Applied Geodata Science 1

Session 7 - git

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Spring semester 2025

GECO

UNIVERSITÄT BERN

Why git?

Git allows version control from small individual projects to large shared code bases

"git commits" make up the git history.

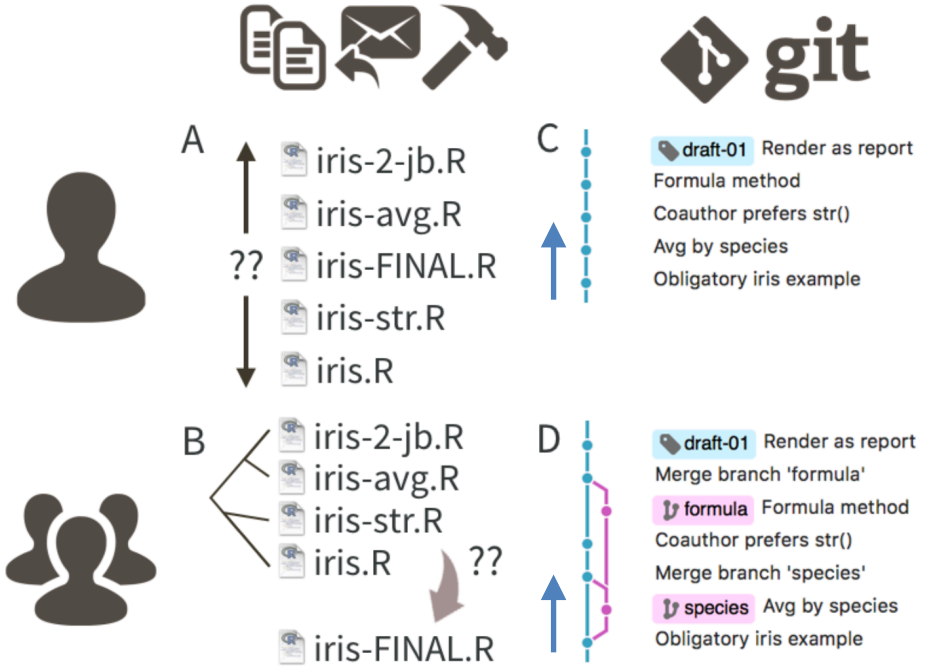

Figure 1: A: Solo work with DIY version control via filename. B: Collaborative work with DIY version control. C: Solo work with Git. D: Collaborative work with Git.

Taken from: https://happygitwithr.com

git commits

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- tracks changes in
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- records when and what
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- is line-based

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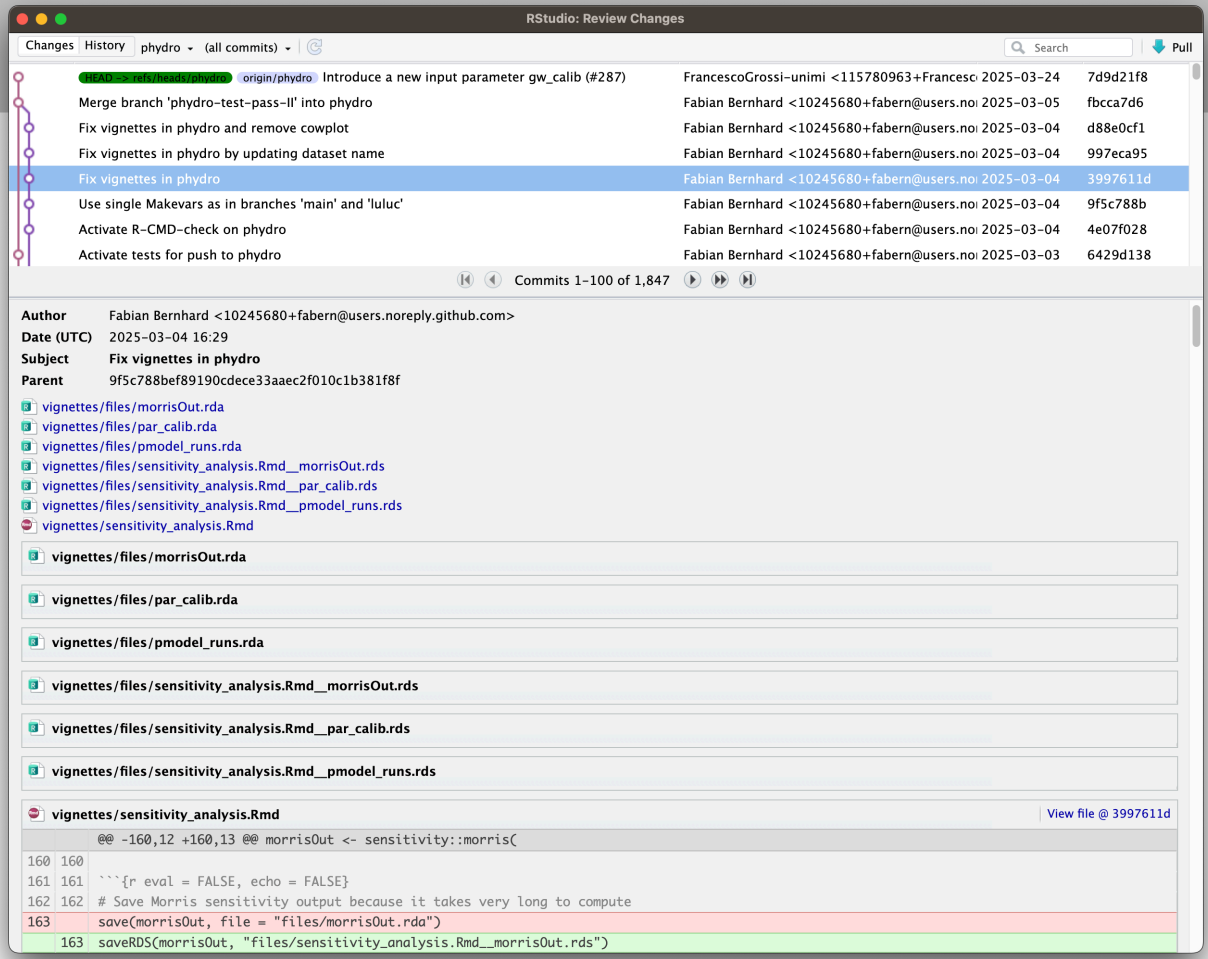

