

Weather in India

POST MONSOON SEASON (October-December 2010)†

1. Introduction

The Bay of Bengal had been cyclogenetically active and the season witnessed the formation of a Very Severe Cyclonic Storm (Giri), Severe Cyclonic Storm (Jal), one Deep Depression and two Depressions over the region.

It was the convectively active phase of the Madden-Julian Oscillation (MJO), lingered over the Indian region during 4th-18th October that aided the formation of the Depressions over the Bay of Bengal in the first fortnight of October. Since the systems moved inland, causing widespread rainfall, the withdrawal of southwest monsoon, which had already been delayed from the northwestern parts, got further delayed. However, the withdrawal took place in a rapid manner from 26th October onwards and by 29th October, the southwest monsoon withdrew from the entire country.

The commencement of northeast monsoon rains occurred simultaneous with the withdrawal of the southwest monsoon from the south peninsula on 29th October. Certain specific circulation features and dynamics associated with the cyclonic storms, viz., the Very Severe Cyclonic Storm (Giri) and the Severe Cyclonic Storm (Jal) caused the interior parts of south peninsula to receive higher rainfall, while leaving behind the coastal districts to be rainfall deficient. However, at the end of the season, all those meteorological sub-divisions that benefit from northeast monsoon received excess rainfall.

The easterly regime dominated the overall weather over the country, during most parts of the season. Even though some perturbations in the mid-latitude westerlies moved across the northern parts of the country in the form of upper air cyclonic circulations and troughs in the mid & upper tropospheric levels, they did not cause much precipitation in the northwestern parts. However, their frequency increased in December and northern parts of the country and higher reaches of the Himalayas started experiencing weather associated with these, in the form of cold waves and snowfall.

Cold wave conditions manifested over parts of central and northwest India towards the second week of December. They prevailed over northwest and central

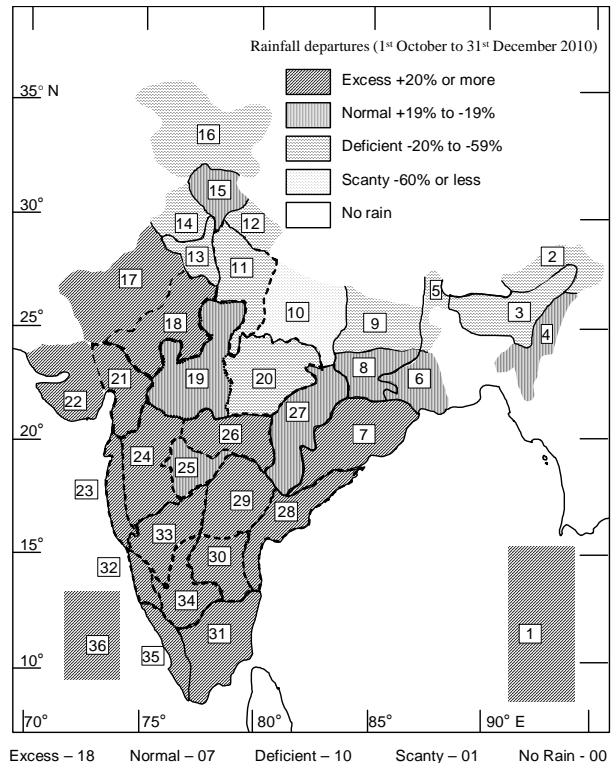


Fig. 1. Sub-division wise seasonal rainfall departure from normal (%) for Post monsoon season (October to December 2010). Sub-divisions are indicated by number on the map & bold letters in legend. The rainfall anomaly values for these 36 sub-divisions are indicated below :

1	31	7	41	13	-48	19	12	25	10	31	41
2	-38	8	1	14	-44	20	-49	26	25	32	131
3	-41	9	-29	15	-18	21	43	27	14	33	21
4	5	10	-64	16	-31	22	160	28	76	34	66
5	-36	11	-59	17	244	23	121	29	51	35	67
6	-12	12	-55	18	200	24	46	30	30	36	32

India and parts of peninsular and northeast India from the third week of December. Compared to last year, its severity and spatial extent had been much higher during this period. The major weather related disasters that occurred over the south peninsula were caused by heavy rainfall and over north India by *cold wave*.

2. Seasonal rainfall (October-December)

The meteorological sub-divisionwise rainfall departures from normal are given in Fig. 1 and Table 1.

* Terms in Italics other than the sub-titles are explained in Appendix.

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TABLE 1
Sub-divisionwise rainfall (mm) for each month and season as a whole (October-December 2010)

S. No.	Meteorological Sub-divisions	October			November			December			Season		
		Actual (mm)	Normal (mm)	Dep. (%)	Actual (mm)	Normal (mm)	Dep. (%)	Actual (mm)	Normal (mm)	Dep. (%)	Actual (mm)	Normal (mm)	Dep. (%)
1.	A. & N. Islands	415	298	39	281	262	7	254	163	56	951	723	31
2.	Arunachal Pradesh	84	159	-47	60	45	33	6	37	-84	150	241	-38
3.	Assam & Meghalaya	103	167	-38	10	27	-62	7	12	-40	121	206	-41
4.	Naga., Mani., Mizo. and Tri.	203	169	20	5	44	-89	28	13	126	236	226	5
5.	Sub-Himalayan West Bengal & Sikkim	91	159	-43	27	19	43	3	11	-76	121	188	-36
6.	Gangetic West Bengal	99	127	-22	6	23	-75	32	5	507	137	155	-12
7.	Orissa	143	122	17	38	28	35	40	6	614	221	156	41
8.	Jharkhand	59	83	-28	5	10	-57	35	4	741	99	98	1
9.	Bihar	53	70	-24	2	5	-63	0	3	-88	56	79	-29
10.	East Uttar Pradesh	17	51	-67	5	4	33	0	6	-97	22	61	-64
11.	West Uttar Pradesh	3	39	-93	15	4	260	3	7	-51	21	50	-59
12.	Uttarakhand	12	56	-79	5	8	-38	22	22	0	39	86	-55
13.	Haryana, Chandigarh & Delhi	2	16	-90	3	5	-45	10	6	57	14	27	-48
14.	Punjab	6	22	-73	0	5	-91	17	15	13	23	41	-44
15.	Himachal Pradesh	24	46	-48	9	20	-54	57	46	26	91	111	-18
16.	Jammu & Kashmir	37	35	4	12	31	-60	52	80	-35	101	146	-31
17.	West Rajasthan	1	4	-85	24	3	862	4	2	118	29	8	244
18.	East Rajasthan	0	15	-98	75	7	914	3	3	-16	78	26	200
19.	West Madhya Pradesh	11	32	-66	47	14	247	1	7	-85	59	53	12
20.	East Madhya Pradesh	17	39	-56	11	12	-2	2	9	-76	31	60	-49
21.	Gujarat region	8	21	-61	40	11	273	0	2	-87	48	34	43
22.	Saurashtra & Kutch	5	14	-60	62	11	466	0	1	-100	68	26	160
23.	Konkan & Goa	188	105	80	109	26	319	2	5	-66	299	135	121
24.	Madhya Maharashtra	76	70	8	76	28	172	1	6	-87	153	104	46
25.	Marathawada	64	67	-5	40	22	87	1	7	-84	105	96	10
26.	Vidarbha	52	53	-3	40	15	172	3	8	-60	95	75	25
27.	Chattisgarh	55	67	-16	13	10	34	24	5	415	93	81	14
28.	Coastal Andhra Pradesh	206	197	4	241	104	132	128	26	393	574	327	76
29.	Telangana	102	84	21	46	21	122	18	4	303	165	109	51
30.	Rayalaseema	83	121	-32	163	67	146	29	25	16	275	212	30
31.	Tamil Nadu	154	181	-15	327	165	98	127	84	51	607	430	41
32.	Coastal Karnataka	347	179	95	235	66	258	12	14	-11	595	258	131
33.	North interior Karnataka	84	103	-18	79	28	185	2	6	-73	165	137	21
34.	South interior Karnataka	134	139	-4	194	49	300	4	13	-69	332	201	66
35.	Kerala	443	291	52	339	164	107	48	43	11	829	498	67
36.	Lakshadweep	153	153	0	201	117	72	82	59	38	436	329	32

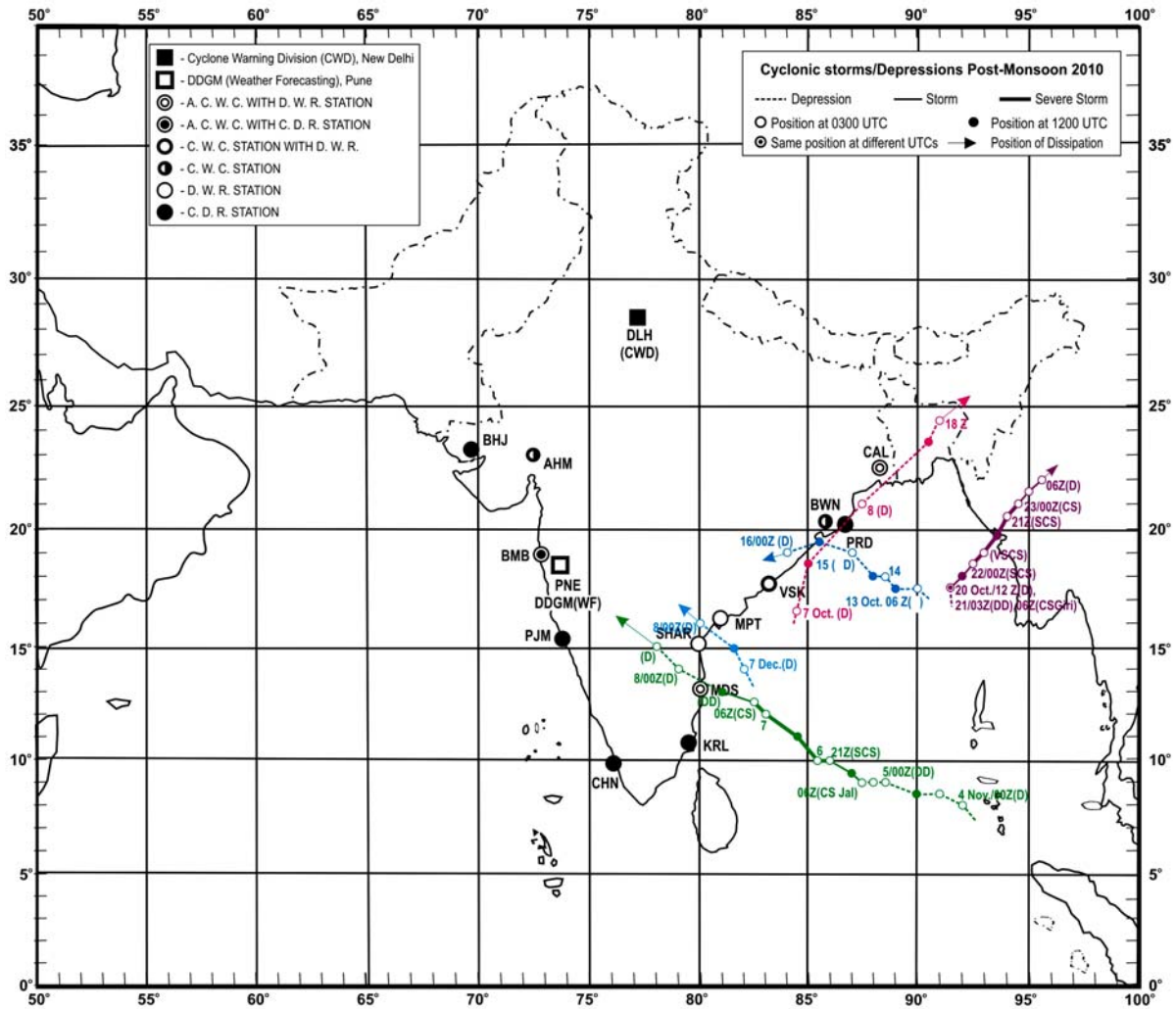


Fig. 2. Tracks of cyclonic storms and depressions during the period October to December 2010

The seasonal rainfall deficiency realized over the northern sub-divisions could be attributed to the lessened frequency of western disturbances and systems induced by them, capable of producing weather over the region. At the same time, the systems in the easterlies, which also include the 5 intense low pressure systems mentioned in the beginning, contributed to the *excess* rainfall over the rest of the sub-divisions.

3. Monthly features

3.1. October

3.1.1. Withdrawal of southwest monsoon

There was considerable delay in the withdrawal of southwest monsoon due to the prevalence of moisture in the lower levels and conducive conditions for rainfall

created by the presence of mid-latitude westerlies in the upper levels over the north western parts of the country. The withdrawal started from west Rajasthan on 27th September and by 1st October, the southwest monsoon withdrew from the northern parts and some parts of central India.

The enhanced convection associated with the significant strengthening of MJO phase during 4th - 18th October 2010 caused further delay in the withdrawal of monsoon from the central and eastern parts of the country. Two depressions gave rise to widespread rainfall over east central, central and peninsular India during this period.

However, the subsequent withdrawal from 26th October had been quite rapid. The southwest monsoon withdrew from the entire country, the Bay of Bengal and the Arabian Sea on 29th October.

3.1.2. Commencement of northeast monsoon rains

The successive formation of intense low pressure systems over the Bay of Bengal caused the ITCZ to linger over the northern latitudes for some more time in the month of October, thereby delaying the onset of easterlies over southeastern peninsula. The east-west shear zone ran roughly along Lat. 12 °N across the peninsula during this period.

With the moving away and dissipation of the Very Severe Cyclonic Storm (Giri) and the dissipation of another cyclonic circulation over the Arabian Sea off Maharashtra coast, the ITCZ made its southward retreat and easterlies/northeasterlies set in along the east coast of the south peninsula. Thus, simultaneous with the withdrawal of southwest monsoon, the northeast monsoon rains commenced over Tamil Nadu, Kerala and adjoining areas of Karnataka and Andhra Pradesh on 29th October.

3.1.3. Storms and depressions

A Very Severe Cyclonic Storm (Giri) (20th-23rd October), one Deep Depression (13th-16th October) and one Depression (7th-8th October) formed during the month. All these disturbances formed over the Bay of Bengal. The tracks of the systems are given in Fig. 2 and details are given below.

3.1.3.1. Depression over the Bay of Bengal (7th- 8th October 2010)

A low pressure area formed over the east central Bay of Bengal and neighbourhood on 4th. It moved over to the west central Bay of Bengal off Andhra coast on 6th and concentrated into a Depression at 0300 UTC of 7th, centered near Lat. 16.5° N/Long. 84.5° E, about 180 kms southeast of Visakhapatnam. It moved north northeastwards and lay centered near Lat. 18.5 °N / Long. 85.0 °E at 1200 UTC, about 100 kms south southeast of Gopalpur. Thereafter, it moved in a northeasterly direction and at 0300 UTC of 8th, it lay centered near Lat. 21.0 °N / Long. 87.5 °E, about 90 kms south of Digha. It moved northeastwards and crossed West Bengal-Bangladesh coasts near Long. 88.5 °E between 0500 & 0600 UTC and lay centred at 1200 UTC over Bangladesh, close to Dhaka (Lat. 23.5 °N / Long. 90.5 °E). The system weakened into a low pressure area over Nagaland-Manipur-Mizoram-Tripura and neighbourhood in the early morning of 9th, which subsequently moved over to Arunachal Pradesh and neighbourhood and became less marked in the morning hours of 9th.

The system did not cause much damage in India. However, tidal waves wreaked havoc in east Midnapore district and 850 families were shifted to safer places.

Under the influence of this system, monsoon was active or vigorous in Orissa, Gangetic West Bengal, Assam & Meghalaya and Nagaland-Manipur-Mizoram-Tripura. Heavy rainfall occurred at isolated places in interior Orissa on 6th and 7th and extremely heavy rain with heavy to very heavy falls at isolated places occurred in coastal Orissa on 8th.

Some significant amounts of rainfall (in cm) are:

Orissa

7th October : Kendrapada 9, Rajkanika 8, Soro, Chandbali & Bhadrak 7 each.
8th October : Paradip 25, Pattamundai 15, Kakatpur 15, Chandbali, Kendrapara & Bhadrak 14 each, Rajkanika 11, Balasore & Puri 10 each, Athgarh & Soro 9 each, Mundali 8, Nimapara 7.

Gangetic West Bengal

8th October : Canning Town 8, Diamond Harbour & Durgachak 7 each.

Assam & Meghalaya

8th October : Barapani 46, Cherrapunji 22.
9th October : Cherrapunji 30, Silchar 14, Dholai, Williamnagar 9, Lumding, Barapani, Gharmura & Amraghat 8 each, Kherunighat & Jorhat 7 each.

Nagaland-Manipur-Mizoram-Tripura

8th October : Sonamura 15, Belonia 14, Sabroom 11.
9th October : Agartala 18, Kailashahar 12, Imphal 10.

3.1.3.2. Deep Depression over the Bay of Bengal (13th-16th October 2010)

A low pressure area formed over the east central Bay of Bengal and neighbourhood on 12th. It became well marked over there on 13th morning and subsequently concentrated into a Depression at 0600 UTC near Lat. 17.5 °N / Long. 90.0 °E, about 550 kms southeast of Gopalpur. Moving westwards, it lay centered at 1200 UTC of 13th near Lat. 17.5 °N / Long. 89.0 °E. Subsequently moving northwestwards, it lay centred near Lat. 18.0 °N / Long. 88.5 °E, about 430 kms southeast of Gopalpur at 0300 UTC and near Lat. 18.0 °N /

Long. 88.0 °E at 1200 UTC of 14th. Further, it moved northwestwards and intensified into a Deep Depression and lay at 0300 UTC of 15th over northwest Bay of Bengal centred near Lat. 19.0 °N / Long. 87.0 °E, about 220 kms eastsoutheast of Gopalpur. Moving westwards, it lay centred at 1200 UTC over northwest Bay of Bengal, close to Orissa coast near Lat. 19.5 °N / Long. 85.5 °E, about 50 kms southsouthwest of Puri. It moved westwards and crossed Orissa coast near Gopalpur between 1500 & 1600 UTC of 15th. It continued to move in a westerly direction and weakened into a Depression and lay centred at 0000 UTC of 16th over south Orissa and adjoining areas of Chhatisgarh and north Andhra Pradesh, about 50 kms west of Gopalpur (Lat. 19.0 °N / Long. 84.0 °E). Continuing the westerly course, it weakened into a well marked low pressure area over south Orissa and adjoining Chhatisgarh & north Andhra Pradesh on 16th morning. On 17th morning, it lay over south Chhatisgarh and adjoining Vidarbha & Telangana and over Telangana & neighbourhood in the evening. It continued to move in a near westerly direction as low pressure area and moved across Vidarbha, Marathwada and Madhya Maharashtra and finally became less marked on 20th over the east central Arabian Sea off Maharashtra coast.

No damage was reported in Orissa and Andhra Pradesh. Heavy to very heavy rainfall occurred at isolated places over Gangetic West Bengal and coastal Orissa on 15th and 16th. Heavy rainfall occurred at isolated places in Andhra Pradesh on 15th and over Chhattisgarh on 16th.

Some significant amounts of rainfall (in cm) are:

Gangetic West Bengal

15th October : Basirhat 11, Uluberia 8.

Orissa

15th October : Paradeep 14, Pattamundai 9, Pipili, Bhadrak, Kendrapara, Rajkanika & Khandapara 8 each, Nimapara, Mahendragarh & Alipingal 7 each.

16th October : Kosagumda 24, Junagarh & Umarkote 15 each, Jaipatna 14, R. Udaigiri 13, Soro 12, Parlakhemundi & Nawarangpur 11 each, Kalinga & Jeypore 9 each, Bhawanipatna & Daringibadi 8 each, Rayagada & Koraput 7 each.

Andhra Pradesh

15th October : Palasa 8.

Chhattisgarh

16th October : Jagdalpur 11, Narayanpur & Kondagaon 8 each.

3.1.3.3. Very Severe Cyclonic Storm (Giri) over the Bay of Bengal (20th–23rd October 2010)

A low pressure area formed over the east central Bay of Bengal and neighbourhood on 19th. It concentrated into a Depression at 1200 UTC of 20th and lay centred near Lat. 17.5 °N / Long. 91.5 °E, about 550 kms southeast of Digha. Remaining practically stationary, it intensified into a Deep Depression at 0300 UTC of 21st and further into a Cyclonic Storm (Giri) at 0600 UTC. It then moved northeastwards and lay centred at 1200 UTC near Lat. 18.0 °N / Long. 92.0 °E, about 600 kms southeast of Digha. Continuing the northeasterly movement, it further intensified into a Severe Cyclonic Storm at 0000 UTC of 22nd and lay over east central and adjoining northeast Bay of Bengal centred near Lat. 18.5 °N / Long. 92.5 °E. It further intensified into a Very Severe Cyclonic Storm and lay at 0300 UTC of 22nd over the northeast Bay of Bengal centred near Lat. 19.0 °N / Long. 93.0 °E. Further, it moved north-northeastwards and lay centred at 1200 UTC centered near Lat. 19.8 °N / Long. 93.5 °E, close to Myanmar coast, about 100 kms southeast of Sittwe (Myanmar). Taking a northerly course, it crossed Myanmar coast about 70 kms east-southeast of Sittwe (Myanmar) around 1400 UTC of 22nd and lay at 1500 UTC over coastal areas of Myanmar centred near Lat. 20.0 °N / Long. 93.5 °E, about 70 kms east-southeast of Sittwe (Myanmar). Further, it moved northeastwards and weakened into a Severe Cyclonic Storm at 2100 UTC and lay centered near Lat. 20.5 °N / Long. 94.0 °E. Weakening further into a Cyclonic Storm, it lay centered at 0000 UTC of 23rd near Lat. 21.0 °N / Long. 94.5 °E. It continued to move in a northeasterly direction and lay centred at 0300 UTC of 23rd near Lat. 21.5 °N / Long. 95.0 °E, about 70 kms south-southwest of Monywa (Myanmar). It weakened into a Depression and lay centered near Lat. 22.0 °N / Long. 95.5 °E at 0600 UTC of 23rd. It lay as well marked low pressure area over central parts of Myanmar in the evening of 23rd and became less marked thereafter.

