



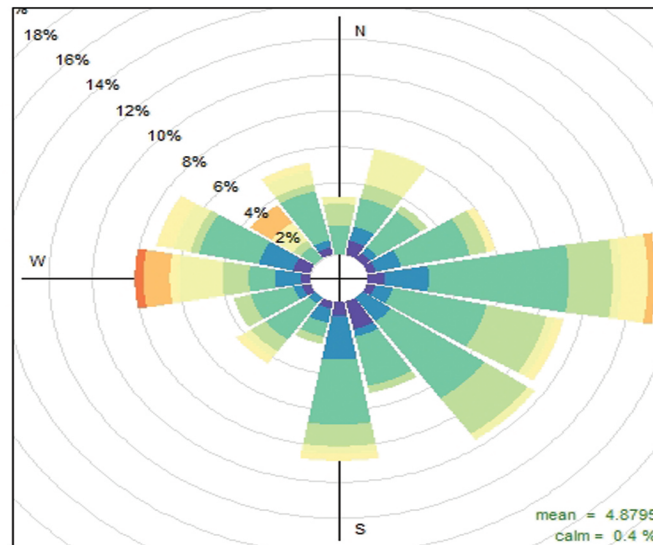
भारत सरकार / GOVERNMENT OF INDIA

पृथ्वी विज्ञान मंत्रालय/ MINISTRY OF EARTH SCIENCES

भारत मौसम विज्ञान भवन / INDIA METEOROLOGICAL DEPARTMENT

रेडियो सौण्डे और रेडियो विंड के मासिक सामान्य मूल्य (१९८१ - २०१०)
तथा मासिक उपरिवायु के पवन दिग्दर्शक आरेख (२००० - २०१५)

MONTHLY NORMALS OF RADIOSONDE AND RADIOWIND (1981-2010) AND
MONTHLY UPPER AIR WINDROSE DIAGRAMS (2000-2015)



कोच्ची
KOCHI

सितम्बर २०२०
SEPTEMBER 2020



भारत सरकार / GOVERNMENT OF INDIA
पृथ्वी विज्ञान मंत्रालय / MINISTRY OF EARTH SCIENCES
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MONTHLY NORMALS OF RADIOSONDE AND RADIOWIND (1981-2010)

कोच्ची
KOCHI

जलवायु आंकड़ा प्रबंधन समूह / CLIMATE DATA MANAGEMENT AND SERVICES GROUP
जलवायु अनुसंधान एवं सेवाएँ कार्यालय पुणे / OFFICE OF HEAD CLIMATE RESEARCH & SERVICES PUNE

सितम्बर २०२०
SEPTEMBER 2020

PREFACE

India Meteorological Department (IMD), Ministry of Earth Sciences, brings out publications on varied meteorological topics. Normals of Radiosonde and Radiowind data has been published by the Climate Data Management and Services Group (CDMS), Office of Climate Research and Services (C R & S), IMD Pune since 1979. Four such publications have been published till date. The present publication 'Monthly Normals of Radiosonde and Radiowind (1981-2010) and Monthly Upper Air Windrose Diagrams (2000-2015)' is prepared using 0000 UTC (0530 IST) observation data from 35 Radiosonde and Radiowind (RS/RW) Upper Air stations for the period 1981-2010 and wind profile data of 34 RS/RW stations for the period 2000-2015 at eight different levels (1000, 925, 850, 700, 500, 300, 200, 100 hPa). The present publication provides the climatology of different meteorological parameters at various levels over the station **Kochi** (Latitude $09^{\circ}57'N$, Longitude $76^{\circ}16'E$).

The publication contains information related to station normals which comprises of altitude of standard pressure levels (mean, highest and lowest), normal values of upper air temperatures (mean, highest, lowest and dew point), resultant wind direction, resultant wind velocity and scalar wind speed at standard pressure levels. Besides, it also contains normal values of pressure and altitude of freezing level and pressure, altitude and temperature of tropopause.

The entire work of this publication has been done by a group of officers and staff members led by Shri. Sudeep Kumar B L, Scientist- C, Shri Nahush Kulkarni, Scientist- C, CDMS Group, O/o Climate Research & Services (C R & S), IMD Pune under the guidance of Shri. A.D. Tathe, Scientist E, Group Head, CDMS Group. The valuable contributions were made by Shri. G.S. Dhekne, Met. B, Shri.R.M. Walke, Met. A, Shri. S.H. Bhagwat, Met. A, Shri. R.V. Ghoge, Met. A, Smt. Geetha Harikumar, Met. A, Smt. Hasina Nisar, Met. A, Smt. Vaishali Jadhav, Met A, Smt. S.H.Joshi, Met A and S.H. Sangale S.A. towards the preparation of this publication. It is hoped that the information from this publication will be useful to the scientific community and operational activities at their particular stations.

