sp package

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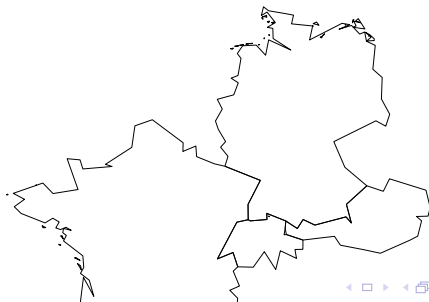
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The package sp

- classes and methods for spatial data

```
library(sp)
```

Hello world

- ▶ A first example using data from maptools (ISO2-codes)

```r
library(maptools)
data("wrld_simpl")
ind <- wrld_simpl@data$ISO2%in%c("FR","DE","AT","CH")
my_map <- wrld_simpl[ind,]
plot(my_map)
```
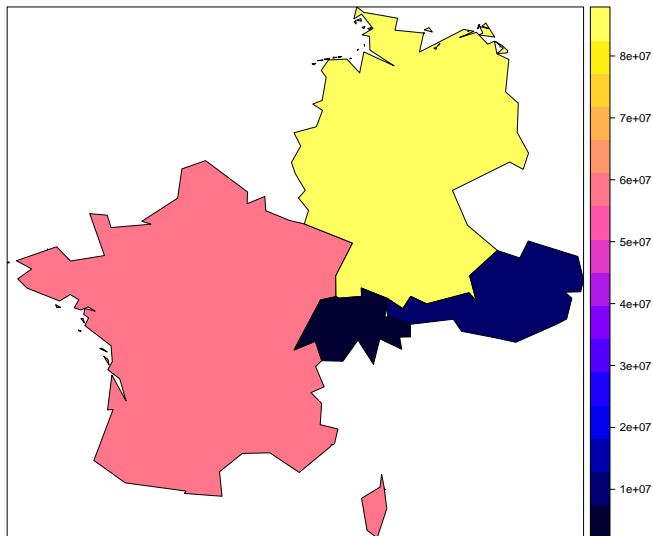
The data set

```
head(my_map@data)
```

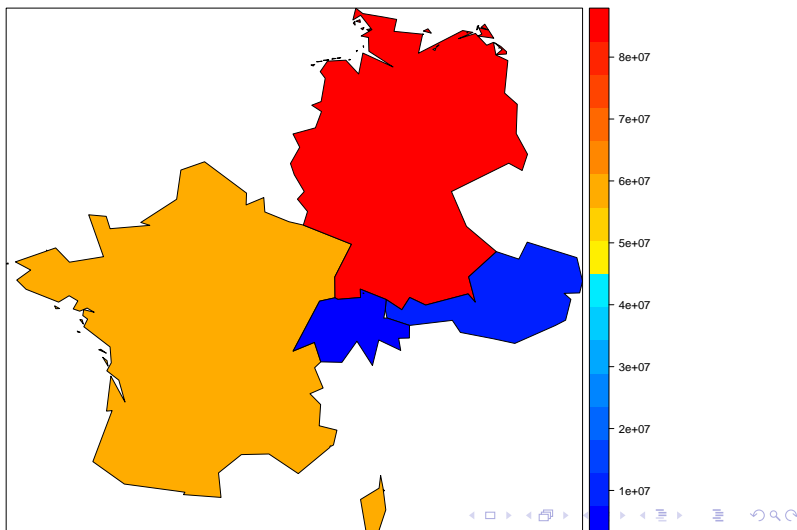|	FIPS	ISO2	ISO3	UN	NAME
AUT	AU	AT	AUT	40	Austria
FRA	FR	FR	FRA	250	France
DEU	GM	DE	DEU	276	Germany
CHE	SZ	CH	CHE	756	Switzerland

First example
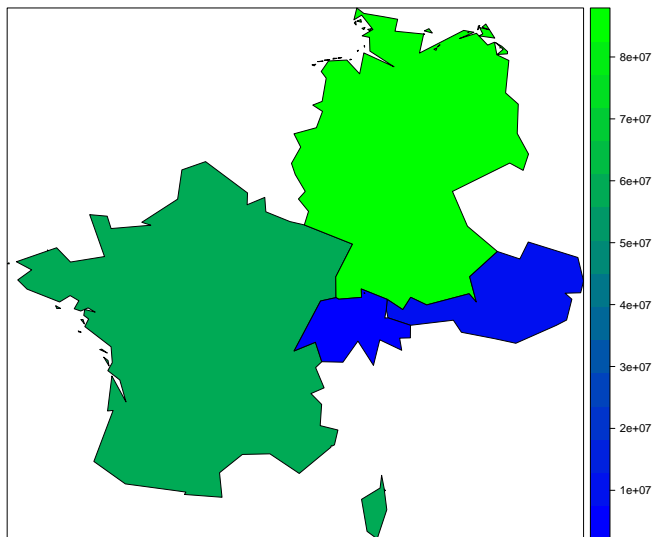
```
spplot(my_map,"POP2005")
```

