



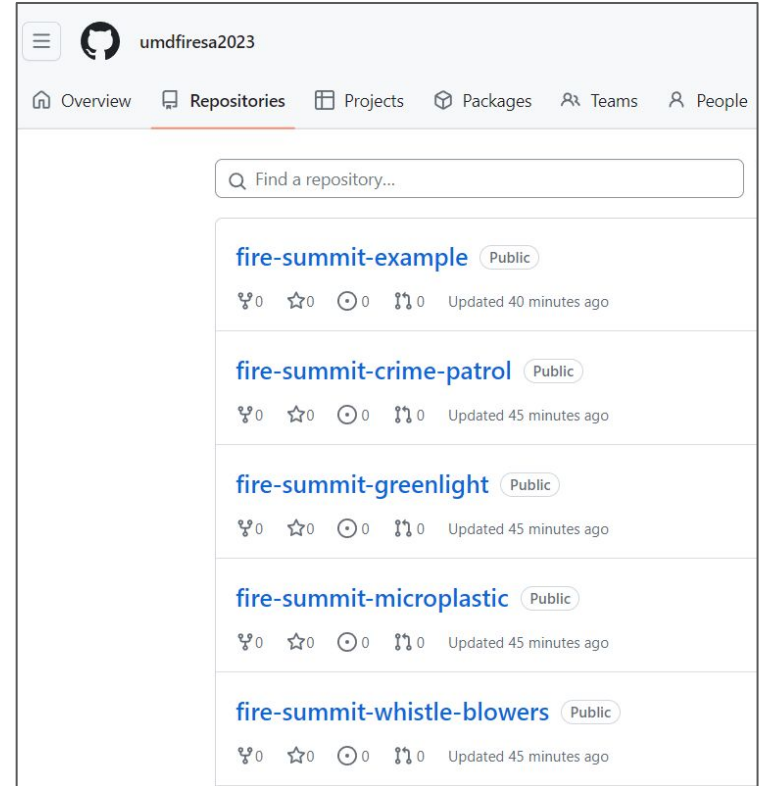
FIRE: THE FIRST-YEAR INNOVATION & RESEARCH EXPERIENCE

SUSTAINABILITY ANALYTICS

How to Create a GitHub-Flavored
Markdown Webpage with Quarto

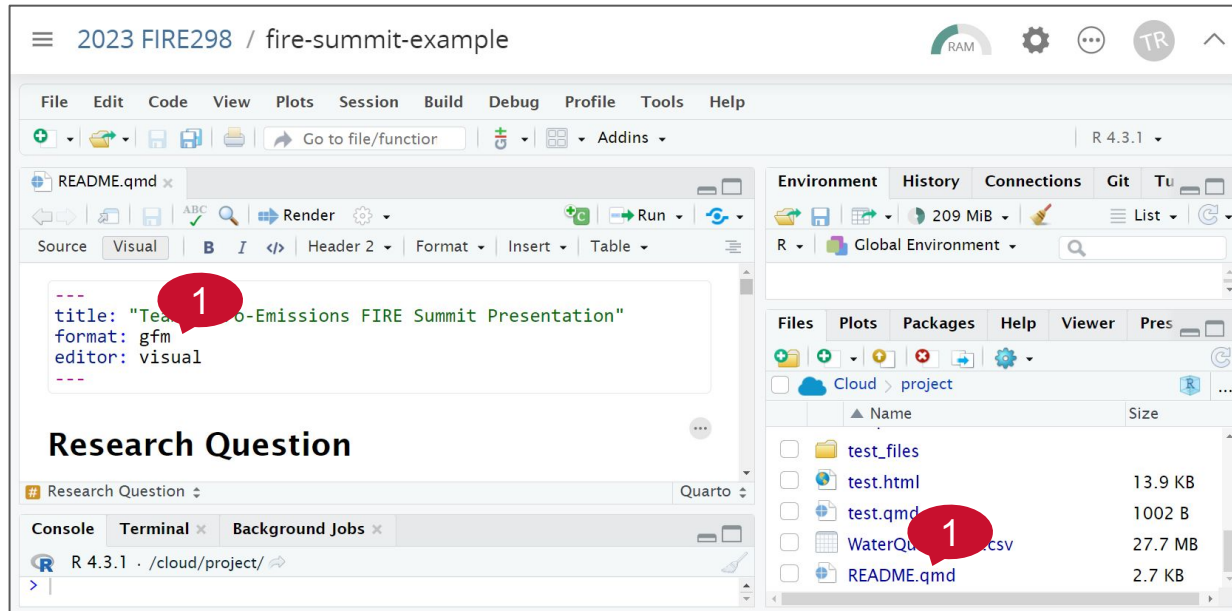
Step 1: Clone GitHub Template into Posit Cloud

