

The background features a series of vertical gray bars of varying heights on the left side. A horizontal gray bar runs across the middle of the page, intersecting the vertical bars. Below this horizontal bar, the text "DISASTROUS WEATHER EVENTS" is printed in a bold, black, sans-serif font. To the right of this text, the year "2006" is displayed in a white, sans-serif font, set against a gray rectangular background. Further to the right, there are more vertical gray bars, some of which are partially cut off by the edge of the page.

DISASTROUS WEATHER EVENTS

2006



भारत सरकार
GOVERNMENT OF INDIA

भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

DISASTROUS WEATHER EVENTS 2006

ISSUED BY
NATIONAL CLIMATE CENTRE
OFFICE OF THE
ADDITIONAL DIRECTOR GENERAL OF METEOROLOGY (RESEARCH)
PUNE

DISASTROUS WEATHER EVENTS OF 2006

The most striking disastrous weather events of 2006 were the following:

1. Cold wave conditions prevailed over northern parts of the country and claimed 58 human lives.
2. Heat wave swept major portion of north India and a few pockets in peninsula and claimed 135 human lives.
3. During summer monsoon of 2006, floods and heavy rains have claimed 1758 human lives apart from loss of large number of live stock and extensive damage to public/private property.
4. Cyclonic storm 'OGNI' during 29-30 October 2006 crossed Andhra Pradesh coast as a deep depression between Ongole and Bapatla around 0730 UTC of 30th October and caused loss of 28 human lives, 35000 livestock and crops in thousands hectares in Praksham, Guntur and Krishna districts of Andhra Pradesh.

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

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<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
TABLE – I : SNOWFALL				
CRITERIA				
<i>Moderate : 7.6 to 34.9 cm in 24 hrs</i>				
<i>Heavy : ≥ 35.0 cm in 24 hrs</i>				
1.	2-4 Jan.	Kashmir Valley (J&K)	Heavy	One person died when a building collapsed in Uri. i) Jammu-Srinagar NH closed for traffic. ii) Normal life disrupted. iii) Dal lake reported frozen.
2.	11 Jan.	Srinagar (J&K)	Heavy	i) Mercury dipped to -6.6° C. ii) Water bodis including Dal Lake reported frozen. Water supply disrupted.
3.	15-16 Jan.	Kashmir Valley (J&K)	Heavy	Landslides triggered by heavy snowfall and rains blocked 300 km. Jammu-Srinagar NH; the only surface link between Kashmir Valley and rest of the country.
4.	25 Jan.	Kinnaur (Himachal Pradesh)	Heavy	Landslides reported. Apple and other fruit crops damaged.
5.	24 Mar.	Poonch (J&K)	Heavy	2 persons died and one injured. Snow avalanche reported.
6.	13 Jul.	Srinagar (J&K)	Heavy	35 pilgrims of Amarnath yatra died.
7.	13 Oct.	Kangra (Himachal Pradesh)	Heavy	i) Avalanche reported. ii) Trees/electric poles uprooted. iii) Power supply disrupted at several places.

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
TABLE – II : COLD WAVE					
CRITERIA					
(A) When; Normal minimum temperature is 10°C or more. Cold wave : Night temperature 5°C to 6°C below normal. Severe cold wave : Night temperature 7°C or more below normal.					
(B) When; Normal minimum temperature is less than 10°C. Cold wave : Night temperature 4°C to 5°C below normal. Severe cold wave : Night temperature 6°C or more below normal					
1.	1 Jan.	Sriganganagar (Rajasthan)	Severe cold wave (B)	One person died.	
2.	8 Jan.	Sriganganagar (Rajasthan)	Severe cold wave (B)	One person died.	Damage to crops due to frost reported.
3.	Jan. (2 nd week)	Agra, Amritsar, Chandigarh, Etah, Ferozabad, Gorakhpur, Hardoi, Hoshiarpur, Karnal, Mahoba, Mainpuri and Rai Bareilly (Uttar Pradesh)	Severe cold wave (B)	25 persons died.	Damage to Potato crops due to ground frost reported.
4.	13-15 Jan.	Bhivani (Haryana), Baharaich, Deoria, Gorakhpur, Jaunpur, Kushinagar and Maharajganj (Uttar Pradesh)	Severe cold wave (B)	22 persons died.	Damage to mustered and gram crop reported.

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
5.	23 Jan.	Sirsa (Haryana)	Severe cold wave (B)		Damage to wheat and barley crops reported.
6.	12 Dec.	Chandigarh (U.T.)	Severe cold wave (B)	3 persons died.	
7.	19 Dec.	Ambala (Punjab)	Severe cold wave (B)	One person died.	
8.	28 Dec.	Bhilwara (Rajasthan)	Severe cold wave (B)	One person died.	
9.	28-30 Dec.	Haryana and Rajasthan (Many districts)	Severe cold wave (B)	4 persons died.	

TABLE – III : HEAT WAVE

CRITERIA

(A) When; Normal maximum temperature is 40°C or less.
Heat wave : Departure from normal is 5°C to 6°C.
Severe heat wave : Departure from normal is 7°C or more.

(B) When; Normal maximum temperature is more than 40°C.
Heat wave : Departure from normal is 4°C to 5°C.
Severe heat wave : Departure from normal is 6°C or more.

1.	10 & 11 Apr.	Akola, Amravati and Yavatmal (Maharashtra)	Heat wave (B)	3 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.	Apr. (3 rd & 4 th week)	Angul, Bolangir, Cuttack, Dhenkanal, Ganjam, Jharsuguda, Khurda and Sambalpur (Orissa)	Severe heat wave (A)	10 persons died.	
3.	5-9 May	Jhansi, Lalitpur, Lucknow and Mahoba (Uttar Pradesh)	Severe heat wave (B)	15 persons died.	
4.	9 May	Raipur (Madhya Pradesh)	Severe heat wave	One person died.	
5.	10 May	(a) Amravati (Maharashtra)	Severe heat wave (B)	3 persons died.	
		(b) Agra and Bundelkhand (Uttar Pradesh)	Severe heat wave (B)	3 persons died.	
6.	12-14 May	Bhatinda (Punjab)	Severe heat wave (B)	3 persons including 2 children died.	
7.	16 May	Buldhana and Chandrapur (Maharashtra)	Severe heat wave	2 persons died.	
8.	27 May	Bhatinda and Hoshiarpur (Punjab)	Severe heat wave (Both A and B as Appropriate)	2 persons died.	
9.	28-30 May	Bharatpur, Bhilwara, Bikaner, Bundi, Jaipur, Kota, Sawai Madhopur, and Taran Teran (Rajasthan)	Severe heat wave (Both A and B as Appropriate)	18 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>
10.	30 May	Amritsar (Punjab)	Severe heat wave (B)	3 persons died.	
11.	3 Jun.	Ferozepur (Punjab)	Severe heat wave (B)	One child died.	
12.	10 Jun.	Bhatinda and Jalandhar (Punjab)	Severe heat wave (B)	3 persons died.	
13.	11-13 Jun.	Chandigarh (Union Territory) and Panchkula(Haryana)	Severe heat wave (A)	6 persons including one child died.	
14.	19 Jun.	Bhandara (Maharashtra)	Heat wave (A)	One person died.	
15.	23 Jun.	Chandrapur (Maharashtra)	Heat wave (A)	One person died.	
16.	4 Jul.	Yamunanagar (Haryana)	Severe heat wave (A)	2 persons died.	
17.	5-6 Jul.	Barmer, Bikaner Jaisalmer, Jalore, Jodhpur and Pali (Rajasthan)	Severe heat wave (A)	43 persons died.	
18.	15-17 Aug.	Jorhat, Morigaon, Nalbari, Nowgaon (Assam)	Severe heat wave (A)	7 persons died.	
19.	Aug. (4 th week)	Assam (Entire State)	Severe heat wave (A)	8 persons died.	

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
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TABLE -IV : SQUALL

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

CRITERIA

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

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

1.	3 Apr.	Khasi Hills (Meghalaya)	Severe	3 persons died and 3 other injured.	Several Govt. and private buildings completely damaged.
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TABLE - V : GALE

CRITERIA

Strong : Wind speed \geq 75 kmph

1.	9 Apr.	Wayanad (Kerala)	Strong	In Sultanbattery, i) 4 houses completely and 12 partially damaged. ii) Extensive damage to agriculture reported.	
2.	10 Apr.	Wayanad (Kerala)	Strong	i) One house completely and another one partially damaged. ii) Extensive damage to plantain crop reported.	

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
3.	12 Apr.	(a) Alappuzha (Kerala)	Strong		18 fishing boats damaged in Arthungal Cherthala.
		(b) Kozhikode (Kerala)	Strong		One house partially damaged in Puthusserry.
4.	19 Apr.	Wayanad (Kerala)	Strong		Hundreds of plantain trees damaged in Vellamunda.
5.	3 Jul.	Idukki (Kerala)	Strong	2 children died and 2 persons injured in Marayoor.	
6.	11 Jul.	Wayanad (Kerala)	Strong		One house completely damaged in Patinjarethara.

