Ambient Air Quality Data of Delhi-NCR

For the Month of January, 2018





केन्द्रीय प्रदूषण नियंत्रण बोर्ड पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार

CENTRAL POLLUTION CONTROL BOARD

Website: http://www.cpcb.nic.in

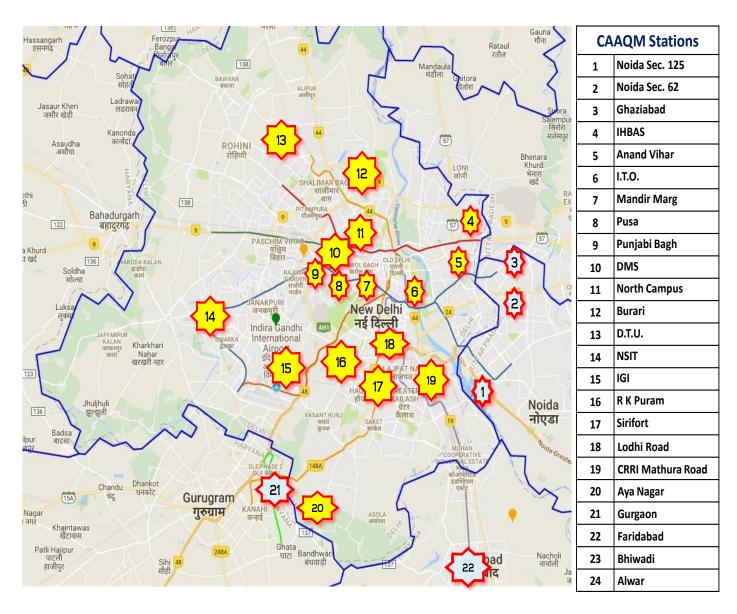
Index

S. NO.	Content	Page No.
01	Background	01
02	Spatial location of Stations	01
03	Parameter-wise data tables	02-13
04	Daily meteorological data Vs. PM2.5 Profile –January 2018	14-17
05	Comparison of Daily AQI values of Delhi (Jan, 2016-2018)	18
06	Daily AQI values of Delhi-NCR (Jan, 2018)	19
07	AQI Trend Delhi-NCR (Jan 2017 to Jan 2018)	20
08	Results & Discussion (January 2018)	21-23
	Annexure	23-26
	National Ambient Air Quality Standard (2009)	
	List of Monitoring Stations with parameters	

Background: Ambient Air Quality of Delhi-NCR

In compliance to the direction of Hon'ble National Green Tribunal, Principal Bench, New Delhi Dated: November 17, 2017 (in the matter of Vardhman Kaushik Vs. Union of India & Others vide **OA No. 44/2018** Earlier OA No. 21/2014), the compiled ambient air quality data (of each monitored parameters) of Delhi-NCR with station wise daily average values of monitored parameters are presented in tabular for the period of January 01, 2018 to January 31, 2018 are complied. It is mentioned that the monitoring activity in Delhi-NCR is shared by Central Pollution Control Board, Delhi Pollution Control Committee, India Meteorological Department, Haryana PCB, Uttar Pradesh PCB and Rajasthan PCB using Continuous Ambient Air Quality Monitoring Stations (CAAQMS), as under:

Spatial location of Stations



Parameter-wise data tables

1. ParticulateMatter (in μg/m³):

i)PM₁₀

Date/Stations	Noida , Sec-62	Noida , Sec-125	Ghaziabad	Anand Vihar	Mandir Marg	Punjabi Bagh	ITO	CRRI Mathura Road
Land-Use Pattern	Industrial	Industrial	Mixed	Commercial		Industrial, Residential, Commercial	Traffic intersection	Commercial
					Area	area		
1-Jan-17	485	595	629	619	512	512	287	529
2-Jan-17	465	590	529	603	525	525	345	631
3-Jan-17	426	462	498	489	385	385	319	364
4-Jan-17	368	393	561	556	409	409	362	324
5-Jan-17	372	355	499	463	392	392	383	331
6-Jan-17	436	356	686	595	374	374	411	421
7-Jan-17	346	373	395	467	315	315	273	306
8-Jan-17	372	402	354	516	275	275	248	318
9-Jan-17	465	464	484	759	362	362	360	386
10-Jan-17	196	512	391	483	310	310	248	295
11-Jan-17	139	356	344	419	271	271	204	281
12-Jan-17	150	458	431	445	293	293	266	333
13-Jan-17	213	526	614	503	369	369	348	406
14-Jan-17	183	437	485	563	327	327	278	283
15-Jan-17	143	423	380	563	317	317	237	350
16-Jan-17	138	375	417	480	244	244	234	307
17-Jan-17	213	417	507	500	331	331	395	307
18-Jan-17	338	659	689	772	404	404	484	542
19-Jan-17	262	566	503	631	421	421	421	418
20-Jan-17	156	388	367	345	297	297	290	307
21-Jan-17	148	424	494	461	273	273	301	326
22-Jan-17	207	432	526	555	396	396	370	467
23-Jan-17	144	310	333	321	255	255	266	234
24-Jan-17	103	270	243	225	217	217	195	211
25-Jan-17	141	248	266	377	290	290	168	325
26-Jan-17	142	302	327	287	240	240	224	232
27-Jan-17	178	361	404	412	306	306	289	322
28-Jan-17	138	297	382	396	251	251	254	277
29-Jan-17	151	355	407	435	271	271	262	311
30-Jan-17	99	299	282	299	242	242	196	244
31-Jan-17	108	320	300	316	243	243	204	226
Maximum	485	659	689	772	525	525	484	631
Minimum	99	248	243	225	217	217	168	211
Average	240	410	443	479	326	326	294	342

PM₁₀ (Continued)

Date/Stations	Burari crossing	North Campus	Pusa	Aya Nagar	R K Puram	Lodhi Road	3hiwadi ,RIICO Ind. Area II	Alwar, Moti Doongri
Land-Use Pattern	Residential + Commercial	Mixed area	Residential+Industrial	Industrial, Residential area	Residential	Residential Area	Industrial area	Industrial, Residential area
1-Jan-17	212	445	212	427	554	265	490	307
2-Jan-17	287	622	287	353	619	245	433	328
3-Jan-17	248	469	248	280	387	234	305	268
4-Jan-17	311	600	311	266	326	535	298	214
5-Jan-17	329	506	329	294	402	399	255	212
6-Jan-17	319	455	319	305	388	368	571	243
7-Jan-17	189	349	189	241	346	273	250	245
8-Jan-17	172	279	172	234	325	244	254	211
9-Jan-17	241	475	241	295	370	332	210	248
10-Jan-17	207	333	207	233	317	286	321	203
11-Jan-17	164	292	164	183	284	244	499	233
12-Jan-17	178	341	178	224	377	276	364	204
13-Jan-17	276	522	276	296	396	294	404	283
14-Jan-17	199	425	199	229	340	269	346	281
15-Jan-17	187	340	187	235	374	312	371	275
16-Jan-17	155	260	155	186	356	229	434	260
17-Jan-17	317	494	317	337	413	369	454	336
18-Jan-17	360	579	360	313	496	378	452	190
19-Jan-17	250	489	250	377	450	347	195	96
20-Jan-17	166	281	166	232	366	252	364	NA
21-Jan-17	199	345	199	225	437	249	412	NA
22-Jan-17	220	381	220	257	463	358	277	NA
23-Jan-17	175	286	175	218	258	264	228	NA
24-Jan-17	133	224	133	190	227	216	309	NA
25-Jan-17	116	273	116	188	282	228	512	NA
26-Jan-17	127	232	127	151	236	217	332	NA
27-Jan-17	193	316	193	206	371	295	467	NA
28-Jan-17	150	250	150	229	357	239	355	NA
29-Jan-17	191	310	191	254	315	258	369	NA
30-Jan-17	132	226	132	200	275	211	408	NA
31-Jan-17	124	215	124	191	281	222	NA	NA
Maximum	360	622	360	427	619	535	571	336
Minimum	116	215	116	151	227	211	195	96
Average	211	375	211	253	367	287	365	244