As the system moved away from the east coast of India, it did not affect the weather over India.

3.1.4. Other synoptic features and associated weather

Table 2 gives a summary of the synoptic features for the month of October 2010. The sub-division wise percentage departure from normal and significant amounts of rainfall are given respectively in Tables 1 & 5 and the

TABLE 2
Details of the weather systems during October 2010

S. No.	System	Duration	Place of first location	Direction of movement	Place of final location	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(A) Cyclonic storm						
1	Very severe cyclonic storm (Giri)	20 - 23	East central Bay of Bengal and neighbourhood	Northeast	Central parts of Myanmar	The details of the system are given in the text
(B) Depression/deep-depressions						
1.	Depression	7 - 8	West central Bay of Bengal off Andhra Pradesh coast	Northnortheast and then northeast	Nagaland-Manipur-Mizoram-Tripura	Details of the system are given in the text
2.	Deep Depression	13 - 16	East central Bay of Bengal and neighbourhood	Northwest	South Orissa and adjoining Chhattisgarh and north Andhra Pradesh	Details of the system are given in the text
(C) Western disturbances/eastward moving systems						
<i>(i) Upper air cyclonic circulation</i>						
1.	Upto mid tropospheric levels	10 - 12	North Pakistan and adjoining Jammu & Kashmir	Northeast	Western parts of Jammu & Kashmir	Moved away on 13
2.	Do	16 - 18	North Pakistan and neighbourhood	Do	Do	Moved away on 19
3.	Do	20 - 23	Do	Do	Do	Moved away on 24
4.	Do	24 - 25	Do	Do	Do	Moved away on 26
5.	Do	29 - 31	North Pakistan and adjoining Jammu & Kashmir	Do	Do	Moved away on 1 November
<i>(ii) Trough in westerlies</i>						
1.	Between 2.1 & 4.5 kms a.s.l.	11 - 12	Sub-Himalayan West Bengal & Sikkim to north Bay of Bengal	Stationary	<i>In situ</i>	Less marked on 13
2.	Mid and upper tropospheric levels	30 Oct - 2 Nov	Long. 76° E to the north of 26° N	East	Long. 85° E, to the north of 25° N	Moved away on 3 November
(D) Other upper air cyclonic circulations						
1.	Mid tropospheric levels	4 - 6	Southeast Arabian sea and adjoining Lakshadweep area	Quasi-stationary	Lakshadweep area and neighbourhood	It was a remnant of the low pressure formed over southeast Arabian sea and neighbourhood on 29 September
2.	Lower tropospheric levels	6 - 7	East Rajasthan and neighbourhood	Stationary	<i>In situ</i>	Less marked on 8
3.	Do	13 - 14	East central Arabian sea off Karnataka coast	Do	Do	Less marked on 15
4.	Upto 2.1 kms a.s.l.	24 - 27	South coastal Andhra Pradesh and neighbourhood	Quasi-stationary	West central Bay of Bengal and adjoining coastal Andhra Pradesh	Less marked on 28
5.	Up to 4.5 kms a.s.l.	28 Oct - 5 Nov	South Tamil Nadu and adjoining Sri Lanka	Northwest	East central Arabian sea off coastal Karnataka	Less marked on 6 November

TABLE 3
Details of the weather systems during November 2010

S. No.	System	Duration	Place of first location	Direction of movement	Place of final location	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(A) Cyclonic storm						
1.	Severe Cyclonic Storm (Jal)	4 - 8	Southeast Bay of Bengal and neighbourhood	Northwest	Rayalaseema and neighbourhood	Details of the system are given in the text
(B) Low pressure areas						
1.	Well marked low pressure area	14 - 16	Southeast Bay of Bengal and adjoining south Andaman sea	West	Southwest Bay of Bengal and adjoining north coastal Tamil Nadu	It was first observed as a cyclonic circulation (upto mid tropospheric levels) over south Andaman sea and neighbourhood from 10 to 14. It became well marked on 15. The system became less marked on 17. However, the associated cyclonic circulation extending upto 3.1 kms a.s.l. lay over : south Tamil Nadu and adjoining Kerala on 17, Lakshadweep area and neighbourhood on 18, east central Arabian sea on 19, east central and adjoining west central Arabian sea on 20. Under it's influence, a low pressure area formed over the same area in the evening; the details of it are given in the next row
2.	Low pressure area	20 - 23	East central and adjoining west central Arabian sea	Northeast	Northeast Arabian sea and adjoining Gujarat region	The system was formed, under the influence of the remnant of the above system. It became less marked on 24 November. However, the associated cyclonic circulation extended up to lower tropospheric levels and lay over Gujarat region and neighbourhood on 24. It became less marked on 27 over west Rajasthan and neighbourhood. A trough in low level easterlies extended from the above system to : Gujarat Region from 18 to 20 to Lakshadweep area on 21; east Rajasthan on 22; west Rajasthan on 23; Haryana and neighbourhood on 24; west Uttar Pradesh on 25 and became less marked on 26
(C) Western disturbances/eastward moving systems						
(i) Upper air cyclonic circulations						
1.	up to mid tropospheric levels	2	Jammu & Kashmir and neighbourhood	Northeast	Western parts of Jammu & Kashmir and neighbourhood	Moved away on 3
2.	Do	6 - 7	North Pakistan and adjoining Jammu & Kashmir	Do	Jammu & Kashmir and neighbourhood	Moved away on 8
3.	Do	21 - 24	North Pakistan and adjoining Jammu & Kashmir	Do	Western parts of Jammu & Kashmir	Moved away on 25
4.	Do	26 - 28	North Pakistan and adjoining Jammu & Kashmir	Do	Jammu & Kashmir	Moved away on 29

TABLE 3 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>(ii) Troughs in westerlies</i>						
1.	Mid and upper tropospheric levels	25 - 27	Long. 67° E, to the north of 23° N	Northeast	Long. 74° E, to the north of 20° N	Moved away on 28
<i>(D) Other upper air cyclonic circulations</i>						
1.	Lower tropospheric levels	20 - 27	Sri Lanka and neighbourhood	Northwest	Lakshadweep area and neighbourhood	Less marked on 28
2.	Lower tropospheric levels	26 Nov - 7 Dec	South west Bay of Bengal and adjoining south coastal Tamil Nadu & Sri Lanka	Do	Do	Less marked on 8
<i>(E) Troughs in easterlies</i>						
1.	Lower tropospheric levels	15 - 20	Lakshadweep area to south Konkan & Goa	West	East central Arabian sea to Haryana across northeast Arabian sea, Gujarat region and east Rajasthan	It extended from Kerala to south Konkan & Goa on 16 ; east central Arabian sea to Haryana across northeast Arabian sea, Gujarat region and east Rajasthan on 17 It extended from the associated cyclonic circulation of the low pressure area from 18 to 20. Details of which are given under II (2)
2.	Do	25 - 26	Lakshadweep area and neighbourhood to Madhya Maharashtra	Stationary	<i>In situ</i>	Less marked on 27
3.	Trough of low at sea level	30 Nov - 3 Dec	Southwest Bay of Bengal off south Tamil Nadu Sri Lanka coast	West	Southeast Arabian Sea and neighbourhood <i>in situ</i>	It merged with low pressure area over southwest Bay of Bengal on 4. Details of the low pressure area are given in Table 4

frequency of days of *vigorous/active* monsoons and heavy rainfall are given in Table 10.

3.1.5. Temperature

The dates on which the maximum temperature remained *appreciably to markedly above/below normal* and *above/below normal* are given in Table 6. The same date appearing in two different columns of a sub-division may be reckoned as occurrence of that category over parts of the sub-divisions. The maximum temperatures were *normal* for the rest of the days. No *heat wave condition* occurred during the month.

The month's highest maximum temperature in the plains of the country was 40.3° C recorded at Jaisalmer (west Rajasthan) on 3rd October 2010.

The dates of occurrence on which the minimum temperature remained *appreciably to markedly below/above normal* and *below/above normal* are given in Table 7. Minimum temperatures were *normal* for the rest of the days. No *cold wave condition* occurred during the month.

The month's lowest minimum temperature in the plains of the country was 8.5 °C recorded at Banda (east Uttar Pradesh) on 24th October 2010.

3.1.6. Disastrous weather events and associated damage

According to media and other reports from various regions, heavy rain, lightning, thunderstorm, hailstorm and thundersqualls took a toll of 40 lives in Maharashtra, 22 in Kerala, 9 in Uttar Pradesh, 6 in Tamil Nadu, 5 in Jharkhand, 4 in Kashmir, 3 in Karnataka and 1 in Madhya Pradesh. Incessant heavy rains caused flood situations in many parts of Uttar Pradesh. Around 130 villages were affected. The damage caused by the intense systems are separately given under section 3.1.3.

3.2. November

3.2.1. Storms and Depressions

One Severe Cyclonic Storm (Jal) formed during the month. The details are given below.

3.2.1.1. Severe Cyclonic Storm (Jal) over the Bay of Bengal (4th-8th November 2010)

A low pressure system emerged into south Andaman Sea from west Pacific across southern Thailand on 2nd. It lay as a well marked low pressure area over the same region in the morning of 3rd. It concentrated into a

TABLE 4
Details of the weather systems during December 2010

S. No.	System	Duration	Place of first location	Direction of movement	Place of final location	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(A) Depressions						
1.	Depression	7 - 8	Southwest and adjoining west central Bay of Bengal	North northwest	Coastal Andhra Pradesh and neighbourhood	Details of the system are given in the text
(B) Low pressure area						
1.	Low pressure area	2 - 4	Southeast and adjoining southwest Arabian sea	Quasi stationary	Southwest Arabian sea and neighbourhood	It lay as a trough of low at sea level over southeast Arabian sea and neighbourhood on 2 morning and as a low pressure area in the evening on the same day. It persisted on 3 & 4 and moved away on 5
(C) Western disturbances/eastward moving cyclonic circulations						
<i>(i) Upper air cyclonic circulations</i>						
1.	Up to 4.5 kms a.s.l.	5 - 11	North Pakistan and adjoining Jammu & Kashmir	Northeast	Western parts of Jammu & Kashmir	Moved away on 12
2.	Do	13 - 14	Do	Do	Jammu & Kashmir and neighbourhood	Moved away on 15
3.	Do	15 - 18	North Pakistan and neighbourhood	Eastnortheast	Do	Moved away on 19
4.	upto 3.6 kms a s l	20 - 23	North Pakistan and adjoining Jammu & Kashmir	Do	Do	Moved away on 24
5.	Do	23 - 28	Do	Northeast	Do	Moved away on 29
6.	Upto 3.1 kms a.s.l.	30 Dec - 1 Jan	Jammu & Kashmir and neighbourhood	Eastnortheast	Do	Moved away on 2 Jan 2011
<i>(ii) Induced cyclonic circulations</i>						
1.	Lower tropospheric levels.	27 - 31	West Rajasthan and neighbourhood	Northeast	Haryana and adjoining west Uttar Pradesh	Less marked on 1 Jan 2011
<i>(iii) Troughs in westerlies</i>						
1.	Mid and upper troposphere	15 - 20	Long. 64° E, to the north of 25° N	Northeast	Long. 80° E, to the north of 25° N	Moved away on 20
2.	Mid and upper troposphere	29 Dec 2010 - 1 Jan 2011	Long. 63° E, to the north of 20° N	Northeast	Long. 83° E, to the north of 25° N	Moved away on 2 Jan 2011
<i>(iv) Troughs in easterlies</i>						
1	Trough of low at sea level	20 - 29	Southwest Bay of Bengal	Stationary	<i>In situ</i>	Less marked on 30
2	Do	22 - 24	Lakshadweep - Maldives areas	Do	Do	Less marked on 25

TABLE 4 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
(D) Other cyclonic circulations						
1.	Upto 0.9 km a.s.l.	9 - 10	South Konkan & Goa and neighbourhood	Stationary	<i>In situ</i>	Less marked on 11
2.	Upto lower tropospheric levels	13 - 19	South Tamil Nadu and adjoining Sri Lanka	Northwest	Lakshadweep area and neighbourhood	It lay over south Tamil Nadu and adjoining Kerala upto 15; over Kerala and adjoining Lakshadweep area and neighbourhood upto 19 and then became less marked on 20 <i>in situ</i>
3.	Upto mid tropospheric levels (upto 4.5 kms a.s.l)	15 - 20	Sri Lanka and neighbourhood	Do	Comorin and adjoining south Kerala	Less marked on 21
4.	Upto 3.1 kms	18 - 19	Southeast Bay of Bengal and adjoining south Andaman sea	Stationary	<i>In situ</i>	Less marked on 20
5.	Upto 3.6 km a.s.l.	22 Dec 2010 - 11 Jan 2011	Sri Lanka and neighbourhood	Oscillatory	Sri Lanka and neighbourhood	It persisted <i>in situ</i> upto 26; lay over Tamil Nadu and neighbourhood from 27 Dec 2010 to 10 Jan 2011 and merged with a cyclonic circulation over southwest Bay of Bengal on 11
6.	Upto 0.9 kms a.s.l.	31 Dec 2010 - 4 Jan 2011	Lakshadweep area and neighbourhood	West	Southeast Arabian Sea	It was seen over southeast Arabian sea off Kerala – south Karnataka coast on 3 ; southeast Arabian sea on 4 and then moved away on 5 Jan 2011

Depression and lay over the southeast Bay of Bengal and neighbourhood centred near Lat. 8.0 °N / Long. 92.0 °E at 0000 UTC of 4th. It moved westnorthwestwards and lay at 0300 UTC centred near Lat. 8.5 °N / Long. 91.0 °E and moving westwards, it lay centered at 1200 UTC near Lat. 8.5 °N / Long. 90.0 °E. Further moving westnorthwestwards, it concentrated into a Deep Depression at 0000 UTC of 5th and lay centered near Lat. 9.0 °N / Long. 88.5 °E and at 0300 UTC, it lay centred near Lat. 9.0 °N / Long. 88.0 °E. Moving in a northwesterly direction, it further intensified into a Cyclonic Storm (Jal) at 0600 UTC of 5th and lay centered near Lat. 9.0 °N / Long. 87.5 °E and 1200 UTC of near Lat. 9.5 °N / Long. 87.0 °E. Taking a west-northwesterly course, it further intensified into a Severe Cyclonic Storm at 2100 UTC of 5th and lay centred near Lat. 10.0 °N / Long. 86.0 °E. It moved slightly westwards and lay centred near Lat. 10.0 °N / Long. 85.5 °E at 0300 UTC of 6th. It then moved northwestwards and lay centered at 1200 UTC near Lat. 11.0 °N / Long. 84.5 °E. It continued to move in the same direction and lay over the southwest Bay of Bengal at 0300 UTC of 7th centered near Lat. 12.0 °N / Long. 83.0 °E. It weakened into a Cyclonic Storm and lay centred near Lat. 12.5 °N / Long. 82.5 °E at 0600 UTC of 7th and further weakened into a Deep Depression at 1200 UTC of 7th and lay centered near Lat. 13.0 °N / Long.

81.0 °E. Continuing its northwestwards movement, it crossed north Tamil Nadu-south Andhra Pradesh coasts, close to north of Chennai near Lat. 13.3 °N / Long. 80.2 °E around 1600 UTC of 7th and lay over coastal areas of north Tamil Nadu-south Andhra Pradesh, centred near Lat. 13.5 °N / Long. 80.0 °E (about 60 kms northwest of Chennai) at 1800 UTC. It moved west-northwestwards and weakened into a Depression and lay at 0000 UTC of 8th over Rayalaseema and neighbourhood centred near Lat. 14.0 °N / Long. 79.0 °E. Moving northwestwards, it lay at 0300 UTC of 8th over Rayalaseema, centred about 50 kms northeast of Anantpur (Lat. 15.0 °N / Long. 78.0 °E). Moving slightly westwards, it further weakened into a well marked low pressure area over Rayalaseema and adjoining south interior Karnataka by 0600 UTC and over interior Karnataka and adjoining south Madhya Maharashtra in the evening of 8th. On 9th morning, it lay over the east central Arabian Sea off south Maharashtra-Goa coasts and over the east central Arabian Sea off Maharashtra coast in the evening. It lay over the northeast Arabian Sea off Gujarat coast in the morning of 10th.

Eleven people died in Andhra Pradesh. Hundreds of houses were damaged and crops over about 15,000 hectares were destroyed. A loss of about 83 crores was estimated.

TABLE 5
Rainfall reported (in cms; 3cms and above) (October – December 2010)

Date	October	November	December
(1)	(2)	(3)	(4)
1.	Chandgad 13, Subramanya 12, Gokarna & Kumta 11 each, Siddapur 10, Addanki & Lakkavalli 9 each, Quepem 8, Honnali, Joida, Ottapalam & Porumamilla 7 each, Angadipuram, Honavar & Lakkireddipalam 6 each, Ankola, Avaniagadda, Chikkanahalli, Jagalbet, Kota, Maniyatchi, Nanguneri, Narsapuram, Polavaram, Shikaripur & Yellapur 5 each, Badatighat, Banpur, Canacona, Coonoor, Gersoppa, Holenarsipur, Konni, Linganamakki, Nedumangad, Pallipattu, Piravom, Rayachoti & Sholavandan 4 each, Hosanagara, Hunchadakatte, Jajpur, Khanapur, Kodaikanal, Manki, Ongole, Sanguem, Tangi, Thalaguppa, Thyagarathi, Uthamapalayam & Vilathikulam 3 each	Amalapuram 31, Kakinada & Tuni 19 each, Anakapalli, Kakinada, Visakhapatnam & Visakhapatnam 18 each, Vijayanagaram & Vridhachalam 17 each, Yellamanchili 16, Chodavaram & Peddapuram 13 each, Aruppukottai, Koderu & Prathipadu 12 each, Tozudur & Uthiramerur 11 each, Machilipatnam & Tanuku 10 each, Avaniagadda, Dharmapuri, Narsapuram, Narsipatnam & Srungavarapukota 9 each, Bhimuniapatnam, Gajapathinagaram, Gudivada, Kaveripakkam, Sathanur Dam, Tadepalligudem, Udayagiri & Vembavur 8 each, Bhimavaram, Chintapalli, Gingee, Kaikalur, Rapalle, Tirukoilur & Tiruvannamalai 7 each, Arani, Chengam, Kuppam, Polavaram, Samayapuram, Taliparamba, Vandavasi & Vijayawada 6 each, Araku Valley, Baur, Bhimadole, Cheyyur, Eluru, Jagalbet, K. M. Koil, Lalgudi, Mandasa, Paderu, Salur, Sattur, Sompeta, Vaniyambadi & Virudhunagar 5 each, Alangayam, Bhagamandala, Bobbili, Cheepurupalli, Cuddalore, Cumbam, Dharapuram, Gopalpur, Grand Anicut, Irikkur, Itchapuram, Kalingapatnam, Koyyalagudem, Padalur, Pallipattu, Paradeep, Paralakhemundi, Peraiyur, Perinthalamanna, Polur, Rapur, Sendamangalam, Thanjavur, Tirukattupalli, Walajapet, Yelandur & Yercaud 4 each, Ambur, Aranthangi, Chittoor, Coimbatore, Harur, Madhugiri, Muthupet, Nanjangudu, Penugondapuram, Ranasthalam, Salem, Sirkali, Srimushnam, Subramanya, Tiruchengodu, Vazapadi & Viluppuram 3 each	Parangipettai 22, Cholavaram 13, Kollidam 10, Chidambaram 9, Ambasamudram, Cuddalore, Orathanadu & Sethiyathope 8 each, K. M. Koil, Mayiladuthurai, Sirkali, Thiruvidaimarudhur & Vembavur 6 each, Karambakudi, Kodavasal, Kumbakonam, Nagapattinam, Srivaikuntam & Tiruvadanai 5 each, Adirampattinam, Kalpakkam, Kaveripakkam, Manimuthar, Nannilam, Palayamkottai, Pamban, Papanasam, Paramakudi, Red Hills, Sattankulam, Tondi, Toothukudi, Valangaiman & Vridhachalam 4 each, Arakkonam, Jayamkondan, Kanchipuram, Mannargudi, Needamangalam, R.S.Mangalam, Srimushnam, Thanjavur, Ulundurpet & Vedaranniyam 3 each
2.	Mannarkkad & P. N. Palayam 11 each, Ramanathapuram 10, Kuzithurai 9, Kothagiri, Manjeri, Mylaudy, Thuckalay & Vadakara 8 each, Ballupet, Coonoor, Konni & Nagarkoil 7 each, Khandapara, Koderu, Mudukulathur & Punalur 6 each, Aryankavu, Kalingapatnam, Kariapur, Kollur, Quilandy, Thiruthuraiipoondi, Thodupuzha & Virajpet 5 each, Amalapuram, Angadipuram, Bhimavaram, Chickmagalur, Eraniel, Hosanagara, Kanniyakumari, Ketti, Kundha, Madukur, Nedumangad, Paramakudi, Rameswaram, Sirkali, Uppinagadi & Visakhapatnam 4 each, Addanki, Banpur, Bantwal, Bhavanisagar, Bodinayakanur, Chhatrapur, Illayankudi, K. M. Koil, Kadaladi, Puri, Rajghat, Shenkottah & Varkala 3 each	Kadiri 15, Gauribidanur, Kandukur & Pulivendla 14 each, Bhimuniapatnam 13, C. N. Halli 12, Arani, Kanchipuram, Rajampet & Udayagiri 11 each, Chalakudy, Channapatana & Thalavadi 10 each, Amalapuram & Virajpet 9 each, Denkanikottai, Gobichettipalayam, Kaveli, Rapur & Vempalli 8 each, Cheyyar, Chickballapur, Irinjalakuda, Mulbagal, Palammer, Peravurani, Rasipuram & Visakhapatnam 7 each, Anakapalli, Bhavani, Ketti, Kolar, Nancowry, Pandavapura, Rayakottah, Sholigur, Sira, Srirampura, Srirangapatnam, Tumkur & Vijayanagaram 6 each, Ammathy, Atmakur, Dharmasthala, Kalyandrug, Koratagere, Kumarapalayam, Maddanur, Napoklu, Poonampet, Puttur, R. K. Pet, Sathyamangalam, Srikalahasthi, T.Narsipur, Tiruchengodu & Uthiramerur 5 each, Arsikere, Bagepali, Chamarajnar, Chilamattur, Chodavaram, Cholavaram, Cuddapah, Devala, Doddaballapura, Gubbi, Harur, Hindupur, Kamalapuram, Karkala, Kaveripakkam, Kottigehara, Lakkireddipalam, Mandya, Mani, Mannarkkad, Marandahalli, Mettur Dam, Nanjangudu, Sarguru, Sidlaghatta, Subramanya, Sullurpet, Tiruchirappalli, Vandavasi & Yercaud 4 each, Amarapuram, Attur, Bargur, Bhavanisagar, Chamrajanagara, Cheyyur, Gajapathinagaram,	Manimuthar 13, Mahabalipuram & Uthiramerur 12 each, Kallakurichi & Ulundurpet 11 each, Ambasamudram & Maduranthagam 10 each, Cholavaram, Gingee, Kanchipuram, Needamangalam & Vandavasi 9 each, Arani, Chidambaram, Jayamkondan, Pandavaiyar Head, Parangipettai, Sethiyathope, Sriperumbudur, Tiruchendur, Tiruvarur & Vridhachalam 8 each, Cheyyar, Orathanadu, Puttur, Thammanpatti, Thanjavur, Thiruthuraiipoondi, Tozudur & Vanur 7 each, Chingalepet, K. M. Koil, Kalpakkam, Melalathur, Pondicherry, Tambaram, Tindivanam, Tiruvannamalai & Vellore 6 each, Anna University, Cheyyur, Cuddalore, DGP Office, Kodavasal, Kollidam, Kumbakonam, Marakanam, Chennai, Nanguneri, Sattankulam, Sirkali, Srimushnam, Tirukoilur, Tiruvaiyaru, Valangaiman & Viluppuram 5 each, Arakkonam, Attur, Chengam, Gudiyatham, Kaveripakkam, Madukur, Nannilam, Pallipattu, Polur, Radhapuram, Rasipuram,

TABLE 5 (Contd.)