Pune

September 2020

Dr. D. S. Pai

Head C R & S

Kochi

43353

Station height

20

January

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1010.9	1014	1006	24.8	29	20	21.1					
1000	97	127	56	24.6	28.2	20.8	20.6					
950	543	581	490	22.6	29.8	15.8	17.6					
925	778	812	746	21.3	28.8	16	16.3					
900	1015	1050	969	19.6	27.8	13	14.1					
850	1505	1553	1449	16.7	24.6	9.6	10					
800	2020	2084	1952	14.4	23.4	5.8	4.6					
750	2562	2642	2491	12.3	20.6	3.4	0.1					
700	3138	3236	3062	9.7	19	1.6	-4.2					
650	3748	3867	3622	6.4	15.8	1	-7.3					
600	4401	4540	4309	2.7	11.4	-3.3	-10.3					
550	5099	5258	5005	-1.3	9.7	-8.3	-14					
500	5853	6028	5747	-5.8	5.5	-13.7	-18.3					
450	6669	6857	6539	-10.7	-1.2	-18.7	-23.2					
400	7567	7759	7408	-16.7	-4.7	-24.5	-29.1					
350	8554	8770	8370	-23.9	-11	-32.5	-35.9					
300	9662	9908	9452	-32.5	-17.8	-41.7	-43					
250	10920	11255	10676	-43	-27.5	-54.1	-53.4					
200	12384	12828	12087	-55.6	-35.2	-69.5	-65.6					
175	13222	13622	12891	-62.5	-49.9	-75.5	-67.8					
150	14158	14613	13792	-69.7	-56.1	-82.3						
125	15225	15639	14819	-76.4	-64.8	-89.9						
100	16492	16965	16040	-80.3	-64.4	-90.5						
80	17750	18278	17266	-77.6	-64.2	-88.9						
70	18520	19075	18014	-73.5	-56.1	-88.5						
60	19363	20013	18905	-68.9	-51.5	-79.9						
50	20537	21161	19988	-64.5	-48.3	-75.1						
40	21918	22608	21318	-59.6	-45.3	-72.5						
30	23759	24532	23060	-54.3	-40.7	-66.7						
25	24933	25696	24211	-51.9	-38.1	-60.7						
20	26395	27322	25653	-49.2	-33.5	-58.9						
15	28338	29111	27769	-46.6	-32.7	-54.5						
10	31112	31795	30498	-42.1	-31.5	-51.9						
7	33498	34300	33100	-40.4	-30.3	-49.7						

FREEZING LEVEL

P	Height	H_max	H_min
566	4869	6070	3530

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
101	16472	-82.7

Kochi

43353

Station height

20

February

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1010.5	1015	1001	25.8	30	21.4	22.7					
1000	94	131	41	25.5	29.8	21.2	22.3					
950	540	580	480	23.1	29.4	16.8	19.5					
925	777	816	743	21.7	28.7	15.5	17.8					
900	1013	1059	962	20.2	28.4	12.2	15.5					
850	1505	1552	1446	17.3	25	10.8	10.9					
800	2021	2076	1956	14.7	21.2	6.8	6.1					
750	2563	2633	2488	12.2	23.6	4.8	0.1					
700	3139	3221	3053	9.5	18.8	3.5	-4.2					
650	3749	3842	3659	6.3	17.2	1	-8.1					
600	4401	4512	4311	2.7	13.1	-4.1	-12.1					
550	5099	5228	5011	-1.3	9.5	-10.9	-14.9					
500	5852	6000	5746	-5.9	5.7	-13.9	-18.7					
450	6668	6832	6535	-10.9	3	-20.9	-24.2					
400	7565	7763	7389	-16.8	-2.7	-32.5	-29.5					
350	8552	8809	8318	-23.9	-9.2	-40.1	-36.2					
300	9662	9983	9480	-32.4	-17	-46.3	-43.8					
250	10919	11328	10709	-42.9	-24.7	-55.3	-54					
200	12384	12900	12141	-55.4	-39.4	-67.9	-66.5					
175	13222	13783	12965	-62.2	-40.9	-76.1	-60.9					
150	14157	14752	13832	-69.2	-43.9	-86.6	-71.3					
125	15227	15839	14586	-75.9	-45	-87.7						
100	16498	17093	16098	-80.8	-70.1	-96.7						
80	17754	18318	17346	-78.6	-62.3	-89.7						
70	18527	19095	18125	-74.5	-58.3	-88.7						
60	19399	20002	19036	-69.6	-54.9	-81.5						
50	20528	21073	20125	-64.9	-46.1	-75.9						
40	21905	22507	21435	-60.3	-49.1	-71.1						
30	23712	24394	23169	-55.5	-41.7	-65.7						
25	24885	25598	24395	-52.7	-40.3	-63.5						
20	26356	27121	25783	-49.9	-36.3	-60.1						
15	28261	29134	27631	-47.3	-32.9	-57.9						
10	31045	31529	30274	-43.8	-38.1	-55.3						
7	33512	33852	32949	-44.4	-40.3	-53.1						

