

Assigment_1 Fml

AJAY SHADAM

2023-09-24

#Download the Dataset called “telangana-post-monsoon-ground-water-quality-data” from the source (datasource:<https://www.kaggle.com/datasets/sivapriyagarladinne/telangana-post-monsoon-ground-water-quality-data?resource=download>)

```
#Below function reads the csv file which is donwloaded and loads it into a dataframe -"my_file".
my_file <-read.csv("C:/Users/Ajay Reddy/Downloads/ground_water_quality_2018_post.csv")
#prints out the full dataset.
my_file
```

##	sno	district	mandal	village	lat_gis
## 1	1	ADILABAD	Adilabad	Adilabad	19.66830
## 2	2	ADILABAD	Bazarhatnur	Bazarhatnur	19.45889
## 3	3	ADILABAD	Gudihatnoor	Gudihatnoor	19.52556
## 4	4	ADILABAD	Jainath	Jainath	19.73055
## 5	5	ADILABAD	Narnoor	Narnoor	19.49566
## 6	6	ADILABAD	Neradigonda	Neradigonda	19.29375
## 7	7	ADILABAD	Talamadugu	Talamadugu	19.63340
## 8	8	ADILABAD	Tamsi	Tamsi	19.68110
## 9	9	ADILABAD	Utnoor	Utnoor	19.37890
## 10	10	BHADRADRI	Annapureddypalli	Annapureddypalli	17.35452
## 11	11	BHADRADRI	Ashwapuram	Aswapuram	17.84168
## 12	12	BHADRADRI	Bhadrachalam	Bhadrachalam	17.66678
## 13	13	BHADRADRI	Burgampad	M.Banjara	17.64470
## 14	14	BHADRADRI	Chandrugonda	Ravikampadu	17.39860
## 15	15	BHADRADRI	Dummugudem	Bandirevu	17.92000
## 16	16	BHADRADRI	Gundala	Kanchanapalli	17.79000
## 17	17	BHADRADRI	Julurpadu	P. Narsapuram	17.43817
## 18	18	BHADRADRI	Karakagudem	Karakagudem	18.03466
## 19	19	BHADRADRI	Laxmidevipalli	Laxmidevipalli	17.57300
## 20	20	BHADRADRI	Manuguru	Pagideru	17.97000
## 21	21	BHADRADRI	Palwancha	REGELLA	17.95000
## 22	22	BHADRADRI	Tekulapalli	Bethampudi	17.56000
## 23	23	BHADRADRI	Tekulapalli	Mutyalampadu	17.54000
## 24	24	BHADRADRI	Yellandu	Komararam	17.71000
## 25	25	BHUPALPALLY	Ghanpur Mulug	Chelpur(D)	18.36855
## 26	26	BHUPALPALLY	Kataram	Shankarampally 125(D)	18.60220
## 27	27	BHUPALPALLY	Mahadevpur	Ambatipalli	18.69568
## 28	28	BHUPALPALLY	Regonda	Regonda	18.24000
## 29	29	HYDERABAD	Ameerpet	S.R.Nagar	17.44233
## 30	30	HYDERABAD	Asifnagar	Himayanagar	17.39764
## 31	31	HYDERABAD	Asifnagar	Kulsanapur	17.37400

## 32	32	HYDERABAD	Bandlaguda	Chandraingutta	17.33300
## 33	33	HYDERABAD	Charminar	Darul Shifa	17.38100
## 34	34	HYDERABAD	Maredpally	Maredpally(s)	17.44100
## 35	35	HYDERABAD	Nampally	Nampally	17.38500
## 36	36	HYDERABAD	Saidabad	Juvinile home	17.36100
## 37	37	JAGITYAL	Dharmapuri	Dharmapuri	18.94694
## 38	38	JAGITYAL	Gollapalli	Gollapalli	18.79060
## 39	39	JAGITYAL	Ibrahimpattanam	Ibrahimpattanam	18.89861
## 40	40	JAGITYAL	Jagityal	Jagityal	18.82520
## 41	41	JAGITYAL	Kathalapur	Kathalapur	18.75278
## 42	42	JAGITYAL	Kodimal	Chepial	18.62472
## 43	43	JAGITYAL	Korutla	Korutla	18.81861
## 44	44	JAGITYAL	Mallapur	Mallapur	18.96470
## 45	45	JAGITYAL	Mallial	Nukapalli	18.70940
## 46	46	JAGITYAL	Metpalli	Metpalli	18.84778
## 47	47	JAGITYAL	Pegadapalli	Pegadapalli	18.70639
## 48	48	JAGITYAL	Raikal	Raikal	18.91034
## 49	49	JAGITYAL	Sarangapur	Sarangapur	18.92972
## 50	50	JAGITYAL	Velgatur	Velgatur	18.83530
## 51	51	JANGAON	Bachannapet	Bachannapet	17.79080
## 52	52	JANGAON	Devaruppula	Singarajupalli	17.59190
## 53	53	JANGAON	Jangaon	Jangaon	17.69730
## 54	54	JANGAON	Lingala ghanpur	Lingala ghanpur	17.65910
## 55	55	JANGAON	Palakurthi	Palakurthi	17.66910
## 56	56	JANGAON	Raghunadhapalli	Raghunadhapalli	17.76470
## 57	57	JANGAON	Zafergad	Zafergad	17.76510
## 58	58	JOGULAMBA (GADWAL)	Alampur	Alampur	15.89644
## 59	59	JOGULAMBA (GADWAL)	Dharoor	Dharoor	16.22439
## 60	60	JOGULAMBA (GADWAL)	Dharoor	Neelahally	16.26521
## 61	61	JOGULAMBA (GADWAL)	Gadwal	Gadwal	16.23260
## 62	62	JOGULAMBA (GADWAL)	Gattu	Gattu	16.12870
## 63	63	JOGULAMBA (GADWAL)	Ieeza	Ieeza	16.01518
## 64	64	JOGULAMBA (GADWAL)	K-T Doddi	Kondapur	16.07010
## 65	65	JOGULAMBA (GADWAL)	K-T Doddi	Kuchinerla	16.17900
## 66	66	JOGULAMBA (GADWAL)	Maldakal	Maldakal	16.12967
## 67	67	JOGULAMBA (GADWAL)	Manopad	Manopad	15.96560
## 68	68	JOGULAMBA (GADWAL)	Waddepalli	Santhinagar	15.94000
## 69	69	KAMAREDDY	Bansawada	Bansawada	18.39300
## 70	70	KAMAREDDY	Bhiknoor	Bhiknoor	18.19600
## 71	71	KAMAREDDY	Bhiknoor	P.D.Mallareddy	18.17300
## 72	72	KAMAREDDY	Bibipet	Bibipet	18.20500
## 73	73	KAMAREDDY	BICHKUNDA	Pulkal	18.39900
## 74	74	KAMAREDDY	Domakonda	Domakonda	18.25000
## 75	75	KAMAREDDY	Gandhari	Gandhari	18.39600
## 76	76	KAMAREDDY	Gandhari	Sarvapoore	18.36470
## 77	77	KAMAREDDY	Jukkal	Jukkal	18.36400
## 78	78	KAMAREDDY	Kamareddy	Adloor	18.34380
## 79	79	KAMAREDDY	Kamareddy	Narasannapally	18.26860
## 80	80	KAMAREDDY	Lingampet	Bhavanipet	18.27910
## 81	81	KAMAREDDY	Machareddy	Machareddy	18.32900
## 82	82	KAMAREDDY	Maddur	Menoore	18.48300
## 83	83	KAMAREDDY	Nagireddipet	Malthummeda	18.11400
## 84	84	KAMAREDDY	Nasurullabad	Nasurullabad	18.46800
## 85	85	KAMAREDDY	Nizamsagar	Mohammadnagar	18.29310

## 86	86	KAMAREDDY	Rajampet	Argonda	18.23400
## 87	87	KAMAREDDY	RAMAREDDY	Reddypet	18.40900
## 88	88	KAMAREDDY	Sadasivanagar	Sadasivanagar	18.40600
## 89	89	KAMAREDDY	Tadwai	Yerrapahad	18.29300
## 90	90	KARIMNAGAR	Choppadandi	Rukmapur	18.53340
## 91	91	KARIMNAGAR	Gangadhara	Gangadhara	18.57944
## 92	92	KARIMNAGAR	Huzurabad	Huzurabad	18.18949
## 93	93	KARIMNAGAR	Saidapur	Saidapur	18.21480
## 94	94	KARIMNAGAR	Thimmapur	Alugunur	18.40087
## 95	95	KHAMMAM	Bonakal	Mustikunta	17.04081
## 96	96	KHAMMAM	Kallur	Kallur	17.21000
## 97	97	KHAMMAM	Kamepalli	Kothalingala	17.42945
## 98	98	KHAMMAM	Khammam (R)	M.V.Palem	17.29670
## 99	99	KHAMMAM	Khammam(U)	Khammam I	17.23330
## 100	100	KHAMMAM	Khammam(U)	Khammam-II	17.25250
## 101	101	KHAMMAM	Konijerla	Konijerla	17.22110
## 102	102	KHAMMAM	Kusumanchi	Kusumanchi	17.22080
## 103	103	KHAMMAM	Mudigonda	Mudigonda	17.18750
## 104	104	KHAMMAM	Sathupalli	Prakashnagar	17.19420
## 105	105	KHAMMAM	Thallada	Anjanapuram	17.21470
## 106	106	KHAMMAM	Thirumalayapalem	Bachode	17.29970
## 107	107	KHAMMAM	Thirumalayapalem	Tirumalayapalem	17.31745
## 108	108	KHAMMAM	Vemsur	Vemsur	17.14420
## 109	109	KHAMMAM	Yerrupalem	Banigandlapadu	16.86000
## 110	110	KUMURAM BHEEM	Asifabad	Asifabad	19.35962
## 111	111	KUMURAM BHEEM	Kagaznagar	Kagaznagar	19.35571
## 112	112	KUMURAM BHEEM	Kerameri	Kerameri	19.44400
## 113	113	KUMURAM BHEEM	Kowthala	Kowthala	19.52190
## 114	114	KUMURAM BHEEM	Rebbena	Rebbena II	19.25700
## 115	115	KUMURAM BHEEM	Tiryani	Tiryani	19.17447
## 116	116	MAHABUBABAD	Dhantalapally	Dhantalapally	17.51470
## 117	117	MAHABUBABAD	Dornakal	Mannegudem	17.37411
## 118	118	MAHABUBABAD	Kesamudram	Kesamudram	17.68160
## 119	119	MAHABUBABAD	Koravi	Ayyagaripally	17.50300
## 120	120	MAHABUBABAD	Mahabubabad	Mahabubabad	17.59830
## 121	121	MAHABUBABAD	Marripeda	Marripeda	17.38520
## 122	122	MAHABUBABAD	Nellikudur	Nellikudur	17.58970
## 123	123	MAHABUBABAD	Torrur	Torrur	17.58360
## 124	124	MAHABUBNAGAR	Bhoothpur	Elkicherla	16.62300
## 125	125	MAHABUBNAGAR	CC Kunta	Damagnapur	16.49970
## 126	126	MAHABUBNAGAR	CC Kunta	Kurumurthy	16.44144
## 127	127	MAHABUBNAGAR	CC Kunta	Thirmalapur	16.48271
## 128	128	MAHABUBNAGAR	Devarkadara	Devarakadra	16.60580
## 129	129	MAHABUBNAGAR	Hanwada	Hanwada	16.80838
## 130	130	MAHABUBNAGAR	Jadcherla	Jadcherla	16.77418
## 131	131	MAHABUBNAGAR	Koilkonda	Dammaipally	16.75999
## 132	132	MAHABUBNAGAR	Mahabubnagar (R)	Kodur	16.68000
## 133	133	MAHABUBNAGAR	Mahabubnagar(U)	Yenugonda	16.76129
## 134	134	MAHABUBNAGAR	Midjil	Kothapalli	16.75060
## 135	135	MAHABUBNAGAR	Nawabpet	Nawabpet	16.88800
## 136	136	MANCHERIAL	Bellampally	Bellampally I	19.07203
## 137	137	MANCHERIAL	Chennur	Chennur I	18.85222
## 138	138	MANCHERIAL	Jaipur	Jaipur	18.84428
## 139	139	MANCHERIAL	Mandamarri	Mandamarri	18.97868

## 140 140	MANCHERIAL	Tandur	Tandur	19.15787
## 141 141	MANCHERIAL	Vemanpally	Neelwai	19.04799
## 142 142	MEDAK	Chegunta	Chegunta	17.93410
## 143 143	MEDAK	Havelighanpur	Mutayapally	18.08450
## 144 144	MEDAK	Kulcharam	Rangampet	17.94510
## 145 145	MEDAK	Medak	Medak	18.05280
## 146 146	MEDAK	Narasapur	Narasapur	17.73500
## 147 147	MEDAK	Narasapur	Reddypally	17.78560
## 148 148	MEDAK	Papannapet	Papannapet	18.04217
## 149 149	MEDAK	Regode	T.lingampally	17.94335
## 150 150	MEDAK	Shankarampet	Gavvalapalli	18.05170
## 151 151	MEDAK	Shankarampet R	Shankarampet	17.97100
## 152 152	MEDAK	Shivampet	Shivampet	17.78630
## 153 153	MEDAK	Shivampet	Gudur	17.78170
## 154 154	MEDAK	Shivampet	Usrikapally	17.82110
## 155 155	MEDAK	Tekmal	Tekmal	17.97540
## 156 156	MEDAK	Toopran	Islampur	17.87720
## 157 157	MEDAK	Toopran	Toopran	17.84130
## 158 158	MEDAK	Yeldurthy	Edulapally	17.96720
## 159 159	MEDAK	Yeldurthy	Kukunoor	17.91460
## 160 160	MEDAK	Yeldurthy	Ramayapally	17.94530
## 161 161	MEDCHAL	Alwal	Old Alwal	17.49400
## 162 162	MEDCHAL	Balanagar	Balanagar 1	17.47000
## 163 163	MEDCHAL	Kukatpally	Kaithalapur	17.47000
## 164 164	MEDCHAL	Kukatpally	Kukatpally 1	17.48100
## 165 165	MEDCHAL	Malkajgiri	Malkajgiri	17.44900
## 166 166	MEDCHAL	Qutubullapur	Gajularamaram 2	17.53000
## 167 168	MEDCHAL	Qutubullapur	Qutubullapur 2	17.50000
## 168 170	MULUGU	Eturu Nagaram	Eturu Nagaram (D)	18.35965
## 169 171	MULUGU	Eturu Nagaram	Eturu Nagaram (S)	18.33740
## 170 172	MULUGU	Govindaraopet	Pasra	18.20744
## 171 173	MULUGU	Govindaraopet	Project Nagar	18.26160
## 172 174	NAGARKURNOOL	Amarabad	Domalapenta	16.21158
## 173 175	NAGARKURNOOL	Balmur	Balmur	16.33113
## 174 176	NAGARKURNOOL	Bijinepalli	Bijinepalli	16.53528
## 175 177	NAGARKURNOOL	Kalwakuthy	Kalwakuthy	16.66700
## 176 178	NAGARKURNOOL	Kodair	Kodair	16.26962
## 177 179	NAGARKURNOOL	Kollapur	Kollapur	16.10700
## 178 180	NAGARKURNOOL	Lingal	Ambatipally	16.27700
## 179 181	NAGARKURNOOL	Nagarkurnool	Nagarkurnool	16.49174
## 180 182	NAGARKURNOOL	Telkapally	Telkapally	16.43509
## 181 183	NAGARKURNOOL	Thimmajipet	Gummakonda	16.62240
## 182 184	NAGARKURNOOL	Uppununuthala	Uppununthala	16.45002
## 183 185	NAGARKURNOOL	Veldanda	Veldanda	16.73106
## 184 186	NALGONDA	Advidevulapally	Ulsaipalem	16.70682
## 185 187	NALGONDA	Anumula	Anumula	16.79879
## 186 188	NALGONDA	Anumula	Chintagudem	16.83309
## 187 189	NALGONDA	Anumula	Rajavaram	16.68016
## 188 190	NALGONDA	Anumula	Sreerampur	16.72911
## 189 191	NALGONDA	Chandampet	Chandampet	16.57848
## 190 192	NALGONDA	Chandur	Angadipet	16.98408
## 191 193	NALGONDA	Chandur	Bangarigadda	16.98467
## 192 194	NALGONDA	Chandur	Chandur	16.96810
## 193 195	NALGONDA	Chandur	Sirdepally	17.01489

## 194 196	NALGONDA	Chityala	Veliminedu 17.22892
## 195 197	NALGONDA	Devarakonda	Padamtipally 16.67664
## 196 198	NALGONDA	Devarakonda	Tatikole 16.62523
## 197 199	NALGONDA	Gundlapally	Vavikole 16.67579
## 198 200	NALGONDA	Gurrapode	Gurrapode 16.85171
## 199 201	NALGONDA	Gurrapode	Koppole 16.91462
## 200 202	NALGONDA	K.Mallepally	K.Mallepally 16.72939
## 201 203	NALGONDA	kanagala	kanagala 16.93734
## 202 204	NALGONDA	Kattangur	Cheruvu Annaram 17.19865
## 203 205	NALGONDA	Kattangur	Kattangur 17.16189
## 204 206	NALGONDA	Marriguda	Marriguda 16.93992
## 205 207	NALGONDA	Munugode	Kistapur 17.15625
## 206 208	NALGONDA	Munugode	Kompalli 17.09931
## 207 209	NALGONDA	Nakrekal	Arlagaddagudam 17.13911
## 208 210	NALGONDA	Nakrekal	Nakrekal 17.15934
## 209 211	NALGONDA	Nakrekal	Vallabhapur 17.23895
## 210 212	NALGONDA	Nalgonda	Mushampally 16.97492
## 211 213	NALGONDA	Nalgonda	S L B C G V guda 17.06018
## 212 214	NALGONDA	Nalgonda	Seetarampuram 17.11031
## 213 215	NALGONDA	Narketpalli	Akkenepally 17.29008
## 214 216	NALGONDA	Narketpalli	Narketpalli 17.20025
## 215 217	NALGONDA	Nidamanuru	Nidamanur 16.84000
## 216 218	NALGONDA	P.A Pally	Angadipet 16.71655
## 217 219	NALGONDA	Peddavoor	Velmaguda 16.77852
## 218 220	NALGONDA	Shaligowraram	P.Kondaram 17.24944
## 219 221	NALGONDA	Thipparthy	Thipparthi 17.01375
## 220 222	NALGONDA	Thipparthy	Mamidala 17.06521
## 221 224	NARAYANPET	Kosigi	Kosigi 16.98463
## 222 225	NARAYANPET	Maddur	Maddur 16.85700
## 223 226	NARAYANPET	Makthal	Makthal 16.50052
## 224 227	NARAYANPET	Marikal	Marikal 16.59204
## 225 228	NARAYANPET	Narayanpet	Kollampally 16.66794
## 226 229	NARAYANPET	Narayanpet	Kotakonda 16.75400
## 227 230	NARAYANPET	Narayanpet	Narayanapet 16.74230
## 228 231	NARAYANPET	Narva	Narva 16.47060
## 229 232	NARAYANPET	Utkoor	Utkoor 16.64070
## 230 233	NARAYANPET	Utkoor	Chinnaporla 16.58122
## 231 234	NIRMAL	Kadam	Kadam 19.09661
## 232 235	NIRMAL	Khanapur	Khanapur 19.04709
## 233 236	NIRMAL	Kubeer	Kubeer 19.24950
## 234 237	NIRMAL	Kuntala	Kuntala 19.16930
## 235 238	NIRMAL	Laxmanchanda	Laxmanchanda 19.01705
## 236 239	NIRMAL	Lokeswaram	Abdullapur 18.97030
## 237 240	NIRMAL	Lokeswaram	Lokeswaram 19.02450
## 238 241	NIRMAL	Mamada	Mamada 19.07797
## 239 242	NIRMAL	Nirmal	Nirmal 19.09242
## 240 243	NIRMAL	Sarangapur	Beeravelly 19.13964
## 241 244	NIRMAL	Tanur	Bhosi 19.10933
## 242 245	NIZAMABAD	Armoor	perkit 18.80800
## 243 246	NIZAMABAD	Bheemgal	Bheemgal 18.71500
## 244 247	NIZAMABAD	Bodhan	Bodhan 18.67050
## 245 248	NIZAMABAD	Darpally	Ramadugu 18.61300
## 246 249	NIZAMABAD	Dichpally	Yanampally 18.62700
## 247 250	NIZAMABAD	Indalwai	Gannaram 18.51250

