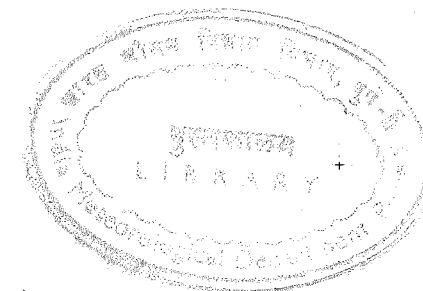


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INDIA METEOROLOGICAL DEPARTMENT  
***DISASTROUS WEATHER EVENTS, 1993***



ISSUED BY  
ADDITIONAL DIRECTOR GENERAL OF METEOROLOGY  
(RESEARCH)  
PUNE - 411005

**Cover Photo :** Sri Masilamani Temple destructed by Storm Surge and tidal waves due to Karaikal Cyclone  
( 1-4 Dec. 1993 )

**Courtesy :** R.M.C. Madras

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*Designed and Typeset at the DTP centre and printed at the Rotaprint Unit of the  
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**1990**

### DISASTROUS WEATHER EVENTS OF 1993



The most striking disastrous weather events of 1993 were the following :

- i) A severe cyclonic storm with a core of hurricane winds in the Bay of Bengal during 1-4 December claimed 111 human lives in Tamil Nadu.
- ii) Severe flood conditions prevailed over many parts of Arunachal Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Mizoram, Punjab, Rajasthan, Tripura and Uttar Pradesh and took a toll of 925 human lives. Over Punjab alone the death toll was 320 due to severe floods.
- iii) A tornado with 250 kmph wind speed lasted for 20 minutes at Murshidabad district on 9th April and claimed 50 human lives.

The summary of these natural hazards is based on the various reports of the India Meteorological Department and press information. The figures for estimated losses are as per the press reports. The areas affected by the adverse weather phenomena are depicted seasonwise on four maps.

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S.N.	Date/period	Area affected	Intensity	Casualties	Extent of damage	1993
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# TABLE - I : SNOWFALL

## CRITERIA

Moderate : 7.6 to 34.9 cm in 24 hrs.

Heavy :  $\geq 35.0$  cm in 24 hrs.

1.	22 Jan.	Arunachal Pradesh (Entire State)	Moderate		Normal life completely paralysed.
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# TABLE - II : COLD WAVE

## CRITERIA

(A) Where ; Normal minimum temperature is 10°C or more

Moderate cold wave : Night temperature 5° to 6°C below normal

Severe cold wave : Night temperature 7°C or more below normal

(B) Where ; Normal minimum temperature is less than 10°C.

Cold wave : Night temperature 3° to 4°C below normal

Severe cold wave : Night temperature 5°C or more below normal

1.	6 Jan.	Purnia	Severe cold wave (B)	2 persons died.
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<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
2.	8 Jan.	Madhubani	Severe cold wave (A)	4 persons died.	
3.	16 Jan.	Darbhanga	Severe cold wave (A)	More than half a dozen persons died.	
4.	17 Jan.	Madhubani	Severe cold wave (A)	5 persons died.	
5.	18 Jan.	Churu	Severe cold wave (B)	One person died.	
6.	21& 22 Jan.	Jaipur	Severe cold wave (B)	2 persons died.	
7.	24 Jan.	Cooch Behar	Severe cold wave (A)	6 persons died.	
8.	29 Jan.	Shillong	Severe cold wave (B)	Several persons died.	
9.	5 Feb.	Patna	Severe cold wave (A)	(i) 5 persons died at Chaki circle. (ii) 2 to 3 dozens cattleheads perished.	

1993

1993

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>	1993
10.	18 Dec.	Jaipur	Severe cold wave (B)	12 persons died.		
11.	28 Dec.	Jaipur	Severe cold wave (B)	One person died.		

### TABLE - III : HEAT WAVE

#### CRITERIA

(A) Where ; Normal maximum temperature is 40°C or less.

Moderate heat wave : Day temperature 5° to 6°C above normal

Severe heat wave : Day temperature 7°C or more above normal

(B) Where; Normal maximum temperature is more than 40°C

Heat wave : Day temperature 3° to 4°C above normal

Severe heat wave : Day temperature 5°C or more above normal

1.	27 Apr.	Jaipur	Severe heat wave (A)	3 persons died.
2.	30 Apr.	Jaipur	Severe heat wave (A)	One person died.
3.	2 May	Alwar and Jaipur	Severe heat wave (B)	2 persons died.



<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
4.	3-8 May	Rajasthan (some parts)	Severe heat wave (Both A and B as appropriate)	12 persons died.	
5.	27 May	Jaipur	Severe heat wave (B)	One person died.	
6.	1-12 Jun.	Rajasthan (Entire State)	Severe heat wave (Both A and B as appropriate)	23 persons died.	

TABLE - IV : DROUGHT

**BIHAR**

1.	Mar. (2nd week)	Palamau		100 cattleheads perished due to fodder shortage.	Acute shortage of drinking water and fodder reported.
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**MADHYA PRADESH**

1.	May (2nd week)	Balaghat, Bastar, Bilaspur, Chhindwara, Durg, Mandla, Raipur, Raj Nandgaon, Shahdol, Sidhi, Surguja and West Nimar		3 chitals died due to water scarcity in Sonavara forest of Raipur district.	(i) Acute shortage of drinking water reported. (ii) 50 lakhs people in 47 talukas of 12 districts affected.
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**MAHARASHTRA**

1.	Mar. (2nd week)	Ahmednagar			(i) Acute shortage of drinking water reported. (ii) 60% farming wells completely dried up.
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<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
<b>ORISSA</b>					
1.	Aug. (1st week)	Bolangir, Ganjam, Kalahandi, Koraput, Phulbani and Sundergarh			Kharif crop dried up in the second fortnight of July.
<b>RAJASTHAN</b>					
1.	May (3rd week)	Ajmer, Banswara, Bhilwara, Churu, Dungarpur, Ganganagar, Jaisalmer, Jalore, Jodhpur, Udaipur and Tonk			(i) Banswara district worst affected. (ii) 50 to 75 percent crop damaged.