Using `colorRamps`

```r
library(colorRamps)
spplot(my_map,"POP2005",col.regions=blue2red(100))
```
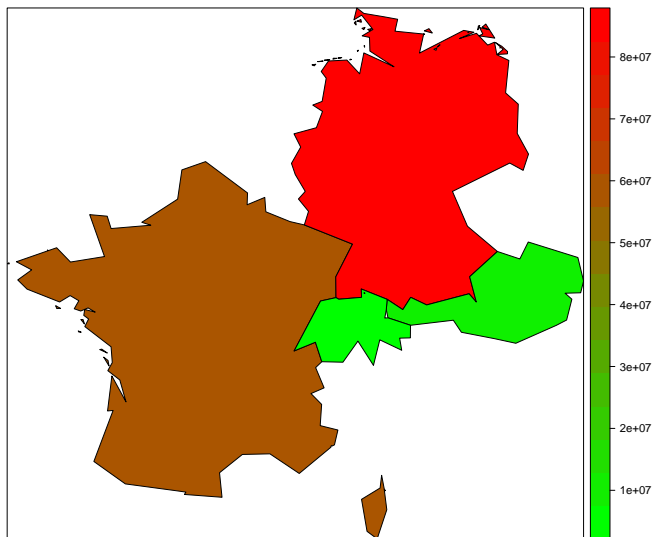
Using colorRamps

```
spplot(my_map,"POP2005",col.regions=blue2green(100))
```
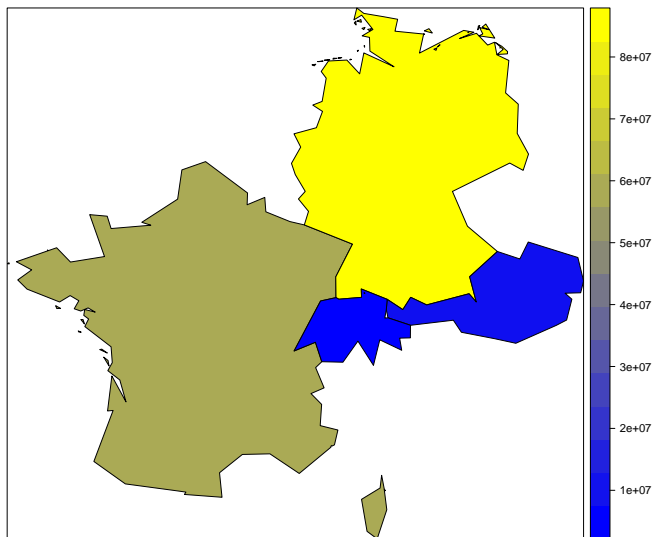
Using colorRamps

```
spplot(my_map,"POP2005",col.regions=green2red(100))
```
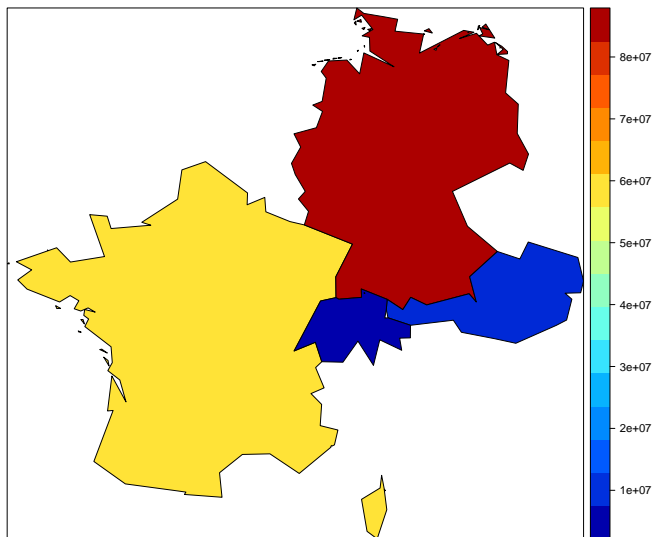
Using colorRamps

```
spplot(my_map,"POP2005",col.regions=blue2yellow(100))
```

Using colorRamps

```
spplot(my_map,"POP2005",col.regions=matlab.like(100))
```
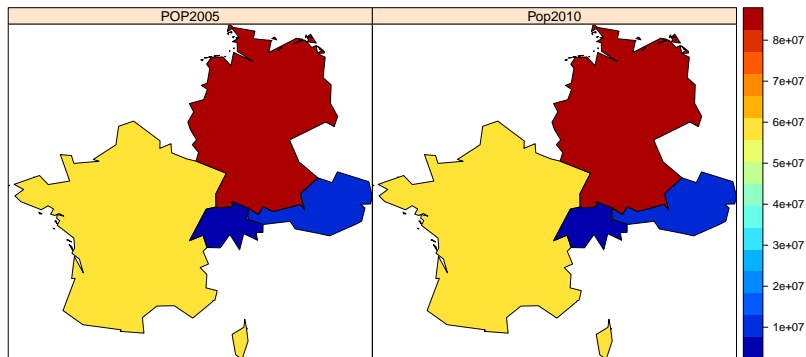
Using synthetic data

Generating synthetic data (Population 2010)

```
my_map$Pop2010 <- my_map$POP2005 +
runif(length(my_map),-10000,10000)
```

Colors matlab like

```
spplot(my_map,c("POP2005","Pop2010"),
       col.regions=matlab.like(100))
```

More examples

- Stamen maps with spplot
- Know India through visualisation
- Great circles
- Canadian vote compass
- More colors in R

Vignettes for package sp

- ► Edzer Pebesma - Customising spatial data classes and methods
- ► Edzer Pebesma and Roger S. Bivand - S Classes and Methods for Spatial Data: the sp Package
- ► Edzer Pebesma - Map overlay and spatial aggregation in sp

Projections

- Spatial Reference Identifier
- Working with shapefiles
- srid for OpenStreetMap