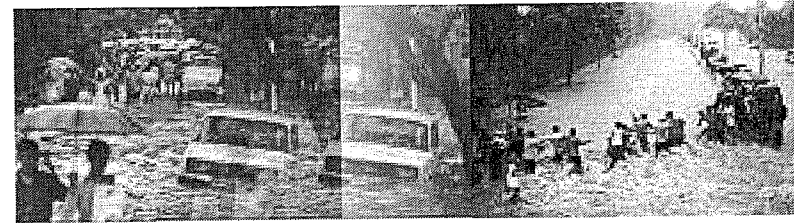


DISASTROUS WEATHER EVENTS 2005





भारत सरकार
GOVERNMENT OF INDIA

भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

DISASTROUS WEATHER EVENTS 2005

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

DISASTROUS WEATHER EVENTS OF 2005

The most striking disastrous weather events of 2005 were the following:

1. SW monsoon lashed many parts of the country and resulting floods and heavy rains took a toll of 2051 human lives apart from loss of large number of live stock and extensive damage to public/private property. Gujarat and Maharashtra were the worst hit states.

Mumbai (Santacruz) and Thane in Maharashtra state received a record rainfall of 94 cm. and 72 cm. respectively in 24 hour on 27 July 2005 and almost the whole Mumbai city and neighbourhood was 4 to 5 ft. under water. Santacruz airport was closed for flight operations for a couple of days. Many buildings collapsed and it alone took a toll of 335 human lives.

2. NE monsoon was very active in south Peninsula and many stations in Tamil Nadu surpassed the previous records of 24 hour highest rainfall during the season. Floods and heavy rains during the season caused deaths of 328 human lives.
3. Heat wave swept across northern parts of the country and Maharashtra state in different periods during April, May and June months and reported to have claimed 588 human lives.
4. A Bay cyclone hit the north Andhra coast during 17-21 Sept. claiming 64 human lives and extensive damage to public / private property .

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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S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
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.	22 Jan.	Jammu & Kashmir	Heavy		Jammu-Srinagar National highway closed for vehicular traffic.
2.	23 Jan.	(a) Darjeeling (West Bengal)	Heavy		Vehicular traffic disrupted.
		(b) Gangtok (Sikkim)	Heavy		Vehicular traffic disrupted.
3.	24 Jan.	Rajouri and Poonch (Jammu & Kashmir)	Heavy		Vehicular traffic was closed due to landslide and snow deposit.
4.	27-28 Jan.	Shimla (Himachal Pradesh)	Heavy		Vehicular traffic disrupted at Narkanda and Kharapathar.
5.	8 Feb.	Lahaul & Spiti (Himachal Pradesh)	Heavy	i) 3 members of a family died in snow avalanche. ii) 8 BSF persons died.	Air and road links badly affected. 5 bunkers of Bharat – Tibet BSF destroyed.
6.	11 Feb.	Kupwara (Jammu & Kashmir)	Heavy	6 persons died.	210 houses and 120 commercial complex destroyed.
7.	17-19 Feb.	Jammu & Kashmir	Heavy	3 persons died.	i) Vehicular traffic near Ramsu of Jammu-Srinagar national highway disrupted. ii) 800 tourists and 326 vehicles stranded.

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
8.	4 Apr.	Poonch (Jammu & Kashmir)	Moderate	3 persons died in snow avalanche.	
9.	30 May	Anantnag, Leh and Srinagar (Jammu & Kashmir)	Heavy	7 persons buried under snow.	Srinagar-Leh national highway closed for vehicular traffic.

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.	6 Jan.	Lucknow (Uttar Pradesh)	Severe cold wave (B)	One woman died.	
2.		Darjeeling (West Bengal)	Cold wave (B)	One person died.	
3.	11 Jan.	Ajmer (Rajasthan)	Severe cold wave (B)	2 beggars died.	
4.	13 Jan.	Hooghly and Kolkata (West Bengal)	Cold wave (A)	2 persons died due to fog.	
5.	17 Jan.	Bardhaman and North 24 Parganas (West Bengal)	Severe cold wave (A)	5 persons died due to fog.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
6.	22 & 23 Jan.	Jaipur (Rajasthan)	Severe cold wave (B)	2 persons died.	
7.	23 Jan.	Balia and Mirzapur (Uttar Pradesh)	Severe cold wave (B)	4 persons died.	
8.	25 Jan.	Coochbehar (West Bengal)	Cold wave (B)	2 persons died.	
9.	30 Jan.	Lakhimpur Kheri (Uttar Pradesh)	Severe cold wave (B)	2 persons died in Mangalgarj area.	
10.	31 Jan.	Ganganagar and Jaipur (Rajasthan)	Severe cold wave (B)	3 persons died.	
11.	1 Feb.	Jaipur (Rajasthan)	Severe cold wave (A)	One person died	
12.	7 and 17 Feb.	Chandigarh (UT)	Severe cold wave (B)	2 persons died of which one in Manimajra area.	
13.	25-27 Nov.	Kolkata (West Bengal)	Cold wave (A)		
14.	12 Dec.	Panchkula (Haryana)	Severe cold wave (B)	One person died at Kalka.	
15.	14 Dec.	Chandigarh (UT)	Severe cold wave (B)	One person died in Manimajra area.	
16.	Dec.(3 rd to 4 th week)	Many parts of Punjab and Haryana and some parts of Uttar Pradesh and Rajasthan	Severe cold wave (Both A and B as appropriate)	63 persons died Including 21 in road accident due to fog.	

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
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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.	4 and 13 Apr.	Sundargarh (Orissa)	Severe heat wave (B)	2 persons died due to sunstroke.
2.	27 Apr.	Medinipur (West Bengal)	Severe heat wave (A)	2 persons died due to sunstroke in Kharagpur.
3.	13 May	Amravati (Maharashtra)	Heat wave (B)	One person died in Badnera.
4.	15 May	(a) Bardhaman, Birbhum and Murshidabad (West Bengal)	Severe heat wave (A)	5 persons died due to sunstroke.
		(b) Bhojpur, Nalanda and Rohtas (Bihar)	Severe heat wave (Both A and B as appropriate)	15 persons died.
5.	17-20 May	Chandrapur, Nagpur and Yavatmal (Maharashtra)	Heat wave (B)	7 persons died in Pusad.

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
6.	17 May	(a) Howrah and North 24 Parganas (West Bengal)	Severe heat wave (A)	2 persons died due to sunstroke.	
		(b) Bolangir (Orissa)	Severe heat wave (B)	10 persons died.	
7.	18 May	Bundelkhand region (Uttar Pradesh)	Heat wave (B)	3 persons died.	
8.	19 May	(a) Chandrapur (Maharashtra)		One person died in Ballarpur.	
		(b) Bardhaman (West Bengal)	Severe heat wave (A)		
9.	21 May	Pali (Rajasthan)	Severe heat wave (A)	One person died.	
10.	22 May	Chandigarh (UT)	Severe heat wave (A)	One person died in Indira colony area.	
11.	24 May	Osmanabad (Maharashtra)	Heat wave (B)	One person died in Bavachi.	
12.	25 May	Mahoba (Uttar Pradesh)	Severe heat wave (B)	3 persons died.	
13.	26-30 May	Bardhaman, Birbhum, Medinipur, Murshidabad, Nadia & South 24 Parganas (West Bengal)	Severe heat wave (A)	7 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>
14.	May (1 st to 4 th week)	Angul, Bolangir, Cuttack, Jagatsinghpur, Mayurbhanja, Nayagarh, Puri, Sambalpur and Sundargarh (Orissa)	Severe heat wave (Both A and B as appropriate)	40 persons died due to sunstroke.	
15.	3 Jun.	Mahoba (Uttar Pradesh)	Severe heat wave (B)	4 persons died.	
16.	4 Jun.	Bhatinda (Punjab)	Severe heat wave (B)	One person died.	
17.	5 Jun.	(a) Jaipur and Kota (Rajasthan)	Severe heat wave (Both A and B as appropriate)	7 persons died.	
		(b) Medinipur (West Bengal)	Severe heat wave (A)	One person died in Kharagpur due to sunstroke.	
18.	6 Jun.	(a) Sirsa (Haryana)	Severe heat wave (B)	One person died in Dabawali.	
		(b) Amravati and Gadchiroli (Maharashtra)	Severe cold wave* (A)	3 women died.	
19.	8 Jun.	Jhalawar (Rajasthan)	Severe heat wave (A)	2 persons died.	
20.	9 Jun.	Roop Nagar (Punjab)	Severe heat wave (A)	One person died in Mohali.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
21.	Jun. (2 nd and 3 rd week)	Bardhaman, Birbhum, Kolkata, Malda, North 24 Parganas and South 24 Parganas (West Bengal) and some parts of Maharashtra	Severe heat wave (A)	51 persons died.	
22.	Jun. (3 rd week)	Balia, Chandauli, Hamirpur, Kanpur, Lucknow, Mahoba, Unnao and Varanasi (Uttar Pradesh)	Severe heat wave (Both A and B as appropriate)		
23.	18-19 Jun.	Aurangabad, Bhojpur, Gaya, Jamui, Nalanda, Nawada and Rohtas (Bihar)	Severe heat wave (A)	56 persons died.	
24.	20-21 Jun.	(a) Faridabad (Haryana) and Bhatinda (Punjab)	Severe heat wave (Both A and B as appropriate)	5 persons died.	
		(b) Chandigarh (UT)	Severe heat wave (A)	One person died in Bapudham colony.	
25.	21 Jun.	Chandigarh (UT) and Faridabad (Haryana)	Severe heat wave (A)	13 persons died.	
26.	Jun. (4 th week)	Punjab, Haryana and Chandigarh (UT)	Severe heat wave (A)	42 persons died.	
27.	26 & 27 Jun.	Ganganagar (Rajasthan)	Severe heat wave (B)	12 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>
28.	28 Jun.	(a) Rohtas (Bihar)	Severe heat wave (A)	5 persons died in Sasaram.	
		(b) Ganganagar and Hanumangarh (Rajasthan)	Severe heat wave (B)	11 persons died.	
29.	Jun. (1 st to 4 th week)	Orissa	Severe heat wave (Both A and B as appropriate)	186 persons died due to sunstroke.	

