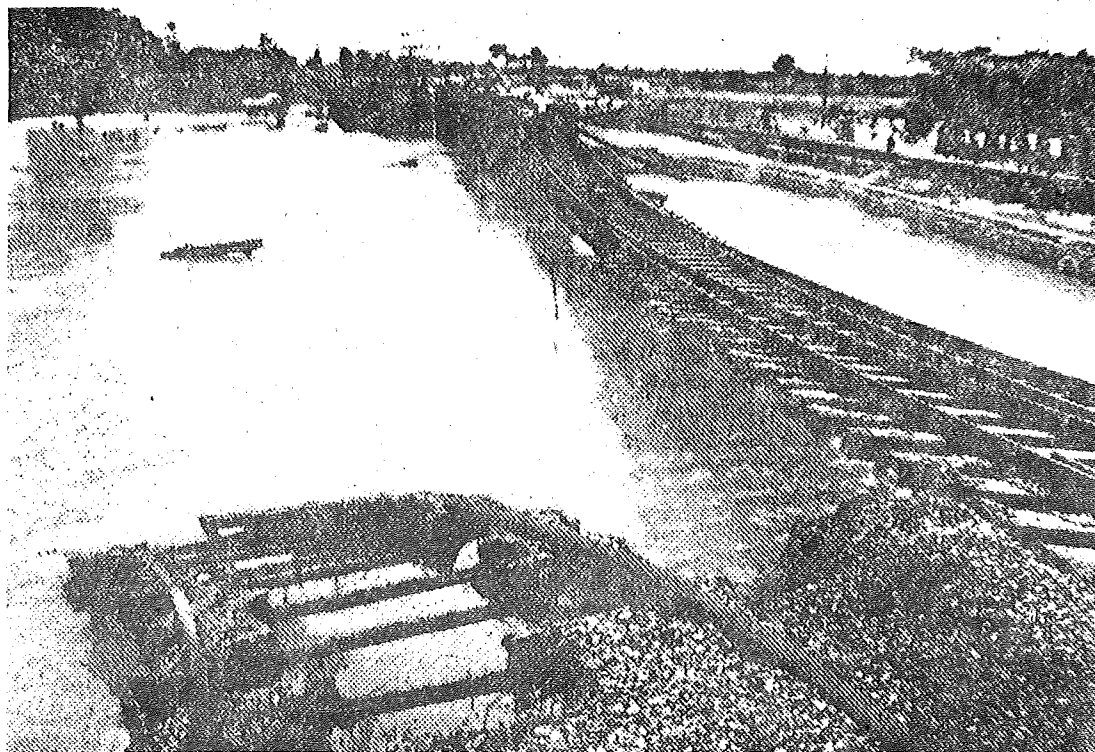




INDIA METEOROLOGICAL DEPARTMENT

## DISASTROUS WEATHER EVENTS , 1981

A REPORT



ISSUED BY

OFFICE OF THE ADDITIONAL DIRECTOR GENERAL OF METEOROLOGY  
( RESEARCH )

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Cover Photo - Severe damages caused to rail track near Bangarapet in the Bangalore Jolarpettai section following sudden cloud burst on 10th September.

### DISASTROUS WEATHER EVENTS OF 1981

The most striking events of the year were the occurrence of :

- (i) A rare yet one of the severest natural hazards, namely, a tornado, which is picturesquely described as a funnel shaped fury. During the year a tornado swept across four villages, in Keonjhar district in Orissa State on 17 April, left 35 persons dead and 200 injured and 2000 houses razed to the ground.
- (ii) Torrential rains (record rainfall of 59 cms in 48 hrs.) which resulted in the worst deluge at Jaipur city on 18/19 July. This completely paralysed the normal life of the city, took a death toll of 25 human lives and severely damaged several rail/road bridges in and around the city.
- (iii) Severe flooding in many rivers in U.P. affecting several districts during July to September which took a death toll of 362 persons and affecting more than 13 million people and cropped area in 1.5 million hectares.
- (iv) Drought conditions due to insufficient rains during June to September in Rajasthan which affected 15 million persons and 25 million cattle in 21 out of 26 districts.
- (v) A cyclonic storm which hit Saurashtra coast on 1st November and resulted in the loss of groundnut crop by 65 per cent in all the six districts of Saurashtra region popularly known as the 'groundnut bowl' of the country.
- (vi) Snow, cold/heat wave, squall/gale, dust-storm thunder/hail/cyclonic storms were also responsible for the loss of human lives and damage to property.

The summary of these natural hazards supported by 4 maps, is based on the observations taken by the Indian Meteorological Department and the press reports.

S.No.	Date/Period	Area affected	Intensity	Casualties	Damages
(1)	(2)	(3)	(4)	(5)	(6)

TABLE - I : SNOWFALL

CRITERIA

Moderate : 7.6 to 34.9 cm in 24 hrs.

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

1	4 Jan	(a) Kashmir Valley and Mountaineous Jammu region.	Heavy	Between Kishtwar and Jammu a bus skided and rolled down into Chenab river killing 19 people and injuring 16 others seriously.	(i) Vehicular traffic disrupted along Jammu-Srinagar Highway following land slides at several places due to severe avalanches.
					(ii) 5 trucks overturned between Qazigund and Munda.
					(iii) Power supply and telecommunication/telephone systems severely damaged.
					(iv) 4 lakes in the region frozen to ice.
					(v) Poonch district worst affected.
2	22-25 Jan.	(b) Hills of West Uttar Pradesh.	Heavy	Some people reported killed	(i) Fruit crops severely damaged.
					(ii) Garhwal-Kumaon division worst affected.
		(c) Himachal Pradesh	Heavy	-	Due to land slides traffic disrupted.
		(a) Mussoorie and Nainital	Heavy	-	Vehicular traffic disrupted.
		(b) Simla	Heavy	-	Disruption in power supply.

(1)	(2)	(3)	(4)	(5)	(6)
3	22-26 Jan.	Poonch district (Jammu & Kashmir)	Heavy	In all 16 persons died (i) (of which 3 died in Vaishnavadevi under a huge snow boulder)	A 300 km stretch of Jammu-Srinagar highway blocked at several points following land slides and shooting stones due to avalanches, many tourists stranded.  (ii) Extensive damage to power and tele- communication systems.
4	30 & 31st Jan.	(a) Simla and surround- ing areas	Heavy	-	(i) Vehicular traffic between Kalka and Simla and Hindustan - Tibet Road disrupted.  (ii) Power supply disrupted at several places.
		(b) Jammu & Kashmir	Heavy	In Anantnag district four children died in snow avalanches.	Disruption of vehicular traffic.
5	1-6 Feb.	(a) Himachal Pradesh (Kinnaur)	Heavy	-	Lahaul-Spiti in Chamba district cut-off from rest of the country.
		(b) Jammu & Kashmir	Heavy	(a) One person buried alive and 6 others reported missing in Poonch district.  (b) 3 persons buried alive in Karnah.	(i) A 24 metre long stretch of a road near Udhampur completely washed away.  (ii) 2000 tourists stranded near Rambhan on Jammu-Srinagar national highway.  (iii) Telephone poles damaged.  (iv) Electric supply disrupted.
6	9 Feb	Doda and Rajauri districts (Jammu & Kashmir)	Heavy	11 persons killed when a glacier rolled on them.	Heavy landslides in Doda district causing disruption to vehicular traffic at Batote.