TABLE – VI : DUSTSTORM

CRITERIA

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

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

1.	27 Mar.	Panchkula (Haryana)	Severe	3 persons injured due to house collapse.	
2.	16 Apr.	Mirzapur and Sonbhadra (Uttar Pradesh)	Severe	2 persons died.	
3	29 Apr.	Hardoi, Lucknow, Poorvanchal and Rai Bareli (Uttar Pradesh)	Severe	5 persons died.	Damage to standing 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>
4.	9 May	(a) Jalandhar, Kapurthala, Ludhiana and Patiala (Punjab)	Severe	9 persons died and 2 persons injured in house collapse incidence	i) Many electric poles / trees uprooted. ii) Several hoardings blown away. iii) Damage to wheat crop reported.
		(b) Firozabad, Sant Kabirnagar and Siddharthnagar (Uttar Pradesh)	Severe		i) Many kutcha houses damaged/blown away. ii) Harvested wheat crop destroyed.
5.	14 May	Jhajjar and Sonapat (Haryana)	Severe	3 persons died and 2 other injured due to wall collapse.	Trees / electric poles uprooted.
6.	20 May	Bahraich, Ballia, Basti, Bhadohi, Gonda, Jaunpur, Lucknow, Pratapgarh, Sahibabad, Sitapur, Sonbhadra, Sultanpur, Varanasi and Unnao (Uttar Pradesh)	Severe	35 persons died.	
7.	21 May	Amritsar (Punjab)	Moderate		Trees / electric poles uprooted.
8.	25 May	Bhopal (Madhya Pradesh)	Severe	One person died.	In Nishatpur, trees / electric poles / hoardings uprooted and roof tops blown away.
9.	26 May	Ambala (Haryana)	Severe	4 persons died.	
10.	27 May	Kurukshetra (Haryana)	Severe	6 persons died and 4 injured.	
11.	31 May	(a) Allahabad, Bhadohi, Ghazipur, Mirzapur and Pratapgarh (Uttar Pradesh)	Severe	14 persons died and several other injured.	Mango crops damaged.

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
		(b) Hissar (Haryana)	Severe		In Siwani Mandi, i) Trees and electric poles uprooted. ii) Roofs of houses blown off.
12.	13 Jun.	Chandigarh(Union Teritory)	Severe	One girl died due to electrocution.	
13.	2 Jul.	Bundi (Rajasthan)	Severe	2 persons died.	

TABLE – VII : LIGHTNING

1.	16 Jan.	Tirunelveli (Tamil Nadu)			Around 100 TV sets and many electrical appliances burnt.
2.	4 Mar.	Washim (Maharashtra)		One woman died and another injured.	
3.	5 Mar.	Kottayam (Kerala)		i) 2 women and a child died. ii) 16 persons injured.	
4.	6 Mar.	Betul, Bhopal., Chhatarpur, Chhindawara, Guna, Jabalpur, Khargone, Khandwa, Nimar, Raisen, Sagar, Sehore, Tikamgarh and Vidisha (Madhya Pradesh)		3 persons died.	Widespread damage to crops reported.
5.	7 Mar.	Thiruvananthapuram (Kerala)		One person died.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
6.	8 Mar.	Bharatpur (Rajasthan)		2 persons died and 6 injured.	
7.	9 Mar.	(a) Ahmedabad, Junagadh, Rajkot and Surendranagar (Gujarat)		i) 5 persons died. ii) 8 cattle perished.	
		(b) Bhind, Bhopal, Chambal, Chitorgarh, Gwalior, Morena, Shivpuri and Tikamgarh (Madhya Pradesh)		6 persons died.	
		(c) Aurangabad, Beed, Buldhana, Jalgaon, Jalna, Latur, Osmanabad, Wardha and Washim (Maharashtra)		22 persons died.	
		(d) Jind (Haryana)		4 persons died.	
		(e) Gulbarga (Karnataka)		i) 5 persons died. ii) 20 sheep died.	
		(f) Chandigarh (Union Territory)			In Sector 22, damage to computers, TV sets and other electrical appliances reported,
8.	10 Mar.	(a) Buldhana, Jalgaon, Nagpur, Wardha and Washim (Maharashtra)		In all, 12 persons died.	
		(b) Jodhpur (Rajasthan)		One woman died in Balesar.	
9.	11 Mar.	Nagpur (Maharashtra)		One person died in Kandhali.	

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
10.	16 Mar.	(a) Chandrapur and Yavatmal (Maharashtra)		i) One person died. ii) 31 cattle perished.	
		(b) Alwar (Rajasthan)		One person died in Hasanpur.	
11.	29 Mar.	Kollam (Kerala)		15 persons injured in Kottarakkara.	
12.	31 Mar.	Pathnamthitta (Kerala)		One person and a child died in Karnvatta.	
13.	13 Apr.	Thiruvananthapuram (Kerala)		2 persons injured.	2 houses damaged.
14.	15 Apr.	Nagpur, Parbhani, Wardha and Yavatmal (Maharashtra)		4 persons died and 3 injured in separate incidents.	
15.	16 Apr.	(a) Thiruvananthapuram (Kerala)		One person died.	
		(b) Villupuram (Tamil Nadu)		7 persons died in separate incidents.	
16.	17 Apr.	(a) Cuddalore, Kancheepuram, Ramnathapuram and Wayanad (Kerala)		6 persons including one woman and her child died and 4 persons injured.	
		(b) Lucknow (Uttar Pradesh)		3 persons died.	
17.	20 Apr.	Malappuram		One person died in Arckode.	

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
18.	7 May	Kottayam (Kerala)		2 persons died and 5 injured in Mundakkayam.	
19.	10 May	Thiruvananthapuram (Kerala)		One person died.	
20.	14 May	Fatehabad (Haryana)		One person died.	
21.	16 May	Bangalore (Karnataka)			2 coconut trees caught fire.
22.	17 May	(a) Kozhikode		One woman died in Koora-chundu.	
		(b) Kathua (J&K)		3 women died and 3 injured when lightning struck their house.	
		(c) Mysore (Karnataka)		2 persons died.	
		(d) Udupi (Karnataka)		6 cattle died and few injured.	
		(e) Yavatmal (Maharashtra)		One person died.	
23.	18 May	Bhandarai (Maharashtra)		One woman died.	
24.	19 May	Kannur		2 persons including a boy died and one person injured.	
25.	20 May	Hissar (Haryana)		One girl died and 6 other injured in Hansi.	
26.	21 May	Thiruvananthapuram (Kerala)		One person died in Kallam-balam.	