1. Find the repository
fire-summit-team-name in GitHub
2. Copy the repository's HTTPS
3. Clone the repository into the **2023 FIRE298 Workspace** in posit.cloud



Step 2: Open Markdown File and Start Editing

1. Click on README.qmd. Note that the format of this document is gfm.
2. Start filling out the document



Step 3: Upload files that you would like to showcase

1. Upload data and images that you would like to include. Make sure that each file does not exceed 100 MB (the smaller the better).

The screenshot illustrates the process of uploading a file to an RStudio environment. A file explorer window is open, showing a list of files in the 'Team Microplastic' directory. The file 'WaterQualityFIPS' is selected. A 'Browse...' dialog box is open, and a red circle with the number '1' highlights the 'Upload' button in the RStudio interface. A tip box provides instructions: 'TIP: To upload multiple files or a directory, create a zip file. The zip file will be automatically expanded after upload.' The RStudio terminal shows the R version and platform information.

Name	Date modified	Type	Size
NASA_data_links	9/25/2023 2:29 PM	Text Document	
Plastic Bag Legislation	10/9/2023 3:00 PM	Google Sheets	
Shapefiles	10/22/2023 3:16 PM	Compressed (zipp...	5
Team Notes	10/2/2023 2:41 PM	GDOC File	
The Microplastics Team Contract	9/18/2023 2:26 PM	GDOC File	
va_nasa_data	10/13/2023 1:41 PM	Microsoft Excel Co...	1
va_nasa_output	10/9/2023 3:58 PM	Microsoft Excel Co...	1
WaterQualityFIPS (1)	10/9/2023 2:08 PM	Google Sheets	
WaterQualityFIPS	9/25/2023 2:39 PM	Microsoft Excel Co...	28

TIP: To upload multiple files or a directory, create a zip file. The zip file will be automatically expanded after upload.

```
R version 4.3.1 (2023-06-16) -- "Beagle Scouts"
Copyright (C) 2023 The R Foundation for Statistical Computing
Platform: x86_64-pc-linux-gnu (64-bit)
```

Tip 1: Showcase only iteration in one loop

```
{r}
#for (i in 1:length(f)) {
#  print(f[i])
#r<-rast(paste0("G:/Shared drives/2023 FIRE-SA/FALL OUTPUT/Team Microplastic
/NASA_output_data/",f[i]))

r<-rast("201001.nc4")
rp<-project(r, crs(cmd))

Evap_tavg_va<-extract(rp[[1]],cva,fun="mean",na.rm=TRUE)
Evap_tavg_md<-extract(rp[[1]],cmd,fun="mean",na.rm=TRUE)

Qs_tavg_va<-extract(rp[[9]],cva,fun="mean",na.rm=TRUE)
Qs_tavg_md<-extract(rp[[9]],cmd,fun="mean",na.rm=TRUE)

Rainf_f_tavg_va<-extract(rp[[12]],cva,fun="mean",na.rm=TRUE)
Rainf_f_tavg_md<-extract(rp[[12]],cmd,fun="mean",na.rm=TRUE)

Tair_f_tavg_va<-extract(rp[[19]],cva,fun="mean",na.rm=TRUE)
Tair_f_tavg_md<-extract(rp[[19]],cmd,fun="mean",na.rm=TRUE)

va<-data.frame(NAME10=cva$NAME10,
               NAMELSAD10=cva$NAMELSAD10,
               Evap_tavg=Evap_tavg_va$Evap_tavg,
               Qs_tavg=Qs_tavg_va$Qs_tavg,
               Rainf_f_tavg=Rainf_f_tavg_va$Rainf_f_tavg,
               Tair_f_tavg=Tair_f_tavg_va$Tair_f_tavg)
#Tair_f_tavg=Tair_f_tavg_va$Tair_f_tavg,
#file=f[i])
```