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.	15 Mar.	Darrang (Assam)	Moderate		Some dwellings and two schools damaged in Deomurnoi area.
2.	23 Mar.	Kamrup (Assam)	Severe		In Guwahati city, i) 20 families badly affected. ii) 13 families rendered homeless. iii) Roof of 3 schools blown away.
3.	29 Mar.	East Khasi Hills and West Khasi Hills (Meghalaya)	Severe	4 persons of a family died and 3 others injured.	i) 100 people rendered homeless at Nongrynkien. ii) 250 to 270 houses damaged in Mawbtei.

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
4.	30 Mar.	Barpeta (Assam)	Severe		Large no. of dwellings, trees and crops damaged.
5.	12 Apr.	East Siang (Arunachal Pradesh)	Severe	One person died at Pasighat.	i) Roofs of several dwellings blown away. ii) Many trees uprooted. iii) Power supply disrupted.
6.	18 Apr.	Darrang (Assam)	Severe		i) Roofs of several houses blown away. ii) Many trees uprooted. iii) Power supply disrupted.
7.	20 Apr.	Barpeta (Assam)	Severe	One person died.	i) Roofs of several dwelling houses blown away. ii) Many trees uprooted. iii) Power supply disrupted.
8.	26 Apr.	Nalbari (Assam)	Severe		i) 60 families rendered homeless. ii) Many trees uprooted. iii) Power supply disrupted.
9.	27 Apr.	Kamrup and Morigaon (Assam)	Severe	One person died.	i) Several families rendered homeless. ii) Many trees uprooted. iii) Power supply disrupted.
10.	2 May	Barpeta (Assam)	Severe		i) Extensive damage to kuchha houses and shops reported. ii) Many trees uprooted. iii) Power supply / telecommunication cut off.
11.	10 May	Kamrup (Assam)	Severe	One person died and 7 other injured due to fall of a mango tree on marriage pandal.	i) Roofs of several dwellings blown away. ii) Many trees uprooted. iii) Power supply disrupted.

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
12.	12 May	Sonitpur (Assam)	Severe	3 persons injured under an uprooted tree.	<ul style="list-style-type: none"> i) Roofs of several dwelling houses blown away. ii) Many trees and electrical / telephone poles uprooted. iii) Power supply and telecommunication disrupted.
13.	14 May	Dhubri (Assam)	Severe	One boy died and 50 others injured in the Jarua, Basdi aam area.	<ul style="list-style-type: none"> i) Many trees, electric / telephone poles uprooted. ii) Power supply disrupted.
14.	16 May	Karimganj, Nagaon and Sonitpur (Assam)	Severe		<ul style="list-style-type: none"> i) Nearly 500 houses damaged in Badarapur. ii) Many trees, electric / telephone poles uprooted. iii) Power supply and telecommunication totally disrupted.
15.	19 May	(a) Araria and Supaul (Bihar)	Severe	In all 3 persons died in separate incidents of house collapse.	
16.	2 Jun.	Darrang (Assam)	Severe		Extensive damage to dwellings reported.
17.	10 Sep.	(a) Chennai (Tamil Nadu)	Severe	2 persons died due to electrocution by overhead high tension electrical wire.	
		(b) Darrang and Jorhat (Assam)	Severe		<p>In Mangal tai and Majali area ,</p> <ul style="list-style-type: none"> i) Roofs of many dwellings blown away. ii) Several people affected. iii) Many trees uprooted. iv) Power supply / telecommunication disrupted.

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
TABLE – V : GALE					
CRITERIA					
<i>Strong : Wind speed \geq 75 kmph</i>					
1.	17 Mar.	Panchkula (Haryana)	Strong	One person died under a fallen tree.	
2.	1 & 2 May	Chennai, Coimbatore, Cuddalore, Dindigul and Nagapattinam (Tamil Nadu)	Strong		About 200 trees uprooted in different areas.
3.	10 Jun.	(a) Bhatinda (Punjab)	Strong	15 persons died in Mansa.	Cotton crops over 14,000 acres in Malwa region affected.
		(b) Fatehabad and Sirsa (Haryana)	Strong	i) 21 persons died. ii) 81 cattleheads perished.	
4.	27 Jul.	(a) Ernakulam (Kerala)	Strong	3 persons died and 6 injured.	9 houses collapsed in Vypin.
		(b) Pathanamthitta (Kerala)	Severe	4 persons injured.	i) 14 houses completely and 286 houses partially damaged in Thiruvalla. ii) Electric supply and telephone line disrupted.
5.	29 Jul.	Kozhikode and Thiruvananthapuram (Kerala)	Strong	2 students died and 2 teachers and 18 students injured.	i) One big tree uprooted and fell over a school building. ii) Widespread damage to agriculture reported.

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
6.	31 Jul.	(a) Alappuzha (Kerala)	Strong		10 houses completely and 300 partially damaged in Kuttanad and Haripad.
		(b) Idukki (Kerala)	Strong	One person injured due to landslide in Kattappana.	In Theekoy and Karikad, i) 3 houses completely and 100 partially ii) damaged. iii) Extensive damage to agriculture reported. iv) One church collapsed in Kattappana.
		(c) Kottayam (Kerala)	Strong	One woman drowned in Erattupetta.	
7.	28 Aug.	Ambala (Haryana) and Chandigarh (UT)	Strong	One person died due to fall of tree and few women injured.	Damage to 150 stalls were reported in parground area of Ambala cantonment.

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 Apr.	Agra, Bulandshahar, Farrukhabad, Firozabad, Mainpuri, Mirzapur and Pratapgarh (Uttar Pradesh)	Severe	29 persons died and many other injured.	Damage to crops reported.
2.	29 Apr.	Bhopal (Madhya Pradesh)	Severe	More than a dozen people injured.	i) Many trees / big hoardings uprooted. ii) Roof of many houses in slum area blown away. iii) Vehicular traffic disrupted.

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
3.	27 May	Churu, Dausa, Jaipur, Kota, Sawai Madhopur and Sikar (Rajasthan)	Severe		Damage to crops reported.
4.	5 Jun.	Kushinagar, Maharajganj and Unnao (Uttar Pradesh)	Severe	5 persons died.	
5.	6 Jun.	Sangrur (Punjab)	Severe	One person died and 3 other injured due to fall of tree on them.	Electric poles, shades and boundary walls damaged in Sunam, Dhuri and Bhavanigarh area.
6.	9 & 10 Jun.	(a) Bhatinda, Firozpur and Muktsar (Punjab)	Severe	15 persons died in Bhatinda belt.	i) Many trees / electric poles uprooted. ii) Damage to cotton crop in 14,000 acres of Malwa region reported.
		(b) Fathabad and Sirsa (Haryana)	Severe	i) 21 persons died. ii) 87 cattleheads perished.	
7.	23 Jun.	(a) Bharatpur (Rajasthan)	Severe	2 children died due to fall of tree.	
		(b) Champawat (Uttaranchal)	Severe	4 persons died.	

TABLE - VII : LIGHTNING

1.	11 Jan.	Barpeta (Assam)		12 students died in Majgaon.	
2.	18 Jan.	Fatehpur and Hardoi (Uttar Pradesh)		i) 3 persons died. ii) A few cattleheads perished.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
3.	23 Jan.	Kushinagar (Uttar Pradesh)		2 persons died.	
4.	27-28 Jan.	Sirsa (Haryana)		50 buffaloes died at Adampur.	
5.	1 Feb.	Nagpur (Maharashtra)		One person died in Sawner taluk.	
6.	6 Feb.	Ganganagar (Rajasthan)		In Gharsama, i) 8 members of a family injured. ii) 60 sheep died due to electrocution.	
7.	7 Feb.	Allahabad, Fatehpur, Jaunpur, Mirzapur, Sonbhadra and Varanasi (Uttar Pradesh)		13 persons died.	
8.	12 Feb.	Nalbari (Assam)		2 persons injured at Sonra in Samata.	
9.	28 Feb.	Betul (Madhya Pradesh)		2 sisters died.	
10.	2 Mar.	Jhalawar (Rajasthan)		2 women died and 2 children injured.	
11.	6 Mar.	Kota (Rajasthan)		One woman died due to electrocution.	
12.	8 Mar.	Amravati, Beed, Hingoli, Nashik and Pune (Maharashtra)		11 persons died and one girl injured.	