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
27.	22 May	Wardha (Maharashtra)		One person died.	
28.	23 May	Bhandara (Maharashtra)		One person died.	
29.	24 May	(a)Thiruvananthapuram (Kerala)			One house collapsed in Attingal.
		(b)Yavatmal (Maharashtra)		One girl died and 2 cattle perished in Pusad.	
30.	25 May	Buldhana (Maharashtra)		In Khamgaon tehsil, one person died and 2 other injured.	
31.	29 May	Aurangabad (Maharashtra)		2 persons died.	
32.	30 May	(a) Belgaon (Karnataka)		One person died.	
		(b) Mumbai (Maharashtra)		11 persons injured.	
33.	1 Jun.	(a) Raigad (Maharashtra)		i) One person died. ii) 3 cows died.	
		(b) Aurangabad, Dhule, Mumbai, Nagpur, Ratnagiri and Sindhudurg (Maharashtra)		19 persons died.	
		(c) Dahod, Narmada and Sarbarkantha (Gujarat)		6 persons died.	
		(d) Sonebhadra (Uttar Pradesh)		One person died.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
		(e) Birbhum, Malada and Murshidabad (West Bengal)		9 persons died.	
34.	2 Jun.	Mumbai (Maharashtra)		One person died.	
35.	4 Jun.	Bahraich, Faizabad, Ghazipur, Siddharthnagar, and Sultanpur (Urrat Pradesh)		12 persons died.	
36.	7 Jun.	Ghazipur		4 persons died and 3 other injured.	
37.	16 Jun.	(a) Kurukshetra (Haryana)		One person died.	
		(b) Latur and Nanded (Maharashtra)		10 persons died and 5 other injured.	
		(c) Parbhani and Pune (Maharashtra)		4 persons died and 4 other injured.	
38.	18 Jun.	Uttar Kannada (Karnataka)			Shiva statue of about 125 ft. on a hillock damaged in Murudeshwar village of Karwar taluk.
39.	19 Jun.	(a) Hingoli, Nandurbar and Nasik (Maharashtra)		24 persons died and 6 other injured.	
		(b) Cuddalore (Tamil Nadu)		3 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>
40.	18-20 Jun.	Aurangabad, Beed, Jalna, Latur, Mumbai, Nanded, Parbhani and Shahpur (Maharashtra)		40 persons died and 7 other injured.	
41.	21 Jun.	Mumbai and Thane (Ma- harashtra)		3 persons died and one child injured.	
42.	24 Jun.	Thane (Maharashtra)		8 persons died another persons in- jured.	
43.	25 Jun.	(a) Gwalior (Madhya Pradesh)		2 persons died in Madhoganj.	
		(b) , Chhatarpur, Da- moh, Guna and Gwalior (Madhya Pradesh)		24 persons including 4 women died and 8 other injured..	
		(c) Amravati, Washim and Yavatmal (Maharashtra)		5 persons including 2 women died.	
		(d) Baliya, Bulandashahar Chandauli, Mirzapur, Rai Bareilly and Sonbhadra (East Uttar Pradesh)		21 persons died and 2 children in- jured.	
44.	26 Jun.	(a) Bhopal (Madhya Pradesh)		40 cattle perished.	
		(b) Akola, Bhandara and Chandrapur (Maharashtra)		3 persons including 2 women died.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
		(c) Ambedkarnagar Orraiya, Bahraich, Barabanki, Fatehpur, Gorakhpur, and Siddarthnagar (Uttar Pradesh)		14 persons died.	
45.	28 Jun.	(a) Barabanki, Rai Bareli, Sonbhadra and Sultanpur (Uttar Pradesh)		16 persons died.	
		(b) Bhilwara, Bundi and Kota (Rajasthan)		9 persons died and 5 other injured.	
46.	29 Jun.	Nagpur(Maharashtra)		2 persons died.	
47.	2 Jul.	(a) Nagpur and Wardha (Ma- harashtra)		3 persons died.	
		(b)South Bengal (West Bengal)		2 persons died.	Many houses damaged.
48.	3 Jul.	Pune (Maharashtra)		4 persons died in Chinchwad.	
49.	4 Jul.	Nagpur (Maharashtra)		i) 5 persons died in Um- red. ii) 5 cattle perished.	
50.	5 Jul.	Gadchiroli and Yavatmal, Wardha (Maharashtra)		8 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>
51.	7 Jul.	Tehri (Uttaranchal)		One woman and 2 children died and another woman injured.	
52.	11 Jul.	Birbhum and Murshidabad (West Bengal)		2 persons died.	Many crops damaged.
53.	14 Jul.	(a) Balrampur (Uttar Pradesh)		2 persons died.	
		(b) Medinipur and Murshidabad (West Bengal)		10 persons died.	
54.	19 Jul.	(a) Fatehpur, Hardoi, Kanpur and Sultanpur (Uttar Pradesh)		7 persons died.	
		(b) Bardhaman (West Bengal)		3 persons died.	
55.	20 Jul.	Bhind, Katni and Panna (Madhya Pradesh)		7 persons including one child died and 4 other injured.	
56.	30 Jul.	Uttar Pradesh		3 persons died.	
57.	1 Aug.	Hazaribagh (Jharkhand)		4 persons died and 6 other severely burnt.	
58.	11 Aug.	Kolkata (West Bengal)		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>
59.	19 Aug.	Howrah (West Bengal)		One person died.	
60.	22 Aug.	Allahabad, Gonda and Mir- zapur (Uttar Pradesh)		6 persons died and 6 other injured.	
61.	5 Sep.	Chandrapur and Wardha (Maharashtra)		3 persons died and one person injured.	
62.	6 Sep.	Chandrapur, Nagpur and Wardha (Maharashtra)		8 persons died and 5 other injured.	
63.	7 Sep.	(a) Wayanad (Kerala)		One woman died.	
		(b) Fatehpur (Uttar Pradesh)		3 persons died in Khaga area.	
64.	11 Sep.	Chandrapur and Nagpur (Maharashtra)		5 persons died and 5 other injured.	
65.	12 Sep.	Jalgaon, Marathwada, Pune and Vidarbha (Maharashtra)		15 persons died.	
66.	15 Sep.	(a) Amravati, Gadchiroli, Hin- goli, Jalna and Washim (Ma- harashtra)		17 persons died and 3 other injured.	
		(b) Dhar		5 persons died.	
67.	15-16 Sep.	Hingoli (Maharashtra)		5 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>
68.	16 Sep.	(a) Narsinhpur (Madhya Pradesh)		3 persons died.	
		(b) Akola, Beed, Buldhana, Hingoli, Jalna and Osmana- bad (Maharashtra)		13 persons died.	
		(c) Gadchiroli and Washim (Maharashtra)		5 persons including 4 women died and 2 other injured.	
69.	17 Sep.	Chandrapur and Washim (Maharashtra)		4 persons died.	
70.	18 Sep.	(a) Kheda and Surendranagar (Gujarat)		4 persons died and 3 other injured.	
		(b) Dhule and Parbhani (Maharashtra)		3 persons died and 12 other injured.	
71.	19 Sep.	Amravati and Dhamangaon (Maharashtra)		2 persons including a woman died and 4 other injured.	
72.	20 Sep.	Hoshangabad		2 persons died and 10 other injured.	
73.	21 Sep.	Chandrapur, Gadchiroli and Wardha (Maharashtra)		5 persons died and 9 women injured.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
74.	3 Oct.	Indore and Mahua (Madhya Pradesh)		One person died and another injured.	
75.	5 Oct.	Medinipur (West Bengal)		2 persons died.	
76.	14 Oct.	(a) Thrissur (Kerala)		One boy died.	
		(b) Arvi and Wardha (Maharashtra)		21 persons injured.	
		(c) Howrah (West Bengal)		One person died.	
77.	16 Oct.	Kannur (Kerala)		One woman died.	
78.	18 Oct.	Kolkata (West Bengal)		2 persons died.	
79.	20 Oct.	Kannur and Thrissur (Kerala)		4 persons including a woman died and 2 other injured.	
80.	21 Oct.	(a) Washim (Maharashtra)		One person died and 2 other injured.	
		(b) Maharajganj (Uttar Pradesh)		3 persons died and 10 other injured.	
81.	22 Oct.	Bhandara (Maharashtra)		One woman died.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
82.	23 Oct.	Thiruvananthapuram (Kerala)		2 persons died and 2 other injured.	Electronic equipments damaged.
83.	27 Oct.	Chennai (Tamil Nadu)			6 huts damaged.
84.	4 Nov.	(a) Alapuzha (Kerala)		One person died in Cher- thala.	
		(b) Shajapur (Madhya Pradesh)		3 persons died.	
85.	5 Nov.	Wayanad and Thiruvanan- thapuram (Kerala)		3 persons including 2 girls died and 2 persons injured	
86.	8 Nov.	Aurangabad, Beed and Jalna (Maharashtra)		10 persons died and 8 other injured.	
87.	10 Nov.	Thiruvananthapuram (Kerala)		One person died and 7 children injured.	
88.	14 Nov.	Ernakulam (Kerala)		One woman died and one child injured.	
89.	16 Nov.	Thiruvananthapuram (Kerala)		4 persons died.	
90.	6 Dec.	Hamirpur (Himachal Pradesh)		35 goats perished.	

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
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TABLE – VIII : 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 ≥ 75 kmph.

1.	4 Mar.	(a) Hyderabad and neighbourhood (Andhra Pradesh)	Severe	13 persons died under debris due to wall collapse.	Famous Moti-Gate reported heavy loss.
		(b) Jalgaon (Maharashtra)	Moderate	One person died and 7 other injured due to wall collapse.	
2.	5 Mar.	Bangalore (Karnataka)	Severe		i) Due to landslide parked empty bus fell into a drain. ii) Many trees uprooted. iii) Walls of several houses collapsed.
3.	9 Mar.	(a) Davangere, Gulbarga and Raichur (Karnataka)	Moderate	2 persons died and many other injured.	i) Hundreds of temporary zinc sheets blown off. ii) Stored cereals, pulses, clothes and other material washed away.
		(b) Nashik, Pune and Konkan region (Maharashtra)	Moderate		i) Grapes, onion and wheat crop damaged in Junnar and Khed tehsil. ii) Substantial damage to mango crop in Konkan region and grapes in Nashik reported.

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
4.	10 Mar.	Tumkur (Karnataka)	Moderate	One person died due to house collapse.	
5.	12 Mar.	Karbi Anglong (Assam)	Severe	One person died and 3 other injured.	
6.	16 Mar.	Muktsar (Punjab)	Severe	2 persons died due to roof collapse.	
7.	23 Mar.	Chamba (Himachal Pradesh)	Severe	30 sheep and goats buried alive in Bharmaur.	Landslide reported.
8.	4 Apr.	Agartala (Tripura)	Moderate	i) 3 persons injured. ii) A few cattle perished.	Many crops damaged.
9.	8 Apr.	Wayanad (Kerala)	Moderate		4 houses completely collapsed.
10.	12 & 13 Apr.	(a) Changlang (Arunachal Pradesh)	Severe	6 persons died and 3 other injured.	
		(b) Bagsa (Assam)	Severe	4 persons died in Suwankhata and neighbourhood.	In Suwankhata and neighbourhood, i) Almost 600 houses and public institutions like dispensary, post office and primary school damaged. ii) Vegetable crop damaged.
11.	13 Apr.	(a) Wayanad (Kerala)	Moderate		Damage to many houses reported.
		(b) Bardhaman (West Bengal)	Severe	5 persons died.	
12.	15 Apr.	Wayanad (Kerala)	Moderate		Damage to plantain and agricultural crop reported.

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
13.	18 Apr.	Patna and West Champaran (Bihar)	Severe	3 persons died.	Damage to crops reported.
14.	19 Apr.	Dhemaji, Dibrugarh and Morigaon (Assam)	Severe	4 persons died.	i) Roofs of several houses blown away. ii) Big trees and electric/telephone poles uprooted. iii) In Dibrugarh town, a Maruti car crushed under an uprooted tree.
15.	24 Apr.	(a) Hailakandi (Assam)	Severe	A 30-year old woman died under uprooted tree.	i) Trees/electric poles uprooted. ii) Roofs of several houses blown away causing extensive damage.
		(b) Bardhaman, Howrah, Kolkata and 24 Parganas (West Bengal)	Severe	8 persons died.	Damage to houses and crops reported.
16.	25 Apr.	(a) Morigaon (Assam)	Moderate		i) Trees and electric / telephone poles uprooted. ii) Roofs of dwelling houses blown away. iii) Standing crops in nearly 100 hectares damaged.
		(b) Hooghly (West Bengal)	Severe	3 persons died.	
17.	2 May	(a) Guwahati (Assam)	Moderate		i) Several big trees uprooted. ii) Roofs of several dwelling houses blown away.
		(b) Birbhum, Jalpaiguri and Murshidabad (West Bengal)	Moderate	4 persons died.	Many thatched 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>
18.	3 May	(a) Nalbari (Assam)	Moderate		In Tihu and neighbourhood, i) Standing crops damaged. ii) Many trees uprooted. iii) Roofs of several dwelling houses blown away.
		(b) Darbhanga, Sitamarhi and West Champaran (Bihar)	Moderate	One person died.	Several crops damaged.
19.	4 May	Darrang, Kamrup and Sibsagar (Assam)	Severe	One person died.	In Sibsagar district, i) Roofs of several dwelling houses including Shiv temple, L.P. School and poultry blown away. ii) Many trees uprooted.
20.	5 May	(a) Barpeta, Bongaigaon, Goalpara, Golaghat and Nalbari (Assam)	Severe	One person died and 9 other injured.	i) 4000 houses damaged. ii) A symbolic 150-year old "KELIKADAM" tree of Barpeta Satra uprooted. iii) A L.P. School and a Madrasa damaged in Manchar area of Goalpara district. iv) Standing crop damaged.
		(b) Bankura, Birbhum and Malda (West Bengal)	Moderate	One person died.	Many thatched houses damaged.
21.	7 May	North 24 Parganas and South 24 Parganas (West Bengal)	Moderate	2 persons died.	
22.	8-9 May	(a) Bangalore (Karnataka)	Moderate		i) Banana farm razed to ground. ii) 6 trees uprooted. iii) Low lying areas inundated.