Tip 2: Show an example of a dataframe with head()

An example of control variables from January 2010 in Maryland is shown below.

```
head(md)
```

```
   NAME10      NAME1SAD10  Evap_tavg      Qs_tavg  Rainf_f_tavg
1 Worcester Worcester County 1.402706e-05 6.656126e-06 3.811770e-05
2  Harford   Harford County 1.438178e-05 3.877095e-06 3.511265e-05
3 Montgomery Montgomery County 1.093989e-05 2.293109e-06 2.710311e-05
4 Washington Washington County 1.659733e-05 5.653316e-06 3.779316e-05
5   Carroll   Carroll County 1.466791e-05 1.895020e-06 3.017357e-05
6 St. Mary's St. Mary's County 1.558496e-05 6.449214e-06 4.059291e-05
```

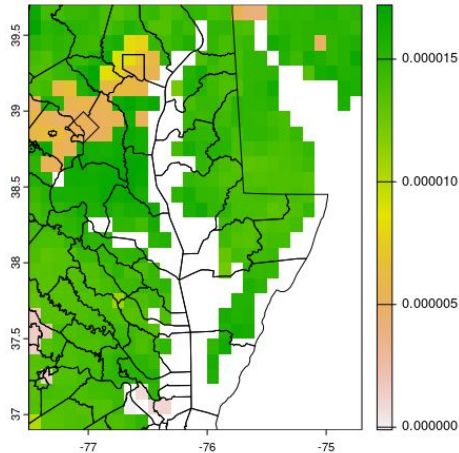
Tip 3: Show a map if you can

Average evapotranspiration levels from January 2010 is shown below.

```
cmd<-vect("Shapefiles/tl_2020_24_county10.shp")
cva<-vect("Shapefiles/tl_2020_51_county10.shp")

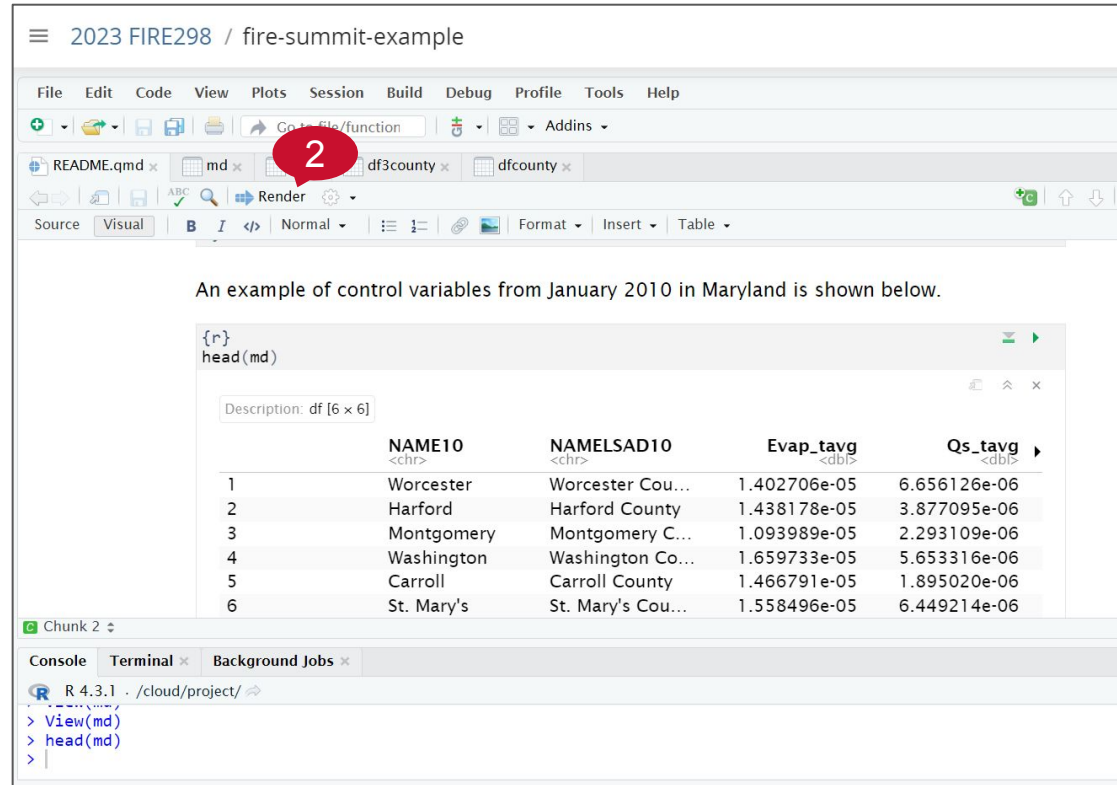
r<-rast("201001.nc4")
rp<-project(r[[1]], crs(cmd))

plot(rp)
plot(cmd, add=TRUE)
plot(cva, add=TRUE)
```