(1)	(2)	(3)	(4)
		Gudur, K. R. Nagara, Kannur, Kothagiri, Krishnarajsagara, Lakkavalli, M M Hills, Madakasira, Maddur, Magadi, Nellore, Pappireddipatti, Pavagada, Penukonda, Polur, Ranasthalam, Salem, Salur, Sompeta & Thrissur 3 each	Sathanur Dam, Sendamangalam, Sendurai, Srivaikuntam, Thiruvaidaimarudhur, Tirukattupalli, Vallam, Vembavur, Walajapet & Yercaud 4 each, Alangayam, Harur, Kodaikanal, Mangalapuram, Mannargudi, Mayiladuthurai, Muthupet, Namakkal, Omalur, Pakala, Papanasam, Pappireddipatti, Poondi, Red Hills, Sankarapuram, Sholigur, Sullurpet, Thiruvallangadu, Tirupati, Tiruttani, Vazapadi & Vinjamur 3 each
3.	Hassan, Natham & Watrap 13 each, Alur & Pambikulam 12 each, Bodinayakanur, Dharapuram & Vaikom 11 each, Piravom 10, Honnali, Lakkavalli & Vedasandur 9 each, Ammathy, Belur, C. N. Halli, Gobichettipalayam, Mannarkkad, Minicoy, Mulanur, Sathyamangalam & Thirumangalam 8 each, Chamarajnar, Kumarakkom, M. M. Hills, Medikeri & Srivaikuntam 7 each, Chamrajanagara, Chatrapatti, Cherthala, Hirekerur, Kangeyam, Kodaikanal, Maya Bandar, Palani, Periyakulam, Periyapatna & Sholavandan 6 each, Angadipuram, Arasalu, Bagrakote, Channapatana, Chodavaram, Gangtok, Halebeedu, Konni, Kuppady, Mancompu, Mettupatti, Mysore, Nagamangala, Nilakottai, Perinthalamanna, Pudu-cherry, Tadong, Theni, Thirupattur & Turuvekere 5 each, Alangayam, Alapuzha, Arsikere, Bajpe, Bandipura, Barapani, Bhagamandala, Chandgad, Chittampatti, Dindigul, H. D. Kote, Haripad, Hosdurg, Jayapura, K. R. Nagara, Ketti, Kochi, Kozha, Mayiladuthurai, Mudigere, Munnar, Nanjangudu, Nedumangad, Palasa, Perumpavur, Punalur, Saklespura, Siricilla, Sulur, Sulya, Thalavadi, Thiruthuraipoondi, Tiptur, Vadipatti & Valangaiman 4 each, Ajjampura, Ambalavayal, Ambasamudram, Anavatti, Aravakurichi, Begur, Coimbatore, Devala, Dhamtari, Dudda, Gingee, Holalur, Hunsur, Kalasa, Karipur, Karkala, Kottayam, Kottigehara, Lingadahalli, Long Island, Manantoddy, Musiri, Rayakottah, T. Narsipur, Tambaram, Tirupuvanam, Usilampatti, Vadakkancherry & Varkala 3 each	Chitradurga & Pallipattu 15 each, Bargur 14, B. Durga & Gingee 13 each, R. K. Pet 12, Amalapuram & Kallakurichi 11 each, Car Nicobar & Marandahalli 10 each, Amarapuram, Holalkere, Madhugiri & Mulbagal 9 each, Chikkanahalli, Kuppam, Pavagada, Puttur, Rayakottah & Srikalahasthi 8 each, Challakere, Kanakapura, Kodumudi, Linganamakki, Nancowry, Parasurampura, Polur & Santebennur 7 each, Banavasi, Bangarpet, Baur, Nayakanhatti, Nuzvid, Penukonda, Rapur, Sholigur, Tindivanam & Yellamanchili 6 each, Bharmasagar, Dambal, Denkanikottai, Dharmavaram, Gudibanda, Hindupur, Kandukur, Karkala, Machilipatnam, Melalathur, Mudubidre, Pochampalli, Podili, Ramagiri, Sankarapuram, Vandavasi, Watrap & Y. N. Hoskote 5 each, Anekal, Chintamani, Gauribidanur, Georai, Holenarsipur, Hosur, Narasaraopet, Palani, Punganur, Rajampet, Sira, Sirsi, Srinivasapur, Thalaguppa, Tirupati, Tondebhavi, Venkatagiri Town & Yercaud 4 each, Alangayam, Anchetty, Aroyavaram, Chinnoor, Dharmapuri, Gadag, Gersoppa, Gudiyatham, Hiriyyur, Hosanagara, Jagalur, Shirali, Thally & Viluppuram 3 each	Orathanadu & Thiruthuraipoondi 12 each, Nagapattinam 11, Illupur, Muthupet & Tiruvarur 10 each, Keeranur, Mannargudi, Marungapuri, Needamangalam, Pandavaiyar Head, Peravurani & Vallam 9 each, Adirampattinam, Alangudi, Dindigul, Kandarvakottai & Madukur 8 each, Car Nicobar, Dharapuram, Perungalur & Thanjavur 7 each, Atmakur, Kodavasal & Manimuthar 6 each, Agathi, Ambasamudram, Aranthangi, Kadaladi, Kallakurichi, Karambakudi, Kumarakkom, Nannilam, Natham, Pattukottai, Pudukkottai, Ramanathapuram, Shenkottah, Vedasandur & Viralimalai 5 each, Chengannur, Kamatchipuram, Kangeyam, Kanjirappally, Karaikal, Manaparai, Maniyatchi, Mavelikara, Mudukulathur, Nilakottai, Pamban, Sattankulam, Sivaganga, Srivaikuntam, Thirumangalam, Thiruvalla, Tirumayam, Toothukudi, Tozudur, Vaikom & Virudhunagar 4 each, Aruppukottai, Balaghat, Cuddalore, Devakottai, Gingee, Kodaikanal, Kollam, Mancompu, Palani, Peraiyur, Pollachi, Sethiyathope, Sholavandan, Tindivanam, Udumalpet & Vadipatti 3 each
4.	Gokarna 25, Punalur 16, Kayamkulam 15, Kollam 13, Thanjavur 12, Haveri, Maniyatchi & Mettur Dam 11 each, Guhagarh, Kanjirappally & Lanja 10 each, Canacona, Colachel, Hangal & Ratnagiri 9 each, Devgad, Haveri, Nedumangad, Radhanagari, Shiggaon, Sira, Thiruvananthapuram, Thrithla & Varkala 8 each, Ankola, Arasalu, Aryankavu, Gargoti, Haripad, Hassan, Hirekerur, Huliyardurga, Kadur, Kanakavli, Kottayam, Lakkavalli, Malvan, Needamangalam, Neyyattinkara, Pechiparai, Peermade, Shivani, Tensa, Thiruvalla,	Car Nicobar 18, Shivani 13, Ranebennur 10, Palani & Usilampatti 9 each, Kaveli, Melur, Mettupatti, Theni & Thirumangalam 8 each, Chingalepet, Kandukur, Khuldabad, Nannilam, Papanasam, Peermade, Podili & Ramagiri 7 each, Ajjampura, Amalapuram, Harapanahalli, Jammalamadugu, Kumarakkom, Mapusa, Nancowry, Ongole, Pakala, Tirumanur & Turuvekere 6 each, Armoor, Bellary, Canacona, Gudibanda, Kalyandrug, Kochi, Madurai, Periyakulam, Sholavandan, Srikalahasthi & Vaikom 5 each, Afzalpur, Bodinayakanur,	Tiruvarur 14, Vedaranniyam 13, Muthupet & Orathanadu 9 each, Nagapattinam 8, Karaikal & Thiruthuraipoondi 7 each, Cuddalore, Kodavasal & Mannargudi 6 each, Adirampattinam, Karambakudi & Nannilam 5 each, Madukur, Mayiladuthurai, Mudukulathur, Needamangalam, Pandavaiyar Head, Pattukottai, Peravurani, Thiruvaidaimarudhur & Tondi 4 each, Manimuthar, R. S. Mangalam,

TABLE 5 (Contd.)

(1)	(2)	(3)	(4)
	Thiruvananthapuram, Vengurla & Yegati 7 each, Ayikudi, Banavasi, Bhadravati, Chengannur, Eraniel, Konni, Kumarakkom, Kuzithurai, Londa, Medikeri, Mavelikara, Nuggehali, Poladpur, Sawantwadi, Siddapur, Thyagarathi & Valpoi 6 each, Barrackpur, Belur, Dharmasthala, Dindigul, Gubbi, Honnali, Hosadurga, Jagalbet, Jarmindi, Kadra, Kalghatgi, Khanapur, Kudal, Lingadahalli, M. M. Hills, Magadi, Mancompu, Mannargudi, Nagarkoil, Parambikulam, Sanguem, Shenkottah, Shikaripur, Srirampura, Turuvekere & Vedaranniyam 5 each, Ajjampura, Annigere, Arsikere, Balehonnur, C. N. Halli, Chalakudy, Chiplun, Dapoli, Haliyal, Hidkal Dam, Holalur, Kollur, Kozha, Kunigal, Maddur, Mangalore, Margao, Marmugao, Munnar, Nilakottai, Pamban, Panjim, Pathalgaon, Piravom, Quepem, Raidih, Rajapur, Ranebennur, Shirali, Thally, Tiruvaiyaru & Vaikom 4 each, Alapuzha, B. Durga, Dharwad Hos, Halebeedu, Jayapura, Karwar, Kolhapur, Linganamakki, Manamadurai, Mapusa, Orathanadu, Pattambi, Port Blair, Sankeshwar, Shirhatti, Sorab, Subramanya, Tarikere, Tenkasi, Thalaguppa, Thathaiyangarpet, Tiptur, Tirumanur, Tirupur & Yercaud 3 each	Chilamattur, Deodurg, Devara Hippargi, Hirekerur, Kadur, Kazhugumalai, Marmugao, Marungapuri, Mettur Dam, Pandavaiyar Head, Sawantwadi, Tindivanam, Tiruvarur, Watrap & Yerragondapalem 4 each, B. Durga, Channagiri, Cherthala, Davangere, Halli Mysore, Hut Bay, Kerur, Kodaikanal, Krishnarajsagara, Lakkavalli, Malvan, Manchikere, Mundargi, Navipet, Peraiyur, Rasipuram, Santebennur, Sirkali, Srivaikuntam, Thathaiyangarpet, Tiruttani & Vanur 3 each	Rameswaram, Sirkali & Tarangambadi 3 each
5.	Pune 18, Palani 13, Lakkavalli 11, Akkalkot & Wai 9 each, Ariyalur, Belthangady, Mangaon, N. R. Pura & Shriwardhan 8 each, Anavatti & C. N. Halli 7 each, Harnai, Majagaon, Mandangad, Perambalur, Poladpur & Subramanya 6 each, Adirampattinam, Balehonnur, Bheemgal, Bhor, Dharmasthala, Hunterganj, Jagalur, Kalasa, Mangalvedha, Mettur Dam, Naduvattam, Nakshipara, Palkot, Samudrapur, Sholapur & Thirupaththur 5 each, Bagewadi, Bijapur, Chandwad, Holalur, Joypur, Karaikudi, Kodaikanal, Kollam, Konta, Koppa, Madhupur, Medikeri, Mahad, Metpalli, Mhasla, Murud, Piravom, Sasvad, Selu, Thirthahalli & Thiruthuraiipoondi 4 each, Agumbe, Akole, Ambasamudram, Bagalkote, Balaghat, Barbigat, Belgaum, Chiplun, Dapoli, Enamakal, Kadur, Mohadi, Phaltan, Salem, Sangli, Shirhatti & Yellandu 3 each	Avinashi 14, Srirangpatnam 11, Krishnarajsagara & Mudigere 10 each, Ambasamudram 9, Nancowry 7, Gobichettipalayam, Mettur Dam, Sattur, Theni, Vadakkancherry & Watrap 6 each, Coimbatore, Dharapuram, Gundlapet, Harangi, Hirekerur, K. R. Nagara, Pechiparai, Periyakulam, Pochampalli, Saklespura, Shenkottah, Sirsi, T. Narsipur & Thodupuzha 5 each, Arkalgud, Aryankavu, Balehonnur, Bhadravati, Car Nicobar, Gudibanda, Hut Bay, Kamatchipuram, Kandukur, Linganamakki, Medikeri, Mapusa, N. R. Pura, Port Blair, Punalur, Subramanya, Thiruvananthapuram, Venkatapuram & Yercaud 4 each, Aruppukottai, Devala, Gubbi, Hosanagara, Jayapura, Kaveli, Kottigehara, Kushal Nagar, Mahbubabad, Manimuthar, Machilipatnam, Palacode, Parambikulam, Perinthalamanna, Perundurai, Sholavandan, Sringeri, Sulur, Virudhunagar & Yellapur 3 each	Port Blair 9, Kanniyakumari 5, Mylaudy, Nagapattinam, Pondicherry & Vedaranniyam 4 each, Cheyyur, Kuzithurai & Mahabalipuram 3 each
6.	Kayamkulam 11, Maya Bandar, Neyyattinkara, Sabong, Thiruvananthapuram & Thuckalay 10 each, Dahiwadi & Thiruvananthapuram 9 each, Haripad, Mavelikara, Piravom & Salbari 8 each, Chengannur, Davangere, Enamakal, Kansabati Dam, Mancompu, Pattamundai & Rajkanika 7 each, Gobindpur, Chandbali, Contai, Gopalpur, Itchhapuram, Kalgi, Karandighi, Kuzithurai, Mandangad, Nagarkoil, Nedumangad, Nilambur & Vaikom 6 each, Alapuzha, Aruppukottai, Aryankavu, Boothapandi, Chendipada, Cholavaram, Dillighat, Dumka, Eraniel, Gadhinglaj, Ghatsila, Hatkanangale, Hindgir, Hubli R, Kagal, Kalpakkam, Kandukur, Kanjirappally, Kollam, Konni, Krishnagiri, Long Island, Manmothnagar, Nagarjunsagar, Nimpara,	Piravom & Thanjavur 13 each, Marungapuri 12, Subramanya 11, Madurai, Napoklu & Virudhunagar 9 each, Ammathy, Sudhagad, Thirumangalam & Virajpet 8 each, Begur, Bhagamandala, Chittampatti, Gundlapet, Hunsur, Mahad, Mannarkkad, Nanjangudu, Sarguru & Thalavadi 7 each, Alur, Aruppukottai, Gersoppa, Manaparai, Periyapatna, Port Blair & Puttu 6 each, Balehonnur, Chengannur, H. Dkote, K. R. Nagara, Kamardi, Konanur, Ratnagiri, Thodupuzha & Yeola 5 each, Alwaye, Ambalavayal, Aryankavu, Attur, Chalakudy, Chamarajnar, CIAL Kochi, Coimbatore, Devala, Dharapuram, Gudalur, Halli Mysore, Harangi, Hassan, Holenarsipur, K. Paramathi, Kamuthi, Kanakapura, Karjat, Kuppady, Madha,	Mahabalipuram 13, Anna University & DGP Office 11 each, Chennai 10, Cheyyur, Chingalepet & Ponneri 9 each, Tambaram 8, Kanchipuram 7, Red Hills, Sriperumbudur & Sullurpet 6 each, Cholavaram, Maduranthagam, Poonamallee, Port Blair, Satyavedu, Tada, Tarangambadi & Uthiramerur 5 each, Gingee, Jayamkondan, Long Island, Pondicherry, Poondi, Puttur & Tiruvallur 4 each, Chidambaram, K. M. Koil, Karaikal, Kollidam, Nagapattinam, Parangipettai & Sirkali 3 each

TABLE 5 (Contd.)