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
		(b) Chandigarh (U.T.), Himachal Pradesh and Punjab	Severe (102 kmph)	i) 8 persons died and 10 other injured. ii) Several domestic animals perished.	i) Many trees / hoardings and electric poles uprooted. ii) Huts and roof tops of many houses blown away.
23.	10 May	(a) Dhubri (Assam)	Severe	2 persons died in South Salmara circle.	
		(b) Bihar Sharif and Patna (Bihar)	Severe	6 persons died.	
		(c) Wayanad (Kerala)	Moderate		One house completely collapsed.
		(d) Bangalore (Karnataka)	Moderate	3 persons injured.	
24.	11 May	Bangalore (Karnataka)	Moderate	One woman injured.	
25.	12 May	(a) Bangalore (Karnataka)	Severe	2 persons died and one injured.	i) Low lying areas inundated. ii) Roofs of huts blown away. iii) About 20 trees uprooted. iv) Chicken trading centre completely destroyed.
		(b) Wayanad (Kerala)	Moderate		i) Extensive damage to agriculture reported. ii) Roofs of many houses collapsed.
26.	13 May	Wayanad (Kerala)	Severe		i) Many trees uprooted. ii) Roofs of many houses blown away. iii) Widespread damage to plantains reported.
27.	16 May	(a) Mysore (Karnataka)	Moderate		i) Several houses collapsed. ii) Many trees uprooted. iii) Low lying areas flooded.

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
		(b) Abohar (Punjab)	Severe		i) 800 acres of agricultural land flooded. ii) 6 sub canals breached at several places. iii) Hundreds of trees uprooted. iv) Many dwellings collapsed.
28.	17 May	(a) Bangalore, Hassan and Dakshin Kannada (Karnataka)	Severe	7 persons injured.	i) Many houses collapsed. ii) Bangalore city flooded. iii) 18 trees uprooted. iv) Damage to public and private property reported.
		(b) Akola, Bhandara, Chandrapur and Washim (Maharashtra)	Severe	2 bullocks perished and one bullock and 2 sheep injured due to wall collapse in Chandrapur	i) Many trees uprooted, ii) 2000 gunny bags of "Kardi" drenched at Mangrupir in Washim district.
29.	18 May	Tiruvallur (Kerala)	Moderate	4 persons died.	
30.	18 & 19 May	Jalna (Maharashtra)	Severe	An old woman died due to wall collapse.	Trees/electric poles uprooted at several places.
31.	19 May	(a) Nagaon and Sonitpur (Assam)	Severe	2 persons died and 2 other injured in Sonitpur.	i) Roofs of several houses blown away. ii) Nalembar temple damaged. iii) Many electric / telephone poles uprooted. iv) National highway at Jamuguri blocked by uprooting of a big tree. v) Standing crops damaged.
		(b) Rewari (Haryana)	Severe	i) One person injured. ii) 5 cattleheads perished and several other injured.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
32.	20 May	Faridabad and Sonapat (Haryana)	Severe	4 persons including a woman died.	Thousands of trees uprooted in Palwal.
33.	21 May	Bhagalpur (Bihar)	Moderate	2 persons died.	
34.	22 May	(a) Bero (Jharkhand)	Moderate	One person died.	
		(b) Abohar, Bhatinda and Muktsar (Punjab)	Severe	One cow died under fallen tree.	i) Roofs of houses blown away. ii) Damage to cotton and Nirma crops reported. iii) 250 acres of land submerged due to breach in canal in Bhagsar village.
35.	25 May	Nagaon (Assam)	Moderate	One child died and 2 women injured in Lanka revenue area.	In Lanka revenue area, i) Thousands of dwelling houses damaged. ii) Standing crops damaged.
36.	26 & 27 May	Thiruvananthapuram (Kerala)	Severe		i) One house collapsed in Nedumangad and roofs of school and 2 thatched houses blown away. A school building partially damaged. ii) Many trees uprooted and many huts collapsed. iii) Electric / telephone lines disrupted. iv) Extensive damage to agriculture reported.
37.	27 May	(a) Mavdar (Jharkhand)	Moderate	2 persons died.	
		(b) Birbhum (West Bengal)	Moderate	One person died.	
38.	28 May	(a) Kollam and Thiruvananthapuram (Kerala)	Severe	One woman and her child injured.	i) Many houses collapsed. 2 houses completely and 15 partially damaged. ii) Many trees uprooted. iii) Extensive damage to agriculture reported.

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
		(b) Buldhana, Jalgaon, and Nagpur (Maharashtra)	Severe	6 persons died.	i) Around 30 houses damaged in Raver tehsil. ii) Banana plantation in 800 hectares of Raver damaged. iii) Many trees uprooted.
		(c) Burmu, Mauder and Rajmahal (Jharkhand)	Severe	8 persons died.	
39.	29 May	(a) Hatwar (Jharkhand)	Moderate	2 persons died.	
		(b) Kannur, Kottayam, Kozhikode, Malappuram, Thiruvananthapuram and Wayanad (Kerala)	Moderate	10 persons died and one injured.	i) 108 houses completely and 1259 partially damaged. ii) More than 50 trees uprooted. iii) Extensive damage to agriculture and plantain reported. iv) Paddy field flooded.
		(c) Kolhapur and Pune (Maharashtra)	Severe		i) Heavy damage to mango and coconut trees reported. ii) Damage to crops including sugarcane reported. iii) Heavy damage to electric poles, wires and transformers reported. iv) Heavy damage to some green houses reported.
40.	30 May	(a) Thiruvananthapuram and Wayanad (Kerala)	Severe		i) Around 1000 plantains destroyed. ii) Extensive damage to agriculture reported. iii) Roofs of many houses blown away. iv) 7 houses completely and 332 houses partially damaged. v) Many trees uprooted. vi) Pancha and Topiocca field damaged in many hectares of land.

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
41.		(b) Pune and Solapur (Maharashtra)	Severe	i) One person washed away. ii) 9 persons injured in separate incidence of tree and wall collapse.	i) Several trees uprooted. ii) Normal life paralysed. iii) Damage to some houses reported. iv) Banana plantations in 50 acres of Latur tehsil completely lost. Heavy losses to onion also reported.
42.	31 May	(b) Kerala (Entire State)	Severe	9 persons died and one another injured.	i) Extensive damage to agriculture reported. ii) About 4500 plantains destroyed. iii) 637 houses completely and 5092 houses partially damaged. iv) Rubber, Pepper, Palm, Paddy, Tapiocca plants in hectares of land destroyed. v) Many trees uprooted.
		(b) Mumbai (Maharashtra)	Moderate	5 persons injured in wall collapse incidence.	
		(c) West Tripura (Tripura)	Moderate	One person died.	
43.	1 Jun.	(a) Thrissur (Kerala)	Severe	One fisherman died.	
		(b) Raigad, Ratnagiri and Sindhudurg (Maharashtra)	Moderate	5 persons died.	3 houses collapsed.
		(c) Gazipur and Mirzapur (Uttar Pradesh)	Severe (125 kmph)	8 persons died.	i) Many trees / electric poles uprooted. ii) Train services disrupted.
44.	2 Jun.	Pallakkad and Wayanad (Kerala)	Severe	2 persons died and another person missing.	i) Thousands of plantains destroyed. ii) Roofs of houses and bus stops blown away.

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
45.	3 Jun.	Murshidabad (West Bengal)	Moderate	3 persons died.	
46.	4 Jun.	Patna (Bihar)	Moderate	2 persons died and many other injured at Maner.	
47.	17 Jun.	Bankura (West Bengal)	Severe	6 persons died.	
48.	18 Jun.	Purulia (West Bengal)	Moderate	4 persons died.	
49.	18,19 Jun.	Bangalore (Karnataka)	Moderate	One woman died due to electrocution by live wire.	i) 10 houses collapsed. ii) 30 trees uprooted. iii) 6 vehicles washed away in flooded water. iv) Low lying areas inundated.
50.	19,20 Jun.	Aurangabad, Jalna, Lature, Nanded, Nandurbar, Nashik, Mahad and Parbhani (Ma- harashtra)	Severe	51 persons died.	
51.	23 Jun.	Ernakulam, Idukki, Kottayam, Kozhikode, Malappuram and Thrissur (Kerala)	Severe		i) 28 houses completely and 40 houses partially damaged. ii) Wide spread damage to agriculture reported.
52.	25 Jun.	(a) Aurangabad, Begusarai, Biharsharif, Nalanda and Nawada (Bihar)	Severe	9 persons died.	
		(b) Alappuzha, Idukki, Kasar- gode, Kottayam, Kozhikode, Pathanamthitta and Thiru- vananthapuram (Kerala)	Severe	11 persons died.	i) Widespread damage to agriculture reported. ii) Roof of church collapsed. iii) 16 houses completely and 234 houses partially damaged.