**TABLE - V : SQUALL**

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

**CRITERIA**

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

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

1.	17 Feb.	Guwahati	Moderate		Normal life completely paralysed.
2.	24 Mar.	Hooghly	Severe	One person died.	Several electric poles uprooted disrupting power supply completely.
3.	26 Mar.	(a) Bardhaman	Severe	One person died.	Several mud houses damaged.
		(b) Calcutta	Severe	9 persons died and 40 others seriously injured.	Boundary wall of Calcutta Port Trust collapsed.
		(c) Murshidabad	Severe		(i) Several houses collapsed. (ii) Heavy damage to crops reported.

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
		(d) Nadia	Severe	34 persons injured.	More than 100 kutcha houses damaged.
		(e) South Dinajpur	Severe	50 persons injured.	(i) 50,000 people rendered homeless. (ii) Several houses collapsed.
4.	7 Apr.	Bardhaman, Birbhum, Calcutta, Howrah, Hooghly, Medinipur, Murshidabad, North 24 Parganas and South 24 Parganas	Severe	(i) One person died and another injured at Keshtopur area in Calcutta. (ii) 6 persons injured due to blowing off tin roof of a house at Howrah.	Several trees/electric poles uprooted disrupting power supply completely.
5.	9 Apr.	South 24 Parganas	Severe	One person died at Sundarban area under Kakdip Police Station.	(i) 500 people rendered homeless. (ii) More than 100 huts collapsed.
6.	28 Apr.	Medinipur	Severe	10 persons injured at Digha.	(i) 50 houses collapsed. (ii) Property worth more than Rs.20 lakhs damaged.
7.	9 May	(a) Bardhaman	Severe		(i) Several trees/electric poles uprooted disrupting power supply at Ondal station. (ii) Train service between Asansol-Portal section severely disrupted due to snapping of overhead electric lines.
		(b) Jalpaiguri	Severe		A pandal having capacity of 10,000 people fallen down.
8.	10 May	Malda	Severe		(i) Several houses damaged. (ii) Large number of electric/telephone poles uprooted.

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
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**TABLE - VI : GALE**

**CRITERIA**

Strong : Wind speed  $\geq 75$  kmph.

NIL

**TABLE - VII : DUSTSTORM**

**CRITERIA**

Moderate : Wind speed between 39 to 74 kmph and  
horizontal visibility upto 500 metres.

Heavy : Wind speed  $\geq 75$  kmph and horizontal  
visibility upto 50 metres.

NIL

**TABLE - VIII : LIGHTNING**

1.	3 Apr.	Bidar	One boy died at Mungnal village under Aurad taluka.
2.	25 Apr.	Koraput	2 persons died at Ramjipat in Bandhagam block.
3.	13 Jun.	Akola and Amravati	(i) 3 persons died due to electrocution. (ii) 2 cattleheads perished.

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
4.	18 Jun.	West Nimar		8 persons died at Khargone.	
5.	2 Jul.	Medinipur		(i) 4 persons including 2 girls died. (ii) 6 women injured at Gobindapur village.	
6.	3 Jul.	Nagpur		One person died at Salwa village.	
7.	5 Jul.	Nagpur		One woman died and 11 others injured at Asoli village.	
8.	7 Jul.	Nalanda		5 persons died at Gerichak and Bihar Sharif blocks.	
9.	18 Jul.	Raisen		One girl injured at Karwadia village.	
10.	29 Jul.	Nagpur		One person died at Ambazari.	
11.	31 Jul.	Nagpur		4 persons died and another injured at Adagaon and Mangli village of Rampur taluka.	
12.	2 Aug.	Nagpur		12 women and a man injured at Futki Bori village.	

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
13.	6 Aug.	Nagpur		One person died and another injured at Mohapa village in Kamaleshwara taluka.	
14.	15 Aug.	Balasore		2 fishermen killed and 2 others received burn injuries near Chandamani fishing base.	
15.	21 Sept.	Nagpur		2 farmers died due to electrocution at Mouza Daba and Mauza Wagholi.	
16.	22 Sept.	Wardha		One woman killed at Neri village in Hingna taluka.	
17.	29 Sept.	Hoshangabad		2 persons died and 2 others injured.	
18.	13 Oct.	(a) Chandrapur		(i) 3 persons died. (ii) One cattlehead perished at Tebhurma village in Varora taluka.	
		(b) Nagpur		One person died and another injured at Khapa village in Saoner taluka.	
		(c) Wardha		(i) One person died at Dhanwadi village in Ashti. (ii) 2 school children injured at Taroda village. (iii) 3 cattleheads perished.	

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
		(d) Saharsa		One person died and another injured at Gangjala village.	
19.	14 Oct.	Amravati		3 persons died, 2 at Chinchkumbh and one at Ridhpur village of Chandur Bazar taluka.	
20.	18 Oct.	(a) Nagpur		(i) One person died. (ii) One cattlehead perished at Pardi village.	
		(b) Wardha		One girl died at Ashti.	

#### TABLE - IX : THUNDERSTORM

##### CRITERIA

Moderate : Loud peals of thunder with frequent lightning flashes, moderate to heavy rains and maximum wind speed 29 to 74 kmph.

Severe : Continuous thunder and lightning, heavy rains and maximum wind speed  $\geq 75$  kmph.

1.	22 Jan.	Garo hills	Severe	2 persons injured.	Several dwellings/school buildings damaged.
2.	17 Feb.	Guwahati	Severe (76 kmph)		Normal life completely disrupted.

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
3.	22 Mar.	North 24 Parganas	Severe	2 persons died and 2 others injured.	
4.	23 Mar.	Medinipur	Severe	One person died and another injured at Keyabartana village under Egra Police Station.	Damage to crop reported.
5.	25 Mar.	(a) Calcutta	Moderate		(i) Normal life completely paralysed. (ii) Vehicular traffic disrupted.
		(b) Nadia	Severe	(i) One person died at Jamalpur village under Kaliganj Police Station. (ii) One person died and another injured at Gobindapur village.	
6.	26 Mar.	(a) Calcutta	Severe	(i) 9 persons including 5 children and a woman died. (ii) 25 others injured in Garden Reach area.	(i) 150 ft. long wall collapsed. (ii) Large number of trees uprooted.
		(b) Gaya	Severe	3 persons died and more than 12 injured.	
7.	1 Apr.	Dibrugarh	Severe		(i) The school building of Maralipathar Barua primary school completely damaged. (ii) Several houses damaged.