ii) PM_{2.5}

Date/Stations	Noida , Sec-62	Noida , Sec-125	Ghaziabad	Anand Vihar	IHBAS	ITO	Mandir Marg	Pusa	Punjabi Bagh	DMS	North Campus	DTU
Land-Use Pattern	Industrial	Industrial	Residential	Commercial	Residential + Industria	Traffic intersection	ial Area+Commer	Residential+Industrial	dustrial, Residential, Commercial are	Mixed area	Mixed area	Residential & industrial
1-Jan-17	141	438	101	482	197	232	379	225	437	365	263	283
2-Jan-17	144	374	32	360	140	233	329	212	350	325	276	274
3-Jan-17	123	295	34	288	155	232	254	160	283	193	234	318
4-Jan-17	107	279	42	352	190	273	281	169	350	215	342	360
5-Jan-17	126	253	24	306	153	276	268	161	274	213	291	406
6-Jan-17	154	259	36	325	209	295	265	173	304	223	286	425
7-Jan-17	102	239	29	242	136	207	214	124	253	137	222	269
8-Jan-17	95	223	35	175	104	167	164	105	205	109	154	287
9-Jan-17	125	287	37	374	135	259	249	149	308	223	285	368
10-Jan-17	81	229	32	247	111	188	200	124	298	231	195	326
11-Jan-17	84	187	40	203	101	160	169	103	176	200	165	248
12-Jan-17	90	247	50	232	105	186	179	103	207	114	193	297
13-Jan-17	128	301	65	388	158	262	256	153	198	164	316	428
14-Jan-17	110	266	63	303	140	226	218	131	287	170	254	345
15-Jan-17	86	252	50	241	110	189	198	121	249	141	196	257
16-Jan-17	83	168	47	165	86	141	145	82	164	199	128	222
17-Jan-17	128	279	35	295	145	270	186	135	260	285	268	349
18-Jan-17	203	410	43	455	193	339	263	160	341	269	337	421
19-Jan-17	157	379	44	413	150	286	283	177	351	211	264	395
20-Jan-17	94	261	40	235	97	183	209	101	242	125	144	257
21-Jan-17	89	227	63	221	112	189	125	107	182	156	177	259
22-Jan-17	124	257	45	288	127	242	239	147	237	172	194	273
23-Jan-17	87	214	48	196	109	188	174	106	190	123	159	234
24-Jan-17	62	193	31	152	78	147	164	98	172	108	138	166
25-Jan-17	85	166	35	246	76	128	212	122	231	130	140	149
26-Jan-17	85	206	91	192	75	150	98	98	167	131	132	131
27-Jan-17	107	225	73	223	88	186	122	125	217	165	162	212
28-Jan-17	83	183	107	236	103	162	149	96	187	142	139	147
29-Jan-17	91	206	61	242	95	158	176	108	215	144	166	199
30-Jan-17	60	136	32	134	64	112	139	76	162	112	118	184
31-012017	65	157	27	144	70	124	150	77	149	112	111	186
Maximum	203	438	107	482								
Minimum	60	136	24	134								
Average	106	251	48	270	123	206	208	130	247	181	208	28

PM_{2.5} (Continued)

Date/Stations	Burari crossing	Lodhi Road	Sirifort	R K Puram	NSIT	IGI Airport Terminal-3	Gurgaon, Vikas Sadan	Aya Nagar	CRRI Mathura Road	Faridabad, Sec-16A	Bhiwadi ,RIICO Ind. Area III	Alwar, Moti Doongri
Land-Use Pattern	Residential + Commercial	esidential Are	sidential + M	Residential	Residential	Commercial	rial and Residenti	Industrial, Residential area	Commercial	al and Residenti	Industrial area	Industrial, Residential area
1-Jan-17	133	339	374	316	287	NA	251	255	357	417	297	167
2-Jan-17	192	294	380	362	251	NA	*	212	381	249	255	187
3-Jan-17	155	228	235	232	222	NA	155	168	224	179	164	153
4-Jan-17	194	235	270	196	201	NA	164	160	224	214	194	111
5-Jan-17	206	239	279	230	226	NA	186	176	224	360	159	123
6-Jan-17	200	243	259	228	257	NA	201	183	279	228	213	143
7-Jan-17	118	157	224	190	198	NA	152	144	189	139	145	101
8-Jan-17	107	131	157	185	218	NA	153	140	181	147	127	75
9-Jan-17	151	193	229	216	226	NA	208	177	231	204	142	101
10-Jan-17	130	168	230	175	201	NA	159	140	188	147	115	80
11-Jan-17	103	137	129	164	189	NA	126	110	164	119	126	96
12-Jan-17	111	138	275	202	194	NA	161	135	178	149	130	93
13-Jan-17	173	170	204	216	234	NA	165	178	177	205	144	101
14-Jan-17	125	149	179	185	210	NA	133	138	66	163	115	91
15-Jan-17	117	161	234	201	214	NA	105	141	63	205	145	102
16-Jan-17	97	99	321	190	182	NA	69	112	122	118	196	104
17-Jan-17	198	207	267	245	220	NA	126	202	201	286	185	144
18-Jan-17	225	225	254	306	268	NA	137	188	354	317	184	92
19-Jan-17	156	202	291	261	301	NA	123	226	121	214	57	100
20-Jan-17	104	125	*	204	250	NA	93	139	72	157	127	102
21-Jan-17	125	122	*	239	208	NA	96	135	64	160	193	115
22-Jan-17	138	176	190	246	278	NA	136	154	155	217	118	148
23-Jan-17	110	166	188	141	191	NA	117	131	146	157	93	74
24-Jan-17	83	132	169	142	147	NA	103	114	135	145	159	59
25-Jan-17	72	121	125	139	108	NA	81	113	188	119	272	53
26-Jan-17	80	145	186	155	124	NA	99	91	147	174	167	78
27-Jan-17	121	125	*	203	172	NA	140	124	193	260	228	9
28-Jan-17	94	125	*	209	153	NA	97	138	157	164	179	8
29-Jan-17	120	102	129	180	173	NA	82	153	176	215	139	38
30-Jan-17	82	101	132	135	159	NA	111	120	148	106	170	59
31-012017	78		186	136	130	NA	107	115	141	135	NA	NA
Maximum	225		380	362	301	NA	-			+	297	
Minimum	72		125	135	108	NA NA			65		57	
Average	132	172	226	207	206	NA NA	135	152	187	196	165	9

2.SO₂(in μ g/m³)

Date/Stations	Noida , Sec-125	Ghaziabad	Anand Vihar	IHBAS	Mandir Marg	Punjabi Bagh	DMS	R K Puram	NSIT	Gurgaon, Vikas Sadan	Faridabad, Sec-16A	Bhiwadi ,RIICO Ind. Area III	Alwar, Moti Doongri
Land-Use Pattern	Industrial	Industrial	Residential	Commercial	Residential + Industrial	Industrial, Residential, Commercial area	Mixed area	Residential	Residential	Industrial and Residential area	Industrial and Residential Area	Industrial area	Industrial, Residential area
1-Jan-17	26	74	22	26	9	26	13	17	19	9	8	39	8
2-Jan-17	24	42	24	8	5	11	13	21	8	NA	7	34	8
3-Jan-17	23	42	20	8	11	9	8	13	6	9	9	24	9
4-Jan-17	22	46	22	19	17	19	9	15	8	8	7	18	15
5-Jan-17	23	24	22	17	15	18	11	16	8	8	8	31	8
6-Jan-17	17	42	22	36	21	14	13	17	16	9	9	50	7
7-Jan-17	28	29	22	18	16	20	10	26	12	7	5	34	14
8-Jan-17	30	31	24	10	12	23	15	38	10	8	7	36	15
9-Jan-17	41	33	24	18	22	23	16	46	13	8	9	34	18
10-Jan-17	27	41	23	11	17	27	8	48	9	7	8	63	18
11-Jan-17	35	39	23	6	11	20	14	55	7	7	9	30	10
12-Jan-17	42	52	30	10	15	37	23	63	10	9	14	52	8
13-Jan-17	39	58	25	27	29	25	19	31	17	10	20	67	38
14-Jan-17	37	53	25	14	23	33	17	41	12	9	16	68	16
15-Jan-17	30	46	21	11	18	24	8	45	12	6	14	47	12
16-Jan-17	32	42	37	4	11	28	19	49	9	9	12	71	8
17-Jan-17	30	24	18	15	18	11	9	14	13	7	4	42	14
18-Jan-17	23	39	33	27	20	26	17	34	11	9	13	68	12
19-Jan-17	33	39	21	38	25	19	12	28	15	7	13	24	12
20-Jan-17	34	41	22	11	11	18	16	42	11	7	12	70	16
21-Jan-17	32	42	34	17	10	25	16	46	12	8	13	53	16
22-Jan-17	44	36	29	20	23	26	15	30	10	8	16	36	13
23-Jan-17	31	42	25	14	14	18	13	8	11	7	13	28	23
24-Jan-17	30	40	25	9	17	16	10	11	8	6	13	27	7
25-Jan-17	26	30	10	6	11	11	7	16	6	8	4	67	9
26-Jan-17	25	58	17	7	8	8	6	5	6	8	5	64	8
27-Jan-17	26	61	15	4	7	10	9	9	6	7	21	58	8
28-Jan-17	27	94	16	9	10	10	8	14	12	7	11	50	8
29-Jan-17	33	61	13	11	13	12	9	20	13	12	21	70	13
30-Jan-17	36	49	19	10	9	16	13	30	14	5	22	58	9
31-Jan-17	34	36	15	6	6	14	10	28	9	7	25	NA	NA
Maximum	44	94	37	38	29	37	23	63	19	12	25	71	38
Minimum	17	24	10	4	5	8	6	5	6	5	4	18	7
Average	30	45	22	14	15	19	12	28	11	8	12	47	13