FREEZING LEVEL

P	Height	H_max	H_min
567	4865	6140	3850

FIRST TROPOPAUSE

P	Height	Temp

SECOND ROPOPAUSE

P	Height	Temp
99	16573	-82.6

Kochi

43353

Station height

20

March

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1009.7	1014	1005	26.9	36.4	23	23.8					
1000	86	123	36	26.5	29.4	22.2	23.4					
950	534	573	478	24	30.8	17.1	21.1					
925	770	810	706	22.4	27.2	15.6	19.3					
900	1009	1048	938	21.2	27.6	14	17.4					
850	1503	1569	1417	18.5	24	10.8	12.9					
800	2021	2074	1921	15.7	24.6	7.8	7.4					
750	2564	2650	2454	12.7	24.4	3.8	1.7					
700	3141	3237	3022	9.5	20.4	2.2	-2.8					
650	3750	3869	3628	6.2	15.2	-3.3	-7					
600	4403	4538	4275	2.7	9.6	-4.1	-11.4					
550	5101	5248	4969	-1.1	6	-9.1	-15.2					
500	5855	6011	5719	-5.7	1.2	-14.1	-19.4					
450	6671	6837	6533	-10.7	-2.1	-18.5	-24.1					
400	7570	7736	7403	-16.7	-8.1	-23.9	-29.6					
350	8557	8752	8363	-23.8	-12.5	-32.3	-36.1					
300	9668	9901	9441	-32.3	-19.3	-42.1	-44.3					
250	10926	11208	10660	-42.6	-33.1	-53.5	-55.5					
200	12392	12754	12083	-54.9	-35.7	-67.9	-66.3					
175	13235	13634	12928	-61.6	-50.1	-75.5	-77.1					
150	14175	14611	13836	-68.5	-55.7	-82						
125	15246	15716	14889	-75.5	-64.9	-88.7						
100	16518	17037	16032	-80.4	-59.3	-93.9						
80	17781	18340	17328	-78.1	-65.1	-89.5						
70	18556	19121	18200	-73.9	-56.1	-84.5						
60	19379	20049	19066	-69.2	-47.1	-80.3						
50	20571	21191	20106	-64.1	-44.1	-76.7						
40	21951	22631	21433	-58.7	-42.7	-74.9						
30	23780	24491	23185	-53.1	-36.7	-74.7						
25	24957	25761	24326	-50.6	-33.1	-73.1						
20	26420	27341	25761	-48.2	-29.1	-71.1						
15	28311	29012	27656	-45.3	-36.5	-68.5						
10	31087	31807	30103	-42.2	-27.7	-66.7						
7	33423	33983	32265	-42.9	-35.5	-65.1						