(1)	(2)	(3)	(4)
	<p>Paradeep, Pathalgada, Pechiparai, Pingla, Punalur, Rajapur, Thiruvalla, Vadakara, Varkala & Venkatapuram 5 each, Amrghat, Balimundali, Barapani, Bijepur, Boudhgarh, Champasari, Cherrapunji, CIAL Kochi, Dharmasthala, Diamond Harbour, Gaganbawada, Gubbi, Hunterganj, Irinjalakuda, Karanjia, Kaveli, Kendrapara, Khed, Kochi, Komarada, Koratagere, Kottayam, Krishnanagar, Kumarakkom, Kuru, Lohar-Daga, Messenjore, Mylaudy, Nakshipara, Palkot, Pavagada, Shirhatti, Sringeri, Thakurmunda, Thiruchuzi & Vikarabad 4 each, Alwaye, Aska, Berhampur, Cherthala, Contai S., Dharwad, Dharwad Hos, Digha, Durgachack, Hukkeri, Islampur, Kozha, Osmanabad, Perinthalamanna, Pipili, Ramannapet, Sawantwadi, Shadnagar, Tada, Thodupuzha, Tirukoilur & Uluberia 3 each</p>	<p>Mani, Melur, Mettupatti, Mettur Dam, Nilakottai, Pandavapura, Paud, Poonampet, Tondi & Vaduj 4 each, Chamrajanagara, Enamakal, Irinjalakuda, Kadaladi, Kandarakottai, Kangeyam, Kolar, Kovilpatti, Kozha, Krishnarajsagara, Madapur, Mysore, Pandharpur, Sattur, Shahuwadi, Shirol, Sivaganga, Usilampatti, Vadakara & Vedaranniyam 3 each</p>	
7.	<p>Piravom 18, Enamakal 17, Chalakudy 16, Kunnankulam & Thrissur 14 each, Agumbe & Vaikom 12 each, Chengannur 11, Ketti & Vadakkancherry 10 each, Irinjalakuda, Kendrapara & Vadakara 9 each, Amini Divi, Cherthala, Colachel, Eraniel, Mancompu & Rajkanika 8 each, Alwaye, Chandbali, Kuzithurai, Manjeri, Nalhati, Punalur, Sevoke, Soro, Tellichery, Thiruvalla, Thodupuzha & Thritle 7 each, Alapuzha, Balasore, Berhampur, CIAL Kochi, Cuttack, Gopalpur, Haripad, Kannur, Karipur, Kayamkulam, Kochi, Kollam, Kottayam, Kozhikode, Mavelikara, Neyyattinkara, Nimpara, Paradeep, Pattamundai, Pattembi, Pechiparai, Shenkottah & Thiruvananthapuram 6 each, Agathi, Anekal, Bagrakote, Bhatkal, Birpur, Chhatrapur, Devala, Imphal, Kakatpur, Kirwati, Kozha, Kumarakkom, Manki, Muzaffarpur, Ottapalam, Parambikulam, Peermade, Perumpavur, Pipili, Sagardighi, Thiruvananthapuram & Vaniyambadi 5 each, Gobindpur, Aryankavu, Bijapur, Gokarna, Haldibari, Hosur, Huliyardurga, Idikki, Itchapuram, Konni, Malvan, Mandasa, Mannarkkad, Naraj, Navalgund, Nilgiri, Panambur, Ponnani, Puri, Salbari, Sanguem, Thally & Thuckalay 4 each, Angadipuram, Bhograi, Champasari, Coonoor, Digha, Kanniyakumari, Kavaratti, Kumta, Mahendragarh, Mundali, Nagarkoil, Nedumangad, Palasa, Perinthalamanna, Quilandy, Sira, Udipi & Yellapur 3 each</p>	<p>Belthangady 7, Alur & Gaganbawada 6 each, Karjat 5, Irikkur, Kakinada, Kalghatgi, Lanja, Maya Bandar & Sawantwadi 4 each, Hut Bay, Mhasla & Pondicherry 3 each</p>	<p>Bapatla, Narasaraopet & Narsapuram 10 each, Rapalle & Sullurpet 9 each, Tada 8, Bhimavaram, Gudur, Mahabalipuram, Machilipatnam, Nuzvid, Ponneri, Poonamallee & Sathenapalli 7 each, Anna University, Avaniagadda, Gudivada, Kaikalur, Mangalgiri & Tenali 6 each, Addanki, Atchempet, Bhimadole, Chintalapudi, DGP Office, Guntur, Kaveli, Koderu, Koyyalagudem, Chennai, Piduguralla, Red Hills, Satyavedu, Tadepalligudem, Tiruvallur, Tiruvuru & Vijayawada 5 each, Amalapuram, Chingalepet, Cholavaram, Eluru, Kakinada, Chennai, Nandigama, Nellore, Peddapuram, Podili, Poondi, Rapur, Srikalahasthi, Tanuku, Udayagiri & Venkatagiri Town 4 each, Bhimuniapatnam, Cheyyur, Darsi, Kanchipuram, Kandukur, Panposh, Salur & Turekela 3 each</p>
8.	<p>Barapani 46, Paradeep 25, Cherrapunji 22, Pattamundai 15, Chandbali, Kakatpur & Kendrapara 14 each, Rajkanika & Sagar 11 each, Balasore, Manmothnagar & Puri 10 each, Athgarh & Soro 9 each, Canning, CIAL Kochi & Mundali 8 each, Chalakudy, Diamond Harbour, Durgachack, Enamakal, Ketti, Kochi, Mahinagar, Mancompu & Nimpara 7 each, Gobindpur, Alipingal, Chamarajnaragar, Contai, Digha, Nandigram, Naraj, Nilgiri & Ranpur 6 each, Aizwal, Alapuzha, Kolkata, Alwaye,</p>	<p>Palasa 27, Gingee 16, Sompeta 14, Ambur & Krishnaprasad 13 each, Itchapuram, Tiruvannamalai & Vaniyambadi 12 each, Alangayam, Lakkavalli & Puttur 11 each, Chitradurga, Kalingapatnam, Kuppam, Pondicherry, Rayachoti, Tindivanam & Viluppuram 10 each, Cuddalore, Puri, Tekkali, Thally & Vanur 9 each, B. Durga, Bhimuniapatnam, Chingalepet, Krishnagiri, Polur & Vempalli 8 each, Anakapalli, Arakkonam, Bargur, Dharmapuri, Gauribidanur, Gudiyatham,</p>	<p>Kuzithurai 24, Neyyattinkara 19, Boothapandi & Pechiparai 17 each, Tiruchendur 15, Ranasthalam 14, Tekkali 13, Araku Valley, Cheepurupalli, Kakinada, Kalingapatnam & Nedumangad 12 each, Cumbam, Macharla, Salur, Udayagiri, Vinjamur & Visakhapatnam 11 each, Amalapuram, Pathapatnam, Peddapuram, Radhapuram, Srungavarapukota,</p>

TABLE 5 (Contd.)

(1)	(2)	(3)	(4)
	Athmalik, Basirhat, Bhograi, Bhubaneswar, Chengannur, Contai S., Cuttack, Deganga, Gangarampur, Idukki, Irinjalakuda, Jaipur, Jaleswar, Kolkata, Mannarkkad, Pakur, Peermade, Perumpavur, Shillong, Tikrikilla, Uluberia, Uluberia S & Vaniyambadi 5 each, Agartala, Akhuapada, Amini Divi, Angadipuram, Aryankavu, Balimundali, Banpur, Baripada, Basirhat P, Bheemgal, Dhenkanal, Haripad, Jajpur, Kailashahar, Khairamal, Khajuraho, Konanur, Krishnaprasad, Lanjigarh, Lengpui, Long Island, Madanpur Rampur, Mavelikara, Piravom, Pottangi, Rajghat, Rongo, Sukinda, Tangi, Tapan, Thiruvananthapuram & Udala 4 each, Arki, Barrackpur, Baruipur, Bongaon, Bonth, Cherthala, Ghatagaon, Hindol, Imphal, Jenapur, Kottayam, Kozha, Krishnanagar, Lakhipur, Malda, Munnar, Mylaudy, Nagarkoil, Nalhati, Nawana, Perinthalamanna, Pipili, Port Blair, Rajmahal, Sonapur & Vaikom 3 each	Hessarghatta, Hindupur, Holalkere, Hoskote, Kadiri, Kandukur, Madakasira, Mandasa, Nellore, Palacode, Pavagada, Ramnagaram, Sholigur, Sullurpet, Thambalapalli, Tirukoilur, Tirupattur, Tondebhavi, Vandavasi, Vellore & Y. N. Hoskote 7 each, Arani, Bangalore, Bangalore, Baur, Bharmasagar, Channagiri, Channapatana, Chengam, Chhatrapur, Denkanikottai, Devanahalli, Dharmavaram, Gudibanda, Harur, Hiriyur, Hosadurga, Kakatpur, Kaveli, Kelambakkam, Kolar, Koratagere, Kunigal, Maddur, Maduranthagam, Marandahalli, Melalathur, Nelamangala, Paralakhemundi, Parasurampura, Pattamundai, Penukonda, Pochampalli, Pulivendla, Purushottampur, Rapur, Rayakottah, Sandur, Santebennur, Sathanur Dam, Sravanabelagola, Sulya, Tada, Tumkur, Uthiramerur, Visakhapatnam, Visakhapatnam & Yellamanchili 6 each, Amarapuram, Anchetty, Anekal, Anna University, Arogyavaram, Bagepali, Berhampur, C. N. Halli, Cheyyar, Cheyyur, Chickballapur, Chilamattur, Chintamani, Chodavaram, Davangere, Doddaballapura, Gop, Gubbi, Harihar, Holalur, Hosur, Huliyardurga, Kalyandrug, Kanchipuram, Madhugiri, Mahendragarh, Malur, Mohana, Molakalmuru, Nayakanhatti, Chennai, Palamner, Pathapatnam, R. K. Pet, Rajampet, Ramagiri, Rayalpadu, Sankarapuram, Sholagiri, Sira, Srinivasapur, Sriperumbudur, Srirampura, Tambaram, Thiruvalangadu, Tirupati, Tiruttani, Udayagiri, Ulundurpet & Uthangarai 5 each, Ajjampura, Akhuapada, Alipingal, Amalapuram, Anantpur, Avaniagadda, Banavasi, Bangarpet, Bhubaneswar, C. R. Patna, Challakere, Chandbali, Chintamani, Chittoor, Cholavaram, Colachel, DGP Office, Gadag, Gopalpur, Hirekerur, Hogenakal, Honnali, Hosanagara, Jagalur, Kanakapura, Kanekal, Kaveripakkam, Maddanur, Mandya, Chennai, Nayagarh, Nimpara, Nugghalli, Pallipattu, Pamidi, Pappireddipatti, Parangipettai, Pennagaram, Penugondapuram, Pipili, Ponneri, Poonamallee, R. Udaigiri, Ranasthala, Ranebennur, Rayadurg, Red Hills, Satyavedu, Seetharampuram, Shikaripur, Shivani, Siddapur, Sidlaghatta, Sirsi, Tangi, Tanuku, Tarikere, Tiptur, Turuvekere, Venkatagirikota & Vridhachalam 4 each, Anavatti, Arasalu, Arsikere, Athgarh, Bellary, Belur, Bhimavaram, Byadgi, Chikkanahalli, Daringibadi, Gersoppa, Gudur, Hadagalli, Hagaribommanahalli, Harapanahalli, Hospet, Kadur, Kalakada, Kallakurichi, Kamalapuram, Kirwati, Kudalgi, Kudathini, M. M. Hills, Madhabarida, Magadi, Mundali, Nagamangala, Narasaraopet, Narsipatnam, Ongole, Rampura, Rapalle, Sethiyathope, Srikalahasthi, Thalaguppa, Tiruvallur, Vijayanagaram, Walajapet & Yegati 3 each	Therlam, Vijayanagaram & Yellamanchili 10 each, Bhimunipatnam, Koderu, Paderu, Thuckalay & Veeragattam 9 each, Addanki, Atmakur, Bobbili, Chodavaram, Maya Bandar, Palakonda, Palasa & Visakhapatnam AP 8 each, Anakapalli, Badvel, Mandasa, Nanguneri, Narsipatnam, Parvatipuram, Piduguralla, Porumamilla, Suryapet, Thiruvananthapuram & Varkala 7 each, Berhampur, Chhatrapur, Chintapalli, Darsi, Gopalpur, Itchapuram, Komarada, Koyyalgudem, Miryalguda, Nagarkoil, Narasaraopet, Sathenapalli, Sattankulam, Seetharampuram, Sompeta & Tanuku 6 each, Gajapathinagaram, Guntur, Kandukur, Kanniyakumari, Kashinagar, Konta, Mahendragarh, Mylaudy, Podili, Polavaram, Purushottampur, Rajampet & Yerragondapalem 5 each, Aska, Atchempet, Bhimadole, Chintalapudi, Gop, Gunupur, Hindol, Kanker, Nalgonda, Nandigama, Ongole, R. Udaigiri, Rayagadda, Rentachintala, Sukma, Tenali & Thiruvananthapuram AP 4 each, Athgarh, Banpur, Bhadrachalam, Bhanupratappur, Bhimavaram, Bhopalpatnam, Gudari, Hanamkonda, Hut Bay, Kakatpur, Khandapara, Long Island, Mahbubabad, Mangalgi, Narsapuram, Rapur, Sorada, Tiruvuru & Toothukudi 3 each
9.	Cherrapunji 30, Thanjavur 25, Agartala 18, Silchar 14, Dindigul, Kailashahar & Mettupatti 12 each, Marungapuri & Tirukattupalli 11 each, Imphal, Mulanur & Shillong 10 each, Dholai,	Karwar 21, Canacona 16, Gokarna 14, Sorada 13, Ankola 11, Kota & Madhabarida 10 each, Kadra & Kumta 9 each, Honavar, Itchapuram, Margao, Quepem, Sanguem & Virudhunagar 8 each, Aska,	Kuzithurai 14, Yellamanchili 11, Arani, Kashipur & Mylaudy 9 each, Nagarkoil 8, Bankura, Bolpur, Sriniketan & Suri 7 each, Asansol,

TABLE 5 (Contd.)

(1)	(2)	(3)	(4)
	Sompeta & Williamnagar 9 each, Amraghat, Barapani, Gharmura, Lumding & Thiruvananthapuram 8 each, Alapuzha, Jorhat, Kheronighat, Kuzithurai, Mandasa & Peermade 7 each, Aizwal, Aryankavu, Bokajan, Mavelikara, Natham, Phek, Samayapuram, Sibsagar, Thiruvananthapuram, Tirumanur & Visakhapatnam 6 each, Bihubar, Chaparmukh, Cheepurupalli, Chittampatti, Dharmatal, Golaghat, Jayamkondan, Krishnaprasad, Lengpui, Neyyattinkara, Uthiramerur & Vadipatti 5 each, Ariyalur, Cherthala, Gangarampur, Goalpara, Grand Anicut, Guwahati, Haripad, Kayamkulam, Kumarakkom, Lakhipur, Lalgudi, Madurai, Matijuri, Neamatighat, Nedumangad, Numaligarh, Omalur, Padalur, Palacode, Pathapatnam, Pattembi, Sevoke, Tezpur, Thuckalay, Thuraiyur, Thuvakudi, Tiruchy Town, Tiruvaiyaru, Vaikom & Varkala 4 each, Anakapalli, Badatighat, Boothapandi, Chodavaram, Jia Bharali N. T. Xing, Kaliaganj, Kollam, Kottayam, Mancompu, Naharkatia, Pechiparai, Perumpavur, Punalur, Rasipuram & Tarikere 3 each	Bijepur, Bobbili, Mapusa, Panjim, Pechiparai, Ramdurga & Ron 7 each, Berhampur, Bhanjagar, Dambal, Gadag, Kerur, Kirwati, Nagarkoil & Valpoi 6 each, Badami, Dabolim, Daringibadi, Haveri, Jagalbet, Kalinga, Kalingapatnam, Kuknoor, Manchikere, Natham, Palakonda, Purushottampur, Saoli & Sirsi 5 each, Anavatti, Annigere, Boothapandi, Gokak, Joida, Koondapur, Kundgol, Malvan, Marmugao, Minicoy, Mulanur, Mundgod, Periyakulam, Prathipadu, Tikabali, Todaraisingh, Vijayanagar, Warora & Yellapur 4 each, Bevoor, Bhatkal, Car Nicobar, Chamarajagar, Cheepurupalli, Gopalpur, Gersoppa, Hessarghatta, Hubli R., Kakinada, Kantamal, Kollur, Koppal, Koppal R, Lakshmeswar, Mavelikara, Mundargi, Munirabad, Savanur, Shiggaon, Shirali, Shirhatti & Yalburga 3 each	Berhampore, Boothapandi, Car Nicobar, Eranial, Kandi, Kanniyakumari, Nakshipara, Pechiparai, Peraiyur, Raipur, Thuckalay, Tilpara Barrage & Tuni 6 each, Anakapalli, Bankura, Chodavaram, Gheropara, Hatwara, Kharidwar, Kottayam, Mancompu, Panagarh, Panchet, Periyakulam, Punalur, Ramanathapuram, Sattur, Shankottah, Simula, Usilampatti, Varkala & Visakhapatnam 5 each, Colachel, Durgapur, Janjgir, Jashpurnagar, Kollam, Maithon, Pathalgaon, Phulberia, Purihansa, Radhapuram, Rampurhat, Tenaki, Thiruvalla, Thiruvananthapuram & Tusuma 4 each, Bhimuniapatnam, Chintalapudi, Jaleswar, Jamshedpur, Jamshedpur AP, Jhalda, Jiaganj, Kansabati Dam, Krishnanagar, Krishnanagar S., Nancowry, Narsipatnam, Neyyattinkara, Putki, Rajapalayam, Ranaghat, Theni, Thiruvananthapuram AP, Tilaiya & Visakhapatnam AP 3 each
10.	Piravom & Vaikom 13 each, Devakottai 12, Maya Bandar & Neora 11 each, Kozha 10, Nagarkata 8, Aranthangi, Chinghai Diana & Margao 7 each, Manamadurai 6, Canacona, Hut Bay, Paramakudi & Yellamanchili 5 each, Agumbe, Alwaye, Bagrakote, C. R. Patna, Hasimara, Illayankudi, Karaikudi, Perumpavur, Port Blair & Valpoi 4 each, Buxaduar, CIAL Kochi & Tiruvadanai 3 each	Panchapatti 26, Mannarkkad 14, Kanjirappally & Palani 12 each, Sathyamangalam & Thiruvalla 10 each, Chalakudy & Kottayam 9 each, Ambalavayal & Aravakurichi 8 each, Alwaye, Bhavanisagar, CIAL Kochi, Gobichettipalayam, K.Paramathi, Kodumudi, Kozha & Paramathi 7 each, Arogyavaram, Darsi, Dindigul, Karur, Mayanur, Nannilam, Perumpavur, Pondicherry, Punganur & Vytiri 6 each, Arasalu, Arkalgud, Athni, Bhavani, Chamrajanagara, Chengannur, Coimbatore, Kangeyam, Kushal Nagar, Luxettipet, Macharla, Malvan, Mysore, Nanjangudu, Parambikulam, Periyapatna, Udumalpet & Vembavur 5 each, Addanki, Avinashi, Canacona, Cherthala, Coimbatore, Erode, K. R. Nagara, Kadavur, Kodaikanal, Kumarakkom, Kumarapalayam, Kuppady, Madapur, Munnar, Nagapattinam, Nalgonda, Nilambur, Perinthalamanna, Piduguralla, Podili, Rajapur, Suler, Thiruchuzi & Tozudur 4 each, Chickmagalur, Chittampatti, Deoli, Dharapuram, Irinjalakuda, Kannur, Karauli, Kundha, Lalgudi, M. M. Hills, Mangalapuram, Manjeri, Mavelikara, Mettupalayam, Mudubidre, Piravom, Raipur, Samayapuram, Sarguru, Sendurai, Thanjavur, Tirukoilur, Tonk, Vanur & Veda sandur 3 each	Gingee 14, Agartala, Aizwal, Chittampatti & Hindol 4 each, Arundhithanagar, Barmul, Chhamonu, Dharmanagar, Panisagar, Gajapathinagar, Imphal & Lengpui 3 each
11.	Surat 11, Palasa 7, Bulsar, Hut Bay, Madhabarida & Maya Bandar 5 each, Long Island, Quepem, Sorada & Tuting 4 each, Kaliaganj & Nancowry 3 each	Tirupuvanam 15, Sholavandan, Vadakkancherry & Vadipatti 12 each, Peddapuram 11, Sivagiri 10, Enamakkal, Kandhar, Sudhagad & Thrissur 9 each, Ahore, Car Nicobar, Coonoor & Haripad 8 each, Gundlapet, Idukki, Kudal, Kuppady, Manamadurai & Subramanya 7 each, Ambasamudram, Aryankavu, Chickmagalur, CIAL Kochi, Hut Bay, Kazhugumalai, Khambha,	Panambar 5, Hut Bay 4, Ranasthalam 3

TABLE 5 (Contd.)

(1)	(2)	(3)	(4)
		Kodinar, Konni, Kovilpatti, Kundha, Kunnankulam, Malvan, Perumpavur, Piravom, R.S.Mangalam, Radhapuram & Savarkundla 6 each, Ambalavayal, Chalakudy, Chengannur, Chittampatti, Jayapura, Kallakurichi, Ketti, Koppa, Lakkavalli, Maduranthagam, Magadi, Mettupatti, Mudigere, Nagarkoil, Nuggehali, Perinthalamanna, Pollachi, Rajsamand, Rajula, Sendamangalam, Sivaganga, Thuckalay, Tondi, Valpoi & Vilathikulam 5 each, Bandipura, Coimbatore, Dhari, Dudda, Kanjirappally, Kuzithurai, Maddur, Madurai, Napoklu, Pechiparai, Siddapura, Turuvekere, Vengurla & Watrap 4 each, Alwaye, Andipatti, Angadipuram, Arasalu, Aruppukottai, Attur, Coimbatore, Karjat, Koodalur, Kozha, Krishnarajsagara, Linganamakki, Munnar, Namakkal, Nancowry, Paramakudi, Raipur, Sankarankoil, Sherkottah, Sirkali, Sukma, Tanuku, Thirupattur, Thiruvalla, Tiruchendur, Tiruvadanai & Virudhunagar 3 each	
12.	Uthiramerur 9, Maya Bandar & Viluppuram 8 each, Alibag, Avanigadda & Car Nicobar 6 each, Rampurhat & Vijayanagaram 5 each, Sudhagad 4, Cheyyur, Chingalepet, Chodavaram, Khed, Maduranthagam, Mumbai, Nancowry, Narasaraopet, Pathapatnam, Pen, Roha & Uran 3 each	Boath & Mani 14 each, Kannur & Taliparamba 13 each, Kumta 12, Kudulu & Mulki 11 each, Harapanahalli, Hassan, Mangalore, Mudubidre & Uppinagadi 9 each, Ankola, Holenarsipur, Hospet, Karkala, Mettupalayam, Panambur & Sarangpur 8 each, Ajjampur, Arakkonam, Arkalgud, Barmer, Belthangady, Gokarna, Kharangha, Kota, Kudalgi, Mannarkkad, Nakhatrana, Piravom & Thiruvalla 7 each, Alur, Bajpe, Bhadravati, Bharmasagar, Bhuj, Chikhli, Gobichettipalayam, Harihar, Hinganghat, Honavar, Hosdurg, Indore, Kuknoor, Sandur, Sankheda, Shergarh, Shirur, Srirampura & Viralimalai 6 each, Arsikere, Ashti, Barmer, Bautu, Bhim, Bhira, Chandrapur, Channagiri, Chittampatti, Coonoor, Jayamkondan, Kalyanpur, Karauli, Khanapur, Kollam, Kollur, Kuhl, Lakhandur, Lakkavalli, Metpalli, Murtijapur, Napoklu, Nirmal, Padampur, Quilandy, Selu, Tarikere & Telhara 5 each, Amarapuram, Arasalu, Balehonnur, Bangarpet, Bantwal, Bargur, Bhanpura, Bhopal, Canacona, Chincholi, Dhar, Garoth, Hadagalli, Honnali, Hukkeri, Illupur, Isagarh, Jagalbet, Jayapura, Kalmeshwar, Katol, Ketti, Kodumudi, Kumarakkom, Kurkheda, Mancompu, Manthala, Marwar, Mavelikara, N. R. Pura, Nagbhir, Nagpur, Narkheda, Nizamabad, Pachpadra, Ranawao, Samudrapur, Savanur, Siwana, Sringeri, Subramanya, Sujangarh, Sulya, Tavaregere, Thiruvaidaimarudhur, Tiruvaigaru, Udupi, Vaikom, Valpoi, Vanur, Vridhachalam & Yelandur 4 each, Akola, B. Durga, Badesar, Banavasi, Betul, Bhadravati, Bhanwad, Chickmagalur, Davangere, Fatehgarh, Gauribidanur, Holalur, Jagalur, Kamptee, Karwar, Khanapur, Konni, Kothagiri, Krishnarajpet, Kushtagi, Marungapuri, Mauda, Nimbahera, Pondicherry, Ramtek, Sarguru, Sausar, Siddapura, Thogaimalai, Tiruchirappalli, Vadakara & Wardha 3 each	Tiruvannamalai 8, Maya Bandar & Polur 4 each, Port Blair 3
13.	Long Island 6, Belthangady & Niphad 5 each, Mannarkkad & Maya Bandar 4 each, Sinnar, Taliparamba & Thalavadi 3 each	Shirur 11, Lakkavalli 9, Basawakalyan & Devara Hippargi 7 each, Afzalpur, Aravakurichi & Gobichettipalayam 6 each, Attur, Batagaon,	Tirupuvanam 5, Puri & Tirumanur 4 each, Nancowry & Salem 3 each

TABLE 5 (Contd.)

