

## Extracting google map styles from Snazzy Maps

```
url <- "https://snazzymaps.com/style/141976/rsa"
```

Easily choose more than 10,000 basemap styles.

```
library(rvest)      # For web scraping
```

```
## Loading required package: xml2
```

```
library(stringr) #  
library(jsonlite)  
library(ggplot2)  
library(gridExtra)  
library(ggmap)
```

```
## Google Maps API Terms of Service: http://developers.google.com/maps/terms.
```

```
## Please cite ggmap if you use it: see citation("ggmap") for details.
```

First, a function was written

```
extract_json <- function(url){  
  
  json <- xml2::read_html(url) %>%  
    html_nodes("#style-json") %>%  
    str_replace_all('<pre id="style-json">', "") %>%  
    str_replace_all("[\\r]", "") %>%  
    str_replace_all(" ", "")  
  
  rList <- rjson::fromJSON(json)  
  
  return(rList)  
}
```

A function was adapted here to

```
#https://www.r-bloggers.com/creating-styled-google-maps-in-ggmap/  
  
create_style_string<- function(style_list){  
  style_string <- ""  
  for(i in 1:length(style_list)){  
    if("featureType" %in% names(style_list[[i]])){  
      style_string <- paste0(style_string, "feature:",  
                             style_list[[i]]$featureType, "|")  
    }  
  
    if("elementType" %in% names(style_list[[i]])){  
      style_string <- paste0(style_string, "element:",  
                             style_list[[i]]$elementType, "|")  
    }  
    elements <- style_list[[i]]$stylers  
    a <- lapply(elements, function(x)paste0(names(x), ":", x)) %>%  
      unlist() %>%  
      paste0(collapse="|")  
    style_string <- paste0(style_string, a)  
    if(i < length(style_list)){
```

```

    style_string <- paste0(style_string, "&style=")
  }
}
# google wants 0xff0000 not #ff0000
style_string <- gsub("#", "0x", style_string)

# symbols are converted within the string
style_string <- gsub("[|]", "%7C", style_string)

return(style_string)
}

```

These two separate stages are combined to make a single function:

```

ggmapstyleSM <- function(url){

  a <- extract_json(url)
  style <- create_style_string(a)
  return(style)
}

```

```

ExtractNameURL <- function(url){

sub('.*\\/', '', url) %>%
  gsub("-", " ", x = .) %>%
  str_to_title()
}

```

```

urls <- c("https://snazzymaps.com/style/79/black-and-white",
          "https://snazzymaps.com/style/35/avocado-world",
          "https://snazzymaps.com/style/98/purple-rain",
          "https://snazzymaps.com/style/84/pastel-tones",
          "https://snazzymaps.com/style/64/old-dry-mud",
          "https://snazzymaps.com/style/8097/wy",
          "https://snazzymaps.com/style/83/muted-blue",
          "https://snazzymaps.com/style/127403/no-label-bright-colors",
          "https://snazzymaps.com/style/14/vintage")

plotGrid <-
  lapply(urls, function(x)
ggmap(get_googlemap(center = "Southampton, UK", style = ggmapstyleSM(x), maptype = "roadmap")) +
  ggtitle(ExtractNameURL(x)) +
  theme_void() +
  theme(plot.title = element_text(hjust = 0.5, margin = margin(0.5, 0, 0.5, 0, unit = "cm")) ))
) %>%
  grid.arrange(grobs = .,)

```

## Source : <https://maps.googleapis.com/maps/api/staticmap?center=Southampton,+UK&zoom=10&size=640x640&>

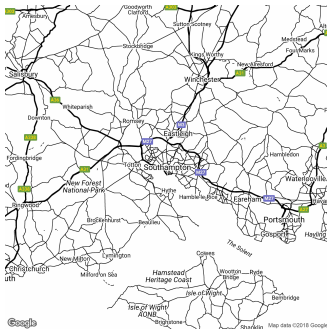
## Source : <https://maps.googleapis.com/maps/api/geocode/json?address=Southampton%2C%20UK>

## Source : <https://maps.googleapis.com/maps/api/staticmap?center=Southampton,+UK&zoom=10&size=640x640&>

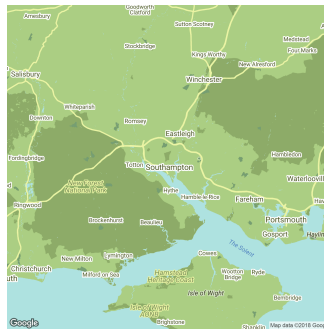
## Source : <https://maps.googleapis.com/maps/api/geocode/json?address=Southampton%2C%20UK>