Step 4: Render the file

1. After everyone in the team has finished their part. Combine everything into the README.qmd file.
2. Render the file.



2023 FIRE298 / fire-summit-example

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function

README.qmd x md x df3county x dfcounty x

Render

Source Visual B I <> Normal Format Insert Table

An example of control variables from January 2010 in Maryland is shown below.

```
{r}
head(md)
```

Description: df [6 x 6]

	NAME10 <chr>	NAMELSAD10 <chr>	Evap_tavg <dbl>	Qs_tavg <dbl>
1	Worcester	Worcester Cou...	1.402706e-05	6.656126e-06
2	Harford	Harford County	1.438178e-05	3.877095e-06
3	Montgomery	Montgomery C...	1.093989e-05	2.293109e-06
4	Washington	Washington Co...	1.659733e-05	5.653316e-06
5	Carroll	Carroll County	1.466791e-05	1.895020e-06
6	St. Mary's	St. Mary's Cou...	1.558496e-05	6.449214e-06

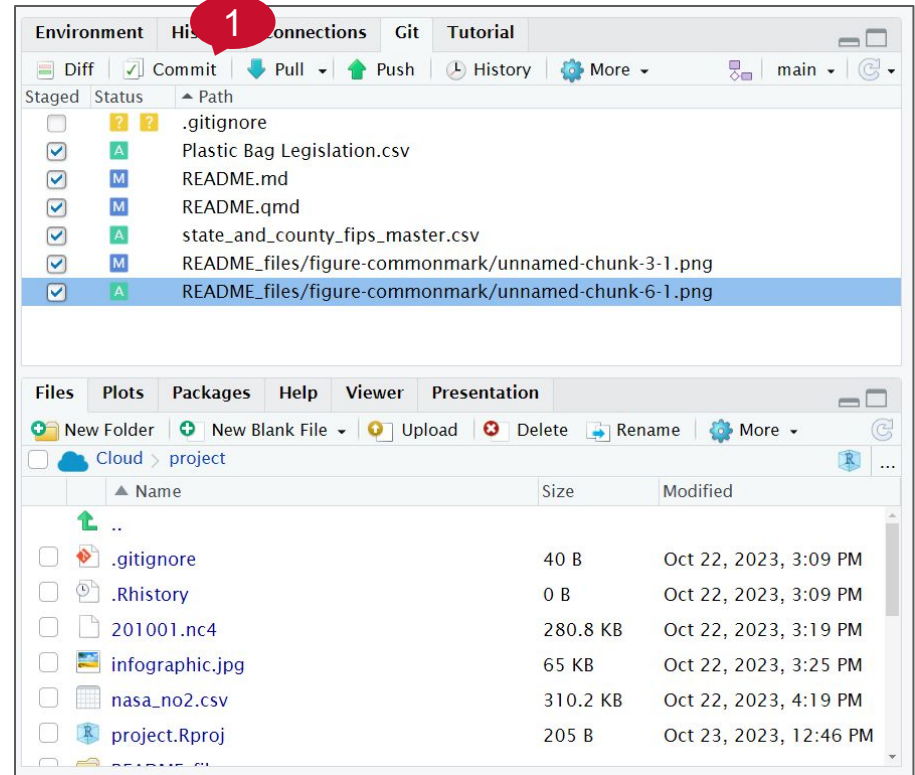
Chunk 2

Console Terminal Background Jobs

```
R 4.3.1 · ./cloud/project/
> View(md)
> head(md)
>
```