(1)	(2)	(3)	(4)
		Humnabad, Mulanur, Perundurai, Thakurganj & Usilampatti 5 each, Ajra, Hungund, Jeewargi, Paithan, Raipur & Valpoi 4 each, Baghdogra, Chittapur, Erode, Khanpur, Mudagal, Musiri, Parendu & Srungavarapukota 3 each	
14.	Kumta 6, Athni, Chitradurga & Khed 5 each, Amini Divi, Bellatti, Car Nicobar, Halli Mysore, Harapanahalli, Junnar, Karkala & Mundargi 4 each, Chinsura, Hiriyur, Igatpuri, Kannur, Melalathur, Penukonda & Vadgaon 3 each	Bhimavaram 14, Mulki & Tanuku 13 each, Jalgaon 8, Sanchore & Sirsi 7 each, Bhira, Gadhinglaj, Salur & Tadepalligudem 6 each, Hatkanangale, Kakinada, Mani, Nancowry, Narsipatnam, Polavaram, Uppinagadi, Washim & Yeotmal 5 each, Aurangabad, Bantwal, Belgaum, Bhavanisagar, Chandwad, Gaganbawada, Kaikalur, Khalapur, Kopargaon, Kudal, Mangalore, Mudukulathur, Nagarkoil, Prathipadu, Sinderi, Sorab & Tuni 4 each, Anakapalli, Bayana, Ghodegaon, Kalyan, Kotri, Mylaudy & Sojat 3 each	Arani 6, Aska, Madhabarida, Sivakasi, Sullurpet & Tada 4 each, Mulbagal 3
15.	Paradeep 14, Basirhat 11, Kota, Pattamundai & Uluberia 9 each, Chandbali, Kendrapara, Khandapara, Palasa, Pipili, Rajkanika & Uluberia 8 each, Agumbe, Alipingal, Basirhat, Konanur, Koondapur, Mahendragarh, Nimpara & Pennagaram 7 each, Chinsura, Dharmasthala, Gokarna, Gop, Hoskote, Itchapuram, Kakatpur, Mandasa, Papanasam, Puri, R. Udaigiri, Sompeta & Tekkali 6 each, Athgarh, Bhira, Bhubaneswar, Dudda, Hospet, Jajpur, Nayagarh, Nuggehalli, Paralakhemundi, Parasurampura, Pathapatnam, Ranpur & Yegati 5 each, Akhuapada, Alwaye, Amta, Balasore, Belonia, Chhatrapur, Chikodi, CIAL Kochi, Dhaniakhali, Gopalpur, Gunupur, Irinjalakuda, Kalingapatnam, Kunnamkulam, Kuppam, Mettur Dam, Munnar, Nelamangala, Piravom, Sabong, Sabroom, Soro, Tangi, Tirupattur, Valangaiman, Vazapadi & Vedaranniyam 4 each, Arundhutinagar, Bangalore, Bangalore, Belthangady, Berhampur, Bonth, Cuttack, Gauribidanur, Gheropara, Gubbi, Hogenakal, Holalkere, Kandarakottai, Kayamkulam, Khariar, Kochi, Mannarkkad, Mundali, Naraj, Palacode, Palakonda, Pappireddipatti, Peravurani, Perumpavur, Rampura & Tikabali 3 each	Kumarapalayam 9, Uppinagadi 8, Beir, Bhavani, Khed, Paud & Yellamanchili 6 each, Kochi, Kudulu & Nuggehalli 5 each, Ahwa, Bhuj, Car Nicobar, Khandala, Nandyal, Nathdwara, Patan & Tiruttani 4 each, Badnawar, Hakimpet, Honavar, Kalyan, Khalapur, Konni, Kottur, Mohol, Nawalgarh, Puttu, Satara, Sirohi & Vinjamur 3 each	Mayiladuthurai 5, Aravakurichi & Panchapatti 4 each, M. M. Hills, Gingee & Musiri 3 each
16.	Kosagumda 24, Junagarh & Umarkote 15 each, Jaipatna 14, R. Udaigiri 13, Soro 12, Jagdalpur, Nawarangpur & Paralakhemundi 11 each, Jeypore & Kalinga 9 each, Bhawanipatna, Daringibadi, Kankavli, Kondagaon & Narayanpur 8 each, Gokarna, Koraput & Rayagadda 7 each, Digha, Gunupur, Haripad, Jalpaiguri, Kumta & Lanjigarh 6 each, Akhuapada, Banpur, Bhanjagar, Bhograi, Bissem-Cuttack, Gumla, Hindol, Honavar, Kanker, Kottayam, Madanpur Rampur, Manki, Ottapalam, Palasa, Parambikulam, Pottangi, Raidih, Rajghat, Ranastharam, Therlam, Thrissur & Tikabali 5 each, Gobindpur, Araku Valley, Barbigha, Berhampur, Bhanupratappur, Bhatkal, Cheepurupalli, Chhamonu, Domohani, Gudari, Jaipur, Kochi, Kotraguda, Kumarakkom,	Niphad 11, Bhor, Kasarwad, Piravam & Sendhwa 8 each, Attur, Chalakudy, Depalpur, Kozhikode, Kudal, Nannilam, Suvasara & Thiruvaidaimarudhur 7 each, Akole, Chhotisadri, Dapoli, Degod, Dhar, Ganjbasoda, Guna, Jayamkondan, Jhabua, Muthupet, Shirpur, Sinnar, Shirur & Srikalahasthi 6 each, Alirajpur, Arnod, Barwaha, Bhopal, Jaswantpura, Khed, Khushalgarh, Orathanadu, Sangamner, Sardarpur, Sironj, Thandla & Venkatagiri Town 5 each, Ahwa, Akkalkuwa, Bari-Sadri, Bhagamandala, Canacona, Chopda, Dahanu, Dhari, Gingee, Gudibanda, Irikkur, Mhow, Palitana, Patan, Ponneri, Puttu, Rapur, Sailana, Sasvad, Sihor, Sindkheda, Songadh Fort, Tirupati, Uppinagadi & Vellore 4 each, Anjar, Balasinor, Bardoli, Gandhwani, Garoth, Gautampura, Kalakada,	Coonoor & Melur 7 each, Palani 6, Chittampatti & Valangaiman 5 each, Cuddalore, Kovilpatti & Vridhachalam 4 each, Kodavasal, Kundha, Thirupattur & Ulundurpet 3 each

TABLE 5 (Contd.)

(1)	(2)	(3)	(4)
	<p>Madhabarida, Mohana, Mohitnagar, Nilgiri, Palakonda, Pattermbi, Piravom, Raibag, Ramgarh, Ranchi, Sagar, Salur, Sanguem, Shirali, Shirhatti, Sompeta, Thrithla & Vaikom 4 each, Alapuzha, Angadipuram, Athgarh, Balasore, Balimundali, Bobbili, Chepan, Jajpur, Jhalda, Jiaganj, Kakatpur, Kalingapatnam, Kayamkulam, Khowai, Kolebira, Kozha, Kunnamkulam, Mancompu, Midnapore S, Monghyr, Palkot, Parkal & Parvatipuram 3 each</p>	<p>Kelambakkam, Khambha, Lakkireddipalam, Maduranthagam, Manawar, Manjeri, Nalchha, Parner, Pipalkhunt, Rahapur, Raisen, Rayalpadu, Red Hills, Satyavedu, Sringeri & Valangaiman 3 each</p>	
17.	<p>Salimpur 12, Kodawanpur 9, Marhaura 8, Boath, Monghyr & Rewaghat 7 each, Darauli, Haripad, Kota, Mulki, Nirmal, Rajura & Ramnagar 6 each, Ahiri, Aizwal, Armoor, Bheemgal, Guwahati, Marsrakh, Metpalli, Navipet, Purushottampur, Shriramsag & Pocha 5 each, Amraoti, Cherthala, Daringibadi, Gogri, Gyanpur, Kaliachak, Kallamnuri, Madhabarida, Mudigere, Nandadih, Nizamabad, Puthimari, Siswan, Tekkali, Varanasi & Wani 4 each, Ahirwalia, Asifabad, Aska, Bajpe, Gopalpur, Hagaribommanahalli, Jagtial, Jiaganj, Kamareddy, Medak, Murtijapur, Narayan Khed, Palasa, Pandharkawada, Patna, Sarath, Tikabali & Utnoor 3 each</p>	<p>Kolachel 19, Vinjamur 15, Eraniel 14, Kuzithurai 13, Dharmapuri & Rapur 11 each, Atmakur 10, Kalpakkam, Seetharampuram, Srikalahasthi & Venkatagiri Town 9 each, Badvel, Chittur, Gudur, Kallakurichi, Kochi, Mylaudy, Neyyattinkara, Poonamallee, Porumamilla, Thammanpatti & Venkatagirikota 8 each, Alwaye, Attur, Cheyyur, Harur, Mahabalipuram, Radhapuram, Ramanathapuram, Tada, Udayagiri, Vandavasi, Vembavur & Viluppuram 7 each, CIAL Kochi, Haripad, Kandukur, Kaveli, Kollamkode, Kollegal, Konni, Lakkireddipalam, Maniyatchi, Piravam, Rajampet, Sriperumbudur, Tirupati, Tozudur & Uthiramerur 6 each, Anna University, Avanigadda, Cheranmadevi, Cherthala, Cheyyar, Cholavaram, DGP Office, Gingee, Gudiyatham, Hogenakal, Ilayankudi, Jammalamadugu, Kandarakottai, M. M. Hills, Madurai, Marakanam, Marwar, Mavli, Melalathur, Chennai, Mudukulathur, Nedumangad, Chennai, Pakala, Palamner, Pamban, Paramakudi, Pennagaram, Peraiyur, Ponneri, Proddatur, Puttur, Rameswaram, Red Hills, Satyavedu, Sullurpet, Thirumangalam, Thiruvallangadu, Thiruvananthapuram, Thuckalay, Tindivanam, Tiruttani, Vaikom, Vempalli & Yelandur 5 each, Angadipuram, Chalakudy, Chengannur, Chingalepet, Chopda, Hessarghatta, Kanchipuram, Kanjirappally, Kollam, Kotri, Manamadurai, Mancompu, Mangalapuram, Mangalore, Mettur Dam, Nagarkoil, Nanjangudu, Nellore, Palacode, Pappireddipatti, Parner, Perumpavur, Rajapalayam, Rajkot, Raniwada, Rayachoti, Salem, Sholavandan, Tambaram, Theni, Tirupuvanam, Udaipur, Uthangarai, Vadipatti, Valangaiman & Yercaud 4 each, Allagadda, Arakkonam, Baur, Bagepali, Chilamattur, Chintamani, Chittoor, Devala, Devanhalli, Huliyardurga, Jhadol, Kadavur, Kamalapuram, Kayamkulam, Maddanur, Maduranthagam, Mannarkkad, Marandahalli, Mavelikara, Nelamangala, Niwai, Omalur, Ooty, Ottapidaram, Palani, Pondicherry, Railmagra, Srimushnam, Tiruvallur, Toothukudi, Vellore & Vridhachalam 3 each</p>	<p>Ponneri 6, Chengannur 5, Alapuzha, CIAL Kochi & Perumpavur 4 each, Coonoor, K. M. Koil, Mahabalipuram, Mancompu, Sirkali, Thiruthuraiipoondi, Thiruvalla & Vaikom 3 each</p>
18.	<p>Rajapur 21, Gokarna 14, Gaganbawada & Kankavli 13 each, Gurumittkal 12, Devgad 11, Chittapur & Sawantwadi 10 each, Harnai 9, Bagewadi, Kudal & Yadgir 8 each, Gopalganj & Margao 7 each, Jath, Jeewargi, Mandangad, Rewaghat & Tikkota 6 each, Ajra, Chatia,</p>	<p>Kudulu 11, Bhikangaon, Khandwa & Udayagiri 10 each, Kundha & Nusrulgunj 9 each, Bantwal, Chittur, Parumbikulam, Sattankulam & Virajpet 8 each, Ammathy, Kozhikode, Lakkavalli, Mehsana & Tarapur 7 each, Badvel, Chingalepet, Kandukur, Lalpur, Limbadi, Nepanagar,</p>	<p>Bhagamandala & Perumpavur 6 each, Karaikal & Puttu 5 each, Piravam, Ramanathapuram & Valangaiman 4 each, Kochi, Nannilam & Tarangambadi 3 each</p>

TABLE 5 (Contd.)

(1)	(2)	(3)	(4)
	Gopalpur, Mahbubabad, Malvan, Mapusa, Phaltan, Quepem, Sanguem, Vaduj & Valpoi 5 each, Ambagarh Chowki, Berhampur, Kadra, Khammam, Khed, Mahad, Pargi, Sakoli, Satara, Shadnagar, Sompeta & Songadh Fort 4 each, Babaleshwar, Baramati, Bijapur, Bramhapuri, Chanpatia, Dabolim, Hata, Jaffrabad, Kalwakurthi, Kodangal, Komna, Pune, Rairakhol, Shrigonda, Siddapur, Talikote, Tandur & Yellandu 3 each	Pindwara, Pollachi, Porumamilla, Puttu, Raipur, Reodar, Seetharampuram & Vadakara 6 each, Bali, Bhim, Bonli, Datia, Deogarh, Dhanera, Gogunda, Halwad, Kalpakkam, Kanjirappally, Ketti, Kothagiri, Mani, Nathdwara, Pattembi, Poonampet, Rapur, Sheoganj & Vallabhagar 5 each, Amreli, Arakkonam, Arasalu, Bagsra, Bajpe, Belthangady, Bundi, Coonoor, Cumbam, Dabra, Halli Mysore, Hindoli, Hoshangabad, Ichhavar, Jasdhan, Kadi, Kalyanpur, Kapasan, Karauli, Karipur, Khargone, Kherwara, Kotri, Kumbhalgarh, Lalsot, Mangalore, Matar, Mavli, Mudubidre, Napoklu, Nasirabad, Nellore, Pandhana, Puttur, Railmagra, Rajsamand, Sarguru, Sarwar, Sholigur, Sirohi, Thiruvalangadu, Tiruttani, Tadarasingh, Tonk & Uthiramerur 4 each, Agra, Badesar, Bari, Barwala, Bhagamandala, Bhavanisagar, Bilaspur, Budhni, Chaksu, Chalisgaon, Cheyyar, Chittorgarh, Dholpur, Gangapur, Gangrar, Gondal, Guntur, Madhopur, Jahazpur, Jhadol, Kanchipuram, Kaveripakkam, Khirkiya, Kopargaon, M. M. Hills, Maduranthagam, Manantoddy, Mandalgarh, Mettupalayam, Naduvattam, Narasaraopet, Nayanagar Beawar, Ooty, Phagi, Sapotra, Savli, Shahpura, Sheopur, Tiruchendur, Venkatagiri Town & Yaval 3 each	
19.	Guhagarh 11, Ankola 10, Narayan Khed 8, Karwar, Mapusa, Margao, Nizamasagar & Phaltan 7 each, Avanigadda, Banskada, Eluru, Guntur & Rairangpur 6 each, Alamatty, Aland, Barsi, Bilgi, Dabolim, Marmugao & Panjim 5 each, Bagewadi, Chintalapudi, Devgad, Enamakkal, Gulbarga, Jamkhandi, Karad, Khalapur, Kudal, Mudubidre, Nuzvid & Tasgaon 4 each, Karkala, Khed, Kochi, Kumbakonam, Madurai, Pattembi, Piravom, Rapalle, Shahpur, Shriramsag, Pocha, Umarkote & Vaduj 3 each	Tondi 12, Ramanathapuram 10, Kumbakonam, Marungapuri, Palani & Saoner 7 each, Bhainsdehi, Mangan, Maniyatchi, Multai & Taloda 6 each, Keeranur, Musiri, Nagapattinam, Neyyattinkara, Sendhwa, Tiruvadanai & Udupi 5 each, Amarwara, Deolgaon Raja, Illupur, Jshipur, K. M. Koil, Kalpi, Karaikal, Kishangarh, Mauda, Nagarkoil, Pandavaiyar Head, Papanasam, Perumpavur, Pullambadi, Shahada, Tiruvarur & Udumalpet 4 each, Alangudi, Ariyalur, Ayikudi, Coonoor, Kaveripakkam, Kodavasal, Kovilpatti, Krishnagiri, Lakhundur, Nadaun, Needamangalam, Thanjavur, Toothukudi, Vadakara, Vaikom & Viluppuram 3 each	NIL
20.	Kochi, Matheran & Shriwardhan 10 each, Keeranur & Palamner 9 each, Mokheda 8, Bikapur, Irikkur, Irinjalakuda, Pavagada, Piravom & Taliparamba 7 each, Bhira, Chilamattur, Grand Anicut, Kunnamkulam, Perungalur, Valpoi & Yellandu 6 each, Arogyavaram, Bagepali, Bhimavaram, Enamakkal, Gingee, Gudiyatham, Haraiya, Konni, Lalgudi, Malia, Patoda, Pattembi, Pochampalli, Rahuri, Samayapuram, Thuvakudi & Vaikom 5 each, Aizwal, Alapuzha, Amethi, Barsi, Baur, Beed, Bhatkal, Chhattarpur, Gokarna, Gudibanda, Guna, Indapur, Jawhar, Kumarakkom, Madakasira, Manjeri, Mannarkkad, Melalathur, Mominabad, Murud, Chennai, Ottapalam, Padalur, Phaltan, Podili, Shrirampur, Tondebhavi, Vadakara & Vellore 4 each, Bara Banki, Chalakudy, Chickballapur, Darsi, Kanekal, Karwar, Madha, Manaparai,	CIAL Kochi & Perumpavur 9 each, Akole 8, Shrirampur 6, Avinashi, Hingoli, Karipur, Kozha, Parangipettai & Sethiyathope 5 each, Alapuzha, Bihubar, Kollidam, Multai, Nannilam, Passighat & Vridhachalam 4 each, Bajpe, Chengannur, Jayamkondan, Neamatighat, Palani, Paud, Srimushnam, Tiruvannamalai & Tuting 3 each	Chennai 9, Kallakurichi & Car Nicobar 7 each, Nancowry, Nagapattinam & Vridhachalam 4 each, Thampanatti 3

TABLE 5 (Contd.)