FREEZING LEVEL

P	Height	H_max	H_min
565	4896	6150	3570

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
98	16655	-82.3

Kochi

43353

Station height

20

April

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1008.5	1013	1005	27.3	32	24	24.4	270	0.1	0.1	0	0.2
1000	76	113	44	27	31.4	22.4	24.2					
950	526	565	442	24.6	30.2	18	22					
925	763	800	729	23.2	28.8	18.6	20.9					
900	1002	1038	965	21.8	28.4	15	19.2					
850	1496	1535	1459	19.2	27.6	12	15.7					
800	2016	2067	1969	16.5	24	9.2	11.4					
750	2561	2620	2500	13.6	19.6	7	5.8					
700	3141	3208	3070	10.1	15.8	3.2	0.1					
650	3751	3826	3670	6.4	13.6	-4.5	-4.2					
600	4405	4498	4310	2.7	9.8	-5.3	-7.9					
550	5103	5203	4989	-1.1	7	-9.7	-12.4					
500	5857	5980	5718	-5.4	1.2	-14.5	-16.5					
450	6676	6813	6511	-10.3	-2.9	-17.9	-21.5					
400	7575	7728	7379	-16.2	-9.1	-25.1	-28					
350	8565	8737	8335	-23.2	-14.7	-32.5	-34.2					
300	9679	9872	9402	-31.5	-23.1	-42.1	-41.7					
250	10942	11163	10613	-41.8	-32.1	-53.9	-51					
200	12413	12696	12020	-54.3	-38	-67.2	-63.8					
175	13255	13574	12827	-61.3	-45.7	-73.5	-65.9					
150	14194	14545	13731	-68.5	-50.9	-81.3						
125	15269	15655	14765	-75.5	-57.9	-87.6						
100	16541	16993	15970	-80.7	-65.7	-94.5						
80	17815	18328	17219	-77.8	-55.4	-92.5						
70	18590	19108	17965	-73.6	-54.5	-86.5						
60	19474	20009	18864	-68.3	-51.9	-83.3						
50	20607	21104	19956	-63.1	-47.5	-78.9						
40	21992	22522	21320	-57.9	-46.5	-72.1						
30	23829	24394	23131	-52.4	-39.1	-63.7						
25	25012	25590	24305	-49.3	-32.5	-59.1						
20	26493	27172	25815	-46.3	-31.5	-58.7						
15	28392	29195	27678	-43.6	-32.9	-58.9						
10	31141	31927	30427	-40.7	-30.1	-54.5						
7	33709	34455	32780	-37.4	-30.1	-46.7						

FREEZING LEVEL

P	Height	H_max	H_min
564	4900	6080	3610

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
99	16639	-82.2

Kochi

43353

Station height

20

May

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1007.6	1012	1002	27.1	30	22.8	24.6	270	0.1	0.1	0	0.2
1000	69	104	15	26.8	30.2	21.2	24.3					
950	517	572	440	24.4	30.4	18	22.1					
925	755	794	702	22.8	28.2	15.5	20.6					
900	994	1030	940	21.6	27.2	12.3	19.1					
850	1488	1533	1432	19.1	25.2	11.9	15.4					
800	2008	2099	1949	16.7	23.4	10.2	11.7					
750	2554	2624	2489	14	20.6	7.5	7.2					
700	3134	3210	3057	10.5	16.8	2.8	2.4					
650	3746	3833	3667	6.5	13.2	-7.9	-1.7					
600	4399	4495	4314	2.6	10.3	-6.5	-6.1					
550	5098	5203	4993	-1.2	8.2	-11.1	-10					
500	5853	5973	5717	-5.3	5.3	-16.9	-14.5					
450	6671	6788	6498	-9.9	3.6	-23.1	-19.5					
400	7572	7723	7351	-15.6	-7.1	-28.7	-25.1					
350	8564	8719	8295	-22.5	-10.3	-39.2	-31.8					
300	9680	9880	9353	-30.8	-21.9	-49.1	-39.7					
250	10947	11201	10557	-41.2	-29.7	-59.5	-50.1					
200	12422	12756	11965	-53.8	-40.7	-74.4	-62.2					
175	13264	13642	12761	-61.1	-46.3	-82.6	-66.4					
150	14204	14625	13604	-68.8	-54.9	-89.9						
125	15271	15751	14700	-76.2	-64.1	-89.5						
100	16547	17097	15945	-80.3	-64.7	-91.3						
80	17828	18410	17221	-76.9	-55.2	-88.1						
70	18606	19201	17965	-72.7	-52.9	-83.9						
60	19458	20136	18838	-67.5	-54.1	-79.1						
50	20634	21268	19892	-62.3	-45.9	-73.1						
40	22029	22731	21238	-57.2	-43.7	-69.5						
30	23868	24629	23046	-52.1	-35.9	-65.7						
25	25042	25740	24421	-49.5	-34.3	-62.9						
20	26511	27290	25812	-46.9	-31.3	-58.5						
15	28425	29083	27640	-44	-30.3	-55.7						
10	31200	31879	30251	-40	-26.5	-51.9						
7	33607	34377	32575	-39.6	-30.7	-48.9						