## 248 251	NIZAMABAD	Jakrampally	Jakrampally	18.70720
## 249 252	NIZAMABAD	Kammarapalli	Inayathnagar	18.70868
## 250 253	NIZAMABAD	Kotagiri	Kallur	18.51596
## 251 254	NIZAMABAD	Morthad	Morthad	18.82600
## 252 255	NIZAMABAD	Mugpal	Manchippa	18.53900
## 253 256	NIZAMABAD	Mupkal	Mupkal	18.91300
## 254 257	NIZAMABAD	Nandipet	Ailapoor	18.85300
## 255 258	NIZAMABAD	Nandipet	Nutpally	18.93650
## 256 259	NIZAMABAD	Nandipet	Velmal	18.83100
## 257 260	NIZAMABAD	Nizamabad	Arsapally	18.68534
## 258 261	NIZAMABAD	Renjal	Dupally	18.73300
## 259 262	NIZAMABAD	Rudrur	Rayakur	18.61020
## 260 263	NIZAMABAD	Sirikonda	Peddavolgote	18.60400
## 261 264	NIZAMABAD	Vailpoor	Ankushpur	18.81100
## 262 265	NIZAMABAD	Vailpoor	Vailpoor	18.77300
## 263 266	NIZAMABAD	Varni	Varni	18.54300
## 264 267	NIZAMABAD	Yedapalli	Yedapalli	18.67800
## 265 268	PEDDAPALLY	Dharmaram	Dharmaram	18.74530
## 266 269	PEDDAPALLY	Eligedu	Eligedu	18.55216
## 267 270	PEDDAPALLY	Julapalli	Julapalli	18.62050
## 268 271	PEDDAPALLY	Odella	Odella	18.45280
## 269 272	PEDDAPALLY	Peddapalli	Peddapalli	18.60170
## 270 273	RANGAREDDY	Chevella	Alur	17.32400
## 271 274	RANGAREDDY	Amangal	Amangal	16.84420
## 272 275	RANGAREDDY	Chevella	Dharmasagar	17.33600
## 273 276	RANGAREDDY	Serilingampally	Gachibowli	17.43000
## 274 277	RANGAREDDY	Kandukur	Kandukur	17.08000
## 275 278	RANGAREDDY	Keshampet	Keshampet	16.94394
## 276 279	RANGAREDDY	Kothur	Kothur	17.15870
## 277 280	RANGAREDDY	Madgula	Madgula	16.84333
## 278 281	RANGAREDDY	Maheswaram	Maheswaram	17.13500
## 279 282	RANGAREDDY	Manchal	Manchal	17.16000
## 280 283	RANGAREDDY	Ibrahimpattanam	Mangalpally	17.22000
## 281 284	RANGAREDDY	Moinabad	Moinabad	17.33000
## 282 285	RANGAREDDY	Shamshabad	Palmokole	17.20400
## 283 286	RANGAREDDY	Rajender Nagar	Rajender Nagar	17.31600
## 284 287	RANGAREDDY	Farooqnagar	Shadnagar	17.06319
## 285 288	RANGAREDDY	Shahbad	Shahbad	17.20200
## 286 289	RANGAREDDY	Shankarpalli	Shankarpalli	17.45300
## 287 290	RANGAREDDY	Talakondapalli	Talakondapalli	16.89000
## 288 291	RANGAREDDY	Yacharam	Yacharam	17.05000
## 289 292	SANGAREDDY	Andole	Jogipet	17.83581
## 290 293	SANGAREDDY	Gummadiddla	Gummadiddla	17.68490
## 291 294	SANGAREDDY	Hathnoora	Borapatla	17.67130
## 292 295	SANGAREDDY	Hathnoora	Nasthipur	17.70470
## 293 296	SANGAREDDY	Jinnaram	Ootla	17.63090
## 294 297	SANGAREDDY	Kalher	Bachapally	18.13860
## 295 298	SANGAREDDY	Kalher	Meerkhanpally	18.12370
## 296 299	SANGAREDDY	Kandi	Byathole	17.61110
## 297 300	SANGAREDDY	Patancheru	Isnapur	17.55190
## 298 301	SANGAREDDY	Patancheru	Patancheruvu	17.52583
## 299 302	SANGAREDDY	R.C.Puram	R.C.Puram	17.50910
## 300 303	SIDDIPET	Gajwel	Gajwel	17.84470
## 301 304	SIDDIPET	Jagdevpur	Munigadapa	17.81330

## 302 305	SIDDIPET	Mirdoddi	Bhoompalli	18.12080
## 303 306	SIDDIPET	Mulugu	Mulugu	17.72140
## 304 307	SIDDIPET	Nanganur	Rampur	18.08880
## 305 308	SIDDIPET	Raipole	Raipole	17.92560
## 306 309	SIDDIPET	Siddipet	Siddipet	18.10330
## 307 310	SIDDIPET	Wargal	Majidpalli	17.82330
## 308 311	SIRCILLA	Gambhiraopet	Narmal	18.28373
## 309 312	SIRCILLA	Illanthakunta	Illanthukunta	18.31194
## 310 313	SIRCILLA	Konaraopet	Nizamabad	18.47030
## 311 314	SIRCILLA	Sircilla	Sircilla(urban)	18.35555
## 312 315	SIRCILLA	Vemulawada	Vemulawada(rural)	18.48642
## 313 316	SIRCILLA	Yellareddipet	Racherla Boppasapur	18.37720
## 314 317	SURYAPET	Arvapally	Kodur	17.31655
## 315 318	SURYAPET	Arvapally	Nagaram	17.38669
## 316 319	SURYAPET	Chivemla	B. Chandupatla	17.14175
## 317 320	SURYAPET	Mattampalle	Raghunadhapalem	16.75354
## 318 321	SURYAPET	Mellacheruvu	Mellacheruvu	16.83738
## 319 322	SURYAPET	Nuthankal	Nuthankal	17.33383
## 320 323	SURYAPET	Thungathurthi	Thungathurthi	17.39874
## 321 324	VIKARABAD	Bantwaram	Bantwaram	17.44500
## 322 325	VIKARABAD	Basheerabad	Basheerabad	17.21100
## 323 326	VIKARABAD	Bomraspet	Bomraspet	17.16400
## 324 327	VIKARABAD	Dharoor	Dharoor	17.30300
## 325 328	VIKARABAD	Doma	Doma	17.08800
## 326 329	VIKARABAD	Doulathabad	Doulathabad	16.99830
## 327 330	VIKARABAD	Kodangal	Kodangal	17.09920
## 328 331	VIKARABAD	Kodangal	Rudraram (S)	17.13300
## 329 332	VIKARABAD	Marpalli	Marpalli	17.52900
## 330 333	VIKARABAD	Nawabpet	Vattinenipally(s)	17.44500
## 331 334	VIKARABAD	Parigi	Parigi	17.18000
## 332 335	VIKARABAD	Peddumul	Peddumul	17.33000
## 333 336	VIKARABAD	Pudur	Pudur	17.26400
## 334 337	VIKARABAD	Tandur	Tandur	17.25100
## 335 338	VIKARABAD	Vikarabad	Vikarabad(S)	17.32100
## 336 339	VIKARABAD	Yalal	Yalal	17.20000
## 337 340	WANAPARTHY	Atmakuru	Atmakuru	16.33700
## 338 341	WANAPARTHY	Ghanapur	Ghanapur	16.56306
## 339 342	WANAPARTHY	Gopalpet	Gopalpet	16.37860
## 340 343	WANAPARTHY	Kothakota	Kanaipally	16.38826
## 341 344	WANAPARTHY	Pangal	Pangal	16.24721
## 342 345	WANAPARTHY	Pebbair	Ayyavaripalli	16.11560
## 343 346	WANAPARTHY	Peddamandadi	Peddamandadi	16.43060
## 344 347	WARANGAL (R)	Atmakur	Atmakur	18.06860
## 345 348	WARANGAL (R)	Chennaraopet	Chennaraopet	17.88300
## 346 349	WARANGAL (R)	Duggondi	Duggondi	18.01940
## 347 350	WARANGAL (R)	Khanapur	Khanapur	17.89880
## 348 351	WARANGAL (R)	Narasampet	Narasampet	17.92270
## 349 352	WARANGAL (R)	Nekkonda	Ameenpet	17.80810
## 350 353	WARANGAL (R)	Parkal	Parkal	18.20160
## 351 354	WARANGAL (R)	Parvathagiri	Parvathagiri	17.74447
## 352 355	WARANGAL (R)	Rayaparthi	Rayaparthi	17.69420
## 353 356	WARANGAL (R)	Sangem	Sangem	17.88440
## 354 357	WARANGAL (R)	Wardhannapet	Wardhannapet	17.77300
## 355 358	WARANGAL (U)	Bheemadevarapally	Vangara	18.13389

##	356	359	WARANGAL (U)	Dharmasagar	Narayanagiri	17.99050					
##	357	360	WARANGAL (U)	Hanamkonda	Hanumkonda	18.00080					
##	358	361	WARANGAL (U)	Hanamkonda	Mamnoor	17.90690					
##	359	362	WARANGAL (U)	Hasanparthi	Seethampet	18.07760					
##	360	363	WARANGAL (U)	Kamalapur	Shanigaram	18.18408					
##	361	364	WARANGAL (U)	warangal	Charbowli	17.98190					
##	362	365	YADADRI	Alair	Kolanpaka	17.69706					
##	363	366	YADADRI	B.Pochampalli	B.Pochampalli	17.33620					
##	364	368	YADADRI	Choutuppal	D.Malkapur	17.25826					
##	365	369	YADADRI	Mothukur	Kanchanapalli	17.40375					
##	366	370	YADADRI	Rajapet	Bondugala	17.76831					
##	367	372	YADADRI	Rajapet	Rajapet	17.72943					
##	368	373	YADADRI	Rajapet	Somaram	17.72567					
##	369	374	YADADRI	Ramannapet	Ramanapet	17.28312					
##	370	375	YADADRI	S.Narayanpur	S.Narayanpur	17.14472					
##	371	376	YADADRI	Thurkapally	Gandamalla	17.73310					
##	372	377	YADADRI	Valigonda	T. somaram	17.39995					
##	373	378	YADADRI	Valigonda	Vemulakonda	17.34778					
##	374	379	YADADRI	Y.Gutta	Mallapuram	17.63356					
##		long_gis	gwl	season	pH	E.C	TDS	C03	HC03	Cl	
##	1	78.52470	5.090	postmonsoon	2018	8.28	745	476.80	0	220.00000	60
##	2	78.35083	5.100	postmonsoon	2018	8.29	921	589.44	0	230.00000	80
##	3	78.51222	4.980	postmonsoon	2018	7.69	510	326.40	0	200.00000	30
##	4	78.64000	5.750	postmonsoon	2018	8.09	422	270.08	0	160.00000	10
##	5	78.85265	2.150	postmonsoon	2018	8.21	2321	1485.44	0	300.00000	340
##	6	78.41216	8.800	postmonsoon	2018	8.29	1030	659.20	0	340.00000	60
##	7	78.39690	3.950	postmonsoon	2018	7.62	2129	1362.56	0	340.00000	330
##	8	78.42680	3.700	postmonsoon	2018	8.31	982	628.48	30	210.00000	40
##	9	78.76850	3.120	postmonsoon	2018	8.22	2420	1548.80	0	420.00000	290
##	10	80.82610	15.600	postmonsoon	2018	8.05	250	160.00	0	57.63929	30
##	11	80.80924	5.590	postmonsoon	2018	7.97	1840	1177.60	0	207.87190	380
##	12	80.90092	5.360	postmonsoon	2018	7.93	1550	992.00	0	547.19566	140
##	13	80.79110	6.020	postmonsoon	2018	8.50	1390	889.60	60	299.95043	170
##	14	80.61060	11.750	postmonsoon	2018	8.00	2520	1612.80	0	240.98180	280
##	15	80.92000	2.680	postmonsoon	2018	8.66	869	556.16	40	249.53121	90
##	16	80.42000	1.600	postmonsoon	2018	8.24	782	500.48	0	114.24358	60
##	17	80.52032	16.220	postmonsoon	2018	8.63	2880	1843.20	60	500.12778	480
##	18	80.56815	2.580	postmonsoon	2018	7.18	490	313.60	0	177.45794	40
##	19	80.61900	4.340	postmonsoon	2018	7.84	1010	646.40	0	248.26828	110
##	20	80.73000	3.590	postmonsoon	2018	8.93	460	294.40	40	142.34078	30
##	21	80.58000	4.220	postmonsoon	2018	7.79	1081	691.84	0	153.53630	160
##	22	80.45000	2.750	postmonsoon	2018	8.02	2080	1331.20	0	208.13906	360
##	23	80.50000	5.380	postmonsoon	2018	8.57	1290	825.60	40	352.84903	130
##	24	80.32000	4.360	postmonsoon	2018	8.84	991	634.24	60	242.06566	110
##	25	79.85350	4.530	postmonsoon	2018	8.02	421	269.44	0	110.00000	20
##	26	79.89830	20.820	postmonsoon	2018	7.71	404	258.56	0	110.00000	40
##	27	80.06186	21.570	postmonsoon	2018	8.10	368	235.52	0	110.00000	30
##	28	79.77750	8.770	postmonsoon	2018	7.94	1452	929.28	0	260.00000	190
##	29	78.44392	17.950	postmonsoon	2018	7.07	819	524.16	0	274.99906	60
##	30	78.44525	4.830	postmonsoon	2018	7.17	1149	735.36	0	215.67131	220
##	31	78.43700	6.180	postmonsoon	2018	7.26	1194	764.16	0	366.72923	110
##	32	78.48400	9.780	postmonsoon	2018	7.05	1445	924.80	0	398.69329	170
##	33	78.48500	5.650	postmonsoon	2018	7.58	779	498.56	0	275.09787	60
##	34	78.50900	NA	postmonsoon	2018	6.96	1379	882.56	0	316.49273	160

## 35	78.47400	2.410	postmonsoon	2018	8.38	1231	787.84	40	346.33074	120
## 36	78.50800	4.430	postmonsoon	2018	7.48	839	536.96	0	227.68716	90
## 37	79.10194	5.320	postmonsoon	2018	8.20	2227	1425.28	0	140.00000	520
## 38	79.05220	4.440	postmonsoon	2018	8.27	776	496.64	0	100.00000	150
## 39	78.57944	3.210	postmonsoon	2018	7.97	1140	729.60	0	190.00000	110
## 40	78.84610	9.190	postmonsoon	2018	7.99	624	399.36	0	100.00000	100
## 41	78.68972	7.570	postmonsoon	2018	7.92	1027	657.28	0	180.00000	140
## 42	78.93583	10.350	postmonsoon	2018	8.07	564	360.96	0	140.00000	50
## 43	78.70639	6.080	postmonsoon	2018	8.21	1083	693.12	0	190.00000	170
## 44	78.70640	6.420	postmonsoon	2018	8.19	973	622.72	0	200.00000	100
## 45	78.92220	8.530	postmonsoon	2018	8.33	1458	933.12	80	380.00000	240
## 46	78.62055	13.530	postmonsoon	2018	8.12	1234	789.76	0	310.00000	140
## 47	79.06444	3.470	postmonsoon	2018	8.17	1265	809.60	0	310.00000	120
## 48	78.80285	2.700	postmonsoon	2018	7.97	742	474.88	0	90.00000	120
## 49	78.95806	4.550	postmonsoon	2018	8.17	1087	695.68	0	140.00000	150
## 50	79.16970	3.950	postmonsoon	2018	8.34	1057	676.48	50	200.00000	150
## 51	79.04220	15.180	postmonsoon	2018	8.34	550	352.00	30	160.00000	30
## 52	79.27380	10.950	postmonsoon	2018	8.07	1664	1064.96	0	230.00000	230
## 53	79.14740	8.020	postmonsoon	2018	8.27	923	590.72	0	210.00000	110
## 54	79.19970	10.150	postmonsoon	2018	8.45	1053	673.92	50	220.00000	110
## 55	79.42250	17.950	postmonsoon	2018	8.23	307	196.48	0	130.00000	20
## 56	79.26360	34.850	postmonsoon	2018	8.33	1280	819.20	30	270.00000	150
## 57	79.48700	12.060	postmonsoon	2018	8.14	1857	1188.48	0	260.00000	340
## 58	78.12110	3.090	postmonsoon	2018	8.52	3290	2105.60	40	430.79776	720
## 59	77.67891	24.010	postmonsoon	2018	7.98	2000	1280.00	0	356.36039	340
## 60	77.64179	21.170	postmonsoon	2018	7.72	2120	1356.80	0	382.93698	390
## 61	77.80210	4.580	postmonsoon	2018	7.69	2890	1849.60	0	414.94298	600
## 62	77.57570	4.880	postmonsoon	2018	8.30	1304	834.56	20	275.96536	190
## 63	77.67161	21.050	postmonsoon	2018	8.40	2780	1779.20	40	664.14730	370
## 64	77.83150	4.230	postmonsoon	2018	7.92	1266	810.24	0	193.93432	180
## 65	77.52600	9.090	postmonsoon	2018	7.98	583	373.12	0	198.36715	30
## 66	77.68760	3.500	postmonsoon	2018	7.91	1649	1055.36	0	300.53759	260
## 67	77.95330	13.950	postmonsoon	2018	7.81	3380	2163.20	0	575.98464	570
## 68	77.83900	6.650	postmonsoon	2018	8.24	3260	2086.40	0	553.23781	550
## 69	77.87900	4.500	postmonsoon	2018	8.21	1685	1078.40	0	489.76142	80
## 70	78.39900	22.390	postmonsoon	2018	8.04	1509	965.76	0	368.42925	200
## 71	78.45300	32.110	postmonsoon	2018	7.48	923	590.72	0	300.81011	50
## 72	78.52300	30.830	postmonsoon	2018	7.31	1059	677.76	0	235.11723	150
## 73	77.76700	5.320	postmonsoon	2018	7.23	1305	835.20	0	249.04756	220
## 74	78.43600	30.320	postmonsoon	2018	7.64	1185	758.40	0	272.89507	170
## 75	78.10700	19.820	postmonsoon	2018	7.85	980	627.20	0	391.44178	50
## 76	77.98510	14.830	postmonsoon	2018	7.79	985	630.40	0	333.39753	70
## 77	77.60400	7.420	postmonsoon	2018	7.32	3590	2297.60	0	552.00014	720
## 78	78.34350	22.150	postmonsoon	2018	7.80	624	399.36	0	189.91007	60
## 79	78.36170	23.750	postmonsoon	2018	7.52	935	598.40	0	306.55458	80
## 80	78.05800	7.630	postmonsoon	2018	7.45	1218	779.52	0	380.20962	100
## 81	78.49300	12.740	postmonsoon	2018	7.20	522	334.08	0	205.32096	30
## 82	77.65200	12.760	postmonsoon	2018	7.81	684	437.76	0	231.73199	40
## 83	78.14200	18.650	postmonsoon	2018	7.32	940	601.60	0	328.95071	80
## 84	77.87300	2.490	postmonsoon	2018	7.32	881	563.84	0	353.18896	40
## 85	77.90866	2.820	postmonsoon	2018	7.45	639	408.96	0	225.49797	50
## 86	78.27200	14.450	postmonsoon	2018	7.69	685	438.40	0	293.49326	20
## 87	78.41700	15.300	postmonsoon	2018	7.32	959	613.76	0	300.53141	100
## 88	78.26400	7.890	postmonsoon	2018	7.35	600	384.00	0	171.84704	60