(1)	(2)	(3)	(4)
	Musafirkhana, Nagarjunsagar, Nanipalsan, Natham, Parner, Perambalur, Silvassa & Tiruvannamalai 3 each		
21.	Malvan 9, Motihari 8, Arundhutinagar, Handia & Hosadurga 7 each, Amarpur, Taloda & Vapi 6 each, Chandwad, Davangere, Dhadgaon, Dholai, Hata, Kelambakkam, Khalilabad, Khed, Malegaon, Srisailam, Sutrapada & Teliamura 5 each, Adirampattinam, Alur, Balehonnur, Bhopal, Bihubar, Davangere, Hukkeri, Ichhavar, Jabalpur-New, Khajuraho, Lilia, Pattikonda, Surat, Thirumangalam, Udaipur & Venkatagirikota 4 each, Akkalkuwa, Bansda, Chincholi, Dudda, Kadaladi, Mudukulathur, Nainpur, Narsinghpur, Navapur, Salimpur & Yeola 3 each	Palani 31, Maniyatchi & Watrap 15 each, Kodumudi & Peraiyur 13 each, Kanjirappally & Ulundurpet 11 each, Andipatti 10, Chatrapatti, Karur & Tondi 9 each, Erode, Kadavur, Kannur, Perundurai, Pollachi, Thally, Thuckalay & Virudhunagar 8 each, Baur, K. Paramathi, Kanniyakumari, Konni, Kovilpatti, Omalur, Rajapalayam, Theni, Thodupuzha, Udumalpet & Yercaud 7 each, Aravakurichi, Boothapandi, Mettur Dam, Mulanur, Ottapidaram, Paramathi, Pochampalli, Sendamangalam, Uthamapalayam & Vandavasi 6 each, Aryankavu, Cuddalore, Dharapuram, Dharmapuri, Madurai AP, Musiri, Mylaudy, Naharlagun, Nedumangad, Nilakottai, Thammanpatti, Thirumangalam, Tiruchengodu & Tiruvadanai 5 each, Aranthangi, Attur, Avinashi, Car Nicobar, Jayamkondan, Kamatchipuram, Kangeyam, Mahabalipuram, Mangalapuram, Chennai, Mohanbari, Namakkal, North Lakhimpur, Chennai, Pennagaram, Roha, Salem, Sattur, Sivagiri, Tellichery, Usilampatti, Utnoor, Vazapadi, Viluppuram & Vridhachalam 4 each, Anna University, DGP Office, Karaikudi, Kazhugumalai, Kodaikanal, Koodalur, Mayanur, Miao, Munnar, Nandgaon, Nanguneri, Palacode, Peermade, Periyar Dam, Pudukkottai, Ramanathapuram, Sholavandan, Sivakasi, Taliparamba, Tenkasi, Tirupattur, Vadipatti & Varkala 3 each	Sethiyathope 9, Tarangambadi 8, Kallakurichi, Kollidam & Sirkali 7 each, Chidambaram & Mayiladuthurai 6 each, K. M. Koil, Kumbakonam & Nannilam 5 each, Kodavasal, Nagapattinam, Papanasam & Thiruvidaimarudhur 4 each, Rameswaram, Thiruthuraiipoondi & Tirumanur 3 each
22.	Bajpe, Karkala, Udipi & Mangalore 16 each, Mulki 15, Hosdurg 14, Vadakara 13, Kota, Mangalore & Udgir 12 each, Kaleswaram, Koodapur, Panambur & Yellandu 11 each, Mudubidre 10, Armoor, Honavar, Kollur, Sevoka & Tellichery 9 each, Alapuzha, Bhagamandala, Etumngaram, Kandhar, Kannur, Madhuban, Shirali & Taliparamba 8 each, Bhainsdehi, Bhatkal, Champa, Darsi, Enamakkal, Karipur, Kozhikode, Kudulu, Manjeri, Metpalli, Nilgiri, Shriramsag.Pocha & Tusuma 7 each, Akot, Angadipuram, Atmakur, Bantwal, Bolangir, Irikkur, Kayamkulam, Khanapur, Kharidwar, Majagaon, Mednoor, Mumbai, Neora, Owk, Perinthalamanna, Rajura, Sholigur & Sironcha 6 each, Ahmedpur, Amini Divi, Belthangady, Bhadrachalam, Bhiwapur, Chandrapur, Chinnoor, Deoli, Dhari, Grand Anicut, Jagtial, Kalasa, Kottigehara, Kukernag, Luxettipet, Mani, Matheran, Nandurbar, Nirmal, Paramakudi, Partur, Phulparas, Quilandy, Rayachoti, Tadpatri, Usilampatti, Uthangarai, Utnoor & Virajpet 5 each, Ammathy, Anantnag, Birpur, Chamorshi, Cherthala, Dharmasthala, Forbesganj, Gaya, Hindgir, Hisua, Hosanagara, Illupur, Kalimpong, Kalmeshwar, Keeranur, Kottayam, Kushal Nagar, Lava, Malegaon, Malsiras, Mehkar, Nandadih, Narsampet, Pachora, Pahalgam, Parseoni, Pulivendla, Qazi Gund,	Piravam 19, Kanjirappally 13, Ambasamudram, Dharapuram & Kunnamkulam 11 each, Tiruvuru 10, Akole, Enamakkal, Kozha & Kuzithurai 9 each, Igatpuri, Irinjilakuda, Manimuthar, Parumbikulam, Pechiparai, Punalur, Thrissur & Thuckalay 8 each, Bhira, CIAL Kochi, Konni, Mettupatti, Nashik, Neyyattinkara, Shenkottah, Srivilliputhur, Thodupuzha & Tiruvadanai 7 each, Aurad, K. Paramathi, Kodaikanal, Panvel, Periyar Dam & Watrap 6 each, Alwaye, Idukki, Kadavur, Madapur, Manaparai, Nedumangad, Niphad, Perumpavur, Perundurai, Pudukkottai & Sillod 5 each, Alangudi, Barwala, Bodinayakanur, Chalakudy, Ghodegaon, Kandhar, Karkala, Kochi, Kottayam, Manjeri, Navapur, Pachora, Palayamkottai, Rahuri, Sangamner, Sinnar, Soegaon, Sudhagad, Surgana, Thiruvalla, Thiruvananthapuram, Udgir, Vadakkancherry & Yeola 4 each, Alapuzha, Alathur, Araku Valley, Aryankavu, Boothapandi, Car Nicobar, Chalisgaon, Dindori, Kamrej, Kavaratti, Nilakottai, Ottapalam, Palani, Peermade, Perungalur, Sholavandan, Sutrapada, Thiruvananthapuram AP & Varkala 3 each	NIL

TABLE 5 (Contd.)

(1)	(2)	(3)	(4)	
	Ramanathapuram, Ramtek, Shirpur, Soegaon, Srinagar & Tiruchirapalli 4 each, Arki, Aryankavu, Bagrakote, Banihal, Basua, Bhawanipatna, Cumbam, Gondpipri, Jamtara, Japla, Jhumpura, Kadiri, Keonjhar, Kharagone, Khuldabad, Kumarakkom, Lakhisarai, Mancherial, Mavelikara, Nandgaonkazi, Nizamasagar, Ottapalam, Padampur, Pallari, Perur, Podili, Putki, Ranchi, Selu, Sukinda, Tiwsa, Turekela & Warora 3 each			
23.	Mangalore & Vadakara 13 each, Hidkal Dam & Tikabali 12 each, Kozhikode & Panambur 11 each, Bantwal & Udupi 10 each, Bajpe, Kumta, Mani, Mudubidre & Mulki 9 each, Baramati, Bhagamandala, Canacona, Deogaon & Kota 8 each, Akole, Amraoti, Angul, Dabolim, Deogarh, Gaganbawada, Ghatagaon, Gudur, Hirakud, Karkala, Karwar, Kopargaon, Kotraguda, Kumarsain, Lanjigarh, Manali, Metpalli, Nizamasagar, Owk, Rajgangpur & Sambalpur 7 each, Angadipuram, Armoor, Banjar, Belthangady, Gariabund, Kosagumda, Mannarkkad, Mapusa, Panjim, Puttu, Shriramsag.Pocha & Swam-Patna 6 each, Ankola, Ashti, Athgarh, Aurad, Beed, Bilaspur, Chalakudy, Dasuya, Dharmasthala, Ghumarwin, Honavar, Hosdurg, Jagtial, Kalinga, Kamareddy, Karipur, Kochi, Koilkuntla, Kollur, Lengpui, Mangan, Marmugao, Nashik, Ottapalam, Perinthalamanna, Quilandy, Sawantwadi, Solangnala, Sorada, Telkoi & Udaipur 5 each, Bangana, Bhatkal, Bhuntar, Chandbali, Chincholi, Dhantari, Dharampur, Dhone, Gaunaha, Gooty, Gersoppa, Hanamkonda, Jhandutta, Karsog, Kasauli, Koondapur, Kottigehara, Kudulu, Manthani, Nalagarh, Nayagarh, Pallahara, Patsio, Piravom, Radhanagari, Rajapur, Ramgundam, Rapur, Rohru, Seobagh, Sultanabad, Tellichery & Thalaguppa 4 each, Ahmedpur, Baldwara, Banswada, Bargarh, Bijepur, Champua, Chendipada, Chittapur, Delhi Ridge, Gargoti, Goalpara, Hamirpur, Jammalamadugu, Kannur, Komna, Konibal, Luxettipet, Manjeri, Mohol, Mukerian, Mundali, Nandgaonkazi, Raipur, Sudhagad, Sundarnagar, Taliparamba, Tanuku, Tehri & Venkatagiri Town 3 each	Punalur 18, Kanjirappally 15, Maniyatchi 14, Kottayam 10, Konni, Thiruvalla & Thuckalay 9 each, Chengannur, Coonor, Parumbikulam, Ramanathapuram, Vaikom & Visakhapatnam 8 each, Bodinayakanur, Haripad, Kadaladi, Kayamkulam, Rajapalayam, Theni & Usilampatti 7 each, Davangere, Deogarh, Kallakurichi, Ketti, Kodinar, Kozha, Madurai AP, Malia, Mavelikara, Palsana, Periyakulam, Quilandy, Reodar & Wav 6 each, Ambasamudram, Bali, Bhavanisagar, Erinpura Jawai Dam, Gogunda, Harihar, Jaswantpura, Kazhugumalai, Kovilpatti, Kumarakkom, Kumarapalayam, Kumbhalgarh, M. M. Hills, Mannarkkad, Melur, Mettupalayam, Mount Abu, Nilambur, Ottapidaram, Palani, Palanpur, Perundurur, Piravam, Sankarapuram, Sheoganj, Sholavandan, Sirohi, Vadipatti, Vilathikulam & Yelandur 5 each, Ahore, Ayikudi, B.Durga, Bagoda, Bagsra, Bhim, Bhinmal, Dantiwada, Deesa, Desuri, Dhule, Gobichettipalayam, Harapanahalli, Holalkere, Jamnagar AP, Karwar, Keshod AP, Kodaikanal, Kollam, Kuzithurai, Mancompu, Mount Abu, Nanjangudu, Napoklu, Ooty, Pattembi, Perumpavur, Raipur, Santebennur, Sathyamangalam, Sattur, Shankottah, Surangudi, Talala, Tenkasi, Thiruvananthapuram, Thiruvananthapuram AP, Tiruchengodu, Toothukudi, Uthamapalayam, Varkala, Veraval & Watrap 4 each, Amet, Andipatti, Athni, Attur, Chittampatti, Dhoraji, Harij, Hiriyur, Illayankudi, Jalore, Junagadh, Kanniyakumari, Koodalur, Manavadar, Mandangad, Mangrol, Mettur Dam, Morvi, Natham, Navalgund, Palayamkottai, Panchapatti, Peermade, Peraiyur, Periyar Dam, R.S.Mangalam, Rabkavi, Raniwada, Rayakottah, Sanchore, Sankarankoil, Sayla, Shirol, Sindkheda, Sivagiri, Sutrapada, Tharad & Vanthali 3 each	NIL	
24.	Tuting 12, Vijayawada 11, Machilipatnam & Narayan Khed 10 each, Avaniagadda, Gudivada, Ramannapet & Veeragattam 9 each, Chintapalli, Humnabad & Komarada 8 each, Hakimpet, Mahbubabad & Mangalgiri 7 each, Bhadrachalam, Kota, Lakhipur, Narayanpur, Parvatipuram, Prakasan Barrage, Rapalle & Rayagadda 6 each, Bailhongal, Bidar, Chincholi, Kosagumda, Kurnool, Port Blair & Titlagarh 5 each, Chevella, Chodavaram, Gudari, Khariar, Madhira, Mudhol, Mulki, Nalgonda, Nirmal, Paralakhemundi, Pargi, Piduguralla, Piravom, Salur, Sinar, Tavaregere & Vijayanagaram 4	Kanjirappally 9, Palghar, Agumbe, Harij, Sami & Talaja 8 each, Ambasamudram, Jetpur-Moni, Maniyatchi, Sagar & Todaraisingh 7 each, Lakshmeswar & Sawai Madhopur 6 each, Ajmer, Davangere, Jaipur AP, Kuknoor, Mount Abu, Munnar, Nasirabad, Nilambur, Patan, Rajgarh, Ramanathapuram, Sivagiri, Thyagarathi & Uniar Aligarh 5 each, Alathur, Aranthangi, Avinashi, Chidambaram, Dhrangadhra, Garidhar, Halwad, Harapanahalli, Irikkur, Jaswantpura, Joida, K.M.Koil, Kadaladi, Kishangarh, Konni, Malia Miyane, Mount Abu, Nayanagar Beawar, Ottapidaram, Palayamkottai, Palitana, Pindwara,	Car Nicobar 5, Hut Bay 4, Port Blair 3	

TABLE 5 (Contd.)

(1)	(2)	(3)	(4)
	each, Alwaye, Athni, Basirhat P., Bobbili, CIAL Kochi, Guntur, Khanapur, Kollur, Koondapur, Medchel, Mundgod, Pathapatnam, Pattikonda, Shahpur, Sulya, Suryapet, Udupi & Yalburga 3 each	Radhanpur, Sidhpur, Tiruvadanai & Umbergaon 4 each, Abu Road, Amet, Ayikudi, Bassi, Baur, Becharaji, Cuddalore, Dantiwada, Deoli, Dholka, Eraniel, Kankrej, Kodinar, Kollidam, Manimuthar, Phagi, Pondicherry, Ponneri, Shenkottah, Thirthahalli, Thuckalay & Tonk 3 each	
25.	Amalapuram & Cheyyur 9 each, Poladpur, Tekkali & Tozudur 7 each, Bilgi, Sibsagar, Therlam & Venkatagiri Town 5 each, Anantpur, Bhimadole, Chintalapudi, Korapat, Mulki, Tanuku & Yalburga 4 each, Bellary, Bihubar, Konta, Mandasa & Narasaraopet 3 each	Pamban 16, Needamangalam & Rameswaram 11 each, R. S. Mangalam, Ramanathapuram & Tondi 9 each, Vedaranniyam 8, Tiruvadanai 7, Illayankudi, Mudukulathur & Paramakudi 6 each, Ambasamudram, Angadipuram, Kadaladi, Lachmangarh, Thritla & Yeola 5 each, Aruppukottai, Depalpur, Kamatchipuram, Kamuthi, Lahar, Manamadurai, Maniyatchi, Tirupuvanam & Vadakara 4 each, Barwala, Gautampura, Harij, Karipur, Kovilpatti, Nannilam, Narsapuram, Orathanadu, Palani, Perinthalamanna & Shahada 3 each	Port Blair 4
26.	Mahabalipuram & Pondicherry 9 each, Kalpakkam 8, Tirukoilur, Tiruvannamalai & Uthiramerur 6 each, B.Durga, Chingalepet, Cuddalore, Kanchipuram, Maduranthagam & Sathanur Dam 5 each, Arani, Davangere, Dharwad, Mokheda, Sriperumbudur & Srivilliputhur 4 each, Chikhli & Vanur 3 each	Nagapattinam 13, Tiruvarur 10, Vedaranniyam 8, Needamangalam & Thiruthuraiipoondi 7 each, Karaikal, Kodavasal, Mannargudi, Nannilam, Pandavaiyar Head, Thanjavur & Vallam 6 each, Muthupet 5, Colachel, Kollidam, Kumbakonam, Pahalgam, Pamban, Pattukottai, Sirkali & Valangaiman 4 each, Aranthangi, Jayamkondan, K. M. Koil, Kallakurichi, Madukur, Mayiladuthurai, Orathanadu, Parangipettai, Peravurani, Srimushnam, Tarangambadi, Thiruvaidamarudhur & Vilathikulam 3 each	Hut Bay 3
27.	Kamatchipuram 12, Subramanya 11, Dudda & Konanur 10 each, Peraiyur 9, Panambur 8, Kazhugumalai, Marandahalli, Thalavadi & Thritla 7 each, Aravakurichi, Bajpe, Holenarsipur, Kudulu, Mulanur, Mulki & Sholavandan 6 each, Periyapatna, Puttu & Sulya 5 each, Anchetty, Annur, Car Nicobar, Cherthala, Hassan, Kottayam, Kushal Nagar, Napoklu, Uthagamandalam, Palani, Rayakottah, Tirumanur, Uthamapalayam, Vedasandur & Yegati 4 each, Lather, Arkalgud, Chickmagalur, Hogenakal, Mettupalayam, Mudubidre, N. R. Pura, Piravom, Srinivasapur, Thammanpatti & Tiruvannamalai 3 each	Sirkali 26, Vridhachalam 23, Sethiyathope 22, K. M. Koil, Mayiladuthurai & Tozudur 21 each, Chidambaram & Cuddalore 20 each, Karaikal & Parangipettai 19 each, Tiruvarur 18, Kollidam, Tarangambadi & Ulundurpet 17 each, Jayamkondan & Nagapattinam 16 each, Kallakurichi, Pondicherry & Srimushnam 15 each, Nannilam & Needamangalam 13 each, Kodavasal & Sendurai 12 each, Gingee 11, Kumbakonam, Pandavaiyar Head, Thiruvaidamarudhur & Viluppuram 10 each, Papanasam, Tirukoilur & Valangaiman 9 each, Kuzithurai & Mannargudi 8 each, Colachel, Kanniyakumari, Thanjavur, Vallam & Vembavur 7 each, Adirampattinam, Agathi, Amini Divi, Attur, Muthupet, Mylaudy, Nedumangad, Orathanadu, Pappireddipatti, Thiruthuraiipoondi & Vanur 6 each, Cheyyur, Grand Anicut, Harur, Kalpakkam, Karambakudi, Maduranthagam, Marakanam, Nagarkoil, Perambalur, Peravurani, Rameswaram, Samayapuram, Sathanur Dam, Thiruvananthapuram AP, Thuckalay, Tindivanam, Tirukattupalli & Vedaranniyam 5 each, Ariyalur, Boothapandi, Chengam, Chengannur, Lalgudi, Madukur, Minicoy, Pamban, Pattukottai, Pechiparai, Pullambadi, Sankarapuram, Thammanpatti, Thiruvananthapuram, Tirumanur, Tiruvaiyaru, Tiruvannamalai, Uthangarai, Vandavasi & Vazapadi 4 each, Kandarovkottai, Kannur, Mungaoli, Palani, Penugondapuram, Rasipuram, Thuvakudi, Tondi & Yercaud 3 each	Car Nicobar 3

TABLE 5 (Contd.)

(1)	(2)	(3)	(4)
28.	Sivakasi 21, Karipur 11, H. Dkote & Parambikulam 10 each, Alur, Karur, Konanur, Koondapur, Munnar, Peraiyur, Sattur, Sendamangalam, Thirissur & Virudhunagar 7 each, Hassan, Ketti, Palani & Periyar Dam 6 each, Dharapuram, Kazhugumalai, Kollamkode, Koodalur, Mannarkkad & Vedasandur 5 each, Bhagamandala, Dharmapuri, Krishnarajpet, Mani, Nancowry, Nanjangudu, Omalur, P. N. Palayam, Periyapatna, Poonampet, Puttur, Quilandy, Sarguru, Srivaikuntam, Tirupattur, Udumalpet & Yellandu 4 each, Aruppukottai, Bandipura, Dindigul, Gundlapet, Idukki, Madapur, Maduranthagam, Margherita, Naduvattam, Periyakulam, Sirkali, Sulur, Thirumangalam, Thodupuzha, Thritla, Uthamapalayam & Yercaud 3 each	Pamban & Rameswaram 9 each, Mannargudi & Thiruthuraiipoondi 7 each, Agathi, Kavaratti, Muthupet, Needamangalam, Peravurani, Tarangambadi & Thiruvaidaimarudhur 5 each, Kodavasal, Minicoy, Nannilam, Orathanadu, Palani, Shujalpur & Tiruvarur 4 each, Adirampattinam, Kumbakonam, Madukur, Mayiladuthurai, Pandavaiyar Head, Shajapur & Valangaiman 3 each	NIL
29.	Papanasam & Valangaiman 13 each, Vridhachalam 12, Kodavasal & Vembavur 11 each, Sullurpet & Tozudur 10 each, Kumbakonam 9, Adirampattinam, Ariyalur, Attur, Natham, Needamangalam, Pandavaiyar Head, Ponneri, Tada & Tiruvarur 8 each, Mannargudi, Peraiyur, Tarangambadi, Thiruthuraiipoondi, Tiruchengodu, Tirumanur & Usilampatti 7 each, Jayamkondan, Kollidam, Madukur, Nedumangad, Chennai, Pattukottai & Red Hills 6 each, Aruppukottai, Bhavani, Cholvaram, Coimbatore, Gudur, K. M. Koil, Kandukur, Kovilpatti, Mettupalayam, Muthupet, Nellore, Perambalur, Pollachi, Pullambadi, Ramanathapuram, Rameswaram, Rasipuram, Sattur, Sendamangalam, Sendurai, Sethiyathope, Sivaganga, Sivakasi, Srikalahasthi, Thammanpatti, Thanjavur, Thirupattur, Thiruvaidaimarudhur, Thuraiyur, Tirukattupalli, Tirupati, Udumalpet, Vallam & Virudhunagar 5 each, Andipatti, Boothapandi, Chidambaram, Kangeyam, Mayabandar, Mulanur, Mylaudy, Nanguneri, Omalur, P. N. Palayam, Padalur, Pamban, Puttur, R.S.Mangalam, Rapur, Salem, Samayapuram, Sankarankoil, Sirkali, Tirupuvanam, Tiruvaiyaru, Tiruvallur, Vazapadi, Vedaranniyam & Venkatagiri Town 4 each, Anna University, Arakkonam, Bhagamandala, Chengam, Grand Anicut, Hut Bay, Kakinada, Karaikal, Kollamkode, Kunnamkulam, M. M. Hills, Mahabalipuram, Malia, Mayiladuthurai, Palacode, Parangipettai, Perundurai, Pondicherry, Rajapalayam, Rayakottah, Satyavedu, Thuckalay & Tiruvadana 3 each	Tirukattupalli & Tiruvaiyaru 18 each, Pullambadi, Thiruthuraiipoondi & Tirumanur 17 each, Thanjavur 15, Needamangalam & Peravurani 14 each, Muthupet 13, Kavaratti & Madukur 12 each, Kodavasal, Mannargudi, Musiri, Samayapuram & Tiruchirappalli 11 each, Alangudi, Grand Anicut, Maniyatchi, Sherkottah, Thogaimalai, Tiruchy Town & Valangaiman 10 each, Jayamkondan, Kandarvakottai, Lalgudi, Pandavaiyar Head, Papanasam, Pattukottai & Thuvakudi 9 each, Ariyalur, Colachel, Mayiladuthurai, Orathanadu, Ottapidaram, Padalur, Thiruvaidaimarudhur & Toothukudi 8 each, Car Nicobar, Nannilam, Panchapatti, Perungalur, Pudukkottai, Sendurai, Tirumayam, Tiruvarur & Viralimalai 7 each, Aranthangi, Aryankavu, K. M. Koil, Keeranur, Kodaikanal, Kumbakonam, Tenkasi & Vedaranniyam 6 each, Aravakurichi, Arimalam, Illupur, Kadavur, Karambakudi, Marungapuri, Neyyattinkara, Sethiyathope & Vallam 5 each, Adirampattinam, Ayikudi, Coonoor, Dharapuram, Kanniyakumari, Karaikal, Ketti, Kollidam, Kulithalai, Manaparai, Mayanur, Mulanur, Nagapattinam, Nedumangad, Periyakulam, Rajghat & Tarangambadi 4 each, Chatrapatti, Chettikulam, Chidambaram, Karur, Kothagiri, Kundha, Nanguneri, Natham, Palani, Palayamkottai, Perambalur, Sirkali, Srimushnam, Srivaikuntam, Thuraiyur, Tiruchendur, Tozudur, Vadakara & Vembavur 3 each	Mayiladuthurai 11, Sirkali & Vedaranniyam 6 each, Karaikal, Nagapattinam & Tarangambadi 5 each, K. M. Koil 4, Chidambaram, Kollidam, Nannilam & Tiruvarur 3 each
30.	Nellore 17, Ramanathapuram 11, Kaveli 10, Pamban & Venkatagiri Town 9 each, Gudur, Rameswaram, Sherkottah & Tada 8 each, Kottayam, Mahabalipuram, Manimuthar, Paramakudi, Ponneri, Sompeta & Srikalahasthi 7 each, Ambasamudram, Cholvaram, Illayankudi, Manjeri, Chennai, Piravom, Sullurpet & Tarangambadi 6 each, Anna University, Atmakur, Kanchipuram, Kandukur, Karaikal, Kollidam, Mancompu, Mettupalayam, Chennai,	Car Nicobar 7, Passighat 4, Manimuthar 3	Gurudaspur 7, Quazi Gund, Banihal & Batote 5 each, Kukernag, Manali, Pahalgam, Qazi Gund & Samba 4 each, Anantnag, Jammu, Baderwah, Dhundhi & Katra 3 each

TABLE 5 (Contd.)

