanagar, Chikmagalur, Chitradurga, Dakshina Kannada, Dharwad, Davangere, Gadag, Gulbarga, Hassan, Haveri, Kodagu, Kolar, Koppal, Mysore, Raichur, Ramanagara, Tumkur, Udupi, Uttara Kannada, Yadgiri	Heavy rains & Flood	Total 22 persons died. Bagalkote -1,Belgaum - 1, Bidar - 1, Bijapur - 1, Chikmagalur - 6, Chitradurga - 3, Dharwad - 2, Haveri - 1, Kodagu - 3, Raichur - 2, Udupi – 1. While 178 livestock perished. Bagalkot - 7,Bangalore Urban - 2, Belgaum - 20, Bellary - 13, Bidar - 37, Bijapur - 1, Chikmagalur - 12, Dakshina Kannada - 4, Gadag - 1, Hassan - 2, Haveri -2, Kodagu - 25, Koppal - 4, Mysore - 11, Udupi - 1, Uttara Kannada – 36.	i) Damage to the standing crops such as green chilli, cotton, paddy and red gram reported. ii) Damage to 2745 houses reported. iii) Bridges submerged. iv) Low-lying areas flooded.
7.	1 to 31 Oct.	Bagalkote, Bangalore Rural, Bangalore Urban, Belgaum, Bellary, Bidar, Bijapur, Chamarajanagar,	Heavy rains & Flood	Total 5 persons died. Viz. Bagalkote – 1 farmer washed away, Gadag - 1 woman died on 14 <sup>th</sup> ,Gulbarga – 3 [2	i) Damage to 812562.38 hectares of cropland reported. ii) Damage to 24573 houses reported. iii) The old bridge collapsed in Belagavi districts.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
		Chikmagalur, Chitradurga, Dakshina Kannada, Dharwad, Davanagere, Gadag, Gulbarga, Hassan, Haveri, Kodagu, Koppal, Mandya, Mysore, Raichur, Ramanagara, Shimoga, Tumkur, Udupi, Uttara Kannada, Yadgiri		youths & 40 year old man] washed away.Also, total 1170 livestock perished.  Viz. Bagalkote - 2, Belgaum - 44, Bellary-8, Bijapur-7, Chitradurga - 1, Davanagere - 7, Dharwad - 1, Gulbarga - 1033, Koppal - 5, Raichur - 9, Udupi -2,Uttara Kannada - 1, Yadgiri – 50	
	* Whole year	Area affected 1.310 m.ha.		i) 142 human lives lost. ii) 2708 cattle lost.	i) Crops in 1.310 m.ha. damaged. ii) 0.170 million population affected. iii) 40099 houses damaged.
<b>KERALA</b>					
1.	2 & 3 Jan.	Malappuram, Thiruvananthpuram	Heavy Rains		i) Damage to compound wall of Government school at Attingal, Thiruvananthpuram reported. ii) Damage to a house reported. iii) Damage to a bike reported. iv) Trees uprooted.
2.	24 & 28 Apr.	Thiruvananthpuram	Heavy Rains		i) Damage to houses reported. ii) Trees uprooted at several places and heavy branches broken causes disruption to electric supply. iii) Waterlogging reported in low lying areas.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
3.	3 May	Pathanamthitta	Heavy Rains		<ul style="list-style-type: none"> <li>i) Extensive damage to standing crops reported.</li> <li>ii) Damage to about 100 houses reported.</li> <li>iii) Damage to 80 electric posts reported.</li> <li>iv) Vehicular traffic remained disrupted for a long time on many roads.</li> </ul>
4.	7 & 8 May	Thiruvananthpuram	Heavy Rains		<ul style="list-style-type: none"> <li>i) Chirayinkeezh, Neyyattinkara, Vizhinjam area affected.</li> <li>ii) Damage to acres of agricultural crops reported.</li> <li>iii) Damage to more than 174 houses reported.</li> <li>iv) Electric posts broke down cause disruption to power supply at many places.</li> <li>v) Trees uprooted.</li> </ul>
5.	16 & 18 May	Thiruvananthpuram	Heavy Rains		<ul style="list-style-type: none"> <li>i) Kovalam &amp; Vanchiyoor area affected</li> <li>ii) 10 hectares of paddy fields ready for harvesting inundated causes huge loss to farmers.</li> <li>iii) Damage to many houses &amp; shop reported.</li> <li>iv) 6 electric posts broken down. Overhead power lines broken at many places.</li> <li>v) Damage to household electronic equipments reported.</li> <li>vi) Trees uprooted at many places.</li> </ul>

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
6.	22 May	Thiruvananthpuram	Heavy Rains & Floods (Killi and Karamana rivers)		<ul style="list-style-type: none"> <li>i) Malayinkeezhu, Vattiyurkavu, Vizhinjam, Kovalam, Thiruvallam area affected.</li> <li>ii) Damage to 7735 plantains and vegetable cultivation in 6 acres of land reported.</li> <li>iii) Many low lying areas inundated.</li> <li>iv) Around 500 houses in different places inundated.</li> <li>v) Complete or partial damage to 100 houses reported.</li> <li>vi) 15 families shifted to relief camps.</li> <li>vii) Damage to 30 vehicles including four-wheelers reported.</li> <li>viii) Smaller roads leading off the bypass into the Chala market &amp; residential colonies remained waterlogged for hours.</li> </ul>
7.	2, 3 & 5 Jun.	Thiruvananthpuram	Heavy Rains & Floods	2 persons injured.	<ul style="list-style-type: none"> <li>ix) Traffic disrupted.</li> <li>i) Nandyode, Vizhinjam, Neyyattinkara, Muttathara, Pattom, Nedumangadu, Kovalam, Adimalathura, Nilambur area affected.</li> <li>ii) Damage to Temple reported.</li> <li>iii) Complete damage to 2 houses reported.</li> <li>iv) More than 200 houses from different places inundated causes damages to floor and electronic equipments.</li> <li>v) Damage to many shops reported.</li> <li>vi) Damage to two-wheeler reported.</li> <li>vii) Major roads including Chala Bypass road in the city inundated causes disruption in traffic.</li> <li>viii) Vehicular traffic disrupted.</li> <li>ix) Trees uprooted in many places.</li> </ul>

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
8.	3 Jul.	Kozhikode	Flash flood	One youth died at Pulloorampara.	
9.	5 Aug.	Wayanad	Heavy Rains & Floods	2 children died in different incidences.	<ul style="list-style-type: none"> <li>i) Damage to a house reported.</li> <li>ii) Tree uprooted.</li> <li>iii) Traffic disrupted at many places.</li> </ul>
10.	6 Aug.	Idukki	Landslide	65 persons died & 5 persons missing from Petimudi, Munnar.	<ul style="list-style-type: none"> <li>i) Huge rocks and mud fell over one of the housing quarters of tea workers at Petimudi, Munnar.</li> <li>ii) Damage to 30 houses reported.</li> <li>iii) Complete damage to 4 estate lanes in the Nayamakkad division reported.</li> <li>iv) Uprooted trees and boulders on road causes traffic disruption.</li> <li>v) Bridge at periyavarai washed away.</li> <li>vi) Damage to a car reported.</li> </ul>
11.	6 Aug.	Wayanad	Heavy Rains & Landslide		<ul style="list-style-type: none"> <li>i) Kalpetta, Mundakkai, Makkiyadu, Mananthavady area affected.</li> <li>ii) Damage to 10 hectares paddy fields, 17500 plantain trees &amp; 125 rubber trees reported.</li> <li>iii) Damage to 15 houses reported.</li> <li>iv) 5 bridges washed away.</li> <li>v) 621 families shifted to 49 relief camps.</li> <li>vi) Damage to 1183 transformers reported which causes disruption in power supply in the region for 3 days.</li> <li>vii) Estimated 1.39 crore monetary loss reported.</li> <li>viii) NH 766 was inundated &amp; traffic disrupted in ghat areas.</li> </ul>



S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
12.	7 Aug.	Alappuzha	Heavy Rains & Floods	2 persons died & other missing.	
13.	8 Aug.	Thiruvananthpuram, Wayanad	Heavy Rains & Floods		<p><b>Thiruvananthpuram :</b></p> <p>i) Damage to 5867 hectares of agricultural land reported.</p> <p>ii) Damage to 37 houses completely &amp; 198 houses partially reported.</p> <p>iii) 153 families were shifted to 7 relief camps.</p> <p><b>Wayanad :</b></p> <p>i) A bridge washed away.</p> <p>ii) Karingari- Kakkadavu road inundated.</p> <p>iii) 79 relief camps were opened.</p> <p>iv) About 15000 people shifted to safer places.</p>
14.	9 Aug.	Alappuzha, Ernakulam (Kochi), Kollam, Kottayam	Heavy Rains & Floods	<p><b>Kottayam</b></p> <p>2 persons died in different incidences.</p>	<p><b>Alappuzha :</b></p> <p>i) 1300 hectares of paddy fields submerged.</p> <p>ii) All villages in the Kuttanad Taluk inundated.</p> <p><b>Ernakulam :</b></p> <p>i) Damage to 6 houses completely &amp; 224 houses partially reported.</p> <p>ii) 46 relief camps opened.</p> <p><b>Kollam :</b></p> <p>252 people from 65 families shifted to 4 relief camps.</p>