(1)	(2)	(3)	(4)	(5)	(6)
7	2 Mar.	Himachal Pradesh, Jammu & Kashmir	Heavy	-	Vehicular traffic on Jammu-Poonch, Kalka-Simla and Hindustan-Tibet highway disrupted, due to land- slides.
8	10 Mar.	Jammu & Kashmir	Heavy	-	Disruption of vehicular traffic at several points.
9	21 Mar.	Jammu region	Heavy	-	Blockade of Jammu-Srinagar highway.
10	3-8 Dec.	(a) Lahaul-Spiti division, Kalpa and surrounding areas. (Himachal Pradesh)	Heavy	2 persons died in Simla	-
		(b) Jammu & Kashmir	Heavy	-	Srinagar-Leh road blocked.
		(c) Uttar Pradesh	Heavy	-	(i) Vehicular traffic between Mussorie and Tehri blocked.
					(ii) Telecommunication link between Gopeshwar-Joshimath and several places in Chamoli district blocked.
11	15-24 Dec.	Jamm & Kashmir	Heavy	-	40 villages in Poonch and Rajauri region cut off from the rest of the country.

TABLE - II : COLD WAVE

CRITERIA

Moderate : Night temperature 6 to 7°C. below normal.

Severe : Night temperature  $\geq$  8°C. below normal.

1	8 Jan.	(a) Rajkot and Junagadh districts	Moderate	3 persons died	-
		(b) Marathwada region (Maharashtra State)	Moderate	-	Normal life as well as rabi crops affected.
2	8-21 Jan.	Uttar Pradesh	Moderate to Severe	In all 127 lives lost in the state.	The lowest temperature of 2°C recorded at Muzzafarnagar on 10th and at Mathura on 14th.

(1)	(2)	(3)	(4)	(5)	(6)
3	Jan.	Mokameh, Nawadah, Hazaribagh, Vaishali, Gaya, Sonapur, Bhagalpur, Muzaffarpur, Katihar.	Moderate	In all 125 people died.	-
4	7 Feb.	Western Saurashtra and Kutch	Moderate	-	-
5	10 Feb.	Extreme north Madhya Maharashtra	Moderate	-	-
6	11 & 12 Feb.	East Vidarbha region (Maharashtra)	Moderate	-	-
7	3 - 8 Dec.	(a) Jammu & Kashmir	Moderate to Severe	Four persons died	-
		(b) Chamoli, Ballia and Banda districts	Moderate to Severe	Total deaths reported: 10.	-
8	10-13 Dec.	Madhya Maharashtra	Moderate	-	-
9	15-24 Dec.	(a) Ballia, Banda, Bareilly, Gorakhpur, Hamirpur, Jhansi and Moradabad districts	Moderate to Severe	(a) In all 34 people died. (b) Several birds, straycattle frozen to death.	Standing crops in large areas damaged due to frost.
		(b) Jammu & Kashmir, Haryana, Punjab, Himachal Pradesh and Union Territory of Chandigarh.	Moderate to Severe	14 persons died.	-
		(c) Delhi	Moderate to Severe	Two persons died.	-
10	Dec.	Gaya, Gopalganj, Hazaribagh, Monghyr, Purnea, Samastipur, districts and Mokameh - Barauni Industrial complex.	Moderate	In all 89 human beings lost	-

(1)	(2)	(3)	(4)	(5)	(6)
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TABLE - III : HEAT WAVE

CRITERIA

Moderate : Day temperature 6 to 7°C. above normal  
 Severe : Day temperature  $\geq$  8°C. above normal

1	3-5 Mar.	Konkan region (Maharashtra), South Gujarat and coastal south Saurashtra, Goa.	Moderate to Severe	-	-
2	14 Apr.	Khandwa	Moderate to Severe	One animal and some birds reported dead.	-
3	21 & 22 Apr.	Nagpur	Moderate to Severe	6 Cases of sunstroke reported.	-
4	3 Jun.	Bundelkhand region	Moderate	Claimed 6 lives and 30 hospitalised due to sunstroke, in Jhansi.	-
5	15 - 17 Jun	Madhya Pradesh and adjoining Orissa and Vidarbha region of Maharashtra.	Moderate to Severe	-	-
6	15 - 18 Jun.	Southwest and Northeast of Uttar Pradesh.	Moderate to Severe	30 human lives lost.	-
7	Jun. (1st, 2nd & 3rd week)	Mokameh-Barauni Industrial Complex, Nowadah, Hazaribagh, Muzaffarpur, Bokaro.	Moderate to Severe	33 persons died.	-



(1)	(2)	(3)	(4)	(5)	(6)
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TABLE - IV : DROUGHT

CRITERIA

Mild : Weekly aridity anomaly  $\leq$  25 per cent.  
 Moderate : Weekly aridity anomaly 26 to 50 per cent.  
 Severe : Weekly aridity anomaly exceeding 50 per cent.

1	Apr. & May	North Arcot, Dharmapuri and Krishnagiri districts.	Moderate to Severe	-	Because of failure of N-E monsoon in 1980 :  (i) Hundreds of Coconut trees dried up. (ii) Thousands of Mango trees perished. (iii) Acute shortage of drinking water. (iv) Cultivation of paddy and groundnut crops restricted. (v) Rampant unemployment among farm workers. (vi) Parched brown fields seen with occasional green patches. (vii) Handloom industry affected. (viii) Almost one third of the crops withered.
2	Aug.	Marathwada region (Maharashtra)	Moderate	-	(i) Fodder shortage and inadequate supply of water. (ii) Unemployment among agricultural labourers.
3	Sep. (1st week)	Kolar district	Moderate	-	Most of the tanks in the district dried up.

(1)	(2)	(3)	(4)	(5)	(6)
4	Sep. (3rd & 4th week)	(a) Punjab, Haryana and Himachal Pradesh.	Mild	-	(i) Withering of Kharif crops with stunted growth. (ii) Damage to even irrigated paddy fields due to scarcity of water in irrigation canals. (iii) Complete failure of paddy crops leaving only fodder. (iv) A shortfall of 20 to 25 per cent in the Kharif target.
		(b) Chattisgarh region and south-eastern parts of Madhya Pradesh.	Mild	-	Withering of Kharif Crops.
		(c) Marathwada region (Maharashtra)	Mild	-	Groundnut production suffered a serious set back.
5	Sep.	West Uttar Pradesh	Moderate	-	Kharif crops stated to be in a precarious stage.
6	Jun. - Sep.	Karnataka excepting coastal and Malnad regions.	Moderate	-	(i) Mass migration of people and cattle reported. (ii) Shortage of cattle fodder. (iii) Summer crops severely affected and consequent shortfall in grain production.
7	Jun. - Sep.	21 out of 26 districts of Rajasthan. (Excepting Banswara, Bharatpur, Ganganagar, Jaipur and Kota districts)	Severe	-	(i) 15 million people and 25 million cattle in 16,696 villages affected. (ii) Acute shortage of drinking water in 12000 villages. (iii) Acute shortage of cattle fodder.

(1)	(2)	(3)	(4)	(5)	(6)
			<u>TABLE - V : SQUALLS</u>		
1	15 - 18 Apr.	Rajauri, Poonch and Udhampur districts (Jammu & Kashmir)	Severe	-	Roofs of several houses blown away.
2	19 Apr.	Bangalore	Moderate (70 kmph)	2 persons died due to electrocution	-
3	29 Apr.	Pune district	Light (40 kmph)	-	Roof tops of Govt. Quarters at Panshet Dam blown away, huts of workers damaged.
4	4 May	Thane district	Moderate	-	Few trees uprooted in Shahpur.
5	5 - 6 May	Raipur district	Moderate	Two children and one woman died in house collapse	(i) Trees/Electric poles uprooted. (ii) 200 huts collapsed. (iii) Standing crops destroyed.
6	23 May	Parbhani district	Moderate	50 persons injured	(i) Many trees and electric poles uprooted in Jintoor. (ii) Roof tops of hundreds of houses blown off, many godowns collapsed. (iii) Property worth Rs. 15 lakhs damaged.
7	3 Jun.	Meerut	Severe	(i) 3 persons killed when a truck toppled. (ii) One person killed when he fell into the chimney of a sugar mill	-
8	30 Jun.	Sarani (Vidarbha region of Maharashtra)	Moderate	-	(i) Trees uprooted. (ii) Electric/telegraph poles bent/damaged. (iii) Roofs of Kachcha houses blown off.
9	27 Sep.	Thane district	Moderate	-	5 electric poles uprooted in Shahpur taluk.

