# Greenhouse_gas_cdc

```
dataSet = read.csv("/Users/tao/Downloads/API_EN/API_EN.ATM.CO2E.PC_DS2_en_csv_v2_4578256.csv")
dataSet %>% drop_na()
```

```
##     Country.Code       X2019
## 1            AFE  0.91361779
## 2            AFG  0.15982437
## 3            AFW  0.49392318
## 4            AGO  0.79213707
## 5            ALB  1.69224832
## 6            AND  6.48121743
## 7            ARB  4.40838945
## 8            ARE 19.32956328
## 9            ARG  3.74065029
## 10           ARM  2.08606068
## 11           ATG  5.35447646
## 12           AUS 15.23826715
## 13           AUT  7.29398425
## 14           AZE  3.54239783
## 15           BDI  0.06244267
## 16           BEL  8.09558395
## 17           BEN  0.61858375
## 18           BFA  0.24604625
## 19           BGD  0.55652945
## 20           BGR  5.61085728
## 21           BHR 20.26610279
## 22           BHS  7.29166110
## 23           BIH  6.38291804
## 24           BLR  6.12223777
## 25           BLZ  1.63955001
## 26           BOL  1.94039801
## 27           BRA  2.05781084
## 28           BRB  4.35508203
## 29           BRN 16.13215855
## 30           BTN  1.37597721
## 31           BWA  3.14710707
## 32           CAF  0.05057765
## 33           CAN 15.43061283
## 34           CEB  6.26542422
## 35           CHE  4.35904146
## 36           CHL  4.82111830
## 37           CHN  7.60593696
## 38           CIV  0.42112952
## 39           CMR  0.36442492
## 40           COD  0.03698559
## 41           COG  1.34931602
```

```
## 42          COL  1.60987083
## 43          COM  0.37607636
## 44          CPV  1.18195567
## 45          CRI  1.63247156
## 46          CSS  5.11795837
## 47          CUB  2.28614607
## 48          CYP  5.99879528
## 49          CZE  9.02278616
## 50          DEU  7.91162102
## 51          DJI  0.43140770
## 52          DMA  2.36742427
## 53          DNK  5.10798851
## 54          DOM  2.53562795
## 55          DZA  3.97765046
## 56          EAP  5.93795688
## 57          EAR  2.26506310
## 58          EAS  6.49725752
## 59          ECA  7.36799629
## 60          ECS  6.57673394
## 61          ECU  2.26146982
## 62          EGY  2.48405991
## 63          EMU  6.11440775
## 64          ERI  0.25163585
## 65          ESP  5.09135092
## 66          EST  7.67227791
## 67          ETH  0.16381343
## 68          EUU  6.09343322
## 69          FCS  0.77545099
## 70          FIN  7.37285476
## 71          FJI  1.83155328
## 72          FRA  4.46877009
## 73          FSM  1.58156951
## 74          GAB  2.41648401
## 75          GBR  5.22051449
## 76          GEO  2.71762423
## 77          GHA  0.65882354
## 78          GIN  0.30928854
## 79          GMB  0.24705072
## 80          GNB  0.17179296
## 81          GNQ  3.94548003
## 82          GRC  5.59618907
## 83          GRD  2.94637607
## 84          GTM  1.16297092
## 85          GUY  3.64089286
## 86          HIC  9.81961723
## 87          HND  1.04862299
## 88          HPC  0.28529090
## 89          HRV  4.06370783
## 90          HTI  0.29476841
## 91          HUN  4.74663103
## 92          IBD  4.45944109
## 93          IBT  3.45429911
## 94          IDA  0.54928418
## 95          IDB  0.86377182
```

