

# Thematic maps with mapsf : : CHEAT SHEET

Create and integrate thematic maps in your workflow.

## Base map

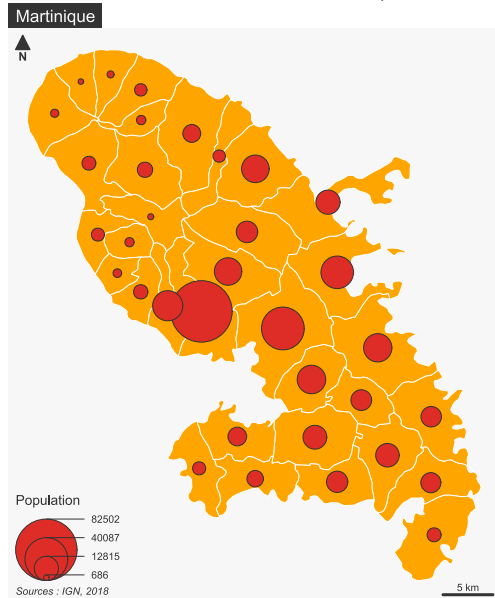
```
Import library
library(mapsf)
```

```
Import the sample data set
mtq <- mf_get_mtq()
```

```
Initiate a base map centered on a specific extent
mf_map(x = mtq, col = "orange",
       border = "white")
```

```
Plot symbology
mf_map(x = mtq, type = "prop", var = "POP",
       leg_title = "Population", add = TRUE)
```

```
Complete layout (credits, title, north, arrow, scale bar)
mf_layout(title = "Martinique",
          credits = "Sources: IGN, 2018")
```



## Colors

mapsf can use color palettes from `hcl.colors()`. `mf_get_pal()` is useful to create well-balanced asymmetric diverging palettes

```
mf_get_pal(n = c(7, 2), pal = c("Burg", "Mint"))
```



## Symbology

The `x` argument should be an `sf` object.  
Input geometries can be polygons, lines or points.



```
Choropleth (ratios)
mf_map(x = mtq, type = "choro",
       var = "var", method = "quantile")
```



```
Typology (categories)
mf_map(x = mtq, type = "typo", var = "var")
```



```
Proportional Symbols (stocks)
mf_map(x = mtq, type = "prop", var = "var",
       inches = 0.1, symbol = "circle")
```



```
Graduated Symbols (stocks)
mf_map(x = mtq, type = "grad", var = "var",
       pch = 24)
```



```
Symbols (categories)
mf_map(x = mtq, type = "symb", var = "var",
       pch = c(21:23))
```



```
Choropleth proportional symbols (stocks - ratios)
mf_map(x = mtq, type = "prop_choro",
       var = c("var1", "var2"))
```



```
Colorized proportional symbols (stocks - categ.)
mf_map(x = mtq, type = "prop_typo",
       var = c("var1", "var2"))
```



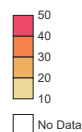
```
Choropleth symbols (ratios - categories)
mf_map(x = mtq, type = "symb_choro",
       var = c("var1", "var2"),
       pch = c(21:23))
```



```
Raster
mf_raster(x = raster)
```

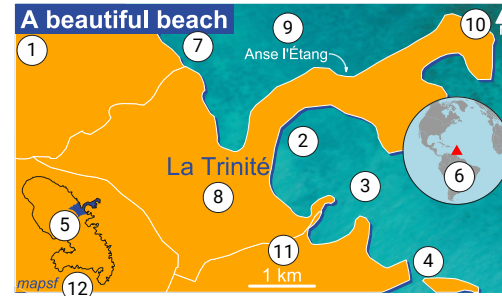
## Legend

Default legends are plotted along maps.  
Customization parameters are available with `mf_legend()`



## Map Layout

Along with cartographic functions, other functions are dedicated to customize the layout design.



1 Set a map theme (figure margins, colors, title options...)  
`mf_theme(bg = "white", tab = TRUE,
 mar = c(0,0,0,0), pos = "left")`

Builtin themes are available : default, ink, dark, agolalight, candy, darkula, iceberg, green, nevermind, jsk or barcelona.

2 Init a map centered on a specific area  
`mf_init(x = mtq[30,])`  
`mf_map(x = mtq, col = "orange",
 border = "white", add = TRUE)`

3 Import external image for background  
`mf_background(filename = "img/sea.jpg")`

4 Create a shadow effect  
`mf_shadow(...)`

5 Create a custom inset  
`mf_inset_on(x = mtq, pos = "bottomleft")`  
`mf_map(...)`  
`mf_inset_off()`

6 Create a world inset  
`mf_inset_on(x = "worldmap", pos = "right")`  
`mf_worldmap(mtg)`  
`mf_inset_off()`

7 Plot title  
`mf_title("A beautiful beach")`

8 Plot labels  
`mf_label(...)`

9 Plot annotation (in specific locations)  
`mf_annotation(...)`

10 North arrow  
`mf_arrow(...)`

11 Scale (in km)  
`mf_scale(...)`

12 Credits  
`mf_credits(...)`

## Export Maps

`mf_export()` exports maps in PNG or SVG formats.  
The exported map width/height ratio will match the one of a spatial object.

Additionally, `mf_export()` can be used to set a theme, to extend the map space on one or several side of the figure, or to center a map on a specific area.

Simple export (PNG)  
`mf_export(x = mtq, width = 500,
 filename = "my_export.png")`  
`mf_map(x = mtq, add = TRUE)`  
`dev.off()`

Export with a theme (SVG)  
`mf_export(x = mtq, width = 5, export = "svg",
 filename = "my_export.svg",
 theme = "nevermind")`  
`mf_map(x = mtq, add = TRUE)`  
`dev.off()`

Extra space on the figure (bottom, left, top, right)  
`mf_export(x = mtq, width = 500,
 filename = "my_export.png",
 expandBB = c(0,0.6,0,0))`  
`mf_map(x = mtq, add = TRUE)`  
`dev.off()`

Export a map centered on a specific area  
`mf_export(x = mtq[30,], height = 600,
 filename = "my_export.png")`  
`mf_map(x = mtq, add = TRUE)`  
`dev.off()`

## Further documentation

Vignettes on mapsf website: [riatelab.github.io/mapsf](https://riatelab.github.io/mapsf)

- > Get started
- > How to Use Themes
- > How to Export Maps
- > How to Create Inset Maps
- > How to Create Faceted Maps
- > How to Use a Custom Font Family