(1)	(2)	(3)	(4)	(5)	(6)
<u>TABLE VI : GALE</u>					
<u>CRITERIA</u>					
Strong : Wind speed $\geq$ 75 kmph.					
1	14 Mar.	Kozhikode district	Strong	-	Damage to houses uprooting of trees resulting in loss of Rs. 7 lakhs.
2	28 Mar.	Ganjam district	Strong	-	Three houses and three public institutions damaged.
3	Mar. (3rd & 4th week)	Phoolbani district	Strong	-	Loss to public utilities: Rs.87,500/-.
4	15 Apr.	Cuttack district,	Strong	One person died	564 houses damaged.
5	19 Apr.	Cuttack district	Strong	-	53 houses and two school buildings affected.
6	25 Apr.	Cuttack district	Strong	Two persons died	-
7	30 Apr.	Mayurbhanj district	Strong	113 livestock lost	15 houses partly collapsed and 68 houses partly damaged.
8	11 May	Cuttack district	Strong	-	9 houses affected.
9	12 May	Mayurbhanj district	Strong	11 livestock lost	(i) 24 houses partly damaged. (ii) 17 public utilities affected.
10	17 May	Cuttack district	Strong	-	279 houses and 9 public buildings affected.
11	17 & 20 May	Dhenkanal district	Strong	(i) One woman died and 8 other persons injured (ii) 7 livestock lost	(i) 19 houses fully and 28 partly damaged. (ii) Total loss to public utilities: Rs. 21,500/-.
12	19 May	Neyveli town (South Arcot district)	Strong	One person electrocuted	The pavilion of a public sector undertaking razed to the ground.
13	20 & 21 May	Cuttack district	Strong	-	43 houses affected.

(1)	(2)	(3)	(4)	(5)	(6)
14	28 May	Agra and surrounding areas	Strong (136 kmph)	-	(i) Power lines damaged. (ii) Telephone poles uprooted. (iii) Several trees believed to be over hundred years old uprooted. (iv) A brass lamp/stone fret screen of archaeological importance at the main gate of 'Tajmahal' damaged by an uprooted tree.
15	29 May	Bolangir district	Strong	-	(i) 1734 houses partly damaged. (ii) Loss to public utilities: Rs.1,42,000/-
16	7 Jun.	Nagpur district	Strong	-	(i) Severe power break down because of disruption of supply system. (ii) 300 electric poles and two transformers damaged.
17	9 Jun.	Bolangir district	Strong	-	(i) 914 houses partly damaged. (ii) Loss to public utilities: Rs.73,000/-
18	11 Jun.	Aurangabad	Strong	3 persons injured	(i) Several tin roofs blown off. (ii) Many huts collapsed.
19	15 Jun.	Cuttack district	Strong	One human life lost	(i) 34 houses fully and 121 partly collapsed and 344 partly damaged. (ii) 8 public utilities damaged.
20	18 Jun.	Aurangabad	Strong	Five ladies injured	Many trees and electric poles uprooted.
21	8 Jul.	Cannanore district	Strong	-	(i) Resulted in sea erosion in coastal areas. (ii) The granite sea wall erected at a cost of Rs. 6.5 lacs collapsed.

(1)	(2)	(3)	(4)	(5)	(6)
22	16 Sep.	Ahmedabad	Strong	One girl died under an uprooted tree when it fell on her.	-
23	18 Sep.	Rajkot district	Strong	Two women injured when the roof of their houses blown off	-
24	28 - 31 Oct.	Alleppey, Cannanore and Kozhikode districts	Strong	-	(i) Several coconut trees uprooted. (ii) Many huts collapsed. (iii) Five boats capsized. (iv) Rough sea eroded into 30 metres of land resulting in loss of Rs. 4 lacs.

TABLE - VII : DUST-STORM

CRITERIA

Moderate: Windspeed between 39 to 75 kmph and horizontal visibility upto 500 metres.

Severe: Windspeed  $\geq$  75 kmph and horizontal visibility upto 50 metres.

1	2 Apr.	(a) Mathura district	Severe	-	Disruption of telecommunication services/electric supply at several places.
		(b) Rishikesh	Severe	-	Standing rabi crops and fruit trees damaged.
2	Apr. (3rd week)	(a) Gorakhpur division	Severe	6 human lives lost	-
		(b) Doon valley	Severe	Many pedestrians hurt	(i) Several tin roofs, hoardings and tree branches blown off. (ii) Few vehicles damaged. (iii) Electric supply disrupted.
		(c) Saharanpur	Severe	-	Power supply disrupted.

(1)	(2)	(3)	(4)	(5)	(6)
3	4 May	(a) Punjab, Haryana	Severe	-	Wheat and dry fodder stocked in open fields at several places destroyed.
		(b) Poonch (Jammu & Kashmir)	Severe (140 kmph)	-	Uprooting of many trees and disruption of thatched huts.
4	16 May	Bhopal	Moderate (60 kmph)	-	Few trees uprooted and poles uprooted in the outskirts of the city.
5	31 May	Chandigarh and neighbouring areas of Punjab and Haryana	Severe (120 kmph)	-	Extensive damage to mango crops, grape-vine and vegetables.
6	4 Jun.	(a) Birbhum district	Severe	8 killed and 20 injured in house collapse.	(i) A cinema house collapsed. (ii) Thatched roofs of many houses in rural areas blown away. (iii) Many trees/electric poles uprooted. (iv) Telegraph and power lines snapped.
		(b) Howrah	Severe	Two killed and seven others injured in house collapse.	-
7	18 Jun.	Amravati	Severe	-	(i) Roof tops of a rehabilitation centre blown off. (ii) Power supply disrupted.

TABLE - VIII : LIGHTNING

1	4 Jan.	Delhi	-	A young boy fell unconscious when struck by a stone detached from tomb hit by lightning stroke.	-
2	18 Jan.	Nasik district	-	One person killed	-

(1)	(2)	(3)	(4)	(5)	(6)
3	21 Mar.	Palghat district	Three people struck dead and 15 suffered burns.	-	
4	28 Apr.	Jamnagar district	One girl killed and three others seriously injured.	-	
5	2 May	Sangli district	Three agricultural workers and a 13 years' old girl killed at Chinchni.	-	
6	3 May	(a) Amravati district	3 Agricultural labourers killed and 5 others injured.	-	
		(b) Shrirampur (Maharashtra)	2 people killed.		A tree burnt.
		(c) Udampur	2 persons killed.		A government building damaged.
7	6 May	Punjab and Haryana	11 persons including one child killed and 9 cattle perished in different parts.	-	
8	10 May	Nanded district	One cow killed		Fodder worth Rs. 10,000/- in Kundalwadi burnt.
9	4 Jun.	Parbhani district	(i) Two women died and one sustained serious injuries at Hasha.	-	
			(ii) One girl killed at Loni.		
10	11 Jun.	Nasik district	(i) One person killed at Madegaon.	-	
			(ii) One person killed and another injured at Koshuza.		
11	15 Jun.	Yeotmal district	One girl killed and four women injured.	-	
12	30 Jul.	Nagpur district	One student killed in Jaitals village.	-	
13	6 Aug.	Tikamgarh district	Five persons killed in Banapur.	-	
14	8 Aug.	Nagpur district	6 farm labourers seriously injured in Pandhurna village.		



(1)	(2)	(3)	(4)	(5)	(6)
15	18 Sep.	Junagadh district		One farmer killed and one woman suffered burns.	-
16	24 Sep.	Valsad		One girl killed and two others injured.	-
17	27 Sep.	(a) Ratnagiri district		One person killed and four others seriously injured at Lange.	-
		(b) Thane district		One Shepherd died in Shahpur.	-

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	18 Jan.	Aurangabad city	Moderate	-	(i) Many trees uprooted. (ii) Roof tops blown off. (iii) Road traffic suspended.
2	24 Mar.	Ganjam district	Severe	-	8 houses fully, 39 partly, 1 school building and one temple damaged.
3	6 Apr.	Sibsagar district	Severe	-	Several thatched huts and many house tops blown off.