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
15.	10 Aug.	Pathanamthitta, Wayanad (Kalpetta)	Heavy Rains & Floods	One person missing from Pathanamthitta district.	<ul style="list-style-type: none"> <li>i) Damage to 180 hectares of Pepper, 236.24 hectares plantain trees &amp; 195.7 hectares of other crops reported.</li> <li>ii) Damage to 22 houses completely and 605 houses partially reported.</li> <li>iii) Estimated 14.184 crore of monetary loss reported.</li> </ul>
16.	11 Aug.	Kozhikode	Heavy Rains & Floods		<ul style="list-style-type: none"> <li>i) Quilandy &amp; Tamarassery area affected.</li> <li>ii) Damage to 4896 rubber trees, 111035 plantain trees &amp; other spices reported.</li> <li>iii) Damage to 4 houses completely &amp; 109 houses partially reported.</li> <li>iv) Estimated 9.34 crore agricultural losses reported.</li> </ul>
17.	12 Aug.	Alappuzha (Kuttanad), Kottayam, Pathanamthitta	Heavy Rains & Floods		<p><b>Alappuzha :</b> (Kuttanad) :</p> <ul style="list-style-type: none"> <li>i) 7423 people from 2541 families shifted to 110 relief camps.</li> <li>ii) 4322.94 hectares of paddy fields submerged.</li> </ul> <p><b>Kottayam :</b></p> <ul style="list-style-type: none"> <li>i) Damage to paddy cultivation of about 2849 hectares reported.</li> <li>ii) Damage to 3000 acres of paddy, rubber, tapioca, plantain &amp; vegetables reported.</li> </ul> <p><b>Pathanamthitta :</b></p> <ul style="list-style-type: none"> <li>i) Damage to about 450.74 hectares of cropland reported.</li> <li>ii) Damage to crops worth ₹16.827 crore damaged reported.</li> </ul>

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
18.	6 Sep.	Alappuzha	Heavy Rains		<ul style="list-style-type: none"> <li>i) Damage to 2 houses completely &amp; 35 houses partially reported.</li> <li>ii) Damage to several fishing boats reported.</li> </ul>
19.	6 & 8 Sep.	Thiruvananthpuram	Heavy Rains & Flood		<ul style="list-style-type: none"> <li>i) 5 families shifted.</li> <li>ii) Damage to a compound wall reported.</li> <li>iii) Damage to roads &amp; drains reported.</li> <li>iv) Low lying areas including many houses flooded in various places.</li> <li>v) Damage to office documents at Kamaleshwaram school reported.</li> <li>vi) Many trees uprooted.</li> <li>vii) Vehicular traffic disrupted at Attakulangara- Manacaud road due to waterlogging.</li> </ul>
20.	11 Sep.	Malappuram, Thiruvananthpuram	Heavy Rains & Flood		<ul style="list-style-type: none"> <li>i) All bridges across the chaliyar river washed away.</li> <li>ii) Damage to a Vayalikkada-Choozhampala road reported which causes disruption to traffic.</li> <li>iii) Houses got flooded.</li> </ul>
21.	20 Sep.	Ernakulam, Kannur, Thrissur, Wayanad	Heavy Rains & Flood		<ul style="list-style-type: none"> <li>i) Damage to crops reported.</li> <li>ii) Damage to several houses reported.</li> <li>iii) Damage to vehicles reported.</li> <li>iv) A complete damage to roof of a fertilizer depot reported.</li> <li>v) Estimated crop loss of ₹ 6.91 crore reported from Kannur Dist.</li> <li>vi) 59 people shifted to 5 relief camps.</li> <li>vii) Damage to a well reported.</li> <li>viii) Many trees including Nutmeg &amp; rubber trees uprooted in many places causes disruption to traffic.</li> <li>ix) Damage to many electric posts reported causing disruption in power supply.</li> </ul>

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
22.	21 Sep.	Kannur, Kasaragod, Palakkad	Heavy Rains & Flood	2 persons died from Kasaragod.	<ul style="list-style-type: none"> <li>i) Extensive damage to Paddy crops &amp; also damage to about 6000 Banana plants reported.</li> <li>ii) Damage to 354.936 hectares of crops reported from Kasaragod Dist.</li> <li>iii) Estimated loss of ₹3 lakhs reported from Kasaragod Dist.</li> <li>iv) Around 3,109 hectares of crops loss amounting to ₹ 54 crores since monsoon onset reported from Palakkad Dist.</li> <li>v) Damage to 64 houses reported.</li> <li>vi) Over 20,000 farmers affected by the crop loss.</li> <li>vii) 23 families shifted to 5 relief camps in Kannur.</li> </ul>
23.	22 Sep.	Kollam, Thiruvananthapuram	Heavy Rains & Flood	One person died, 3 injured & 2 others missing from Kollam Dist.	<ul style="list-style-type: none"> <li>i) Damage to a house reported.</li> <li>ii) Damage to a fishing boat reported.</li> </ul>
24.	23 Sep.	Thiruvananthapuram	Heavy Rains & Flood	2 persons injured due to wall collapsed in Vilavoorkal area.	<ul style="list-style-type: none"> <li>i) Damage to houses reported.</li> <li>ii) Damage to a car reported.</li> </ul>
25.	9 Oct.	Thiruvananthapuram	Heavy Rains & Flood		<ul style="list-style-type: none"> <li>i) Damage to plantain reported.</li> <li>ii) Damage to basement of a house reported.</li> <li>iii) Traffic disrupted.</li> </ul>
26.	29 Oct.	Thiruvananthapuram	Heavy Rains	A fisherman electrocuted.	
	* Whole year	Area affected 0.006 m.ha.		<ul style="list-style-type: none"> <li>i) 14 human lives lost.</li> <li>ii) 2 cattle lost.</li> </ul>	<ul style="list-style-type: none"> <li>i) Crops in 0.006 m.ha. damaged.</li> <li>ii) 0.114 million population affected.</li> <li>iii) 14016 houses damaged.</li> </ul>

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
<b>MADHYA PRADESH</b>					
1.	28 to 31 Aug.	Ashoknagar, Balaghat, Barwani, Betul, Bhopal, Chhatarpur, Chhindwara, Dewas, Dhar, Harda, Hoshangabad, Indore, Jabalpur, Katni, Mandsaur, Narshimapura, Raisen, Sehore, Seoni, Tikamgarh, Ujjain, Videsha	Heavy Rains & Floods in Narmada & tributaries	Total 10 persons died. Bhopal - 1, Chhatarpur - 2, Harda - 1, Katni - 4, Raisen - 1, Sehore - 1.	<ul style="list-style-type: none"> <li>i) Extensive damage to Soya bean, Groundnut, Urad, Mug, Tur, Corn, Tomato crops reported.</li> <li>ii) More than 11,000 people from 454 villages of 12 districts shifted to 170 shelter camps.</li> <li>iii) Damage to several houses reported.</li> <li>iv) Many Villages submerged &amp; were cut of form the other parts.</li> <li>v) Complete damage to a bridge on Veinganga river reported.</li> <li>vi) National Highways 60 &amp; 12 remained closed.</li> </ul>
2.	12 to 14 Sep.	Burhanpur, Satna	Dhar, Heavy Rains	Many persons injured in Burhanpur Dist.	<ul style="list-style-type: none"> <li>i) Extensive damage to Urad, Mug &amp; Marigold, Rose crops reported.</li> <li>ii) Damage to 60,000 hectares of crops including Soyabean, Pulses &amp; Oilseeds from Satna district alone reported</li> <li>iii) Compound wall of Garden in housing board colony of Burhanpur district collapsed.</li> <li>iv) Water logging in many areas reported.</li> <li>v) Several trees uprooted causing traffic &amp; electricity disruption.</li> </ul>