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
13.	9 Mar.	(a) Amravati and Nashik (Maharashtra)		i) 11 persons died. ii) 14 goats died.	
		(b) Sirsa (Haryana)		53 sheep and 20 goats died in Adampur.	
		(c) Rajasthan (Some parts)		11 persons died and 9 other injured.	
14.	10 Mar.	Bhopal, Guna, Hoshangabad, Khandwa, Khargone, Panna, Rajgarh and Vidisha (Madhya Pradesh)		6 persons died and several other injured.	
15.	11 Mar.	Hamirpur (Uttar Pradesh)		3 persons died.	
16.	18 Mar.	Gurdaspur (Punjab)		One person died in Dhariwal village.	
17.	30 Mar.	Jaunpur (Uttar Pradesh)		One person died in Danagaon.	
18.	2 Apr.	Thiruvananthapuram (Kerala)		One person died and few other injured in Kadakkal.	
19.	3 Apr.	(a) Kozhikode (Kerala)		i) One child died in Puthukudi. ii) One girl injured in Karanthoor.	
		(b) Thrissur (Kerala)		One person died in Mala.	
20.	8 Apr.	Alappuzha (Kerala)		One person died and another injured in Kaltoor.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
21.	11 Apr.	(a) Thiruvananthapuram		One woman died and 2 children in Erumeli and 2 sisters in Vembayam injured.	
		(b) Bardhaman (West Bengal)		One person died.	
22.	12 Apr.	(a) Nalbari (Assam)		One person died in Musalpur area.	
		(b) Thiruvananthapuram (Kerala)		One woman injured in Neyyattinkara.	2 houses collapsed.
23.	13 Apr.	Osmanabad (Maharashtra)		One woman died in Hingangaon.	
24.	15 Apr.	Kottayam (Kerala)		One woman died in Ponalur.	Damage to property reported.
25.	17 Apr.	(a) Garo Hills (Meghalaya)		3 persons died and several other injured under a marriage pandal.	
		(b) Thiruvananthapuram (Kerala)		One woman and a child died in Vizhinjam.	
26.	18 Apr.	Thiruvananthapuram (Kerala)		2 women injured in Elluvila.	Damage to agriculture and plantation reported.
27.	19 Apr.	Thiruvananthapuram (Kerala)		i) One woman died and 2 women injured in Kazhakkattam. ii) One person died and 2 others injured in Kadakkavoor.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
28.	20 Apr.	(a) Bagalkot (Karnataka)		One person died in Thimmapura village of Hungund taluk.	
		(b) Gulbarga (Karnataka)		i) One shepherd girl and 9 sheep died in Anakal village of Chittapur taluk. ii) One person died in Manue village of Afzalpur taluk.	
29.	21 Apr.	(a) Kozhikode (Kerala)		One woman injured in Kalpatta.	
		(b) Pathanamthitta (Kerala)		One person died in Ranni.	
30.	22 Apr.	Wayanad (Kerala)		i) One woman injured in Sultanbatterry. ii) 2 cows perished in Mananthavady.	
31.	23 Apr.	(a) Kottayam (Kerala)		One person died and 2 other injured in Pala.	
		(b) Palakkad (Kerala)		2 persons died and 5 others injured.	
32.	24 Apr.	(a) Hissar (Haryana)		3 persons died and 2 others injured.	
		(b) Kottayam (Kerala)		2 persons injured in Erumeli.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
33.	25 Apr.	(a) Akola, Buldhana and Wardha (Maharashtra) (b) Amritsar (Punjab)		i) 3 persons died. ii) 3 cattle head perished.	
34.	26 Apr.	(a) Barabanki, Raibareli and Sultanpur (Uttar Pradesh) (b) Nagpur (Maharashtra)		7 persons died. 2 bullocks died in Kondi village.	
35.	27 Apr.	(a) Amravati (Maharashtra) (b) Kamrup (Assam)			Fodder kept in the farm for cattleheads, burnt.
36.	1 May	(a) Dholpur (Rajasthan) (b) Pudukottai, Ramanathapuram, Villupuram and Virudhunagar (Tamil Nadu)		7 Persons sustain severe burn injuries. 5 persons died.	
37.	3 May	(a) North 24 Parganas (West Bengal) (b) Alwar (Rajasthan) (c) Latur and Nagpur (Maharashtra)		One person died in Rajarhut. 4 Children sustain burn injuries. 2 persons including one boy died and 2 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>
38.	4 & 5 May	Kozhikode, Wayanad (Kerala)		2 Persons died and 2 bufelloes died in Pulpalli.	
39.	21 May	Bagalkot (Karnataka)		One person died in Kalasa village.	
40.	25 May	Kottayam (Kerala)		One person died and 3 other injured.	
41.	27 May	Iddukki (Kerala)		One person died and one girl injured in Thodupuzha.	
42.	9 Jun.	Kozhikode (Kerala)		One person died in Thirunavai	
43.	10 Jun.	Thiruvananthapuram (Kerala)			
44.	13 Jun.	Solapur (Maharashtra)		5 persons injured.	
45.	14 Jun.	Latur, Osmanabad and Solapur (Maharashtra)		5 persons died and 4 other injured.	
46.	15 Jun.	Pune (Maharashtra)		One person died at Chakan.	
47.	16 Jun.	Beed (Maharashtra)		In Patoda, i) One woman injured. ii) One cattfehead perished.	
48.	21 Jun.	(a) Kota (Rajasthan) (b) Guna (Madhya Pradesh)		5 Persons died. 4 Persons died in Rajgarh and Garkheda.	
49.	22 Jun.	Kozhikode (Kerala)		One person died in Ulliyeri.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
50.	23 Jun.	Bundi (Rajasthan)		2 Persons died due to electrocution.	
51.	29 Jun.	Churu (Rajasthan)		One person died due to electrocution.	
52.	1 Jul.	Cachar (Assam)			
53.	8 Jul.	(a) Nagpur (Maharashtra)		2 Persons died.	
		(b) Fatehpur (Uttar Pradesh)		4 Children died	
54.	11 Jul.	Sonbhadra (Uttar Pradesh)		5 Persons died.	
55.	14 Jul.	Nagpur (Maharashtra)		2 Persons died.	
56.	15 Jul.	Bharatpur (Rajasthan)		One person died and another sustain burn injury.	
57.	18 Jul.	Lakhimpur Kheri (Uttar Pradesh)		2 Persons died and another injured in Janpad.	
58.	21 Jul.	Akola and Yavatmal (Maharashtra)		5 Persons died.	
59.	28 Jul.	Baran, Bundi and Tonk (Rajasthan)		6 Persons died.	
60.	1 Aug.	(a) Chittorgarh (Rajasthan)		2 Persons died in Bijolia village.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
		(b) Beed and Nagpur (Maharashtra)		3 persons including 2 women died.	
61.	19 Aug.	Nalbari (Assam)		One person died and 2 other sustain burn injuries at Morava village.	
62.	21 Aug.	Chitrakoot (UttarPradesh)		One woman and child died.	
63.	23 Aug.	Kamrup (Assam)		One person died in village Maslam.	
64.	27 Aug.	Betul (Madhya Pradesh)		2 Persons died and another 12 got burn injury.	
65.	1 Sep.	Akola (Maharashtra)		One person died in Rajanda village.	
66.	6 Sep.	Yavatmal (Maharashtra)		One person died in Kamathwada village.	
67.	7 Sep.	Nagpur (Maharashtra)		One person died in Kamathi.	
68.	9 Sep.	(a) Buldhana (Maharashtra)		2 Persons died in Sangavampur village.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
		(b)Yavatmal (Maharashtra)		2 Persons died in Chandur Railway.	
69.	11 Sep.	Nagpur (Maharashtra)		One person and one buffalo died in Chikhali	
70.	12 Sep.	Washim (Maharashtra)		One person died in Phul Umbri.	
71.	13 Sep.	Bhopal, Rajgarh and Sehore (Madhya Pradesh)		2 Persons died.	
72.	15 Sep.	Hoshangabad (Madhya Pradesh)		4 Persons died in Itarasi.	
73.	22 Sep.	Balia (Uttar Pradesh)		18 School children got burn injuries in Parsia village.	
74.	28 Sep.	Chennai (Tamil Nadu)		One person died and 6 others sustained burn injuries in Tirunvattiyur.	
75.	8 Oct.	Thiruvananthapuram (Kerala)		8 Persons injured in Vellarada.	Two houses damaged in Vellarada.
76.	10 Oct.	Kottayam (Kerala)		One woman and a child died in Kanjirapalli.	

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
77.	3 Nov.	Wayanad (Kerala)			In Sultan Battery, i) Around 20 houses partially damaged. ii) Widespread damage to electronic equipments reported.
78.	24 Nov.	Thiruvananthapuram (Kerala)		5 Persons injured in Varkala	
79.	25 Nov.	Thiruvananthapuram (Kerala)		2 Women injured in Varkala	i) Damage to electronic equipments reported. ii) Electric supply disrupted.
80.	6 Dec.	Thiruvananthapuram (Kerala)		L.P.School children injured	Roof of church and electronic equipments damaged.

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 \geq 75 kmph.

1.	11 & 12 Mar.	Birbhum, Kolkata, Malda and Medinipur (West Bengal)	Severe	2 persons died.	i) Damage to 300 acres of bodo paddy crop reported. ii) 370 stalls at computer fare in Kolkata destroyed. iii) Damage to many houses, 5 primary schools and one children education centre reported. iv) Telephone lines disrupted.
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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.	20 Mar.	East Khasi Hills and West Khasi Hills (Meghalaya)	Severe	2 persons died and 5 children injured.	i) 150 families rendered homeless. ii) Damage to 70 houses reported.
3.	22 & 23 Mar.	Bardhaman, Hooghly, Jalpaiguri, Malda, Nadia, North 24 Parganas and Uttar Dinajpur (West Bengal)	Severe	9 persons died.	Extensive damage to agricultural crops reported.
4.	24 Mar.	Hooghly and North 24 Parganas (West Bengal)	Severe		i) 3 school buildings damaged. ii) Many electric poles uprooted.
5.	1 Apr.	Barpeta (Assam)	Severe	2 persons died.	i) Several persons rendered homeless. ii) Roof tops of houses blown away. iii) Many trees uprooted. iv) Power supply disrupted.
6.	3 Apr.	Nadia (West Bengal)	Severe	One person died in Hirdaypur.	
7.	4 Apr.	Kishanganj (Bihar)	Severe	3 persons died.	Damage to Banana and other crops reported.
8.	9 Apr.	Dhubri, Kamrup, Nagaon and Nalbari (Assam)	Severe	3 persons died and 8 others injured.	i) Extensive damage to standing crops reported. ii) Roof tops of many houses blown away. iii) Many trees uprooted. iv) Power supply disrupted.
9.	9 & 10 Apr.	Bardhaman, Darjeeling and Jalpaiguri (West Bengal)	Severe	7 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.	10 Apr.	(a) Barpeta and Sonitpur (Assam)	Severe		<ul style="list-style-type: none"> i) Entrance gate of Mahavira's Mandir damaged, ii) Roof of eye branch of Tezpur Civil Hospital along with roofs of many houses blown away. iii) Damage to crops reported. iv) Many trees uprooted. v) Power supply disrupted.
		(b) Bihar (some parts)	Severe	13 persons died.	Damage to crop reported.
11.	13 Apr.	Osmanabad and Solapur (Maharashtra)	Severe	One woman died and another injured.	<ul style="list-style-type: none"> i) Roofs of many houses blown away. ii) Damage to jowar, wheat crop and mango and grape garden reported.
12.	14 Apr.	Pune (Maharashtra)	Moderate	One woman and a daughter died due to wall collapse and 5 persons injured.	<ul style="list-style-type: none"> i) Many trees uprooted. ii) Damage to crop reported.
13.	19 Apr.	Dakshina Kannada, Gadag and Uttara Kannada (Karnataka)	Severe		<ul style="list-style-type: none"> i) High quality rubber trees razed to ground in Belthangady taluk. ii) Damage to arecanut trees in Sulya taluk reported. iii) Coconut trees near the highway uprooted in Kapu village.
14.	21 Apr.	Goa	Moderate	2 women and 2 children injured.	
15.	23 Apr.	Uttar Dinajpur (West Bengal)	Severe	One person died and many other injured.	Damage to many houses and 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>
16.	24 Apr.	Pune (Maharashtra)	Moderate		i) Damage to tomato, millet, onion and vegetable crops reported. ii) Damage to harvested wheat crop reported.
17.	5 May	Nagaon (Assam)	Severe	One woman died.	
18.	8 May	Hooghly and Medinipur (West Bengal)	Severe	2 persons died.	
19.	19 & 20 May	Bardhaman, Medinipur, Purulia and South 24 Parganas (West Bengal)	Severe	10 persons died.	
20.	30 May	Kamrup (Assam)	Severe	One labour died and 6 others injured in Mardakata tea estate.	
21.	3 Jun.	Dakshin Dinajpur (West Bengal)	Severe	5 persons died.	
22.	6 Jun.	Solan (Himachal Pradesh)	Severe		Damage to plum and apricot crops in Kumarhatta reported.
23.	14 Jun.	(a) Wayanad (Kerala)	Severe		40 coconut trees uprooted in Sultan battery.
		(b) Solapur (Maharashtra)	Severe	3 persons died and 3 other injured due to collapse of marriage pandal.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
24.	23 Jun.	Kamrup and Nagaon (Assam)	Severe	10 persons died and 2 other injured.	
25.	30 Jun.	Dhubri (Assam)	Severe	One man died and 2 other injured in Manikpur.	
26.	13 Jul.	Bankura, Bardhaman and Nadia (West Bengal)	Severe	6 persons died.	
27.	17 Jul.	Dakshin Dinajpur (West Bengal)	Severe	5 persons died.	
28.	18 Jul.	Birbhum and Murshidabad (West Bengal)	Severe	11 persons died.	
29.	19 Jul.	Begusarai, Bhagalpur and Patna (Bihar)	Severe	7 persons died and 8 other injured.	One hut completely burnt.
30.	23 Jul.	Darbhanga (Bihar)	Severe	2 persons died and 7 other injured.	
31.	24 Jul.	(a) Sehore (Madhya Pradesh)	Moderate	One person died in Mahunia village.	
		(b) Sibsagar (Assam)	Severe	2 persons died in Tiyak Police Station area.	
32.	31 Jul.	Kamrup (Assam)	Severe	2 cows and 2 goats died in Hirapara village.	