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
		(c) Nadia (West Bengal)	Moderate	4 persons died.	
53.	27 Jun.	Ambedkarnagar, orraiya, Bahraich, Barabanki, Faizabad, Fatehpur, Hardoi, Mahoba and Siddharthnagar (Uttar Pradesh)	Severe	20 persons died.	
54.	29 Jun.	Wayanad (Kerala)	Severe		i) Low lying areas flooded. ii) Extensive damage to agriculture reported. iii) 54 houses collapsed.
55.	1 Jul.	Thiruvananthapuram (Kerala)	Severe		i) Several houses damaged. ii) Extensive damage to agriculture reported.
56.	2 Jul.	Bangalore (Karnataka)	Severe	One boy died due to electrocution.	
57.	3 Jul.	(a) Chikmagalur (Karnataka)	Severe		5 houses collapsed.
		(b) Alappuzha, Kollam, Muttapuzha, Pathanamthitta, Thiruvananthapuram and Wayanad (Kerala)	Severe	6 persons including a woman and 2 children died.	i) 112 houses completely and 1675 houses partially damaged. ii) Around 200 big trees uprooted. iii) Many plantains destroyed.
58.	4 Jul.	Kodagu and Wayanad (Kerala)	Severe	6 persons died and one woman injured.	i) Landslide reported. ii) 3 houses collapsed.
59.	12 Jul.	Thiruvananthapuram (Kerala)	Moderate	One person died.	One house completely collapsed.
60.	26 Jul.	Aurangabad, Banka and Gaya (Bihar)	Severe	13 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>
61.	5 Aug.	Marigaon (Assam)	Severe	One person died and 4 other injured.	
62.	12 Aug.	Nowgaon (Assam)	Severe	One person died and 5 other injured.	i) 2 police barracks damaged. ii) Roofs of many houses blown away. iii) Trees / electric / telephone poles uprooted.
63.	13 Aug.	Sonitpur (Assam)	Severe	i) One person died. ii) 2 cattlehead perished.	
64.	17 Aug.	Barpeta, Kamrup and Nowgaon (Assam)	Severe	3 persons including a girl died and one child injured.	
65.	20 Aug.	Golaghat (Assam)	Severe		In Dergaon, i) Roofs of school/dwelling houses / animal sheds blown away. ii) Electric / telephone poles uprooted.
66.	22 Aug.	Dhubri (Assam)	Moderate	One person died.	
67.	25 Aug.	Nowgaon (Assam)	Moderate	One child died.	
68.	8 Sep.	Dhubri (Assam)	Moderate	One boy died in Purni village.	
69.	16 Sep.	Karbi Anlong (Assam)	Moderate	7 persons injured in Bakulia ghat.	
70.	17 Sep.	Thiruvananthapuram (Kerala)	Moderate		i) Low lying areas submerged. ii) One house partially damaged.

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
71.	18 Sep.	Thiruvananthapuram (Kerala)	Severe		i) Many trees uprooted. ii) Electric lines disrupted. iii) Extensive damage to plantains reported.
72.	19 Sep.	Thiruvananthapuram (Kerala)	Moderate		One house completely and 2 houses partially damaged.
73.	27 Sep.	Marigaon (Assam)	Severe	2 persons died at Chaparmukh.	
74.	20 Oct.	(a) Nalbari (Assam)	Severe	One person died.	
		(b) Garopchar	Moderate	One girl died.	i) Many trees uprooted. ii) Roofs of many houses blown away.
		(c) Wayanad (Kerala)	Moderate		i) Extensive damage to agriculture reported. ii) One house partially damaged.
75.	21 Oct.	(a) Karbi Anglong, and Marigaon (Assam)	Severe	2 persons died.	
		(b) Mizoram	Severe	One person died.	i) Many trees uprooted. ii) Roofs of many houses blown away. iii) Electric and telecommunication lines disrupted.
76.	29 Oct.	Marigon (Assam)	Moderate		Damage to a shop house and a shop reported.
77.	6 Nov.	(a) Bangalore (Karnatka)	Severe	2 persons injured.	i) 4 trees uprooted. ii) 4 vehicles damaged due to fall of tree.
		(b) Shimoga (Karnataka)	Severe		Damage to paddy, maize arecanut and cotton crops reported.

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
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(c) Chikmagalur (Karnataka)	Severe	i) Low lying areas inundated. ii) Road traffic disrupted.
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TABLE – IX : HAILSTORM

CRITERIA

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

Moderate : Fall abundant enough to whiten ground

Heavy : Includes at least a proportion of large stones

1.	1 Mar.	Kota (Rajasthan)	Heavy	i) One child injured. ii) Several birds including peacock perished.	Crops in nearly 6000 bighas destroyed.
2..	3 Mar.	(a) Bhopal, Hoshangabad, Indore, Jabalpur, Narsinghpur, Raisen, Sagar, Ujjain and Vidisha (Madhya Pradesh)	Heavy		Widespread damage to crops reported.
		(b) Akola, Amravati, Nagpur and Wardha (Maharashtra).	Heavy		Big hail destroyed standing crops.
3.	3 & 4 Mar.	(a) Bhopal (Madhya Pradesh)	Heavy	i) A few houses and a hospital building damaged. ii) A few trees / hoardings uprooted.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
		(b) Western Vidarbha region (Maharashtra)	Heavy	One woman died and 16 persons injured.	i) Damage to rabi crops and fruits reported. ii) Several trees uprooted.
4.	4 Mar.	Raichur (Karnataka)	Heavy	Hundreds of cattle perished.	Well grown pulses and bunds in the fields washed away.
5.	5 Mar.	Betul, Bhopal, Chhindwara, Jabalpur, Khargone, Raisen, Rewa, Sehore and Vidisha (Madhya Pradesh)	Heavy	In all 9 persons died.	i) In Bhopal, a BSNL tower fallen. ii) Several electric poles uprooted. iii) Around 30% crop destroyed.
6.	6 Mar.	Betul, Bhopal, Burhanpur, Chhatarpur Chhindwara, Guna, Jabalpur, Khandwa, Khargone, Raisen, Sagar, Sehore, Tikamgarh and Vidisha (Madhya Pradesh)	Heavy		Widespread damage to crops reported.
7.	8 Mar.	Bharatpur, Bikaner, Dausa, Karoli and Sikar (Rajasthan)	Heavy		Widespread damage to crops reported.
8.	9 Mar.	(a) Gulbarga (Karnataka)	Heavy	3 persons injured.	i) Hailstones of 1 kg. reported. ii) Standing jowar and groundnut crops destroyed.
		(b) Akola, Amravati, Nagpur and Wardha (Maharashtra).	Heavy	Many livestock and fowl lost.	i) A large no. of houses damaged. ii) Standing crop badly damaged.
9.	10 Mar.	(a) Mandsaur, Neemuch, Rewa, Satna, Sidhi and Umaria (Madhya Pradesh)	Heavy	9 persons died.	Widespread damage to crops reported.

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
		(b) Ajmer, Alwar, Baran, Bhilwara, Chittorgarh, Churu, Jhalawar, Kota, Pali, Sikar and Udaipur (Rajasthan)	Heavy		Widespread damage to crops reported.
10.	15 Mar.	Bahraich and Shravasti (Uttar Pradesh)	Heavy		
11.	16 Mar.	(a) Wardha (Maharashtra)	Heavy	One person died due to electrocution.	Huge losses to crops reported in Hinganghat, Samudrapur and Deoli tehsils.
		(b) Jhunjhunu and Sikar (Rajasthan)	Moderate		Widespread damage to crops reported.
12.	17 Mar.	(a) Bhopal, Dewas, Indore, Morena, Shajapur and Ujjain (Madhya Pradesh)	Heavy	One girl died.	Heavy damage to crops reported.
		(b) North 24 Parganas (West Bengal)	Heavy	15 persons injured.	i) Many kutcha houses damaged. ii) Several electric poles uprooted.
13.	26 Mar.	(a) Sirsa (Haryana)	Heavy		Wheat, mustard and vegetable crops badly damaged.
		(b) Bhatinda (Punjab)	Heavy		Wheat, mustard and vegetable crops badly damaged.
		(c) Hanumangarh (Rajasthan)	Heavy		Wheat, mustard and vegetable crops badly damaged.
14.	27 Mar.	Firozepur (Punjab)			Damage to rabi crop in Fazilka-Jalalabad belt reported.
15.	1 Apr.	Dhubri (Assam)	Heavy		i) Several houses and school damaged. ii) Many trees uprooted.

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
16.	2 Apr.	Kamrup (Assam)	Heavy		Extensive damage to rabi crop reported.
17.	3 Apr.	Mamit (Mizoram)	Heavy		i) Egg size hail reported. ii) Nearly 850 houses damaged. iii) Standing crop damaged. iv) A few vehicles also damaged.
18.	9 Apr.	(a) Shimla, Solan and Una (Himachal Pradesh)	Heavy	2 cattle perished.	i) Damage to wheat crop reported. ii) A few houses damaged. iii) Roof tops blown away.
		(b) Gurdaspur and Jallunder (Punjab)	Heavy		Damage to wheat, mustard, vegetable crops reported.
19.	15 Apr.	Nagpur (Maharashtra)	Heavy	2 persons died.	
20.	16 Apr.	Amravati, Bhandara, Chandrapur, Nagpur and Yavatmal (Maharashtra)	Heavy		i) In Bhandara district, 8000 gunny bags of rice drenched. ii) Heavy losses to wheat and sunflower reported in Dhamangaon, Chandur railway, Varud and Tivasa tehsils of Amravati district.
21.	17 Apr.	Bhadohi (Uttar Pradesh)	Heavy		Damage to wheat and mango crop reported.
22.	18 Apr.	Bairagarh, Bhopal; Gwalior, Hoshangabad, Indore, Ja- balpur, Rewa and Sagar (Mahdya Pradesh)	Heavy	A child died and 5 per- sons injured.	i) A few vehicles damaged under uprooted trees. ii) Damage to crops reported.
23.	22 Apr.	Howrah, Jalpaiguri, Medinipur and Murshidabad (West Bengal)	Heavy	11 persons died.	Damage to crops and houses reported.