FREEZING LEVEL

P	Height	H_max	H_min
566	4873	6300	3440

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
101	16548	-82.3

Kochi **43353** **Station height** **20** **June**

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1008	1012	1001	25.7	30	23	23.9	261	0.6	0.6	0.1	0.8
1000	71	111	17	25.4	29.5	22.2	23.6					
950	518	583	440	23.1	28.8	17	21.1					
925	754	795	696	21.9	27.4	15.8	19.8					
900	992	1033	932	20.4	25.6	14.8	18.3					
850	1484	1527	1420	17.6	23.4	11.2	15.1					
800	2001	2051	1920	14.9	21.4	8.7	11.6					
750	2544	2600	2475	12.2	19.8	5.2	7.5					
700	3121	3187	3047	9.4	18	-0.1	3.1					
650	3732	3814	3645	6.3	14.2	-5.9	-1					
600	4386	4482	4299	2.8	9.4	-2.3	-4.5					
550	5085	5196	4988	-0.9	6	-6.1	-7.8					
500	5842	5966	5743	-5.1	1.8	-11.9	-12.2					
450	6661	6808	6553	-9.9	-2.7	-16.7	-17					
400	7562	7734	7437	-15.5	-7.5	-22.5	-22.8					
350	8555	8760	8418	-22.5	-13.3	-30.3	-30.3					
300	9673	9891	9513	-30.7	-20.5	-39.1	-38.7					
250	10941	11156	10753	-41.1	-29.1	-51.9	-49					
200	12418	12761	12185	-53.6	-43.3	-67.3	-61.6					
175	13265	13622	12996	-60.7	-47.3	-77.9	-67.4					
150	14208	14580	13905	-68.3	-57.9	-80.7						
125	15284	15669	14935	-75.7	-63.1	-89.3						
100	16563	16990	16176	-78.3	-64.1	-87.9						
80	17842	18332	17450	-74.2	-56.6	-88.7						
70	18627	19147	18249	-70	-50	-82.3						
60	19415	20109	19136	-65.6	-52.1	-75.3						
50	20689	21270	20207	-61	-47.3	-72.5						
40	22097	22617	21559	-56.9	-43.7	-67.5						
30	23942	24521	23368	-52.7	-39.1	-63.5						
25	25140	25800	24662	-50.1	-32.9	-62.3						
20	26605	27323	26104	-47.6	-30.9	-60.3						
15	28476	28986	27944	-45.7	-31.1	-57.3						
10	31224	31584	30794	-41.4	-31.5	-47.9						
7	33783	33958	33559	-39.2	-37.5	-42.5						

FREEZING LEVEL

P	Height	H_max	H_min
563	4898	6170	3050

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
106	16286	-80.7

Kochi

43353

Station height

20

July

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1008.6	1012	1004	25.3	30.2	22.4	23.6	270	0.6	0.6	0	0.7
1000	77	111	40	25	29.8	21.2	23.1					
950	522	560	450	22.6	28.7	17.2	20.6					
925	758	793	722	21.4	26.6	16.3	19.2					
900	996	1034	922	19.8	26.4	13.8	17.7					
850	1487	1531	1443	17	24	12	14.6					
800	2003	2052	1950	14.4	20.4	4.6	11.2					
750	2546	2614	2484	11.8	17.4	6	7.3					
700	3121	3192	3054	9	15.2	3.4	3.1					
650	3731	3810	3640	5.9	12.2	0.2	-0.8					
600	4384	4472	4297	2.4	9	-3.7	-4.3					
550	5083	5180	4984	-1.3	6	-7.7	-7.8					
500	5838	5946	5728	-5.4	1.8	-11.7	-12.5					
450	6656	6791	6534	-10.3	8.2	-20.3	-17.8					
400	7556	7714	7427	-16.1	-8.3	-29.3	-23.7					
350	8547	8731	8388	-23.1	-15.3	-35.9	-30.9					
300	9660	9872	9431	-31.5	-22.7	-47.5	-39.2					
250	10923	11175	10602	-42.1	-28.7	-60.5	-49.7					
200	12393	12738	11940	-54.5	-35.7	-74.5	-62					
175	13234	13549	12705	-61.6	-48.1	-77.7	-64.5					
150	14175	14547	13906	-69.1	-56.1	-82.3	-70.8					
125	15249	15634	14934	-75.8	-63.7	-87.8						
100	16535	16983	16205	-76.6	-64.1	-87.1						
80	17848	18261	17524	-71.2	-55.7	-84.9						
70	18645	19088	18291	-67.8	-50.3	-79.3						
60	19498	20030	19191	-64.2	-46.5	-75.7						
50	20717	21190	20297	-60.6	-44.7	-69.5						
40	22117	22647	21650	-57	-43.1	-66.7						
30	23957	24551	23440	-53.2	-39.1	-64.1						
25	25125	25601	24607	-51.2	-35.9	-63.1						
20	26577	27091	26038	-48.5	-39.1	-61.1						
15	28475	29037	28002	-46.3	-35.1	-55.9						
10	31224	31700	30633	-43.1	-34.7	-52.9						
7	33606	34198	32988	-41.2	-32.5	-48.7						