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
3.	19 Sep.	Khargone, Raisen, Vidisha	Heavy Rains		<ul style="list-style-type: none"> <li>i) Damage to Corn, Cotton, Soyabean crops reported.</li> <li>ii) Damage to houses, compound walls reported.</li> <li>iii) Damage to vehicles reported.</li> <li>iv) Water logging in many areas reported.</li> <li>v) Damage to hoardings reported.</li> <li>vi) Several trees uprooted.</li> <li>vii) Electricity wires in many areas damaged causing disruption in power supply.</li> </ul>
4.	23 Sep.	Alirajpur, Dhar, Guna, Hoshagabad, Khandwa, Khargone, Rajgarh, Tikamgarh, Ujjain	Heavy Rains		<ul style="list-style-type: none"> <li>i) Damage to crops reported.</li> <li>ii) Water logging in many areas reported.</li> </ul>
	<i>* Whole year</i>	<i>Area affected 0.629 m.ha.</i>		<ul style="list-style-type: none"> <li><i>i) 189 human lives lost.</i></li> <li><i>ii) 294 cattle lost.</i></li> </ul>	<ul style="list-style-type: none"> <li><i>i) Crops in 0.629 m.ha. damaged.</i></li> <li><i>ii) 0.371 million population affected.</i></li> <li><i>iii) 15417 houses damaged.</i></li> </ul>
<b>MAHARASHTRA</b>					
1.	3 Feb.	Beed, Hingoli, Nanded, Parbhani	Heavy rains		Damage to rabbi crops including Gram, Tur, Wheat, Jawar, fruits & vegetables reported.
2.	1 Mar.	Ahmednagar, Aurangabad, Jalana, Jalagaon, Nasik, Osmanabad, Pune, Satara, Solapur, Washim	Heavy rains		<ul style="list-style-type: none"> <li>i) Damage to rabbi crops including Wheat, Jawari, Gram, Corn and Onion crops reported.</li> <li>ii) Trees uprooted causing disruption in traffic.</li> </ul>
3.	10 May	Bhandara, Gadchiroli, Gondiya	Heavy rains		<ul style="list-style-type: none"> <li>i) Extensive damage to crop grains kept in the center of Development Corporation reported.</li> <li>ii) Damage to carores of rupees reported.</li> </ul>

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
4.	18 Jun.	Mumbai	Heavy rains	One person died.	
5.	28 Jun.	Dhule	Heavy rains		i) Damage to about 150 acres of cropland reported. ii) Damage to 5 houses reported.
6.	3 & 4 Jul.	Nagpur, Washim	Heavy Rains		Damage to crops including Cotton reported.
7.	14 to 16 Jul.	Buldhana, Nagpur, Washim	Heavy Rains		Extensive damage to crops reported.
8.	16 Jul.	Mumbai	Heavy Rains	4 persons died & 6 others injured due to wall collapsed in Fort & Malawanai area.	Damage to 2 hundred year old MHADA SES building reported.
9.	20 Jul.	Pune	Landslide	One Excise Govt. Officer injured in Malshej Ghat.	Damage to vehicle reported.
10.	20 to 22 Jul.	Buldhana, Washim	Heavy Rains		Extensive damage to crops reported.
11.	24 & 28 Jul.	Washim	Heavy Rains		Extensive damage to crops reported.
12.	4 to 6 Aug.	Kolhapur, Mumbai, Nagpur, Palgarh, Pune, Raigarh, Ratnagiri, Sindhudurg, Thane	Heavy Rains & Landslide	Total 2 persons died on 4 <sup>th</sup> . Ratnagiri - One woman died due to tree collapsed in Rajapur, Thane - One 15 year old boy died. While 3 coves perished in Kalyan area of Mumbai.	i) Damage to crops reported in Nagpur dist. ii) Damage to structures, houses, roads reported. iii) Speed boat drowned in Varsova, Mumbai. iv) Damage to many vehicles reported. iv) Roof of D.Y.Patil stadium blown away in Mumbai.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
					<p>v) Normal life paralysed.</p> <p>vi) In Kolhapur , People shifted to safer places.</p> <p>vii) Rail traffic disrupted due to Landslide at Kandiwali, Mumbai.</p> <p>viii) Roads from Radhanagari, Gaganbawada, Panhala towards Konkan were blocked.</p> <p>Several trees/electric poles uprooted causing disruption in vehicular traffic &amp; power supply.</p>
13.	14 & 15 Aug.	Nagpur, Washim	Heavy Rains		<p>i) Damage to Soyabean &amp; other crops reported.</p> <p>ii) Water entered in many houses.</p>
14.	18 & 21 Aug.	Washim	Heavy Rains		Damage to Soyabean, Tur, Mug, Udad, Cotton crops reported.
15.	24 to 27 Aug.	Nagpur, Washim	Heavy Rains		Damage to Soyabean, Tur, Mug, Udad, Cotton, flowers & other crops reported.
16.	29 to 31 Aug.	Bhandara, Chandrapur, Gadchiroli, Nagpur, Washim	Heavy Rains & Floods	One 60 year old person died at Devalparata Ramtek of Nagpur district on 30 <sup>th</sup> due to wall collapsed.	<p>i) Damage to Soyabean, Tur, Mug, Udad, Cotton, &amp; other crops reported.</p> <p>ii) Damage to many houses reported.</p> <p>iii) More than 53,000 people from 175 villages including 76 villages in Bhandara district, 61 in Nagpur, 22 in Chandrapur &amp; 16 in Gadchiroli districts in Vidarbha region evacuated.</p>



S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
17.	1 Sep.	Nagpur	Heavy Rains		<ul style="list-style-type: none"> <li>iv) More than 92, 000 people affected from Bhandara, Chandrapur, Gadchiroli, Nagpur districts of vidarbha.</li> <li>v) Two teams of the Army deployed in Pombhurna tehsil and Ladaj village of Brahmapuri tehsil of Chandrapur.</li> <li>i) Narkhed, Khui, Kamathi, Savanerji tehsils affected.</li> <li>ii) Damage to crops reported.</li> <li>iii) Damage to many houses reported.</li> </ul>
18.	3 to 7 Sep.	Buldhana, Nagpur, Washim	Heavy Rains		<ul style="list-style-type: none"> <li>i) Damage to Soyabean, Tur, Mug, Udad, Cotton, Sugarcane, Banana, Papaya &amp; other crops reported.</li> <li>ii) Damage to many houses reported.</li> <li>iii) Damage to a well reported.</li> <li>iv) Several trees uprooted.</li> </ul>
19.	5 to 8 Sep.	Kolhapur, Palghar, Pune, Sangli, Solapur	Heavy Rains	2 persons injured as tree collapsed in Pune on 6 <sup>th</sup> .	<ul style="list-style-type: none"> <li>i) Damage to Sugarcane, Rice, Groundnut, Soyabean crops reported.</li> <li>ii) Damage to Shoppes, houses reported.</li> <li>iii) Damage to vehicles reported.</li> <li>iv) Several trees/electric poles uprooted causing disruption in vehicular traffic &amp; power supply.</li> </ul>
20.	9 Sep.	Buldhana	Heavy Rains		Damage to Mug, Udad, Cotton & other crops reported.
21.	11 to 17 Sep.	Buldhana, Nagpur, Washim	Heavy Rains		<ul style="list-style-type: none"> <li>i) Damage to Soyabean, Tur, Mug, Udad, Cotton, Sugarcane, vegetable crops &amp; other crops reported.</li> <li>ii) Damage to many houses reported.</li> <li>iii) 5 villages of Buldhana cut off from the rest of the area.</li> <li>iv) Damage to a well reported.</li> </ul>

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
22.	15 Sep.	Nanded	Heavy Rains		i) Damage to Cotton, Jawar, Soyabean, Urad, Tur & fruit crops reported. ii) Hundreds of acres of land under water.
23.	19 to 24 Sep.	Ahmadnagar, Beed, Aurangabad, Hingoli, Buldhana, Jalana, Latur, Nagpur, Nasik, Nanded, Osmanabad, Parbhani, Pune, Sindhudurg, Solapur, Washim	Heavy Rains & Floods	Total 10 persons died. Buldhana – 4 persons washed away on 21 <sup>st</sup> , Jalana - 2 persons washed away in Soyagaon village of Bhokhardhan tehsil on 19 <sup>th</sup> , Washim – 4 persons washed away in Mangrulpir tehsil on 24 <sup>th</sup> .	i) Extensive damage to Soyabean, Jawar, Millet, Corn, Rice, Termeric, Onion, Tur, Mug, Udad, Cotton, Sugarcane, Grapes, Banana, Betel nut & vegetable crops reported. ii) Damage to many houses, compound wall & vehicles reported. iii) Traffic disrupted on National Highways also.
24.	22 Sep.	Thane	Heavy Rains	One person swept away.	
25.	26 Sep.	Gadchiroli, Nagpur	Heavy Rains		Damage to Soyabean & paddy crops reported.
26.	28 & 29 Sep.	Gadchiroli, Nagpur	Heavy Rains		Damage to paddy crops reported.
27.	2 Oct.	Washim	Heavy Rains		Damage to Soyabean & Cotton crops reported.
28.	7 to 9 Oct.	Nagpur	Heavy Rains		Damage to Soyabean, Paddy, Cotton crops reported.
29.	10 & 12 Oct.	Akola, Aurangabad, Beed, Hingoli, Jalna, Kolhapur, Nanded, Nashik, Parbhani, Palghar, Pune, Raigad, Ratnagiri, Sangli, Sindhudurg, Thane, Osmanabad	Heavy Rains	One seven-year-old boy died in Kolhapur Dist. on 12 <sup>th</sup> .	Damage to Rice, Soyabean, Cotton, Tur, Millet, Corn Onion, Tomato, Sugarcane, Corn including fruit crops like Grapes & vegetable crops reported.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
30.	10 to 15 Oct.	Buldhana, Nagpur, Washim	Heavy Rains		<ul style="list-style-type: none"> <li>i) Extensive damage to Jawar, Paddy, Soyabean, Udad, Mug, Cotton, Sugarcane &amp; vegetable crops reported.</li> <li>ii) Damage to houses reported.</li> </ul>
31.	14 Oct.	Beed, Hingoli, Kolhapur, Latur, Osmanabad, Pune, Ratnagiri, Sangli, Satara, Sindhudurg, Solapur, Yavatmal	Heavy rains & Floods	Total 7 persons died. Solapur - 6 persons died due to wall collapsed in Pandharpur, Yavatmal - One woman washed away in Sahatrakund waterfall.	<ul style="list-style-type: none"> <li>i) Damage to Rice, Sugarcane, Onion, Soyabean, Turmeric, Grapes, Pomegranates crops reported.</li> <li>ii) About 4000 farmers affected.</li> <li>iii) Damage to houses, huts &amp; shops reported.</li> <li>iv) Damage to a Ghat wall in Pandharpur reported.</li> <li>v) Several trees/electric poles uprooted causing disruption in vehicular traffic &amp; power supply.</li> </ul>
32.	15 Oct.	Ahmednagar, Beed, Kolhapur, Latur, Osmanabad, Pune, Ratnagiri, Sangli, Satara, Solapur	Heavy rains & Floods		<ul style="list-style-type: none"> <li>i) Extensive damage to Kharif crops including Soyabean, Onion, Rice, Millet, Cotton, vegetable &amp; fruit crops reported.</li> <li>ii) Damage to about 1.25 lakhs hectares of rice cropland in Konkan region reported.</li> <li>iii) Damage to 28,335 hectares of cropland from 183 villages of only Solapur Dist. reported.</li> <li>iv) Damage to house, many vehicles reported.</li> <li>v) Rain water entered in Chandannagar Police station.</li> <li>vi) Damage to roads reported.</li> <li>vii) Many bridges &amp; roads closed for traffic.</li> <li>viii) Electricity supply disrupted. Several trees uprooted.</li> </ul>