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
8.	9 Apr.	Murshidabad	Severe (Tornado : 250 kmph)	(i) 50 persons, mostly children died. (ii) 187 people seriously injured. (iii) Hundreds of cattleheads perished.	(i) Tornado lasted for 20 minutes at Khosbaspur, Gokma, Chatra and Motra villages under Kandi Police Station. (ii) Affected area is about 14 km. in length and less than 1 km. in width. (iii) 1500 huts completely destroyed and several pacca houses damaged. (iv) 700 families of 4 villages rendered homeless. (v) Road communication between Kandi and Berhampur town completely disrupted due to uprooting of large number of trees. (vi) A crowded bus lifted to a height of 20 ft. and thrown away by Tornado. (vii) A substation and a transmission station of state electricity board severely damaged resulting complete black out in the whole area.
9.	6 May	Dhubri	Severe	5 persons died, 3 at Naliagaon and 2 at Dorahatiganj Panchayat.	(i) 43 school buildings, 2 dispensaries, one veterinary hospital and 2 panchayat buildings badly damaged. Damage estimated to worth Rs. 2.5 crores. (ii) 2000 people rendered homeless. (iii) Ahu and Boro crop destroyed.
10.	7 May	Goalpara	Severe		Several houses and educational institutions at Dudhnoi village damaged.
11.	9 May	(a) Darrang, Kamrup and Nalbari	Severe	A 7-year old boy killed due to house collapse at Khatari village in Darrang district.	(i) Several houses damaged. (ii) Large number of trees/electric/telephone poles uprooted at Rangiya subdivision of Kamrup. (iii) Extensive damage to standing crop at Gongrapar area of Nalbari district reported.
		(b) Patna, Vaishali and few other parts of Bihar	Severe (84 kmph)	(i) 61 persons including 35 at Vaishali and 3 at Patna died. (ii) 100 others injured.	(i) Several huts damaged. (ii) Power supply disrupted. (iii) Train services disrupted.



<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
12.	11 May	Darrang and Nagaon	Severe		Extensive damage to dwellings and standing crop at Sipajhar and Raha area reported.
13.	16 May	Balasore	Severe	2 persons died at Dhamnagar block and one at Tihidi block.	Several hundred houses damaged.
14.	20 May	Darbhangha and East Champaran	Severe	(i) One person died in East Champaran district. (ii) A dozen cattleheads perished.	(i) Several houses damaged. (ii) A television tower fell down. (iii) Large number of trees uprooted.
15.	5 Jun.	Murshidabad	Severe	5 persons died and 10 others injured.	(i) 20 houses damaged. (ii) Large number of electric poles uprooted disrupting power supply.
16.	10 Jun.	Malda	Severe	One person died and several others injured.	(i) Asbestos and tin roof tops of many houses blown off. (ii) Large number of trees uprooted.
17.	16 Jun.	Hazaribagh	Severe		(i) Several quarters of irrigation department employees and CWC employees, damaged. (ii) Large number of trees/electric poles uprooted.
18.	20 & 21 Jun.	Medinipur	Severe	(i) One person died. (ii) 16 others injured under Keshpur Police Station.	
19.	23 Jun.	North 24 Parganas	Severe	(i) one person died. (ii) 2 cattleheads perished at Gosaba.	
20.	24 Jun.	Jalpaiguri	Severe	One person died and 3 others injured at Mainaguri.	

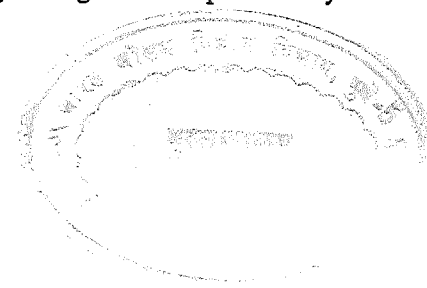


<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
21.	26 Jun.	(a) Ganganagar	Severe	One person died.	
		(b) Murshidabad	Severe	One person injured.	(i) 13 houses completely damaged. (ii) 40 mud houses collapsed.
22.	27 Jun.	North 24 Parganas	Severe	2 persons died and 3 others injured at Falta.	
23.	14 Oct.	Howrah	Severe	One woman died at Narit village under Amta Police Station.	
24.	15 Oct.	Hooghly	Severe	5 persons including one girl and 2 women died at Dhaldanaga and Markhana village under Khankul Police Station.	
25.	18 Oct.	(a) Bardhaman	Severe	10 persons died at Egra under Jamurai Police Station.	
		(b) Raigarh	Severe	3 persons died	100 huts destroyed.
26.	20 Oct.	Calcutta	Severe	One person died at Salt lake stadium.	

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
TABLE - X : HAILSTORM					
CRITERIA					
Slight : Sparse, usually small size and often mixed with rain.					
Moderate : Fall abundant enough to whiten ground.					
Heavy : Includes atleast a proportion of large stones.					
1.	8 Jan.	Malda	Heavy	16 persons died due to house collapse.	
2.	12 & 13 Jan.	South Dinajpur	Moderate		(i) Several mud houses collapsed. (ii) Large number of trees uprooted.
3.	2 Feb.	Saharsa	Heavy		(i) 150 houses damaged. (ii) Standing wheat crop in hundreds of acres of land destroyed.
4.	17 Feb.	Imphal	Heavy		(i) Hailstones of 1 cm. diameter reported. (ii) Rabi crop damaged.
5.	18 Feb.	Bahraich	Heavy		(i) Hailstones weighing 20-25 gms. reported. (ii) Wheat, gram, masoor crops partially damaged.
6.	26-28 Feb.	Betul, Bhopal, Dewas, Gwalior, Morena, Raisen, Rajgarh, Sehore and Vidisha.	Heavy	One person died and 15 others injured at Gwalior.	Extensive damage to standing crop reported.
7.	2 Mar.	Cachar, Hailakandi and Karimganj	Moderate		(i) Extensive damage to crops reported. (ii) Several school buildings damaged.
8.	3 Mar.	Amravati	Heavy		(i) Standing wheat crop damaged. (ii) Orange orchard damaged. (iii) Tiles of several roof tops damaged.