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
33.	14 Aug.	South 24 Parganas (West Bengal)	Severe	One person died.	
34.	5 Sep.	Katihar and Madhubani (Bihar)	Severe	5 persons including 2 children died and 4 other injured seriously.	
35.	20 Sep.	Kamrup, Nalbari and Lakhimpur (Assam)	Severe		<ul style="list-style-type: none"> i) Roofs of several dwelling houses blown away. ii) Many trees uprooted. iii) Extensive damage to standing crop reported. iv) Power supply disrupted.
36.	10 Oct.	Nagaon (Assam)	Severe		<ul style="list-style-type: none"> i) Many trees uprooted. ii) Roofs of several houses blown away. iii) Damage to standing crop reported. iv) Puja mandap was destroyed. v) Power supply disrupted.
37.	16 Oct.	Patna (Bihar)	Severe	<ul style="list-style-type: none"> i) 9 persons injured. ii) Many cattleheads perished. 	

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
TABLE – IX : HAILSTORM					
CRITERIA					
<i>Slight : Sparse, usually small size and often mixed with rain</i>					
<i>Moderate : Fall abundant enough to whiten ground</i>					
<i>Heavy : Includes at least a proportion of large stones</i>					
1.	17 Jan.	Uttar Pradesh (Various parts)	Heavy		Damage to peas, mustard and potato crops reported.
2.	27 & 28 Jan.	Haryana and Punjab (Various parts)	Heavy		i) Damage to crops reported. ii) Many trees uprooted.
3.	28 Jan.	Raichur (Karnataka)	Heavy		i) Damage to crop reported. ii) Jowar in the final stage of growth razed to ground. iii) Roof of few houses blown away.
4.	29 Jan.	Bidar (Karnataka)	Moderate		Flowering mango trees affected in Bhalki, Basar-kalyan, Aurad and Humanabad.
5.	30 Jan.	Hingoli, Nanded and Parbhani (Maharashtra)	Moderate		i) Many trees uprooted. ii) Damage to rabi crop and pulses reported.
6.	31 Jan.	Madhya Maharashtra, Marathwada and Vidarbha regions (Maharashtra)	Heavy		Damage to rabi crop in 28,143 hectares reported.

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
7.	6 Feb.	Alwar and Churu (Rajasthan)	Heavy		Damage to crop reported.
8.	7 Feb.	(a) Alwar (Rajasthan)	Heavy		Damage to mustard and wheat crop in Bhiwadi reported.
		(b) Uttar Pradesh (some parts)	Heavy		Damage to crops in various areas reported.
		(c) Hissar, Jhajjar, Karnal and Sonipat (Haryana)	Heavy	One person died.	Damage to standing crops reported.
		(d) Rewa, Satna, Seoni and Sidhi (Madhya Pradesh)	Heavy		i) Damage to crop in 36 villages reported. ii) 100 trees uprooted in tribal areas.
9.	9 Feb.	(a) Bhiwani, Fatehabad, Kaithal, Rewari, Sirsa and Sonipat (Haryana)	Heavy	One person died.	Damage to agricultural crops in 44000 hectares reported.
		(b) Bhatinda, Firozpur, Muktsar and Sangrur (Punjab)	Heavy		Damage to standing wheat (rabi) crops reported.
		(c) Ganganagar (Rajasthan)	Heavy		Damage to standing crop reported.
10.	12 Feb.	Ludhiana (Punjab)	Heavy		Damage to standing crop in hundreds of acres of land of Katani Kalan village reported.

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
11.	19-21 Feb.	Bardhaman and Birbhum (West Bengal)	Heavy	4 persons injured in Birbhum.	i) Damage to thatched houses reported. ii) Damage to crops in several hundred bighas in Birbhum reported. iii) In Khandaghosh and Kalana, damage to Potato, mustard and wheat crops in 2000 bighas reported.
12.	28 Feb.	Betul (Madhya Pradesh)	Moderate		One house collapsed in Batkidoh village.
13.	2 Mar.	Jhalawar (Rajasthan)	Heavy		Damage to coriander crop reported.
14.	3 Mar.	Bardhaman (West Bengal)	Heavy		Damage to bodo paddy crop reported.
15.	4 Mar.	Dausa (Rajasthan)	Heavy		Damage to gram crop reported.
16.	6 Mar.	Bhiwani and Rohtak (Haryana)	Heavy		Damage to wheat and mustard crop reported.
17.	8 Mar.	(a) Jhalawar and Kota (Rajasthan)	Heavy	One person died.	Damage to opium, wheat and gram crops reported.
		(b) Bagalkot and Bijapur (Karnataka)	Heavy	i) In Kandagal village, 2 boys injured and 25 sheep perished. ii) 21 sheep perished in Muradi. iii) 5 persons suffered minor injuries in Khainur.	i) 134 houses damaged. ii) Khainur, Chikkallapur and Khanameshwar villages affected. iii) Damage to sugarcane, wheat and chilly crop reported.
		(c) Ahmednagar, Nashik, Pune, Sangli and Satara districts and Vidarbha region (Maharashtra)	Heavy		i) Extensive damage to grape, jowar, wheat and vegetable crops reported. ii) Damage to Mango, tomato, watermelon and sugarcane reported.

<i>S.N.</i>	<i>Date / Period</i>	<i>Area affected</i>	<i>Intensity</i>	<i>Casualties</i>	<i>Extent of damage</i>
18.	9 Mar.	(a) Haryana (some parts)	Heavy	Many birds injured.	Damage to standing wheat and mustard crop reported.
		(b) Badaun, Bareilly, Chitrakoot, Hamirpur, Jhansi and Lalitpur (Uttar Pradesh)	Heavy	One person died and many others injured.	Damage to wheat, mustard, gram and mango crops reported.
		(c) Rajasthan (some parts)	Heavy	Many birds perished.	Damage to crops reported.
		(d) Khargone, Raisen and Vidisha (Madhya Pradesh)	Heavy	i) 2 women died in Khargone district. ii) More than 500 people injured / wounded in Gairatganj area of Raisen district. iii) 100 peacocks feared killed in Vidisha district.	Damage to crops reported.
19.	10 Mar.	Panchkula (Haryana)	Heavy		Damage to wheat and vegetable crop in Pinjore village reported.
20.	11 Mar.	Barabanki, Fatehpur and Hamirpur (Uttar Pradesh)	Heavy	2 persons died.	Damage to crop reported.
21.	18 Mar.	Kangra (Himachal Pradesh)	Heavy		In Palampur, damage to standing crop reported.
22.	20 Mar.	Kamrup (Assam)	Heavy		i) Roofs of several houses blown away. ii) Many trees uprooted. iii) Damage to crops reported.
23.	22 Mar.	Gurdaspur (Punjab)	Heavy		Damage to wheat and mustard 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>
24.	23 Mar.	Kamrup (Assam)	Heavy		Damage to rabi crops reported in Puthimani area.
25.	28 Mar.	Lakhimpur (Assam)	Heavy	Few birds and animals died.	40 dwelling houses in Naoli and Chanong villages destroyed.
26.	29 Mar.	Bardhaman and Nadia (West Bengal)	Heavy	9 persons died.	
27.	30 Mar.	Barpeta (Assam)	Heavy	A few persons injured.	In Bajaili subdivision, i) Many dwelling houses destroyed. ii) Damage to rabi crop reported. iii) Many trees / electric / telephone poles uprooted.
28.	31 Mar.	Barpeta and Kokrajhar (Assam)	Heavy	One person died due to fall of tree in Rihabani village.	i) More than 200 families rendered homeless. ii) Damage to many school buildings reported. iii) Many trees uprooted.
29.	9 Apr.	Sant Kabir Nagar (Uttar Pradesh)	Heavy	One woman died.	i) Many kutcha houses damaged. ii) Damage to crop reported.
30.	13 Apr.	Pune (Maharashtra)	Moderate		i) Damage to standing crop reported. ii) Many trees uprooted.
31.	20 Apr.	Davanagere (Karnataka)	Heavy		i) Damage to 300 acres of paddy crop reported. ii) Hailstone of Tennis ball size reported.
32.	21 Apr.	Gulbarga (Karnataka)	Heavy	A 4-year old child died in a house collapse incident.	i) About 300 plants and trees uprooted. ii) About 80 houses collapsed.
33.	26 Apr.	Koppal (Karnataka)	Heavy	2 sisters died.	Hundreds of 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>
34.	4 May	Bankura (West Bengal)	Heavy		Extensive damage to crops in large areas of Indus and Kotalpur reported.
35.	13 May	Barpeta (Assam)	Heavy		i) Extensive damage to standing crop reported. ii) Many dwelling houses damaged. iii) Many trees and electric / telephone poles uprooted.
36.	18 & 19 May	Barpeta (Assam)	Heavy		Damage to rabi crop in vast areas reported.
37.	19 May	(a) Samastipur (Bihar)	Heavy	One person died.	Extensive damage to mango and lichi crops reported.
		(b) West Champaran (Bihar)	Heavy	One woman died due to house collapse.	
		(c) Bhagalpur (Bihar)	Heavy		Police station building made of straw and tin completely destroyed.
38.	20 May	Imphal (Manipur)	Heavy		i) Roofs of several houses blown away. ii) Power supply disrupted. iii) Many trees /electric/ telephone poles uprooted.
39.	21 May	(a) Bangalore (Karnataka)	Heavy		i) 15 trees uprooted. ii) 120 electric poles uprooted.
		(b) Mysore (Karnataka)	Heavy	A few persons injured.	In Gundulpet, i) Damage to crops reported. ii) One house damaged due to fall of coconut tree.