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
33.	15 Oct.	Solapur	Heavy rains & Floods	3 persons washed away with car in Karmala Tehsil	Damage to car reported.
34.	16 Oct.	Beed, Kolhapur, Pune, Satara, Sindhudurg, Solapur	Heavy rains & Floods	Total 29 persons died in different incidences. Pune - 7, Satara - 2, Sangli - 6, Solapur - 14. While 8 others missing. 513 livestock perished.	<p>i) Extensive damage to Rice, Cotton, Soyabean, Tur, Groundnut, Sugarcane, Pomegranates, and Vegetable crops reported.</p> <p>ii) Damage to 87,416 hectares of cropland (Pune -18746, Satara - 1420, Sangli - 8276, Solapur - 58581, Kolhapr - 393) reported.</p> <p>iii) Damage to more than 2,300 houses in Solapur, Sangli, Satara, and Pune districts reported.</p> <p>iv) Extensive damage to old hemadpanthi temple of Lord Shiva named as Sangameshwar mandir in <i>Patoda</i> is a <i>tehsil</i> of Beed Dist. reported.</p> <p>v) Extensive damage to roads in Karul Ghat (Gaganbawada) reported, due to which it was closed. 40,036 people shifted to safer places from Pune Dist.</p> <p>vi) Extensive damage reported from Solapur Dist.</p> <p>vii) More than 21,000 people shifted to safer places.</p>
35.	17 Oct.	Nagpur	Heavy Rains		Damage to Paddy crops reported.
36.	18 & 20 Oct.	Pune	Heavy rains & Floods		<p>i) 2000 hectares cropland inundated.</p> <p>ii) Damage to vehicles reported.</p>
37.	20 to 23 Oct.	Nagpur	Heavy rains		Damage to Paddy, Cotton, fruit crops including Oranges reported.
	* Whole year			<p>i) 450 human lives lost.</p> <p>ii) 824 cattle lost.</p>	<p>i) 0.773 million population affected.</p> <p>ii) 48 houses damaged.</p>

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
<b>MEGHALAYA</b>					
1.	25 May	Parts of Meghalaya	Heavy rains & Floods	One person drowned.	
2.	22 Sep.	West Khasi Hills	Heavy rains & Floods	5 persons was washed away & other missing at Wah Tynkiang, under Mawkyrwat.	A jeep washed away.
3.	22 to 26 Sep.	East Khasi Hills, RiBhoi, West Khasi Hills	Heavy rains, Floods & Landslide	2 persons died, 1 missing & 2 others injuries in Nongstoin area of West Khasi Hills.	i) 985 people in 37 villages in 3 districts affected. ii) Damage to several bridges, roads damaged in different parts of Meghalaya reported. iii) Several instances of landslides, uprooted trees and flooding reported from various parts of the state.
4.	25 Sep.	East Khasi Hills	Landslide	2 women died, 3 others missing at the Laban.	Damage to many houses in lower Lumparing Dhobi Ghat, in the Laban area of East Khasi Hills district reported.
5.	25 Oct.	East Khasi Hills, West Khasi Hills	Heavy rains & Floods	2 persons died & 3 others injured.	i) 44.5 hectares of cropland affected. ii) 531 population from 7 villages of 2 districts affected.
<b>MIZORAM</b>					
	<i>* Whole year</i>	<i>Area affected</i>	<i>0.12 m.ha.</i>		i) <i>Crops in 0.12 m.ha. damaged.</i> ii) <i>1 house damaged.</i>
<b>NAGALAND</b>					
1.	3 to 6 Jul.	Parts of Nagaland	Heavy rains & Floods	7 persons died.	

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
<b>ODISHA</b>					
1.	23 & 24 Jul.; 5, 14, 15, 16, 20, & 26 to 31 Aug.; 1 to 3 Sep.	Angul, Balasore, Bargarh, Bhadrak, Bolangir, Boudh, Cuttack, Deogarh, Dhenkanal, Jagatsinghp ur, Jajpur, Jharsuguda, Kalahandi, Kandhamal, Kendrapara, Keonjhar, Khordha, Koraput, Malkangiri, Mayurbhanj, Nabarangpur, Nayagarh, Naupada, Puri, Sambalpur, Subranpur, Sundergarh	Heavy rains & Floods	38 persons died. 33255 livestock perished.	i) Damage to 235925.49 hectares of crops, which is greater than about 33%, reported. ii) Damage to 60910 houses, 101 community halls, GP/PS buildings reported. iii) Damage to 17227 cowsheds reported. iv) Damage to 107 boats, 277 fishing nets reported. v) Damage to 635 piped water system & 93 Minor irrigation projects reported. vi) Damage to roads including National Highways reported.
2.	14 Oct.	Gajapati	Heavy rains		i) 12 villages affected. ii) 500 people shifted to safer places of in Gajapati Dist.
	<i>* Whole year</i>	<i>Area affected 0.314 m.ha.</i>		<i>i) 38 human lives lost. ii) 26 cattle lost.</i>	<i>i) Crops in 0.314 m.ha. damaged. ii) 3.890 million population affected. iii) 78137 houses damaged.</i>
<b>PUNJAB</b>					
1.	1 <sup>st</sup> week of Jul.	Parts of Punjab		2 persons died.	
	<i>* Whole year</i>	<i>Area affected 0.152 m.ha.</i>		<i>i) 20 human lives lost. ii) 615 cattle lost.</i>	<i>i) Crops in 0.152 m.ha. damaged. ii) 0.079 million population affected. iii) 2570 houses damaged.</i>

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
<b>RAJASTHAN</b>					
1.	5 Aug.	Bharatpur	Heavy rains	2 persons died in the town Kaman.	
2.	14 Aug.	Jaipur	Heavy rains	5 persons died.	i) Damage to houses & shops reported. ii) Damage to more than 250 vehicles reported.
3.	16 Aug.	Alwar, Bharatpur, Tonk	Heavy rains	Total 7 persons died. Alwar - 4, Bharatpur - 1, Tonk - 2.	
4.	22 Aug.	Banswara	Heavy rains	4 persons died.	Damage to roads reported.
5.	19 Sep.	Ganganagar	Heavy rains		i) Jaitsar & Suratgarh affected. ii) Damage to crops reported. iii) Complete damage to 7 Kutcha houses reported.
	<i>* Whole year</i>	<i>Area affected</i>	<i>0.043</i>	<i>m.ha.</i>	<i>i) 34 human lives lost. ii) 97 cattle lost.</i>
					<i>i) Crops in 0.040 m.ha. damaged. ii) 0.480 million population affected. iii) 2507 houses damaged.</i>
<b>SIKKIM</b>					
1.	24 May	North Sikkim	Landslide	One 50-year old woman died & 2 others injured at Upper Linchom under Kabi-Lungchuk constituency while, 2 persons missing & Large number of livestock perished in Upper Dzongu area.	i) Damage to houses reported. ii) Damage to a road in Upper Lingchom reported. iii) A bridge connecting Sakyong & Pentong villages washed away. iv) Upper Dzongu totally cut off from the rest parts of the state. v) People shifted to safer places by SDM officials. vi) Gangtok-Mangan road blocked.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
2.	6 Jun.	South Sikkim	Landslide	2 workers died & many injured at Thaka road, Ben.	
3.	27 to 29 Jun.	North Sikkim, South Sikkim, West Sikkim	Heavy Landslide	Rains &	<ul style="list-style-type: none"> <li>i) Several villages from North Sikkim severally affected.</li> <li>ii) Dzongu is totally cut off from the part of the state.</li> <li>iii) Damage to several houses, Govt. Secondary School, many small bridges reported.</li> <li>iv) Damage to vehicles in West Sikkim reported.</li> <li>v) Damage to public &amp; private property in various parts of West Sikkim reported.</li> <li>vi) Many people including 35 families only from Passingdong village shifted to safer places.</li> <li>vii) Traffic disrupted along NH 510, NH 710 due to landslides. Road connectivity disrupted.</li> <li>viii) Damage to many roads reported.</li> <li>ix) Power supply disrupted for few hours.</li> </ul>
4.	6 Sep.	West Sikkim	Heavy Landslide	Rain & 2 livestock perished.	<ul style="list-style-type: none"> <li>i) Damage to cultivable lands &amp; fruits orchard, ginger farm at Lower Yangtey, near Geyzing reported.</li> <li>ii) Extensive damage to public &amp; private property reported.</li> <li>iii) Damage to many houses reported.</li> <li>iv) Many people shifted to safer places.</li> <li>v) Damage to road near Ranginiver dam reported.</li> <li>vi) Traffic disruption due to landslide reported.</li> </ul>