3. NO_2 (in $\mu g/m^3$)

Date/Stations	Noida , Sec-62	Noida , Sec-125	Ghaziabad	Anand Vihar	IHBAS	ITO	Mandir Marg	Pusa	Punjabi Bagh	Burari crossing	North Campus	DMS
Land-Use Pattern	Industrial	Industrial	Residential	Commercial	Residential + Industrial	Traffic intersection	Residential Area+Commercia I Area	Residential+Industrial	Industrial, Residential, Commercial area	Residential + Commercial	Mixed area	Mixed area
1-Jan-17	9	104	n	88	44	38	83	65	133	65	*	84
2-Jan-17	9	107	68	84	36	28	78	76	102	76	*	61
3-Jan-17	9	103	69	87	38	16	62	70	83	70	*	44
4-Jan-17	9	83	85	92	61	18	86	76	133	76	*	71
5-Jan-17	9	63	76	82	52	41	78	77	107	11	*	70
6-Jan-17	9	90	105	124	62	25	64	76	NA	76	*	64
7-Jan-17	11	94	95	105	50	*	59	62	NA	62	*	50
8-Jan-17	12	109	91	129	43	33	64	59	109	59	*	60
9-Jan-17	10	112	108	139	53	35	69	68	111	68	48	66
10-Jan-17	12	102	97	109	92	39	70	65	106	65	32	65
11-Jan-17	11	92	88	106	56	39	64	59	106	59	26	58
12-Jan-17	11	116	101	128	57	46	74	61	113	61	25	46
13-Jan-17	11	120	103	138	61	39	73	72	118	72	21	25
14-Jan-17	11	111	102	123	48	*	69	66	107	66	18	30
15-Jan-17	12	102	90	101	44	265	64	61	106	61	15	45
16-Jan-17	12	94	83	113	48	63	69	55	110	55	32	28
17-Jan-17	10	81	17	73	50	*	78	11	139	11	13	17
18-Jan-17	9	113	121	144	76	*	84	80	137	80	13	28
19-Jan-17	10	126	100	150	68	*	72	70	114	70	13	36
20-Jan-17	12	100	80	108	61	*	59	58	87	58	13	31
21-Jan-17	12	104	93	160	83	*	80	63	125	63	13	31
22-Jan-17	11	71	95	123	99	72	98	67	141	67	12	31
23-Jan-17	11	57	73	87	72	18	77	62	123	62	12	26
24-Jan-17	12	65	67	71	48	93	44	52	81	52	12	20
25-lan-17	11	60	78	409	49	75	18	48	85	48	13	48
26-Jan-17	11	64	58	82	31	62	39	51	70	51	13	63
27-Jan-17	11	75	69	185	43	78	43	62	81	62	13	62
28-lan-17	12	71	17	156	46	74	42	54	87	54	13	62
29-lan-17	11	73	85	308	51	81	45	62	91	62	14	62
30-Jan-17	12	67	74	145	92	73	43	51	88	51	15	67
31-012017	12	58	73	155	47	71	44	51	82	51	15	63
Maximum	12	126	121	409	99	265	98	80	141	80	48	84
Minimum	9	57	58	71	31	16	18	48	70	48	12	17
Average	11	90	86	132	57	59	64	64	106	64	18	49

NO₂(Continued)

Date/Stations	DTU	R K Puram	Sirifort	Lodhi Road	Aya Nagar	RRI Mathura Roa	Faridabad, Sec-16A	NSIT	IGI Airport Terminal-3	Gurgaon, Vikas Sadan	Bhiwadi ,RIICO Ind. Area III	Alwar,Moti Doongri
Land-Use Pattern	Residential & industrial	Residential	Residential + Mix	Residential Area	Industrial, Residential area	Commercial	Industrial and Residential Area	Residential	Commercial	Industrial and Residential area	Industrial area	Industrial, Residential area
1-Jan-17	34	94	162	8	18	31	111	27	NA NA	24	46	47
2-Jan-17	31	86	106	8	18	31	88	44	NA	*	42	42
3-Jan-17	29	70	86	8	18	30	77	48	NA	23	41	42
4-Jan-17	27	91	83	8	17	30	68	54	NA NA	20	28	45
5-Jan-17	24	73	n	8	17	30	59	56	NA	18	25	33
6-Jan-17	19	80	118	8	16	31	77	49	NA	17	46	28
7-Jan-17	23	76	67	8	16	30	72	49	NA	16	54	NA
8-Jan-17	22	80	109	8	16	31	71	54	NA	16	55	60
9-Jan-17	22	87	111	8	16	33	84	68	NA NA	16	42	54
10-Jan-17	24	79	74	8	15	32	73	66	NA NA	15	57	54
11-Jan-17	23	79	69	8	16	32	68	63	NA NA	16	55	52
12-Jan-17	20	99	106	8	16	32	72	65	NA NA	15	52	49
13-Jan-17	21	93	159	8	16	32	71	67	NA NA	16	54	48
14-Jan-17	22	90	99	8	16	31	76	64	NA NA	16	NA	66
15-Jan-17	22	81	104	13	16	31	82	60	NA NA	17	60	62
16-Jan-17	21	74	30	17	16	33	80	59	NA NA	16	53	53
17-Jan-17	20	80	20	15	17	31	72	58	NA NA	23	29	51
18-Jan-17	20	78	21	15	17	32	82	41	NA NA	21	34	52
19-Jan-17	24	87	22	15	17	29	97	34	NA NA	22	55	44
20-Jan-17	23	70	NA	14	17	30	84	32	NA NA	22	28	44
21-Jan-17	19	87	NA	14	17	31	82	31	NA NA	22	42	51
22-Jan-17	20	90	18	15	17	33	84	38	NA NA	23	31	53
23-Jan-17	21	94	16	14	17	30	74	31	NA NA	21	22	43
24-Jan-17	21	58	16	13	19	32	71	20	NA NA	23	37	27
25-Jan-17	21	63	13	13	19	30	62	19	NA NA	23	33	37
26-Jan-17	20	54	18	13	19	30	72	17	NA NA	24	30	35
27-Jan-17	22	72	NA	14	18	31	90	26	NA NA	24	34	41
28-Jan-17	20	62	NA	13	18	31	70	18	NA NA	25	40	40
29-Jan-17	21	59	17	13	18	31	64	39	NA NA	26	45	40
30-Jan-17	22	51	14	12	17	29	63	56	NA NA	26	47	70
31-012017	24	38	40	12	17	30	64	61	NA NA	24	54	35
Maximum	34	99	9 162	17	19	33		68	NA NA	26	60	
Minimum	19	38			15	29	59	17	NA NA	15	22	27
Average	23	77	7 66	11	. 17	31	. 76	46	NA NA	20	42	41

4.Benzene(in μg/m³)