## 89	78.22300	3.320	postmonsoon	2018	8.02	1020	652.80	0	254.90796	100
## 90	79.14610	12.280	postmonsoon	2018	8.16	443	283.52	0	160.00000	20
## 91	79.00889	14.900	postmonsoon	2018	8.25	722	462.08	0	220.00000	70
## 92	79.40757	6.880	postmonsoon	2018	8.07	666	426.24	0	180.00000	50
## 93	79.30517	11.680	postmonsoon	2018	8.24	872	558.08	0	170.00000	80
## 94	79.15123	5.810	postmonsoon	2018	8.27	352	225.28	0	120.00000	20
## 95	80.22314	1.380	postmonsoon	2018	7.25	2430	1555.20	0	416.51278	400
## 96	80.54670	2.600	postmonsoon	2018	8.25	1014	648.96	0	162.14750	190
## 97	80.23780	5.630	postmonsoon	2018	8.40	940	601.60	40	171.86907	120
## 98	80.09690	2.850	postmonsoon	2018	7.43	2530	1619.20	0	474.27309	380
## 99	80.13330	1.050	postmonsoon	2018	7.80	1092	698.88	0	405.23684	80
## 100	80.14360	2.010	postmonsoon	2018	8.17	1435	918.40	0	420.24765	150
## 101	80.29080	2.120	postmonsoon	2018	7.75	1100	704.00	0	293.93296	130
## 102	79.95830	7.900	postmonsoon	2018	7.69	1030	659.20	0	231.75320	130
## 103	80.09860	1.650	postmonsoon	2018	7.97	1055	675.20	0	287.28573	90
## 104	80.89420	38.250	postmonsoon	2018	7.84	695	444.80	0	211.72105	70
## 105	80.46250	5.610	postmonsoon	2018	7.86	1705	1091.20	0	470.81989	220
## 106	79.90060	3.850	postmonsoon	2018	7.70	1725	1104.00	0	517.06869	190
## 107	80.05090	2.550	postmonsoon	2018	7.75	1412	903.68	0	232.70868	160
## 108	80.80500	2.750	postmonsoon	2018	8.22	922	590.08	0	174.42415	130
## 109	80.48000	16.100	postmonsoon	2018	7.75	967	618.88	0	388.26183	20
## 110	79.28606	20.300	postmonsoon	2018	7.98	1285	822.40	0	420.00000	70
## 111	79.49700	4.200	postmonsoon	2018	8.02	612	391.68	0	160.00000	40
## 112	79.05625	9.580	postmonsoon	2018	7.48	702	449.28	0	230.00000	40
## 113	79.73240	4.480	postmonsoon	2018	7.62	549	351.36	0	200.00000	30
## 114	79.41597	6.200	postmonsoon	2018	7.48	679	434.56	0	240.00000	40
## 115	79.27225	8.850	postmonsoon	2018	7.68	674	431.36	0	290.00000	30
## 116	79.73470	4.300	postmonsoon	2018	8.28	1846	1181.44	0	280.00000	260
## 117	80.04388	5.730	postmonsoon	2018	8.31	1296	829.44	60	510.00000	30
## 118	79.90690	5.800	postmonsoon	2018	8.26	1135	726.40	0	300.00000	70
## 119	79.98860	3.590	postmonsoon	2018	8.35	1212	775.68	60	230.00000	90
## 120	80.00110	5.100	postmonsoon	2018	8.33	1096	701.44	30	200.00000	50
## 121	79.89410	6.700	postmonsoon	2018	8.12	1896	1213.44	0	310.00000	260
## 122	79.75970	6.690	postmonsoon	2018	8.15	212	135.68	0	30.00000	20
## 123	79.66110	8.190	postmonsoon	2018	7.98	1774	1135.36	0	280.00000	260
## 124	78.11600	19.590	postmonsoon	2018	8.16	398	254.72	0	112.40088	50
## 125	77.75540	5.080	postmonsoon	2018	8.39	637	407.68	60	173.50350	50
## 126	77.81676	23.240	postmonsoon	2018	8.45	711	455.04	80	106.47677	100
## 127	77.82427	6.780	postmonsoon	2018	8.34	517	330.88	40	143.32294	40
## 128	77.83284	11.440	postmonsoon	2018	8.30	1941	1242.24	0	544.41608	250
## 129	77.89725	20.490	postmonsoon	2018	8.10	1546	989.44	0	196.31529	270
## 130	78.12240	22.350	postmonsoon	2018	7.79	1669	1068.16	0	185.20071	350
## 131	77.89946	14.050	postmonsoon	2018	7.84	1473	942.72	0	232.74656	280
## 132	77.92400	19.630	postmonsoon	2018	8.33	1211	775.04	20	264.81131	190
## 133	78.02098	18.130	postmonsoon	2018	7.98	1856	1187.84	0	312.02166	350
## 134	78.23150	15.340	postmonsoon	2018	8.00	1974	1263.36	0	366.62213	350
## 135	78.02390	11.070	postmonsoon	2018	8.06	1667	1066.88	0	186.19126	330
## 136	79.50311	15.240	postmonsoon	2018	7.49	758	485.12	0	220.00000	70
## 137	79.78022	6.660	postmonsoon	2018	7.64	678	433.92	0	220.00000	80
## 138	79.57997	2.970	postmonsoon	2018	8.43	2783	1781.12	50	320.00000	540
## 139	79.47785	3.680	postmonsoon	2018	7.72	1255	803.20	0	170.00000	170
## 140	79.45625	14.470	postmonsoon	2018	7.70	528	337.92	0	170.00000	60
## 141	79.81505	0.780	postmonsoon	2018	7.58	689	440.96	0	220.00000	60
## 142	78.51860	26.120	postmonsoon	2018	7.79	802	513.28	0	337.01024	30

## 143	78.21890	16.790	postmonsoon	2018	7.75	841	538.24	0	258.20097	90
## 144	78.11760	41.700	postmonsoon	2018	7.74	1090	697.60	0	356.79685	110
## 145	78.27080	16.450	postmonsoon	2018	8.05	804	514.56	0	188.18677	130
## 146	78.28190	19.830	postmonsoon	2018	7.92	1450	928.00	0	218.92109	280
## 147	78.26330	18.840	postmonsoon	2018	7.40	2070	1324.80	0	309.14611	400
## 148	78.08535	21.280	postmonsoon	2018	7.75	1350	864.00	0	438.51630	130
## 149	77.82796	11.460	postmonsoon	2018	7.80	870	556.80	0	147.04448	170
## 150	77.91720	13.470	postmonsoon	2018	8.20	830	531.20	0	166.42741	150
## 151	78.37200	19.960	postmonsoon	2018	7.43	2830	1811.20	0	337.67671	590
## 152	78.37000	19.850	postmonsoon	2018	7.51	2110	1350.40	0	212.42272	480
## 153	78.36740	25.010	postmonsoon	2018	7.67	1721	1101.44	0	209.01570	320
## 154	78.39490	23.600	postmonsoon	2018	8.16	714	456.96	0	266.61175	40
## 155	78.03040	30.590	postmonsoon	2018	8.16	1310	838.40	0	264.99329	170
## 156	78.47460	37.300	postmonsoon	2018	7.98	350	224.00	0	113.62739	30
## 157	78.47750	9.660	postmonsoon	2018	7.45	2920	1868.80	0	172.16960	770
## 158	78.34920	22.530	postmonsoon	2018	8.23	382	244.48	0	136.13405	30
## 159	78.32080	4.750	postmonsoon	2018	7.62	710	454.40	0	194.74803	80
## 160	78.32130	12.830	postmonsoon	2018	8.24	381	243.84	0	121.89580	40
## 161	78.50800	9.360	postmonsoon	2018	7.29	870	556.80	0	340.32660	50
## 162	78.45000	8.970	postmonsoon	2018	8.30	1085	694.40	0	337.90002	120
## 163	78.40000	4.840	postmonsoon	2018	7.49	2250	1440.00	0	388.55446	460
## 164	78.39700	22.010	postmonsoon	2018	8.14	412	263.68	0	153.60310	30
## 165	78.53500	19.460	postmonsoon	2018	7.47	1668	1067.52	0	342.72672	240
## 166	78.42000	9.790	postmonsoon	2018	7.17	1051	672.64	0	390.10017	50
## 167	78.46000	31.130	postmonsoon	2018	7.82	1411	903.04	0	376.34782	200
## 168	80.44002	13.020	postmonsoon	2018	8.36	240	153.60	30	40.00000	20
## 169	80.42320	13.150	postmonsoon	2018	8.16	340	217.60	0	120.00000	30
## 170	80.17152	2.620	postmonsoon	2018	7.81	1612	1031.68	0	380.00000	250
## 171	80.19440	3.590	postmonsoon	2018	8.08	1569	1004.16	0	520.00000	110
## 172	78.87839	6.060	postmonsoon	2018	7.20	1059	677.76	0	212.08152	150
## 173	78.56638	23.380	postmonsoon	2018	7.49	1574	1007.36	0	409.67349	210
## 174	78.19642	22.760	postmonsoon	2018	7.03	1986	1271.04	0	399.61034	320
## 175	78.48800	31.750	postmonsoon	2018	7.58	2060	1318.40	0	354.84084	330
## 176	78.27434	2.650	postmonsoon	2018	7.26	1475	944.00	0	486.83475	130
## 177	78.30600	1.730	postmonsoon	2018	7.29	2742	1754.88	0	417.36750	600
## 178	78.44600	4.530	postmonsoon	2018	7.82	1299	831.36	0	401.15076	130
## 179	78.30262	25.000	postmonsoon	2018	7.34	1592	1018.88	0	341.37904	240
## 180	78.44031	3.300	postmonsoon	2018	7.34	2870	1836.80	0	581.62538	420
## 181	78.19000	15.550	postmonsoon	2018	7.50	1169	748.16	0	367.24321	80
## 182	78.59133	9.840	postmonsoon	2018	7.30	1287	823.68	0	345.43259	150
## 183	78.52110	29.720	postmonsoon	2018	7.18	3730	2387.20	0	390.83832	620
## 184	79.49970	0.570	postmonsoon	2018	8.09	1012	647.68	0	282.81939	130
## 185	79.28955	16.410	postmonsoon	2018	8.88	1705	1091.20	60	617.50040	20
## 186	79.29209	3.470	postmonsoon	2018	8.25	430	275.20	0	143.23414	40
## 187	79.40751	7.840	postmonsoon	2018	7.75	1764	1128.96	0	301.69276	310
## 188	79.30464	5.350	postmonsoon	2018	8.15	1409	901.76	0	343.21496	200
## 189	78.88836	12.090	postmonsoon	2018	7.19	1830	1171.20	0	383.05999	320
## 190	79.01842	13.840	postmonsoon	2018	9.00	2530	1619.20	60	483.24371	310
## 191	79.01136	14.245	postmonsoon	2018	8.33	1450	928.00	20	542.26827	80
## 192	79.06010	10.640	postmonsoon	2018	8.92	1163	744.32	40	349.83263	60
## 193	79.06308	13.610	postmonsoon	2018	8.84	1161	743.04	40	284.27677	130
## 194	79.02017	28.960	postmonsoon	2018	7.90	1480	947.20	0	298.13813	180
## 195	78.79738	17.290	postmonsoon	2018	7.95	823	526.72	0	203.46715	60
## 196	78.85665	24.340	postmonsoon	2018	8.65	745	476.80	40	274.56231	20

##	197	78.76505	7.170	postmonsoon	2018	9.21	3450	2208.00	60	970.58896	370
##	198	79.09138	2.140	postmonsoon	2018	7.30	1241	794.24	0	360.25932	150
##	199	79.14688	1.300	postmonsoon	2018	8.13	406	259.84	0	101.48668	60
##	200	78.98103	20.360	postmonsoon	2018	7.49	2740	1753.60	0	244.21596	440
##	201	79.19843	7.540	postmonsoon	2018	7.58	1292	826.88	0	293.40195	210
##	202	79.35425	39.750	postmonsoon	2018	7.29	2810	1798.40	0	260.73746	770
##	203	79.32030	9.850	postmonsoon	2018	7.17	2670	1708.80	0	533.86399	520
##	204	78.86380	12.980	postmonsoon	2018	7.65	1320	844.80	0	283.20758	200
##	205	79.01703	13.460	postmonsoon	2018	8.10	1497	958.08	0	480.41543	170
##	206	78.99371	9.430	postmonsoon	2018	7.17	1926	1232.64	0	388.31808	320
##	207	79.40064	14.580	postmonsoon	2018	7.98	1411	903.04	0	364.46766	210
##	208	79.42098	10.650	postmonsoon	2018	7.64	1620	1036.80	0	278.30641	320
##	209	79.47989	2.080	postmonsoon	2018	8.33	1767	1130.88	20	328.11547	350
##	210	79.32478	16.870	postmonsoon	2018	8.30	1352	865.28	20	285.35710	200
##	211	79.30091	5.700	postmonsoon	2018	7.62	487	311.68	0	106.41660	80
##	212	79.21675	11.110	postmonsoon	2018	8.60	781	499.84	40	149.75097	90
##	213	79.23565	1.900	postmonsoon	2018	7.71	2270	1452.80	0	349.88106	510
##	214	79.19130	19.470	postmonsoon	2018	8.20	809	517.76	0	313.92088	20
##	215	79.28528	4.670	postmonsoon	2018	7.78	2020	1292.80	0	397.05721	330
##	216	79.08447	9.020	postmonsoon	2018	7.09	1715	1097.60	0	280.55878	260
##	217	79.18302	13.930	postmonsoon	2018	8.46	691	442.24	40	227.08985	40
##	218	79.42306	11.690	postmonsoon	2018	7.97	2380	1523.20	0	476.03898	430
##	219	79.41831	8.055	postmonsoon	2018	7.54	1310	838.40	0	308.00322	220
##	220	79.46500	12.840	postmonsoon	2018	7.47	4850	3104.00	0	582.34345	950
##	221	77.70551	13.320	postmonsoon	2018	7.15	2260	1446.40	0	155.12787	440
##	222	77.60700	13.070	postmonsoon	2018	7.61	1248	798.72	0	154.46005	270
##	223	77.50010	13.880	postmonsoon	2018	8.36	920	588.80	40	192.75638	140
##	224	77.69817	15.260	postmonsoon	2018	8.29	879	562.56	0	388.68992	20
##	225	77.61689	7.190	postmonsoon	2018	8.76	1170	748.80	100	362.64287	60
##	226	77.63779	7.990	postmonsoon	2018	8.06	1704	1090.56	0	167.34713	350
##	227	77.48120	14.710	postmonsoon	2018	7.49	1596	1021.44	0	373.57083	190
##	228	77.65670	18.510	postmonsoon	2018	8.19	1878	1201.92	0	536.43862	240
##	229	77.50030	7.560	postmonsoon	2018	8.12	957	612.48	0	241.11741	120
##	230	77.51696	8.800	postmonsoon	2018	7.90	3500	2240.00	0	415.18824	720
##	231	78.77594	2.010	postmonsoon	2018	8.16	645	412.80	0	210.00000	50
##	232	78.66213	6.330	postmonsoon	2018	8.18	654	418.56	0	210.00000	40
##	233	77.94583	4.530	postmonsoon	2018	8.33	590	377.60	0	200.00000	40
##	234	78.10040	11.590	postmonsoon	2018	8.24	918	587.52	0	230.00000	90
##	235	78.46086	1.760	postmonsoon	2018	8.27	554	354.56	0	130.00000	60
##	236	78.03780	14.390	postmonsoon	2018	8.26	441	282.24	0	80.00000	70
##	237	78.08990	8.630	postmonsoon	2018	8.29	446	285.44	0	180.00000	20
##	238	78.52292	2.520	postmonsoon	2018	8.01	620	396.80	0	160.00000	70
##	239	78.34353	2.570	postmonsoon	2018	8.32	342	218.88	20	90.00000	30
##	240	78.26197	12.820	postmonsoon	2018	8.10	546	349.44	0	180.00000	40
##	241	77.87944	25.080	postmonsoon	2018	8.27	1095	700.80	0	180.00000	170
##	242	78.31500	8.670	postmonsoon	2018	7.59	1302	833.28	0	255.41781	140
##	243	78.44200	10.930	postmonsoon	2018	7.42	2430	1555.20	0	452.60168	470
##	244	77.89250	4.750	postmonsoon	2018	7.24	1856	1187.84	0	403.88870	250
##	245	78.30900	8.130	postmonsoon	2018	7.23	1173	750.72	0	228.68901	230
##	246	78.24900	7.830	postmonsoon	2018	7.92	587	375.68	0	211.19914	40
##	247	78.23489	3.800	postmonsoon	2018	7.08	1728	1105.92	0	207.16958	300
##	248	78.27160	10.570	postmonsoon	2018	7.59	649	415.36	0	178.83200	70
##	249	78.56488	5.490	postmonsoon	2018	7.52	1778	1137.92	0	325.87792	300
##	250	77.77381	9.730	postmonsoon	2018	7.59	1919	1228.16	0	412.46140	260

##	251	78.44900	16.240	postmonsoon	2018	7.40	1404	898.56	0	157.11973	260
##	252	78.11400	2.770	postmonsoon	2018	7.68	1506	963.84	0	318.56766	180
##	253	78.36162	17.520	postmonsoon	2018	7.65	1161	743.04	0	256.24781	140
##	254	78.11400	5.940	postmonsoon	2018	7.73	1356	867.84	0	336.81766	180
##	255	78.21820	3.660	postmonsoon	2018	7.63	1007	644.48	0	207.17416	160
##	256	78.14300	10.470	postmonsoon	2018	7.16	1475	944.00	0	286.11752	280
##	257	78.06863	3.950	postmonsoon	2018	7.60	1339	856.96	0	381.41813	150
##	258	77.99100	14.000	postmonsoon	2018	7.52	1778	1137.92	0	325.87792	300
##	259	77.85750	12.360	postmonsoon	2018	7.81	1249	799.36	0	307.19948	200
##	260	78.42600	6.330	postmonsoon	2018	7.97	1174	751.36	0	398.95859	90
##	261	78.39600	3.980	postmonsoon	2018	7.24	1268	811.52	0	282.29853	170
##	262	78.38600	16.520	postmonsoon	2018	7.21	1549	991.36	0	251.43522	320
##	263	77.90300	6.830	postmonsoon	2018	7.70	813	520.32	0	341.36001	30
##	264	77.95400	13.270	postmonsoon	2018	7.75	1186	759.04	0	411.67240	90
##	265	79.18720	3.950	postmonsoon	2018	7.92	1552	993.28	0	200.00000	270
##	266	79.26094	9.340	postmonsoon	2018	8.14	763	488.32	0	130.00000	120
##	267	79.24920	3.980	postmonsoon	2018	7.03	1699	1087.36	0	120.00000	190
##	268	79.46000	3.660	postmonsoon	2018	7.92	1250	800.00	0	130.00000	230
##	269	79.39000	4.950	postmonsoon	2018	8.11	1210	774.40	0	150.00000	180
##	270	78.06400	9.360	postmonsoon	2018	8.55	580	371.20	60	178.92222	10
##	271	78.54250	10.180	postmonsoon	2018	7.53	1872	1198.08	0	320.78053	270
##	272	78.15400	22.510	postmonsoon	2018	8.47	900	576.00	100	187.51827	80
##	273	78.36800	NA	postmonsoon	2018	8.50	463	296.32	60	54.79771	70
##	274	78.48000	12.790	postmonsoon	2018	7.90	955	611.20	0	362.19326	50
##	275	78.32938	14.130	postmonsoon	2018	7.59	1870	1196.80	0	148.31714	380
##	276	78.28790	12.300	postmonsoon	2018	7.56	2350	1504.00	0	190.48265	530
##	277	78.68788	12.560	postmonsoon	2018	7.75	1262	807.68	0	312.81742	180
##	278	78.43900	24.070	postmonsoon	2018	7.90	1130	723.20	0	262.87384	150
##	279	78.73900	14.850	postmonsoon	2018	8.39	1943	1243.52	40	324.81205	340
##	280	78.59800	10.950	postmonsoon	2018	8.57	970	620.80	80	254.83335	60
##	281	78.29000	18.450	postmonsoon	2018	7.82	1184	757.76	0	315.35066	110
##	282	78.30100	12.860	postmonsoon	2018	8.34	1010	646.40	40	309.94446	80
##	283	78.40500	10.720	postmonsoon	2018	7.56	4860	3110.40	0	556.11093	1050
##	284	78.18462	37.680	postmonsoon	2018	7.72	1734	1109.76	0	316.75348	310
##	285	78.10400	20.520	postmonsoon	2018	8.27	473	302.72	0	190.78540	20
##	286	78.13100	18.700	postmonsoon	2018	7.89	1033	661.12	0	198.86043	170
##	287	78.41300	24.550	postmonsoon	2018	8.00	782	500.48	0	269.64001	30
##	288	78.67000	20.260	postmonsoon	2018	8.45	1090	697.60	40	317.51390	70
##	289	78.07297	22.980	postmonsoon	2018	6.96	1466	938.24	0	353.66885	210
##	290	78.36790	22.350	postmonsoon	2018	7.58	1961	1255.04	0	456.65101	270
##	291	78.15710	26.330	postmonsoon	2018	7.71	617	394.88	0	209.44358	60
##	292	78.21850	33.030	postmonsoon	2018	7.65	749	479.36	0	184.14232	80
##	293	78.31940	21.130	postmonsoon	2018	7.17	982	628.48	0	158.05393	220
##	294	77.86800	33.190	postmonsoon	2018	7.49	1486	951.04	0	407.31210	200
##	295	77.85150	23.530	postmonsoon	2018	7.33	1349	863.36	0	351.62646	180
##	296	78.18920	31.940	postmonsoon	2018	7.42	1860	1190.40	0	171.89998	400
##	297	78.20060	12.780	postmonsoon	2018	7.87	1066	682.24	0	265.82043	170
##	298	78.27017	11.680	postmonsoon	2018	7.50	619	396.16	0	167.32952	80
##	299	78.30030	28.030	postmonsoon	2018	7.32	920	588.80	0	226.23108	140
##	300	78.68470	18.640	postmonsoon	2018	8.15	617	394.88	0	139.89278	20
##	301	78.82420	20.700	postmonsoon	2018	8.10	882	564.48	0	198.40392	130
##	302	78.59720	19.140	postmonsoon	2018	8.43	1198	766.72	80	260.80606	130
##	303	78.63330	41.070	postmonsoon	2018	7.85	747	478.08	0	309.75548	30
##	304	78.99250	10.500	postmonsoon	2018	10.44	318	203.52	60	41.47786	30