S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
5.	2 Oct.	West Sikkim	Landslide	2 persons died & 3 others injured at Boom Taafel under Samdong Sribadam GPU, Rinchenpong constituency.	2 houses washed away.
	<i>* Whole year</i>	<i>Area affected 0.03 m.ha.</i>		<i>i) 18 human lives lost. ii) 21149 cattle lost.</i>	<i>i) Crops in 0.010 m.ha. damaged. ii) 0.225 million population affected. iii) 1432 houses damaged.</i>
<b>TELANGANA</b>					
1.	15 Aug.	Siddipet	Heavy rains	One person drowned.	
2.	20 Sep.	Sangareddy	Heavy rains		Damage to about 10,000 acres of Paddy, Cotton, Red Gram, Sugarcane, Soyabean and Green Gram crops reported.
3.	25 Sep.	Hyderabad	Heavy rains	One person died.	
4.	1 to 20 Oct.	Hyderabad & Parts of Telangana	Heavy Rains and Floods	Total 61 persons died, 6 missing & several others injured. Viz. Hyderabad – 16 died, 6 missing & 3 others injured in different incidences including 9 persons died due to wall collapsed in Bandalguda area of Hyderabad Dist. On 14 <sup>th</sup> . Parts of Telangana – 45 died & several injured.	i) Hyderabad Municipal Corporation area worst affected which includes 55 building/wall collapses incidences. ii) Many vehicles washed away. iii) Damage to more than 3400 houses reported. iv) Extensive damage to public & private property including power infrastructure, Falaknuma Bridges, Golconda Fort reported. v) Massive water logging in many areas reported. vi) The Chaderghat bridge in Hyderabad city inundated. vii) More than 80,000 people shifted to safer places by teams from State and National Disaster Response Forces along with military personnel.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
<b>TRIPURA</b>					
	<i>* Whole year</i>	<i>Area affected 0.010 m.ha.</i>			<i>i) Crops in 0.006 m.ha. damaged.</i> <i>ii) 0.026 million population affected.</i> <i>iii) 163 houses damaged.</i>
<b>UTTAR PRADESH</b>					
1.	23 Jun.	Fatehpur, Jalaun, Unnao & other parts of Uttar Pradesh	Heavy rains	3 persons died.	Damage to crops reported.
2.	25 & 26 Jun.	Allahabad, Ambedkar Nagar, Barabanki, Deoria, Kushinagar, Mirzapur, Raibareli, Sant Kabir Nagar, Sant Ravidas Nagar, Siddharthnagar, Sonbhadra, Unnao	Heavy rains	7 persons died & many others injured.	Damage to crops reported.
3.	8 Aug.	Ambedkar Nagar, Ayodhya, Azamgarh, Bahraich, Ballia, Balrampur, Barabanki, Basti, Deoria, Gonda, Gorakhpur, Kushinagar, Lakhimpur Kheri, Maharajganj, Mau, Sant Kabir Nagar, Siddharthnagar, Sitapur	Heavy rains & Floods in Sharada, Rapti, Sharayu & Ghagara River		i) Damage to standing crops reported. ii) 672 villages affected.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
4.	18 Aug.	Ambedkar Nagar, Ayodhya, Azamgarh, Bahraich, Ballia, Balrampur, Barabanki, Basti, Deoria, Gonda, Gorakhpur, Kushinagar, Lakhimpur Kheri, Maharajganj, Mau, Sant Kabir Nagar, Siddharthnagar, Sitapur	Heavy rains & Floods in Sharada, Rapti, Sharayu & Ghagara River	14 persons died.	i) Damage to standing crops reported. ii) 838 villages affected.
	* Whole year	Area affected 0.170 m.ha.		i) 72 human lives lost. ii) 659 cattle lost.	i) Crops in 0.120 m.ha. damaged. ii) 0.910 million population affected. iii) 6821 houses damaged.
<b>UTTARAKHAND</b>					
1.	15 Jul.	Dehradun	Heavy Rains	4 members of a family, including a pregnant woman & 8-year girl died and 2 others injured in sleep due to wall collapsed in Chukkhuwala area.	Complete damage to a house reported.
2.	18 & 19 Jul.	Pithoragarh	Heavy Rains & Cloud Burst	3 persons died in Madkot & 8 others missing from a neighbouring village.	i) Damage to a bridge on Gori river in the hill town of Munsiyari reported. ii) 4 houses completely damaged. iii) Damage to main roads connecting district headquarters to Bangapani, Munsiyari and Dharchula areas reported. iv) Damage to water pipelines reported.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
3.	25 Aug.	Chamoli	Heavy Rains & Cloud Burst	One junior Engineer died & other 3 severely injured in Pokhari area of Thali Ansari village due to wall collapsed.	i) Extensive damage to Panchayat Ghar reported. ii) The Rishikesh-Gangotri National Highway in Uttarakhand is blocked near Narendra Nagar.
	<i>* Whole year</i>			<i>i) 80 human lives lost. ii) 96 cattle lost.</i>	<i>736 houses damaged.</i>
<b>WEST BENGAL</b>					
1.	14 Mar.	Darjeeling	Landslide	3 persons died due to landslide.	
2.	1 Jun. to 7 Jul.	Parts of West Bengal	Heavy rains & Floods	90 persons died.	
3.	8 to 20 Jul.	Parts of West Bengal	Heavy rains & Floods	52 persons died.	i) 2,000 houses submerged in Jalpaiguri district alone. ii) More than 5,000 people affected.
	<i>* Whole year</i>			<i>i) 227 human lives lost. ii) 382 cattle lost.</i>	<i>i) 1.026 million population affected. ii) 11568 houses damaged.</i>
<b>UNION TERRITORY</b>					
<b>NEW DELHI</b>					
1.	19 Jul.	Delhi	Heavy rain	One person died.	
<b>JAMMU &amp; KASHMIR</b>					
1.	29 Mar.	Ramban	Massive Landslide		i) Damage to at least 28 houses in Dalwas village reported. ii) Hundreds of people rendered homeless. iii) Damaged Jammu-Srinagar National Highway reported.

S. No.	Date/Period	Area affected	Intensity [River(s)]	Casualties	Extent of damage
2.	19 Apr.	Rajouri	Rains	2 persons died due to wall collapsed.	Damage to under-construction house in Dharamshal village reported.
3.	27 Apr.	Budgam, Shopian	flash floods	Total 4 persons died, 2 from each district.	Damage to crops and vegetables reported.
4.	2 May	Kishtwar	Cloudburst	2 women died at Badwari in Chatroo area.	
5.	3 Jun.	Kulgam, Shopian	Heavy rains		Huge loss of crops & fruits reported.
6.	6 Jun.	Budgam, Srinagar	Heavy rains		i) Damage to standing crops reported. ii) Several trees uprooted. iii) Water logging in several lanes of Srinagar city.
7.	9 Aug.	Pulwama	Cloudburst / flash floods	One person died & 4 others injured in forest area Brenpathri Tral.	
8.	26 Aug.	Kathua, Poonch, Rajouri, Reasi, Udhampur	Heavy rains & Landslide	Total 2 persons died. Rajouri - 1, Reasi – 1. While 36 livestock perished from Poonch & Rajouri Dist.	Damage to several residential houses, structures, cow shed, many vehicles reported.
9.	27 Aug.	Kishtwar, Poonch, Udhampur		Total 2 persons died. Kishtwar - 1, Poonch – 1.	i) Damage to one concrete house, 12 kacha houses, around 20 structures, cow sheds reported. ii) Several trees uprooted.

#### LAKSHDWEEP

\* Whole year .

5 houses damaged.