```
## 96          IDN  2.29039715
## 97          IDX  0.38991503
## 98          IND  1.79762012
## 99          IRL  7.24514322
## 100         IRN  7.59836484
## 101         IRQ  4.44062413
## 102         ISL  4.54844226
## 103         ISR  6.91959372
## 104         ITA  5.31131544
## 105         JAM  2.84573001
## 106         JOR  2.43820411
## 107         JPN  8.54098021
## 108         KAZ 11.45693783
## 109         KEN  0.42378390
## 110         KGZ  1.55664326
## 111         KHM  0.98140655
## 112         KIR  0.76525409
## 113         KNA  4.73180149
## 114         KOR 11.79932538
## 115         KWT 22.02241640
## 116         LAC  2.36203800
## 117         LAO  2.60968183
## 118         LBN  4.07689427
## 119         LBR  0.23899343
## 120         LBY  8.38072934
## 121         LCA  2.95412906
## 122         LCN  2.55614985
## 123         LDC  0.34618509
## 124         LIC  0.29583983
## 125         LIE  3.94529211
## 126         LKA  1.09067563
## 127         LMC  1.76996391
## 128         LMY  3.41243845
## 129         LSO  0.36230741
## 130         LTE  6.71405144
## 131         LTU  4.19807602
## 132         LUX 15.30642656
## 133         LVA  3.95543586
## 134         MAR  1.95987229
## 135         MDA  3.32461017
## 136         MDG  0.15276625
## 137         MDV  3.97395626
## 138         MEA  5.59639227
## 139         MEX  3.52160005
## 140         MHL  3.06169324
## 141         MIC  3.77300115
## 142         MKD  3.99673721
## 143         MLI  0.29657102
## 144         MLT  3.29324561
## 145         MMR  0.67942852
## 146         MNA  3.82385293
## 147         MNE  4.17987599
## 148         MNG  7.15312009
## 149         MOZ  0.24698641
```

```
## 150          MRT  0.87279355
## 151          MUS  3.29459101
## 152          MWI  0.07783668
## 153          MYS  7.92712604
## 154          NAC 14.75353008
## 155          NAM  1.69170543
## 156          NER  0.09223225
## 157          NGA  0.57363621
## 158          NIC  0.80054959
## 159          NLD  8.43707463
## 160          NOR  6.72226998
## 161          NPL  0.47013645
## 162          NRU  5.57413588
## 163          NZL  6.83041419
## 164          OED  8.50425202
## 165          OMN 15.28243639
## 166          OSS  6.08804907
## 167          PAK  0.87996550
## 168          PAN  3.14145500
## 169          PER  1.74559193
## 170          PHL  1.34502906
## 171          PLW 13.88811733
## 172          PNG  0.86370751
## 173          POL  7.77364184
## 174          PRE  0.51843430
## 175          PRK  2.18341993
## 176          PRT  4.33976843
## 177          PRY  1.16542523
## 178          PSS  1.37647189
## 179          PST  9.52473634
## 180          QAT 32.47446876
## 181          ROU  3.81743448
## 182          RUS 11.79720293
## 183          RWA  0.10533037
## 184          SAS  1.51656787
## 