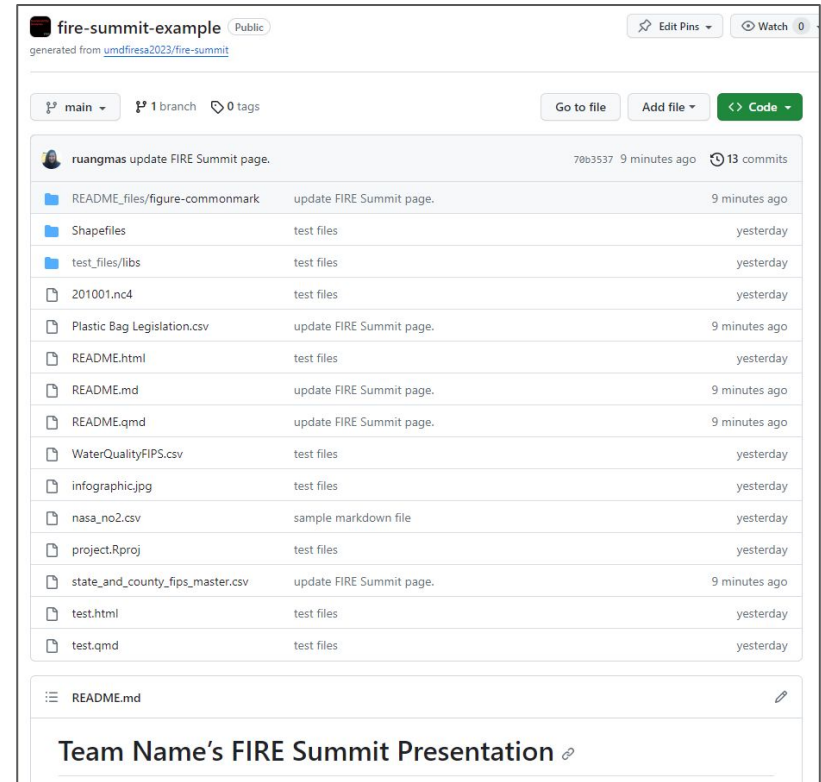

Step 5: Push the file to GitHub to publish the page

1. Check each file that you have updated and Click Commit.
2. Type in a Commit message and Click Commit in the pop-up window.
3. Click Push.
4. Type in your GitHub username and Token.



Step 6: Check your work

- Go to your repository on GitHub and make sure that everything is published.
- You can modify the page as many times as you like by updating README.qmd, rendering it, and pushing it to GitHub.



The screenshot shows a GitHub repository page for 'fire-summit-example' (Public). The repository was generated from 'umdfiresa2023/fire-summit'. The current branch is 'main', with 1 branch and 0 tags. There are buttons for 'Go to file', 'Add file', and 'Code'. The repository owner is 'ruangmas', who updated the FIRE Summit page 9 minutes ago (commit 70b3537, 13 commits). The file list includes:

File Name	Last Update	Time Ago
README_files/figure-commonmark	update FIRE Summit page.	9 minutes ago
Shapefiles	test files	yesterday
test_files/libs	test files	yesterday
201001.nc4	test files	yesterday
Plastic Bag Legislation.csv	update FIRE Summit page.	9 minutes ago
README.html	test files	yesterday
README.md	update FIRE Summit page.	9 minutes ago
README.qmd	update FIRE Summit page.	9 minutes ago
WaterQualityFIPS.csv	test files	yesterday
infographic.jpg	test files	yesterday
nasa_no2.csv	sample markdown file	yesterday
project.Rproj	test files	yesterday
state_and_county_fips_master.csv	update FIRE Summit page.	9 minutes ago
test.html	test files	yesterday
test.qmd	test files	yesterday

Below the file list, the 'README.md' file is selected, showing a preview of the 'Team Name's FIRE Summit Presentation'.