

Instructions for creating plots in R for JNAFS

The specifications for the figures should be as follows:

Boxes/axis lines/tick markers .5pt black

Graph lines

Dotted: 1 pt black

Dashed: .75 pt black

Solid: .75 pt black

Text

Headings: 9 point size Arial Regular

Numbers on axis: 7 point size Arial Regular

Save the plot as a windows metafile or svg file.

Please find examples on how to do so below:

If you are using the ggplot2 package:

```
ggsave("testJNAFS1.svg") #or
```

```
ggsave("testJNAFS2.wmf")
```

If you prefer to use base R:

```
data("iris") # Example data iris
plot(iris$Sepal.Length, iris$Petal.Length,
     col = iris$Species,
     main = "Sepal vs Petal Length in Iris")
```

Save the plot as a .wmf file

```
win.metafile("baseRwmf.wmf")
plot(iris$Sepal.Length, iris$Petal.Length,
     col = iris$Species,
     main = "Sepal vs Petal Length in Iris")
dev.off()
```

Save the plots as an .svg file

```
svg("baseRSVG.svg")
plot(iris$Sepal.Length, iris$Petal.Length,
     col = iris$Species,
```

```
    main = "Sepal vs Petal Length in Iris")
dev.off()
```

Add a theme

Below is an example of a theme using the **ggplot2** package and the “pressure” data set. To import the pressure data set, run `>data("pressure")`. Adjust it so it fits your plot.

The `extrafont` package is used to set your desired font, in this case Arial. The `svglite` package is only needed if you are saving your file as an `.svg` file.

```
#install.packages("ggplot2")
#install.packages("svglite")
#install.packages("extrafont")

library(svglite)
library(ggplot2)
library(extrafont)

font_import()

fonts()

data("pressure")

p <- ggplot(pressure, aes(x = temperature, y = pressure)) + geom_line(aes(), size
0.75)
```

