2016년 1분기 지역별 요인 일평균

```r
library(kormaps2014)
library(ggiraphExtra)
library(ggplot2)
```

```
## Warning: package 'ggplot2' was built under R version 3.6.3
```

```r
library(data.table)
library(dplyr)
```

```
## Warning: package 'dplyr' was built under R version 3.6.3
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:data.table':
##
##     between, first, last
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```r
load("../../../refinedata/analysis/analysis_total_Fixed.rda")

analysis_total <- analysis_total_Fixed


analysis_sido <- analysis_total %>% filter(substr(일시,1,7)=='2016-01'|substr(일시,1,7)=='2016-02') %>% group
_by(시도코드,시도) %>% summarise(`평균기온(°C)` = mean(`평균기온(°C)`,na.rm=TRUE),
                                                        `평균 풍속(m/s)` = mean(`평균 풍속(m/s)`,
na.rm=TRUE),
                                                        `평균 현지기압(hPa)` = mean(`평균 현지기압
(hPa)`,na.rm=TRUE),
                                                        `일 최심신적설(cm)` = mean(`일 최심신적설(
cm)`,na.rm=TRUE),
                                                        `일강수량(mm)` = mean(`일강수량(mm)`,na.r
m=TRUE),
                                                        `강수 계속시간(hr)` = mean(`강수 계속시간(
hr)`,na.rm=TRUE),
                                                        SO2 = mean(SO2,na.rm=TRUE),
                                                        CO = mean(CO,na.rm=TRUE),
                                                        O3 = mean(O3,na.rm=TRUE),
                                                        NO2 = mean(NO2,na.rm=TRUE),
                                                        PM10 = mean(PM10,na.rm=TRUE),
                                                        PM25 = mean(PM25,na.rm=TRUE),
                                                        발생건수 = sum(발생건수),
                                                        발병률 = sum(발병률))

tempmap <- kormap1

analysis_sido$code <- as.character(analysis_sido$시도코드)
```

```r
code <- c('42','41','43','44','30','47','48','45','46','11','28','27','31','29','26','49','36')
name1 <- c('강원도','경기도','충청북도','충청남도','대전광역시','경상북도','경상남도','전라북도','전라남도','서울특별시',
'인천광역시','대구광역시','울산광역시','광주광역시','부산광역시','제주특별자치도','세종특별자치시')
df_sido <- data.frame("code"=code,"name1"=name1)

temp_map_join <- inner_join(tempmap,df_sido,by=c('name1'))
```

```
## Warning: Column `name1` joining factors with different levels, coercing to
## character vector
```

```
temp_map_join <- temp_map_join %>% select(-code.x)
temp_map_join <- rename(temp_map_join,code=code.y)
temp_map_join$code <- as.character(temp_map_join$code)


temp_map_join$region <- temp_map_join$code
temp_map_join$SIDO_CD <- temp_map_join$code
```

```
analysis_sido <- rename(analysis_sido , 평균기온=`평균기온(℃)`,평균풍속=`평균 풍속(m/s)`,평균현지기압=`평균 현지기압
(hPa)`,`일최심신적설`=`일 최심신적설(cm)`,일강수량=`일강수량(mm)`,강수계속시간=`강수 계속시간(hr)`)
```

만명당 호흡기 질환 발병률

```
par(mfrow=c(2,2))
ggChoropleth(data=analysis_sido,

            digits = 3,

            aes(fill=발병률,

                map_id=code,

                tooltip=시도


                ),
            #palette = '',
            map=temp_map_join,

            interactive=TRUE)
```

명당 호흡기 질환 발생율

```
ggChoropleth(data=analysis_sido,

            aes(fill=발생건수,

                map_id=code,

                tooltip=시도


                ),
            #palette = '',
            map=temp_map_join,

            interactive=TRUE)
```

```
ggChoropleth(data=analysis_sido,

             aes(fill=PM10,

                 map_id=code,

                 tooltip=시도


                 ),
             #palette = '',
             map=temp_map_join,

             interactive=TRUE)
```

```
ggChoropleth(data=analysis_sido,

             aes(fill=PM25,

                 map_id=code,

                 tooltip=시도


                 ),
             #palette = '',
             map=temp_map_join,

             interactive=TRUE)
```

```
ggChoropleth(data=analysis_sido,

             digits = 3,

             aes(fill=SO2,

                 map_id=code,