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
9.	4 Mar.	Akola	Heavy	54 persons injured.	(i) Standing crop damaged. (ii) Several houses damaged. (iii) Large number of trees uprooted.
10.	4 & 5 Mar.	(a) Nagpur	Heavy	3 girls died and several others injured.	(i) Several huts destroyed and several houses collapsed. (ii) Cotton and cotton seed worth Rs. 2.7 lakhs destroyed. (iii) Rabi crop, orange orchard and mango grove extensively damaged. (iv) Large number of trees/electric/telephone poles uprooted disrupting power/telecommunication systems.
		(b) Wardha	Heavy	(i) 3 sisters died due to house collapse. (ii) 165 cattleheads perished.	(i) Several trees uprooted. (ii) Extensive damage to standing crop reported. (iii) Grains and vegetables damaged.
11.	7 Mar.	Jhalawar	Moderate		25 to 90 percent crop damaged.
12.	22 Mar.	Goalpara	Moderate		Vegetable crop damaged.
13.	24 Mar.	Kota	Heavy		(i) 2,500 trees uprooted. (ii) 300 to 400 electric poles fallen.
14.	25 Mar.	Saran	Heavy		(i) Hailstones weighing 100 gms. reported. (ii) Several thatched houses with tiled roofs damaged. (iii) Standing vegetables and other crops damaged.
15.	26 Mar.	Puri	Heavy	10 persons injured.	(i) 600 families rendered homeless. (ii) Heavy loss of public property reported.
16.	27 Mar.	Vaishali	Heavy		(i) Mango grove and Rahar crop extensively damaged. (ii) Loss estimated to worth crores of rupees.
17.	31 Mar.	Dumka	Heavy		(i) Extensive damage to rabi crop reported. (ii) Power/water/telephone supply completely disrupted.

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
18.	9 Apr.	(a) Dibrugarh	Heavy		(i) School building of Duliagan Balika Vidhyalay badly damaged. (ii) Extensive damage to residential houses reported.
		(b) Jorhat	Heavy		(i) 10,000 families affected. (ii) Extensive damage to dwellings/educational institution/electricity/telephone lines reported. (iii) Tea gardens in Chenajan, Boloma, Kamalpur in Kakajan Tea Estate damaged. (iv) Large number of betelnut and other trees uprooted.
19.	10 Apr.	Sonitpur	Heavy	One person died at Dhalpur under Sohpur constituency.	Extensive damage to public and private property reported.
20.	12 Apr.	Krishna	Heavy	8 persons died due to electrocution.	Mango grove badly damaged.
21.	13 Apr.	Dhanbad	Heavy		(i) Hailstones weighing 75 gms. reported. (ii) Several thatched houses damaged. (iii) Standing vegetables and mango fruits extensively damaged.
22.	15. Apr.	(a) Kamrup	Heavy		Extensive damage to rabi crop reported.
		(b) Muzaffarpur and Vaishali	Heavy		Standing vegetables, mango, banana and betel leaves damaged.
23.	25 Apr.	Koraput	Moderate		35 houses completely and 150 houses partially damaged at Zenkpet Panchayat.



<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
24.	27 & 28 May	East Nimar and West Nimar	Heavy	16 persons including 3 children died.	(i) Extensive damage to roof tops of several houses reported. (ii) Tendu leaves worth Rs. 50,000 damaged. (iii) Compound wall of Bhilai Steel Plant collapsed. (iv) Extensive damage to crop reported. (v) Several school buildings damaged. (vi) Large number of electric/telephone poles uprooted.
25.	8 Jun.	Pune	Heavy	3 persons died and 3 others injured near Bhandara hill at Chakan.	Hailstones of the size of golf ball reported.

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity (river)</i>	<i>Casualties</i>	<i>Extent of damage</i>
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TABLE - XI : FLOODS AND HEAVY RAINS

STATES

ANDHRA PRADESH

1.	7-11 Oct.	Hyderabad, Kurnool and Mehboobnagar	Flash flood	13 persons died in Hyderabad.	(i) 2,265 houses fully and 8,149 partially damaged. (ii) 109 villages affected. (iii) Extensive damage of standing crop reported.
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ARUNACHAL PRADESH

1.	7 Jun.	Entire State	Heavy rains		Vehicular traffic disrupted due to landslide at several places.
2.	2-7 Jul.	Lohit and Lower Subansiri	Severe flood (Nea Dihing)		(i) 4 houses washed away. (ii) 4 bridges on Yazadazero road washed away. (iii) Both the districts cut off from the rest of the country. (iv) 150 metre stretch of national highway near Krishnapur in Namsai circle flooded. (v) National highway No. 52 submerged at several places.
3.	5 Sept.	Tawang	Flash flood	14 persons died and one injured.	10 houses washed away.

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity (river)</i>	<i>Casualties</i>	<i>Extent of damage</i>
<b>ASSAM</b>					
1.	4-12 May	Karimganj	Severe flood (Brahmaputra and its tributaries)	2 persons died.	(i) 52 villages having population of 50,000 affected. (ii) Longlai river breached its embankment at six places causing extensive damage to paddy field. (iii) National highway No. 44 flooded disrupting vehicular traffic. (iv) On national highway, the road breached at Chandkheira disrupting road communication between Tripura and Assam.
2.	5 Jun.to 19 Jul.	Barpeta, Cachar, Darrang, Dhemaji, Dhubri, Dibrugarh, Goalpara, Golaghat, Hailakandi, Jorhat, Kamrup, Karimganj, Lakhimpur, Marigaon, Nagaon, Nalbari, Sibsagar, Sonitpur and Tinsukia	Severe flood (Brahmaputra and its tributaries)	(i) 13 persons died. (ii) 30 cattleheads perished.	(i) 22,99,523 people in 3,498 villages affected. (ii) 4,62,433 hectares of land and 1,34,956 hectares of cropped land submerged. (iii) 2,525 houses fully and 2,563 partially damaged. (iv) Railway and road communication at several places disrupted. (v) 16 km. long national highway No. 52 submerged.
3.	20 Jul to 9 Aug.	Barpeta, Bongaigaon, Cachar, Darrang, Dhemaji, Dhubri, Goalpara, Hailakandi, Jorhat, Kamrup, Karimganj, Kokrajhar, Lakhimpur, Marigaon and Nalbari	Severe flood (Brahmaputra and its tributaries)	(i) 35 persons died. (ii) 2,369 cattleheads perished.	(i) 24,78,781 people in 2,338 villages affected. (ii) 3,72,832 hectares of land area and 87,000 hectares of cropped area flooded. (iii) 5,708 houses fully and 9,550 partially damaged. (iv) Surface and railway communication between state and the rest of the country remained cut off for number of days. (v) National highway No. 52 submerged at several places disrupting the vehicular traffic completely.