##	305	78.61810	26.700	postmonsoon	2018	8.34	572	366.08	60	78.74873	20
##	306	78.83750	7.020	postmonsoon	2018	8.22	861	551.04	0	197.88312	120
##	307	78.58660	8.550	postmonsoon	2018	8.53	383	245.12	40	109.83659	20
##	308	78.55257	12.670	postmonsoon	2018	7.19	1240	793.60	0	290.00000	150
##	309	78.95639	18.900	postmonsoon	2018	8.28	1009	645.76	0	180.00000	210
##	310	78.71890	9.950	postmonsoon	2018	8.12	726	464.64	0	270.00000	30
##	311	78.78308	15.180	postmonsoon	2018	8.14	2019	1292.16	0	410.00000	360
##	312	78.86389	24.950	postmonsoon	2018	7.89	1556	995.84	0	280.00000	230
##	313	78.61681	25.490	postmonsoon	2018	7.96	903	577.92	0	220.00000	130
##	314	79.62284	16.450	postmonsoon	2018	8.09	990	633.60	0	370.01747	40
##	315	79.49697	10.920	postmonsoon	2018	8.14	1363	872.32	0	255.57473	260
##	316	79.71867	5.680	postmonsoon	2018	7.98	1019	652.16	0	372.07128	70
##	317	79.88532	8.160	postmonsoon	2018	7.86	1600	1024.00	0	260.79411	330
##	318	79.90452	6.090	postmonsoon	2018	7.88	1292	826.88	0	413.13963	130
##	319	79.69183	9.370	postmonsoon	2018	8.06	953	609.92	0	367.66160	50
##	320	79.59122	2.690	postmonsoon	2018	7.99	1544	988.16	0	284.92212	290
##	321	77.69600	43.170	postmonsoon	2018	7.44	610	390.40	0	152.80081	70
##	322	77.44400	16.630	postmonsoon	2018	7.64	1330	851.20	0	161.79251	250
##	323	77.71942	24.270	postmonsoon	2018	8.56	670	428.80	40	193.53573	60
##	324	77.77400	12.450	postmonsoon	2018	7.82	980	627.20	0	132.48735	230
##	325	77.83600	16.190	postmonsoon	2018	7.53	1371	877.44	0	211.52601	300
##	326	77.54150	12.170	postmonsoon	2018	7.89	660	422.40	0	223.72779	50
##	327	77.60110	15.580	postmonsoon	2018	7.66	1705	1091.20	0	412.18893	220
##	328	77.51100	NA	postmonsoon	2018	7.87	670	428.80	0	232.61588	20
##	329	77.77100	23.720	postmonsoon	2018	9.18	345	220.80	40	40.77898	50
##	330	77.98300	11.760	postmonsoon	2018	8.86	595	380.80	80	185.33532	10
##	331	77.88000	25.150	postmonsoon	2018	8.22	610	390.40	0	165.85954	60
##	332	77.66000	19.460	postmonsoon	2018	7.65	1364	872.96	0	198.97014	280
##	333	77.95700	14.480	postmonsoon	2018	8.34	260	166.40	20	51.63016	20
##	334	77.59100	7.940	postmonsoon	2018	7.87	1483	949.12	0	245.63348	310
##	335	77.91400	19.770	postmonsoon	2018	8.31	450	288.00	20	118.04485	40
##	336	77.64000	19.150	postmonsoon	2018	8.21	370	236.80	0	129.16865	10
##	337	77.80600	8.800	postmonsoon	2018	7.98	1164	744.96	0	376.47377	120
##	338	78.04645	7.120	postmonsoon	2018	8.13	2820	1804.80	0	623.76993	460
##	339	78.13480	4.700	postmonsoon	2018	8.22	1388	888.32	0	379.66440	190
##	340	77.96025	12.430	postmonsoon	2018	7.71	1260	806.40	0	219.54876	250
##	341	78.10448	11.600	postmonsoon	2018	8.19	1970	1260.80	0	392.43439	320
##	342	78.02360	2.450	postmonsoon	2018	8.10	1215	777.60	0	172.65094	240
##	343	78.02510	10.000	postmonsoon	2018	7.94	2430	1555.20	0	494.72101	380
##	344	79.73800	4.450	postmonsoon	2018	8.29	3814	2440.96	0	340.00000	630
##	345	79.87220	3.650	postmonsoon	2018	8.00	462	295.68	0	130.00000	50
##	346	79.80770	5.590	postmonsoon	2018	8.02	425	272.00	0	130.00000	40
##	347	79.93000	3.050	postmonsoon	2018	8.04	340	217.60	0	130.00000	40
##	348	79.88750	5.150	postmonsoon	2018	8.29	1127	721.28	0	290.00000	120
##	349	79.80030	4.240	postmonsoon	2018	8.28	1485	950.40	0	340.00000	140
##	350	79.63740	4.480	postmonsoon	2018	8.28	722	462.08	0	210.00000	50
##	351	79.72399	16.100	postmonsoon	2018	8.19	1244	796.16	0	270.00000	170
##	352	79.54730	9.940	postmonsoon	2018	8.21	1381	883.84	0	180.00000	260
##	353	79.71130	4.400	postmonsoon	2018	8.25	1118	715.52	0	260.00000	170
##	354	79.57940	8.960	postmonsoon	2018	8.17	1394	892.16	0	310.00000	200
##	355	79.34500	13.700	postmonsoon	2018	7.66	717	458.88	0	80.00000	140
##	356	79.37690	7.620	postmonsoon	2018	7.59	1510	966.40	0	100.00000	240
##	357	79.55770	10.360	postmonsoon	2018	7.62	1128	721.92	0	120.00000	210
##	358	79.59690	6.570	postmonsoon	2018	7.42	750	480.00	0	290.00000	20

##	359	79.51530	5.130	postmonsoon	2018	7.45	946	605.44	0	280.00000	90
##	360	79.59719	6.120	postmonsoon	2018	7.69	2315	1481.60	0	320.00000	340
##	361	79.60700	7.280	postmonsoon	2018	7.63	700	448.00	0	200.00000	80
##	362	79.01959	22.660	postmonsoon	2018	7.80	1780	1139.20	0	493.76870	250
##	363	78.81077	8.760	postmonsoon	2018	6.60	2850	1824.00	0	420.90329	580
##	364	78.80322	5.560	postmonsoon	2018	7.14	1812	1159.68	0	502.02495	170
##	365	79.33964	7.450	postmonsoon	2018	7.51	1610	1030.40	0	519.82860	120
##	366	78.96650	11.640	postmonsoon	2018	6.81	2110	1350.40	0	327.71913	390
##	367	78.93297	12.640	postmonsoon	2018	7.24	2010	1286.40	0	269.94653	480
##	368	78.99178	20.330	postmonsoon	2018	7.77	870	556.80	0	349.98572	30
##	369	79.09509	11.900	postmonsoon	2018	7.22	2280	1459.20	0	505.24849	370
##	370	78.86001	25.460	postmonsoon	2018	6.95	1950	1248.00	0	440.90441	220
##	371	78.85383	8.390	postmonsoon	2018	7.45	2330	1491.20	0	519.81196	270
##	372	78.95229	21.210	postmonsoon	2018	7.26	1275	816.00	0	283.83454	90
##	373	79.14343	4.540	postmonsoon	2018	7.27	5440	3481.60	0	438.30625	1500
##	374	78.91164	30.150	postmonsoon	2018	7.20	1745	1116.80	0	384.58618	320
##		F	NO3	SO4	Na	K	Ca	Mg	T.H	SAR	
##	1	0.440	42.276818	46.00	49.000000	4.00	48	38.896	279.93421	1.2733279	
##	2	0.560	100.659091	68.00	42.000000	5.00	56	63.206	399.89309	0.9131655	
##	3	0.660	41.471545	44.00	45.000000	2.00	24	38.896	219.93421	1.3192840	
##	4	0.580	10.669864	35.00	27.000000	1.00	32	19.448	159.96711	0.9281552	
##	5	2.560	128.843636	280.00	298.000000	5.00	56	92.378	519.84375	5.6826645	
##	6	0.610	66.435000	43.00	73.000000	22.00	80	34.034	339.94243	1.7214418	
##	7	0.650	193.265455	143.00	162.000000	13.00	88	126.412	739.78618	2.5896083	
##	8	1.800	144.949091	70.00	85.000000	5.00	48	43.758	299.92599	2.1339490	
##	9	0.530	134.883182	268.00	321.000000	6.00	48	97.240	519.83553	6.1213078	
##	10	0.070	24.359500	4.00	10.200213	3.20	24	9.724	99.98355	0.4435240	
##	11	0.590	159.444000	37.00	150.397577	1.90	64	106.964	599.81908	2.6699484	
##	12	0.900	11.293950	13.00	190.992332	6.00	24	72.930	359.87664	4.3773499	
##	13	0.710	70.864000	30.00	161.844078	8.00	24	68.068	339.88487	3.8168322	
##	14	0.630	735.214000	18.00	235.124618	17.00	24	165.308	739.72039	3.7586897	
##	15	1.030	7.972200	7.00	72.649805	0.77	40	43.758	279.92599	1.8879262	
##	16	0.290	219.235500	11.00	22.593062	67.13	56	29.172	259.95066	0.6092588	
##	17	0.730	210.377500	18.25	326.474464	19.50	32	155.584	719.73684	5.2909604	
##	18	1.110	0.442900	8.00	29.889190	17.60	32	19.448	159.96711	1.0274743	
##	19	0.470	95.223500	19.00	81.684774	9.80	72	34.034	319.94243	1.9855341	
##	20	0.470	0.885800	2.25	39.997077	35.47	32	4.862	99.99178	1.7390749	
##	21	0.260	141.728000	40.00	85.279758	16.10	64	43.758	339.92599	2.0110642	
##	22	0.490	335.275300	41.75	68.179840	1.90	120	145.860	899.75329	0.9882491	
##	23	0.980	57.355550	15.50	193.842638	7.90	40	29.172	219.95066	5.6827538	
##	24	1.500	18.136755	18.00	73.116034	1.23	72	38.896	339.93421	1.7241989	
##	25	0.270	3.422409	57.00	27.000000	2.00	24	19.448	139.96711	0.9922542	
##	26	0.360	22.145000	14.00	16.000000	4.00	24	24.310	159.95888	0.5500320	
##	27	0.140	29.996409	14.00	22.000000	3.00	32	14.586	139.97533	0.8084797	
##	28	1.040	121.394864	88.00	156.000000	1.00	48	63.206	379.89309	3.4798944	
##	29	1.560	37.425050	15.00	33.180596	1.17	104	19.448	339.96711	0.7824163	
##	30	2.490	22.167145	24.00	164.484972	2.10	72	9.724	219.98355	4.8217344	
##	31	1.080	58.684250	21.00	101.941839	16.74	96	29.172	359.95066	2.3361630	
##	32	0.841	52.705100	33.00	94.402080	3.56	160	29.172	519.95066	1.8000006	
##	33	0.794	10.164555	17.00	57.115909	22.89	56	24.310	239.95888	1.6031008	
##	34	1.600	118.697200	43.00	80.160614	1.70	168	24.310	519.95888	1.5284411	
##	35	1.230	38.310850	22.00	105.371817	9.90	80	43.758	379.92599	2.3504290	
##	36	0.835	52.040750	18.00	78.697185	9.89	64	19.448	239.96711	2.2087955	
##	37	0.550	39.458364	248.00	282.000000	10.00	88	77.792	539.86842	5.2768811	

## 38	0.910	63.213909	73.00	85.000000	6.00	24	48.620	259.91776	2.2923087
## 39	1.530	77.306182	148.00	135.000000	7.00	40	38.896	259.93421	3.6406105
## 40	0.270	45.095273	68.00	92.000000	1.00	24	19.448	139.96711	3.3810142
## 41	0.910	41.672864	124.00	107.000000	6.00	64	34.034	299.94243	2.6861916
## 42	0.490	5.234273	60.00	70.000000	2.00	40	19.448	179.96711	2.2686821
## 43	1.310	62.408636	119.00	30.000000	2.00	56	97.240	539.83553	0.5613874
## 44	1.150	62.811273	100.00	165.000000	14.00	48	5.000	120.00000	6.5488567
## 45	2.430	18.319955	115.00	202.000000	14.00	80	48.620	399.91776	4.3917558
## 46	2.890	22.748955	86.00	165.000000	45.00	24	34.034	199.94243	5.0734528
## 47	2.400	46.504500	41.00	200.000000	13.00	24	38.896	219.93421	5.8634843
## 48	1.220	43.686045	100.00	52.000000	4.00	64	29.172	279.95066	1.3512471
## 49	2.250	82.540455	122.00	112.000000	2.00	56	38.896	299.93421	2.8117531
## 50	0.710	62.811273	115.00	114.000000	4.00	56	58.344	379.90132	2.5429722
## 51	1.550	24.762136	44.00	61.000000	8.00	16	29.172	159.95066	2.0970510
## 52	0.650	177.160000	152.00	188.000000	8.00	80	58.344	439.90132	3.8971972
## 53	0.810	72.877182	85.00	114.000000	6.00	48	34.034	259.94243	3.0742446
## 54	0.370	46.303182	90.00	133.000000	7.00	48	34.034	259.94243	3.5866187
## 55	1.210	5.435591	27.00	42.000000	2.00	8	19.448	99.96711	1.8263874
## 56	1.360	43.082091	105.00	136.000000	3.00	56	53.482	359.90954	3.1168392
## 57	0.200	26.574000	171.00	214.000000	12.00	80	63.206	459.89309	4.3386787
## 58	0.650	1.062960	136.00	714.800195	5.90	32	4.862	99.99178	31.0795473
## 59	2.520	149.921650	32.00	92.842483	6.60	56	160.446	799.72862	1.4274062
## 60	1.040	21.812825	95.00	196.202916	3.30	112	87.516	639.85197	3.3723906
## 61	0.450	68.206600	110.00	218.734442	3.30	120	165.308	979.72039	3.0383532
## 62	0.616	77.950400	18.00	44.226350	1.89	184	24.310	559.95888	0.8125970
## 63	0.719	134.641600	40.00	568.330562	6.60	24	24.310	159.95888	19.5375002
## 64	0.460	183.139150	30.00	100.022063	1.53	104	38.896	419.93421	2.1221562
## 65	0.950	46.504500	10.00	24.832167	0.37	56	24.310	239.95888	0.6969769
## 66	3.080	153.907750	24.00	106.235842	1.56	48	116.688	599.80263	1.8859885
## 67	0.880	154.572100	162.00	589.274019	51.60	32	68.068	359.88487	13.5054066
## 68	0.990	126.005050	176.00	409.529550	12.70	80	131.274	739.77796	6.5464629
## 69	4.900	108.510500	138.25	279.757863	2.20	40	34.034	239.94243	7.8523733
## 70	1.160	92.566100	21.00	87.948701	8.57	120	63.206	559.89309	1.6160286
## 71	1.060	65.106300	31.75	75.484340	1.63	56	38.896	299.93421	1.8950297
## 72	1.120	80.386350	12.25	33.460760	1.69	80	63.206	459.89309	0.6783901
## 73	1.050	77.507500	23.25	79.921256	4.17	144	29.172	479.95066	1.5861205
## 74	1.670	70.421100	16.50	107.390216	3.93	88	34.034	359.94243	2.4610495
## 75	1.740	12.246185	12.75	70.546454	1.28	40	58.344	339.90132	1.6636843
## 76	1.620	52.970840	12.25	80.469293	2.00	64	38.896	319.93421	1.9560142
## 77	2.980	143.942500	90.00	409.173834	190.50	112	97.240	679.83553	6.8230427
## 78	2.010	34.546200	6.25	42.270748	2.53	80	4.862	219.99178	1.2391072
## 79	2.800	33.881850	15.50	77.921514	2.20	88	19.448	299.96711	1.9561076
## 80	1.340	81.936500	15.00	106.148134	3.44	88	38.896	379.93421	2.3677199
## 81	0.970	5.602685	6.00	19.471949	1.02	64	14.586	219.97533	0.5708140
## 82	0.560	50.933500	9.00	45.933960	4.37	72	14.586	239.97533	1.2892073
## 83	1.500	17.250955	9.25	51.248987	2.63	72	43.758	359.92599	1.1744941
## 84	1.500	14.460685	14.25	65.565549	1.88	88	19.448	299.96711	1.6459288
## 85	0.600	15.169325	7.75	37.772479	0.48	64	19.448	239.96711	1.0601609
## 86	1.370	8.636550	10.00	47.256179	2.53	56	24.310	239.95888	1.3263629
## 87	1.100	39.196650	1.50	65.102180	2.21	80	34.034	339.94243	1.5352002
## 88	1.700	35.432000	11.50	27.658154	2.26	80	9.724	239.98355	0.7762554
## 89	0.980	106.738900	22.00	52.254417	1.24	80	48.620	399.91776	1.1360824
## 90	0.290	31.003000	32.00	57.000000	3.00	16	19.448	119.96711	2.2626424
## 91	1.040	31.405636	51.00	89.000000	5.00	32	29.172	199.95066	2.7365334