                 tooltip=시도


                 ),
             #palette = '',
             map=temp_map_join,

             interactive=TRUE)
```

```
ggChoropleth(data=analysis_sido,

             aes(fill=CO,

                 map_id=code,

                 tooltip=시도


                 ),
             #palette = '',
             map=temp_map_join,

             interactive=TRUE)
```

```
ggChoropleth(data=analysis_sido,

          digits = 3,

          aes(fill=O3,

              map_id=code,

              tooltip=시도


              ),
          #palette = '',
          map=temp_map_join,

          interactive=TRUE)
```

```
ggChoropleth(data=analysis_sido,

          digits = 3,

          aes(fill=NO2,

              map_id=code,

              tooltip=시도


              ),
          #palette = '',
          map=temp_map_join,

          interactive=TRUE)
```

```
ggChoropleth(data=analysis_sido,

          aes(fill=평균기온,

              map_id=code,

              tooltip=시도


              ),
          #palette = '',
          map=temp_map_join,

          interactive=TRUE)
```

```
ggChoropleth(data=analysis_sido,

             aes(fill=평균풍속,

                 map_id=code,

                 tooltip=시도


                 ),
             #palette = '',
             map=temp_map_join,

             interactive=TRUE)
```

```
ggChoropleth(data=analysis_sido,

             aes(fill=평균현지기압,

                 map_id=code,

                 tooltip=시도


                 ),
             #palette = '',
             map=temp_map_join,

             interactive=TRUE)
```

```
ggChoropleth(data=analysis_sido,

             aes(fill=일최심신적설,

                 map_id=code,

                 tooltip=시도


                 ),
             #palette = '',
             map=temp_map_join,

             interactive=TRUE)
```

```
ggChoropleth(data=analysis_sido,

             aes(fill=일강수량,

                 map_id=code,

                 tooltip=시도


                 ),
             #palette = '',
             map=temp_map_join,

             interactive=TRUE)
```

```
ggChoropleth(data=analysis_sido,

            aes(fill=강수계속시간,

                map_id=code,

                tooltip=시도


                ),
            #palette = '',
            map=temp_map_join,

            interactive=TRUE)
```

```
par(mfrow=c(2,1))
ggChoropleth(data=analysis_sido,

            digits = 3,

            aes(fill=PM10,

                map_id=code,

                tooltip=시도


                ),
            #palette = '',
            map=temp_map_join,

            interactive=F)

ggChoropleth(data=analysis_sido,

            aes(fill=PM25,

                map_id=code,

                tooltip=시도


                ),
            #palette = '',
            map=temp_map_join,

            interactive=F)
```
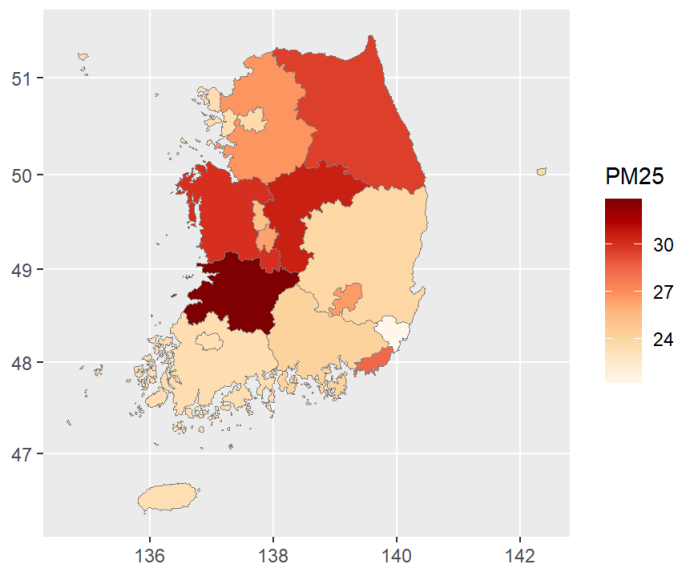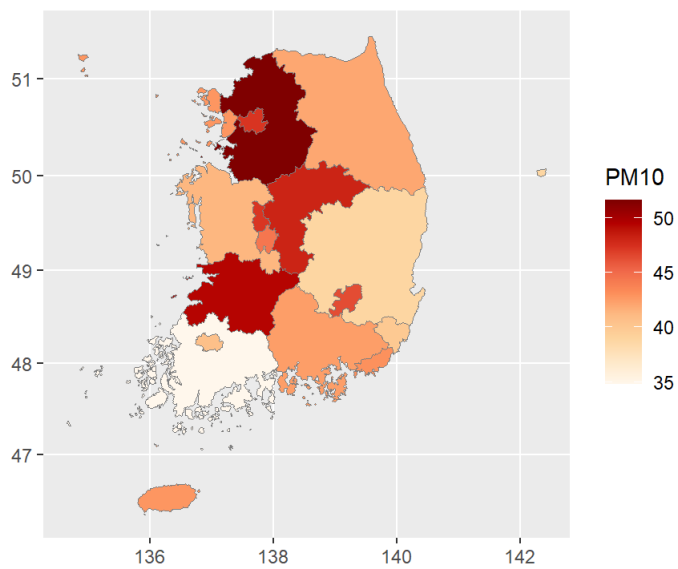
```r
par(mfrow=c(2,2))
ggChoropleth(data=analysis_sido,

             digits = 3,

             aes(fill=CO,

                 map_id=code,

                 tooltip=시도


                 ),
             #palette = '',
             map=temp_map_join,

             interactive=F)

ggChoropleth(data=analysis_sido,

              digits = 3,

             aes(fill=NO2,

                 map_id=code,

                 tooltip=시도


                 ),
             #palette = '',
             map=temp_map_join,

             interactive=F)

ggChoropleth(data=analysis_sido,

              digits = 3,

             aes(fill=O3,

                 map_id=code,

                 tooltip=시도


                 ),
             #palette = '',
             map=temp_map_join,

             interactive=F)

ggChoropleth(data=analysis_sido,

              digits = 3,

             aes(fill=SO2,

                 map_id=code,

                 tooltip=시도


                 ),
             #palette = '',
             map=temp_map_join,

             interactive=F)
```