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
24.	26 Apr.	Marigaon (Assam)	Heavy		i) A few big trees uprooted. ii) Roofs of several dwelling houses blown away. iii) Widespread damage to standing crops reported.
25.	11 May	Bahraich, Faizabad, Lucknow, Shrawasti and Sitapur (Uttar Pradesh)	Heavy	6 persons died.	
26.	16 May	(a) Hissar (Haryana)	Heavy	One girl died and several other persons injured due to house collapse.	Damage to 25 houses reported.
		(b) Bharmour, Dharamsala, Narkanda, Palampur and Shimla (Himachal Pradesh)	Heavy	12 cattle washed away.	i) Damage to apple and fruit orchards reported. ii) Hundreds of trees uprooted. iii) Many roofs blown away.
		(c) Kolar (Karnataka)	Heavy		Banana plantations in 200 acres of land damaged.
27.	17 May	Mysore and Tumkur (Karnataka)	Heavy	2 persons died:	
28.	18 May	Indore and Malwa-region (Madhya Pradesh)	Heavy		i) Many roofs blown away. ii) Many houses razed to ground.
29.	30 May	Otur (Maharashtra)	Heavy		i) Tomato, banana, vegetables, sugarcane and grapevine damaged. ii) Roofs blown away and trees / electric poles uprooted. iii) Road traffic and tele-communication disrupted.

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
30.	1 Jun.	Sant Ravidasnagar (Uttar Pradesh)	Heavy	13 persons died and several other injured.	i) Hail weighing 20 gms reported. ii) Several kutchcha houses razed to ground.
31.	19 Jun.	Alwar, Dausa, Jaipur, Kota, Sriganganagar and Udaipur (Rajasthan)	Heavy	2 persons including a girl died and 5 other injured.	i) Many trees / electric poles uprooted. ii) Many houses / tin sheds collapsed.
32.	22 Sep.	Faridkot (Punjab)	Heavy		i) Damage to paddy crops ready for harvesting reported. ii) Extensive damage to cotton crop / green fodder / fruit orchards reported.
33.	13-14 Oct.	Ferozepur (Punjab)			Damage to cotton crops and citrus fruit orchard reported.
34.	20 Oct.	Sehore (Madhya Pradesh)	Heavy		Damage to crops reported.
35.	21 Oct.	(a) Amravati and Wardha (Maharashtra)	Heavy		Extensive damage to crops reported.
		(b) Azamgarh, Jaunpur, Mirzapur, Shravasti, Sonbhadra and Varanasi (Uttar Pradesh)	Heavy		Damage to standing paddy crops reported.
36.	22 Oct.	Jabalpur (Madhya Pradesh)	Heavy		Damage to crops reported.

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
37.	3 Nov.	Pune (Maharashtra)	Heavy		Damage to standing crops reported.
38.	21 Nov.	Ferozepur (Punjab)	Heavy		In Abohar, i) Many trees uprooted. ii) Roofs and walls of many houses collapsed. iii) Damage to sugarcane and cotton crops reported.

TABLE - X : DROUGHT

CRITERIA

Moderate : When seasonal (SW monsoon) rainfall departure is between -26% and -50%.

Severe : When seasonal (SW monsoon) rainfall departure is less than -50%

S.N.	Area affected (Subdivision)	Seasonal rainfall departure (%)	Intensity
1.	Arunachal Pradesh	-29	Moderate
2.	Assam & Meghalaya	-38	Moderate
3.	West Uttar Pradesh	-43	Moderate
4.	Haryana, Chandigarh and Delhi	-38	Moderate

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
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TABLE – XI : FLOODS AND HEAVY RAINS

As per data available from Central Water Commission, total damage for the whole season for entire state has been incorporated.

STATES

ANDHRA PRADESH

1.	5-11 Aug.	Adilabad, East Godavari, Karimnagar, Khammam, Warangal, West Godavari and Telangana	Flash flood (Godavari and Rivulets)	200 persons died.	i) Low lying areas flooded. ii) Crops in 2.5 lakh acres damaged. iii) Train/Bus/Air traffic disrupted. iv) 215 villages marooned.. v) 12,000 people affected.
2.	19-22 Sep.	Adilabad, Guntur, Karimnagar Khammam, Nizamabad, Vizianagaram Warangal and Telangana	Flash flood	61 persons died.	i) Low lying areas flooded. ii) 3000 people shifted to safer places. iii) Crops in 50,000 acres damaged. iv) 100 villages marooned. v) Several buildings and houses damaged. vi) Several roads washed away.