FREEZING LEVEL

P	Height	H_max	H_min
568	4837	6200	3730

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
111	15984	-79.7

Kochi

43353

Station height

20

August

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1009.2	1013	1004	25.4	29.6	22	23.4	284	0.4	0.4	-0.1	0.5
1000	81	113	40	25	29	21.7	23.2					
950	526	560	450	22.5	28.3	16.6	20.8					
925	762	795	721	21.3	25.9	13	19.4					
900	1000	1034	955	19.7	24.9	12	17.8					
850	1491	1530	1433	17	22.2	11.2	14.6					
800	2006	2053	1938	14.4	19.9	8	11.3					
750	2548	2602	2476	11.9	17	6.4	7.7					
700	3125	3184	3049	9.2	15.2	3.4	3.1					
650	3733	3800	3645	6.1	14.3	0.2	-1					
600	4388	4467	4297	2.6	10	-4.3	-4.7					
550	5086	5181	4978	-1.2	8.9	-7.5	-8.4					
500	5842	5958	5715	-5.3	3.6	-12.9	-13.1					
450	6660	6807	6516	-10.2	0.7	-15.7	-18.2					
400	7560	7740	7337	-16	-0.9	-23.3	-24.5					
350	8549	8710	8323	-23.1	-2.1	-35.3	-31.9					
300	9663	9890	9425	-31.6	-12.3	-40.9	-40.2					
250	10926	11241	10500	-42.1	-24.3	-54.5	-50.4					
200	12397	12906	12092	-54.6	-44.5	-69.1	-62.2					
175	13241	13767	12907	-61.5	-51.1	-72.3	-65.9					
150	14180	14705	13801	-69	-54	-81.2	-67.5					
125	15252	15789	14836	-75.6	-61	-84.5						
100	16535	17188	16070	-75.8	-49.4	-85.5						
80	17834	18203	17340	-70.4	-57.3	-81.1						
70	18641	19017	18274	-67.3	-51.2	-78.3						
60	19577	19970	19170	-63.9	-50.1	-75.1						
50	20715	21144	20249	-60.3	-45.1	-72.9						
40	22125	22601	21594	-56.7	-43.9	-70.1						
30	23962	24529	23338	-52.8	-36.3	-67.7						
25	25124	25700	24451	-51.3	-36.9	-66.7						
20	26596	27249	25843	-48.6	-36.3	-64.7						
15	28537	29229	27887	-45.5	-27.1	-60.9						
10	31243	31862	30449	-42.9	-31.1	-55.3						
7	33641	34300	32723	-42.1	-35.5	-55.5						

FREEZING LEVEL

P	Height	H_max	H_min
566	4866	6450	3690

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
112	15901	-79.4

Kochi

43353

Station height

20

September

PRESSURE	HEIGHT	H max	H min	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1009.2	1013	1004	25.6	30.6	23.2	23.6	270	0.2	0.2	0	0.2
1000	82	119	35	25.2	30	21	23.1					
950	527	598	470	22.6	26.8	18	20.6					
925	763	802	716	21.3	25.4	16.4	19.2					
900	1000	1041	947	19.9	30.6	15	17.5					
850	1492	1538	1438	17.2	22.1	12.2	14.3					
800	2008	2061	1949	14.7	19.6	9.2	11					
750	2550	2613	2483	12.2	17	5.4	7.5					
700	3127	3196	3048	9.3	15	2.8	3.3					
650	3737	3816	3649	6.2	12.6	-0.5	-0.9					
600	4390	4478	4291	2.6	8.4	-3.7	-4.8					
550	5089	5190	4975	-1.3	5.3	-7.5	-8.6					
500	5844	5959	5723	-5.6	7.6	-12.2	-13.1					
450	6661	6792	6521	-10.4	-1.2	-17.9	-18.3					
400	7561	7715	7413	-16.1	-8.1	-24.5	-24.9					
350	8551	8744	8374	-23.2	-9.8	-33.7	-32.2					
300	9664	9905	9448	-31.8	-20.1	-42.7	-40.8					
250	10924	11114	10643	-42.4	-32.7	-57.9	-51.7					
200	12393	12629	12066	-55	-41.1	-66.5	-64.3					
175	13236	13505	12873	-61.9	-47.7	-74.9	-64.4					
150	14171	14476	13760	-69.4	-55.7	-80.7						
125	15237	15608	14813	-75.8	-60.3	-87						
100	16519	16960	16110	-76.1	-62.7	-87.9						
80	17828	18269	17478	-71.4	-57.9	-83.1						
70	18627	19053	18275	-67.8	-54.3	-78.5						
60	19554	19974	19195	-64.5	-49.7	-76.7						
50	20681	21137	20308	-61.3	-42.9	-70.5						
40	22078	22584	21681	-58.2	-42.1	-65.9						
30	23917	24479	23475	-54.2	-34.9	-64.1						
25	25099	25710	24611	-51.8	-38.7	-70.7						
20	26554	27233	26041	-49.2	-38.1	-63.7						
15	28470	29217	27903	-46.3	-36.5	-61.5						
10	31231	32031	30525	-41.9	-29.7	-50.5						
7	33605	33962	33362	-41.3	-32.7	-45.5						