\* Whole year – Input from Central Water Commission (<http://www.cwc.gov.in/publications>)

**सारिणी - XI : चक्रवाती तूफान 2020**  
**TABLE – XI : CYCLONIC STORM 2020**

During 2020, Total 5 cyclonic storms formed over the north Indian Ocean, these are, One (1) is Super cyclonic Storm AMPHAN, Two (2) Very Severe Cyclonic Storms NIVAR & GATI, One (1) Severe Cyclonic Storm NISARG, and (1) Cyclonic Storm 'BUREVI'.

Of these, NISARG & GATI formed over Arabian Sea, While the remaining 3 cyclones viz. AMPHAN, NIVAR & BUREVI formed over Bay of Bengal.

Out of these AMPHAN, NISARG, NIVAR & BUREVI caused some damage, details of the same are out lined below :-

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of Damage
<b>BAY CYCLONE</b>					
1.	16 May 21 May	<p><b><u>Formation</u></b> Near Lat. 10.9°N / Long. 86.3°E, over southeast Bay of Bengal at 1200 UTC of 16<sup>th</sup> May.</p> <p><b><u>Landfall</u></b> It crossed West Bengal-Bangladesh coasts as a very severe cyclonic storm across Sundarbans, near Lat.21.65°N and Long. 88.3°E during 1000-1200 UTC of 20<sup>th</sup> May.</p> <p><b><u>Dissipation</u></b> Weakened into a well-marked low-pressure area over North Bangladesh and neighbourhood on 21<sup>st</sup> May at 1800 UTC.</p>	Super cyclone "AMPHAN"	<p>About 83 persons died from West Bengal and Odisha</p> <p><b><u>West Bengal :</u></b> At least 80 persons died West Bengal and 3 in Odisha</p>	<p><b><u>West Bengal :</u></b></p> <p>i) Half-a-dozen districts affected, of these, South 24 Parganas, North 24 Parganas, East Midnapore, Kolkata, Hooghly, Howrah directly affected.</p> <p>ii) Damage to 88,000 hectares (217,000 acres) of rice paddies and 200,000 hectares (500,000 acres) of vegetable and sesame crops reported.</p> <p>iii) Damage to buildings, more than 10 lakh houses reported.</p> <p>iv) More than 1.37 Lakhs of people shifted to safer places.</p> <p>v) Around 1.5 crore people directly affected</p> <p>vi) Several roads and houses in Kolkata, Howrah, and North and South 24 Parganas districts remain waterlogged.</p> <p>vii) Innumerable trees &amp; several electricity poles uprooted. Also, several electricity and telephone lines brought down, 14 million people without power in Kolkata.</p>

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of Damage
				<p><b><u>Odisha :</u></b> 4 persons died. Nearly 4,000 livestock including poultry birds perished.</p>	<p><b><u>Odisha :</u></b> i) 10 districts affected, of these, Balasore, Bhadrak, Cuttack, Kendraparha directly affected. ii) Damage to at least 500 houses completely and 15,000 houses partially reported. iii) Around 4.4 million people affected. iv) Damage to the power grid reported. Also, 126,540 transformers &amp; 448 electrical substations affected, leaving 3.4 million people without power.</p>
2.	22 Nov. to 27 Nov.	<p><b><u>Formation</u></b> Near Lat. 10.0°N / Long. 86.0 83.0°E, over southwest Bay of Bengal at 0000 UTC of 24<sup>th</sup> November.</p> <p><b><u>Landfall</u></b> It crossed Tamil Nadu &amp; Puducherry coasts near Puducherry as a very severe cyclonic storm near Lat. 12.1°N and Long. 79.9°E during 1800 – 2100 UTC of 25<sup>th</sup> November.</p> <p><b><u>Dissipation</u></b> Weakened into a well-marked low-pressure area over south coastal Andhra Pradesh and adjoining west central Bay of Bengal in the early morning (0000 UTC) of</p>	Very severe cyclonic storm NIVAR	<p>Total 14 persons died, 3 others injured &amp; 10,836 livestock perished.</p> <p><b><u>Tamil Nadu:</u></b> Total 5 persons died &amp; 3 others injured. Viz. Chennai - 3 died &amp; 3 others injured, Parts of Tamil Nadu – 2 died.</p>	<p><b><u>Tamil Nadu :</u></b> i) 16 districts in Tamil Nadu viz. Ariyalur, Chennai, Cuddalore, Dharmapuri, Kancheepuram, Nagapattinam, Namakkal, Perambalur, Salem, Thanjavur, Tiruvarur, Tiruvallur, Tiruvannamalai, Tiruchirappalli, Vellore, and Viluppuram badly affected. ii) Damage to banana and paddy crops reported. iii) Rainwater inundates the famous rock temple in Mamallapuram. iv) Damage to rubble mound wall in the fishing harbour under construction at a cost of ₹120 crores at Tarangambadi in Nagapattinam Dist. reported. v) Damage to structures, properties, many houses, vehicles reported. vi) More than 2 lakhs people shifted to 169 relief centres in Tamil Nadu and</p>

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of Damage
					vii) Air, Train & bus services disrupted.
					viii) Chennai International Airport closed & 12 departures and arrivals from and to Chennai airport cancelled.
					ix) South Western Railway fully or partially cancelled few trains.
					x) About 1,086 trees uprooted, electricity cables snapped.
				<b><u>Andhra Pradesh :</u></b>	<b><u>Andhra Pradesh :</u></b>
				Total 9 persons died.	i) Damage to more than 100,000 hectares crops including paddy fields, black gram, cotton & other crops from Chittoor, Nellore, Cuddapah, and Prakasam districts reported.
				Chittoor - 6	ii) 35,73,038 population of 1,517 villages of 208 mandals of 10 districts viz. Ananthapur, Chittoor, Cuddapah, East Godavari, Guntur, Krishna, Kurnool, Nellore, Prakasam, West Godavari badly affected.
				Cuddapah - 2,	iii) Damage to 54,385 thatched/ kutcha houses reported.
				Nellore – 1.	iv) Thousands of people shifted to about 147 relief camps, including 17,163 people in Nellore, 15,289 in Kadapa and 4,012 in Chittoor Dist.
				Total 10,836 livestock perished including 2,618 small animals, 88 large animals and 8,130 poultry birds.	v) Loss of APSPDCL (Andhra Pradesh Southern Power Distribution Company Limited) reported about ₹50.7 million.