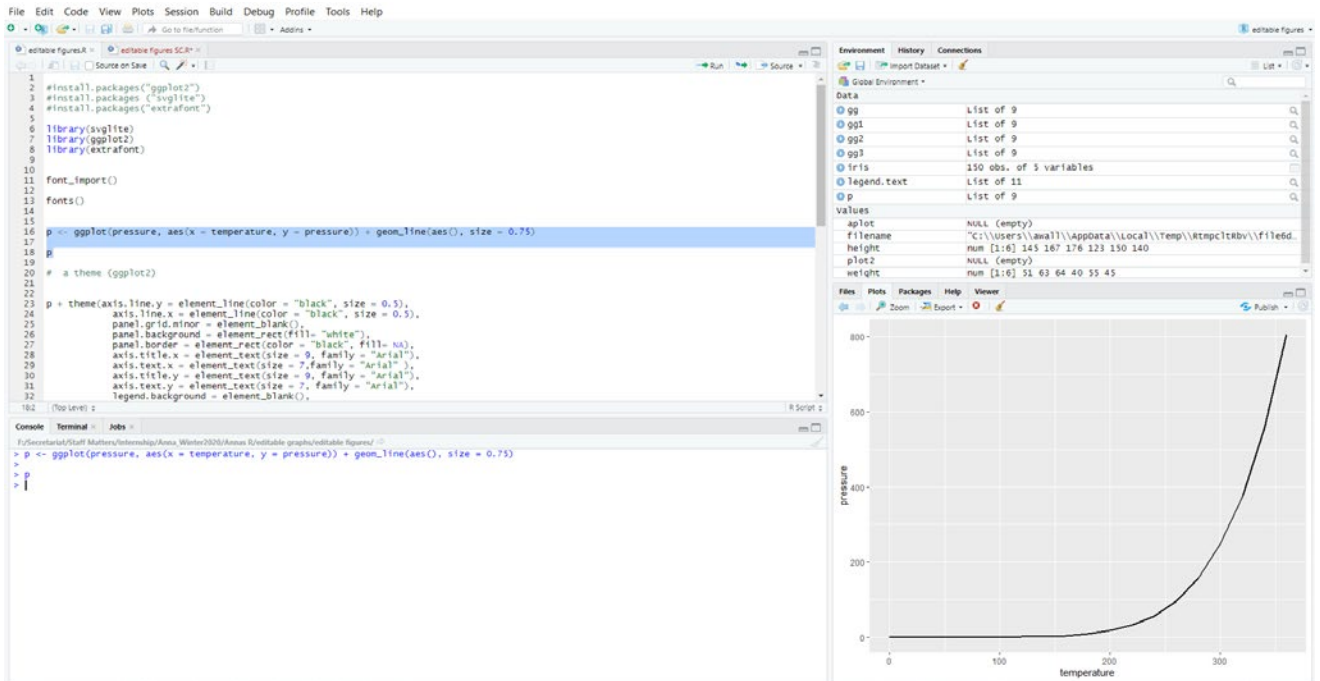
Add a theme (p is the name you have assigned to your plot). Below is an example of what the theme could look like:

```
p + theme(axis.line.y = element_line(color = "black", size = 0.5),
  axis.line.x = element_line(color = "black", size = 0.5),
  panel.grid.minor = element_blank(),
  panel.background = element_rect(fill= "white"),
  panel.border = element_rect(color = "black", fill= NA),
  axis.title.x = element_text(size = 9, family = "Arial"),
  axis.text.x = element_text(size = 7, family = "Arial" ),
  axis.title.y = element_text(size = 9, family = "Arial"),
  axis.text.y = element_text(size = 7, family = "Arial"),
  legend.background = element_blank(),
  legend.text = element_text(size = 7),
  plot.title = element_text(hjust = 0, face = "bold",
  size = 9, family = "Arial"))+
  ggtitle ("title")

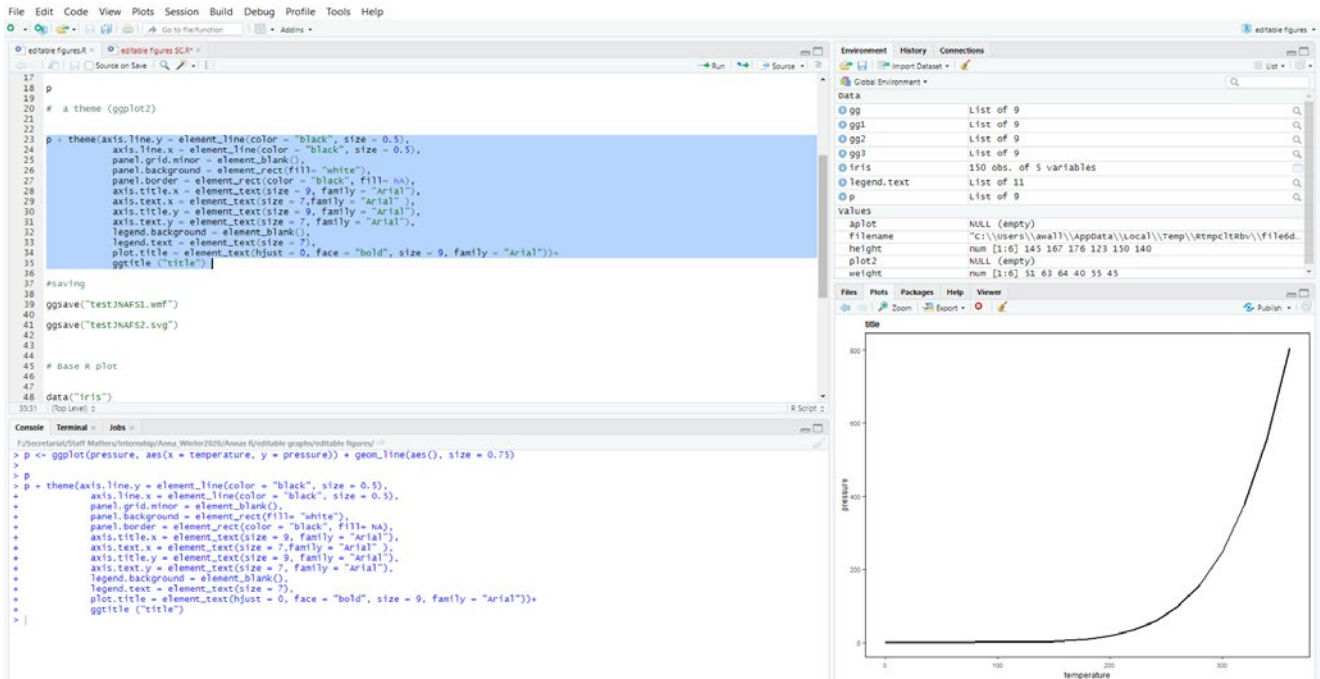
ggsave("myPlot.wmf")
```

R script in 3 pictures

1. Create a plot and set the graph line size to 0.75 pt



2. Add the theme to your plot, adjust as necessary for your plot:



3. Save the plot using ggsave("myPlot.wmf"):

The screenshot shows the RStudio interface with a script editor on the left and a plot window on the right. The script editor contains the following R code:

```
14
15
16 p <- ggplot(pressure, aes(x = temperature, y = pressure)) + geom_line(aes(), size = 0.75)
17
18 p
19
20 # a theme (ggplot2)
21
22 p = theme(axis.line.y = element_line(color = "black", size = 0.5),
23           axis.line.x = element_line(color = "black", size = 0.5),
24           panel.grid.minor = element_blank(),
25           panel.background = element_rect(fill = "white"),
26           panel.border = element_rect(color = "black", fill = NA),
27           axis.title.x = element_text(size = 9, family = "Arial"),
28           axis.text.x = element_text(size = 7, family = "Arial"),
29           axis.title.y = element_text(size = 9, family = "Arial"),
30           axis.text.y = element_text(size = 7, family = "Arial"),
31           legend.background = element_blank(),
32           legend.text = element_text(size = 7),
33           plot.title = element_text(hjust = 0, face = "bold", size = 9, family = "Arial"),
34           ggtitle("title"))
35
36 #saving
37
38
39 ggsave("test3NAFS1.wmf")
40
41 ggsave("test3NAFS2.svg")
42
43
44
45 # base R plot
3925 (Drops):
```

The plot window displays a line graph with 'temperature' on the x-axis (ranging from 0 to 300) and 'pressure' on the y-axis (ranging from 0 to 800). The plot shows a smooth, upward-curving line representing the relationship between temperature and pressure. The plot is styled with a white background, black axes, and a bold title 'title' centered above the plot area.