## 92	0.740	45.497909	56.00	75.000000	4.00	24	29.172	179.95066	2.4308419
## 93	1.280	142.331954	66.00	114.000000	2.00	32	34.034	219.94243	3.3421236
## 94	0.870	20.735773	32.00	44.000000	4.00	16	14.586	99.97533	1.9132795
## 95	0.660	221.450000	42.00	129.479393	4.70	48	199.342	939.66283	1.8364825
## 96	1.140	62.006000	21.00	100.315658	11.00	40	43.758	279.92599	2.6068694
## 97	0.830	86.365500	14.00	84.859901	8.00	104	4.862	279.99178	2.2049667
## 98	1.100	243.595000	44.00	168.625753	8.80	184	106.964	899.81908	2.4440972
## 99	2.030	12.401200	12.00	94.368252	5.00	56	48.620	339.91776	2.2254157
## 100	1.180	66.435000	24.00	125.787081	8.90	24	92.378	439.84375	2.6077082
## 101	1.180	57.577000	20.00	60.610689	3.00	72	58.344	419.90132	1.2860201
## 102	1.120	93.009000	19.00	35.722793	2.00	112	38.896	439.93421	0.7404977
## 103	1.090	110.725000	18.00	48.392483	6.00	72	58.344	419.90132	1.0267778
## 104	0.880	27.459800	11.00	40.709858	2.00	24	48.620	259.91776	1.0978772
## 105	1.520	35.432000	33.00	164.080769	3.50	56	87.516	499.85197	3.1908702
## 106	0.740	53.148000	25.00	102.301991	7.00	40	131.274	639.77796	1.7584969
## 107	0.700	263.525500	27.00	115.853411	1.00	112	43.758	459.92599	2.3487512
## 108	0.730	95.223500	21.00	103.516745	0.50	32	38.896	239.93421	2.9056057
## 109	1.190	64.220500	10.00	22.008074	0.50	32	87.516	439.85197	0.4562480
## 110	1.420	28.989818	125.00	200.000000	2.00	24	43.758	239.92599	5.6138850
## 111	1.040	53.349318	59.00	74.000000	2.00	24	24.310	159.95888	2.5438981
## 112	0.300	54.557227	32.00	84.000000	2.00	48	14.586	179.97533	2.7223563
## 113	0.420	25.366091	27.00	51.000000	1.00	24	29.172	179.95066	1.6529725
## 114	1.010	21.742364	30.00	68.000000	0.30	24	34.034	199.94243	2.0908775
## 115	0.790	16.306773	30.00	55.000000	15.00	32	43.758	239.92599	1.5438184
## 116	2.940	82.540455	197.00	249.000000	2.00	56	58.344	379.90132	5.5543867
## 117	3.760	6.844818	56.00	141.000000	2.00	40	68.068	379.88487	3.1453232
## 118	2.850	64.421818	103.00	92.000000	1.00	40	63.206	359.89309	2.1084982
## 119	2.110	68.448182	127.00	59.000000	3.00	56	82.654	479.86020	1.1710267
## 120	4.240	70.461364	171.00	103.000000	1.00	16	68.068	319.88487	2.5038744
## 121	2.060	82.540455	177.00	306.000000	9.00	32	43.758	259.92599	8.2521809
## 122	0.110	22.547636	31.00	22.000000	1.00	8	9.724	59.98355	1.2350335
## 123	1.170	102.672273	143.00	166.000000	2.00	64	87.516	519.85197	3.1654860
## 124	0.190	1.993050	12.00	35.935653	2.25	40	4.862	119.99178	1.4263364
## 125	0.520	1.107250	10.00	63.723426	2.50	32	24.310	179.95888	2.0653071
## 126	0.680	7.086400	18.00	71.009843	3.69	48	19.448	199.96711	2.1832901
## 127	0.760	1.993050	14.00	53.765489	3.30	40	9.724	139.98355	1.9757740
## 128	2.240	14.615700	50.00	274.731713	2.40	48	63.206	379.89309	6.1284445
## 129	0.580	188.232500	35.00	99.515657	3.55	80	87.516	559.85197	1.8286348
## 130	1.380	133.755800	38.00	64.666711	1.90	120	97.240	699.83553	1.0628083
## 131	0.650	93.673350	25.00	119.966571	2.47	104	53.482	479.90954	2.3809634
## 132	1.250	39.861000	14.00	156.565310	8.80	48	34.034	259.94243	4.2221058
## 133	1.260	108.067600	25.00	174.663951	29.50	64	87.516	519.85197	3.3307006
## 134	1.220	107.624700	29.00	263.942572	2.50	56	68.068	419.88487	5.6003671
## 135	0.690	188.232500	21.00	119.480265	1.78	56	106.964	579.81908	2.1573574
## 136	0.290	21.339727	40.00	52.000000	4.00	32	43.758	259.92599	1.4023314
## 137	0.740	12.280409	38.00	84.000000	1.00	40	24.310	199.95888	2.5827424
## 138	0.920	3.019773	327.00	576.000000	4.00	16	43.758	219.92599	16.8871505
## 139	0.260	18.521273	205.00	174.000000	1.00	48	34.034	259.94243	4.6922681
## 140	0.400	43.484727	42.00	40.000000	6.00	48	29.172	239.95066	1.1227193
## 141	0.390	2.818455	32.00	36.000000	2.00	48	34.034	259.94243	0.9708141
## 142	2.290	14.172800	6.00	92.852926	2.50	40	24.310	199.95888	2.8549428
## 143	0.900	20.594850	14.00	65.522291	1.81	64	29.172	279.95066	1.7026308
## 144	1.020	17.494550	13.00	95.486005	2.31	56	48.620	339.91776	2.2517748
## 145	0.880	19.930500	10.00	56.940640	1.80	48	38.896	279.93421	1.4796756

## 146	0.930	101.867000	21.00	105.219056	2.85	72	77.792	499.86842	2.0461559
## 147	1.210	143.942500	34.00	201.693798	5.50	96	87.516	599.85197	3.5804916
## 148	1.160	26.574000	24.00	100.926449	1.93	64	72.930	459.87664	2.0462396
## 149	0.980	29.895750	19.00	74.574955	13.50	72	19.448	259.96711	2.0109717
## 150	1.730	20.151950	16.00	72.735480	0.85	48	34.034	259.94243	1.9614619
## 151	1.140	232.522500	42.00	305.935916	3.30	160	87.516	759.85197	4.8254535
## 152	0.750	155.015000	29.00	119.758070	4.20	160	97.240	799.83553	1.8410967
## 153	0.630	201.519500	28.00	138.425297	6.50	96	77.792	559.86842	2.5435755
## 154	1.340	24.802400	10.00	63.581114	1.87	48	24.310	219.95888	1.8639298
## 155	0.750	155.015000	18.00	91.930250	1.44	48	82.654	459.86020	1.8638789
## 156	1.570	13.729900	6.00	25.347860	1.30	32	9.724	119.98355	1.0061265
## 157	0.320	186.018000	36.00	169.458047	5.00	264	106.964	1099.81908	2.2216403
## 158	0.570	2.878850	8.00	22.085243	3.85	32	14.586	139.97533	0.8116123
## 159	0.860	37.646500	13.00	44.800657	0.95	48	34.034	259.94243	1.2081419
## 160	0.570	2.435950	8.00	21.837395	3.87	40	9.724	139.98355	0.8024805
## 161	3.600	9.079450	12.00	80.398485	3.60	72	19.448	259.96711	2.1680077
## 162	1.780	12.622650	19.00	158.946767	1.90	40	24.310	199.95888	4.8871258
## 163	1.280	54.919600	31.00	189.932159	2.70	192	58.344	719.90132	3.0777560
## 164	0.420	2.214500	6.00	19.801302	3.94	40	14.586	159.97533	0.6806744
## 165	2.460	143.056700	28.00	99.846156	4.17	200	29.172	619.95066	1.7435120
## 166	1.050	50.712050	18.00	105.544785	1.05	88	19.448	299.96711	2.6495500
## 167	0.920	38.089400	9.00	151.726577	2.20	56	58.344	379.90132	3.3845304
## 168	0.070	79.355802	10.00	19.000000	1.00	16	14.586	79.97533	0.9237357
## 169	0.160	9.808020	8.00	33.000000	1.00	24	9.724	99.98355	1.4349006
## 170	1.300	10.699659	84.00	223.000000	0.50	40	58.344	339.90132	5.2589689
## 171	1.040	45.473550	121.00	257.000000	11.00	40	34.034	239.94243	7.2135950
## 172	0.270	101.202650	18.25	69.394787	18.77	80	38.896	359.93421	1.5903307
## 173	1.260	73.521400	13.50	73.426771	12.00	152	58.344	619.90132	1.2822282
## 174	1.060	137.520450	20.50	82.904979	2.28	120	126.412	819.78618	1.2589326
## 175	2.400	223.885950	18.25	98.973333	4.20	104	136.136	819.76974	1.5029496
## 176	1.830	58.241350	12.50	84.124456	1.67	88	82.654	559.86020	1.5458048
## 177	1.190	84.151000	25.00	240.935543	0.90	136	126.412	859.78618	3.5725458
## 178	2.890	52.262200	15.75	135.379565	1.40	48	58.344	359.90132	3.1026555
## 179	1.500	108.731950	19.75	130.537583	0.22	112	58.344	519.90132	2.4891282
## 180	0.790	256.660550	38.25	243.814487	15.30	120	145.860	899.75329	3.5340277
## 181	0.560	104.524400	13.75	13.341072	1.14	112	68.068	559.88487	0.2451396
## 182	0.760	85.479700	10.75	21.714247	2.27	72	102.102	599.82730	0.3854817
## 183	0.881	664.350000	43.75	218.964342	6.20	280	170.170	1399.71217	2.5446391
## 184	1.590	13.464160	23.00	77.896017	1.41	56	48.620	339.91776	1.8369633
## 185	4.560	143.056700	22.00	375.847971	3.10	8	5.000	40.00000	25.8377313
## 186	0.350	0.885800	12.00	33.757489	2.95	48	4.862	139.99178	1.2404836
## 187	0.540	34.878375	102.00	115.116712	0.52	160	58.344	639.90132	1.9785819
## 188	0.820	39.196650	39.00	114.607353	1.94	104	48.620	459.91776	2.3235100
## 189	1.440	48.719000	31.00	175.856910	1.50	152	38.896	539.93421	3.2904946
## 190	3.480	284.341800	41.00	483.784557	4.70	24	38.896	219.93421	14.1833157
## 191	3.130	29.674300	18.00	289.611055	2.10	16	14.586	99.97533	12.5933385
## 192	1.840	94.559150	24.00	102.959453	2.80	56	53.482	359.90954	2.3596181
## 193	1.910	58.684250	19.00	112.037713	2.23	32	63.206	339.89309	2.6421972
## 194	1.010	198.197750	20.00	94.438897	1.75	80	82.654	539.86020	1.7671866
## 195	1.130	133.755800	11.00	23.387534	3.79	72	43.758	359.92599	0.5359817
## 196	2.640	14.172800	14.00	152.490812	3.70	8	4.862	39.99178	10.4840841
## 197	3.760	134.641600	45.00	696.971562	52.50	24	24.310	159.95888	23.9597919
## 198	0.470	7.529300	35.00	57.936825	0.61	176	14.586	499.97533	1.1265554
## 199	0.350	1.660875	13.00	37.617583	2.55	40	4.862	119.99178	1.4930945

##	200	0.780	558.054000	40.00	219.672192	36.20	208	82.654	859.86020	3.2571167
##	201	0.970	24.580950	29.00	96.024470	2.96	104	43.758	439.92599	1.9905096
##	202	0.410	20.284820	27.00	98.935726	3.28	264	131.274	1199.77796	1.2418664
##	203	1.690	37.956530	23.00	332.972531	3.60	144	63.206	619.89309	5.8146312
##	204	3.300	77.064600	25.00	94.199458	1.48	112	43.758	459.92599	1.9097503
##	205	2.360	2.657400	18.00	216.755635	3.80	32	48.620	279.91776	5.6328389
##	206	0.717	106.296000	27.00	176.283339	7.40	176	34.034	579.94243	3.1826654
##	207	1.290	25.001705	17.00	150.527409	4.20	104	29.172	379.95066	3.3575628
##	208	0.680	45.840150	34.00	97.782308	4.35	208	19.448	599.96711	1.7356763
##	209	1.180	9.965250	24.00	247.049322	12.00	64	43.758	339.92599	5.8259083
##	210	0.880	58.905700	33.00	143.723809	8.10	104	24.310	359.95888	3.2936272
##	211	0.369	2.546675	19.00	37.388508	3.66	40	14.586	159.97533	1.2852387
##	212	0.640	60.898750	20.00	77.829667	4.10	56	19.448	219.96711	2.2815945
##	213	1.390	12.224040	43.00	239.817237	4.00	144	63.206	619.89309	4.1878793
##	214	3.920	46.504500	20.00	37.408022	5.70	64	38.896	319.93421	0.9092987
##	215	1.780	117.589950	41.00	374.300625	36.30	48	9.724	159.98355	12.8663407
##	216	0.570	217.906800	25.00	109.741994	5.94	160	53.482	619.90954	1.9163766
##	217	2.710	3.631780	15.00	104.575608	1.29	16	19.448	119.96711	4.1511791
##	218	1.600	96.773650	17.00	284.142092	3.40	88	87.516	579.85197	5.1303757
##	219	1.070	9.079450	22.00	87.131082	9.56	96	53.482	459.90954	1.7664814
##	220	1.010	420.755000	134.00	366.656325	197.50	184	228.514	1399.61349	4.2611546
##	221	0.710	376.465000	38.00	71.861061	4.14	184	126.412	979.78618	0.9981599
##	222	0.830	83.043750	15.00	58.307052	2.79	120	48.620	499.91776	1.1338196
##	223	0.870	2.878850	22.00	101.970209	2.32	56	24.310	239.95888	2.8620489
##	224	2.040	14.837150	6.00	83.442126	1.98	72	19.448	259.96711	2.2500819
##	225	2.020	29.231400	8.00	150.762024	2.50	16	53.482	259.90954	4.0658655
##	226	0.750	192.882950	26.00	180.045518	7.20	96	53.482	459.90954	3.6502135
##	227	1.110	144.163950	31.00	111.691164	2.61	64	97.240	559.83553	2.0523941
##	228	1.350	42.075500	20.00	215.323293	0.36	32	97.240	479.83553	4.2738274
##	229	0.560	55.362500	18.00	100.139680	4.41	56	29.172	259.95066	2.7004299
##	230	1.430	310.030000	50.00	422.936174	6.50	104	140.998	839.76151	6.3455462
##	231	1.270	32.210909	47.00	53.000000	3.00	32	38.896	239.93421	1.4876540
##	232	0.480	46.101864	67.00	61.000000	2.00	32	38.896	239.93421	1.7122056
##	233	0.640	44.290000	35.00	59.000000	2.00	24	34.034	199.94243	1.8141437
##	234	1.050	27.177955	109.00	87.000000	5.00	32	53.482	299.90954	2.1842195
##	235	0.230	34.425409	72.00	63.000000	1.00	24	29.172	179.95066	2.0419072
##	236	0.340	27.580591	44.00	57.000000	3.00	24	14.586	119.97533	2.2625649
##	237	0.670	7.650091	16.00	41.000000	3.00	16	24.310	139.95888	1.5068006
##	238	0.660	43.887364	73.00	69.000000	2.00	32	34.034	219.94243	2.0228643
##	239	0.310	2.617136	39.00	43.000000	2.00	16	14.586	99.97533	1.8697959
##	240	1.260	32.412227	45.00	60.000000	2.00	24	29.172	179.95066	1.9446735
##	241	0.170	182.796909	112.00	148.000000	3.00	40	63.206	359.89309	3.3919319
##	242	1.100	209.270250	22.00	79.852936	3.14	96	58.344	479.90132	1.5848460
##	243	0.830	78.836200	23.00	147.496188	5.30	96	160.446	899.72862	2.1379483
##	244	0.964	162.544300	30.00	171.512674	3.50	176	29.172	559.95066	3.1513272
##	245	1.240	8.437245	20.00	87.666905	1.46	80	48.620	399.91776	1.9059982
##	246	1.000	12.976970	12.00	34.053802	1.90	64	14.586	219.97533	0.9982763
##	247	0.699	240.494700	30.00	95.430799	4.11	192	43.758	659.92599	1.6151509
##	248	0.928	37.425050	13.00	38.987497	2.37	56	24.310	239.95888	1.0942816
##	249	1.080	122.683300	31.00	121.990758	41.27	152	48.620	579.91776	2.2024999
##	250	1.270	38.753750	134.00	215.738760	0.16	96	63.206	499.89309	4.1952879
##	251	0.852	189.118300	18.00	76.332404	2.46	152	38.896	539.93421	1.4282712
##	252	0.969	186.239450	22.00	107.175747	5.96	128	48.620	519.91776	2.0436257
##	253	0.928	125.562150	19.00	84.983504	1.27	96	38.896	399.93421	1.8476194

##	254	1.130	79.279100	16.00	111.543779	1.89	56	72.930	439.87664	2.3123420
##	255	1.090	56.912650	19.00	104.252996	1.51	80	19.448	279.96711	2.7089888
##	256	0.756	10.629600	39.00	157.598808	1.80	128	19.448	399.96711	3.4262019
##	257	1.200	65.992100	16.00	70.419892	2.54	72	82.654	519.86020	1.3428399
##	258	1.080	122.683300	31.00	121.990758	41.27	152	48.620	579.91776	2.2024999
##	259	1.740	17.937450	14.00	67.879697	2.59	64	77.792	479.86842	1.3472586
##	260	1.350	41.411150	21.00	104.673993	4.21	80	38.896	359.93421	2.3988296
##	261	0.913	105.188750	20.00	80.500111	4.24	104	48.620	459.91776	1.6320316
##	262	0.871	56.248300	18.00	109.548683	3.28	120	58.344	539.90132	2.0498502
##	263	1.480	14.239235	7.00	59.437222	1.11	48	38.896	279.93421	1.5445525
##	264	2.170	34.302605	20.00	154.875457	1.80	48	34.034	259.94243	4.1765355
##	265	0.740	31.003000	178.00	209.000000	28.00	40	48.620	299.91776	5.2470760
##	266	1.390	17.112045	79.00	84.000000	10.00	32	29.172	199.95066	2.5827956
##	267	4.430	1.811864	180.00	136.000000	1.00	40	43.758	279.92599	3.5341865
##	268	0.350	89.183955	96.00	182.000000	8.00	48	24.310	219.95888	5.3354715
##	269	1.490	110.926318	86.00	145.000000	21.00	48	29.172	239.95066	4.0698574
##	270	0.710	33.217500	7.00	14.131068	1.75	48	34.034	259.94243	0.3810733
##	271	0.650	239.166000	31.00	121.526542	1.00	168	63.206	679.89309	2.0263898
##	272	0.700	40.525350	12.00	32.064969	3.80	88	38.896	379.93421	0.7152350
##	273	0.580	2.657400	13.00	41.885995	2.17	40	9.724	139.98355	1.5392264
##	274	1.840	35.432000	11.00	82.637686	2.10	64	34.034	299.94243	2.0745856
##	275	0.620	272.383500	21.00	101.441780	3.10	152	82.654	719.86020	1.6438604
##	276	0.650	205.948500	57.00	257.813001	5.00	144	63.206	619.89309	4.5021357
##	277	0.970	42.296950	23.00	98.643705	2.30	96	43.758	419.92599	2.0929322
##	278	1.640	88.580000	13.00	76.981788	2.65	72	53.482	399.90954	1.6737064
##	279	4.770	101.867000	34.00	257.399680	1.40	32	82.654	419.86020	5.4616996
##	280	1.590	59.791500	12.00	94.314620	3.80	72	24.310	279.95888	2.4507785
##	281	0.990	108.510500	27.00	51.880613	4.10	88	63.206	479.89309	1.0296865
##	282	1.660	25.466750	16.00	141.469227	2.00	32	29.172	199.95066	4.3498344
##	283	1.720	44.290000	320.00	161.791506	2.30	488	213.928	2099.63816	1.5351671
##	284	2.050	106.296000	18.00	97.654862	2.75	128	82.654	659.86020	1.6528752
##	285	1.190	9.743800	7.00	25.957737	1.93	40	19.448	179.96711	0.8412836
##	286	0.580	70.864000	15.00	55.105412	1.54	64	58.344	399.90132	1.1980915
##	287	1.490	84.151000	7.00	33.363234	1.92	56	43.758	319.92599	0.8109901
##	288	2.110	77.507500	20.00	39.580123	3.51	104	48.620	459.91776	0.8024338
##	289	1.470	70.864000	18.00	118.300562	2.57	64	77.792	479.86842	2.3479989
##	290	0.530	139.513500	20.00	136.679812	213.70	72	58.344	419.90132	2.9000329
##	291	1.460	3.764650	8.00	31.343816	2.74	40	34.034	239.94243	0.8797727
##	292	1.750	70.864000	16.00	43.854474	2.32	56	34.034	279.94243	1.1395981
##	293	1.140	20.816300	1.00	88.212302	3.26	96	14.586	299.97533	2.2144126
##	294	1.250	34.103300	18.00	105.081856	1.66	80	77.792	519.86842	2.0037945
##	295	1.820	46.283050	24.00	155.583633	2.40	88	29.172	339.95066	3.6688346
##	296	1.790	192.661500	28.25	208.386001	5.00	88	63.206	479.89309	4.1358850
##	297	1.550	11.958300	12.00	89.491475	3.01	72	38.896	339.93421	2.1103593
##	298	1.740	14.172800	14.25	41.536560	1.81	72	9.724	219.98355	1.2176083
##	299	1.910	19.044700	15.75	74.608018	1.89	112	4.862	299.99178	1.8728500
##	300	0.970	154.793550	12.00	22.938349	1.37	72	19.448	259.96711	0.6185504
##	301	1.650	47.390300	16.00	74.854157	2.15	48	38.896	279.93421	1.9451814
##	302	1.480	60.898750	19.00	111.089953	2.80	56	53.482	359.90954	2.5459523
##	303	2.950	15.501500	5.00	52.417603	2.60	64	24.310	259.95888	1.4135038
##	304	1.040	3.986100	10.00	26.437789	2.45	24	9.724	99.98355	1.1495636
##	305	1.470	133.755800	8.00	20.882750	2.74	56	24.310	239.95888	0.5861266
##	306	1.500	50.047700	18.00	70.293504	1.61	48	38.896	279.93421	1.8266669
##	307	0.640	3.986100	8.00	13.962502	2.42	32	19.448	159.96711	0.4799766