(1)	(2)	(3)	(4)	(5)	(6)
4	17 Apr.	Keonjhar district	Severe (A tornado swept through the district)	(i) Human lives lost: 37 (ii) Persons injured : 721 (iii) Cattle perished : 268 (iv) Cattle injured : 398 (v) Fowls lost : 4800	(i) Four villages affected. (ii) Houses razed to ground : 136 (iii) Houses totally collapsed : 205 (iv) Houses partly collapsed : 358 (v) Public institutions affected: 28 (vi) Trees uprooted : 2000
5	18 Apr.	Mayurbhanj district	Severe (A tornado swept through the district)	(i) 3 human lives lost (ii) 30 live-stock lost	(i) 51 houses fully collapsed. (ii) 59 houses partly collapsed. (iii) Crop area affected: 1903 hectares. (iv) 3 public institutions affected. (v) 30,000 trees uprooted.
6	19 Apr.	Hooghly and 24 - Parganas districts	Severe	4 persons killed and two others injured.	-
7	27 Apr.	Gauhati and Suburbs	Moderate	-	(i) Many trees uprooted. (ii) Damage to telephone and electric supply system. (iii) Roofs of thatched huts blown off.
8	6, 9 & 12 May	Goalpara district	Severe	-	(i) Many dwelling houses damaged. (ii) One High School Building completely destroyed, when an uprooted tree fell on it.
9	7 May	Karnal district	Severe	-	(i) Power supply and telecommunication system disrupted. (ii) Several marriage pandals blown off. (iii) Many trees uprooted. (iv) Heavy damage to harvested wheat crop. (v) Severe damage to standing crops and fruit trees.

(1)	(2)	(3)	(4)	(5)	(6)
10	8 May	Delhi and neighbourhood	Severe	-	(i) Normal life disrupted. (ii) A window-pane and a supporting wooden frame broken and came down to the floor of Rajyasabha. (iii) Wheat and fodder lying open in rural areas damaged.
11	10 May	Pulwana district (Jammu & Kashmir)	Severe	One person and 12 cattle heads killed.	-
12	11 May	Raipur district	Severe	One child died due to electrocution.	(i) 11 villages affected. (ii) Electric supply disrupted.
13	3 Jun.	Nanded	Severe	4 persons killed and one injured in cloud burst.	-
14	4 Jun.	Birbhum, Siliguri and Howrah districts.	Severe	13 human lives lost in house collapse.	One touring cinema destroyed.
15	10 Jun.	Raipur district	Severe	-	7 power towers damaged.
16	11 Jun.	Nasik district	Severe	-	(i) Many trees uprooted and houses damaged at Kazhuza. (ii) Telephone poles uprooted at Karanjgaon. (iii) Trees uprooted, houses collapsed, electric poles fell at Pimpri-Sayad.
17	10-16 Jul.	Yeotmal district	Severe	Five persons died and several cattle perished.	(i) 75 huts collapsed in two villages. (ii) Several electric poles uprooted.
18	18 Dec.	Parbhani	Moderate	One old woman died	-

TABLE - X : HAILSTORM  
CRITERIA

Slight : Sparse, usually small in size and often mixed with rain.  
Moderate: Fall abundant enough to whiten ground.  
Heavy : Includes at least a proportion of large stones.

1	16 & 17 Jan.	Nasik district	Moderate	-	(i) Grape vine damaged in 101 hectares.
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(1)	(2)	(3)	(4)	(5)	(6)
					(i) Crops like Onion, Sugarcane, Wheat and Vegetables damaged.
					(iii) Loss estimated Rs. 1 crore.
2	17 Jan.	Marathwada region (Maharashtra)	Heavy	Two persons and 4120 heads of cattle died.	-
3	Feb. (1st week)	Bhatinda district	Heavy	-	(i) Rabi crops over an area of 67180 hectares in 60 villages destroyed.
					(ii) Estimated loss Rs. 20 crores.
4	9 Feb.	(a) Keonjhar district	Heavy	3 human lives lost	Cropped areas affected: 431.5 hectares.
		(b) Mayurbhanj district	Moderate	-	(i) Crop loss: Rs. 18.91 lacs.
					(ii) Loss to public utilities Rs. 8,500/-.
5	2 Mar.	Poonch district	Heavy	-	(i) Standing rabi crops damaged.
					(ii) Total break down of electricity and communication system.
6	6 Mar.	Jammu & Kashmir	Heavy	-	(i) Many trees uprooted.
					(ii) Roofs of several thatched huts blown away.
7	10 Mar.	Himachal Pradesh	Heavy	-	Extensive damage to mustard, barley and gram crops in many areas.
8	Mar. (11-13 & 21-25)	Nellore, Nizamabad, Prakasam, Ranga Reddy, Srikakulam, Warangal, Chittoor, Cuddapah, Hyderabad, Karimnagar, Khammam, Kurnool, Krishna, Mehbubnagar, Medak and Nalgonda districts.	Heavy	(i) 14 person died. (ii) 13000 live stock perished.	87819 hectares of cropped area damaged.
9	12 Mar.	(a) Jhansi district	Heavy	-	Extensive damage to standing rabi crops.
		(b) Osmanabad district	Moderate	-	Rabi and mango crops suffered.

(1)	(2)	(3)	(4)	(5)	(6)
		(c) Wardha district	Heavy	-	(i) Standing crops and fodder worth Rs. 5.72 lacs damaged. (ii) 369 houses valued at Rs. 68000/- partially damaged.
10	13 Mar.	(a) Dhenkanal district	Moderate	(i) 135 live-stock lost. (ii) A teenager lost life and 15 others injured.	(i) Cropped area affected: 68 hectares. (ii) 18 houses fully and 313 partly collapsed. (iii) 5 school buildings damaged. (iv) About half a dozen villages affected.
		(b) Nagpur district	Moderate to heavy	Three women labourers injured.	(i) Hailstones of 3 to 4 cm. in diameter reported. (ii) Damage caused to standing crops of wheat and gram.
11	13 & 30 Mar.	Cuttack district	Heavy	(i) 152 human beings injured. (ii) 52 live-stocks lost.	Crop loss: Rs. 182.58 lacs.
12	15 Mar.	(a) Ajmer district	Moderate	-	50-70 per cent standing crops damaged.
		(b) Yeotmal district	Heavy		Hailstones as big as egg of hen reported.
13	17 Mar.	Nagpur district	Moderate to heavy	Few persons injured.	(i) Hailstones of 4-5 cms in diameter reported. (ii) Damage caused to crops.
14	18 Mar.	(a) Pandhana & Chhegaonmakhan (Madhya Pradesh)	Heavy	-	(i) Accompanying storm uprooted many trees. (ii) Telephone and Electric supply disrupted.
		(b) Ganjam district	Moderate	(i) 28 injured. (ii) 287 live-stock lost.	-
		(c) Nanded district	Moderate	-	Mango crops damaged.