(1)	(2)	(3)	(4)
	Parangipettai, Rapur, Satyavedu, Sirkali, Thodupuzha & Tirupati 5 each, Bhagamandala, DGP Office, Gingee, Kakinada, Manamadurai, Nagapattinam, Red Hills, Sivaganga, Tambaram, Theni, Thiruvalla, Vinjamur & Visakhapatnam 4 each, Alapuzha, Bhimavaram, Bhimunipatnam, Cheyyur, Chingalepet, Cuddalore, Idukki, Jayamkondan, Keshod, Ketti, Mandasa, Mannarkkad, Mayiladuthurai, Mylaudy, Naduvattam, Palani, Pandavaigar Head, Punalur, Tiruvallur, Vadakkancherry & Watrap 3 each		
31.	Bhimavaram 25, Machilipatnam 20, Kakinada & Kaveli 17 each, Koderu 16, Atmakur 14, Kalingapatnam, Nellore, Peddapuram & Yellamanchili 13 each, Amalapuram, Avanigadda & Narsapuram 12 each, Bhimunipatnam, Tanuku & Visakhapatnam 11 each, Tuni & Visakhapatnam 10 each, Kamuthi 9, Perinthalamanna, Prathipadu, Rameswaram & Thirupathur 8 each, Bhimadole, Gopalpur, Kaikalur, Palasa, Subramanya, Tadepalligudem & Vijayanagaram 7 each, Anakapalli, Gudivada, Gudur, Kandukur, Kozhikode, Narsipatnam, Pollachi, Ranasthalam, Srungavarapukota & Vinjamur 6 each, Annur, Aruppukottai, Chodavaram, Eluru, Itchapuram, Kamatchipuram, Lakkavalli, Mandasa, Nanjangudu, Natham, Ottapidaram, Palani, Rapalle, Rapur, Rentachintala, Sompeta, Sulur, Tekkali, Tenali & Veda sandur 5 each, Bodinayakanur, Kochi, Koyyalagudem, Kulithalai, Marungapuri, Mulanur, Palakonda, Pamban, Peraiyur, Polavaram, Rajampet, Sholavandan, Tada, Vadipatti, Vijayawada & Virudhunagar 4 each, Addanki, Araku Valley, Aravakurichi, Cheepurupalli, Chintapalli, Gajapathinagaram, Guntur, Karipur, Kovilpatti, Madurai, Malkangiri, Manamadurai, Mudagal, Ottapalam, Paderu, Pamidi, Pathapatnam, Peermade, Perumpavur, Sivakasi & Vilathikulam 3 each	NIL	Minicoy 14, Dharampur 10, Berthin & Kalpa 9 each, Jhandutta, Kandaghat, Palampur & Sundarnagar 8 each, Baijnath, Bhoranj, Ghumarwin, Jogindarnagar, Kahu, Kasol, Sunibhaji & Piravom 7 each, Bangana, Chandigarh, Dharmasala, Hamirpur, Kalpa, Mandi, Nangal, Seobagh, Shimla, Sujapur Tira & Quazi Gund 6 each, Arki, Barkot, Batote, Bhuntar AP, Bilaspur, Gohar, Jammu, Kasauli, Madhopur, Solan & Udhampur 5 each, Amb, Baderwah, Banihal, Banjar, Bharwain, Chandigarh, Dehra Dun, Dehra Gopipur, Derabassi, Dunda, Ghamroor, Hoshiarpur, Kathua, Katra, Keylong, Khairi, Malakpur, Nadaun, Naraingarh, Pandoh, R. S. Dam Site, Rampur Bushar, Ropar, Samba, Shahpur Kandi & Tehri 4 each, Ambala, Deoprayag, Pachhad, Paonta, Pathankot, Saloni & Sangraha 3 each

Five persons lost their lives in Tamil Nadu. About 100 pucca/kutchha houses were either fully or partially damaged. Many boats were damaged and some were also missing due to floods. Rail, road and air transports were affected due to heavy rains. Sea water inundated low lying areas.

Heavy to very heavy rainfall occurred on 8th & 9th in Andhra Pradesh with extremely heavy falls at isolated places on 8th.

Some significant amounts of rainfall (in cm) are:

Tamil Nadu

8th November : Gingee 16, Panruti 15, Ambur 13, Vaniyambadi 12, Tiruvannamalai & Alangayam 11 each, Tindivanam,

Villupuram & Puducherry 10 each, Cuddalore, Vanur & Thali 9 each, Chengalpattu, Polur & Krishnagiri 8 each, Dharmapuri, Palacode, Tirukoilur, Vandavasi, Arakonam, Gudiyatham, Sholinghur, Tirupattur & Vellore 7 each.

Andhra Pradesh

8th November : Palasa 27, Sompeta 14, Ichhapuram 12, Kalingapatnam 10, Tekkali 9, Bheemunipatnam 8, Nellore, Anakapalli, Mandasa, Kandukur & Sullurpet 7 each.

9th November : Ichhapuram 9, Bobbili 7.

TABLE 6

Dates of occurrence of heat wave/severe heat wave and various categories of maximum temperatures - October 2010

No	Sub-division Name	Dates (Number of days)						
		Severe Heat wave	Heat wave	Hot Day	Appreciably to markedly above normal	Above normal	Appreciably to markedly below normal	Below normal
2.	Arunachal Pradesh					29-30 (2)		
3.	Assam & Meghalaya				30-31 (2)	29-31 (3)		
4.	Naga., Mani, Mizo. and Tri.				29-30 (2)	30 (1)		
5.	S. H. W. B. & Sikkim				30 (1)	30 (1)		
6.	Gangetic West Bengal							
7.	Orissa					27-30(4)		
8.	Jharkhand				12, 20-21, 25-26 (5)	13, 24, 27-28 (4)		22 (1)
9.	Bihar				14-15, 21 (3)	12-13, 19-20, 24-26, 30-31 (9)	22 (1)	17, 20 (2)
10.	East Uttar Pradesh				11-12, 14-16, 25 (6)	5-9, 13, 15, 19-21, 26 (11)	8 (1)	13, 17, 23 (3)
11.	West Uttar Pradesh				11, 14, 17, 23 (4)	4-7, 12-13, 16-17, 21, 26 (10)		20, 28 (2)
12.	Uttarakhand				1, 13-17, 20-21, 23, 28-30 (12)	3-4, 7, 9-12, 21, 26 (9)	24 (1)	
13.	Haryana, Chandigarh & Delhi					1-2, 7, 11-13, 15-17, 20 (10)	23-24, 28 (3)	8, 23, 25-28, 30 (7)
14.	Punjab					15-16 (2)	6, 25, 28, 30 (4)	2-5, 7, 12, 21, 23- 24, 26-28 (12)
15.	Himachal Pradesh				2-4, 6-9, 11, 13-17, 19-20, 25-26, 28-29 (19)	5, 10, 22(3)		10 (1)
16.	Jammu & Kashmir				6, 9-11, 13-17, 19-21 (12)	1-2, 4-5, 7-8, 12, 22(8)	23-25 (3)	24, 26 (2)
17.	West Rajasthan				3-7, 10, 12, 15, 20, 22-23 (11)	1-2, 8-10, 15-17, 19, 21-23, 26 (13)	30 (1)	11-12, 24-25, 27, 30 (6)
18.	East Rajasthan				1-2, 4, 6-7, 11, 14-15, 17, 19, 22, 24 (12)	3, 13, 16-17, 20-22, 24-25, 27-28 (11)		
19.	West Madhya Pradesh				6-7, 10-17, 23, 25-26, 29 (14)	5, 8, 15, 17-18, 21-23, 26-31 (14)	13 (1)	19-20 (2)
20.	East Madhya Pradesh				6-7, 10-13, 15-17, 23-26, 29 (14)	5, 8, 15, 17, 21-24, 26, 29-31 (12)		19-20 (2)
21.	Gujarat Region				3, 5-8, 10, 18-20, 22-24, 28-29 (13)	9, 15-17, 19, 21, 26-27, 29-31 (11)	13 (1)	12, 21, 30 (3)
22.	Saurashtra & Kutch				3, 5-8, 10, 15, 19-22, 28-29, 31 (14)	9, 16-19, 23, 27, 29-30 (9)	13, 30 (2)	12, 23 (2)
23.	Konkan & Goa				28-29, 31 (3)	30-31 (2)		
24.	Madhya Maharashtra					29 (1)	28 (1)	30 (1)
25.	Marathwada						28 (1)	27 (1)
26.	Vidarbha					26, 28-29 (3)		28 (1)
27.	Chattisgarh							
28.	Coastal Andhra Pradesh				29 (1)		30 (1)	
29.	Telangana							30 (1)
30.	Rayalaseema							
31.	Tamil Nadu					29 (1)		
32.	Coastal Karnataka				30-31 (2)			
33.	North Interior Karnataka							30 (1)
34.	South Interior Karnataka							
35.	Kerala							

TABLE 7

Dates of occurrence of cold wave/severe cold wave and various categories of minimum temperatures - October 2010

No	Sub-division Name	Dates (Number of days)						
		Severe Cold wave	Cold wave	Cold Day	Appreciably to markedly below normal	Below normal	Appreciably to markedly above normal	Above normal
2.	Arunachal Pradesh							
3.	Assam & Meghalaya						30-31 (2)	
4.	Naga., Mani, Mizo. and Tri.							
5.	S. H. W. B. & Sikkim					27-28 (2)		
6.	Gangetic West Bengal					30(1)		
7.	Orissa				27-30 (2)	28 (1)		13 (1)
8.	Jharkhand				29 (1)	27-28, 30 (3)	16, 18, 20, 24 (4)	15, 25, 30 (3)
9.	Bihar				30 (1)	11, 26, 28 (3)	14-21, 24, 31 (10)	12-13, 25, 31 (4)
10.	East Uttar Pradesh				26-27, 29-31 (5)	10, 26, 28 (3)	7-8, 15-16, 18-24 (11)	1-3, 6, 9-13, 22, 24 (11)
11.	West Uttar Pradesh				11, 25-26, 29, 31 (5)	1, 10, 12, 26-28 (6)	4, 16, 18-22, 24 (8)	3, 5, 8-10, 13, 22, 24 ((8)
12.	Uttarakhand				28 (1)	28 (1)	14, 16, 19-21 (5)	15, 18 (2)
13.	Haryana, Chandigarh & Delhi				26-27 (2)	12, 26 (2)	3, 6-7, 9-10, 13-16, 18-22, 30 (15)	4-5, 8, 11-12, 25, 28, 30 (8)
14.	Punjab				26-27 (2)	1-2, 12, 25, 28 (5)	7-10, 13-16, 18-22 (13)	4-6, 8, 10-11, 30 (8)
15.	Himachal Pradesh				25 (1)	6 (1)	19, 21-22 (3)	1, 10-13, 15, 16, 18, 20 (9)
16.	Jammu & Kashmir				25-26, 28 (3)	2, 23, 27 (3)	8, 18-20, 30 (5)	6, 8, 10-11, 13, 15-16, 25 (8)
17.	West Rajasthan				6 (1)	8 (1)	3-8, 10, 12-16, 18- 22, 24-31 (25)	1-2, 11-12, 15- 16, 22-23, 26, 28 (10)
18.	East Rajasthan				6 (1)	10 (1)	4, 6-8, 10-11, 13-16, 18-25, 27, 31 (20)	15-16, 22, 28 (4)
19.	West Madhya Pradesh				12 (1)		7, 9, 11-13, 15-20, 22-30 (20)	3-6, 8, 15, 22, 24, 26, 28, 30-31 (12)
20.	East Madhya Pradesh				11-12 (2)		7, 9, 11-13, 17-20, 22, 24-26, 29 (14)	3-6, 22-24, 26, 31 (9)
21.	Gujarat Region						4, 6-7, 10-22, 25-28, 30-31 (22)	3, 15, 17, 22, 24, 26, 28 (8)
22.	Saurashtra & Kutch						4, 6, 10-12, 15-22, 24, 28, 30 (16)	3, 9, 12-13, 15- 17, 22, 25-28, 31 (13)
23.	Konkan & Goa				29 (1)	30-31 (2)		27-28 (2)
24.	Madhya Maharashtra				31 (1)		26, 29, 31 (3)	27-28 (2)
25.	Marathawada							28 (1)
26.	Vidarbha				29 (1)		30 (1)	31 (1)
27.	Chattisgarh				12,27 (2)			
28.	Coastal Andhra Pradesh							
29.	Telangana				31 (1)	31 (1)		
30.	Rayalaseema							
31.	Tamil Nadu							29 (1)
32.	Coastal Karnataka					29 (1)		31 (1)
33.	North Interior Karnataka							
34.	South Interior Karnataka							
35.	Kerala							

TABLE 8

Dates of occurrence of cold wave/severe cold wave and various categories of minimum temperatures - November 2010

Sub-division		Dates (Number of days)						
No	Name	Severe Cold wave	Cold wave	Cold Day	Appreciably to markedly below normal	Below normal	Appreciably to markedly above normal	Above normal
2.	Arunachal Pradesh						1, 17-18, 20, 29 (5)	19, 28 (2)
3.	Assam & Meghalaya				8, 10 (2)	3, 4, 13, 15-16, 22-24, 26 (9)	2, 11, 17, 20-21, 25, 27-29, 30 (10)	4, 15, 17, 19, 27, 29 (6)
4.	Naga., Mani, Mizo and Tri.				3, 6, 8, 10 (4)	13, 15, 22, 24, 26 (5)	3, 4, 7, 17-21, 27, 29 (10)	15, 25 (2)
5.	S. H. W. B. & Sikkim				27 (1)		5, 6, 10-13, 15, 17-20, 25, 28-29 (14)	4, 6-7, 16, 20, 24, 27 (7)
6.	Gangetic West Bengal						6, 8, 10-11, 13, 15, 17-20, 27-29 (13)	3, 6, 25 (3)
7.	Orissa				1 (1)	6, 22 (2)	8-10, 12-21, 23, 25-30 (20)	3, 4, 7, 9-10, 17-18, 24, 26 (9)
8.	Jharkhand						8, 10-12, 15, 18-20, 25-29 (13)	3, 14, 24-25 (4)
9.	Bihar					1 (1)	7-12, 14-16, 18, 20, 23-29 (18)	3-4, 6, 21-22, 24(6)
10.	East Uttar Pradesh				1 (1)		7-20, 22-29 (17)	3-4, 5, 21, 26, 28-30 (8)
11.	West Uttar Pradesh					1 (1)	7-10, 12-13, 15, 17-20, 22-29 (19)	3-5, 21, 26, 28(6)
12.	Uttarakhand					3 (1)	8-9, 17-18, 25-26 (6)	6, 11-12, 17, 23, 25-28 (9)
13.	Haryana, Chandigarh & Delhi				29 (1)	10, 13, 28-29 (4)	3, 7-8, 15, 18, 23, 25-27 (9)	4, 6, 9, 11-12, 20 (6)
14.	Punjab					1, 11, 13 (3)	3, 8, 15, 18, 22-23, 25 (7)	4, 6-7, 12, 15-16, 26-27 (8)
15.	Himachal Pradesh					10, 28 (2)	15-18, 25, 27, 30 (7)	6-7, 12, 15, 17, 22-23, 25-26 (9)
16.	Jammu & Kashmir					13 (1)	3, 8, 25-27 (5)	6, 12, 22-25, 28 (7)
17.	West Rajasthan				1 (1)	1, 6, 21, 28, 30 (5)	2-5, 7-25, 28 (24)	4-5, 18-19, 23-24, 26-27, 29 (9)
18.	East Rajasthan						2, 6-7, 9-11, 13, 15-20, 22-29 (21)	4-5, 19, 23-24, 28 (6)
19.	West Madhya Pradesh				5 (1)	1 (1)	1, 4, 8-15, 17-20, 22-30 (23)	3, 5, 21(3)
20.	East Madhya Pradesh				1, 5 (2)	6 (1)	3-4, 8-15, 17-20, 22, 24-30 (22)	5 (1)
21.	Gujarat Region						2-4, 7, 9-20, 22-30 (26)	6-7, 13, 18, 21, 23, 25 (8)
22.	Saurashtra & Kutch				27, 29 (2)	4, 25-26, 28 (4)	5-7, 9-20, 22-24, 29-30 (20)	2-3, 7-8, 13, 18, 21, 23, 25, 27-28 (11)
23.	Konkan & Goa					1-2 (2)	4-5, 9-12, 14-15, 17-21, 23-25, 27, 29-30 (19)	4, 7, 11-12, 17, 19, 22, 25-29(12)
24.	Madhya Maharashtra					2 (1)	3-6, 8-30 (27)	20, 24-25, 28 (4)
25.	Marathwada				1 (1)		3-4, 6, 8-9, 11-30 (25)	
26.	Vidarbha				2, 6, 7 (3)	1, 3 (2)	2-5, 8-21, 23-30 (26)	4, 7, 24, 26, 29 (5)
27.	Chattisgarh					1 (1)	8, 11-13, 15-18, 20, 24-29 (15)	3, 17, 22, 24 (4)
28.	Coastal Andhra Pradesh						11-12, 15, 18, 20-21, 23-25, 29 (10)	4-5, 8, 10, 13-14, 16-17, 20, 22-23, 27-30 (16)
29.	Telangana						4-5, 8-13, 15-16, 18-29 (22)	6, 14, 17, 23, 26-27, 30 (8)
30.	Rayalaseema						10-12, 18, 20, 23, 25, 27, 29 (9)	4, 13-14, 16, 23-25, 27-28, 30 (8)
31.	Tamil Nadu					8, 11, 26 (3)	18, 25 (2)	6, 10, 14-19, 22-24, 29-30 (13)
32.	Coastal Karnataka						16, 18, 20-21, 25, 27, 29-30 (8)	4, 10, 12-13, 15, 19-20, 23, 26-28 (11)
33.	North Interior Karnataka						11, 17-20, 25, 27, 29 (8)	11-15, 19-20, 23-24, 28 (10)
34.	South Interior Karnataka					26 (1)	27 (1)	4, 10-15, 17-20, 23, 25, 28 (14)
35.	Kerala							4, 8, 13, 17, 27 (5)

TABLE 9

Dates of occurrence of cold wave/severe cold wave and various categories of minimum temperatures - December 2010

No	Sub-division Name	Dates (Number of days)						
		Severe Cold wave	Cold wave	Cold Day	Appreciably to markedly below normal	Below normal	Appreciably to markedly above normal	Above normal
2.	Arunachal Pradesh					4, 6, 22, 31 (4)	8, 11-12 (3)	1, 6 (2)
3.	Assam & Meghalaya				3, 5, 14, 18, 24-25, 27 (7)	1, 4-5, 17, 19-23, 29-31 (12)	7-12, 16-17, 24 (9)	2, 4, 13, 15, 19, 25, 27, 31(8)
4.	Naga., Mani, Mizo. and Tri.	26, 28 (2)	21 (1)			1-2 (2)	8-9, 12 (3)	23 (1)
5.	S. H. W. B. & Sikkim		15, 27 (2)		13, 16, 21, 23, 25-28, 30 (9)	2, 15, 18, 20, 22, 29 (6)	6-9, 11-12 (7)	7, 17, 31 (3)
6.	Gangetic West Bengal				23, 27-28 (3)	15, 20, 22, 29-31 (6)	6-12 (7)	7, 13-14 (3)
7.	Orissa		19-24 (6)		16-19, 21-23, 28-30 (10)	4, 6, 15, 20, 25-27, 30-31 (9)	1-2, 5-6, 8-10, 12-13 (9)	1, 4, 7, 11, 14-15 (6)
8.	Jharkhand		21-23 (3)		15-16, 21, 23, 28-29 (6)	1, 4-5, 17-20, 22, 26-27 (10)	7, 9-12, 30-31 (8)	2 (1)
9.	Bihar		23 (1)		16, 21, 23-29 (9)	1-2, 4, 16-17, 22 (6)	7-12, 31 (7)	6 (1)
10.	East Uttar Pradesh				13, 16, 19, 21, 23-29 (11)	1, 3-4, 15-16, 18, 20, 22-23, 30 (10)	8-11, 30-31 (7)	2, 4, 7 (3)
11.	West Uttar Pradesh		21-22 (2)		13, 16, 19, 24 (4)	1, 4, 11, 15-16, 18, 20, 22 (8)	8-10, 30-31 (5)	2, 4, 28-29 (4)
12.	Uttarakhand				12, 18, 22, 31 (4)	2, 11-13, 15, 19-21, 25, 27-28 (11)	9, 29-30 (3)	
13.	Haryana, Chandigarh & Delhi	14, 16, 19, 22, 26, 28 (6)			7-8, 10, 21, 25, 27-28 (8)	1-2, 4, 6, 9, 16, 18-19, 22, 24 (10)	29-31 (3)	23 (1)
14.	Punjab	26, 28 (2)			8, 29 (2)	1, 4, 9, 16-18, 20-22, 24-25, 27-28 (13)	30-31 (2)	
15.	Himachal Pradesh		14 (1)		3, 16, 22, 31 (4)	4, 6, 11 (3)		20, 28
16.	Jammu & Kashmir		22, 27 (2)		15, 19, 21, 25, 28 (5)	1, 4-6, 9-14, 18-20, 22, 26 (15)	29 (1)	30-31
17.	West Rajasthan		21 (1)		10-11, 13, 16, 18, 21, 25, 31 (8)	4-5, 8-9, 12, 15, 19- 20, 22, 26-27 (11)	7, 22, 27-29, 31 (6)	2, 4, 6, 23
18.	East Rajasthan		20 (1)		10-11 (2)	1, 4, 12, 15, 19, 20, 22, 25(8)	27-30 (4)	2, 4, 6, 17, 26 (5)
19.	West Madhya Pradesh		15-24 (10)		6-7, 14-18, 22, 26-27 (10)	4, 12-13, 19-25 (9)	1-2, 5, 8-10, 27-31 (11)	4, 6, 10 (3)
20.	East Madhya Pradesh		16-17, 20 (3)		6, 15-17, 21-22 (6)	4, 18-20, 22-23, 27 (7)	1-2, 7-10, 12, 29-31 (10)	4, 6, 10, 24, 28 (5)
21.	Gujarat Region		14 (1)		12-13, 16, 21-22 (5)	8-9, 11, 14-16, 18- 20, 22-24, 26 (13)	1-3, 5, 7, 27-30 (9)	1, 4, 6-7, 10, 25 (6)
22.	Saurashtra & Kutch			21, 26 (2)	8-12, 16, 18, 21-22, 26-27, 31 (12)	1-4, 13, 15-17, 19-20, 22, 29-30(13)	13 (1)	4, 6, 23, 28 (4)
23.	Konkan & Goa			24 (1)	13-14, 20, 23, 25-26, 31 (7)	11-12, 15-16, 18-19, 22, 27, 30 (9)	2-3, 8-9, 29 (5)	5, 10, 28 (3)
24.	Madhya Maharashtra	21-22, 24 (3)	14, 16, 19-21, 23(6)		12-13, 15-19, 25, 27-28 (10)	6, 20-22, 26 (5)	1-5, 8-9, 11-12, 27-31 (14)	6, 15 (2)

TABLE 9 (Contd.)