## 308	1.290	56.369091	82.00	196.000000	9.00	56	14.586	199.97533	6.0261512
## 309	1.260	34.828045	85.00	179.000000	7.00	80	5.000	200.00000	5.5031354
## 310	1.110	64.421818	29.00	116.000000	5.00	32	14.586	139.97533	4.2628927
## 311	1.030	41.874182	108.00	199.000000	11.00	80	102.102	619.82730	3.4752807
## 312	1.770	102.672273	100.00	136.000000	34.00	80	58.344	439.90132	2.8192490
## 313	0.940	52.342727	79.00	132.000000	2.00	56	24.310	239.95888	3.7049102
## 314	1.150	65.992100	10.00	82.129109	1.14	80	29.172	319.95066	1.9963090
## 315	0.980	41.854050	18.00	85.406005	2.13	128	43.758	499.92599	1.6607632
## 316	1.610	28.788500	10.00	69.616651	2.59	88	34.034	359.94243	1.5953970
## 317	1.420	11.958300	54.00	168.188833	1.90	120	34.034	439.94243	3.4863533
## 318	1.020	9.522350	34.00	105.791275	1.99	104	38.896	419.93421	2.2445609
## 319	1.240	26.131100	12.00	36.053340	2.31	96	38.896	399.93421	0.7838327
## 320	1.110	60.234400	21.00	106.009029	7.31	136	48.620	539.91776	1.9835868
## 321	0.610	50.933500	9.00	48.819815	1.54	32	29.172	199.95066	1.5010905
## 322	0.920	152.800500	20.00	114.063218	2.96	72	58.344	419.90132	2.4201605
## 323	1.240	6.422050	8.00	81.557815	0.86	16	29.172	159.95066	2.8037851
## 324	1.130	15.722950	15.00	51.425024	2.50	64	53.482	379.90954	1.1471140
## 325	1.500	31.445900	18.00	67.528279	4.44	96	72.930	539.87664	1.2636028
## 326	1.370	31.224450	7.00	50.607503	2.60	48	24.310	219.95888	1.4835983
## 327	1.480	126.226500	19.00	100.430343	2.20	144	68.068	639.88487	1.7261804
## 328	1.040	77.507500	8.00	17.377146	0.50	56	38.896	299.93421	0.4362522
## 329	0.260	2.214500	17.00	43.880478	14.74	8	9.724	59.98355	2.4633573
## 330	0.830	14.837150	3.00	27.643297	0.33	56	24.310	239.95888	0.7758783
## 331	0.560	50.933500	10.00	21.415616	1.22	40	38.896	259.93421	0.5775253
## 332	0.820	84.151000	13.00	75.580333	3.64	72	82.654	519.86020	1.4412446
## 333	0.200	33.217500	2.00	5.076154	0.22	32	9.724	119.98355	0.2014866
## 334	2.080	44.290000	15.00	122.526132	2.10	64	77.792	479.86842	2.4318669
## 335	0.480	31.224450	3.00	21.542150	0.36	32	24.310	179.95888	0.6981915
## 336	1.700	44.290000	4.00	12.023272	0.57	48	9.724	159.98355	0.4132922
## 337	2.460	0.686650	28.75	123.060658	0.29	56	43.758	320.00000	2.9913459
## 338	1.830	88.600000	50.00	322.128483	3.20	24	160.446	720.00000	5.2205578
## 339	1.260	1.173950	37.00	173.718971	2.65	32	58.344	320.00000	4.2229059
## 340	0.469	27.554600	28.25	125.955575	2.00	72	43.758	360.00000	2.8865757
## 341	1.250	127.584000	27.50	224.302459	5.80	24	106.964	500.00000	4.3621418
## 342	0.560	69.772500	32.75	97.370564	1.55	80	48.620	400.00000	2.1169690
## 343	0.610	170.776500	33.25	273.351210	25.85	96	87.516	600.00000	4.8525623
## 344	0.420	287.281046	453.00	426.000000	132.00	112	136.136	839.76974	6.3914832
## 345	2.000	44.491318	36.00	44.000000	3.00	16	34.034	179.94243	1.4261265
## 346	1.110	34.828045	22.00	36.000000	2.00	16	29.172	159.95066	1.2376038
## 347	1.300	76.299591	34.00	67.000000	1.00	16	24.310	139.95888	2.4623327
## 348	2.380	69.253455	57.00	116.000000	7.00	32	58.344	319.90132	2.8198249
## 349	2.280	151.592591	111.00	193.000000	2.00	32	68.068	359.88487	4.4233131
## 350	1.790	42.478136	41.00	72.000000	5.00	24	34.034	199.94243	2.2138703
## 351	0.700	37.243864	123.00	134.000000	46.00	40	53.482	319.90954	3.2573421
## 352	0.430	47.511091	152.00	154.000000	8.00	64	58.344	399.90132	3.3482391
## 353	0.830	2.415818	81.00	128.000000	8.00	32	53.482	299.90954	3.2135643
## 354	0.770	47.108455	115.00	152.000000	2.00	72	58.344	419.90132	3.2250922
## 355	1.590	22.346318	90.00	61.000000	2.00	40	38.896	259.93421	1.6450166
## 356	0.680	130.856818	199.00	120.000000	9.00	88	63.206	479.89309	2.3816677
## 357	1.800	48.920318	106.00	111.000000	8.00	56	43.758	319.92599	2.6981767
## 358	4.970	5.636909	39.00	58.000000	7.00	24	43.758	239.92599	1.6280267
## 359	1.960	27.379273	75.00	75.000000	6.00	24	68.068	339.88487	1.7687543
## 360	0.100	134.883182	233.00	256.000000	102.00	112	43.758	459.92599	5.1900095
## 361	1.130	19.930500	45.00	61.000000	5.00	24	43.758	239.92599	1.7122349

##	362	1.120	7.972200	18.00	204.088137	12.00	64	68.068	439.88487	4.2307797
##	363	0.800	7.307850	28.00	264.162585	4.00	216	77.792	859.86842	3.9167646
##	364	1.710	7.307850	29.00	142.784759	35.00	128	58.344	559.90132	2.6236039
##	365	0.490	6.422050	16.00	205.876123	20.00	56	48.620	339.91776	4.8550221
##	366	0.640	7.972200	23.00	135.289145	9.00	240	38.896	759.93421	2.1337676
##	367	1.900	0.664350	25.00	124.811255	3.00	184	68.068	739.88487	1.9950043
##	368	1.600	26.131100	7.00	35.946811	1.00	72	43.758	359.92599	0.8238079
##	369	2.200	21.259200	17.00	251.351585	4.00	112	77.792	599.86842	4.4619612
##	370	1.120	19.709050	17.00	148.257707	2.00	160	63.206	659.89309	2.5093004
##	371	1.800	1.993050	37.00	175.275418	28.00	120	111.826	759.81086	2.7646517
##	372	2.800	29.231400	11.00	147.248057	3.00	64	38.896	319.93421	3.5792448
##	373	0.780	167.194750	43.00	597.854463	6.00	424	92.378	1439.84375	6.8503058
##	374	3.180	121.797500	14.00	163.837039	4.00	152	34.034	519.94243	3.1239683
##	Classification RSC..meq....L Classification.1									
##	1		C2S1	-1.198684211					P.S.	
##	2		C3S1	-3.397861842					P.S.	
##	3		C2S1	-0.398684211					P.S.	
##	4		C2S1	0.000657895					P.S.	
##	5		C4S2	-4.396875000					P.S.	
##	6		C3S1	0.001151316					P.S.	
##	7		C3S1	-7.995723684					P.S.	
##	8		C3S1	-1.198519737					P.S.	
##	9		C4S2	-1.996710526					P.S.	
##	10		C2S1	-0.846885217					P.S.	
##	11		C3S1	-7.838943540					P.S.	
##	12		C3S1	3.746380368					U.S.	
##	13		C3S1	0.401311253					P.S.	
##	14		C4S1	-9.974771846					P.S.	
##	15		C3S1	0.192104435					P.S.	
##	16		C3S1	-2.914141488					P.S.	
##	17		C4S2	-3.192181337					P.S.	
##	18		C2S1	0.349816786					P.S.	
##	19		C3S1	-1.433483162					P.S.	
##	20		C2S1	1.646980071					MR	
##	21		C3S1	-3.727793695					P.S.	
##	22		C3S1	-13.832284580					P.S.	
##	23		C3S2	3.457967525					U.S.	
##	24		C3S1	-0.757371069					P.S.	
##	25		C2S1	-0.599342105					P.S.	
##	26		C2S1	-0.999177632					P.S.	
##	27		C2S1	-0.599506579					P.S.	
##	28		C3S1	-2.397861842					P.S.	
##	29		C3S1	-1.299360911					P.S.	
##	30		C3S1	-0.086244769					P.S.	
##	31		C3S1	0.135571412					P.S.	
##	32		C3S1	-2.425147394					P.S.	
##	33		C3S1	0.702779753					P.S.	
##	34		C3S1	-4.069323019					P.S.	
##	35		C3S1	0.128095032					P.S.	
##	36		C3S1	-0.245598886					P.S.	
##	37		C3S1	-7.997368421					P.S.	
##	38		C3S1	-3.198355263					P.S.	
##	39		C3S1	-1.398684211					P.S.	
##	40		C2S1	-0.799342105					P.S.	

## 41	C3S1	-2.398848684	P.S.
## 42	C2S1	-0.799342105	P.S.
## 43	C3S1	-6.996710526	P.S.
## 44	C3S1	1.600000000	MR
## 45	C3S1	1.201644737	P.S.
## 46	C3S1	2.201151316	MR
## 47	C3S1	1.801315789	MR
## 48	C2S1	-3.799013158	P.S.
## 49	C3S1	-3.198684211	P.S.
## 50	C3S1	-2.598026316	P.S.
## 51	C2S1	0.600986842	P.S.
## 52	C3S1	-4.198026316	P.S.
## 53	C3S1	-0.998848684	P.S.
## 54	C3S1	0.201151316	P.S.
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## 56	C3S1	-1.198190789	P.S.
## 57	C3S1	-3.997861842	P.S.
## 58	C4S4	7.416119755	U.S.
## 59	C3S1	-8.867364649	P.S.
## 60	C3S1	-5.138299807	P.S.
## 61	C4S1	-11.295548330	P.S.
## 62	C3S1	-5.279870517	P.S.
## 63	C4S4	10.883768300	U.S.
## 64	C3S1	-4.519997771	P.S.
## 65	C2S1	-0.831834654	P.S.
## 66	C3S1	-5.985300790	P.S.
## 67	C4S3	4.321995404	U.S.
## 68	C4S2	-3.730803026	P.S.
## 69	C3S1	4.996379813	U.S.
## 70	C3S1	-3.829276909	P.S.
## 71	C3S1	0.017517975	P.S.
## 72	C3S1	-4.495517190	P.S.
## 73	C3S1	-4.618061875	P.S.
## 74	C3S1	-1.740947206	P.S.
## 75	C3S1	1.030809203	P.S.
## 76	C3S1	0.269266468	P.S.
## 77	C4S1	-2.556707626	P.S.
## 78	C2S1	-0.601634094	P.S.
## 79	C3S1	0.131749487	P.S.
## 80	C3S1	0.005508256	P.S.
## 81	C2S1	-0.293087410	P.S.
## 82	C2S1	-0.164866735	P.S.
## 83	C3S1	-0.619505526	P.S.
## 84	C3S1	1.064437024	P.S.
## 85	C2S1	-0.289382777	P.S.
## 86	C2S1	1.070687528	P.S.
## 87	C3S1	-0.788220504	P.S.
## 88	C2S1	-1.362730335	P.S.
## 89	C3S1	-2.900196130	P.S.
## 90	C2S1	0.800657895	P.S.
## 91	C2S1	0.400986842	P.S.
## 92	C2S1	0.000986842	P.S.
## 93	C3S1	-0.998848684	P.S.
## 94	C2S1	0.400493421	P.S.

## 95	C4S1	-10.463001000	P.S.
## 96	C3S1	-2.355569765	P.S.
## 97	C3S1	-1.362454090	P.S.
## 98	C4S1	-8.510919731	P.S.
## 99	C3S1	1.306381567	MR
## 100	C3S1	-0.391922015	P.S.
## 101	C3S1	-2.519367062	P.S.
## 102	C3S1	-4.163620195	P.S.
## 103	C3S1	-2.652311667	P.S.
## 104	C2S1	-0.963934346	P.S.
## 105	C3S1	-0.580641762	P.S.
## 106	C3S1	-2.454185429	P.S.
## 107	C3S1	-4.544346076	P.S.
## 108	C3S1	-1.310201147	P.S.
## 109	C3S1	-1.031802885	P.S.
## 110	C3S1	3.601480263	U.S.
## 111	C2S1	0.000822368	P.S.
## 112	C2S1	1.000493421	P.S.
## 113	C2S1	0.400986842	P.S.
## 114	C2S1	0.801151316	P.S.
## 115	C2S1	1.001480263	P.S.
## 116	C3S1	-1.998026316	P.S.
## 117	C3S1	3.802302632	U.S.
## 118	C3S1	-1.197861842	P.S.
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## 121	C3S2	1.001480263	P.S.
## 122	C1S1	-0.599671053	P.S.
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## 129	C3S1	-7.270733624	P.S.
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## 131	C3S1	-4.943259503	P.S.
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## 134	C3S1	-1.065254689	P.S.
## 135	C3S1	-7.872556440	P.S.
## 136	C3S1	-0.798519737	P.S.
## 137	C2S1	0.400822368	P.S.
## 138	C4S4	3.001480263	U.S.
## 139	C3S1	-1.798848684	P.S.
## 140	C2S1	-1.399013158	P.S.
## 141	C2S1	-0.798848684	P.S.
## 142	C3S1	2.741027251	U.S.
## 143	C3S1	-0.434993748	P.S.
## 144	C3S1	0.337581688	P.S.
## 145	C3S1	-1.834948766	P.S.
## 146	C3S1	-5.618946658	P.S.
## 147	C4S2	-5.814117227	P.S.
## 148	C3S1	-0.427206974	P.S.

## 149	C3S1	-2.258452531	P.S.
## 150	C3S1	-1.870300461	P.S.
## 151	C4S1	-8.443505351	P.S.
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## 161	C3S1	1.607189842	MR
## 162	C3S1	2.758822852	U.S.
## 163	C4S1	-6.626937161	P.S.
## 164	C2S1	-0.127444553	P.S.
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## 166	C3S1	1.802661271	MR
## 167	C3S1	-0.071069954	P.S.
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## 169	C2S1	0.400328947	P.S.
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## 183	C4S1	-20.177477030	P.S.
## 184	C3S1	-1.141967438	P.S.
## 185	C3S4	12.750008020	U.S.
## 186	C2S1	0.064847175	P.S.
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## 190	C4S4	6.466190054	U.S.
## 191	C3S3	9.245858823	U.S.
## 192	C3S1	0.598461833	P.S.
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## 194	C3S1	-4.834441317	P.S.
## 195	C3S1	-3.129176638	P.S.
## 196	C2S2	5.491410586	U.S.
## 197	C4S4	17.412601640	U.S.
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## 203	C4S2	-1.720581969	P.S.
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## 214	C3S1	-0.120266670	P.S.
## 215	C3S3	4.741473134	U.S.
## 216	C3S1	-6.787015139	P.S.
## 217	C2S1	2.942454881	U.S.
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## 219	C3S1	-3.038126411	P.S.
## 220	C4S2	-16.345400830	P.S.
## 221	C4S1	-16.493166360	P.S.
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## 224	C3S1	2.574456388	U.S.
## 225	C3S1	4.054666595	U.S.
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## 228	C3S1	1.132061869	P.S.
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## 260	C3S1	0.780487581	P.S.
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## 263	C3S1	1.228515910	P.S.
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## 274	C4S2	1.245016597	P.S.
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## 308	C3S1	1.800493421	MR
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## 321	C2S1	-0.942997003	P.S.
## 322	C3S1	-5.162176102	P.S.
## 323	C2S1	1.471701370	MR
## 324	C3S1	-4.948443831	P.S.
## 325	C3S1	-6.567012639	P.S.
## 326	C2S1	0.075378125	P.S.
## 327	C3S1	-4.553918704	P.S.
## 328	C2S1	-1.346366670	P.S.
## 329	C2S1	0.415908514	P.S.
## 330	C2S1	0.507528758	P.S.
## 331	C2S1	-1.881493493	P.S.
## 332	C3S1	-6.417801232	P.S.
## 333	C2S1	-0.967067797	P.S.
## 334	C3S1	-4.684698918	P.S.
## 335	C2S1	-0.838280645	P.S.
## 336	C2S1	-0.616297996	P.S.
## 337	C3S1	1.130955747	P.S.
## 338	C4S1	-1.919173690	P.S.
## 339	C3S1	1.195261751	P.S.
## 340	C3S1	-2.807544523	P.S.
## 341	C3S1	-2.147693782	P.S.
## 342	C3S1	-4.545336439	P.S.
## 343	C4S1	-2.102619292	P.S.
## 344	C4S2	-9.995394737	P.S.
## 345	C2S1	-0.998848684	P.S.
## 346	C2S1	-0.599013158	P.S.
## 347	C2S1	-0.199177632	P.S.
## 348	C3S1	-0.598026316	P.S.
## 349	C3S1	-0.397697368	P.S.
## 350	C2S1	0.201151316	P.S.
## 351	C3S1	-0.998190789	P.S.
## 352	C3S1	-4.398026316	P.S.
## 353	C3S1	-0.798190789	P.S.
## 354	C3S1	-2.198026316	P.S.
## 355	C2S1	-3.598684211	P.S.
## 356	C3S1	-7.597861842	P.S.
## 357	C3S1	-3.998519737	P.S.
## 358	C3S1	1.001480263	P.S.
## 359	C3S1	-1.197697368	P.S.
## 360	C4S2	-2.798519737	P.S.
## 361	C2S1	-0.798519737	P.S.
## 362	C3S1	1.077676655	P.S.
## 363	C4S1	-8.779302592	P.S.
## 364	C3S1	-1.157527218	P.S.

```
## 365          C3S2    3.598216649          U.S.
## 366          C3S1   -8.644301687          P.S.
## 367          C3S1   -9.398766863          P.S.
## 368          C3S1   -0.198805330          P.S.
## 369          C4S2   -1.892398676          P.S.
## 370          C3S1   -4.379773654          P.S.
## 371          C4S1   -4.799977922          P.S.
## 372          C3S1   -0.721993372          P.S.
## 373          C4S2  -20.030749910          P.S.
## 374          C3S1   -2.707125173          P.S.
```