(1)	(2)	(3)	(4)	(5)	(6)
15	21 Mar.	Koraput district	Moderate	One woman died	Cropped area affected: 2,828 hectares.
16	21 & 22 Mar.	Chandigarh and adjoining areas and Bhatinda district.	Heavy	-	Heavy damage to standing rabi crops and few electric poles.
17	22 Mar.	(a) Jaipur city and surrounding areas	Heavy	-	Vehicular traffic disrupted.
		(b) Paonta (Himachal Pradesh) and Doon Valley (Uttar Pradesh)	Heavy	-	Severe damage to gram and wheat crops.
18	23 Mar.	Sambalpur district	Moderate	-	Crop loss: Rs. 1.58 lacs.
19	23 & 30 Mar.	Bolangir district	Moderate	-	(i) Crop loss: Rs. 80,000/- (ii) Loss to public utilities: Rs. 7,380/-.
20	25 & 26 Mar.	Balasore district	Heavy	82 persons injured	(i) Cropped area affected: 7,654 hectares. (ii) 1268 houses partly damaged.
21	26 Mar.	Ganjam district	Moderate	-	24 houses fully and 23 houses partly damaged.
22	28 Mar.	Ganjam district	Moderate	-	8 houses fully and 21 houses partly and 5 public buildings damaged.
23	30 Mar.	Ganjam district	Moderate	-	1165 houses partly and 168 houses fully and one school building damaged.
24	4 Apr.	Ganjam district	Moderate	-	21 public institutions affected.
25	Apr. (3rd week)	(a) Rajauri, Poonch and Udhampur district	Heavy	Large number of birds killed.	(i) 2000 persons rendered homeless. (ii) 50-70 per cent standing rabi crops damaged. (iii) 3 suspension bridges and a Government jeep washed away in Poonch river in resulting showers.
		(b) Kangra (Himachal Pradesh)	Heavy	5 persons and 54 cattle lost their lives.	(i) Hailstones weighing 200 gm. reported. (ii) Crops mainly wheat, gram, barley, mustard and orchards worth over Rs. 7.25 crores destroyed.

(1)	(2)	(3)	(4)	(5)	(6)
		(c) Garhwal, Kumaon and Gorakhpur districts	Heavy	(i) 6 human lives lost. (ii) Several people and cattle heads injured.	(iii) Many trees rendered leafless. (iv) Vegetable crops damaged. (i) Hailstones weighing about 300 gms. reported. (ii) Widespread damage to homes/crops/orchards. (iii) Extensive damage to standing rabi and fruit crops.
		(d) Doon valley	Heavy	24 persons injured	(i) Hundreds of poor people rendered homeless due to destruction of dwelling. (ii) Electric supply disrupted. (iii) Standing wheat crops and 50 per cent of lichi and mango crops damaged.
26	30 Apr.	(e) Saharanpur district	Heavy	-	Power supply disrupted.
		Bolangir district	Moderate	-	Crop loss: Rs. 7.3 lakhs.
27	3 May	(a) Bolangir district	Moderate	-	Crop loss: Rs. 4.78 lakhs.
		(b) Mayurbhanj district	Moderate	One human life lost.	35 houses partly collapsed.
28	6 May	Jammu region	Heavy	-	(i) Large sized hails reported. (ii) Uprooted several trees. (iii) Roofs of thatched huts blown away.
29	7 May	(a) Meerut district	Heavy	-	(i) Mango crops damaged. (ii) Large quantities of wheat became unfit for threshing.
		(b) Himachal Pradesh	Heavy	-	(i) Extensive damage to power generating plants. (ii) Damage to fruit crops. (iii) Tourist industry affected.

(1)	(2)	(3)	(4)	(5)	(6)
30	10 May	Nanded district	Moderate	-	(i) 55 trees uprooted and 3 houses collapsed. (ii) Banana plantations worst affected.
31	11 May	Simla and surrounding areas	Heavy	-	(i) Tourist industry affected. (ii) Damage to crops.
32	23 May	Varanasi district	Heavy	(i) 4 persons fatally hit by falling trees. (ii) Two persons injured in roof collapse.	(i) Roofs of hundreds of thatched houses blown off. (ii) Rail traffic disrupted.
33	29 May	Pauri (Garhwal district)	Heavy	-	(i) Normal life disrupted. (ii) Severe damage to summer fruit crops.
34	31 May	(a) Mussories	Heavy	2 children killed and several injured.	Power and telecommunication system collapsed.
		(b) Himachal Pradesh	Heavy	(i) 15 people killed. (ii) 178 cattle washed away by resultant floods.	(i) Apple/standing crops suffered heavy loss. (ii) Estimated loss: Rs.6.25 crores.
35	Jun. (1st week)	Aurangabad, Jalna, Parbhani, Bir, Nanded and Osmanabad districts.	Heavy	20 people died.	(i) Hundreds of trees, electric poles, telephone poles uprooted. (ii) Cables at many places snapped.
36	8 Jun.	Chandigarh and adjoining areas.	Heavy	-	Normal life and communication system thrown out of gear.
37	16 Jun.	Solapur district	Heavy	-	Tin roofs of many houses blown off and trees uprooted.
38	2 Jul.	Chamba district (Himachal Pradesh)	Heavy	-	Colossal damage to standing crops worth Rs. 16 lacs in two villages.
39	8 Oct.	Baijnath, Palanpur, Malan and Shahpur areas. (Himachal Pradesh)	Moderate	-	Paddy crops severely damaged.
40	26 Oct.	Himachal Pradesh	Moderate	-	Tourist industry and standing crops severely affected.



(1)	(2)	(3)	(4)	(5)	(6)
41	13 & 14 Nov.	Darrang district	Moderate	-	Standing sali-paddy crops in 4,000 hectares damaged.
42	17 - 19 Dec.	Ahmednagar district	Heavy	4 cattle lost	Estimated crop loss: Rs. 13.7 lacs.
43	Dec. (3rd week)	Aurangabad, Nanded, Jalna and Bir districts.	Heavy	Large number of birds killed.	(i) Many trees uprooted. (ii) Roofs of many houses blown away. (iii) Electric supply disrupted.
44	Dec. (3rd week)	Dhule district	Heavy	2 persons injured	Standing crops severely damaged.
45	22 Dec.	Amravati district	Heavy	-	(i) About 40 villages affected. (ii) Standing crops in 2510 hectares severely damaged. (iii) Orange gardens in 767 hectares badly affected. (iv) Cotton and chilly crops also destroyed. (v) Estimated loss: Rs. 53 lacs.

TABLE - XI: CYCLONIC STORMS

1	7 - 10 Aug.	Orissa Coast (Landfall-North of Puri on 8th morning)	15 people lost lives.	(i) Extensive areas covering 36536 hectares of land affected in Puri, Ganjam, Koraput and Kalahandi districts. (ii) Some areas of Phulbani and Sundargarh districts also affected. (iii) In all 1017 villages affected in the above districts. (iv) Cropped area in 3690.45 hectares affected. (v) Total area of 2173.55 hectares of cultivable land have been sandcast.
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(1)	(2)	(3)	(4)	(5)	(6)
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(vi) 5 houses completely swept away.

(vii) 5002 houses fully collapsed and 1207 houses partly collapsed.

(viii) More than 500 roads and culverts damaged.

2 24 - 28 Sep. Orissa Coast (Landfall  
Near Puri early morning  
of 26th)

Details of loss of life and damage to property/structure etc.

Name of the district	Number of villages affected	Total area affected (Hectares)	Cultivated area affected (Hectares)	Number of houses damaged			Human Casu- alty	Loss of Live - Stock	Area sandcast (Hectares)
				Swept away	Fully collap- sed	Partly collap- sed			
Balasore	362	51133	26655	-	6	8	-	-	-
Puri	561	19006	1891.05	5	320	396	7	138	1891.05
Ganjam	450	17250	599.40	-	101	364	-	39	200.80
Koraput	12	280	-	-	-	-	-	-	-
Kalahandi	-	-	1200	-	-	-	-	-	-
Bolangir	-	-	-	-	-	-	8	-	-
Phulbani	-	-	-	-	81	447	-	-	81.70
Total ...	1385	87669	30345.45	5	508	1215	15	177	2173.55

3 28 Oct. to  
3 Nov. Saurashtra coast  
(Landfall: Mangrol  
after midnight of  
1st Nov.)

Severe About dozen persons  
reported died in  
wall collapse.

(i) Large number of trees electric/  
telegraphic posts uprooted/damaged  
in Junagadh and Jamnagar districts.

(ii) About 5700 houses and equal number  
of huts partly/fully damaged, in  
Jamnagar, Junagadh and Rajkot  
district.