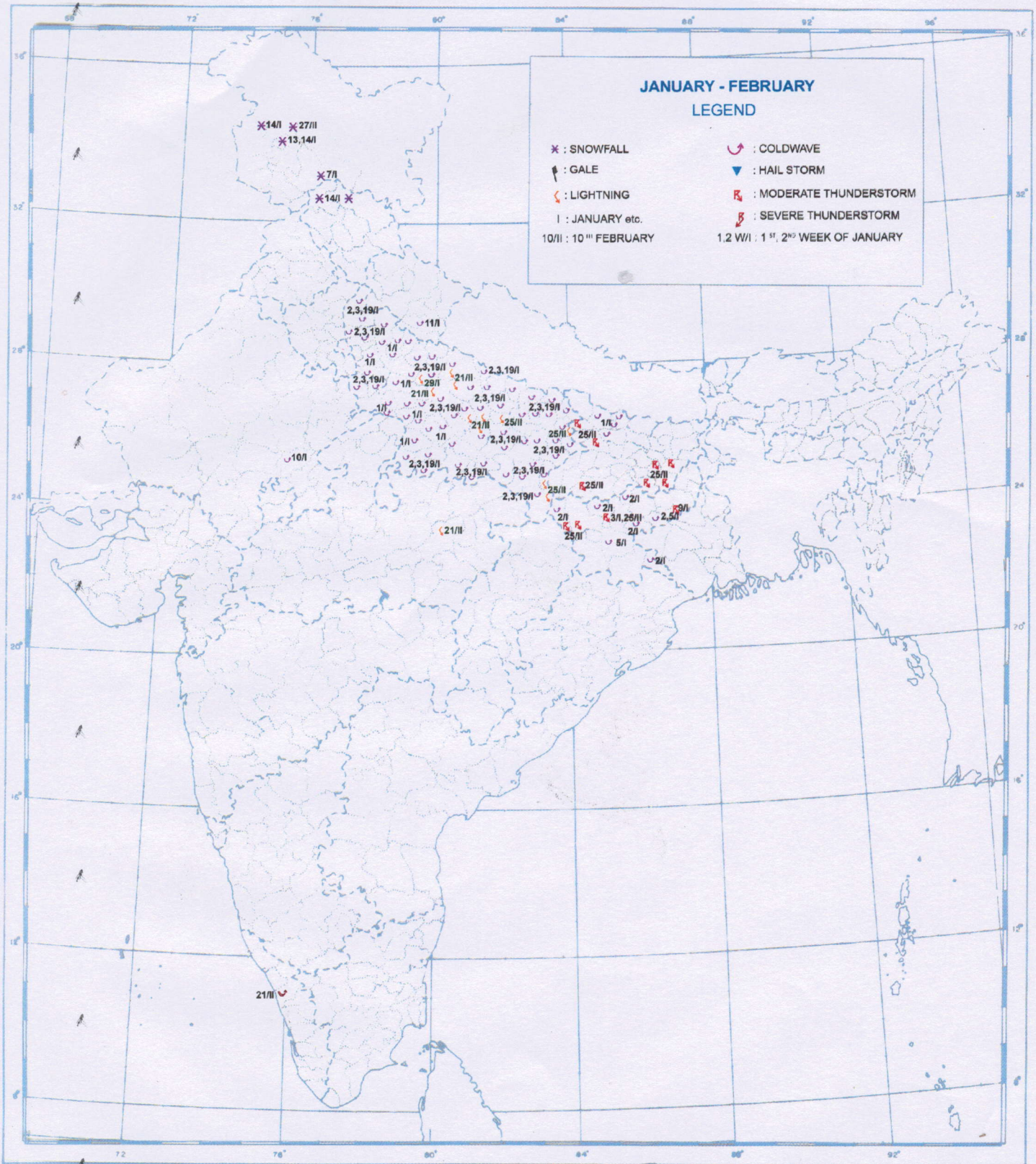


S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of Damage
					vi) Several places suffered power interruptions. vii) Damage to roads reported.
					<b><u>Puducherry :</u></b> i) Loss to agriculture and other sectors ii) about Rs 400 crore reported. iii) Many people shifted to relief camps. iv) Several trees/electric poles uprooted.
3.	30 Nov. to 5 Dec.	<b><u>Formation</u></b> Near Lat. 7.9°N / Long. 84.8°E, over southwest Bay of Bengal at 1200 UTC of 1 <sup>st</sup> December.  <b><u>Landfall</u></b> It crossed Sri Lanka coast close to north of Trincomalee near Lat. 8.85°N and Long. 81.0°E during 1700 – 1800 UTC of 2 <sup>nd</sup> December as a Cyclonic Storm. Moving across northern parts of Sri Lanka, it emerged into Gulf of Mannar in the morning and lay centred close to Pamban around noon 0600 UTC of 3 <sup>rd</sup> December and then it crossed Pamban area near Lat. 9.20°N and Long. 79.35°E during 0800 UTC of 3 <sup>rd</sup> December as a Cyclonic Storm.	Cyclonic Storm 'BUREVI'	<b><u>Tamil Nadu :</u></b> Total 9 persons died from Tamil Nadu. Cuddalore – 2 died on on Friday i.e. 4 <sup>th</sup> . Chennai - 1, & 6 from remaining affected districts. More than 200 livestock perished.	<b><u>Tamil Nadu :</u></b> i) Chennai Cuddalore, Chengalpattu, Kanchipuram, Ramanathapuram, Sivaganga, Tenkasi, Thoothukudi Tiruvarur districts affected. Of which, Cuddalore was the worst-hit. ii) Extensive damage to crops reported because agricultural land flooded. iii) Damage to about 2200 huts / houses completely or partially reported. iv) Many villages including 300 villages only from Cuddalore district alone remain inundated. v) Tamil Nadu government made arrangements for accommodating over 1.92 lakh relocated people from vulnerable areas in 490 relief camps in 5 districts viz. Thoothukudi, Tirunelveli, Kanniyakumari, Ramanathapuram and Sivaganga. vi) Many people including 66,000 people only from Cuddalore district alone & 5,000 from Ramanathapuram district alone shifted to relief camps.

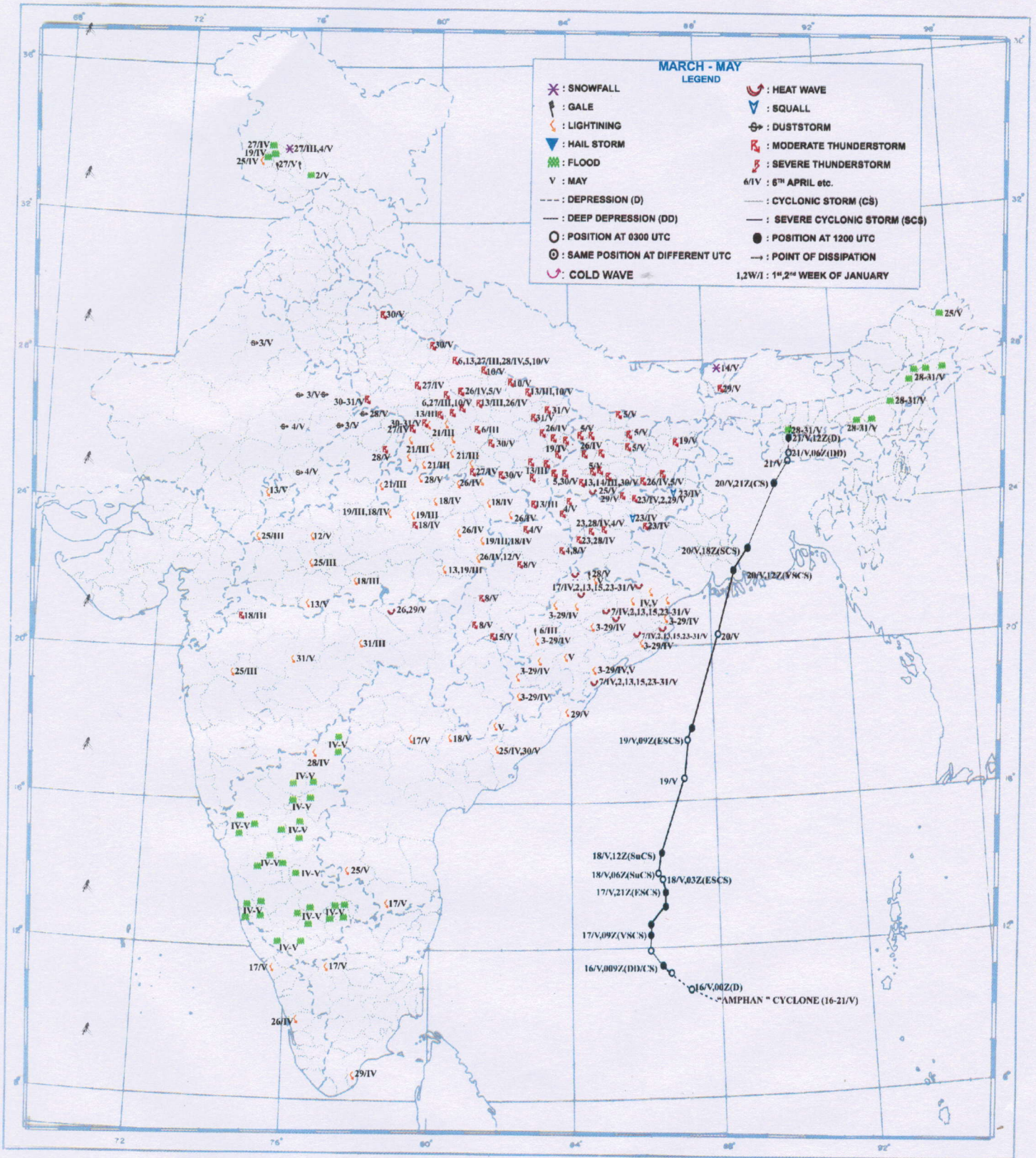
S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of Damage
		<p><b><u>Dissipation</u></b> Weakened into a well-marked low-pressure area over Gulf of Mannar close to Ramanathapuram district of Tamil Nadu at 0600 UTC of 5<sup>th</sup> December.</p>			<p>vii) Madurai, Tuticorin airport closed. viii) Several trees and electric poles uprooted.</p> <p><b>Kerala :</b></p> <p>i) Alappuzha, Ernakulam, Idukki, Kollam, Kottayam, Pattanamittia, Thiruvananthapuram districts affected.</p> <p>ii) The International airport in Thiruvananthapuram forced to shut down for 8 hours on 4<sup>th</sup>.</p> <p>iii) 15,840 people from disaster-prone areas shifted to 217 relief camps opened by district administration.</p> <p><b><u>Puducherry :</u></b></p> <p>i) Damage to crops reported. ii) Damage to huts reported. iii) Power supply of the city briefly cut off on 3<sup>rd</sup> December. iv) Several trees uprooted.</p>
		<b><u>ARABIAN SEA CYCLONE</u></b>			
4.	1 Jun. to 4 Jun.	<p><b><u>Dissipation</u></b> Weakened into a well marked low pressure area over central parts of Madhya Pradesh on 4<sup>th</sup> Jun. of 1200 UTC</p>	Severe Cyclonic Storm NISARG	<p><b><u>Maharashtra :</u></b> Total 6 persons died, 16 others injured &amp; 2000 livestock perished Viz. Mumbai – 3 injured from Santacruz, Pune – 3 died &amp; 5 injured,</p>	<p><b><u>Maharashtra :</u></b> i) Damage to more than 20,000 hectares of agricultural cropland including at least 5000 hectares in Palghar, 8000 hectares in Ratnagiri, Sindhudurg, Raigad &amp; Nashik reported.</p>