S.N.	Date / Period	Area affected	Intensity	Casualties	Extent of damage
		(c) Davanagere (Karnataka)	Heavy		Paddy crop in 4000 acres; ready for harvest damaged.
40.	23 May	Chittorgarh (Rajasthan)	Heavy	One person died.	
41.	27 May	Kangra (Himachal Pradesh)	Heavy		Damage to crop in Palampur area 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.	Nagaland, Manipur, Mizoram and Tripura	-27	Moderate
2.	Jharkhand	-36	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.	9 Jul.	Hyderabad, Khammam, Krishna, Medak and Warangal	Heavy rains	9 persons died.	
2.	23-25 Jul.	Some parts	Heavy rains	9 persons died.	
3.	19-20 Sep.	East Godavari, Srikakulam, Visakhapatnam, Vizianagaram and West Godavari	Heavy rains	6 persons died.	i) Many villages submerged. ii) 10,000 people shifted to safer places.
4.	13-15 Oct.	Cuddapah, Guntur, Khammam, Krishna, Mehboobnagar and Nellore	Heavy rains	19 persons died.	
5.	28 Oct.	Chittoor and Nellore	Heavy rains	10 persons died.	20,000 people shifted to safer places.
*	Whole year	9.04 m.ha.		43 human lives lost.	i) 12,385 houses damaged. ii) Crops in 9.04 m.ha. damaged.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
ARUNACHAL PRADESH					
1	25,28 Aug.	Itanagar	Heavy rains	One man died and 5 other injured in landslide event.	i) 4 houses washed away by flood water of Pachin river. ii) Damage to crop reported.
ASSAM					
1.	27 May	Sibsagar	Moderate flood		i) Many families rendered homeless. ii) Road link of NH-61 disrupted. iii) Damage to rabi crops reported.
2.	Jun. (2 nd and 3 rd week)	Barpeta, Cachar, Dhemaji, Dhubri, Lakhimpur, Morigaon, Nagaon, Nalbari and Sonitpur	Flood (Brahmaputra and its tributaries, Jiadhol, Kaldia, Plagladia, Kalo and Drani)		i) More than 700 families affected. ii) Damage to standing crop reported. iii) Landslide reported. iv) Several villages submerged. v) Lumding – Silchar train service cancelled due to heavy landslide at Damcherra and border
3.	Jul. (2 nd to 4 th week)	Barpeta, Bongaigaon, Dhemaji, Dhubri, Dibrugarh, Goalpara, Jorhat, Kamrup, Karimganj, Kokrajhar, Lakhimpur, Morigaon, Nalbari, Sonitpur and Tinsukia	Severe sflood.	15 persons died.	i) 3,66,065 people in 449 villages affected. ii) Damage to crops in 70,974 hectares affected, iii) NH52 and NH31 overtapped at several places. iv) Road communication between Dhemani and Janai subdivision disrupted.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
4.	Aug. (2 nd week)	Barpeta, Darrang, Goalpara, Jorhat, Kamrup, Lakhimpur and Nalbari	Severe flood (Saktola and Pahumora)	43 persons died in land- slide event.	i) 1,13,146 people in 120 villages affected. ii) Agriculture land in 3,267 hectares affected. iii) Damage to standing crop reported.
5.	19 Aug.	Kamrup	Heavy rains	2 persons died and 4 other injured in landslide at Gitanagar.	i) Landslide reported in Guwahati. ii) 2 houses completely destroyed.
6.	22 Aug.	Sonitpur	Flash flood (Belgir)		i) Many people rendered homeless. ii) 500 bighas of cultivated land eroded.
7.	23 Aug.	Dhemaji and Nalbari	Flash flood (Kalajal)		i) NH52 submerged about 50 meter in flood water. ii) Road communication totally blocked. iii) Damage to newly planted paddy crops reported.
8.	Aug. (4 th week)	Kamrup, Nagaon and Sonitpur	Severe flood (Brahmaputra)	15 persons died.	i) 7000 people affected. ii) 6000 bighas of cultivated land affected. iii) Damage to standing crop reported. iv) Flood water entered in Kazhiranga National Park causing havoc among the animals.
9.	30 Aug.	Barpeta	Heavy rains		Nearly 200 metre Barpeta – Manash forest PWD road damaged.
10.	Sep. (1 st and 2 nd week)	Barpeta and Dibrugarh	Severe flood (Brahmaputra and its tribu- taries, Kaldia)		i) Cultivated crops washed away. ii) Damage to several tea garden reported. iii) Damage to standing crop reported. iv) Several families affected.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
11.	26 & 27 Sep.	Barpeta and Bongaigaon	Flash flood		i) Vast area of paddy field including 5 fisheries and 3 dwelling houses inundated. ii) Road communication cut off at several places. iii) Damage to standing crop reported.
*	Whole year	0.166 m.ha.		13 human lives lost.	i) 0.367 million population affected. ii) Crops in 0.071 m.ha. damaged.
BIHAR					
*	Whole year	0.056 m.ha.		51 human lives lost.	i) 1.848 million population affected. ii) 4,266 houses damaged. iii) Crops in 0.056 m.ha. damaged.
GOA					
1.	24-26 Jul.	Some parts	Heavy rains	7 persons died in land-slide events.	200 people evacuated to safer places.
*	Whole year	0.01 m.ha		18 human lives lost.	580 houses damaged.
GUJARAT					
1.	Jun. (4 th week) – Jul. (1 st week)	Entire state	Severe flood	202 persons died in different incidents of drowning / house collapse and 11 persons found missing	2,95,975 persons evacuated to safer places from flooding area.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
2.	Jul. (2 nd -4 th week)	Entire state	Severe flood	11 persons died due to drowning and house collapse.	
3.	1-5 Aug.	Bharuch and Surat	Heavy rains	69 persons died.	
4.	Sep. (1 st to 4 th week)	Entire state	Severe flood	20 persons died due to drowning and house collapse.	26,612 persons evacuated to safer places.
*	<i>Whole year</i>			<i>213 human lives lost.</i>	<i>0.298 million population affected.</i>
HARYANA					
1.	21 Mar.	Some parts	Heavy rains		Damage to standing crop reported.
2.	8 Jul.	Fatehabad, Rewari, Sirsa and Sonipat	Severe flood		<ul style="list-style-type: none"> i) Hundreds of acres of agricultural land submerged near Sikandarapur. ii) Damage to paddy crops over 200 acres reported. iii) 15 villages in Rewari district flooded. iv) Telecommunication and power supply disrupted. v) Almost all roads and streets waterlogged in Fatehabad.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
3.	Jul. (2 nd and 3 rd week)	Faridabad, Gurgaon, Hissar, Jind, Sonipat and Yamuna Nagar	Severe flood (Yamuna)	One person injured in house collapse incidence.	i) 16 villages submerged under flood water. ii) Cracks to many houses reported. iii) Cross Bandh under construction washed away near Mandewala. iv) Large number of kutcha houses in Bhilpura com- pletely damaged. v) Residents of Lakar village evacuated to safer places.
4.	30 Jul.	Panchkula	Flash flood		Part of a house on the river bank washed away and two other houses damaged at Kalka.
5.	17 Sep.	Sonipat and neighbouring areas	Heavy rains		i) About 50% of early paddy crops damaged. ii) Many trees uprooted. iii) Low lying areas waterlogged. iv) Road traffic disrupted.
HIMACHAL PRADESH					
1.	Mar. (3 rd week)	Chamba, Kangra, Kullu, and Mandi	Heavy rains	i) 4 persons died due to landslide. ii) 20 cattleheads buried alive due to landslide in Manikaran area.	i) Landslide reported. ii) Damage to standing wheat crop reported. iii) The debris of the boulder buried a 30 bigha of ap- ple orchard.
2.	26 Jun.	Bilaspur, Kinnaur, Kullu and Shimla	Severe flood (Sutlaj)		i) 6 bridges washed away and 4 other damaged. ii) Dozens of houses washed away. iii) 5000 persons evacuated to safer places.
3.	26 & 27 Jun.	Entire state	Severe flood	6 persons died in flood water.	i) About 250 tourists stranded. ii) Damage to public and private property reported.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
4.	7 Jul.	Kullu and Shimla	Severe flood (Beas and Sutlaj)	2 persons washed away.	About 500 tourist including 70 foreigner stranded between Leh and Manali.
5.	12 Jul.	Kinnaur	Flash flood		100 ft. portion of NH washed away in Powari.
6.	15 Jul.	Shimla	Heavy rains	About 6 cattle washed away.	<ul style="list-style-type: none"> i) Landslide reported. ii) NH22 blocked at Kali Mitti and Jhakri. iii) Vehicular traffic remain disrupted for 2nd day on Manali – Leh road. iv) 2 houses damaged in cloud burst at Kyau and Koot villages. v) Hindusthan-Tibet national highway blocked near Saini.
7.	16 Jul.	Kinnaur	Heavy rains		<ul style="list-style-type: none"> i) Landslide reported. ii) Pine trees fallen at some places. iii) Road transport affected on several highways.
8.	26 & 27 Jul.	Kullu	Heavy rains	<ul style="list-style-type: none"> i) 3 people washed away and 4 other injured due to cloud burst. ii) A few sheep washed away. 	3 houses washed away.
9.	28 Jul.	Sirmaur	Heavy rains		<ul style="list-style-type: none"> i) Landslides reported. ii) Vehicular traffic on Bangara-Dungaghat submerged.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
10.	6 Aug.	Hamirpur and Kullu	Heavy rains		<ul style="list-style-type: none"> i) Cloud burst reported. ii) Damage to crops reported. iii) An auto-rickshaw and motor cycle washed away in Dungalala.
11.	16 & 17 Sep.	Kangra	Heavy rains	<p>In Palampur area,</p> <ul style="list-style-type: none"> i) 3 women and a child buried alive and 3 other got serious injuries under a house collapse in Thalta village. ii) One person washed away at Haripur village. iii) A woman and her son buried alive in a house collapse at Bairighatta village. 	<ul style="list-style-type: none"> i) 60 houses damaged. ii) Road traffic disrupted.
*	Whole year	0.534 m.ha.		<ul style="list-style-type: none"> i) 15 human lives lost. ii) 3,081 cattle lost. 	<ul style="list-style-type: none"> i) 1.087 million population affected. ii) 2,872 houses damaged. iii) Crops in 0.058 m.ha. damaged.
JAMMU & KASHMIR					
1.	7 Aug.	Doda	Heavy rains	11 persons died in landslide event.	