Date/Stations	Noida , Sec-125	Ghaziabad	Anand Vihar	R K Puram	Punjabi Bagh	North Campus	DMS	NSIT	Faridabad, Sec-16A	Bhiwadi ,RIICO Ind. Area III	Alwar, Moti Doongri
Land-Use Pattern	Industrial	Residential	Commercial	Residential	Industrial, Residential, Commercial area	Mixed area	Mixed area	Residential	Industrial and Residential Area	Industrial area	Industrial, Residential area
1-Jan-17	2.4	0.8	10.6	8.8	43.4	0.7	9.7	8.0	1.0	2.6	4.2
2-Jan-17	2.1	0.6	8.9	7.5	44.2	NA	6.9	4.2	0.8	2.5	4.7
3-Jan-17	1.6	0.5	7.4	4.8	38.7	NA	5.9	3.7	0.6	2.3	5.2
4-Jan-17	1.5	0.6	8.4	5.3	29.9	NA	8.4	5.3	0.6	2.5	3.1
5-Jan-17	1.4	0.5	7.6	8.6	21.4	NA	7.1	4.4	0.5	1.9	3.9
6-Jan-17	1.8	0.8	10.6	10.7	25.4	NA	13.4	7.3	0.7	2.8	3.8
7-Jan-17	1.3	0.4	6.7	4.9	30.5	NA	5.9	3.6	0.3	1.4	3.3
8-Jan-17	1.4	0.4	7.1	4.2	44.6	1.9	8.9	5.2	0.3	2.3	2.9
9-Jan-17	1.7	0.6	10.2	4.8	30.9	6.7	12.4	4.6	0.4	1.8	2.9
10-Jan-17	1.0	0.4	5.7	2.1	35.8	3.3	6.2	3.3	0.3	1.5	3.5
11-Jan-17	0.8	0.4	6.4	2.3	50.8	5.4	5.7	3.3	0.2	1.4	3.1
12-Jan-17	1.4	0.5	7.3	2.7	33.9	6.7	13.4	4.0	0.3	1.9	3.1
13-Jan-17	1.8	0.8	12.7	3.6	25.8	14.8	24.4	5.9	0.4	2.6	2.7
14-Jan-17	1.2	0.5	8.7	2.6	22.2	7.8	8.5	4.7	0.2	1.1	2.6
15-Jan-17	1.1	0.4	5.7	3.2	19.6	4.6	5.9	3.9	0.2	1.0	2.8
16-Jan-17	0.7	0.5	6.0	4.5	41.6	2.4	8.1	4.3	0.2	6.0	3.0
17-Jan-17	1.1	0.5	6.9	9.3	44.1	5.6	5.8	5.6	0.4	8.5	4.1
18-Jan-17	2.1	0.7	11.5	10.5	48.2	1.6	12.1	6.9	0.5	3.2	2.4
19-Jan-17	1.6	0.6	9.9	7.1	48.9	NA	14.8	6.2	0.3	0.5	1.8
20-Jan-17	0.9	0.3	4.3	7.0	41.9	NA	3.2	5.1	0.2	0.8	1.4
21-Jan-17	3.0	0.5	5.9	8.2	79.3	NA	5.6	5.5	0.3	1.4	2.5
22-Jan-17	NA	0.6	7.4	10.3	48.5	NA	6.8	7.9	0.5	1.1	2.2
23-Jan-17	NA	0.3	4.3	7.0	24.4	NA	5.0	3.5	0.3	3.9	0.8
24-Jan-17	NA	0.3	3.8	6.8	33.1	NA	4.3	3.6	0.3	0.8	NA
25-Jan-17	NA	0.3	NA	NA	NA	2.6	5.6	2.3	0.1	3.9	2.6
26-Jan-17	NA	0.3	NA	NA	NA	2.3	3.7	3.4	0.3	1.7	2.6
27-Jan-17	NA	0.3	NA	NA	NA	2.2	6.0	2.2	0.4	2.5	2.6
28-Jan-17	NA	0.4	NA	NA	NA	2.9	4.4	0.7	0.3	1.1	2.4
29-Jan-17	NA	0.4	NA	NA	NA	3.0	5.0	0.8	0.2	1.3	1.6
30-Jan-17	NA	0.2	NA	NA	NA	2.0	4.0	2.0	NA	NA	2.4
31-Jan-17	NA	0.2	NA	NA	NA	1.2	4.9	1.3	NA	NA	NA
Maximum	3.0	0.8	12.7	10.7	79.3	14.8	24.4	8.0	1.0	8.5	5.2
Minimum	0.7	0.2	3.8	2.1	19.6	0.7	3.2	0.7	0.1	0.5	0.8
Average	1.5	0.5	7.7	6.1	37.8	4.1	7.8	4.3	0.4	2.3	2.9

5.CO(in mg/m³)

Date/Stations	Noida , Sec-62	Noida , Sec-125	Ghaziabad	IHBAS	Burari crossing	North Campus	DMS	Mandir Marg	Pusa	Punjabi Bagh
Land-Use Pattern	Industrial	Industrial	Residential	Commercial	Residential + Industrial	Mixed area	Mixed area	Residential Area+Commercial Area	Residential+Industrial	Industrial, Residential, Commercial area
1-Jan-17	0.79	4.46	3.81	1.62	0.74	NA	1.49	5.45	0.74	3.92
2-Jan-17	0.75	2.70	3.45	1.08	0.69	NA	1.15	3.88	0.69	1.91
3-Jan-17	0.75	2.80	3.19	1.04	0.69	NA	1.13	3.27	0.69	1.53
4-Jan-17	0.75	2.78	4.12	1.23	0.68	NA	1.41	3.24	0.68	2.47
5-Jan-17	0.70	2.18	3.42	1.57	0.66	NA	1.33	4.55	0.66	1.94
6-Jan-17	0.76	2.73	4.46	1.81	0.66	NA	1.54	3.51	0.66	3.45
7-Jan-17	0.64	2.47	2.71	1.23	0.77	NA	0.97	2.51	0.77	1.59
8-Jan-17	0.50	2.99	2.60	1.22	0.80	NA	1.60	3.44	0.80	2.13
9-Jan-17	0.84	3.04	2.91	1.25	0.71	NA	1.42	3.04	0.71	2.30
10-Jan-17	0.77	1.57	2.56	0.77	0.74	NA	1.49	1.72	0.74	1.43
11-Jan-17	0.71	2.06	2.41	0.83	0.79	NA	1.09	2.68	0.79	1.50
12-Jan-17	0.73	3.18	3.42	1.21	0.77	NA	1.57	2.77	0.77	2.87
13-Jan-17	0.85	4.05	4.84	1.66	0.71	NA	2.49	7.36	0.71	4.21
14-Jan-17	0.81	2.99	3.42	1.02	0.74	NA	1.84	3.97	0.74	2.57
15-Jan-17	0.76	2.17	2.49	0.58	0.78	NA	1.23	1.87	0.78	1.69
16-Jan-17	0.69	1.84	3.37	1.13	0.86	NA	1.35	3.39	0.86	3.02
17-Jan-17	0.74	2.59	3.45	1.00	0.65	NA	1.20	2.67	0.65	2.88
18-Jan-17	0.77	3.81	4.89	1.69	0.63	NA	2.78	3.63	0.63	3.65
19-Jan-17	0.90	3.50	3.72	1.28	0.70	NA	1.89	2.79	0.70	2.39
20-Jan-17	0.65	2.32	2.42	1.11	0.80	NA	1.18	3.11	0.80	1.01
21-Jan-17	0.49	2.44	4.00	1.28	0.76	NA	1.72	2.92	0.76	2.75
22-Jan-17	1.31	3.25	3.86	1.19	0.72	NA	1.27	3.75	0.72	2.29
23-Jan-17	2.47	1.84	2.76	1.27	0.86	NA	0.76	1.13	0.86	1.32
24-Jan-17	2.29	1.93	1.82	0.49	0.87	NA	0.99	1.52	0.87	1.10
25-Jan-17	2.55	1.97	1.96	0.73	0.96	NA	1.00	2.79	0.96	2.78
26-Jan-17	1.56	2.40	1.93	0.61	0.92	NA	0.93	3.92	0.92	2.23
27-Jan-17	1.61	2.38	2.20	0.71	0.76	NA	1.50	2.25	0.76	2.68
28-Jan-17	1.87	2.41	2.51	0.81	0.90	NA	1.49	8.85	0.90	2.74
29-Jan-17	1.90	2.74	2.60	0.93	0.77	0.30	1.37	8.64	0.77	2.77
30-Jan-17	2.28	1.89	1.65	0.91	0.90	1.30	0.82	NA	0.90	2.93
31-Jan-17	2.35	2.01	1.75	0.89	0.89	1.30	0.94	NA	0.89	3.01
Maximum	2.6	4.5	4.9	1.8	1.0	NA	2.8	8.9	1	.0 4.2
Minimum	0.5	1.6	1.7	0.5	0.6	NA	0.8			.6 1.0
Average	1.1	2.6	3.1	1.1	0.8	NA	1.4	3.6		.8 2.4

CO(Continued)

Date/Stations	Lodhi Road	R K Puram	Gurgaon, Vikas Sadan	Aya Nagar	NSIT	Bhiwadi ,RIICO Ind. Area III	Alwar, Moti Doongri	CRRI Mathura Road	Faridabad, Sec-16A
Land-Use Pattern	Residential Area	Residential	Industrial and Residential area	Industrial, Residential area	Residential	Industrial area	Industrial, Residential area	Commercial	Industrial and Residential Area
1-Jan-17	1.96	3.63	0.70	1.15	0.89	1.70	1.66	1.14	2.86
2-Jan-17	1.43	3.99	*	1.15	0.61	1.33	1.65	1.12	3.22
3-Jan-17	1.38	2.19	1.41	1.12	0.59	1.41	1.81	1.38	2.48
4-Jan-17	1.18	2.18	0.91	1.02	0.77	1.47	1.18	1.29	2.59
5-Jan-17	1.14	2.50	1.00	1.02	0.75	1.24	1.37	1.28	2.63
6-Jan-17	1.73	2.81	1.34	0.99	1.14	1.39	1.28	1.25	3.07
7-Jan-17	1.13	1.49	0.96	0.98	0.58	1.00	1.72	1.36	1.55
8-Jan-17	0.95	2.19	0.88	0.97	0.88	0.76	1.24	1.28	1.42
9-Jan-17	1.53	1.73	0.96	0.98	0.77	0.82	1.41	1.22	1.64
10-Jan-17	1.13	1.32	1.09	0.94	0.57	0.87	2.03	1.26	2.25
11-Jan-17	0.68	1.24	1.25	0.97	0.61	1.05	1.16	1.25	1.43
12-Jan-17	1.12	2.94	1.55	1.02	0.85	1.15	1.13	1.27	2.14
13-Jan-17	2.27	2.95	1.04	0.99	0.97	0.97	0.97	1.22	3.04
14-Jan-17	1.48	2.11	1.31	1.01	0.90	0.76	1.13	1.24	2.01
15-Jan-17	1.11	1.61	0.92	0.95	0.55	1.10	1.19	1.34	2.02
16-Jan-17	1.16	3.08	1.20	0.96	0.91	1.24	1.39	1.17	2.79
17-Jan-17	1.78	2.87	0.98	1.05	0.74	1.64	1.60	1.16	2.41
18-Jan-17	1.77	4.23	1.54	1.07	1.07	1.12	0.92	1.04	3.92
19-Jan-17	1.41	2.16	1.12	1.04	0.76	0.61	0.70	1.53	2.36
20-Jan-17	0.94	1.28	1.08	1.03	0.75	1.11	1.42	1.32	1.78
21-Jan-17	1.10	4.60	1.13	1.07	0.85	1.00	1.55	1.14	1.87
22-Jan-17	1.65	3.59	0.86	1.07	0.95	0.82	0.89	0.98	2.85
23-Jan-17	0.97	2.53	0.99	1.08	0.57	0.83	0.61	1.29	1.92
24-Jan-17	0.68	2.22	0.84	1.25	0.68	0.76	0.87	1.09	1.75
25-Jan-17	NA	4.73	1.12	1.22	0.44	1.51	0.73	1.33	1.23
26-Jan-17	0.67	3.02	1.09	1.19	0.64	1.08	1.97	1.31	1.09
27-Jan-17	0.70	4.16	1.00	1.11	0.71	1.22	1.20	1.26	NA
28-Jan-17	0.91	4.84	0.95	1.13	0.66	0.68	1.09	1.34	NA
29-Jan-17	0.87	3.52	1.04	1.11	0.86	0.69	1.63	1.36	0.88
30-Jan-17	0.48	3.83	0.30	1.05	0.62	0.96	0.67	1.43	1.35
31-Jan-17	0.52	2.62	0.88	1.08	0.51	1.23	0.85	1.37	1.61
Maximum	2.3	4.8	1.6	1.3	1	1 1.7	2.0	1.5	3.9
Minimum	0.5	1.2		0.9				1.0	0.9
Average	1.2	2.8		1.1	. 0	7 1.1	1.3	1.3	2.1