<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity (river)</i>	<i>Casualties</i>	<i>Extent of damage</i>
4.	10 Aug.to 4 Sep.	Barpeta, Dhemaji, Dhubri, Golaghat, Jorhat, Karbi Anglong, Lakhimpur, Marigaon and Sibsagar	Severe flood (Brahmaputra and its tributaries)	3 persons died.	(i) 6,30,822 people in 894 villages affected. (ii) 1,388 houses damaged. (iii) 1,51,681 hectares of land area and 43,019 hectares of cropped area flooded.
*	Whole year	0.462 million hectare		(i) 51 human lives lost. (ii) 2399 cattleheads lost.	21,734 houses damaged.
<b>BIHAR</b>					
1.	22-31 Jul.	Darbhanga, East Champaran, Muzaffarpur and Sitamarhi	Severe flood (Ganga and its tributaries)	35 persons died in Sitamarhi district only.	(i) 1.5 lakh people affected. (ii) Standing crop in 50,000 hectares of land worth Rs. 5.56 crores damaged. (iii) Public utilities worth Rs 419 crores damaged. (iv) 300 metre long railway line between Dhang and Righa on Darbhanga-Narkatiaganj washed away. (v) River embankment breached at 15 places.
2.	Aug.	Begusarai, Bhagalpur, Darbhanga East Champaran, Gopalganj, Katihar, Khagaria, Madhepura, Madhubani, Muzaffarpur, Nalanda, Saharsa, Sitamarhi and West Champaran	Severe flood (Ganga and its tributaries)	25 persons died.	(i) 46 lakh people affected. (ii) 200 pucca houses and 2000 huts damaged. (iii) 2.5 lakh hectares of crop land flooded. Crop worth Rs. 133 crores damaged. (iv) 27 km. long road, 7 bridges and 10 culverts damaged. (v) 35 school buildings and 11 health centres damaged.
3.	5 Sep.	Patna	Heavy rains	2 girls died at Sarari village under Danapur Police Station.	2 houses collapsed.

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity (river)</i>	<i>Casualties</i>	<i>Extent of damage</i>
4.	20 Sep.	Patna	Heavy rains		(i) Fatwa, Khusrupur and Daniawan blocks inundated. (ii) Standing crop worth lakhs of rupees damaged.
*	Whole year	1.521 million hectare		(i) 77 human lives lost. (ii) 418 cattleheads lost.	(i) Crop worth Rs. 150.920 crores damaged. (ii) 2,28,150 houses damaged and loss worth Rs. 122.050 crores reported. (iii) Public utilities worth Rs.31.800 damaged.
<b>GUJARAT</b>					
1.	12-14 Jun.	Surat	Heavy rains	One person died and 6 others washed away.	(i) Low lying areas flooded. (ii) Many pucca roads in Randher area of the city inundated.
2.	Jul. (2nd week)	Ahmadabad, Bharuch, Sabarkantha and Vadodara	Severe flood (Narmada and its tributaries)	45 persons died.	(i) Normal life paralysed. (ii) Shoolpeneshwar Shiv temple submerged.
*	Whole year	0.043 million hectare		(i) 119 human lives lost. (ii) 662 cattleheads lost.	(i) Crop worth Rs.12.120 crores damaged. (ii) 4895 houses damaged. (iii) Public utilities worth Rs.10.480 crores damaged.
<b>HARYANA</b>					
1.	8-21 Jul.	Entire State	Severe flood	51 persons died.	(i) 1.5 lakh people affected. (ii) 76,000 houses badly damaged. (iii) 5 lakh hectares of cropped area submerged. (iv) Crop worth Rs. 350 crores damaged. (v) Public utility worth Rs. 525 crores lost. (vi) Wheat stock worth over Rs. 15 crores damaged.

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity (river)</i>	<i>Casualties</i>	<i>Extent of damage</i>
					(vii) The power station at Karnal, Kaithal, Panipat and Sirsa extensively damaged. Electric installation worth Rs. 4 crores damaged. (viii) Panipat thermal power plant closed for a number of days.
*	Whole year	0.543 million hectare		(i) 36 human lives lost. (ii) 188 cattleheads lost.	53,746 houses damaged.
<b>HIMACHAL PRADESH</b>					
1.	8-12 Jul.	Entire State	Severe flood	(i) 58 persons died. (ii) 12,090 cattleheads perished.	(i) 4,557 houses completely damaged. (ii) 26,400 acres of agricultural land submerged. (iii) Several routes and bridges badly damaged. (iv) Public utilities worth Rs. 250 crores damaged.
<b>JAMMU AND KASHMIR</b>					
1.	24-26 Mar.	Jammu, Pulwama and Udhampur	Heavy rains	32 persons killed in house collapse.	300 km. long Jammu-Srinagar national highway closed for vehicular traffic due to mud slide.
2.	9-14 Jul.	Jammu and Srinagar	Severe flood	20 persons died.	Road communication disrupted on all major highways.
<b>KARNATAKA</b>					
1.	31 Aug.	Raichur	Heavy rains	(i) 2 persons washed away in Nagalapur tank. (ii) Several cattleheads perished.	(i) Hundreds of people rendered homeless. (ii) Property worth Rs. one crore damaged.

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity (river)</i>	<i>Casualties</i>	<i>Extent of damage</i>
2.	9 Oct.	Raichur	Heavy rains	5 persons died.	(i) Hundreds of houses collapsed. (ii) 3000 families of slum dwellers rendered homeless.
3.	11-21 Oct.	Belgaum, Bellary, Bijapur Dakshin Kannada, Gulberga and Raichur	Severe flood	34 persons died.	(i) 296 houses completely and 1,170 partially damaged. (ii) Standing crop in 40,325 hectares of land in 10 talukas of Belgaum district damaged. (iii) The total loss including loss of public utilities worth Rs. 11.35 crores reported in Belgaum district.