FREEZING LEVEL

P	Height	H max	H min
567	4852	6140	3530

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
111	15970	-79.1

Kochi

43353

Station height

20

October

PRESSURE	HEIGHT	H max	H min	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1009.4	1014	1004	25.5	30	20.2	23.5	270	0.1	0.1	0	0.2
1000	83	126	31	25.2	29.4	20	23.1					
950	530	577	445	23	28	16	20.4					
925	765	811	722	21.7	27	16.8	19					
900	1003	1049	953	20.3	27.8	14.6	17.3					
850	1495	1549	1444	17.6	24.6	12.2	14.2					
800	2012	2074	1956	14.9	21.6	8.2	10.6					
750	2555	2629	2496	12.2	17.6	6.2	6.6					
700	3132	3214	3068	9.3	14.8	2.2	2.8					
650	3742	3836	3676	6	13.5	-4.9	-1.1					
600	4394	4498	4300	2.5	9	-3.7	-4.6					
550	5093	5206	4997	-1.2	5	-7.3	-8.3					
500	5848	5974	5756	-5.4	1.2	-13.1	-13					
450	6667	6807	6556	-10.1	4	-17.3	-18.4					
400	7566	7717	7430	-15.9	-6.9	-28.7	-24.6					
350	8557	8720	8397	-23	-13.1	-33.3	-31.6					
300	9670	9861	9476	-31.6	-20.3	-39.5	-40.2					
250	10932	11154	10649	-42.4	-29.5	-51.5	-51					
200	12398	12681	12107	-55.3	-39.3	-64.9	-64.7					
175	13238	13553	12912	-62.6	-43.7	-73.7	-67.6					
150	14172	14525	13810	-70	-48.9	-82.9						
125	15239	15704	14850	-76.6	-55.3	-89.8						
100	16519	17101	16094	-77.7	-59.1	-88.3						
80	17813	18448	17398	-72.8	-52.1	-84.1						
70	18609	19238	18207	-69.1	-51.3	-80.9						
60	19498	20061	19150	-65.5	-48.8	-77.3						
50	20649	21236	20203	-61.6	-41.9	-74.5						
40	22049	22695	21508	-57.8	-43.5	-71.7						
30	23877	24597	23229	-53.1	-36.1	-66.3						
25	25069	25690	24359	-50.3	-35.1	-66.1						
20	26537	27214	25772	-47.6	-29.9	-64.3						
15	28482	29194	27587	-44.6	-24.5	-59.7						
10	31233	32020	30183	-40.6	-27.7	-51.5						
7	33322	33890	32499	-41.3	-35.3	-51.5						