6.Ozone(in $\mu g/m^3$)

Date/Stations	Noida , Sec- 125	Ghaziabad	Anand Vihar	Punjabi Bagh	DMS	R K Puram	Faridabad, Sec- 16A	NSIT	Gurgaon,Vikas Sadan	,RIICO Ind.	Alwar,Moti Doongri
Land-Use Pattern	Industrial	Residential	Commercial	Industrial, Residential, Commercial area	Mixed area	Residential	Industrial and Residential Area	Residential	Industrial and Residential area	Industrial area	Industrial, Residential area
1-Jan-17	40	101	28	43.44	3	18	6	12	9	13	27
2-Jan-17	44	32	34	44.2	6	20	10	14	NA	8	23
3-Jan-17	42	34	29	38.65	11	20	11	14	23	6	21
4-Jan-17	45	42	35	29.88	14	20	10	18	18	20	33
5-Jan-17	41	24	29	21	12	14	13	16	19	15	28
6-Jan-17	49	36	22	25	16	29	10	15	20	11	10
7-Jan-17	47	29	15	30	23	33	3	17	30	11	38
8-Jan-17	48	35	15	45	26	32	8	19	32	21	33
9-Jan-17	54	37	16	31	21	33	10	18	31	22	31
10-Jan-17	19	32	18	36	22	37	26	21	36	22	31
11-Jan-17	51	40	20	51	32	34	45	21	47	16	26
12-Jan-17	61	50	21	34	27	29	41	18	29	17	8
13-Jan-17	60	65	20	26	18	29	27	18	30	14	35
14-Jan-17	61	63	23	22	23	33	27	19	30	22	30
15-Jan-17	63	50	22	20	23	31	44	20	40	17	32
16-Jan-17	75	47	26	42	34	49	50	28	49	23	30
17-Jan-17	54	35	23	44	21	20	29	28	31	9	27
18-Jan-17	57	43	26	48	29	59	28	27	25	18	43
19-Jan-17	48	44	21	49	20	55	41	15	29	4	60
20-Jan-17	53	40	18	42	25	11	43	22	38	10	56
21-Jan-17	57	63	61	79	31	105	38	25	29	26	39
22-Jan-17	71	45	56	49	29	67	35	34	34	21	31
23-Jan-17	46	48	18	24	24	25	30	21	30	5	35
24-Jan-17	42	31	23	33	20	39	25	16	20	8	26
25-Jan-17	30	35	NA	NA	14	NA	28	18	20	10	37
26-Jan-17	36	91	NA	NA	12	NA	24	16	15	7	27
27-Jan-17	45	73	NA	NA	21	NA	27	19	25	8	37
28-Jan-17	43	107	NA	NA	18	NA	22	13	12	9	32
29-Jan-17	40	61	NA	NA	18	NA	26	21	36	15	39
30-Jan-17	47	32	NA	NA	24	NA	49	27	21	13	70
31-Jan-17	50	27	NA	NA	26	NA	47	35	31	19	32
Maximum	75	107	61	79	34	105	50	35	49	26	70
Minimum	19	24	15	20	3	11	3	12	9	4	8
Average	49	48	26	38	21	35	27	20	28	14	33

$7.NH_3(in \mu g/m^3)$

Date/Stations	Noida , Sec-125	Ghaziabad	Anand Vihar	IHBAS	ITO	Mandir Marg	Punjabi Bagh	DTU	R K Puram	Sirifort	Bhiwadi ,RIICO Ind. Area III	Alwar,Moti Doongri
Land-Use Pattern	Industrial	Residential	Commercial	Residential + Industrial	Traffic intersection	Residential Area+Commercial Area	Industrial, Residential, Commercial area	Residential & industrial	Residential	Residential + Mix	Industrial area	Industrial, Residential area
1-Jan-17	107	57	116	68	37	42	96	55	51	103	3	56
2-Jan-17	88	46	79	48	35	39	78	55	52	60	3	53
3-Jan-17	75	48	73	51	25	33	68	56	44	49	3	54
4-Jan-17	74	57	73	63	22	33	75	52	45	46	4	45
5-Jan-17	67	62	62	74	58	33	69	46	45	41	5	39
6-Jan-17	68	67	97	101	93	27	*	46	46	63	2	45
7-Jan-17	68	56	87	56	*	26	*	46	39	36	NA	NA
8-Jan-17	63	51	85	49	56	24	55	46	33	61	1	60
9-Jan-17	72	62	114	65	51	30	70	46	36	59	2	49
10-Jan-17	55	59	78	62	32	29	61	46	34	41	2	57
11-Jan-17	60	52	89	56	29	30	54	46	31	38	2	51
12-Jan-17	66	56	96	64	68	29	65	46	37	70	3	44
13-Jan-17	76	69	118	114	80	31	76	46	39	101	3	58
14-Jan-17	70	61	86	64	*	29	66	46	39	56	3	91
15-Jan-17	74	55	78	50	71	31	63	46	42	60	1	79
16-Jan-17	52	51	67	68	17	24	50	46	33	31	1	66
17-Jan-17	82	68	88	77	*	31	63	46	42	14	6	51
18-Jan-17	99	75	110	103	*	33	77	46	44	12	4	74
19-Jan-17	83	63	150	108	*	33	80	46	42	14	2	54
20-Jan-17	57	48	121	89	*	29	65	46	37	*	1	42
21-Jan-17	61	49	85	110	*	20	44	47	28	*	NA	55
22-Jan-17	72	53	119	115	54	26	56	47	33	8	5	65
23-Jan-17	69	55	88	89	7	30	59	47	44	4	22	54
24-Jan-17	61	58	66	78	40	31	54	46	39	5	4	37
25-Jan-17	56	60	NA	74	42	NA	NA	46	NA	3	6	45
26-Jan-17	64	54	NA	62	35	NA	NA	47	NA	11	5	37
27-Jan-17	56	49	NA	68	58	NA	NA	47	NA	*	3	43
28-Jan-17	59	52	NA	64	61	NA	NA	47	NA	*	2	33
29-Jan-17	65	59	NA	69	66	NA	NA	47	NA	5	3	30
30-Jan-17	56	52	NA	92	35	NA	NA	46	NA	3	6	34
31-012017	58	55	NA	82	35	NA	NA	46	NA	24	5	15
Maximum	107	75	150	115	93	42	96	56	52	103	22	91
Minimum	52	46	62	48	7	20	44	46	28	3	1	15
Average	69	57	93	75	46	30	66	47	40	38	4	51

Daily Meteorological data Vs. PM2.5 Profile - January 2018

PM_{2.5} Concentration in Delhi at different Air Quality Monitoring Stations with meteorological data