S. No.	Date/Period	Area affected	Intensity	Casualties	Extent of Damage
				<p>Raigad – 3 including 1 from Alibag.</p> <p>Parts of Maharashtra – 8 injured.</p> <p>While, 2000 birds perished in Igatpuri taluka of Nasik District.</p>	<p>ii) Extensive damage to Onion, Sugarcane, Maize, vegetable crops, fruit crops including Mango, Betel nut, Grapes, Pomogranate, Banana, Papaya, Cashue nut, Jackfruit reported.</p> <p>iii) Damage to several houses, Anganwadi School, cow shed, poultry shed reported.</p> <p>iv) Damage to many vehicles reported.</p> <p>v) Damage to 12 hectares of fishing area &amp; many boats which cost around Rs. 25 crore reported.</p> <p>vi) 500 villages of Raigarh Dist. Cut of from rest area.</p> <p>vii) Several low-lying areas remained inundated</p> <p>viii) About 1,00,000 people shifted to safer places. Of these, 25,000 from Mumbai, 10,000 from Thane, 4,000 from Ratnagiri, 14,000 from Alibag, and 200 Pune districts</p> <p>ix) Damage to 1962 transformers, more than 1350 electric cables including 5 high power extension cables, 500 mobile towers, several electric poles including 1440 electric poles from 4 talukas of Pune Dist. reported.</p> <p>x) More than 1 lakhs trees uprooted.</p>

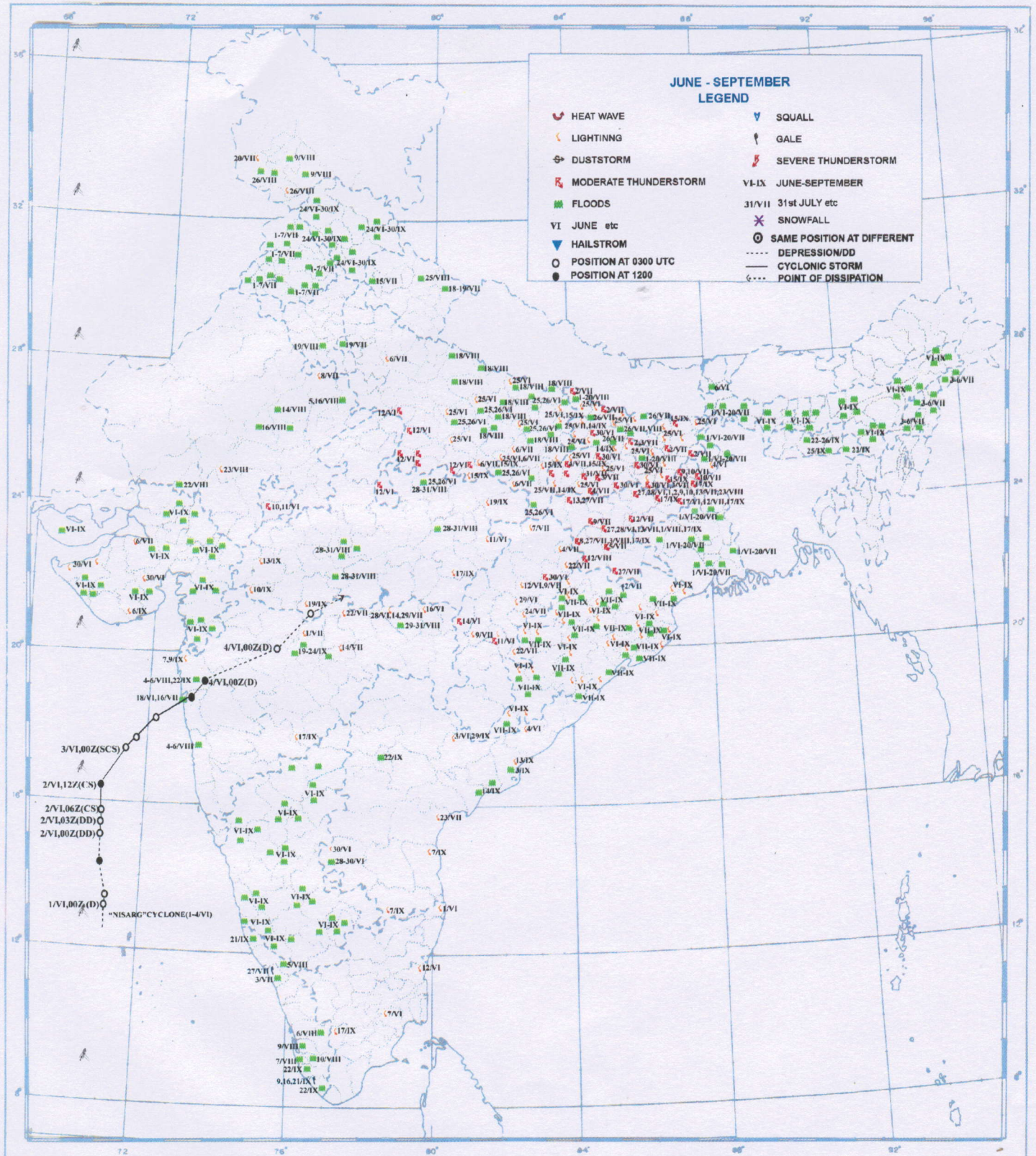
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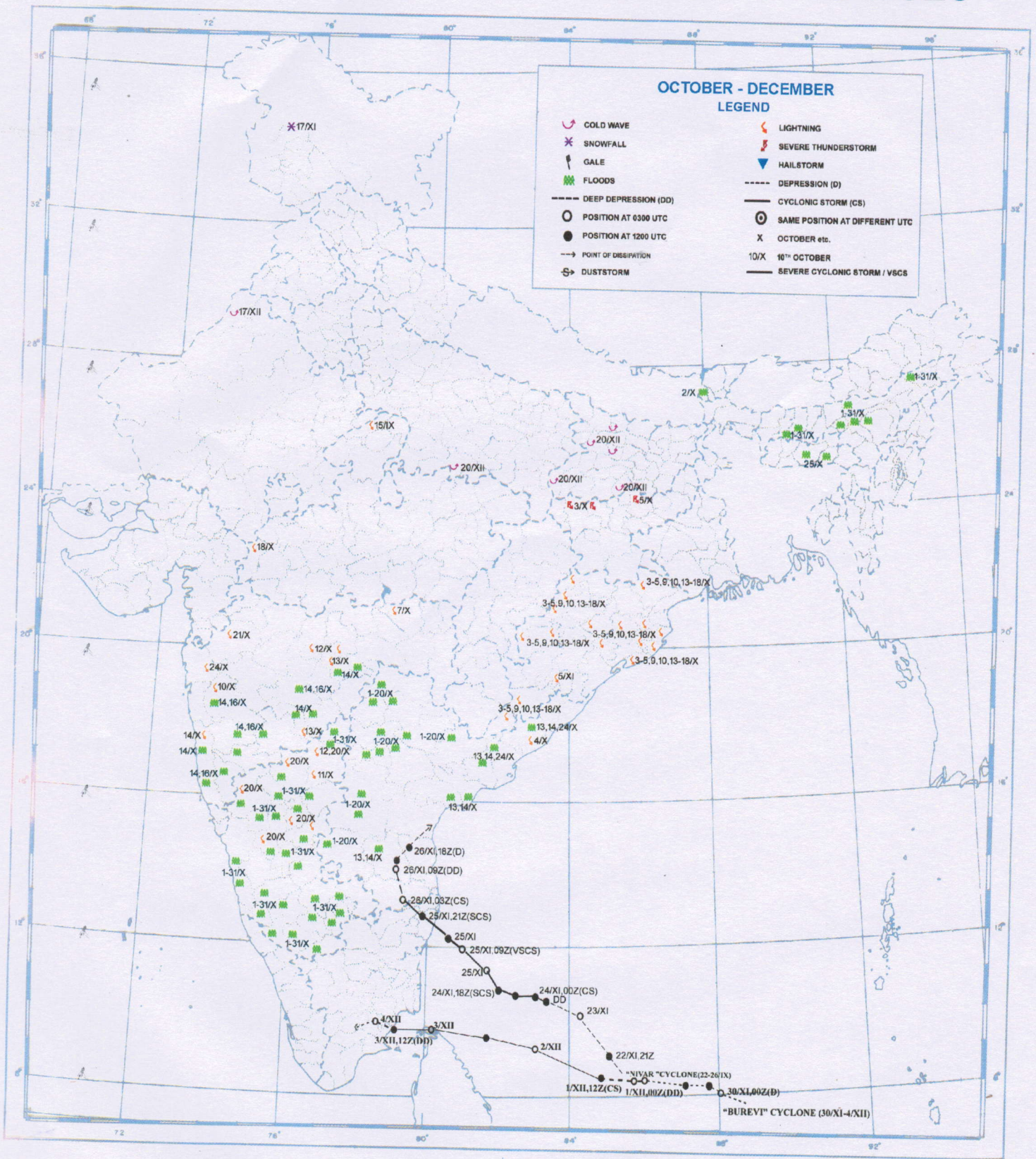
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