## Source : <https://maps.googleapis.com/maps/api/staticmap?center=Southampton,+UK&zoom=10&size=640x640&>  
## Source : <https://maps.googleapis.com/maps/api/geocode/json?address=Southampton%2C%20UK>  
## Source : <https://maps.googleapis.com/maps/api/staticmap?center=Southampton,+UK&zoom=10&size=640x640&>  
## Source : <https://maps.googleapis.com/maps/api/geocode/json?address=Southampton%2C%20UK>  
## Source : <https://maps.googleapis.com/maps/api/staticmap?center=Southampton,+UK&zoom=10&size=640x640&>  
## Source : <https://maps.googleapis.com/maps/api/geocode/json?address=Southampton%2C%20UK>  
## Source : <https://maps.googleapis.com/maps/api/staticmap?center=Southampton,+UK&zoom=10&size=640x640&>  
## Source : <https://maps.googleapis.com/maps/api/geocode/json?address=Southampton%2C%20UK>  
## Source : <https://maps.googleapis.com/maps/api/staticmap?center=Southampton,+UK&zoom=10&size=640x640&>  
## Source : <https://maps.googleapis.com/maps/api/geocode/json?address=Southampton%2C%20UK>  
## Source : <https://maps.googleapis.com/maps/api/staticmap?center=Southampton,+UK&zoom=10&size=640x640&>  
## Source : <https://maps.googleapis.com/maps/api/geocode/json?address=Southampton%2C%20UK>  
## Source : <https://maps.googleapis.com/maps/api/staticmap?center=Southampton,+UK&zoom=10&size=640x640&>  
## Source : <https://maps.googleapis.com/maps/api/geocode/json?address=Southampton%2C%20UK>

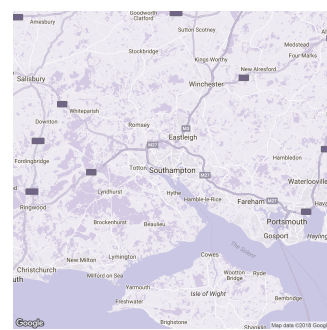
Black And White



Avocado World



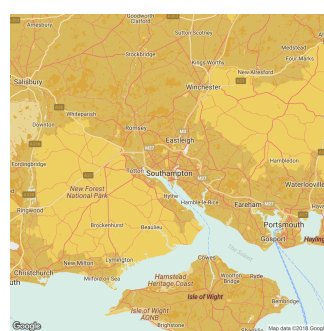
Purple Rain



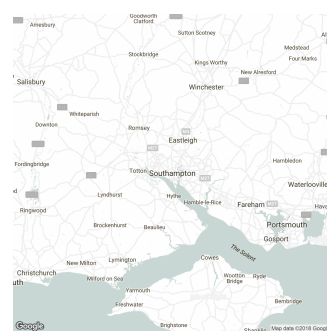
Pastel Tones



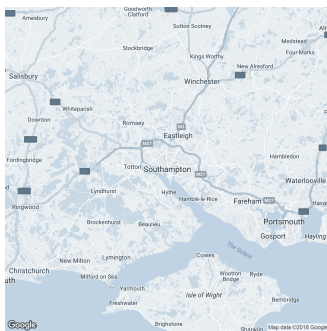
Old Dry Mud



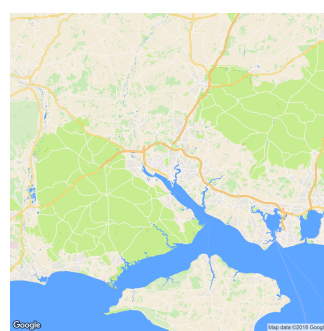
Wy



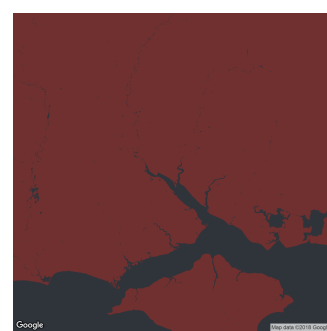
Muted Blue



No Label Bright Colors



Vintage



```
jpeg('rplot.jpg', width = 2000, height = 2000)
grid.arrange(plotGrid)
dev.off()
```

```
## pdf
## 2
```

Should post my answer here: <https://stackoverflow.com/questions/41049782/making-multiple-style-references-in-google-maps-a>