The following code in R generate a shiny app with two interactive maps of the municipalities of the marche region in italy. For each municipality I can visualize a list of variables as color gradient, bubbles, or pop-up.

---

# App con due mappe a confronto ####

load("my\_work\_space.RData")

db\_map <- db

db\_map$None <- 0

library(shiny)

library(tmap)

variabili\_col <- c("% anziani over 65" = "perc\_65",

"% anziani over 80" = "perc\_80",

"Ricoveri associati a NCDs" = "ricoveri\_pat",

"% ricoveri associati a NCDs" = "perc\_ricoveri",

"Spesa RSA" = "rsa\_spesa\_tot",

"Spesa per anziano" = "spesa\_citt65",

"Spesa per utente" = "spesa\_utente"

)

variabili\_bubble <- c("None",

"Popolazione" = "popolazione",

"Anziani > 65" = "over65",

"Ricoveri associati a NCDs" = "ricoveri\_pat",

"Num utenti ADI" = "adi\_utenti",

"Num utenti SAD" = "sad\_utenti",

"Anziani in RSA" = "rsa\_utenti",

"Spesa RSA" = "rsa\_spesa\_tot",

"Spesa per anziano" = "spesa\_citt65",

"Spesa per utente" = "spesa\_utente")

variabili\_pop <- c("% anziani over 65" = "perc\_65",

"% anziani over 80" = "perc\_80",

"Ricoveri associati a NCDs" = "ricoveri\_pat",

"% ricoveri associati a NCDs" = "perc\_ricoveri",

"Popolazione" = "popolazione",

"Anziani > 65" = "over65",

"Anziani in RSA" = "rsa\_utenti",

"Spesa RSA" = "rsa\_spesa\_tot",

"Spesa per anziano" = "spesa\_citt65",

"Spesa per utente" = "spesa\_utente")

# Define UI

ui <- fluidPage(

titlePanel("Comuni della regione Marche"),

sidebarLayout(

sidebarPanel(

selectInput("gradient\_var1",

label = "Variabile da mappare (colore) Mappa 1:",

choices = variabili\_col,

selected = "perc\_65"),

selectInput("bubble\_var1",

label = "Variabile bubbles Mappa 1:",

choices = variabili\_bubble,

selected = "None"),

selectInput("gradient\_var2",

label = "Variabile da mappare (colore) Mappa 2:",

choices = variabili\_col,

selected = "perc\_ricoveri"),

selectInput("bubble\_var2",

label = "Variabile bubbles Mappa 1:",

choices = variabili\_bubble,

selected = "None"),

selectInput("popup\_vars",

label = "Variabili per popup:",

choices = variabili\_pop,

selected = c("popolazione", "over65", "ricoveri\_pat", "perc\_ricoveri"),

multiple = TRUE)

),

mainPanel(

verticalLayout(

tmapOutput("map1"),

tmapOutput("map2")

)

)

)

)

# Define server logic

server <- function(input, output) {

output$map1 <- renderTmap({

tmap\_mode("view")

tm\_shape(db\_map) +

tm\_polygons(input$gradient\_var1,

style = "equal",

palette = "Blues",

#title = paste0("Confronto variabili"),

border.lwd = 0.5,

popup.vars = input$popup\_vars) +

tm\_shape(db\_map) +

tm\_bubbles(input$bubble\_var1, col = "red", size = input$bubble\_var1, scale = 1.5, alpha = 0.5) +

tm\_shape(italy\_province) +

tm\_borders(lwd = 1.5, col = "darkgreen", alpha = 0.5) +

tm\_layout(main.title = "Comuni della regione Marche", main.title.size = 1.5)+

tm\_view(view.legend.position = c("left", "bottom"))

})

output$map2 <- renderTmap({

tmap\_mode("view")

tm\_shape(db\_map) +

tm\_polygons(input$gradient\_var2,

style = "equal",

palette = "Blues",

# title = paste0("Percentuale ", input$gradient\_var2, " su popolazione"),

border.lwd = 0.5,

popup.vars = input$popup\_vars) +

tm\_shape(db\_map) +

tm\_bubbles(input$bubble\_var2, col = "red", size = input$bubble\_var2, scale = 1.5, alpha = 0.5) +

tm\_shape(italy\_province) +

tm\_borders(lwd = 1.5, col = "darkgreen", alpha = 0.5) +

tm\_layout(main.title = "Comuni della regione Marche", main.title.size = 1.5) +

tm\_view(view.legend.position = c("left", "bottom"))

})

}

# Run the application

shinyApp(ui = ui, server = server)

---

In the dataframe "db" I have a field with the population of the municipality called "popolazione". I would like to add a slider to my app that filters the municipalities that are to be displayed according to their population. Can you modify the code accordingly?