#### KERALA

1.	1 Jun.	Alapuzha, Ernakulam, Idukki, Kollam, Pathanamthitta, Thiruvananthapuram and Thrissur	Heavy rains	One child died.	(i) Extensive damage to crop reported. (ii) Hundreds of houses damaged. (iii) Railway track inundated.
2.	13 Jun.	Alapuzha	Heavy rains		(i) 100 houses damaged. (ii) Extensive damage to crop reported.
3.	18 Jun.	Thiruvananthapuram	Heavy rains		(i) 581 houses damaged. (ii) 500 families rendered homeless.
4.	3 Jul.	Kottayam	Heavy rains	Several persons injured.	500 people rendered homeless.
5.	18 Jul.	Kollam	Heavy rains	One person died and another reported missing.	4 fishing boats capsized.
6.	22 Jul.	Kollam	Heavy rains	One person reported missing.	5 fishing boats capsized.
7.	26 Jul.	Cannur and Thiruvananthapuram	Heavy rains	2 persons died.	(i) 150 houses damaged. (ii) One fishing boat capsized.

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity (river)</i>	<i>Casualties</i>	<i>Extent of damage</i>
8.	27 Jul.	Malappuram	Heavy rains	2 persons died.	One fishing boat capsized.
9.	28 Jul.	Thiruvananthapuram	Heavy rains		(i) Several houses damaged. (ii) Hundreds of coconut trees uprooted.
10.	6 Oct.	Kottayam	Heavy rains	3 persons died and 10 others injured.	(i) Extensive damage to agriculture reported. (ii) Electric and telephone services disrupted.
11.	8 Oct.	Malappuram	Heavy rains	10 persons died.	(i) One bridge and several houses damaged. (ii) Extensive damage to agriculture reported.
12.	9 Oct.	Palakkad	Heavy rains		(i) Thousands of plantation/coconut trees uprooted. (ii) Extensive damage to paddy crop reported.
13.	11 Oct.	Alapuzha	Heavy rains		Extensive damage to paddy crop reported.
14.	10 & 11 Nov.	Idukki, Kollam and Thiruvananthapuram	Heavy rains	3 persons died.	(i) 500 houses completely and 2,500 partially damaged. 16,000 people evacuated to safer places. (ii) Crop worth Rs. 7.5 lakhs damaged.
*	Whole year	0.007 million hectare		(i) 42 human lives lost. (ii) 104 cattleheads Lost.	(i) Crop worth Rs. 5.090 crores damaged. (ii) 11,690 houses damaged and loss worth Rs. 2.12 crores reported. (iii) Public utilities worth Rs. 0.588 crores damaged.
<b>MADHYA PRADESH</b>					
1.	17 & 18 Jul.	Entire State	Heavy rains	9 persons including 4 children died.	(i) Several houses collapsed. (ii) Vehicular/railway/air services disrupted. (iii) Telecommunication services badly affected.
2.	16-19 Aug.	Balaghat, Bilaspur, Hoshangabad and Jabalpur	Heavy rains	4 persons died.	(i) 150 kutcha houses collapsed. (ii) Low lying areas flooded.

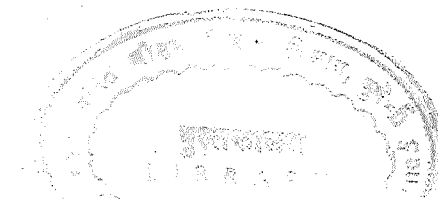
<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity (river)</i>	<i>Casualties</i>	<i>Extent of damage</i>
3.	18 Sep.	Morena	Heavy rains	4 persons died due to house collapse at Rajora village.	Railway line between Gwalior and Sheopur remained closed.
<b>MAHARASHTRA</b>					
1.	10 Jun.	Amravati	Heavy rains	One person died and 11 others injured.	Several trees uprooted.
2.	14 Jun.	Nagpur	Heavy rains		(i) One house collapsed at Mohpa under Katol taluka. (ii) Large number of trees/electric/telephone poles uprooted.
3.	18 Jun.	Bombay	Heavy rains	3 persons died and 6 others injured when a cluster of hutments crashed at Mahakali Nagar in Worli Koliwada.	
4.	3 Jul.	Pune	Heavy rains		(i) Low lying areas flooded. (ii) Normal life completely paralysed. (iii) 60 families marooned at Lohia Nagar slums at Hadapsar.
5.	9 Jul.	Nagpur	Heavy rains		One house collapsed at Timki.
6.	13-15 Jul.	Bombay	Heavy rains	A 12-year old boy injured due to wall collapse at Bhandup.	(i) Normal life paralysed. (ii) Low lying areas flooded.
7.	14 Jul.	Ratnagiri	Heavy rains		(i) 15 houses damaged. (ii) Several coconut trees uprooted. (iii) Signal post of local port washed away.

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity (river)</i>	<i>Casualties</i>	<i>Extent of damage</i>
8.	15 Jul.	Nagpur	Heavy rains	One girl died and few others injured in house collapse at Kamptee.	
9.	17 Jul.	Dhule	Heavy rains		(i) Low lying areas flooded. (ii) 7 huts submerged. (iii) 22 families shifted to safer places.
10.	30 Jul.	Nagpur	Heavy rains		(i) Several houses collapsed. (ii) Large stretch of cropped area flooded. (iii) Large number of trees uprooted.
11.	5 Aug.	Kolhapur	Heavy rains	6 passengers including a woman and a child died when a bus plunged into flooded stream of river Bhogavati near Kothali village on Kolhapur-Radhanagari road.	
12.	12 Aug.	Nagpur and Yavatmal	Heavy rains		(i) Several houses damaged. (ii) Large stretch of cropped area submerged.
13.	22 & 23 Sep.	Bombay	Heavy rains	35 persons died and 50 others injured in a landslide at Sakinaka.	(i) Normal life completely paralysed. (ii) Low lying areas flooded.
14.	27 Sep.	Bombay	Heavy rains	4 persons including a 12-year girl injured at Antop Hill.	