ARUNACHAL PRADESH

1.	4 Jun.	Anjwan and Lohit	Flash flood		i) Landslide reported. ii) Road link cut off. iii) Standing paddy and other crops damaged.
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S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
ASSAM					
1.	30 May – 1 Jun.	Dhemaji and Jorhat	Heavy rains		i) Standing crop damaged. ii) Flood water overtopped PWD road connecting Ghailmara and Dhemaji at 5 places. iii) Dwelling houses damaged. iv) In Majuli subdivision, ready to harvest Ahu and Boro varieties of paddy in 100 acres completely destroyed.
2.	11-17 Jun.	Barpeta, Cachar, Darrang, Dhemaji, Hailakandi, Jorhat, Kamrup, Karbi Anglong, Karimganj, Lakhimpur, Nagaon, Nalbari, North Cachar Hills, Marigaon, Sonitpur and Tinsukia	Severe flood (Noona, tributaries of Brahmaputra)	9 persons died.	i) More than 1000 villages affected. ii) Road/rail communication cut off. iii) 100 houses completely and 172 partially damaged. 700 houses washed away and 200 submerged. iv) NH31 overtopped by flood waters at several places. v) Crop in 7460 hectares damaged.
3.	27 Jun.	Marigaon	Flash flood (Brahmaputra)	7 persons died.	
4.	8 Jul.	Dhemaji	Flash flood (Brahmaputra and its tributaries)	One person died.	i) 39 villages inundated. ii) A railway track washed away. iii) Standing crops damaged.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
5.	19-22 Jul.	Dhemaji, Jorhat and Sibsagar	Flash flood (Gai, Beora, Dikhow, Darika, De- shang, Jaji, Kakajan, Bhogdoi)	2 persons injured.	i) Several villages inundated. ii) Road communication disrupted. iii) Standing crops and seedlings damaged. iv) Damage to many dwelling houses reported. v) Hundreds of families affected. vi) Dyke at Bonai Nopomuwa village breached.
6.	26 Jul.	Sonitpur	Flash flood (Burigang, Ghaghara)		i) 20 villages inundated. ii) Damage to standing crops reported. iii) Damage to dwelling houses reported.
7.	13 Sep.	Nalbari	Flash flood		Extensive damage to crops reported.
8.	15 Sep.	Marigaon	Flash flood (Brahmaputra)		i) 14 villages affected. ii) About 300 houses inundated. iii) Damage to standing crops reported.
*	Whole year	0.058 m.ha		i) 7 human lives lost. ii) 28 cattle lost.	i) 0.555 million population affected. ii) 7346 houses damaged. iii) Crops in 0.01 m.ha damaged.
BIHAR					
1.	12 Jul.	Darbhanga, Sheohar, Patna and Sitamarhi	Flash flood		Road links between Masandi and Patna damaged.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
2.	14- 15 Jul.	Bhagalpur, Muzaffarpur, Sheohar, Sitamarhi and East & West Champaram	Flash flood Bagmati, Kamla Balan, Mahanadi, Burhi gandak and Adhwara)	22 persons died and 7 other injured.	i) Few kutcha houses collapsed. ii) More than 100 villages inundated. iii) 3 lakh people affected.
3.	24 & 25 Sep.	Aurangabad, Katihar, Munger, Muzaffarpur, Nalanda and Sahebganj	Heavy rains	37 persons died.	
*	Whole year	0.182 m.ha		i) 36 human lives lost. ii) 31 cattle lost.	i) 1.089 million population affected. ii) 18637 houses damaged. iii) Crops in 0.086 m.ha damaged.
GUJARAT					
1.	1 Jun.	S. Gujarat and Saurashtra	Heavy rains	4 persons died.	
2.	4-5 Jul.	Gujarat	Heavy rains	9 persons died	i) Low lying areas flooded. ii) 5600 people evacuated to safer places.
3.	29-30 Jul.	Anand, Bharuch, Kheda, Navsari and Vadodara	Hevy rains	15 persons died..	i) Low lying areas inundated. ii) 30,000 people evacuated to safer places. iii) Road/rail traffic disrupted.
4.	7 Aug.	Bharuch, Navsari, Surat and Vadodara	Flash flood (Tapi)	3 persons washed away and 5 other missing.	
5.	17 Aug.	Banaskantha, Kutch, Mehsana, Palanpur, Patan and Sabarkantha	Heavy rains	8 persons died.	i) A small bridge on Hatmati river damaged. ii) Vehicular traffic disrupted.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
6.	18 Sep.	Saurashtra	Heavy rains	4 persons died.	
*	Whole year			i) 245 human lives lost. ii) 4425 cattle lost.	i) 14.027 million population affected. ii) 71753 houses damaged.
HARYANA					
1.	11-12 Jul.	Punchkula	Heavy rains	One woman injured.	i) One house collapsed. ii) Large number of beehives drowned.
2.	20 Jul.	Ambala	Flash flood (Markanda)	4 persons drowned due to bridge collapse.	A bridge on Kalka-Ambala state highway collapsed.
3.	25-26 Jul.	Fatehabad, Panipat, Sirsa and Yamunanagar	Flash flood	1600 broiler buried alive.	Hundreds of houses and a poultry farm collapsed.
4.	Aug. (4 th week)	Panipat	Heavy rains		i) Standing paddy crop damaged. ii) More than 50 acres of land affected.
*	Whole year			i) 6 human lives lost. ii) 3 cattle lost.	281 houses damaged.
HIMACHAL PRADESH					
1.	26 May	Kangra	Heavy rains	One person died and 5 other injured.	i) Many trees / electric poles uprooted. ii) Roofs of many houses blown off. iii) Road/rail traffic disrupted.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
2.	25 Jun.	Chamba	Heavy rains (Cloud burst)		i) Landslide reported. ii) 8 cow sheds, 6 houses, 3 cars and 3 motorbikes washed away.
3.	9 Jul.	Kangra	Flash flood (Tributaries of Satlej)	42 cattleheads perished.	i) Landslide reported. ii) Damage to 24 houses reported. 6 houses sank. iii) A bridge in Sangla valley damaged.
4.	11-12 Jul.	Shimla	Heavy rains		i) A Govt. building collapsed. ii) Damage to 3 houses and water storage tank reported.
5.	23-28 Jul.	Kinnaur, Manali and Solan	Heavy rains	i) 15 persons died. ii) 4 cattleheads perished.	i) Landslide reported. ii) One truck and 5 water mills washed away, iii) Damage to industrial finished goods and household items reported. iv) Several houses collapsed. v) Damage to standing crops of Peas and 80 Bighas reported. vi) Hundreds of tourists stranded on Hindustan-Tibet road.
6.	2-4 Aug.	Kangra, Kinnaur and Kullu	Flash flood (Cloud burst)		i) Bridge of Ribba village on Hindustan-Tibet road washed away. ii) 8 houses partially damaged. iii) Standing crops of peas and other vegetables damaged. iv) Traffic stranded due to bridge on National Highway No. 88 collapsed.
7.	12 Aug.	Shimla	Flash flood (Cloud burst)	6 labourers injured in Bhagoli nullah.	Shimla-Rohra road washed away.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
8.	19 Aug.	Shimla and adjoining areas	Heavy rains		i) Landslide reported. ii) Road traffic disrupted.
9.	26 & 27 Aug.	Ambala and Una	Flash flood	4 persons trapped in the flash flood.	i) Damage to school building reported. ii) Many trees uprooted.
10.	2 Sep.	Lahaul Spiti and Shimla	Heavy rains	2 persons buried alive due to landslide.	i) Landslide reported. ii) Extensive damage to fruit crops reported.
11.	9 Sep.	Kangra	Heavy rains		i) Landslide reported. ii) Electricity, telecommunication systems badly af- fected
JAMMU & KASHMIR					
1.	7 Aug.	Ladakh	Flash flood	15 persons died.	800 people evacuated to safer places.
2.	3 Sep.	Kathua and Pulwama	Flash flood (Jhelum, Chenab)	6 persons died.	i) Landslide reported. ii) One lakh people shifted to safer places. iii) Kashmir valley cut off from the rest of the country. iv) Low lying areas flooded.
JHARKHAND					
1.	29-30 Jul.	Entire state	Heavy rains	15 persons died.	Low lying areas inundated.
2.	23 Sep.	Entire State	Heavy rains		i) Many houses damaged. ii) Vehicular traffic disrupted.
3.	20 Oct.	Hazaribagh and Palamau	Heavy rains	9 cattleheads perished.	Extensive damage to crops reported.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
KARNATAKA					
1.	27-30 May	Bangalore, Dakshina Kan- nada, Dharwad, Udupi and Uttara Kannada	Heavy rains	21 persons including a girl died and 4 other in- jured.	i) 25 shops and hundreds of houses flooded. ii) 4 vehicles damaged and many submerged. iii) 10 massive trees uprooted. iv) One house collapsed.
2.	13 Jul.	Uttara Kannada	Flash flood		i) Many trees uprooted. ii) Damage to many houses / buildings reported. iii) 200 quintals of rice damaged.
3.	28 Jul.	Mandya and Mysore	Heavy rains		Wall of Atriya Brivandan Power Ltd. Collapsed.
4.	1 Aug.	Bagalkot, Belgaum and Bijapur	Flash flood (Bheema, Krishna and Ghatprabha)		i) 26 villages submerged. ii) 1600 families evacuated to safer places. iii) Extensive damage to crops reported.
5.	5 Aug.	Bijapur	Flash flood (Bheema and Krishna)	One buffalo washed away.	Crops in 4400 hectares destroyed.
*	Whole year			i) 102 human lives lost. ii) 329 cattle lost.	i) 0.824 million population affected. ii) 4832 houses damaged. iii) Crops in 0.082 m. ha. damaged.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
KERALA					
1.	5 Mar	Wayanad	Heavy rains	In Sultanbattery, 18 persons injured due to bus collapsed.	
2.	23 May	Kozhikode	Heavy rains	One person died.	Landslide reported.
3.	27-29 May	Alappuzha, Kannur, Kasaragode, Kollam, Kottayam, Kozhikode, Malappuram, Thiruvananthapuram, Thrissur and Wayanad	Heavy rains	2 persons died and 12 persons injured.	i) 120 houses completely and 1038 partially damaged. ii) Extensive damage to agriculture reported. iii) Many trees uprooted. iv) 2 fishing boats collapsed.
4.	1 Jun.	Alappuzha, Ernakulam, Kannur, Kollam, Kozhikode, Palakkad, Thrissur and Wayanad	Heavy rains	10 persons died and 3 other missing.	i) Around 25 acres of paddy and plantains in 106 hectares of land destroyed. ii) Extensive damage to agriculture reported.
5.	23-25 Jun.	Alappuzha, Kozhikode, Malappuram and Thiruvananthapuram	Heavy rains	3 persons died and 2 other missing.	i) 19 houses completely and 5 partially damaged. ii) Extensive damage to agriculture reported. iii) Schedule of air services disrupted.
6.	29 Jun.	Malappuram	Heavy rains		Schedule of air services disrupted.
7.	1-3 Jul.	Kannur and Wayanad	Heavy rains	One person died.	i) 2 houses completely and 74 houses partially damaged. ii) Extensive damage to agriculture in 84.2 hectares reported.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
8.	4 Jul.	Malikkeri and Wayanad	Heavy rains	4 children and 2 women died and a girl injured.	i) Landslide reported. ii) 78 houses completely and 266 houses partially damaged. iii) Extensive damage to agriculture reported.
9.	5 & 6 Jul.	Wayanad	Heavy rains		i) 97 houses collapsed. 2 houses completely and 154 houses partially damaged. ii) Low lying areas flooded. iii) Extensive damage to agriculture reported.
10.	13 Aug.	Wayanad	Heavy rains		i) One house completely damaged. ii) Low lying areas flooded.
11.	22 Sep.	Thiruvananthapuram	Flash flood		i) Low lying areas flooded. ii) Extensive damage to agriculture reported. iii) Hundreds of families shifted to relief camp.
12.	25-27 Sep.	Kollam, Kottayam, Palakkad, Pathanamthitta and Thiruvananthapuram	Heavy rains	2 women died.	i) 82 houses completely and 273 houses partially damaged. ii) Extensive damage to agriculture reported. iii) Low lying areas flooded.
13.	18 Oct.	Thiruvananthapuram	Heavy rains		i) Low lying areas flooded. ii) Electric lines disrupted.
14.	28 & 29 Oct.	Thiruvananthapuram	Heavy rains	2 persons died in Kattakada, 2 persons missing and 4 other injured.	i) 22 houses completely and 598 houses partially damaged. ii) Low lying areas flooded. iii) 2 fishing boats damaged. iv) Widespread damage to agriculture reported.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
15.	4 Nov.	Wayanad	Heavy rains		i) Electric/telephone lines affected. ii) Low lying areas inundated.
16.	8 Nov.	Thiruvananthapuram	Heavy rains		One bridge damaged in Nedumangad.
17.	21 Nov.	Thiruvananthapuram	Heavy rains		i) Low lying areas flooded. ii) Road transport disrupted.
18.	25 Nov.	Kottayam	Heavy rains	One person died in Jhala- lanadu.	Landslide reported.
*	Whole year	0.025 m. ha.		i) 213 human lives lost. ii) 2270 cattle lost.	i) 1.41 million population affected. ii) 146209 houses damaged. iii) Crops in 0.025 m. ha. Damaged.
MADHYA PRADESH / CHHATISGARH					
1.	5 Jul.	Chhatisgarh	Heavy rains	2 persons died.	2,791 people shifted to relief camps.
2.	31 Jul.	Balaghat, Mandla, Seoni and Rajpur	Heavy rains		i) Many trees uprooted. ii) Road communication cut off.
3.	6-8 Aug.	Barwani, Burhanpur, Jag- dalpur and Khargone	Flash flood	16 persons washed away and one child died.	
4.	10 Aug.	Ujjain and West Madhya Pradesh	Flash flood	38 persons died.	Damage to 1081 houses reported.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
5.	13-20 Aug.	Bhopal, Etarasi, Guna, Honshangabad, Indore, Jabalpur, Khajuriya, Mahua, Mandsaur, Nimach, Neemuch Raisen, Rajgarh, Ratlam, Sagar, Sehore and Ujjain	Heavy rains	158 persons died includ- ing 4 children died.	i) Many trees uprooted. ii) Road, rail and air traffic disrupted. iii) Many houses damaged. iv) 5 vehicles washed away.
6.	27 & 28 Aug.	Bilaspur	Heavy rains	i) 3 persons died and 2 other missing due to landslide. ii) 4 cattles perished due to collapse of cattle shed.	i) 5 vehicles washed away. ii) Many trees uprooted. iii) Road traffic disrupted.
7.	1 Sep.	Balaghat, Bhopal, Damoh, Datia, Hoshangabad, Ja- balpur, Rajgarh, Sagar, Se- hore , Ujjain and Vidisha	Flash flood	9 persons including one woman died.	i) Many houses collapsed. ii) Many trees uprooted.
8.	5 & 6 Sep.	Bhopal and Vidisha	Flash flood	4 persons injured due to house collapse.	Bridge on Kemaka river damaged.
MAHARASHTRA					
1.	22 May	Wardha	Heavy rains	One woman died.	
2.	30 May – 2 Jun.	Aurangabad, Dhule, Mumbai, Nagpur, Kolhapur and Sind- hudurg	Heavy rains	38 persons died and 9 injured.	i) Some areas and rail track inundated. ii) 100 trees uprooted. iii) Normal life paralysed.
3.	3 Jun.	Nanded, Ratnagiri and Thane	Heavy rains	6 persons died.	