(1)	(2)	(3)	(4)	(5)	(6)
					<p>(iii) Few Cargo ships/fishing trawlers sank near coastal water.</p> <p>(iv) Extensive loss to groundnut crop in Jamnagar and Junagadh districts, estimated loss: Rs. 52 crores.</p> <p>(v) About 200 tonnes of Urea fertilizer valued at Rs. 4 lakhs washed away at Navlakhi port.</p> <p>(vi) Damage to Veraval and Navlakhi ports estimated at Rs. 12.5 lakhs.</p> <p>(vii) Damage to fishing implements in Jamnagar district estimated at Rs. 1.4 lac.</p>
4	8 - 10 Nov.	North Andaman Sea (15°N 93°E) The storm dissipated over east central Bay off south Arakan Coast by 11th morning.	-	-	Andaman and Nicobar Islands had generally widespread rains.
5	16 - 20 Nov.	Andaman Sea (13°N 90°06'E) The storm dissipated off Arakan Coast near Akyab on 20th night.	Severe	-	Andaman and Nicobar Islands had generally widespread rains.
6	4 - 11 Dec.	West Bengal and Orissa Coast (Land fall: Sagar Islands early night of 10th)	Severe	<p>(i) One million persons affected in 24 Paraganas with a human loss/200 lives. 3 lives lost in Midnapore district and 2 in Cuttack district and 757 injured in Balasore, Puri and Cuttack districts.</p> <p>(ii) Crops in 79726 hectares affected in 24 Paraganas with a crop loss of Rs. 35 crores and Rs. 15 crores in Midnapore district.</p> <p>57571 hectares of cropped land affected in Cuttack due to saline inundation resulting in a loss of Rs. 90 lakhs.</p>	<p>∠ of</p>

(1)	(2)	(3)	(4)	(5)	(6)
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(iii) Loss to betel-vines in Cuttack district Rs. 162 lacs. 2000 houses and 29675 thatched houses in this district valued at Rs. 55 lacs damaged. Loss to road, river embankments in coastal Orissa estimated at Rs. 317 lacs.

TABLE - XII : FLOODS AND HEAVY RAINS

ANDHRA PRADESH

1	10 Sep.	Anantpur district	Flash floods due to sudden cloud burst	-	Severe erosion along the rail-track caused its sinkage near Rayalacheruvu, resulting in subsequent dislocation of rail traffic.
2	18 & 19 Sep.	Srikakulam district	Flash floods in Vamsadhara river	(i) 324 hectares of paddy fields in 6 villages inundated. (ii) 100 houses collapsed.	
3	22 Sep.	(a) Cuddapah district (b) Prakasam district	Pennar river in floods Flash floods	15 persons feared drowned in boat capsized. Four persons feared dead when a bus carrying them caught in midstream in flash floods.	

ASSAM

4	Jun. (4th week)	Dibrugarh, Sibsagar and Nowgong districts	Brahmaputra and its tributaries in moderate floods	(i) 40 villages submerged. (ii) Standing paddy crop damaged. (iii) Hundreds of hutments submerged. (iv) Road communication snapped. (v) Winter paddy seedlings and Jute crops suffered extensive damage.	
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(1)	(2)	(3)	(4)	(5)	(6)
5	Jul. (1st week)	Sibsagar, Lakhimpur, Dibrugarh, Nowgong, Kamrup, Goalpara & Cachar districts.	Brahmaputra and its tributaries in floods.	(i) One person died. (ii) Several thousand heads of cattle washed away.	(i) One lakh people in 60 villages rendered homeless. (ii) Hundreds of hectares of Ahu Paddy, Jute and Sali seedlings in 1.5 lac hectares damaged. (iii) Rail/Road communication disrupted. (iv) In Majuli Island 70 villages were under water. (v) Work in the oilfields came to a standstill. (vi) Fodder for cattle and drinking water for people posed serious problems. (vii) The animals in Kaziranga National Park braved the flood waters by moving to higher grounds.
6	Jul. (3rd week)	Sibsagar, Kamrup and Goalpara districts.	Brahmaputra and its tributaries in floods.	11 people died.	(i) Many areas submerged. (ii) Drilling operation in oilfields partially affected. (iii) Over one lac people seriously affected.
7	Jul. (1st week)	<u>BIHAR</u> Patna and neighbour- hood and Nawadah.	Torrential rains	3 persons died and 40 injured in house collapse.	(i) Low lying areas flooded causing disruption of traffic. (ii) Telephone system suffered. (iii) Failure of power and water supply made the life of people miserable.

(1)	(2)	(3)	(4)	(5)	(6)
8	Jul. (2nd, 3rd and 4th week)	Saharsa, Purnea, Katihar, Madhubani and East Champaran districts.	Kosi, Kamala, Ganga and Mahananda river in floods.	(i) 1.5 million people affected. (ii) Standing paddy crops in 28,000 hectares valued at Rs. 50.59 lacs and public property worth Rs. 35 lacs destroyed.	
<u>UNION TERRITORIES OF CHANDIGARH AND DELHI</u>					
9	30 Jun. & 1st Jul.	Delhi	Heavy rains	(i) An old man died in house collapse. (ii) Two persons feared drowned in the flooded Najafgarh nullah.	Severe damage to telecommunication system.
10	Aug. (1st week)	Chandigarh	Flash floods in Ghaggar river	-	Due to floods, two small islands formed and 19 persons stranded there, rescued by helicopter.
<u>GUJARAT</u>					
11	30 Jun.	Saurashtra region	Flash floods	4 persons swept away in a small river in Talaja taluk.	-
12	9 & 10 Jul.	Ahmedabad	Heavy rains	18 people lost their lives.	(i) Many roads breached. (ii) A number of old houses/huts collapsed.
13	Jul. (2nd week)	Jamnagar, Veraval, Surendranagar and Rajkot.	Heavy rains	(i) 47 people died in floods/house collapses. (ii) 3,285 cattle heads perished.	(i) 4,620 houses/958 huts collapsed. (ii) Total estimated loss: Rs. 51 lacs.
14	9 Aug.	Baroda district	Heavy rains	(i) 4 persons travelling in a bus killed by swirling waters of Orsang river, when the bus was swept away.	

(1)	(2)	(3)	(4)	(5)	(6)
				(ii) One person died in house collapse.	
15	16 Aug.	Ahmedabad	Heavy rains	2 persons died in house collapse.	6 houses collapsed.
16	19 Aug,	(a) Amreli district	Heavy rains	A farmer and his buffalo killed in house collapse.	-
		(b) Baroda district	Heavy rains	One person washed away by turbulent water of a small river.	-
		(c) Godhra (Panchmahal district)	Heavy rains	One person died in flooded small river 'Parbhai'	-
17	Sep. (4th week)	Bhavnagar and surrounding areas.	Heavy rains	-	(i) Most of low lying areas flooded. (ii) Many medium and minor irrigation dams overflowed.
<u>HARYANA</u>					
18	Aug. (2nd week)	Ambala and Faridabad districts.	Heavy rains	(i) 4 persons died in house collapse/drowning. (ii) 17 cattle washed away	1,051 houses in 87 villages damaged affecting 26,350 people.
<u>HIMACHAL PRADESH</u>					
19	29 Aug.	Nahan	Heavy rains	-	Kharif crops worth Rs. 1 crore damaged.
<u>JAMMU &amp; KASHMIR</u>					
20	Jul. (4th week)	Jammu and Poonch districts	Moderate floods in Chenab and Tawi rivers.	8 persons killed	(i) Several houses collapsed. (ii) Gagrhiyal village washed away by swollen waters of Chenab. (iii) Several landslides blocked the national highways.