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity (river)</i>	<i>Casualties</i>	<i>Extent of damage</i>
15.	11 Oct.	Beed	Heavy rains	5 persons died at Nalwaudi village.	
16.	18 Oct.	(a) Bombay	Heavy rains	2 persons died at Vashi.	
		(b) Buldhana	Heavy rains	4 persons died at Dewulgaonraj village.	
		(c) Osmanabad	Heavy rains	17 persons feared killed when a truck plunged into Ullappa river at Parananda village.	
*	Whole year	0.012 million hectare		(1) 21 human lives lost. (ii) 33 cattleheads lost.	(i) Crop worth Rs. 1.170 crores damaged. (ii) 1156 houses damaged and loss worth Rs. 0.400 crores reported. (iii) Public utilities worth Rs. 5.220 crores damaged.
<b>MEGHALAYA</b>					
1.	26 Jul.	West Garo Hills	Heavy rains		Tura cut off from rest of the state due to landslide at Shillong-Tura highway.
<b>MIZORAM</b>					
1.	7-23 Jun.	Entire State	Severe flood	14 persons died.	153 houses damaged.
2.	26 Jul.	Chhimtuipui	Heavy rains		Southern district headquarter Saiha town remained cut off from rest of the state due to landslide.
3.	31 Aug.	Entire State	Heavy rains	6 persons including 3 women died due to landslide at Keifang village, 70 km. from Aizawl.	



<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity (river)</i>	<i>Casualties</i>	<i>Extent of damage</i>
3.	31 Aug.	Entire State	Heavy rains	6 persons including 3 women died due to landslide at Keifang village, 70 km. from Aizawl.	
		NAGALAND			
1.	17-23 Aug.	Entire State	Severe flood (Doyang)	One person died at Kohima.	(i) Kohima-Imphal national highway No.39 closed for vehicular traffic due to damage of a bridge near Phesama. (ii) Mokokchung-Zunheboto road locked for vehicular traffic due to landslide near Atsokhu and Wokha-Kohima road at Kontsnyu.
		PUNJAB			
1.	8-12 Jul.	Amritsar, Fatehgarh Sahib, Ferozpur, Gurdaspur, Hoshiarpur, Jallunder, Kapurthala, Ludhiana, Mansa, Patiala, Ropar and Sangrur	Severe flood (Bias, Satlaj and Ravi)	(i) 320 persons died. (ii) 6,293 cattleheads perished.	(i) Fatehgarh Sahib, Gurdaspur, Patiala and Ropar districts worst affected. (ii) 30% of the total area inundated. (iii) 25 lakh people in 4,741 villages and 44 towns affected. (iv) Paddy and kharif crop in 15 lakh acres of land damaged. Loss estimated to worth Rs. 284 crores. (v) Property worth Rs. 477 crores damaged. (vi) Over 10,000 km. road, 37 big and 150 small bridges damaged. (vii) Train/power/telecommunication services disrupted.
*	Whole year	0.607 million hectare		(i) 278 human lives lost. (ii) 6249 cattleheads lost.	



<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity (river)</i>	<i>Casualties</i>	<i>Extent of damage</i>
<b>RAJASTHAN</b>					
1.	11-22 Jul.	Ajmer, Bhilwara, Churu, Ganganagar, Kota, Jaisalmer and Jodhpur	Severe flood	(i) 19 persons died. (ii) 80 cattleheads perished.	(i) 220 villages affected. (ii) 16,154 houses partially or completely damaged. More than 300 houses in Bhilwara alone damaged. (iii) Vehicular traffic between Kota-Ajmer suspended. (iv) Railway link between Ajmer-Bhilwara and Churu-Sikar disrupted. (v) Lasaria dam at Bhilwara breached.
2.	Aug.	Kota and Tonk	Severe flood	(i) 5 persons died. (ii) 9 cattleheads perished.	(i) 19 villages affected. (ii) 11,576 houses damaged. (iii) 7 dams breached.
<b>SIKKIM</b>					
1.	13 Aug.	Entire State	Heavy rains	7 persons died due to landslide at Dzongu area.	
<b>TAMIL NADU</b>					
1.	6 Aug.	Dindigul	Heavy rains	3 persons died and 4 others injured when a portion of a compound wall of a rice mill collapsed.	

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity (river)</i>	<i>Casualties</i>	<i>Extent of damage</i>
2.	7-11 Nov.	Coimbatore, Nilgiris, Periyar, Ramanathapuram and Thanjavur.	Heavy rains	(i) 52 fishermen reported missing. (ii) More than 60 persons feared killed in a landslide near Oconoor. (iii) 6 persons including 5 children died in various incidences of house collapse.	(i) Low lying areas flooded. (ii) One fishing boat sank and 39 others damaged. (iii) 1000 houses fully damaged. (iv) 1.4 lakh acres of cropped land submerged. (v) Public/private property worth Rs. 260 crores damaged. Road and other public utility worth Rs.180 crores damaged.
<b>TRIPURA</b>					
1.	5-12 May	North Tripura and West Tripura	Severe flood	21 persons died.	(i) 16,225 families affected. (ii) 70 to 80% crop damaged. (iii) 2 bridges washed away.
2.	7-9 Jun.	North Tripura and West Tripura	Severe flood	4 persons died at Kailashahar.	(i) 2 lakh people affected. (ii) More than 1 lakh people rendered homeless. (iii) Several roads and wooden bridges either damaged or washed away. (iv) Road link and railway services disrupted.
3.	22 Jul.	North Tripura	Heavy rains	2 persons died.	North Tripura remained cut off from rest of the state.
<b>UTTAR PRADESH</b>					
1.	Jul.	Almora, Bijnor, Bahraich, Dehra Dun, Garhwal, Ghaziabad, Gonda, Hardwar, Meerut, Mirzapur and Muzaffarnagar	Severe flood (Ganga and its tributaries)	(i) 35 persons died. (ii) 407 cattleheads perished.	(i) 9.31 lakh people affected. (ii) 1.35 lakh hectares of land and 0.31 lakh hectares of agricultural land flooded. (iii) 314 houses completely and 3,067 partially damaged.