185          SAU 15.28457873
## 186          SDN  0.48162677
## 187          SEN  0.65167918
## 188          SGP  8.30707949
## 189          SLB  0.53745704
## 190          SLE  0.11518957
## 191          SLV  1.20863714
## 192          SOM  0.04468071
## 193          SRB  6.61604694
## 194          SSA  0.74368921
## 195          SSD  0.15367768
## 196          SSF  0.74417468
## 197          SST  5.62966978
## 198          STP  0.69751872
## 199          SUR  4.55825378
## 200          SVK  5.69841625
## 201          SVN  6.51220938
## 202          SWE  3.40503792
## 203          SWZ  0.83614005
```

```
## 204          SYC  6.24839963
## 205          SYR  1.50613944
## 206          TCD  0.14109341
## 207          TEA  5.98439159
## 208          TEC  7.22204232
## 209          TGO  0.29323121
## 210          THA  3.83609002
## 211          TJK  1.01061869
## 212          TKM 12.26335409
## 213          TLA  2.53389873
## 214          TLS  0.47946053
## 215          TMN  3.82873725
## 216          TON  1.53114440
## 217          TSA  1.51656787
## 218          TSS  0.74417468
## 219          TTO 12.32285487
## 220          TUN  2.55756421
## 221          TUR  4.75658475
## 222          TUV  0.85800084
## 223          TZA  0.21463496
## 224          UGA  0.13237079
## 225          UKR  3.93658353
## 226          UMC  6.41698490
## 227          URY  1.87478454
## 228          USA 14.67341061
## 229          UZB  3.47554445
## 230          VCT  2.35096245
## 231          VEN  3.93956621
## 232          VNM  3.48831264
## 233          VUT  0.70027542
## 234          WLD  4.46966049
## 235          WSM  1.52212413
## 236          YEM  0.38063336
## 237          ZAF  7.50773609
## 238          ZMB  0.38071705
## 239          ZWE  0.80297852
```

```
malMap <- joinCountryData2Map(dataSet, joinCode = "ISO3",
nameJoinColumn = "Country.Code")
```

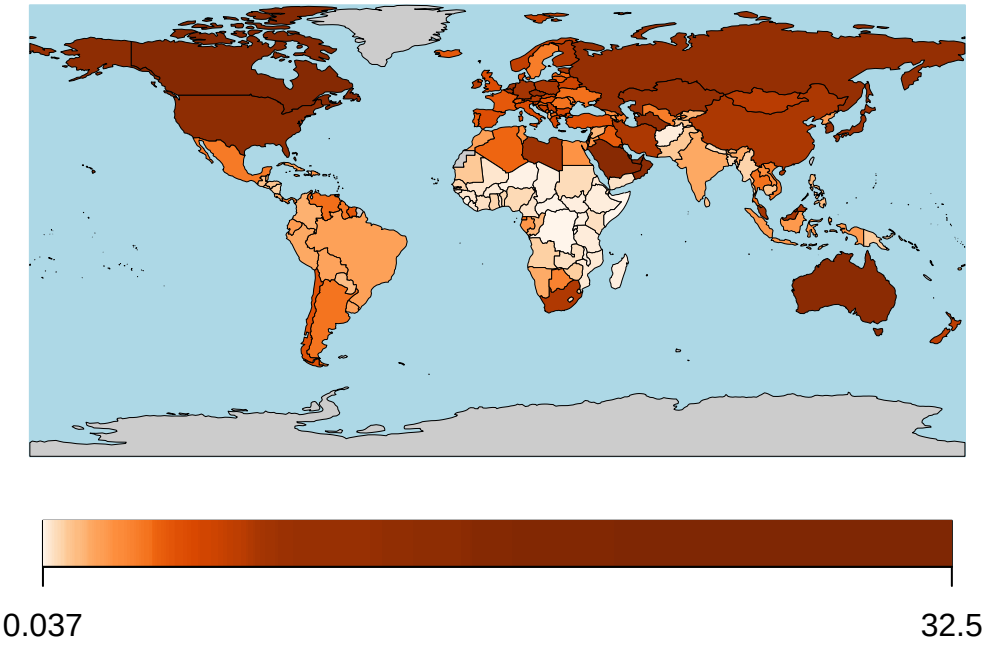
```
## 214 codes from your data successfully matched countries in the map
## 52 codes from your data failed to match with a country code in the map
## 29 codes from the map weren't represented in your data
```

```
mapCountryData(malMap, nameColumnToPlot="X2019",
  missingCountryCol = gray(.8), colourPalette = brewer.pal(n = 100, name = 'Oranges'), borderCol = ("bla
```

```
## Warning in brewer.pal(n = 100, name = "Oranges"): n too large, allowed maximum for palette Oranges is
## Returning the palette you asked for with that many colors
```

```
## Warning in rwmGetColours(colourPalette, numColours): 9 colours specified and 100
## required, using interpolation to calculate colours
```

## Greenhouse Gas Emissions per Capita




```
dataSet2 = read.csv("/Users/tao/Downloads/annual_csv.csv")
datam = dataSet2 %>% drop_na() %>% filter(., Year > 1950 & Source == "GCAG")
```

```
plot(datam[,2], datam[,3], type='o',lty=3, col='black',lwd=4, main="Annual mean global temperature chang
abline(h = 0, col = "red")
```

## Annual mean global temperature change relative to previous year