(1)	(2)	(3)	(4)	(5)	(6)
21	7 Aug.	Poonch district	Heavy rains	-	Vehicular traffic disrupted at several points.
22	30 Sep.	Doda district	Flash floods in Rambhan stream by a cloud burst	3 persons feared killed and 11 injured.	Total shop-line along the national highway at Rambhan completely destroyed.
<u>KARNATAKA.</u>					
23	Aug. (1st week)	North Kanara district	Heavy rains	-	Landslides at many places disrupting the traffic.
24	Aug. (3rd week)	Mysore district	Cauvery and Kabini rivers in floods	-	About a dozen villages affected.
25	3rd Sep.	(a) Sandur (Bellary district)	Heavy rains	-	25 houses and 100 huts collapsed.
		(b) Siruguppa (Bellary district)	Heavy rains	-	179 huts and 68 houses collapsed.
26	10 Sep.	Bangarapet (Kolar district)	Heavy rains following cloud burst.	Two persons died in house collapse	(i) 24 tanks breached destroying standing crops over large areas. Loss of crop estimated: Rs 40 lacs. (ii) Rail-cabin on the railway station washed away. (iii) 200 metres of rail track swept away. (iv) 3 bridges collapsed. (v) Roof of a bus stand collapsed. (vi) Scores of cattle reported missing.
27	Sep. (4th week)	South Kanara district	Flash floods in Basrur river	10 persons including 6 women and 4 school going children feared drowned.	-



(1)	(2)	(3)	(4)	(5)	(6)
<u>KERALA</u>					
28	Jun. (1st week)	Kozhikode, Malappuram, Ernakulam, Trichur, Quilon, Kottayam, Alleppey and Cannanore districts.	Moderate floods	39 human lives lost and 13 injured.	(i) Power and telephone system affected. (ii) Two mechanised boats capsized. (iii) Several houses partially/completely damaged. (iv) Paddy crops in 1592 hectares affected. (v) Nearly 10000 houses damaged. (vi) Nearly 30 lacs people affected by land slides. (vii) 25700 coconut trees uprooted. (viii) Sea erosion occurred along the coastal parts. (ix) Many families evacuated to safer places. (x) Crops worth more than Rs. 4 lac lost.
29	8 Jun.	Malappuram, Trivandrum, Quilon, Trichur and Kozhikode districts.	Heavy rains	-	(i) 77 houses collapsed. (ii) 164 families evacuated to safer places. (iii) Loss to crops like coconut, tapioca, plantain etc. estimated at Rs. 4.5 lacs.
30	14 Jun.	Alleppey district	Flash floods	Two persons died	Standing crops in 4000 hectares damaged.
31	27 Jul.	Idukki district	Heavy rains	-	About one hectare land washed away in landslide causing damage to 600 rubber trees and other cash crops.
32	17 Aug.	Kozhikode district	Continuous heavy rains	A girl died	(i) Heavy damage to cash crops due to landslide. (ii) Flooding of several roads.

(1)	(2)	(3)	(4)	(5)	(6)
33	Sep. (3rd & 4th week)	Alleppey district	Heavy rains	-	(i) Crops in 6505 hectares destroyed. (ii) 3500 families from low lying areas moved to safer places.
<u>MADHYA PRADESH</u>					
34	Jul. (2nd week)	Chhindwara district	Narmada river in spate	One person died	-
35	Jul. (4th week)	Balaghat district	Floods in Wainganga	-	Road communication snapped at several plants.
36	5 Aug.	Bhopal	Heavy rains	5 persons died in wall collapse	Hundreds of Jhuggies washed away.
37	Aug. (2nd week)	Khargone and Indore	Heavy rains	-	(i) Flooding of low lying areas. (ii) Disruption of vehicular traffic. (iii) Submersion of bridges.
38	14 & 15 Aug.	Khargone	Heavy rains	4 persons died in house collapse.	-
39	16 & 17 Aug.	Dhar	Heavy rains	-	11 houses collapsed.
<u>MAHARASHTRA</u>					
40	18 Jan.	Nasik district	Unseasonal rains	-	Onion stored in market-yard at Manmad spoiled.
41	6 - 7 Jan.	Jath taluka (Sangli district)	Heavy rains	(i) One person swept away in a stream. (ii) 13000 heads of cattle valued at Rs. 22 lacs killed (iii) 300 goats and sheep killed	(i) Several villages become inaccessible due to heavy rains. (ii) Some houses collapsed.
42	20 Jun.	Ratnagiri and Sindhudurg districts	Heavy rains	-	Road traffic disrupted.

(1)	(2)	(3)	(4)	(5)	(6)
43	Jun. (4th week)	Bombay	Heavy rains	-	(i) City transport system thrown out of gear. (ii) Telephone system disrupted. (iii) Suburban rail services disrupted.
44	4 & 5 Jul.	Thane district (Palghar taluk)	Heavy rains	-	(i) Normal life badly hit. (ii) Road transport severely disrupted.
45	16 Jul.	Thane district	Heavy rains	-	Severe damage to crops at Jawhar and Mokhada taluks.
46	Aug. (1st week)	Sawantwadi (Sindhudurg district)	Floods	-	All communication disrupted and flooding of low lying areas.
47	4 & 5 Aug.	Nagpur	Heavy rains	-	One house collapsed and a well under construction caved in.
48	8 & 9 Aug.	Bhandara district	Heavy rains	-	(i) Standing crops in 1800 hectares in 29 villages of Lakhandur tehsil damaged. (ii) 18 houses collapsed and 193 damaged. (iii) Estimated loss: Rs. 4.5 lacs.
49	16 Aug.	Amravati district	Floods in Purna and Chandrabhaga rivers	Two persons washed away.	-
50	Aug. (4th week)	Bombay	Heavy rains	12 person died	7 buildings collapsed.
51	7 Sep.	Pune	Heavy rains	4 persons killed and 7 injured seriously when the wall of the filtration plant collapsed.	-

(1)	(2)	(3)	(4)	(5)	(6)
52	Sep. (3rd week)	(a) Amravati & Yeotmal districts.	Wardha and its tributaries in floods due to continuous heavy rains.	6 persons feared dead in house collapse/drowning.	(i) 50 houses washed away. (ii) Standing crops in 162 hectares in Pawani village severely damaged.
		(b) Aurangabad, Osmanabad, Jalna, Bir and Parbhani districts	Heavy rains	26 persons feared dead in house collapse/drowning.	(i) A bridge washed away. (ii) Property and standing crops destroyed.
		(c) Bombay	Heavy rains	20 persons died in house collapse/land slips	(i) Rail tracks and low lying areas remained submerged. (ii) Many hutment colonies/slum dwellers badly hit. (iii) 7 buildings collapsed. (iv) Hundreds of residents of a new housing colony the worst suffered.
53	24 Sep.	Manmad(Nasik district)	Heavy rains	-	10 houses completely damaged.
54	24 Sep.	Nanded district	Flash floods	4 human lives washed away in a nullah.	-
55	9 Jun.	Aurangabad City	Heavy rains	-	Complete darkness in the city due to power failure.
56	10 Jun.	Thane-Belapur region	Heavy rains	-	Dislocation of vehicular traffic.
57	24 Sep.	Thane district	Heavy rains	-	One school building collapsed in Shird village.
58	29 Sep.	Nagpur	Heavy rains	Two students drowned in Ambazari lake.	Low lying areas flooded.
<u>NAGALAND</u>					
59	Jul. (1st week)	Kohima	Heavy rains	-	The road communication between Dimapur rail-head and Kohima snapped due to landslides.