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
4.	18-20 Jun.	Ahmednagar, Jalgaon and Marathwada	Heavy rains	18 persons died and 11 injured.	
5.	25 Jun.	Chatarpur	Heavy rains	2 women and one child died and 4 injured.	
6.	1-7 Jul.	Amravati, Chandrapur, Dhule, Gadchiroli, Jalgaon, Kol- hapur, Mumbai, Nagpur, Na- sik, Pune, Raigad, Satara, Thane and Washim	Heavy rains	i) 131 persons died and 9 injured. ii) Many cattleheads per- ished.	i) Low lying areas, bridges inundated. About 185 vil- lages cut off. ii) Road/rail /air traffic disrupted. iii) Extensive damage to agriculture & vegetable crop reported iv) Many houses and trees collapsed.
7.	11 Jul.	Hingna and Nagpur	Flash flood	29 persons died.	Many trees uprooted.
8.	18-19 Jul.	Nagpur	Flash flood	32 persons including 6 children died.	Several houses inundated.
9.	28 Jul. – 2 Aug.	Kolhapur, Nasik, Pune, Ratnagiri, Sangli, Satara, Sindhudurg, Solapur,	Flash flood (Pavna, Varna, Krishna, Panchganga & tributaries)	i) 26 persons died. ii) 7 cattleheads per- ished.	i) About 200 villages cut off. ii) 96 houses completely and 93 houses partially damaged. iii) Crop in 3500 hectares damaged. iv) Road communication disrupted.
10.	5-9 Aug.	Ahmednagar, Akola, Auran- gabad, Beed, Buldhana, Chandrapur, Dhule, Hingoli, Jalgaon, Jalna, Kolhapur, La- tur, Manmad, Nanded, Nasik, Parbhani, Pune, Sangli, Sa- tara, Satana, Wardha, Washim and Yavatmal	Flash flood	149 persons died.	i) Damage to 3458 houses reported. ii) Extensive damage to crops reported. iii) Railway bridge damaged near Manmad. iv) Ahmednagar-Shirdi stretch of NH 10 inundated by Godavari water. v) 500 villages affected. vi) 1.5 lakh people evacuated to safer places.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
11.	15 Aug.	Mumbai	Heavy rains	One woman died.	
12.	24 Aug.	Pune	Heavy rains	One person swept away.	
13.	12-17 Sep.	Ahmednagar, Beed, Jalna, Mumbai, Nasik, Osmanabad, Pune and Satara	Heavy rains	12 persons died.	i) Landslide reported. ii) Few houses inundated. iii) 7 embankment breached. iv) Low lying areas flooded. v) Road traffic disrupted. vi) Sugarcane in about 300 acres damaged. vii) Extensive damage to agriculture reported.
14.	27 Sep.	Pune	Heavy rains		Grapevines in 3000 acres of land damaged.
15.	2-3 Oct.	Sindhudurg	Heavy rains		Extensive damage to paddy crop reported.
*	Whole year			i) 743 human lives lost. ii) 427 cattle lost.	2.273 million population affected.
ORISSA					
1.	1-31 Jul.	Entire State	Severe flood	i) 36 persons died. ii) 17 cattle perished.	Extensive damage to crops reported.
2.	1-31 Aug.	Entire State	Severe flood	45 persons died.	i) Damage to 1.05 lakh houses reported. ii) Crops in 6.68 lakh hectare affected.
3.	1-30 Sep.	Most parts of Orissa	Heavy rains	18 persons died.	Many houses damaged.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
PUNJAB					
1.	23 Apr.	Gurdaspur	Heavy rains		Damage to standing wheat crop reported.
2.	20 May	Patiala	Heavy rains	5 persons injured due to house collapse in rajpura.	
3.	24 Jun.	Patiala	Heavy rains	2 children drowned.	
4.	9-10 Jul.	Abohar, Ferozepur and Ropar	Heavy rains	2 boys drowned in Chotakhera village.	i) Cotton and other crops in more than 250 acres damaged. ii) Many trees uprooted. iii) Many fruit orchards inundated.
5.	25-26 Jul.	Amritsar	Heavy rains	2 persons died and 4 other injured due to roof collapse.	A roof of house collapsed.
6.	27 & 28 Aug.	Gurdaspur and Ropar	Heavy rains	100 cattleheads perished.	i) Extensive damage to paddy crop reported and standing crop in 100 acres submerged. ii) Several houses including a poultry farm inundated.
7.	2 Sep.	Amritsar, Anantpur, Bhatinda, Kapurthala, Nangal, Ropar and Sahib	Heavy rains	One person died and 4 other injured.	i) 5 buildings and one house collapsed. ii) Extensive damage to crops reported.
RAJASTHAN					
1.	29 Jul.	Pali	Heavy rains	i) 6 persons washed away in swollen nullah. ii) One woman electrocuted.	

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
2.	31 Jul.	Jhalawar	Heavy rains	2 persons washed away.	
3.	1 Aug.	Sirohi	Heavy rains		About 100 houses collapsed.
4.	19-21 Aug.	Banswara, Barmer, Chittor- garh, Dungarpur, Jaipur, Jaisalmer, Jalore, Pali, Ra- jasmand, Sirohi and Udaipur	Heavy rains (Khari)	26 persons died.	i) 1000 villages submerged under flood water. ii) Thousands of thatched roofs in low lying areas collapsed. iii) 257 electric poles uprooted and transformers washed away.
5.	24 Aug. – 1 Sep.	Banswara, Barmer, Bundi, Dholpur, Jaisalmer, Jalore, Jodhpur, Kota, Pali, Sirohi and Udaipur	Heavy rains	i) 440 persons died. ii) 75,000 live stock per- ished..	i) 1.55 lakh kutchha and 5643 pacca houses dam- aged. ii) 80,000 houses submerged under flood water.
6.	6 & 7 Sep.	Banswara and Dungarpur	Heavy rains	2 persons washed away.	Large number of kutchha houses collapsed.
TAMIL NADU					
1.	13 May	Salem	Heavy rains		About 75 acres of banana crop damaged.
2.	Oct. (4 th week)	Chennai, Madurai, Nagapattinam Tirunelveli, Tiruvannamalai, Tuticorin and Villupuram	Flash flood	47 persons including 2 children died.	i) Low lying areas flooded. ii) 5500 people evacuated to safer places.
3.	9-15 Nov.	Nilgiri	Heavy rains	One person died due to landslide.	Landslide reported at many places. 7 bridges washed away.
4.	18 Nov.	Nagapattinam	Flash flood	7 persons died.	

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
TRIPURA					
*	Whole year			i) 4 human lives lost. ii) 1206 cattle lost.	i) 0.006 million population affected. ii) 2 houses damaged. iii) Crops in 0.0001 m. ha. damaged.
UTTAR PRADESH / UTTARANCHAL					
1.	7 Jun.	Lucknow	Heavy rains	15 persons died.	
WEST BENGAL					
1.	30 Aug.	Darjeeling and Kalimpong	Heavy rains	2 persons died.	
2.	7-9 Sep.	Darjeeling, Jalapaiguri and Siliguri	Flash flood		i) Landslide reported. ii) Low lying areas inundated.
3.	19-25 Sep.	Medinipur, North 24 Parga- nas and South 24 Paraganas	Heavy rains	84 persons died.	i) Lakhs of people rendered homeless. ii) Damage to crops reported. iii) 70,000 houses damaged.
4.	28 & 29 Sep.	Nadia	Flash flood	5 persons died.	
*	Whole year	0.230 m. ha.		i) 144 human lives lost. ii) 213 cattle lost.	i) 8.386 million population affected. ii) 490565 houses damaged. iii) Crops in 0.23 m. ha. damaged.
UNION TERRITORIES (UT) CHANDIGARH					
1.	8 Sep.	Chandigarh	Heavy rains		2 huts in sector 51 collapsed.

* Input from State Revenue Authorities

S. N.	Date/ Period	Area affected	Intensity	Casualties	Extent of damage
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TABLE – XII : CYCLONIC STORM

During 2006, three cyclonic storms were formed over the Arabian Sea / Bay of Bengal. Out of these, only one crossed the Indian coast and caused some damage, details of the same are outlined below :

1.	29-30 Oct.	<p><u>BAY CYCLONE</u></p> <p><u>Formation</u> Near Lat. 15.0°N / Long. 80.5°E (about 50 km. east of Kaveli) at 1200 UTC of 29th.</p> <p><u>Landfall</u> Weakened into a Deep Depression and crossed south Andhra coast between Ongole and Bapatla by around 0730 UTC of 30th.</p> <p><u>Dissipation</u> Over south coastal Andhra Pradesh and neighbourhood on 30th itself.</p>	Cyclonic Storm (OGNI)	<p>i) 28 human lives lost and some fishermen reported missing</p> <p>ii) 35,000 live stock lost.</p>	Crops in thousands of hectares submerged in Prakasam, Guntur and Krishna districts of Andhra Pradesh..
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