GlacierProject for Dummies

Background:

The Glacier Project is a web application that visualizes data, satellite images, and predictions of our planets glaciers.

The features that are currently present are:

- Filter by country and display a glaciers location on a map

- Display Mass change data based on recordings by the WGMS

- Download CSV files of data

For more background information and to prepare for working on this project, watch the videos below:

* <https://education.nationalgeographic.org/resource/glacier>
* <https://education.nationalgeographic.org/resource/glacier-moving-rivers-ice>
* <https://education.nationalgeographic.org/resource/moraine>
* <https://education.nationalgeographic.org/resource/climate-101-glaciers>
* <https://www.antarcticglaciers.org/glacier-processes/mass-balance/introduction-glacier-mass-balance/>

Getting Started:

1. Programs to Install:
   1. GitHub Desktop: used to assess repository for cloning, branching, etc.
      1. Download at <https://desktop.github.com/>
      2. Login and set repository to <https://github.com/dinobenj/GlacierProject>
         1. Clone repository using GitHub Desktop OR
         2. Git Bash using $ git clone https://github.com/dinobenj/GlacierProject
   2. Rstudio: used for compiling and running code
      1. Download at <https://www.rstudio.com/products/rstudio/download/#download>
      2. You will be prompted to in R from here, sooooo:
      3. No real customizations for the download at this time, I don’t think there will be until we start to enjoy Rstudio and… yeah.
   3. R: the language starter files will be in!
      1. Download at:
         1. <https://archive.linux.duke.edu/cran/bin/windows/base/> OR
         2. Any other link under USA at <https://cran.r-project.org/mirrors.html>
   4. 7zip: used to unzip starter files Ben (or other new project lead) will be providing (currently in the Discord)
      1. Download at <https://www.7-zip.org/download.html>
   5. Node
      1. Check version by entering node -v into command prompt (windows, maybe MacOS)
         1. Update by entering node update -g
      2. Install Node at <https://nodejs.org/en/download/> if the above fails
2. Setting up Glacier Project on your computer
   1. Ask Ben to add you to the repository as a contributor
   2. Install programs under 1
   3. Clone repository using instructions under 1a
   4. Install and unzip .7z file from Ben
      1. Store anywhere that is easy and convenient to access (i.e. desktop)
   5. Open Rstudio and access unzipped files through File 🡪 ???
   6. Set working directory to the folder storing all program files
      1. Blue setting icon in bottom right panel 🡪 Set as Working Directory
   7. Change paths in test\_with\_all\_glaciers to path FROM your working directory
   8. Run test\_with\_all\_glaciers first to get data together
      1. Run using Ctrl + Enter, Ctrl + A (highlight and code and run, yes that is how Rstudio works)
      2. Install additional libraries as needed upon request by Rstudio
   9. Change line 32 to gmap\_data <- sub\_data[, c(1, 7, 8, 3)]
   10. Run app.R
       1. Do NOT change paths in this file.