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
KARNATAKA					
1.	3 Jan.	Dharwad	Heavy rains		Damage to jowar, wheat, onion, chilly and cotton reported.
2.	20 Apr.	Gadag	Heavy rains		i) Damage to 50 houses in Ron taluk reported. ii) Hundreds of houses collapsed in Yrrebelari, Keta-geri, Huilgola, Hirekoppa and Chikkoppa.
3.	21 May	Hassan	Heavy rains	A few persons injured due to collapse of roof of a house.	Roofs of several houses collapsed in Belur taluk.
4.	2 Jun.	Bangalore	Heavy rains	One woman buried alive when a temporary brick in enclosure collapsed.	About 800 electric poles fell down in Bangalore city and extension.
5.	5 Jun.	Bangalore	Heavy rains	2 labourers died in wall collapse incidence.	
6.	10 Jun.	Mysore	Heavy rains	7 persons died on the spot in Bilikere due to electrocution in Hunsur taluk.	
7.	18 Jun.	Dakshina Kannada	Heavy rains		A godown collapsed and 4 houses damaged in Mangalore city.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
8.	22 Jun.	(a) Bangalore	Heavy rains	Two school girls from the same family died.	i) A coconut tree uprooted. ii) An electric pole broken due to fall of tree.
		(b) Uttara Kannada	Heavy rains		Sea water inundated plantation and fishermen sheds.
9.	3 Jul.	Belgaum	Heavy rains	i) 2 persons drowned in overflowing river. ii) One girl died in house collapse.	
10.	13 Jul.	(a) Dharwad	Heavy rains		i) One house collapsed. ii) Athikatti village tank breached.
		(b) Gadag	Heavy rains	2 persons died due to house collapse in Mundargi taluk.	
11.	Jul. (3 rd week)	Bangalore, Davanagere and Tumkur	Heavy rains	i) 4 persons died and 4 other injured due to house collapse. ii) 21 cattle died.	i) 4 houses collapsed. ii) Damage to 150 acres of agriculture land reported. iii) Damage to coconut and maize crop reported.
12.	Jul. (4 th week)	Bangalore, Belgaum, Chikmagalur, Dharwad, Gadag, Gulbarga, Kodagu and Uttara Kannada	Heavy rains	6 persons including 2 women and 2 children died.	i) 317 houses and 11 Govt. buildings completely and 50 houses partially damaged. ii) A car was severely damaged due to uprooting of a tree. iii) 318 electric poles uprooted.
13.	27 Jul..	(a) Kodagu	Flash flood	One woman washed away in flood water in Sangameshwar Pet.	