#The below functions gives statistics such as mean,median,min,max etc., for the variable 'lat_gis'.
summary(my_file)

```
##          sno          district          mandal          village
## Min.      : 1.00    Length:374    Length:374    Length:374
## 1st Qu.: 94.25    Class :character    Class :character    Class :character
## Median :189.50    Mode  :character    Mode  :character    Mode  :character
## Mean      :189.07
## 3rd Qu.:283.75
## Max.      :379.00
##
##          lat_gis          long_gis          gwl          season
## Min.      :15.90    Min.      :77.44    Min.      : 0.570    Length:374
## 1st Qu.:17.13    1st Qu.:78.19    1st Qu.: 5.115    Class :character
## Median :17.63    Median :78.58    Median :10.000    Mode  :character
## Mean      :17.70    Mean      :78.79    Mean      :12.074
## 3rd Qu.:18.35    3rd Qu.:79.34    3rd Qu.:16.575
## Max.      :19.73    Max.      :80.92    Max.      :43.170
##
##                                     NA's      :3
##          pH          E.C          TDS          CO3
## Min.      : 6.600    Min.      : 212.0    Min.      : 135.7    Min.      : 0.000
## 1st Qu.: 7.580    1st Qu.: 766.2    1st Qu.: 490.4    1st Qu.: 0.000
## Median : 7.920    Median :1173.5    Median : 751.0    Median : 0.000
## Mean      : 7.893    Mean      :1310.6    Mean      : 838.8    Mean      : 7.059
## 3rd Qu.: 8.217    3rd Qu.:1666.2    3rd Qu.:1066.4    3rd Qu.: 0.000
## Max.      :10.440    Max.      :5440.0    Max.      :3481.6    Max.      :100.000
##
##          HCO3          Cl          F          NO3
## Min.      : 30.0    Min.      : 10    Min.      :0.0700    Min.      : 0.4429
## 1st Qu.:186.5    1st Qu.: 60    1st Qu.:0.6923    1st Qu.: 20.6301
## Median :263.8    Median : 140    Median :1.0600    Median : 46.4038
## Mean      :277.7    Mean      : 187    Mean      :1.2376    Mean      : 73.7667
## 3rd Qu.:353.5    3rd Qu.: 260    3rd Qu.:1.5450    3rd Qu.:101.0668
## Max.      :970.6    Max.      :1500    Max.      :4.9700    Max.      :735.2140
##
##          SO4          Na          K          Ca
## Min.      : 1.00    Min.      : 5.076    Min.      : 0.160    Min.      : 8.00
## 1st Qu.: 15.00    1st Qu.: 58.077    1st Qu.: 1.933    1st Qu.: 40.00
## Median : 24.00    Median : 96.698    Median : 3.000    Median : 56.00
## Mean      : 44.07    Mean      :122.496    Mean      : 7.832    Mean      : 73.54
## 3rd Qu.: 43.56    3rd Qu.:153.623    3rd Qu.: 5.990    3rd Qu.: 96.00
## Max.      :453.00    Max.      :714.800    Max.      :213.700    Max.      :488.00
##
```

```
##           Mg           T.H           SAR           Classification
## Min.      : 4.862   Min.      : 39.99   Min.      : 0.2015   Length:374
## 1st Qu.: 24.310   1st Qu.: 239.94   1st Qu.: 1.4951   Class :character
## Median : 43.758   Median : 339.93   Median : 2.1339   Mode  :character
## Mean      : 50.480   Mean      : 391.20   Mean      : 2.8996
## 3rd Qu.: 63.206   3rd Qu.: 499.92   3rd Qu.: 3.3393
## Max.      :228.514   Max.      :2099.64   Max.      :31.0795
##
## RSC..meq....L      Classification.1
## Min.      :-30.87054   Length:374
## 1st Qu.: -3.82171     Class :character
## Median : -1.26095     Mode  :character
## Mean      : -2.12925
## 3rd Qu.:  0.01452
## Max.      : 17.41260
##
```

```
mean(my_file$lat_gis)
```

```
## [1] 17.7012
```

```
median(my_file$lat_gis)
```

```
## [1] 17.63223
```

```
sd(my_file$lat_gis)
```

```
## [1] 0.852885
```

```
var(my_file$lat_gis)
```

```
## [1] 0.7274128
```

```
min(my_file$lat_gis)
```

```
## [1] 15.89644
```

```
max(my_file$lat_gis)
```

```
## [1] 19.73055
```

```
str(my_file$lat_gis)
```

```
## num [1:374] 19.7 19.5 19.5 19.7 19.5 ...
```

```
#Gives frequency counts for the categorical variables mandal,village.
```

```
table(my_file$mandal)
```

```
##
##      Adilabad      Advidevulapally      Alair      Alampur
##      1            1            1            1
##      Alwal            Amangal      Amarabad      Ameerpet
##      1            1            1            1
##      Andole      Annapureddypalli      Anumula      Armoor
##      1            1            4            1
##      Arvapally      Ashwapuram      Asifabad      Asifnagar
##      2            1            1            2
##      Atmakur      Atmakuru      B.Pochampalli      Bachannapet
##      1            1            1            1
##      Balanagar      Balmur      Bandlaguda      Bansawada
##      1            1            1            1
##      Bantwaram      Basheerabad      Bazarhatnur      Bellampally
##      1            1            1            1
##      Bhadrachalam      Bheemadevarapally      Bheemgal      Bhiknoor
##      1            1            1            2
##      Bhoothpur      Bibipet      BICHKUNDA      Bijinepalli
##      1            1            1            1
##      Bodhan      Bomraspet      Bonakal      Burgampad
##      1            1            1            1
##      CC Kunta      Chandampet      Chandrugonda      Chandur
##      3            1            1            4
##      Charminar      Chegunta      Chennaraopet      Chennur
##      1            1            1            1
##      Chevella      Chityala      Chivemla      Choppadandi
##      2            1            1            1
##      Choutuppal      Darpally      Devarakonda      Devarkadara
##      1            1            2            1
##      Devaruppula      Dhantalapally      Dharmapuri      Dharmaram
##      1            1            1            1
##      Dharmasagar      Dharoor      Dichpally      Doma
##      1            3            1            1
##      Domakonda      Dornakal      Doulathabad      Duggondi
##      1            1            1            1
##      Dummugudem      Eligedu      Eturu Nagaram      Farooqnagar
##      1            1            2            1
##      Gadwal      Gajwel      Gambhiraopet      Gandhari
##      1            1            1            2
##      Gangadhara      Gattu      Ghanpur      Ghanpur Mulug
##      1            1            1            1
##      Gollapalli      Gopalpet      Govindaraopet      Gudihatnoor
##      1            1            2            1
##      Gummadiddla      Gundala      Gundlapally      Gurrampode
##      1            1            1            2
##      Hanamkonda      Hanwada      Hasanparthi      Hathnoora
##      2            1            1            2
##      Havelighanpur      Huzurabad      Ibrahimpatnam      Ieeza
##      1            1            2            1
##      Illanthakunta      Indalwai      Jadcherla      Jagdevpur
##      1            1            1            1
```

##	Jagityal	Jainath	Jaipur	Jakrampally
##	1	1	1	1
##	Jangaon	Jinnaram	Jukkal	Julapalli
##	1	1	1	1
##	Julurpadu	K-T Doddi	K.Mallepally	Kadam
##	1	2	1	1
##	Kagaznagar	Kalher	Kallur	Kalwakuthy
##	1	2	1	1
##	Kamalapur	Kamareddy	Kamepalli	Kammarapalli
##	1	2	1	1
##	kanagala	Kandi	Kandukur	Karakagudem
##	1	1	1	1
##	Kataram	Kathalapur	Kattangur	Kerameri
##	1	1	2	1
##	Kesamudram	Keshampet	Khammam (R)	Khammam(U)
##	1	1	1	2
##	Khanapur	Kodair	Kodangal	Kodimal
##	2	1	2	1
##	Koilkonda	Kollapur	Konaraopet	Konijerla
##	1	1	1	1
##	Koravi	Korutla	Kosigi	Kotagiri
##	1	1	1	1
##	Kothakota	Kothur	Kowthala	Kubeer
##	1	1	1	1
##	Kukatpally	Kulcharam	Kuntala	Kusumanchi
##	2	1	1	1
##	Laxmanchanda	Laxmidevipalli	Lingal	Lingala ghanpur
##	1	1	1	1
##	Lingampet	Lokeswaram	Machareddy	Maddnur
##	1	2	1	1
##	Maddur	Madgula	Mahabubabad	Mahabubnagar (R)
##	1	1	1	1
##	Mahabubnagar(U)	Mahadevpur	Maheswaram	Makthal
##	1	1	1	1
##	Maldakal	Malkajgiri	Mallapur	Mallial
##	1	1	1	1
##	Mamada	Manchal	Mandamarri	Manopad
##	1	1	1	1
##	Manuguru	Maredpally	Marikal	Marpalli
##	1	1	1	1
##	Marriguda	Marripeda	Mattampalle	Medak
##	1	1	1	1
##	Mellacheruvu	Metpalli	Midjil	Mirdoddi
##	1	1	1	1
##	Moinabad	Morthad	Mothukur	Mudigonda
##	1	1	1	1
##	Mugpal	Mulugu	Munugode	Mupkal
##	1	1	2	1
##	Nagarkurnool	Nagireddipet	Nakrekal	Nalgonda
##	1	1	3	3
##	Nampally	Nandipet	Nanganur	Narasampet
##	1	3	1	1
##	Narasapur	Narayanpet	Narketpalli	Narnoor
##	2	3	2	1

##	Narva	Nasurullabad	Nawabpet	Nekkonda
##	1	1	2	1
##	Nellikudur	Neradigonda	Nidamanuru	Nirmal
##	1	1	1	1
##	Nizamabad	Nizamsagar	Nuthankal	Odella
##	1	1	1	1
##	P.A Pally	Palakurthi	Palwancha	Pangal
##	1	1	1	1
##	Papannapet	Parigi	Parkal	Parvathagiri
##	1	1	1	1
##	Patancheru	Pebbair	Peddamandadi	Peddumul
##	2	1	1	1
##	Peddapalli	Peddavoor	Pegadapalli	Pudur
##	1	1	1	1
##	Qutubullapur	R.C.Puram	Raghunadhapalli	Raikal
##	2	1	1	1
##	Raipole	Rajampet	Rajapet	Rajender Nagar
##	1	1	3	1
##	Ramannapet	RAMAREDDY	Rayaparthi	Rebbena
##	1	1	1	1
##	Regode	Regonda	Renjal	Rudrur
##	1	1	1	1
##	S.Narayanpur	Sadasivanagar	Saidabad	Saidapur
##	1	1	1	1
##	Sangem	Sarangapur	Sathupalli	Serilingampally
##	1	2	1	1
##	Shahbad	Shaligowraram	Shamshabad	Shankarampet
##	1	1	1	1
##	Shankarampet R	Shankarpalli	Shivampet	Siddipet
##	1	1	3	1
##	Sircilla	Sirikonda	Tadwai	Talakondapalli
##	1	1	1	1
##	Talamadugu	Tamsi	Tandur	Tanur
##	1	1	2	1
##	Tekmal	Tekulapalli	Telkapally	Thallada
##	1	2	1	1
##	Thimmajipet	Thimmapur	Thiparthi	Thirumalayapalem
##	1	1	2	2
##	Thungathurthi	Thurkapally	Tiryani	Toopran
##	1	1	1	2
##	Torrur	Uppununuthala	Utkoor	Utnoor
##	1	1	2	1
##	Vailpoor	Valigonda	Varni	Veldanda
##	2	2	1	1
##	Velgatur	Vemanpally	Vemsur	Vemulawada
##	1	1	1	1
##	Vikarabad	Waddepalli	warangal	Wardhannapet
##	1	1	1	1
##	Wargal	Y.Gutta	Yacharam	Yalal
##	1	1	1	1
##	Yedapalli	Yeldurthy	Yellandu	Yellareddipet
##	1	3	1	1
##	Yerrupalem	Zafergad		
##	1	1		

```
table(my_file$village)
```

```
##
##      Abdullapur      Adilabad      Adloor
##      1            1            1
##      Ailapoor      Akkenepally      Alampur
##      1            1            1
##      Alugunur      Alur      Amangal
##      1            1            1
##      Ambatipalli      Ambatipally      Ameenpet
##      1            1            1
##      Angadipet      Anjanapuram      Ankushpur
##      2            1            1
##      Annapureddypalli      Anumula      Argonda
##      1            1            1
##      Arlagaddagudam      Arsapally      Asifabad
##      1            1            1
##      Aswapuram      Atmakur      Atmakuru
##      1            1            1
##      Ayyagaripally      Ayyavaripalli      B. Chandupatla
##      1            1            1
##      B.Pochampalli      Bachannapet      Bachapally
##      1            1            1
##      Bachode      Balanagar 1      Balmur
##      1            1            1
##      Bandirevu      Bangarigadda      Banigandlapadu
##      1            1            1
##      Bansawada      Bantwaram      Basheerabad
##      1            1            1
##      Bazarhatnur      Beeravelly      Bellampally I
##      1            1            1
##      Bethampudi      Bhadrachalam      Bhavanipet
##      1            1            1
##      Bheemgal      Bhiknoor      Bhoompalli
##      1            1            1
##      Bhosi      Bibipet      Bijinepalli
##      1            1            1
##      Bodhan      Bomraspet      Bondugala
##      1            1            1
##      Borapatla      Byathole      Chandampet
##      1            1            1
##      Chandraingutta      Chandur      Charbowli
##      1            1            1
##      Chegunta      Chelpur(D)      Chennaraopet
##      1            1            1
##      Chennur I      Chepial      Cheruvu Annaram
##      1            1            1
##      Chinnaporla      Chintagudem      D.Malkapur
##      1            1            1
##      Damagnapur      Dammaipally      Darul Shifa
##      1            1            1
##      Devarakadra      Dhantalapally      Dharmapuri
##      1            1            1
```

##	Dharmaram	Dharmasagar	Dharoor
##	1	1	2
##	Doma	Domakonda	Domalapenta
##	1	1	1
##	Doulathabad	Duggondi	Dupally
##	1	1	1
##	Edulapally	Eligedu	Elkicherla
##	1	1	1
##	Eturu Nagaram (D)	Eturu Nagaram (S)	Gachibowli
##	1	1	1
##	Gadwal	Gajularamaram	Gajwel
##	1	2	1
##	Gandamalla	Gandhari	Gangadhara
##	1	1	1
##	Gannaram	Gattu	Gavvalapalli
##	1	1	1
##	Ghanapur	Gollapalli	Gopalpet
##	1	1	1
##	Gudihatnoor	Gudur	Gummadiddla
##	1	1	1
##	Gummakonda	Gurrampode	Hanumkonda
##	1	1	1
##	Hanwada	Himayanagar	Huzurabad
##	1	1	1
##	Ibrahimpattanam	Ieeza	Illanthukunta
##	1	1	1
##	Inayathnagar	Islampur	Isnapur
##	1	1	1
##	Jadcherla	Jagityal	Jainath
##	1	1	1
##	Jaipur	Jakrampally	Jangaon
##	1	1	1
##	Jogipet	Jukkal	Julapalli
##	1	1	1
##	Juvinile home	K.Mallepally	Kadam
##	1	1	1
##	Kagaznagar	Kaithalapur	Kallur
##	1	1	2
##	Kalwakuthy	kanagala	Kanaipally
##	1	1	1
##	Kanchanapalli	Kandukur	Karakagudem
##	2	1	1
##	Kathalapur	Katangur	Kerameri
##	1	1	1
##	Kesamudram	Keshampet	Khammam-II
##	1	1	1
##	Khammam I	Khanapur	Kistapur
##	1	2	1
##	Kodair	Kodangal	Kodur
##	1	1	2
##	Kolanpaka	Kollampally	Kollapur
##	1	1	1
##	Komararam	Kompalli	Kondapur
##	1	1	1

##	Konijerla	Koppole	Korutla
##	1	1	1
##	Kosigi	Kotakonda	Kothalingala
##	1	1	1
##	Kothapalli	Kothur	Kowthala
##	1	1	1
##	Kubeer	Kuchinerla	Kukatpally
##	1	1	1
##	Kukunoor	Kulsanapur	Kuntala
##	1	1	1
##	Kurumurthy	Kusumanchi	Laxmanchanda
##	1	1	1
##	Laxmidevipalli	Lingala ghanpur	Lokeswaram
##	1	1	1
##	M.Banjara	M.V.Palem	Machareddy
##	1	1	1
##	Maddur	Madgula	Mahabubabad
##	1	1	1
##	Maheswaram	Majidpalli	Makthal
##	1	1	1
##	Maldakal	Malkajgiri	Mallapur
##	1	1	1
##	Mallapuram	Malthummeda	Mamada
##	1	1	1
##	Mamidala	Mamnoor	Manchal
##	1	1	1
##	Manchippa	Mandamarri	Mangalpally
##	1	1	1
##	Mannegudem	Manopad	Maredpally(s)
##	1	1	1
##	Marikal	Marpalli	Marriguda
##	1	1	1
##	Marripeda	Medak	Meerkhanpally
##	1	1	1
##	Mellacheruvu	Menoor	Metpalli
##	1	1	1
##	Mohammadnagar	Moinabad	Morthad
##	1	1	1
##	Mudigonda	Mulugu	Munigadapa
##	1	1	1
##	Mupkal	Mushampally	Mustikunta
##	1	1	1
##	Mutayapally	Mutyalampadu	Nagaram
##	1	1	1
##	Nagarkurnool	Nakrekal	Nampally
##	1	1	1
##	Narasampet	Narasannapally	Narasapur
##	1	1	1
##	Narayanagiri	Narayanapet	Narketpalli
##	1	1	1
##	Narmal	Narnoor	Narva
##	1	1	1
##	Nasthipur	Nasurullabad	Nawabpet
##	1	1	1

##	Neelahally	Neelwai	Nellikudur
##	1	1	1
##	Neradigonda	Nidamanur	Nirmal
##	1	1	1
##	Nizamabad	Nukapalli	Nuthankal
##	1	1	1
##	Nutpally	Odella	Old Alwal
##	1	1	1
##	Ootla	P. Narsapuram	P.D.Mallareddy
##	1	1	1
##	P.Kondaram	Padamtipally	Pagideru
##	1	1	1
##	Palakurthi	Palmokole	Pangal
##	1	1	1
##	Papannapet	Parigi	Parkal
##	1	1	1
##	Parvathagiri	Pasra	Patancheruvu
##	1	1	1
##	Peddmandadi	Peddumul	Peddapalli
##	1	1	1
##	Peddavolgate	Pegadapalli	perkit
##	1	1	1
##	Prakashnagar	Project Nagar	Pudur
##	1	1	1
##	Pulkal	Qutubullapur 2	R.C.Puram
##	1	1	1
##	Racherla Boppasur	Raghunadhapalem	Raghunadhapalli
##	1	1	1
##	Raikal	Raipole	Rajapet
##	1	1	1
##	Rajavaram	Rajender Nagar	Ramadugu
##	1	1	1
##	Ramanapet	Ramayapally	Rampur
##	1	1	1
##	Rangampet	Ravikampadu	Rayakur
##	1	1	1
##	Rayaparthi	Rebbena II	Reddypally
##	1	1	1
##	Reddypet	REGELLA	Regonda
##	1	1	1
##	Rudraram (S)	Rukmapur	S L B C G V guda
##	1	1	1
##	S.Narayanpur	S.R.Nagar	Sadasivanagar
##	1	1	1
##	Saidapur	Sangem	Santhinagar
##	1	1	1
##	Sarangapur	Sarvapor	Seetarampuram
##	1	1	1
##	Seethampet	Shadnagar	Shahbad
##	1	1	1
##	Shanigaram	Shankarampally 125(D)	Shankarampet
##	1	1	1
##	Shankarpalli	Shivampet	Siddipet
##	1	1	1