			PM _{2.5} Concentration (μg/m³)							
S.No.	Station	(01-02) January 18	(02-03)January 18		(04-05) January 18		(06-07) January 18	(07-08) January 18		
1	IHBAS	153	150	181	154	208	174	103		
2	DMS	346	227	187	227	245	188	*		
3	NSIT	246	223	186	247	242	227	201		
4	ITO	213	271	*	270	316	243	158		
5	DTU	285	264	365	378	488	327	249		
6	Sirifort	Sirifort 370 314 *		*	276	281	238	*		
7	Anand Vihar	331	329	352	303	373	286	116		
8	Mandir Marg)	333	269	250	286	298	234	165		
9	R K puram	332	282	184	244	237	213	167		
10	Punjabi Bagh	367	286	319	339	298	234	195		
11	Burari Crossing	195	*	174	202	228	144	100		
12	CRRI Mathura Road	*	*	223	225	273	220	169		
13	North Campus	257	*	297	307	329	243	149		
14	Pusa	216	164	152	183	175	147	98		
15	Aya Nagar	212	170	153	184	194	169	120		
16	Lodhi Road	313	240	191	320	284	179	130		
17	Pitampura	*	*	*	*	*	*	*		
18	IGI Airport Terminal-3	243	*	150	201	203	167	139		
Average	PM2.5 Conc. (μg/m³)	276	245 🗸	224 🗸	256	275	214 🗸	151 🗸		
Mataar		(01 03) January 17	(02 03) January 19	(02 04) January 19	(04 OF) January 19	(OF OC) January 18	(OC 07) January 19	(07 00) January 10		
		(01-02) January 17	(02-03)January 18	(03-04) January 18	(04-05) January 18		(06-07) January 18	· · · · · · · · · · · · · · · · · · ·		
	king Height (m)	510	529	504	591	425	609	668		
	nd Speed (m/s)	1.5	1.7 1	1.6 ↓	1.8	1.5	2.8	2.9		
	nperature (^o C)	12.1	12.1	12.5	11.1 ♥	12.9	13.9	15.0		
Relat	ive Humidity(%)	85.2	81.4 🗸	78.7 ↓	83.0	74.7 ↓	66.4	54.0 ↓		
*Inadequ	iate data/Data not av	vailable								
Daily mea	Daily mean values are compared with the previous value									

PM_{2.5} Concentration in Delhi at different Air Quality Monitoring Stations with meteorological data

				PM _{2.5}	Concentration (µ	ιg/m³)		
S.No.	Station	(08-09) January 18	(09-10) January 18	(10-11) January 18	(11-12) January 18	(12-13) January 18	(13-14) January 18	(14-15) January 18
1	IHBAS	132	116	100	103	153	105	105
2	DMS	234	136	139	82	153	238	99
3	NSIT	228	217	190	184	225	207	197
4	ITO	252	217	155	172	254	182	182
5	DTU	351	368	248	265	452	347	280
6	Sirifort	214	219	183	160	285	180	217
7	Anand Vihar	400	281	196	205	395	292	311
8	Mandir Marg)	237	220	163	180	258	228	*
9	R K puram	216	196	172	126	236	181	221
10	Punjabi Bagh	318	*	*	130	*	280	288
11	Burari Crossing	147	141	103	80	188	121	124
12	CRRI Mathura Road	230	205	168	160	231	79	79
13	North Campus	268	223	151	186	318	266	212
14	Pusa	143	138	99	107	145	134	132
15	Aya Nagar	180	149	120	109	180	149	154
16	Lodhi Road	179	175	146	125	177	149	168
17	Pitampura	*	*	*	*	*	*	*
18	IGI Airport Terminal-3	178	157	138	114	169	147	139
Average	PM2.5 Conc. (µg/m³)	230	197 🗸	154 🗸	146 🗸	239 🔨	193 🗸	182 🗸
Meteo	rological parameters	(08-09) January 18	(09-10) January 18	(10-11) January 18	(11-12) January 18	(12-13) January 18	(13-14) January 18	(14-15) January 18
	ring Height (m)	545	596 1	617	601 $\sqrt{}$	519 V	593 1	636 1
Wind Speed (m/s)		2.4	2.9	3.6	2.9	2.0	2.4	2.8
Temperature (°C)		15.2	15.7	16.2	16.9	17.2	17.0 🗸	16.9
	ive Humidity(%)	56.2	56.8 1	54.0 ↓	50.7	56.0 1	50.6 ↓	51.8 1
*Inadequ	iate data/Data not av	/ailable	•	·		•		-
Daily mean values are compared with the previous value								

PM_{2.5} Concentration in Delhi at different Air Quality Monitoring Stations with meteorological data

					PM _{2.5} Concent	ration (μg/m³)			
S.No.	Station	(15-16) January 18	(16-17) January 18	(17-18) January 18	(18-19) January 18	(19-20) January 18	(20-21) January 18	(21-22) January 18	(22-23) January 18
1	IHBAS	82	126	180	177	106	104	130	112
2	DMS	185	295	286	216	146	133	198	129
3	NSIT	160	234	234	294	271	204	287	204
4	ITO	116	242	314	328	204	183	235	205
5	DTU	191	341	371	450	277	270	273	232
6	Sirifort	*	285	268	285	*	*	*	197
7	Anand Vihar	*	304	*	497	252	*	327	214
8	Mandir Marg)	*	*	255	310	201	*	249	171
9	R K puram	145	299	298	320	198	*	291	*
10	Punjabi Bagh	153	246	315	394	239	*	269	196
11	Burari Crossing	83	179	219	188	107	117	138	132
12	CRRI Mathura Road	36	212	310	216	75	61	92	189
13	North Campus	116	228	331	304	156	173	187	161
14	Pusa	79	122	148	188	112	101	153	108
15	Aya Nagar	80	*	203	220	159	127	154	133
16	Lodhi Road	96	169	240	217	152	116	160	163
17	Pitampura	*	*	*	*	*	*	*	*
18	IGI Airport Terminal-3	95	166	198	235	176	126	134	145
Average	PM2.5 Conc. (µg/m³)	115	230 \uparrow	261 🔨	285 🔨	177 🗸	143 🗸	205 \uparrow	168 🗸
		((· - · - · - · - · - · - · · · · ·	(/	((
	<u> </u>	(15-16) January 18				· · · · · · · · · · · · · · · · · · ·			
	king Height (m)	649	507 ₩	503 ↓	434 ↓	615 个	605 ↓	611 🌴	400 🗸
	nd Speed (m/s)	3.6	1.8	*	*	*	*	*	*
Ter	mperature (^o C)	16.9	15.7 🗸	16.6 🕇	18.6	17.2 🗸	17.0 ↓	17.5	16.6 🔻
Relat	ive Humidity(%)	50.2	63.2 \uparrow	71.3 \uparrow	64.2 🗸	58.8 🔱	52.1 🗸	49.7 🗸	61.0
*Inadequ	iate data/Data not av	vailable							
Daily mea	Daily mean values are compared with the previous value								

	PM _{2.5} Concentration in Delhi at different Air Quality Monitoring Stations									
				with	meteorolo	gical data				
					PM _{2.5} Concent	ration (μg/m³)				
S.No.	Station	(23-24) January 18	(24-25) January 18	(25-26) January 18	(26-27) January 18	(27-28) January 18	(28-29) January 18	(29-30) January 18	(30-31) January 18	
1	IHBAS	81	77	75	75	98	106	131	70	
2	DMS	104	121	134	146	155	164	115	106	
3	NSIT	157	123	*	148	172	163	145	133	
4	ITO	148	127	148	159	174	185	149	116	
5	DTU	171	150	133	166	201	192	204	168	
6	Sirifort	168	137	*	*	*	*	151	117	
7	Anand Vihar	158	*	*	206	250	260	125	136	
8	Mandir Marg)	160	*	*	*	172	202	140	144	
9	R K puram	138	*	*	177	235	215	176	125	
10	Punjabi Bagh	175	*	*	185	217	230	156	141	
11	Burari Crossing	*	*	74	101	104	*	95	74	
12	CRRI Mathura Road	*	*	154	157	184	183	157	142	
13	North Campus	*	*	128	153	146	182	130	106	
14	Pusa	*	*	107	107	120	108	*	70	
15	Aya Nagar	*	*	95	99	152	142	140	105	
16	Lodhi Road	*	*	126	133	146	125	110	95	
17	Pitampura	*	*	*	*	*	*	*	*	
18	IGI Airport Terminal-3	*	*	*	*	140	142	116	97	
Average	PM2.5 Conc. (μg/m ³)	146	123 🗸	117 🔱	144 🔨	167 🕇	173 🔨	140 🔱	114 🔱	
		(23-24) January 18	(24-25) January 18	(25-26) January 18	(26-27) January 18	(27-28) January 18	(28-29) January 18	(29-30) January 18	(30-31) January 18	
	ring Height (m)	694	711	495	*	*	*	567	766 🔨	
Wir	nd Speed (m/s)	2.4	2.8 1	2.0	2.3 1	2.0 🗸	2.1	3.5	4.4	
Ter	mperature (^o C)	13.3	13.7	12.9	12.4 🗸	13.9 1	15.4 1	17.9	18.8	
Relat	ive Humidity(%)	76.7	81.0 🔨	84.6 1	80.4 🗸	74.0 🔱	66.4 🗸	49.8 🗸	56.2 🔨	
*Inadequ	iate data/Data not av	vailable								
No. of st	ations with adequate	e data on (23-24)	, (24-25) and (25	5-26) January 18	(3 PM-3 PM) are	less than 12				
Daily me	Daily mean values are compared with the previous value									