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
		(b) Chikmagalur	Heavy rains	One person died in Koppa taluk.	
		(c) Dharwad	Heavy rains		Damage to 307 houses and public property reported in Hubli taluk.
14.	28 Jul.	(a) Belgaum	Flash flood (Ghatprabha)	i) 3 persons including one woman washed away. ii) One person drowned in Mallimeddi area.	i) About 182 houses collapsed. ii) 4 villages submerged. iii) Kusunala, Molavad and Jugala villages inundated.
		(b) Chikmagalur	Flash flood	One person died in Ajjampura of Tarikere taluk.	
15.	1 Aug.	Bagalkot, Belgaum and Bijapur	Flash flood (Krishna and Bhima)		i) Many villages inundated due to release of water from Koyana dam. ii) Nearly 66 villages affected due to rain water from Bhima and Krishna river. iii) Back water of Narayanpura dam affected 34 villages in Muddehebi taluk.
16.	5-8 Aug.	Belgaum and Tumkur	Heavy rains	9 persons including 3 children died in drowning / house collapse incidences.	About 33,702 houses damaged / collapsed.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
17.	28 Aug.	(a) Davanagere	Heavy rains	i) An old man died due to house collapse in Hireganguru village of Chennagiri taluk. ii) A woman and a boy died and 2 persons injured due to house collapse in Halavallu of Harpanhalli taluk.	150 houses damaged.
		(b) Bangalore	Flash flood	4 women labourers washed away near Kanakapura.	i) A part of road collapsed in Koramangola. ii) Several houses collapsed near Allalasanandra lake. iii) About 20 trees uprooted in Bangalore city.
18.	9 Oct.	Bangalore	Heavy rains	An old woman injured due to house collapse.	
19.	Oct. (3 rd week)	Bangalore and Raichur	Flash flood	13 persons including 5 women and 2 children died.	i) More than 300 people lost hutments in Mandvi taluk. ii) Vehicular traffic disrupted as the bridge was damaged on Nandihalla village of Sindanoor taluk. iii) 3 cars damaged.
20.	Oct. (4 th week)	Bangalore, Chamarajanagar, Hassan, Kolar, Mandya, Mysore and Tumkur	Heavy rains	i) 33 persons including 2 women and some children died. ii) 2012 cattleheads perished	i) Many coconut trees uprooted. ii) Sugarcane, supota and paddy in hundreds of acres damaged. iii) 20,990 houses destroyed. iv) 500 telephone lines snapped. v) Crops in 60,000 acres destroyed. vi) 500 tanks breached.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
KERALA					
1.	1 Feb.	Thiruvananthapuram	Heavy rains	2 persons died.	i) Landslide reported in Kallar. ii) Damage to agriculture reported.
2.	15 Mar.	Thiruvananthapuram	Heavy rains		Damage to agriculture in Vellaroda, Chamavila and Mundandri reported.
3.	4 Apr.	Southern parts	Heavy rains		i) Low lying areas flooded. ii) Vehicular traffic disrupted.
4.	6 Apr.	(a) Thiruvananthapuram	Heavy rains	2 women injured in house collapse in Elakaman in Varkala taluk.	One bridge collapsed in Papanasam in Varkala taluk.
		(b) Wayanad	Heavy rains		One building damaged in Sultanbattery .
5.	12 Apr.	Thiruvananthapuram	Heavy rains		i) In Kilimanoor, ii) Many rubber trees uprooted. iii) Damage to plantain and other agriculture reported. iv) One house collapsed.
6.	Apr. (3 rd and 4 th week)	Thiruvananthapuram and Wayanad	Heavy rains	2 persons died and 2 other injured in Balaram- puram.	i) 2000 plantains damaged. ii) Damage to rubber trees and other agricultural property reported. iii) Damage to hundreds of houses reported in Kattakkada. iv) Electric/telephone lines disrupted.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
7.	2 May	Wayanad	Heavy rains		In Sultan battery, i) Many trees uprooted. ii) Vehicular traffic disrupted. iii) Telephone lines disrupted. iv) One house completely damaged in Ambalavayal.
8.	17 May	Thiruvananthapuram	Moderate flood		i) 100 houses completely flooded. ii) 10 houses collapsed due to sea erosion.
9.	29 May	Wayanad	Heavy rains		Widespread damage to plantain in Sultanbattery reported.
10.	Jun. (1 st and 2 nd week)	Kollam, Thiruvananthapuram and Wayanad	Heavy rains	2 persons died.	In Pulpalli, i) 19 houses collapsed. ii) Damage to agriculture reported. iii) Electric supply disrupted due to uprooting of trees in Kalpetta.
11.	Jun. (3 rd and 4 th week)	Alappuzha, Ernakulam, Kannur, Kasaragode, Kollam, Kottayam, Palakkad and Thiruvananthapuram	Heavy rains	7 persons including one woman died.	i) Widespread damage to plantain in Mancompu re- ported. ii) 130 houses completely and 190 houses partially damaged. iii) 166 families shifted to relief camp.
12.	1 Jul.	(a) Kozhikode	Heavy rains	One child died in Atholi.	i) Landslide reported in Kakkayam. ii) Widespread damage to property reported in Atholi. iii) Road transport disrupted.
		(b) Kollam	Heavy rains	5 fishermen missing.	6 fishing boats capsized.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
		(c) Pathanamthitta	Heavy rains		i) 236 houses partially and 12 houses completely damaged. ii) Widespread damage to agriculture reported.
13.	7 Jul.	(a) Kozhikode	Heavy rains	One woman reported missing in Kuttyadi.	i) Landslide reported. ii) 46 houses completely and 50 houses partially damaged.
		(b) Malappuram	Heavy rains		In Areekode, 3 houses completely and many houses partially damaged.
		(c) Wayanad	Heavy rains		175 families were shifted to relief camp in Thariyode.
14.	20 Jul.	Kozhikode	Heavy rains		i) Landslide reported in Karoom. ii) Extensive damage to agriculture reported.
15.	Jul. (4 th week) Aug. (1 st week)	Alappuzha, Ernakulam, Idukki, Kollam, Kottayam, Thiruvananthapuram, Thrissur and Wayanad	Heavy rains	28 persons including 4 women and 3 children died and 14 other injured.	i) Landslide reported. ii) 595 houses completely and 3062 houses partially damaged. iii) Hundreds of acres of farm field flooded. iv) Widespread damage to agriculture reported. v) 3 bridges washed away in Ambalavayal.
16.	7 Sep.	Thiruvananthapuram	Heavy rains		One house completely damaged in Kilimanoor.
17.	2 Oct.	Wayanad	Heavy rains		Water entered in 13 houses in Sultanbattery.
18.	7 Oct.	Wayanad	Heavy rains		Widespread damage to plantain and other agriculture in Pusppalli reported.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
19.	Oct. (2 nd week)	Kollam, Kozhikode, Thiruvananthapuram and Wayanad	Heavy rains	One fisherman died in Ochira.	i) One bridge collapsed in Sultanbattery. ii) 2 houses completely and 3 houses partially dam- aged.
20.	22-23 Oct.	Kannur and Wayanad	Heavy rains		i) Extensive damage to agriculture reported. ii) One house completely and 8 houses partially damaged.
21.	Nov. (2 nd week)	Ernakulam and Thiruvanan- thapuram	Heavy rains		i) Ship berth in Mattancherry-warf collapsed. ii) Around 50 houses flooded in Chirayankil.
22.	Dec.(2 nd week)	Thiruvananthapuram	Heavy rains	An old woman injured.	i) 63 houses completely and 30 houses partially damaged. ii) Extensive damage to agriculture reported. iii) 2100 families shifted to relief camp.
MADHYA PRADESH					
1.	24, 27 Jun.	Chhindwara, Satna and Sha- japur	Heavy rains	11 persons died.	One house collapsed.
2.	4 Jul.	Chhatarpur, Damoh, Katni, Panna, Rewa, Sagar and Satna	Flash flood	11 persons drowned.	i) One passenger bus washed away on Sagar-Rehali road. ii) 800 people shifted to safer places.
3.	11 Jul.	(a) Bhopal	Heavy rains		i) Low lying areas submerged. ii) Normal life paralysed.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
		(b) Sagar	Heavy rains		Bridge on Bedas river closed for vehicular traffic due to overflow of rain water.
4.	Jul. (4 th week)	Betul, Bhopal, Chhatarpur, Damoh, Katni, Panna, Rewa, Satna and Sagar	Flash flood	i) 37 persons died. ii) 38,000 cattleheads perished.	i) Amala block cut off from many villages. ii) Normal life in slum area paralysed. iii) Road traffic disrupted.
5.	Jul. (4 th week) to Aug. (1 st week)	Damoh and Indore	Heavy rains	16 persons including 3 women died.	i) More than 12,000 people evacuated to safer places. ii) Damoh cut off for vehicular traffic.
6.	15-16 Sep.	Badwani, Balaghat, Betul, Bhopal, Chhindwara, Jhabua, Khandwa, Khargone and Seoni	Severe flood (Narmada)		i) 18 villages submerged due to flood water. ii) Many trees uprooted. iii) 3 shops collapsed due to fall of a tree.
*	Whole year			i) 95 human lives lost. ii) 45,293 cattle lost.	i) 2.50 million population affected. ii) 2,31,714 houses damaged. iii) Crops in 0.011 m.ha. damaged.
MAHARASHTRA					
1.	30 & 31 Jan.	Nagpur	Heavy rains		i) 3 houses collapsed. ii) Raw crops damaged in Hingana.
2.	1 Feb.	Akola, Bhandara, Chandrapur, Nagpur and Yavatmal	Heavy rains		i) Damage to raw crops in 91,152 hectares land reported. ii) One house collapsed in Nagpur city.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
3.	7 & 8 Feb.	Bhandara, Chandrapur, Nagpur and Wardha	Heavy rains	2 monkeys died.	i) Damage to raw crops in 12,000 hectare land in many villages reported. ii) Roofs of several houses blown off in Ejani village.
4.	9-11 Mar.	Akola, Amravati, Wardha, Washim and Yavatmal	Heavy rains	i) 3 persons died. ii) 30 goats perished.	Extensive damage to crop reported.
5.	Jun. (4 th week)	Mumbai and Thane	Heavy rains	24 persons including 4 women died and 4 other drowned.	103 trees uprooted.
6.	1 Jul.	Satara	Heavy rains		In Bhilar taluk of Mahabaleshwar, i) Damage to agricultural land reported. ii) 20 families shifted to safer places. iii) Water storage tank and pipeline washed away.
7.	2 Jul.	Pune	Flash flood	2 persons died near Mulshi dam area.	
8.	7 Jul.	Pune	Heavy rains		50% paddy crop damaged due to breaching of bund in Velha taluk.
9.	10-11 Jul.	(a) Yavatmal	Heavy rains	i) 32 persons died in Digras ii) 2 children washed in flood water at Pusad.	i) 2000 houses collapsed. ii) Crops in 3000 hectares completely damaged.
		(b) Wardha	Heavy rains	One person washed away in flood water at Shindi.	
10.	21 Jul.	Beed and Nanded	Heavy rains	4 persons died.	

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
11.	24 Jul.	Nanded	Heavy rains	One person died.	
12.	26-27 Jul.	Mumbai	Heavy rains	i) 273 persons died. ii) 1000 cattleheads perished.	5000 people evacuated to safer places.
13.	Jul. (4 th week)	Beed, Kolhapur, Nanded, Parbhani, Pune, Raigad, Ratnagiri, Sindhudurg, Thane and Yavatmal	Heavy rains	i) 527 persons died. ii) 15,000 cattleheads perished.	i) Crops in 30 lakh hectares damaged. ii) 2853 houses collapsed in Raigad.
14.	Aug. (1 st week)	Aurangabad, Beed, Hingoli, Jalna, Kolhapur, Nanded, Parbhani, Pune, Raigad, Satara and Thane	Heavy rains	i) 302 persons died and 24 other injured. ii) 10,000 cattleheads perished.	i) 2025 houses completely and 85 houses partially damaged. ii) Rice crop in 23,330 hectares damaged. iii) 53,302 people affected. iv) 10,000 people evacuated to safer places.
15.	7-8 Aug.	Bhandara, Chandrapur and Nagpur	Heavy rains	3 persons died.	
16.	10-11 Aug.	Nashik and Pune	Heavy rains	4 persons died in landslide event.	1300 hutments washed away.
17.	5 Sep.	(a) Kolhapur	Severe flood		Sugarcane crop in 36,000 hectares completely damaged.
		(b) Akola, Chandrapur and Nagpur	Heavy rains	2 persons died due to wall collapse.	47 villages cut off for vehicular traffic.
18.	6 Sep.	Pune	Heavy rains		Damage to sugarcane, millet, sunflower and onion crop reported.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
19.	Sep. (2 nd week)	Aurangabad, Bhandara, Gondia, Jalna, Mumbai, Solapur and Wardha	Heavy rains	11 persons died and 19 other injured.	i) 151 houses completely and 40 houses partially damaged. ii) Damage to maize, coriander, pulses, onion and fruit gardens reported. iii) 5000 people shifted to safer places. iv) Many trees uprooted.
20.	21 Sep.	(a) Mumbai	Heavy rains	3 persons injured in Vikroli.	Landslide reported.
		(b) Beed, Latur and Osmana- bad	Heavy rains	2 persons died due to wall collapse.	700 people shifted to safer places.
21.	Sep. (4 th week)	Nashik and Parbhani	Severe flood	10 persons died.	i) 137 houses and 4 bridges damaged. ii) Crops in 400 hectares damaged. iii) Many trees uprooted.
*	Whole year	0.225 m.ha.		i) 910 human lives lost. ii) 15,120 cattle lost.	i) 12.0 million population affected. ii) 10,000 houses damaged. iii) Crops in 0.225 m.ha. damaged.
MANIPUR					
*	Whole year	0.028 m.ha.			i) 0.007 million population affected. ii) 5,375 houses damaged. iii) Crops in 0.028 m.ha. damaged.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
MEGHALAYA					
*	<i>Whole year</i>			<i>i) One person died. ii) 15 cattle lost.</i>	<i>i) 0.007million population affected. ii) 79 houses damaged.</i>
ORISSA					
1.	1 Aug.	Balasore	Moderate flood (Brah- mani and Baitarani)	5 persons died in Jaipur.	Nearly 5 lakh people affected.
2.	19 Sep.	Kendrapara	Heavy rains	4 persons died.	
*	<i>Whole year</i>	<i>0.233 m.ha.</i>		<i>i) 10 human lives lost. ii) 32 cattle lost.</i>	<i>i) 1.603 million population affected. ii) 4,871 houses damaged. iii) Crops in 0.233 m.ha. damaged.</i>
PUNJAB					
1.	3 Jul.	Roop Nagar	Heavy rains		3 villages submerged under water upto 5 feet.
2.	6 Jul.	Jalandhar and Patiala	Heavy rains	2 persons died in Rajpura subdivision.	