##	Singarajupalli	Sircilla(urban)	Sirdepally
##	1	1	1
##	Somaram	Sreerampur	T. somaram
##	1	1	1
##	T.lingampally	Talakondapalli	Talamadugu
##	1	1	1
##	Tamsi	Tandur	Tandur
##	1	1	1
##	Tatikole	Tekmal	Telkapally
##	1	1	1
##	Thipparthi	Thirmalapur	Thungathurthi
##	1	1	1
##	Tirumalayapalem	Tiryani	Toopran
##	1	1	1
##	Torrur	Ulsaipalem	Uppununthala
##	1	1	1
##	Usrikapally	Utkoor	Utnoor
##	1	1	1
##	Vailpoor	Vallabhapur	Vangara
##	1	1	1
##	Varni	Vattinenipally(s)	Vavikole
##	1	1	1
##	Veldanda	Velgatur	Veliminedu
##	1	1	1
##	Velmaguda	Velmal	Vemsur
##	1	1	1
##	Vemulakonda	Vemulawada(rural)	Vikarabad(S)
##	1	1	1
##	Wardhannapet	Yacharam	Yalal
##	1	1	1
##	Yanampally	Yedapalli	Yenugonda
##	1	1	1
##	Yerrapahad	Zafergad	
##	1	1	

```
str(my_file$mandal)
```

```
## chr [1:374] "Adilabad" "Bazarhatnur" "Gudihatnoor" "Jainath" "Narnoor" ...
```

```
#transforming variables
```

```
log(my_file$lat_gis)
```

```
## [1] 2.979008 2.968304 2.971724 2.982168 2.970192 2.959781 2.977232 2.979659
## [9] 2.964185 2.853853 2.881537 2.871686 2.870435 2.856390 2.885917 2.878637
## [17] 2.858661 2.892295 2.866364 2.888704 2.887590 2.865624 2.864484 2.874129
## [25] 2.910640 2.923280 2.928292 2.903617 2.858900 2.856334 2.854975 2.852612
## [33] 2.855378 2.858824 2.855608 2.854226 2.941643 2.933357 2.939088 2.935196
## [41] 2.931342 2.924490 2.934846 2.942579 2.929026 2.936395 2.928865 2.939709
## [49] 2.940733 2.935733 2.878681 2.867439 2.873412 2.871251 2.871817 2.877213
## [57] 2.877236 2.766095 2.786515 2.789029 2.787022 2.780600 2.773537 2.776960
## [65] 2.783714 2.780660 2.770436 2.768832 2.911970 2.901202 2.899937 2.901696
```

```
## [73] 2.912296 2.904165 2.912133 2.910430 2.910392 2.909292 2.905184 2.905758
## [81] 2.908485 2.916851 2.896685 2.916040 2.906524 2.903288 2.912840 2.912677
## [89] 2.906518 2.919575 2.922056 2.900844 2.902234 2.912398 2.835611 2.845491
## [97] 2.858161 2.850516 2.846844 2.847957 2.846135 2.846118 2.844182 2.844572
## [105] 2.845764 2.850689 2.851715 2.841660 2.824944 2.963189 2.962987 2.967539
## [113] 2.971537 2.957875 2.953580 2.863041 2.854981 2.872525 2.862372 2.867802
## [121] 2.855619 2.867314 2.866967 2.810787 2.803342 2.799805 2.802312 2.809752
## [129] 2.821878 2.819841 2.818995 2.814210 2.819072 2.818434 2.826603 2.948223
## [137] 2.936631 2.936209 2.943316 2.952714 2.946962 2.886704 2.895055 2.887317
## [145] 2.893301 2.875540 2.878389 2.892712 2.887220 2.893240 2.888759 2.878428
## [153] 2.878170 2.880383 2.889004 2.883526 2.881516 2.888548 2.885616 2.887328
## [161] 2.861858 2.860485 2.860485 2.861115 2.859282 2.863914 2.862201 2.910155
## [169] 2.908943 2.901830 2.904800 2.785726 2.793073 2.805496 2.813431 2.789300
## [177] 2.779254 2.789753 2.802860 2.799419 2.810751 2.800327 2.817267 2.815817
## [185] 2.821307 2.823347 2.814220 2.817150 2.808105 2.832277 2.832311 2.831335
## [193] 2.834089 2.846589 2.814009 2.810922 2.813958 2.824452 2.828178 2.817167
## [201] 2.829521 2.844831 2.842691 2.829673 2.842362 2.839038 2.841363 2.842543
## [209] 2.847171 2.831737 2.836747 2.839681 2.850133 2.844924 2.823757 2.816400
## [217] 2.820099 2.847780 2.834022 2.837042 2.832309 2.824766 2.803392 2.808923
## [225] 2.813487 2.818637 2.817938 2.801577 2.811852 2.808271 2.949511 2.946914
## [233] 2.957485 2.953310 2.945336 2.942875 2.945728 2.948534 2.949291 2.951761
## [241] 2.950177 2.934282 2.929325 2.926945 2.923860 2.924612 2.918446 2.928908
## [249] 2.928988 2.918633 2.935239 2.919877 2.939849 2.936672 2.941091 2.935504
## [257] 2.927739 2.930287 2.923710 2.923377 2.934442 2.932420 2.920092 2.927346
## [265] 2.930943 2.920586 2.924263 2.915216 2.923253 2.852093 2.824006 2.852785
## [273] 2.858193 2.837908 2.829911 2.842505 2.823955 2.841123 2.842581 2.846071
## [281] 2.852439 2.845142 2.851631 2.836924 2.845026 2.859512 2.826722 2.836150
## [289] 2.881208 2.872711 2.871942 2.873830 2.869653 2.898042 2.897220 2.868529
## [297] 2.865162 2.863676 2.862721 2.881707 2.879945 2.897060 2.874773 2.895293
## [305] 2.886230 2.896094 2.880507 2.906011 2.907554 2.916164 2.909932 2.917037
## [313] 2.911111 2.851663 2.855705 2.841517 2.818610 2.823601 2.852660 2.856398
## [321] 2.859053 2.845549 2.842814 2.850880 2.838376 2.833113 2.839032 2.841006
## [329] 2.863857 2.859053 2.843746 2.852439 2.848623 2.847870 2.851920 2.844909
## [337] 2.793432 2.807175 2.795976 2.796565 2.787921 2.779788 2.799145 2.894176
## [345] 2.883851 2.891449 2.884734 2.886068 2.879653 2.901510 2.876074 2.873237
## [353] 2.883929 2.877680 2.897782 2.889844 2.890416 2.885186 2.894674 2.900547
## [361] 2.889366 2.873399 2.852797 2.848291 2.856686 2.877416 2.875226 2.875014
## [369] 2.849730 2.841690 2.875433 2.856468 2.853465 2.869804
```

```
log(my_file$long_gis)
```

```
## [1] 4.363413 4.361197 4.363254 4.364880 4.367581 4.361979 4.361784 4.362166
## [9] 4.366513 4.392300 4.392091 4.393225 4.391867 4.389630 4.393461 4.387263
## [17] 4.388510 4.389103 4.389734 4.391110 4.389250 4.387636 4.388257 4.386019
## [25] 4.380194 4.380755 4.382800 4.379242 4.362384 4.362401 4.362296 4.362895
## [33] 4.362908 4.363213 4.362767 4.363201 4.370737 4.370108 4.364110 4.367498
## [41] 4.365513 4.368635 4.365724 4.365724 4.368463 4.364633 4.370263 4.366949
## [49] 4.368917 4.371594 4.369982 4.372908 4.371312 4.371973 4.374782 4.372779
## [57] 4.375593 4.358260 4.352584 4.352106 4.354168 4.351254 4.352490 4.354546
## [65] 4.350613 4.352696 4.356110 4.354643 4.355156 4.361811 4.362500 4.363392
## [73] 4.353717 4.362283 4.358080 4.356518 4.351619 4.361103 4.361335 4.357452
## [81] 4.363009 4.352237 4.358528 4.355079 4.355537 4.360190 4.362041 4.360088
## [89] 4.359564 4.371296 4.369560 4.374594 4.373303 4.371360 4.384812 4.388837
## [97] 4.384995 4.383237 4.383691 4.383820 4.385655 4.381505 4.383258 4.393142
```

```
## [105] 4.387791 4.380783 4.382663 4.392039 4.388009 4.373062 4.375719 4.370160
## [113] 4.378676 4.374700 4.372888 4.378705 4.382575 4.380862 4.381884 4.382040
## [121] 4.380702 4.379018 4.377781 4.358195 4.353568 4.354357 4.354453 4.354563
## [129] 4.355391 4.358277 4.355419 4.355734 4.356978 4.359672 4.357015 4.375796
## [137] 4.379276 4.376762 4.375478 4.375207 4.379712 4.363336 4.359511 4.358215
## [145] 4.360175 4.360316 4.360079 4.357803 4.354501 4.355647 4.361467 4.361441
## [153] 4.361408 4.361759 4.357098 4.362775 4.362812 4.361176 4.360813 4.360820
## [161] 4.363201 4.362461 4.361824 4.361786 4.363544 4.362079 4.362589 4.387512
## [169] 4.387303 4.384168 4.384454 4.367907 4.363944 4.359224 4.362946 4.360220
## [177] 4.360624 4.362410 4.360581 4.362338 4.359142 4.364261 4.363367 4.375753
## [185] 4.373106 4.373138 4.374593 4.373297 4.368034 4.369681 4.369592 4.370208
## [193] 4.370246 4.369703 4.366880 4.367632 4.366469 4.370604 4.371305 4.369208
## [201] 4.371956 4.373922 4.373494 4.367722 4.369663 4.369368 4.374506 4.374763
## [209] 4.375504 4.373551 4.373250 4.372188 4.372426 4.371867 4.373052 4.370517
## [217] 4.371762 4.374789 4.374729 4.375317 4.352926 4.351658 4.350279 4.352832
## [225] 4.351785 4.352054 4.350035 4.352298 4.350282 4.350497 4.366608 4.365162
## [233] 4.356014 4.357995 4.362600 4.357193 4.357861 4.363391 4.361103 4.360062
## [241] 4.355162 4.360739 4.362359 4.355330 4.360663 4.359896 4.359716 4.360185
## [249] 4.363925 4.353805 4.362449 4.358169 4.361334 4.358169 4.359502 4.358540
## [257] 4.357588 4.356593 4.354880 4.362156 4.361773 4.361645 4.355464 4.356119
## [265] 4.371815 4.372745 4.372597 4.375254 4.374372 4.357529 4.363640 4.358681
## [273] 4.361416 4.362844 4.360923 4.360393 4.365489 4.362321 4.366139 4.364346
## [281] 4.360420 4.360560 4.361888 4.359073 4.358041 4.358387 4.361990 4.365262
## [289] 4.357644 4.361414 4.358721 4.359506 4.360795 4.355015 4.354803 4.359132
## [297] 4.359277 4.360167 4.360551 4.365449 4.367220 4.364336 4.364795 4.369353
## [305] 4.364602 4.367389 4.364201 4.363768 4.368896 4.365883 4.366698 4.367723
## [313] 4.364586 4.377301 4.375719 4.378504 4.380592 4.380832 4.378167 4.376904
## [321] 4.352804 4.349555 4.353105 4.353807 4.354604 4.350813 4.351582 4.350420
## [329] 4.353769 4.356491 4.355169 4.352340 4.356157 4.351451 4.355606 4.352083
## [337] 4.354219 4.357304 4.358436 4.356199 4.358047 4.357011 4.357031 4.378746
## [345] 4.380428 4.379620 4.381151 4.380619 4.379527 4.377484 4.378571 4.376352
## [353] 4.378411 4.376755 4.373805 4.374207 4.376483 4.376975 4.375949 4.376979
## [361] 4.377102 4.369696 4.367050 4.366954 4.373738 4.369024 4.368599 4.369344
## [369] 4.370651 4.367674 4.367596 4.368844 4.371262 4.368329
```

```
s<-my_file$lat_gis-my_file$long_gis-max(my_file$lat_gis)/min(my_file$lat_gis)
```

```
s
```

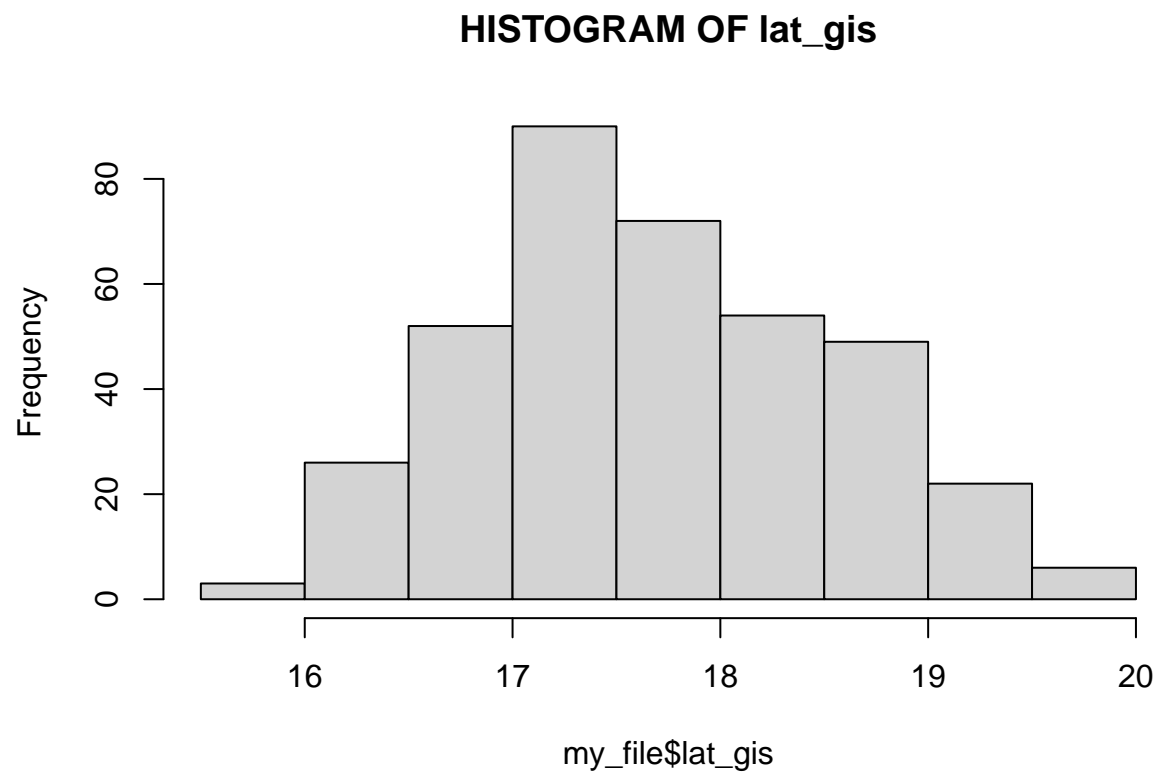
```
## [1] -60.09759 -60.13314 -60.22786 -60.15064 -60.59818 -60.35960 -60.00469
## [8] -59.98689 -60.63079 -64.71278 -64.20876 -64.47534 -64.38759 -64.45319
## [15] -64.24119 -63.87119 -64.32334 -63.77469 -64.28719 -64.00119 -63.87119
## [22] -64.13119 -64.20119 -63.85119 -62.72615 -62.53729 -62.60737 -62.77869
## [29] -62.24278 -62.28881 -62.30419 -62.39219 -62.34519 -62.30919 -62.33019
## [36] -62.38819 -61.39619 -61.50279 -60.92203 -61.26209 -61.17814 -61.55230
## [43] -61.12897 -60.98289 -61.45399 -61.01397 -61.59925 -61.13371 -61.26953
## [50] -61.57559 -62.49259 -62.92309 -62.69129 -62.78179 -62.99459 -62.74009
## [57] -62.96309 -63.46586 -62.69572 -62.61778 -62.81069 -62.68819 -62.89762
## [64] -63.00259 -62.58819 -62.79913 -63.22889 -63.14019 -60.72719 -61.44419
## [71] -61.52119 -61.55919 -60.60919 -61.42719 -60.95219 -60.86159 -60.48119
## [78] -61.24089 -61.33429 -61.02009 -61.40519 -60.41019 -61.26919 -60.64619
## [85] -60.85676 -61.27919 -61.24919 -61.09919 -61.17119 -61.85389 -61.67064
## [92] -62.45928 -62.33157 -61.99155 -64.42353 -64.57789 -64.04954 -64.04139
## [99] -64.14119 -64.13229 -64.31089 -63.97869 -64.15229 -64.94119 -64.48899
```



```
## [106] -63.84209 -63.97464 -64.90199 -64.86119 -61.16764 -61.38248 -60.85344
## [113] -61.45169 -61.40017 -61.33897 -63.46119 -63.91096 -63.46649 -63.72679
## [120] -63.64399 -63.75009 -63.41119 -63.31869 -62.73419 -62.49689 -62.61651
## [127] -62.58275 -62.46823 -62.33006 -62.58942 -62.38066 -62.48519 -62.50088
## [134] -62.72209 -62.37709 -61.67228 -62.16919 -61.97689 -61.74037 -61.53958
## [141] -62.00825 -61.82569 -61.37559 -61.41369 -61.45919 -61.78809 -61.71889
## [148] -61.28438 -61.12580 -61.10669 -61.64219 -61.82489 -61.82689 -61.81499
## [155] -61.29619 -61.83859 -61.87739 -61.62319 -61.64739 -61.61719 -62.25519
## [162] -62.22119 -62.17119 -62.15719 -62.32719 -62.13119 -62.20119 -63.32156
## [169] -63.32699 -63.20528 -63.17399 -63.90801 -63.47645 -62.90234 -63.06219
## [176] -63.24591 -63.44019 -63.41019 -63.05207 -63.24641 -62.80879 -63.38250
## [183] -63.03123 -64.03407 -63.73196 -63.70019 -63.96855 -63.81672 -63.55108
## [190] -63.27553 -63.26789 -63.33319 -63.28939 -63.03244 -63.36193 -63.47260
## [197] -63.33045 -63.48086 -63.47346 -63.49283 -63.50228 -63.39679 -63.39961
## [204] -63.16508 -63.10197 -63.13560 -63.50272 -63.50283 -63.48214 -63.59105
## [211] -63.48192 -63.34763 -63.18676 -63.23225 -63.68647 -63.60911 -63.64569
## [218] -63.41480 -63.64575 -63.64098 -61.96207 -61.99119 -62.24077 -62.34732
## [225] -62.19015 -62.12498 -61.98009 -62.42729 -62.10079 -62.17693 -60.92053
## [232] -60.85624 -59.93753 -60.17229 -60.68500 -60.30869 -60.30659 -60.68614
## [239] -60.49230 -60.36353 -60.01130 -60.74819 -60.96819 -60.46319 -60.93719
## [246] -60.86319 -60.96358 -60.80559 -61.09739 -60.49905 -60.86419 -60.81619
## [253] -60.68981 -60.50219 -60.52289 -60.55319 -60.62448 -60.49919 -60.48849
## [260] -61.06319 -60.82619 -60.85419 -60.60119 -60.51719 -61.68309 -61.94998
## [267] -61.86989 -62.24839 -62.02949 -61.98119 -62.93949 -62.05919 -62.17919
## [274] -62.64119 -62.62663 -62.37039 -63.08573 -62.54519 -62.82019 -62.61919
## [281] -62.20119 -62.33819 -62.33019 -62.36263 -62.14319 -61.91919 -62.76419
## [288] -62.86119 -61.47836 -61.92419 -61.72699 -61.75499 -61.92969 -60.97059
## [295] -60.96899 -61.81929 -61.88989 -61.98553 -62.03239 -62.08119 -62.25209
## [302] -61.71759 -62.15309 -62.14489 -61.93369 -61.97539 -62.00449 -61.51004
## [309] -61.88564 -61.48979 -61.66872 -61.61866 -61.48081 -63.54749 -63.35147
## [316] -63.81811 -64.37297 -64.30833 -63.59919 -63.43367 -61.49219 -61.47419
## [323] -61.79661 -61.71219 -61.98919 -61.78439 -61.74309 -61.61919 -61.48319
## [330] -61.77919 -61.94119 -61.57119 -61.93419 -61.58119 -61.83419 -61.68119
## [337] -62.71019 -62.72459 -62.99739 -62.81318 -63.09846 -63.14919 -62.83569
## [344] -62.91059 -63.23039 -63.02949 -63.27239 -63.20599 -63.23339 -62.67699
## [351] -63.22072 -63.09429 -63.06809 -63.04759 -62.45231 -62.62759 -62.79809
## [358] -62.93119 -62.67889 -62.65430 -62.86629 -62.56373 -62.71577 -62.78615
## [365] -63.17708 -62.43939 -62.44473 -62.50731 -63.05316 -62.95648 -62.36192
## [372] -62.79353 -63.03684 -62.51928
```

```
#plots a histogram of the lat_gis quantitative variable
```

```
hist(my_file$lat_gis,main = "HISTOGRAM OF lat_gis")
```



#plots a scatterplot of lat_gis vs long_gis.

```
plot(my_file$lat_gis,my_file$long_gis,main = "Scatterplot")
```

Scatterplot