FREEZING LEVEL

P	Height	H max	H min
567	4855	6160	3560

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
110	16031	-80.3

Kochi

43353

Station height

20

November

PRESSURE	HEIGHT	H max	H min	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1009.8	1014	1003	25.4	29	20.6	23.1					
1000	86	125	27	25.2	29.3	21	22.6					
950	533	576	478	23.3	28.4	17.8	19.6					
925	767	807	709	22.1	26.8	17.4	18.4					
900	1006	1045	945	20.4	28	14.6	16.5					
850	1498	1543	1435	17.5	23.2	12.2	13.3					
800	2014	2068	1950	14.8	22.4	8.6	9.8					
750	2556	2622	2493	12.1	21.1	5.8	5.8					
700	3133	3209	3067	9.3	18.8	1.2	2					
650	3743	3830	3640	6.2	12.8	0.4	-1.8					
600	4396	4491	4313	2.7	9.8	-3.7	-5.6					
550	5095	5201	5016	-1.1	8.2	-6.9	-9.5					
500	5849	5967	5745	-5.3	5.8	-10.3	-13.7					
450	6669	6808	6561	-10.1	8	-17.1	-19.1					
400	7568	7707	7458	-15.9	-7.9	-24.1	-24.9					
350	8559	8719	8421	-23.1	-14.8	-32.7	-32.1					
300	9672	9844	9518	-31.7	-23.3	-39.5	-40.8					
250	10933	11154	10738	-42.4	-33.7	-52.9	-51.6					
200	12397	12667	12139	-55.2	-43.5	-68.1	-64.5					
175	13236	13543	12922	-62.4	-46.4	-80.1	-70.8					
150	14173	14522	13844	-69.6	-56.3	-80.4						
125	15242	15637	14863	-76.5	-64.5	-89.7						
100	16510	16966	16096	-80	-64.8	-90.5						
80	17783	18259	17343	-75.7	-59	-85.9						
70	18564	19048	18111	-71.6	-55.9	-85.7						
60	19487	19985	19006	-67.1	-49.5	-82.1						
50	20599	21106	20094	-62.7	-45.1	-74.9						
40	21983	22517	21464	-58	-38.3	-69.1						
30	23813	24395	23298	-53.3	-35.9	-65.3						
25	24984	25599	24458	-50.3	-30.1	-60.7						
20	26447	27086	25876	-47.9	-33.3	-59.1						
15	28349	29023	27742	-45.3	-30.5	-57.5						
10	31078	31691	30403	-41.4	-28.7	-58.1						
7	33462	34179	32768	-39.9	-30.9	-49.5						

FREEZING LEVEL

P	Height	H_max	H_min
565	4881	6000	3980

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
103	16361	-82.2

Kochi

43353

Station height

20

December

PRESSURE	HEIGHT	H max	H min	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1010.8	1014	1005	24.8	28	21	21.4					
1000	96	126	51	24.7	29.2	21.2	20.8					
950	542	576	500	23	30.2	17.2	17.6					
925	778	808	737	21.6	29.2	15.4	16.2					
900	1014	1047	973	19.9	28.4	13	14.6					
850	1505	1545	1461	17.1	25.4	10.2	11.1					
800	2021	2069	1967	14.7	22.2	6.6	6.3					
750	2563	2622	2500	12.5	19.2	6.7	2					
700	3140	3209	3068	9.8	16.4	3.6	-0.7					
650	3750	3834	3672	6.4	14.2	-0.1	-4.4					
600	4404	4503	4314	2.8	11.8	-3.5	-8.1					
550	5102	5219	5000	-1.2	8.6	-7.7	-12					
500	5856	5996	5741	-5.7	6.6	-12.1	-16.4					
450	6673	6844	6546	-10.6	9.4	-16.3	-22					
400	7570	7769	7429	-16.6	-1.1	-25.9	-27.5					
350	8558	8774	8389	-23.9	-14.1	-34.7	-34.2					
300	9666	9895	9443	-32.6	-20.7	-45.4	-41.9					
250	10923	11184	10634	-43.2	-29.7	-56.1	-52.3					
200	12383	12739	12023	-55.9	-44.5	-67.7	-65.2					
175	13216	13612	12818	-62.9	-52.1	-73.9	-64.7					
150	14152	14585	13710	-69.6	-58.3	-84.5						
125	15217	15700	14725	-76.3	-65.1	-89.6						
100	16489	17032	15915	-80.8	-57.7	-92.7						
80	17753	18345	17105	-77.5	-53.9	-88.9						
70	18529	19149	17854	-73.3	-57.7	-87.3						
60	19408	20114	18179	-68.5	-53.9	-83.9						
50	20545	21278	19778	-63.6	-46.9	-74.9						
40	21933	22728	21091	-58.7	-44.1	-71.9						
30	23770	24632	22819	-53.2	-34.9	-65.1						
25	24955	25749	23938	-50.5	-33.9	-61.9						
20	26418	27339	25797	-47.7	-33.1	-57.7						
15	28354	29276	27759	-44.9	-27.7	-53.7						
10	31287	32061	30580	-39.8	-19.9	-48.3						
7	33697	34490	33100	-39.8	-34.9	-45.3						

FREEZING LEVEL

P	Height	H_max	H_min
565	4883	6100	3640

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
99	16546	-82.7