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
3.	7 Jul.	Gurdaspur	Moderate flood (Ravi)		13 villages cut off from Gurdaspur.
4.	8 Jul.	Bhatinda	Heavy rains	i) 2 persons died. ii) 450 hens perished.	i) 100 acres of cotton crop destroyed. ii) Roof and wall of a poultry farm at Paras Ramnagar collapsed.
5.	9 Jul.	Amritsar and Patiala	Moderate flood		i) Landslide reported. ii) 40 houses damaged. iii) 16 villages submerged under flood water.
6.	14 Jul.	Roop Nagar	Heavy rains		Kiratpur Sahib block submerged in water due to cracking of bund on Lotan rivulet.
RAJASTHAN					
1.	8 & 9 May	Hanumangarh and Gangana- gar	Heavy rains		i) Damage to crop reported. ii) A canal get breached in Hanumangarh.
2.	27 Jun.	Jaipur	Heavy rains	3 persons died in house collapse incidence.	
3.	5 & 6 Jul.	Alwar and Jhalawar	Heavy rains	4 persons including a woman and a child died in Rajagarh tehsil.	Dozens of kutcha houses collapsed in Khanpur tehsil.
4.	12 Jul.	Bharatpur	Heavy rains	3 persons died and 2 injured due to wall collapse.	

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
5.	14 Jul.	Dausa and Karoli	Heavy rains	3 persons including a child died.	
6.	16 Jul.	Karoli	Heavy rains	3 children died due to wall collapse in Todabhim.	
7.	17 Jul.	Bharatpur	Heavy rains	One person died due to wall collapse in Pipalagaon.	
8.	5 Aug.	Bharatpur	Heavy rains	37 deer perished.	
9.	6 Aug.	Karoli	Heavy rains	3 persons washed away in Todabhim tehsil.	
TAMIL NADU					
1.	7 Apr.	Kanniyakumari, Namakkal, The Nilgiris and Tiruchirappalli	Heavy rains	27 persons died.	
2.	13 Oct.	Chennai	Heavy rains	2 persons died in Minjur.	
3.	Oct. (3 rd - 4 th week)	Entire state	Severe flood	80 persons died.	<ul style="list-style-type: none"> i) About 600 huts damaged. ii) Extensive damage to standing crop reported. iii) Several roads and highways breached. iv) 15,000 people shifted to safer places.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
4.	9 Nov.	Chennai, Cuddalore, Kancheepuram, Nagapattinam, Pudukottai, Tiruchirappalli, Thanjavur, Thiruvallur and Villupuram	Heavy rains		i) 60,000 hectares of agricultural land submerged. ii) More than 10 villages marooned.
5.	22 Nov.	Nagapattinam	Flash flood	8 persons died in a house collapse.	32,000 acres of samba crop submerged.
6.	24 Nov.	Entire state	Heavy rains	150 persons washed away while traveling through a bus.	i) Railway tracks breached and link to southern parts of the state cut off for 3 days. ii) Thousands of hectares of crop submerged.
7.	3 & 4 Dec.	Chennai, Kancheepuram and Thiruvallur	Heavy rains	6 persons died due to electrocution and 5 persons drowned in small ponds.	
8.	6 Dec.	Thiruvallur	Severe flood		23 villages submerged in flood water.
9.	8 Dec.	Cuddalore, Nagapattinam, Sivagangai, Tiruchirappalli and Thiruvarur	Heavy rains		Standing crops in 3.29 lakh hectares affected.
10.	11 Dec.	Ramanathapuram, Thanjavur and Thiruvarur	Heavy rains	2 persons died due to house collapse.	i) Extensive damage to private and public property reported. ii) 1.40 lakh hectares of crops submerged.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
UTTAR PRADESH / UTTARANCHAL					
1.	30 Jun.	Chamoli (Uttaranchal)	Heavy rains	9 persons died due to landslide.	
2.	6 Jul.	Banda	Severe flood (Ker)	23 persons died.	
3.	14 Jul.	Uttaranchal (Many parts)	Heavy rains		i) 500 vehicles stranded on Hrishikesh–Badrinath national highway and Rudraprayag–Kedarnath road due to landslide. ii) Electric/telephone services disrupted.
4.	21 Jul.	Uttaranchal (Many parts)	Heavy rains		i) Normal life disrupted. ii) Vehicular traffic affected due to landslide and cloud burst. iii) Extensive damage to many houses reported.
5.	22 Jul.	Tehri Garhwal (Uttaranchal)	Heavy rains	4 persons died in landslide incidence.	Landslide reported in Badiargarh area.
6.	3 Aug.	Tehri Garhwal (Uttaranchal)	Heavy rains	11 persons died due to landslide.	
7.	5 Aug.	Pithoragarh (Uttaranchal)	Heavy rains	10 persons died in cloud burst incidence at Dharchula.	

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
8.	22 Aug.	Kanpur and Sultanpur	Heavy rains	5 persons died.	
10.	Aug. (4 th week)	Ambedkar Nagar, Azamgarh, Bahraich, Balia, Banda, Barabanki, Gazipur, Gorakhpur, Kanpur, Mau, Sitapur, Sultanpur	Severe flood (Ghaghara)	89 persons died.	i) Dozens of houses washed away. ii) Many people rendered homeless. iii) Flood water entered in many villages.
11.	28 & 29 Aug.	Azamgarh and Mau	Flood (Ganga, Ghaghara, Magari and Tansa)	8 persons died.	Damage to property reported.
12.	5 & 6 Sep.	Bageshwar (Uttaranchal)	Heavy rains		Motor road damaged at Jaojit area.
13.	16 Sep.	Hardoi, Jaunpur and Sitapur	Heavy rains	8 persons died in wall col- lapse incidence.	
14.	24 Sep.	Muzaffarnagar	Heavy rains	One person died and many other injured in house collapse incidence.	
15.	25 Sep.	Dehradun, Hardwar, Morada- bad and Muzaffarnagar (Uttar Pradesh) and Dehradun, Hardwar and Nainital (Uttaranchal)	Heavy rains	18 persons died.	i) Low lying areas submerged. ii) Traffic on Dehradun national highway disrupted.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
*	Whole year	Uttaranchal		2 cattle lost.	88 houses damaged.
*	Whole year	Uttar Pradesh:0.508 m.ha.		i) 13 human lies lost. ii) 11 cattle lost.	i) 0.058 million population affected. ii) 9,688 houses damaged.
WEST BENGAL					
1.	10 Apr.	Darjeeling	Heavy rains	4 persons died at Siliguri.	Damage to 3000 houses reported.
2.	4 May	Kolkata	Heavy rains	11 persons including 7 women died and 4 other injured in wall collapse incidents.	
3.	5 Jul.	Darjeeling	Heavy rains		i) Landslide reported. ii) Transport services between Darjeeling and Kurseong disrupted.
4.	9 & 10 Jul.	Darjeeling	Heavy rains		i) Landslide reported. ii) Toy train service to Darjeeling disrupted.
5.	8 Aug.	Birbhum, Dakshin Dinajpur, Nadia and South 24 Parganas	Heavy rains	15 persons died in house collapse incidence.	
6.	14 Aug.	Darjeeling	Heavy rains		i) Landslide reported at NH 31A at Likuvee. ii) Vehicular traffic between Siliguri and Sikkim disrupted.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
7.	16 Aug.	Darjeeling	Heavy rains		i) Landslide reported at Garubathan. ii) Vehicular traffic disrupted.
8.	26 Aug.	Kolkata	Heavy rains	3 persons died.	
9.	13-15 Sep.	Medinipur	Moderate flood	2 persons died.	i) Many people rendered homeless. ii) Damage to crops reported.
10.	17-19 Sep.	Medinipur	Moderate flood	2 persons died.	i) Many people rendered homeless. ii) Damage to crops reported.
11.	18 Sep.	Southern parts	Heavy rains		Hundreds of families rendered homeless due to damage of Thatched houses.
12.	21 Oct.	Kolkata, Medinipur, North 24 Parganas and South 24 Parganas	Heavy rains	2 persons died.	7 lakh people affected.
13.	23 Oct.	Howrah, Medinipur, Purulia, North 24 Parganas and South 24 Parganas	Heavy rains	12 persons died.	Many people affected.
14.	25 & 26 Oct.	Medinipur	Severe flood	32 persons died.	Damage to crop reported.
15.	1 Nov.	Nadia	Heavy rains		Extensive damage to mustard crop reported.
*	Whole year	1.380 m.ha.		i) 25 human lives lost. ii) 49,174 cattle lost.	i) 8.107 million population affected. ii) 52,878 houses damaged. iii) Crops in 1.380 m.ha. damaged.

S.N.	Date/ Period	Area affected	Intensity (Rivers)	Casualties	Extent of damage
UNION TERRITORIES (UT)					
CHANDIGARH					
1.	3 Aug.	Entire UT	Heavy rains	One boy drowned in water logged area sector 33 & 45.	

* **Input from Central Water Commission and Ministry of Agriculture**

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

Three cyclonic storms were formed over the Bay of Bengal during 2005. Out of these, two storms crossed the Indian coast and have caused some effect over India.

BAY CYCLONE

1.	17-21 Sep.	<p>Formation Near Lat. 19.5°N / Long. 86.5°E at 1200 UTC of 18th.</p> <p>Landfall Crossed north Andhra coast close to Kalingapatnam at 0230 UTC of 19th.</p> <p>Dissipation Close to Jalgaon (Lat. 21.0°N / Long. 76.0°E at 1200 UTC of 21st</p>	Cyclonic Storm (PYARR)	<p>i) 64 persons died and 15 fishermen missing</p> <p>ii) 291 cattle lost.</p>	Total loss estimated at Rs. 1809 crores.
2.	6-10 Dec.	<p>Formation Near Lat. 11.0°N / Long. 87.5°E at 0300 UTC of 7th.</p> <p>Landfall Crossed south Tamilnadu coast closed to Vedaranniyam at 0530 UTC of 10th.</p> <p>Dissipation Over Vedaranniyam at 1200 UTC of 10th.</p>	Cyclonic Storm (FANOOS)	<p>In Andhra Pradesh , 11 persons died.</p> <p>In Tamil Nadu. 2 persons died due to house collapse.</p>	<p>In Tamil Nadu,</p> <p>i) Extensive damage to private and public property reported.</p> <p>ii) 1.4 hectares of cropland submerged.</p>