Comparison of DailyAQI values of Delhi(Jan, 2016-2018)

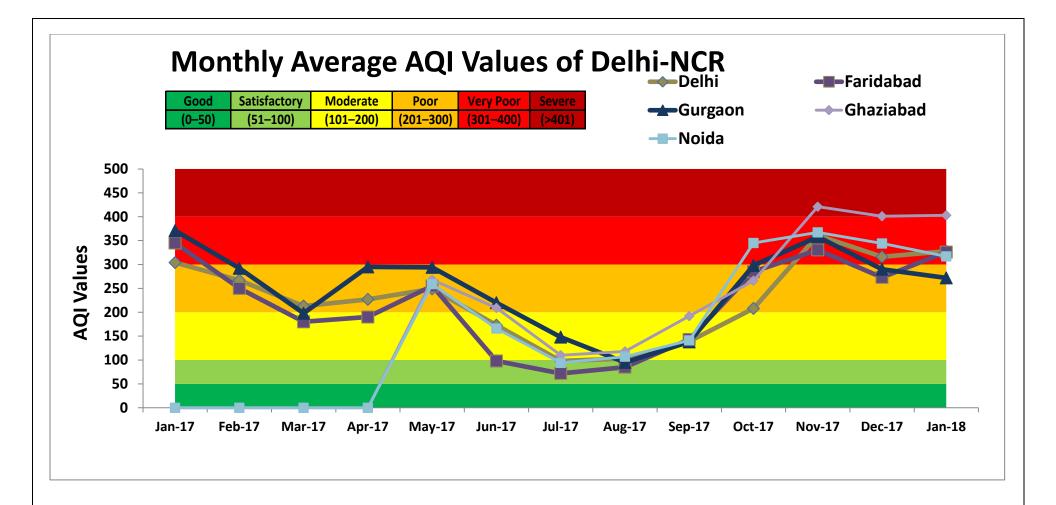
	J	an-16		Jan-1	7		Jan-1	8	
Date/Months	AQI		AQI						
2007, 31011110	Index	Prominent	Index	Pro	minent	AQI Inde	х		
	Values	Pollutants	Values	Po	llutants	Values	Promi	nent Pollutants	
1	391	PM2.5,PM10	344	PM2	2.5, PM10	400		PM2.5	
2	384	PM2.5,PM10	344	PM2	2.5, PM10	408	P	M2.5, PM10	
3	381	PM2.5,PM10	331	PM2	2.5, PM10	398		PM2.5	
4	42 9	PM2.5,PM10	366	PM2	2.5, PM10	362	P	M2.5, PM10	
5	434	PM2.5,PM10	305	PM2	2.5, PM10	388		PM2.5	
6	356	PM2.5	354	F	PM2.5	404		PM2.5	
7	402	PM2.5,PM10	282	F	PM2.5	354		PM2.5	
8	399	PM2.5	274	PM2	2.5, PM10	289	Р	M2.5, PM10	
9	337	PM2.5,PM10	314	PM2	2.5, PM10	357		PM2.5	
10	312	PM2.5,PM10	257	PM2	2.5, PM10	350	Р	M2.5, PM10	
11	348	PM2.5,PM10	293	PM2	2.5, PM10	308	F	M.5, PM10	
12	339	PM2.5,PM10	331	PM2	2.5, PM10	297	F	M2.5, NO2	
13	332	PM2.5	336	PM2	2.5, PM10	357	P	M2.5, PM10	
14	345	PM2.5	385	ŀ	PM2.5	318	Р	M2.5, PM10	
15	292	PM2.5	317	F	PM2.5	330	P	M2.5, PM10	
16	285	PM2.5	360	PM2	2.5, PM10	256	P	M2.5, PM10	
17	305	PM2.5	252	F	PM2.5	347	P	M2.5, PM10	
18	344	PM2.5,PM10	326	F	PM2.5	395	P	M2.5, PM10	
19	346	PM2.5,PM10	302	F	PM2.5	403	Р	M2.5, PM10	
20	397	PM2.5,PM10	229	F	PM2.5	323	P	M2.5, PM10	
21	356	PM2.5	286	F	PM2.5	274	P	M2.5, PM10	
22	334	PM2.5	365	F	PM2.5	342	P	M2.5, PM10	
23	398	PM2.5	308	F	PM2.5	312	F	M2.5, NO2	
24	430	PM2.5	331	PM2	2.5, PM10	265	P	M2.5, PM10	
25	380	PM2.5	375	PM2	2.5, PM10	257		PM2.5	
26	417	PM2.5	317	F	PM2.5	255		PM2.5	
27	379	PM2.5,PM10	110	PM2	2.5, PM10	285	P	M2.5, PM10	
28	384	PM2.5,PM10	188	PM2	2.5, PM10	301		PM2.5	
29	399	PM2.5,PM10	215	F	PM2.5	307		PM2.5	
30	417	PM2.5,PM10	294	PM2	2.5, PM10	277		PM2.5	
31	407	PM2.5,PM10	341	F	PM2.5	244		PM2.5	
Max	434		385			408			
Min	285		110			244			
Average	370		304			328			
Good	Satis	factory	Modera	ite	Poor	Ve	ry Poor	Severe	
(0–50)	-		(101–20	101–200) (201–30			00) (301–400) (>401)		

Page **18** of **26**

Daily AQI values of Delhi-NCR (January, 2018)

Date/Cities	Delhi	Faridabad	Ghaziabad	Gurugram	Noida	Bhiwadi	Alwar
1-Jan-18	400	411	482	378	483	411	322
2-Jan-18	408	399	456	NA	411	392	341
3-Jan-18	398	357	451	NA	431	342	317
4-Jan-18	362	338	477	299	387	337	255
5-Jan-18	388	330	441	354	351	332	266
6-Jan-18	404	363	480	355	395	3 69	298
7-Jan-18	354	309	423	330	360	67	NA
8-Jan-18	289	290	337	291	183	282	NA
9-Jan-18	357	329	424	355	393	312	190
10-Jan-18	350	335	410	336	205	NA	192
11-Jan-18	308	281	359	298	253	361	221
12-Jan-18	297	265	369	294	265	292	213
13-Jan-18	357	345	426	335	342	354	204
14-Jan-18	318	309	416	263	287	NA	NA
15-Jan-18	330	313	390	241	315	NA	220
16-Jan-18	256	224	329	114	214	228	264
17-Jan-18	347	351	434	263	329	364	197
18-Jan-18	395	422	485	271	381	360	296
19-Jan-18	403	391	468	257	409	NA	244
20-Jan-18	323	314	37 9	201	317	NA	204
21-Jan-18	274	314	373	230	287	NA	177
22-Jan-18	342	347	434	262	314	NA	221
23-Jan-18	312	341	389	266	303	295	290
24-Jan-18	265	320	339	252	242	NA	183
25-Jan-18	257	272	353	155	340	205	95
26-Jan-18	255	321	379	201	360	426	99
27-Jan-18	285	350	381	260	287	309	145
28-Jan-18	301	354	385	245	280	377	71
29-Jan-18	307	294	416	303	284	355	56
30-Jan-18	277	257	322	238	204	NA	79
31-Jan-18	244	272	291	241	201	NA	130
Max	408	422	485	378	483	426	341
Min	244	224	291	114	183	67	56
Average	328	326	403	272	317	322	207
		Note: NA	indicates Data	is not Availab	le		

Page **19** of **26**



Results & Discussion:

- ➤ Particulate Matter (PM_{2.5}/ PM₁₀): Exceeded the permissible limits in all stations across Delhi-NCR as per NAAQS 2009. Ghaziabad reported PM_{2.5} within the limit, Data is placed under scrutiny.
- Nitrogen Dioxide (NO₂): Exceeded the permissible limits at 7 out of 23 Stations in Delhi-NCR [Anand Vihar(29 Days), Punjabi Bagh(30 Days), Sirifort(11 Days), Noida-125 (19 Days), Gahziabad(17 Days) and Faridabad (10 Days)].
- Fig. Benzene: Standard for this parameter is defined annually in NAAQS 2009, therefore it's exceedence cannot be determined based on 24 hr or monthly data, but Punjabi Bagh Station at Delhi has shown exceptionally high value of this parameter (20 μg/m³-79 μg/m³) so Data is placed under scrutiny.
- ➤ Sulphur Dioxide (SO₂): Recorded within permissible limit in January except exceedence recorded for just once in the month at Ghaziabad station.
- Ammonia: Within the permissible limits in all stations across Delhi-NCR as per NAAQS 2009 Standard.
- Carbon Monoxide (CO): Exceeded the permissible limits of 8 hourly at three Stations (Mandir Marg, Punjabi Bagh and R K Puram) in Delhi and also at three stations (Faridabad, Noida-125 and Ghaziabad) in NCR as per NAAQS 2009.
- ➤ Ozone (O₃): Recorded within permissible limit in January except exceedence recorded for just once in the month at R K Puram and Ghaziabad. Hence, the ozone concentration is within permissible limit in Delhi-NCR.