Sub-division		Dates (Number of days)						
No	Name	Severe Cold wave	Cold wave	Cold Day	Appreciably to markedly below normal	Below normal	Appreciably to markedly above normal	Above normal
25.	Marathwada	18, 22 (2)	17, 19-20, 23 (4)		16, 18, 20, 22-23, 25-26 (7)		1-5, 8-11, 28-31 (13)	4, 13 (2)
26.	Vidarbha	15-21 (7)	14, 23, 28-30 (5)		5, 7, 16-19, 21-23 (9)	7, 12-13, 20, 26, 29 (6)	1-4, 8-12, 31 (10)	5, 30 (2)
27.	Chattisgarh		19-20 (2)		16, 18, 21 (3)	19-20, 22, 29 (4)	1, 3, 8-13 (8)	2 (1)
28.	Coastal Andhra Pradesh	24, 30 (2)	22 (1)		21, 23, 27, 31 (4)	16, 18-20, 22, 25-26, 31 (8)	1-3, 5, 8-10, 12-16 (12)	1, 4, 7, 11 (4)
29.	Telangana		20, 22-23 (3)		17-23, 25, 28 (9)	16, 27 (2)	1-5, 7-9, 11-12, 15, 29 (12)	1, 6, 8, 13-14, 31 (6)
30.	Rayalaseema	22-23 (2)			19, 22-23, 25 (4)	21, 25-26, 28 (4)	1-2, 8-9, 12, 15 (6)	1, 4, 11, 15-16, 18, 20 (7)
31.	Tamil Nadu				13, 23 (2)	19, 22-24, 26-27 (6)	3, 8-10, 12-15 (8)	1, 4-6, 10-11, 14-18, 31 (12)
32.	Coastal Karnataka				12, 23, 25 (3)	6, 13, 26 (3)	2-3, 8, 17 (4)	16, 20-21, 28, 30 (5)
33.	North Interior Karnataka	18-25, 27 (9)	18, 25 (2)		13, 16, 19, 22, 26-27 (6)	1, 6, 12, 15, 17, 28 (6)	2-3, 8-9 (4)	11 (1)
34.	South Interior Karnataka	23-24 (2)	23, 25 (2)		26 (1)	5, 6, 19, 22, 27, 28, 31 (7)	2, 8-9, 12-14, 16 (7)	18, 21, 29 (3)
35.	Kerala					27 (1)	31	4, 7-8, 17-21, 30 (9)

3.2.2. Other synoptic features and associated weather

A summary of the synoptic systems for the month of November 2010 is given in Table 3. The sub-division wise percentage departure of rainfall from normal and the significant amounts of rainfall during the month are given in Tables 1 and 5 respectively and the frequency of days of *vigorous/active* northeast monsoon days and heavy rainfall are given in Table 10.

The first week of the month witnessed subdued rainfall activity over major parts of the country excluding Peninsular India, Orissa, Maharashtra & Goa states (excluding Vidarbha). The Severe Cyclonic Storm (Jal) caused excess rainfall over Peninsular India. Due to the *insitu* weakening of this system before crossing, only the interior districts of Tamil Nadu received good rainfall and coastal districts did not receive bountiful rainfall. However, the seasonal deficit in rainfall was greatly reduced in coastal Andhra Pradesh, Rayalaseema and Tamil Nadu. The entire cloud mass associated with the system came over the land and only circulation bereft of any convection was prevailing over the sea. The remnant of this Cyclonic Storm which emerged into the Arabian Sea as a well marked low pressure area caused excess

rainfall over Konkan & Goa and Madhya Maharashtra. During this period, since the system drew moisture from the Bay of Bengal across Tamil Nadu region, once again it caused *widespread* rainfall activity over the interior districts.

A high amplitude trough in the lower level easterlies and the formation and northward movement of a well marked low pressure area over the Arabian Sea caused unseasonal rainfall in many parts of western, central and eastern parts of the country during the second and the third week of the month. A well marked low pressure area over the southeast Bay of Bengal and its westward movement caused vigorous monsoon conditions over the northeast monsoon regime.

During the last week of the month, the rainfall activity was subdued over major parts of the country except over Tamil Nadu and Kerala where the Northeast monsoon was *active* or *vigorous*.

3.2.3. Temperature

The dates of occurrence of *cold wave conditions* and the dates on which minimum temperature remained under various categories *viz.*, *appreciably to markedly below*

TABLE 10

No. of days of different rainfall distribution over the country during October to December 2010

S. No.	Sub-division	October					November					December					October to December				
		Vigorous	Active	Extr. Heavy Rain	Very Heavy Rain	Heavy Rain	Vigorous	Active	Extr. Heavy Rain	Very Heavy Rain	Heavy Rain	Vigorous	Active	Extr. Heavy Rain	Very Heavy Rain	Heavy Rain	Vigorous	Active	Extr. Heavy Rain	Very Heavy Rain	Heavy Rain
1.	Andaman & Nicobar Islands	-	-	-	-	3	-	-	-	1	5	-	-	-	-	4	-	-	-	1	12
2.	Arunachal Pradesh	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3.	Assam & Meghalaya	1	1	2	-	-	-	-	-	-	-	-	-	-	-	1	1	2	-	-	-
4.	Naga, Mani, Mizo. & Trip.	1	2	-	1	2	-	-	-	-	-	-	-	-	-	1	2	-	1	2	-
5.	Sub-Himalayan W B & Sikkim	-	3	-	-	4	-	-	-	-	-	-	-	-	-	-	3	-	-	-	4
6.	Gangetic West Bengal	3	1	-	-	4	-	-	-	-	-	-	-	-	1	3	1	-	-	-	5
7.	Orissa	4	1	1	2	5	-	-	-	2	-	-	-	-	-	4	1	1	4	5	-
8.	Jharkhand	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-
9.	Bihar	1	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
10.	East Uttar Pradesh	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.	West Uttar Pradesh	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.	Uttarakhand	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.	Haryana Chnd. & Delhi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.	Punjab	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.	Himachal Pradesh	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2
16.	Jammu & Kashmir	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.	West Rajasthan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.	East Rajasthan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.	West Madhya Pradesh	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.	East Madhya Pradesh	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.	Gujarat Region	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
22.	Saurashtra & Kutch	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
23.	Konkan & Goa	-	1	-	1	9	-	-	-	1	6	-	-	-	-	1	-	2	15	-	15
24.	Madhya Maharashtra	-	-	-	3	4	-	-	-	5	-	-	-	-	-	-	-	-	3	9	-
25.	Marathwada	-	-	-	-	2	-	-	-	2	-	-	-	-	-	-	-	-	-	-	4
26.	Vidarbha	1	-	-	-	1	1	-	-	2	-	-	-	-	2	-	-	-	-	-	3
27.	Chattisgarh	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.	Coastal Andhra Pradesh*	0(2)	4	(1)	(1)	6(1)	5	2	2	2	8	4	-	-	1	2	11	6	3	4	17
29.	Telangana	3	-	-	-	5	-	-	-	1	-	1	-	-	-	4	-	-	1	5	-
30.	Rayalaseema*	-	-	-	-	3	2	1	-	1	3	1	1	-	1	3	2	-	1	7	-
31.	Tamil Nadu & Puducherry*	(1)	3	1	5	9(2)	5	11	2	11	10	1	2	-	6	7	7	16	3	22	28
32.	Coastal Karnataka	2	6	-	2	8	-	-	-	3	6	-	-	-	-	2	6	-	5	14	-
33.	North interior Karnataka	1	1	-	-	4	-	-	-	3	-	-	-	-	1	1	-	-	-	7	-
34.	South interior Karnataka*	-	3	-	1	11	2	1	-	3	7	-	-	-	2	4	-	4	18	-	18
35.	Kerala*	1	8(2)	-	5	8(2)	6	7	-	5	9	1	-	-	1	8	17	-	11	19	-
36.	Lakshadweep	-	-	-	-	2	-	-	-	1	-	-	-	1	1	-	-	-	1	4	-
Total		21	38	5	21	99	21	22	4	30	68	8	3	-	9	17	50	63	9	60	184

V : Vigorous, A : Active, EH : Extremely Heavy Rain, VH : Very Heavy Rain, H : Heavy Rain

* Number in the bracket indicates no. of days of different rainfall distribution during the northeast monsoon

normal, below/above normal are given in Table 8. No *cold wave conditions* occurred during the month, probably due to the fact that the western disturbances moved along a more northerly course.

Keylong in Lahul and Spiti districts of Himachal Pradesh recorded sub-zero night temperatures in association with snowfall.

Month's lowest minimum temperature over the plains of the country was 6.5 °C recorded at Hissar (Haryana) on 30th November 2010.

3.2.4. *Disastrous weather events and associated damage*

According to media reports, Heavy rains, strong winds and lightning killed 105 people in Tamil Nadu, 17 in Karnataka and 1 in Kerala. The damage caused by the Tropical Cyclone (Jal) is dealt briefly under section 3.2.1.1.

Rains during this month damaged Rabi crops including Grapes, Onion and Rice in parts of Maharashtra.

3.3. *December*

3.3.1. *Storms and Depressions*

Only one Depression formed over the Bay of Bengal during the month. The details are given below.

3.3.1.1. *Deep Depression over the Bay of Bengal (7th-8th December, 2010)*

A trough of low at sea level lay over the southeast Bay of Bengal and adjoining south Andaman Sea on 2nd and over the southwest Bay of Bengal off Tamil Nadu-Sri Lanka coasts on 3rd. Under its influence a low pressure area developed over the southwest Bay of Bengal on 4th and persisted there on 5th. It became well marked over the same region on 6th, subsequently concentrated into a Depression and lay centered at 0300 UTC of 7th, over the southwest and adjoining west central Bay of Bengal, near Lat. 14.0 °N / Long. 82.0 °E (about 230 kms southeast of Kavali). Moving north northwestwards, it lay centred at 1200 UTC of 7th, near Lat. 15.0 °N / Long. 81.5 °E (about 150 km east southeast of Ongole). Then it moved northwestwards and crossed Andhra Pradesh coast near Bapatla around 2000 UTC of 7th and lay centred at 0000 UTC of 8th, about 50 kms northwest of Bapatla (Lat. 16.0 °N / Long. 80.0 °E). Subsequently, it weakened into a well marked low pressure area and lay over coastal Andhra Pradesh and neighbourhood in the morning of 8th.

Heavy rains claimed 2 lives in Andhra Pradesh. As the Depression did not cross Tamil Nadu coast, there was

no serious loss of life and property. However, when it was located over the west central Bay of Bengal off south Andhra Pradesh coast; Tamil Nadu received bountiful rainfall almost in all the districts of Tamil Nadu with heavy rainfall over Kanyakumari district in which 4500 huts were damaged and about thousand acres of Paddy field were submerged.

Northeast monsoon was vigorous in Andhra Pradesh from 6th to 8th. Widespread rainfall activity with heavy to very heavy falls at isolated places occurred over coastal Andhra Pradesh on 7th & 8th. Heavy to very heavy rainfall also occurred over Tamil Nadu from 6th to 8th.

Some chief amounts of rainfall are:

Tamil Nadu

6th December : Mahabalipuram 13, Anna University 11, Chennai AP 10, Cheyyur, Chengalpet & Ponneri 9 each.

7th December : Ponneri, Poonamally & Mahabalipuram 7 each.

8th December : Kuzhithurai 24, Boothapandi & Pechiparai 17 each, Tiruchendur 15, Radhapuram 10, Thuckalay 9, Nanguneri 7.

Andhra Pradesh

7th December : Bapatla & Narsapur 10 each, Repalle & Sullurpet 9 each, Tada 8, Sattenapalli, Kailaur, Machilipatnam, Nuzvid, Gudur & Bhimavaram 7 each.

8th December : Ranasthalam 14, Tekkali & Cheepurpalli 13 each, Kakinada, Kalingapatnam & Araku Valley 12 each, Macherla, Udayagiri, Vinjamur, Cumbum, Visakhapatnam & Salur 11 each, Amalapuram, Peddapuram, Patapatnam, Elamanchili, Srungavarapukota, Terlam & Vizinagaram 10 each.

3.3.2. *Weather and associated synoptic features*

Table 4 gives a summary of the synoptic systems during the month of December 2010. The sub-division wise percentage departure of rainfall and the significant amounts of rainfall during the month are given in Tables 1 and 5 respectively. The frequency of the northeast

monsoon activity days and heavy rainfall events are given in Table 10.

The rainfall activity which was normal in Andhra Pradesh during the last two weeks of November was revived with the formation of the Depression over the Bay of Bengal. The Northeast monsoon was vigorous in all the sub-divisions affected by the Northeast monsoon except south interior Karnataka in the first week of the month.

The rainfall activity was confined to the southern peninsular India towards the end of the second week and also during the third week. Thereafter, the rainfall activity was subdued in the last week of the month over major parts of the country.

Thick fog prevailed over the northern plains during the initial half of the last week of the month.

Northeast monsoon rains ceased over the south Peninsula on 31st December.

3.3.3 Temperature

The dates of occurrence of *cold wave conditions* and the dates on which minimum temperature remained under various categories, viz., *appreciably to markedly below normal, below/above normal* are given in Table 9. It is evident from Table 9 that *Cold wave conditions* prevailed over many parts of the country only during the second fortnight of the month. Towards the end of the month, a western disturbance and its induced cyclonic circulation combined with the moisture incursion from the Arabian Sea caused abatement of severe cold wave conditions over the country.

Many stations in the northern parts reported sub zero temperatures, e.g., minus 7.6 °C in Gulmarg (Jammu & Kashmir), minus 7 °C in Keylong (Himachal Pradesh).

The month's and season's lowest minimum temperature in the plains of the country was 1.8° C recorded at Amritsar (Punjab) on 28th December 2010.

3.3.4. *Disastrous weather events and associated damage*

According to media reports, flood situations in coastal Tamil Nadu claimed 180 lives. Heavy rains also claimed 2 lives each in Andhra Pradesh and Kerala.

Cold wave conditions claimed 8 lives in Uttar Pradesh, 4 in Jammu & Kashmir and Nagpur and 3 in Chhattisgarh.

Dense fog prevailed over parts of Punjab, Haryana, Delhi, Rajasthan and Uttar Pradesh during 25th - 27th, severely affecting road, rail and air traffic. Fog caused multiple accidents on the Greater Noida Express Highway.

Appendix

Definitions of the terms given in '*Italics*'

Rainfall

<i>Excess</i>	- percentage departure from normal is + 20% or more.
<i>Normal</i>	- percentage departure from normal is -19 % to + 19 %.
<i>Deficient</i>	- percentage departure from normal is -20 % to -59 %.
<i>Scanty</i>	- percentage departure from normal is -60 % to -99 %.
<i>Heavy rain</i>	- rainfall amount from 6.5 cm to 12.4 cm.
<i>Very heavy rainfall</i>	- rainfall amount 12.5 cm to 24.4 cm.
<i>Extremely heavy rain</i>	rainfall amount 24.5 cm and above.
<i>At most places</i>	- 76 % or more stations of a meteorological sub-division reporting at least 2.5 mm rainfall.
<i>At many places</i>	- 51% to 75 % stations of a meteorological sub-division reporting at least 2.5 mm rainfall.
<i>At a few places</i>	- 26 % to 50% stations of a meteorological sub-division reporting at least 2.5 mm rainfall.
<i>At isolated places</i>	- 25% or less stations of a meteorological sub-division reporting at least 2.5 mm rainfall.

Monsoon activity

(a) Southwest monsoon

<i>Vigorous</i>	- rainfall exceeding 4 times the normal with, at least two stations reporting rainfall more than or equal to 8 cm along the west coast and 5 cm elsewhere. Rainfall in that sub-division should be fairly widespread or widespread.
<i>Active</i>	- rainfall more than 1½ to 4 times the normal, with at least two stations reporting rainfall more than or equal to 5 cm along the west coast and 3 cm elsewhere. Rainfall in that sub-division should be fairly widespread or widespread.

(b) Northeast monsoon*Vigorous*

- rainfall exceeding 4 times the normal with at least two stations reporting rainfall more than or equal to 5 cm in coastal Tamil Nadu and south coastal Andhra Pradesh and 3 cm elsewhere in the northeast monsoon region. Rainfall in that sub-division should be fairly widespread or widespread.

Active

- rainfall more than 1½ to 4 times the normal, with at least two stations reporting rainfall more than or equal to 3 cm in coastal Tamil Nadu and south coastal Andhra Pradesh and 2 cm elsewhere in the northeast monsoon region. Rainfall in that sub-division should be fairly widespread or widespread.

Temperatures**(a) Maximum / Day temperature**

According to the revised criteria, since 1 March 2002, Heat Wave will be declared only when the maximum temperature of a station reaches at least 40° C for plains and at least 30° C for Hilly regions.

Severe heat wave conditions

- Departure of maximum temperature from normal is +6° C or more for the regions where the normal maximum temperature is more than 40° C and +7° C or more for regions where the normal maximum temperature is 40° C or less.

Heat wave conditions

- + 4° C to + 5° C for the regions where the normal maximum temperature is more than 40° C and departure of maximum temperature from normal is + 5° C to + 6° C for regions where the normal maximum temperature is 40° C or less. (declared only when the maximum temperature of a station reaches at least 40° C for Plains and at least 30° C for Hilly region)

Markedly above normal

- departure from normal is +5° C to +6° C (where the normal maximum temperature is 40° C or less).

Appreciably above normal

- departure from normal is +3° C to +4° C (where the normal maximum temperature is 40° C or less).

Above normal

- departure from normal is +2° C.

Normal

- departure from normal is +1° C to -1° C.

(b) Minimum / Night temperature*Severe cold wave conditions*

- departure of WCT_n from normal minimum temperature is -7° C or less for the regions where normal minimum temperature is $\geq 10^\circ C$ and -6° C or less elsewhere

Cold wave conditions

when the wind chill effective minimum temperature (WCT_n) is 10° C or less: For stations whose normal minimum temperature is $\geq 10^\circ C$, when the departure from normal is -5° to -6° C, and for stations whose normal minimum temperature is less than 10° C when the departure from normal is -4° to -5° C. Also when WCT_n is $\leq 0^\circ C$, cold wave is declared irrespective of the departure for those stations whose normal minimum temperature is greater than 0° C.

Cold day conditions

For inland plain stations, when the day temperature is less than or equal to 16° C.

Markedly below normal

- departure from normal is -5° C to -6° C (where the normal minimum temperature is 10° C or more).

Appreciably below normal

- departure from normal is between -3° C to -4° C (where the normal minimum temperature is 10° C or more).

Below normal

- departure from normal is -2° C.

Normal

- departure from normal is +1° C to -1° C.