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity (river)</i>	<i>Casualties</i>	<i>Extent of damage</i>
2.	Sep. (2nd and 3rd week)	Entire State	Severe flood (Ganga and its tributaries)	(i) 171 persons died. (ii) 1,940 cattleheads perished.	(i) Population of over 2 crores affected. (ii) 5,574 houses washed away and 56,230 completely damaged. (iii) 4.5 lakh hectares of cropped area washed away. (iv) Road and railway link in Kumaon totally disrupted. (v) Public utility worth Rs. 500 crores damaged. (vi) 25,000 Pilgrims and tourists stranded in the border area of Chamoli.
*	Whole year	1.437 million hectare		(i) 306 human lives lost. (ii) 1937 cattleheads lost.	1,49,850 houses damaged.
<b>WEST BENGAL</b>					
1.	29 Apr.	Calcutta	Heavy rains	One person died.	Normal life paralysed.
2.	1 Jul.	Darjeeling	Heavy rains	18 persons died.	Several houses damaged.
3.	2 Jul.	Medinipur	Heavy rains	4 persons including 2 girls killed and 6 others seriously injured at Gobindapur village.	
4.	10 Jul.	Calcutta	Heavy rains		(i) Normal life completely paralysed. (ii) Low lying areas flooded. (iii) Vehicular traffic completely disrupted. (iv) Thousands of commuters stranded.
5.	15 Jul.	Calcutta	Heavy rains	One person died and 3 others injured due to house collapse.	

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity (river)</i>	<i>Casualties</i>	<i>Extent of damage</i>
6.	16 Jul.	South 24 Parganas	Heavy rains	2 fishermen reported missing due to capsized of fishing trawler near Kakdip.	
7.	18-20 Jul.	Cooch Behar and Jalpaiguri	Severe flood	136 persons died at Cooch Behar and 200 people died at Jalpaiguri.	(i) 10 lakh people affected. (ii) Hundreds of houses damaged.
8.	22 Jul.	Medinipur	Heavy rains	6 persons including one woman died at Kharipukurai.	
9.	25 Jul.	Bankura	Heavy rains	18 persons died and 26 others injured when a private bus fallen in D.V.C. canal at Pratappur village.	
10.	3 Aug.	South 24 Parganas	Heavy rains		(i) 20 mud houses collapsed. (ii) 200 people rendered homeless at Mausami island under Sundarban area.
11.	7 Aug.	South 24 Parganas	Heavy rains	5 fishermen reported missing when one fishing trawler cap-sized at Baba-Shahe-char of Namkhana.	
12.	8 Aug.	(a) Cooch Behar	Heavy rains	2 persons died at Mahishkuty village of Tufanganj taluka.	

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity (river)</i>	<i>Casualties</i>	<i>Extent of damage</i>
		(b) Darjeeling	Heavy rains	70 persons died and several others injured due to landslide at Parem and Bindu in Jaldhaka area of Kalimpong.	
13.	10 Aug.	Medinipur	Heavy rains	5 persons including a woman and two children killed in a house collapse.	(i) 1000 mud houses collapsed. (ii) 25,000 people affected. (iii) 200 people evacuated to safer places.
14.	12 Aug.	Calcutta	Heavy rains	3 persons died and 6 others injured due to house collapse in B.B.D. Bag area.	
15.	14 Aug.	Medinipur	Heavy rains	2 small girls swept away at Ghatal town.	
16.	19 Aug.	South 24 Parganas	Heavy rains		(i) 46 houses submerged under flood water. (ii) Several people rendered homeless at Mausami island of Namkhana.
17.	22 Aug.	South 24 Parganas	Heavy rains	3 persons died and 5 others injured.	(i) 150 mud houses collapsed. (ii) 6,000 people rendered homeless at Kakdip area.
18.	30 Aug.	South Dinajpur	Heavy rains	One woman and her one year old baby died due to house collapse at Gopalbati village in Balurghat taluka.	

<i>S.N.</i>	<i>Date/period</i>	<i>Area affected</i>	<i>Intensity (river)</i>	<i>Casualties</i>	<i>Extent of damage</i>
19.	4 Sep.	Hooghly	Heavy rains	4 persons died and 3 others injured due to house collapse at Nimai-Tirtha road.	
20.	12-16 Sep.	Calcutta, Hooghly, Medinipur, Murshidabad and Nadia	Heavy rains	(i) 5 persons died and 6 others injured. (ii) 4 fishermen reported missing.	(i) 5.5 lakh people affected. (ii) 12,000 mud houses in Murshidabad and Nadia districts collapsed. (iii) In Medinipur district, 21 villages inundated.
21.	19 Sep.	North 24 Parganas and South 24 Parganas	Heavy rains	3 persons died and 4 others injured due to collapse of mud wall at Dayarampur in Mandir Bazaar.	250 houses at Joyishganj in North 24 Parganas district inundated.
22.	23 Sep.	Malda	Heavy rains	5 persons including 2 women died under Baishnab Nagar Police Station.	
23.	26 Sep.	Murshidabad	Heavy rains	3 persons died at Kankinagar under Berhampore Police Station.	

#### UNION TERRITORIES

##### CHANDIGARH

1.	8-12 Jul.	Chandigarh	Severe flood	2 persons died.	
		DELHI			
1.	7 Jul.	Delhi	Heavy rains	One person electrocuted and 3 others injured.	
2.	22 Jul.	Delhi	Heavy rains	One person died due to house collapse.	
3.	25 Jul.	Delhi	Heavy rains	One person died.	

<i>S.N.</i>	<i>Date/period</i>	<i>Area of Formation/ Dissipation</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
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TABLE - XII : CYCLONIC STORM

BAY CYCLONES

In Tamil Nadu

1.	1-4 Dec.	<p>Formation : At Lat.9°N. Long. 85.6°E.</p> <p>Landfall : Near Karaikal between 0400 and 0500 UTC of 4th Dec.</p> <p>Dissipation : Near 12°N. 78.4°E. on 4th Dec. at 1200 UTC.</p>	<p>Severe cyclonic storm with a core of hurricane winds</p>	111 persons died.	<p>(i) Thousands of families rendered homeless. (ii) The Samba paddy crop worth Rs. 150 crores lost. (iii) About 1,500 km. road affected. (iv) Thousands of trees uprooted. (v) Total loss estimated to be worth Rs. 400 crores. (vi) Railway and road traffic completely disrupted. Communication lines cut off.</p>
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