Air Quality Index

Daily City wise AQI values for Delhi-NCR for the month of January is presented in Table-1. AQI of Delhi was found largely lying between poor to very poor category. However, Ghaziabad has recorded 15 very poor and 15 severe days. In other areas except Alwar, majority of the days were in Poor to very poor category.

	Table-1 AQI Values of Delhi-NCR for the month of January 2018									
AQI Categories	Range	Delhi	Faridabad	Ghaziabad	Gurgaon	Noida	Bhiwadi	Alwar		
Good	(0–50)	*	*	*	*	*	*	*		
Satisfactory	(51–100)	*	*	*	*	*	1	5		
Moderate	(101–200)	*	*	*	2	1	*	7		
Poor	(201–300)	10	8	1	19	12	5	13		
Very Poor	(301–400)	17	21	15	8	14	13	3		
Severe	(>401)	4	2	15	*	4	2	*		

Ambient Air Quality Parameters

The concentration ranges for pollutants having 24 hourly standard limits are presented in Table-2.

Table-2 Ra	Table-2 Range of 24-hourly Averages for All Standard Parameters in January 2018 Delhi-NCR													
Parameters/Lan	De	lhi	Farid	labad	Ghaz	iabad	Gur	gaon	Noi	da	Bhiv	vadi	Al	war
d-Use Pattern	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
$PM_{2.5}(\mu g/m^3)$	63	482	106	417	24	107	69	251	60	438	57	297	38	187
$PM_{10} (\mu g/m^3)$	151	772	*	*	243	689	*	*	99	659	195	571	96	336
SO ₂ (μg/m ³)	4	63	4	25	24	94	5	12	17	44	18	71	7	38
$NO_2 (\mu g/m^3)$	12	409	59	111	58	121	15	26	9	126	22	60	27	70
NH ₃ (μg/m ³)	3	150	*	*	46	75	*	*	52	107	*	*	30	91

Note: '*'indicate Insufficient data or parameter not measured

CO, Ozone and Benzene has never been included here as there is no 24 hourly permissible limits in NAAQS

Meteorological Parameters

Monthly average mixing height was 582 meters. The range for daily average mixing height was observed from 400 meters to 766 meters. Daily average wind speed was observed 1.46 m/s - 4.38 m/s. Monthly average temperature was 15.3 °C with minimum daily average as 11.1 °C and maximum as 18.8 °C recorded. Monthly average relative humidity was 64.3 % with maximum daily average as 85.2 % and minimum as 49.7 recorded. Prominent wind direction in January 2018 was north- west followed by North.

Range of Monthly Average for Metrological Parameters in Delhi, January 2018							
Parameters/Land-Use Pattern MAX MIN							
Mixing Height (m)	766	400					
Wind Speed(m/s)	4.4	1.5					
Temperature(degree Celsius)	18.8	11.1					
Relative Humidity (%)	85.2	49.7					

Recommendations:

- ➤ Particulates (PM_{2.5}/PM₁₀) are the main issue of concern necessary steps to control dust emission from roads, construction activity, traffic and industries may be strictly adopted as specified in GRAP for respective categories.
- ➤ Higher CO levels at some stations invites intervention at local level for better traffic management which in turn may give positive impact on NO₂ levels also.

NATIONAL AMBIENT AIR QUALITY STANDARD (2009)

			Conc	entration in Ambient Air
Pollutant	Time Weighted Average	Industrial, Residential, Rural and Other Area	Ecologically Sensitive Area (notified by Central Government)	Methods of Measurement
CO- ualm3	Annual*	50	20	Improved West and Gaeke
SO ₂ , μg/m ³	24 hours**	80	80	Ultraviolet fluorescence
	Annual*	40	30	Modified Jacob & Hookhoiser (No Arganita)
NO ₂ , μg/m ³	24 hours**	80	80	 Modified Jacob &Hochheiser (Na-Arsenite) Chemiluminescence
	Annual*	60	60	Gravimetric
PM_{10} , $\mu g/m^3$	24 hours**	100	100	TOEM Beta attenuation
	Annual*	40	40	Gravimetric
PM _{2.5} , μg/m ³	24 hours**	60	60	TOEM Beta attenuation
	8 hours**	100	100	UV photometric
O ₃ , μg/m ³	1 hour**	180	180	Chemiluminescence Chemical Method
	Annual*	0.50	0.50	AAS/ICP method after sampling on EMP 2000 or
Lead (Pb), µg/m³	24 hours**	1	1	equivalent filter paperED-XRF using Teflon filter
	8 hours**	2	2	
CO, mg/m ³	1 hour**	4	4	Non Dispersive Infra Red (NDIR) spectrosopy
	Annual*	100	100	
Ammonia (NH ₃) μg/m ³	24 hours**	400	400	ChemiluminescenceIndophenol blue method
Benzene	Annual*	5	5	 Gas chromatography based on continuous analyzer Adsorption and Desorption followed by GC analysis
Benzopyrene (BaP) - particulate phase only, ng/m³	Annual*	1	1	Solvent extraction followed by HPLC/GC analysis
Arsenic (As), ng/m ³	Annual*	6	6	AAS/ICP method after sampling on EMP 2000 or equivalent filter paper
Nickel (Ni), ng/m ³	Annual*	20	20	AAS/ICP method after sampling on EMP 2000 or equivalent filter paper

^{*} Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 8 hourly or 1 hourly monitored values, as applicable, shall be compiled with 98% of the time in a year. 2% of the time, theymay exceed the limits but not on two consecutive days of monitoring.

Note - Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigation.

ANNEXURE -II

Delhi CAAQM Stations

S. No.	State	No. of stations at each State	Stations	(CPCB/SPCBs)	Parameters Monitored
			Income Tax Office	CPCB Delhi	NO2, PM2.5, NH3
			DCE	CPCB Delhi	NO2, PM2.5, NH3
			Shadipur	CPCB Delhi (O&M)	SO2, NO2, PM2.5, CO, O3, Benzene
			IHBAS	CPCB Delhi (O&M)	SO2, NO2, PM2.5, NH3, CO
			NSIT Dwarka	CPCB Delhi (O&M)	SO2, NO2, PM2.5, CO, O3
			Sirifort	CPCB Delhi	NO2, PM2.5, NH3
			MandirMarg	DPCC Delhi	PM10, SO2, NO2, PM2.5, NH3, CO, O3, Benzene
			AnandVihar	DPCC Delhi	PM10, SO2, NO2, PM2.5, O3, Benzene
1.	Delhi	17	R. K. Puram	DPCC Delhi	PM10, SO2, NO2, PM2.5, NH3, CO, O3, Benzene
			Punjabi Bagh	DPCC Delhi	PM10, SO2, NO2, PM2.5, NH3, CO, O3, Benzene
			Burari Crossing	SAFAR/IMD Delhi	NO ₂ , CO, O ₃ , PM _{2.5} , PM ₁₀
			CRRI	SAFAR/IMD Delhi	NO ₂ , CO, O ₃ , PM _{2.5} , PM ₁₀
			Mathura Road		
			North	SAFAR/IMD Delhi	NO ₂ , CO, O ₃ , PM _{2.5} , PM ₁₀ ,
			Campus		Benzene
			Pusa	SAFAR/IMD Delhi	NO ₂ , CO, O ₃ , PM _{2.5} , PM ₁₀
			Aya Nagar	SAFAR/IMD Delhi	NO ₂ , CO, O ₃ , PM _{2.5} , PM ₁₀
			Lodhi Road	SAFAR/IMD Delhi	NO ₂ , CO, O ₃ , PM _{2.5} , PM ₁₀
			IGI Airport Terminal-3	SAFAR/IMD Delhi	NO ₂ , CO, O ₃ , PM _{2.5} , PM ₁₀

ANNEXURE -III

Delhi-NCR CAAQM Stations

S. No.	States	Cities	No. of stations at each State	Stations	(CPCB/SPCBs)	Parameters Monitored
1.				Sector-62	IMD	PM10, NO2, PM2.5, CO, O3
	Uttar Pradesh	Noida	2	Sector-125	UPPCB	PM10, SO2, NO2, PM2.5, NH3, CO, O3, Benzene
		Ghaziaba d	1	Vasundhara	UPPCB	PM10, SO2, NO2, PM2.5, NH3, CO, O3, Benzene
2.	Harayana	Gurugram	1	VikasSadan	НРРСВ	SO2, NO2, PM2.5, CO, O3, Benzene
		Faridabad	1	Sector-16 A	НРРСВ	SO2, NO2, PM2.5, NH3, CO, O3, Benzene
3.	Rajasthan	Alwar	1	Moti Dungri	RSPCB	PM10, SO2, NO2, PM2.5, NH3, CO, O3, Benzene
		Bhiwadi	1	RICO Industrial Area III	RSPCB	PM10, SO2, NO2, PM2.5, NH3, CO, O3 Benzene