(1)	(2)	(3)	(4)	(5)	(6)
<u>ORISSA</u>					
60	22 Mar.	Ganjam district	Heavy rains	44 goats and sheep died in Hinjli block	94 houses partly damaged.
61	3 Apr.	Mayurbhanj district	Heavy rains	-	5 houses partly damaged.
62	24 Jun.	Balasore district	Moderate floods	-	(i) 6 houses collapsed. (ii) Many roads severely breached. (iii) Estimated crop loss Rs.6.95 lacs.
<u>PUNJAB</u>					
63	Jan. (2nd week)	Ludhiana, Patiala and Jullundur	Heavy rains	-	Caused sulphur deficiency in the light soil areas, adversely affecting standing wheat crop.
64	Jul. (3rd week)	Faridkot	Heavy rains	-	(i) Many villages marooned. (ii) Disruption of traffic.
65	Jul. (4th week)	Rupar	Budki rivulet in floods	-	Due to breaches in embankments, adjoining villages inundated.
66	Aug. (1st week)	Faridkot, Ferozepur, Rupar, Jullundur, Amritsar and Hoshiarpur districts	Severe floods in rivulets	7 persons died, 27 cattle heads perished.	(i) 46751 hectares of cropped area in 239 villages with a population of about 50,000 affected. (ii) 7125 houses damaged. (iii) Loss to property and crops estimated at Rs. 30 lacs.
<u>RAJASTHAN</u>					
67	Jul. (3rd week)	Jaipur city and neighbourhood	Heavy rains	More than 100 persons feared dead in house collapse, drowning, etc.	(i) 5 villages completely wiped out. (ii) Record rainfall of 59 cm. in 48 hrs. (iii) Normal life of city completely paralysed. (iv) Most of the city under 7 ft. of water. (v) Water and electricity supply system completely collapsed.

(1)	(2)	(3)	(4)	(5)	(6)
					(vi) 1000 houses completely damaged.
					(vii) Several rail/road/bridges in and around the city collapsed.
					(viii) All vehicular traffic snapped.
					(ix) Hundreds of trees, poles, many buildings uprooted and washed away.
					(x) Thousands marooned in low lying areas.
					(xi) Over 1 lac people rendered homeless.
68	Jul. (3rd week)	Tonk, Sawai Madhopur, Bharatpur and Kota districts.	Severe floods in Dhundh river.	(i) 205 persons feared dead. (ii) 1000 persons re- ported missing. (iii) 8772 cattle perished.	(i) 3 lac people in several villages marooned. (ii) Hingonia village completely washed away by swollen waters of Dhundh and Moreal rivulets. (iii) A dozen of rail bridges with 5 km long rail-track on Delhi-Jaipur- Sawai Madhopur-Gangapur washed away. (iv) 57 bunds breached. (v) 53000 families in 650 villages affected. (vi) 28127 houses collapsed. (vii) Crops worth Rs. 4.5 crores lost. (viii) Loss to property: Rs. 200 crores.
		<u>TAMILNADU</u>			
69	11 Sep.	North Arcot district	Palar river in floods	4 boys washed away.	Many huts on the bank of the river damaged.

(1)	(2)	(3)	(4)	(5)	(6)
<u>TRIPURA</u>					
70	Jul. (1st week)	Tripura	Manu and Deo rivers in floods.	-	People from affected areas moved to relief camps.
<u>UTTAR PRADESH</u>					
71	30 Jun.	(a) Agra	Heavy rains	12 persons killed in drowning and house collapse	(i) Normal life, telecommunication and electricity system paralysed. (ii) Many breaches on the highways. (iii) A newly built culvert washed away.
		(b) Aligarh	Heavy rains	6 persons died and more than a dozen injured in house collapse	Many number of houses collapsed in Hathi Duba Colony.
72	Jul.	Mathura, Mainpuri, Aligarh, Pratapgarh, Sultanpur, Agra, Farrukhabad, Ballia, Deoria, Gonda, Gorakhpur, Bahraich, Azamgarh, Bara- Banki and Chamoli districts	Rivers Gomati, Ghagra and Rapti in floods	(i) 148 people died. (ii) 513 cattle perished. (iii) Several hundreds of birds perished.	(i) Population of 53 lacs in 6107 villages affected. (ii) 5504 villages water-logged. (iii) Hundreds of houses collapsed. (iv) Number of houses damaged : 54466. (v) Massive landslides caused to heavy destruction, in hilly areas. (vi) Vehicular traffic snapped due to overflowing of canals and breaches in the highways. (vii) Damage to roads estimated at Rs. 1 crore. (viii) More than 25000 hectares of land under water.

(1)	(2)	(3)	(4)	(5)	(6)
					(ix) Kharif sowing severely affected.
					(x) Total cropped area affected: 134742 hectares.
					(xi) Total area affected : 7 lac hectares.
73	Aug. (1st week)	Gorakhpur, Ballia, Deoria, Faizabad, Azamgarh, Sitapur, Basti, Unnao, Pratapgarh, Saharanpur, Lakhimpur-Kheri, Bara-Banki and Bahraich districts.	Rohini, Rapti, Burchi, Gandak, Sharda, Ghagra in floods	Number of lives lost. Human : 95 Cattle : 76	(i) Large areas inundated leaving a trail of devastation. (ii) Several villages inundated. (iii) A population of 75 lacs in 9000 villages marooned. (iv) 2000 houses damaged due to water-logging. (v) 7000 people rescued. (vi) Rail traffic disrupted. (vii) Communication network thrown out of gear. (viii) Many bunds breached.
	Aug. (4th week)	Allahabad, Pratapgarh, Bareilly, Ballia, Gorakhpur, Bara-Banki, Faizabad.	Floods in Ghagra, Gandak and Ganga rivers.	-	<u>Total Loss for August.</u> (i) Number of population affected: 53 lacs. (ii) Number of villages affected: 6884. (iii) Total area affected: 10 lac hectares. (iv) Total cropped area affected: 743503 hectares. (v) Number of houses damaged: 29613.



(1)	(2)	(3)	(4)	(5)	(6)
74	Sep. (2nd, 3rd & 4th week)	Pratapgarh, Basti, Bara- Banki, Faizabad, Ballia, Gorakhpur and Sitapur districts	Floods in Ghagra, Rapti, Burhi and Kawano	No. of lives lost Human : 109 Cattle : 606	(i) Normal life and communication paralysed. (ii) Thousands villages marooned. (iii) 600 villages inundated rendering thousands of people homeless. (v) Boats deployed to evacuate marooned people. (v) Air-dropping of food. (vi) Several bunds breached. (vii) Entire population of Sahersa village rescued. <u>Total loss for September.</u> (i) No. of villages affected: 6530 (ii) No. of population affected: 2886461 (iii) No. of houses damaged: 104021 (iv) Total area affected: 1184090 hectares. (v) Total cropped area affected: 624574 hectares.
75	Oct. (1st week)	Basti, Gorakhpur, Ballia and Bahraich districts	Floods in Rapti, Burhi and Ghagra rivers	14 persons died in drowning/ house collapse	(i) No. of villages affected: 400 (ii) No. of houses damaged: 5000 (iii) Boats pressed into service for evacuating the marooned people.
<u>WEST BENGAL</u>					
76	May	Midnapore, Hooghly, Malda and Burdwan districts	Unseasonal heavy rains	-	Aman and boro crops in 4047 hectares damaged.
77	27 May	Calcutta	Heavy rains	-	(i) Bus and train services badly affected. (ii) Low lying areas flooded.

(1)	(2)	(3)	(4)	(5)	(6)
78	9 Jun.	Calcutta	Heavy rains		Many areas water-logged, disrupting road traffic.
79	Jun. (3rd & 4th week)	Midnapore district	Flash floods	15 persons injured	(i) 2000 houses collapsed, leaving many people marooned. (ii) Destruction of crops in large areas.
80	Jul. (1st week)	Darjeeling, Jalpaiguri and Malda districts.	Mechi, Jalandhaka and Mahananda river in floods	-	(i) 4 villages submerged affecting 400 families. National Highway No. 30 breached at several points. Vast areas inundated. (ii) Road traffic between Silguri and Darjeeling came to a standstill following breaches at several points.
81	Jul. (1st week)	Midnapore district	Haldi river in floods	-	Many people rendered homeless.
82	10 Jul.	Calcutta City	Heavy rains	-	(i) Normal life in city and neighbourhood went out of gear. (ii) Roads remained submerged, dislocating public transport system.
83	25 Sep.	Calcutta City	Heavy rains	-	(i) Loading and unloading operations in Calcutta Port came to a standstill. (ii) Normal life in city disrupted.