RStudio

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To make a commit:

- make a code change
- `add` the changes (staging)
- `commit` the changes including a
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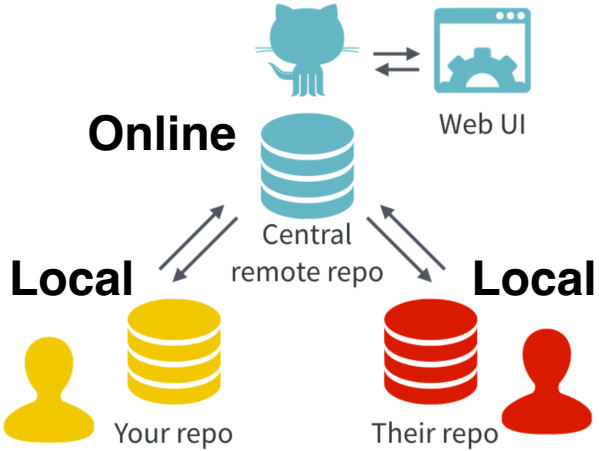
To make a commit:

- (`pull` from GitHub)
- make a code change
- `add` the changes (staging)
- `commit` the changes including a
  commit message
- (`push` to GitHub)

git and GitHub

Local:

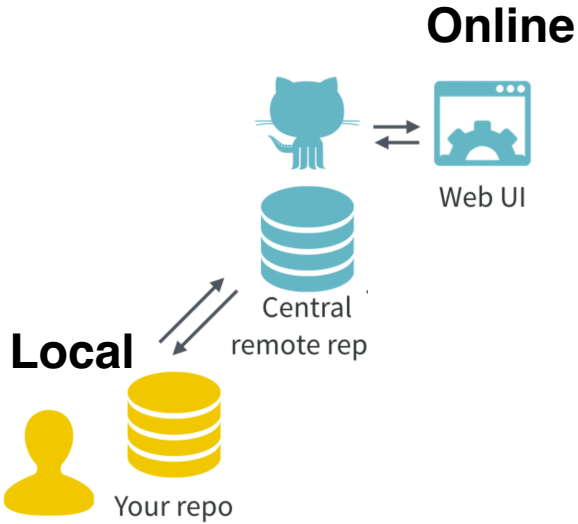
Online:



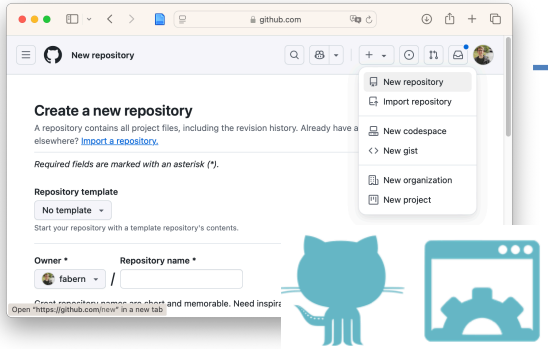
- Command Line: `git`
- **RStudio**
- GitKraken
- ...

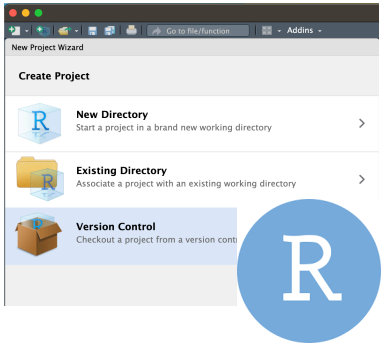
- **Web UI: github.com**
- Command Line: `gh`
- GitKraken
- ...

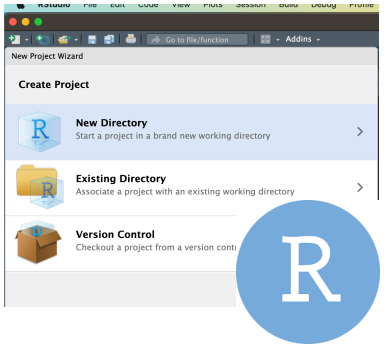
How to start a project with git and GitHub?



Different ways to get started:







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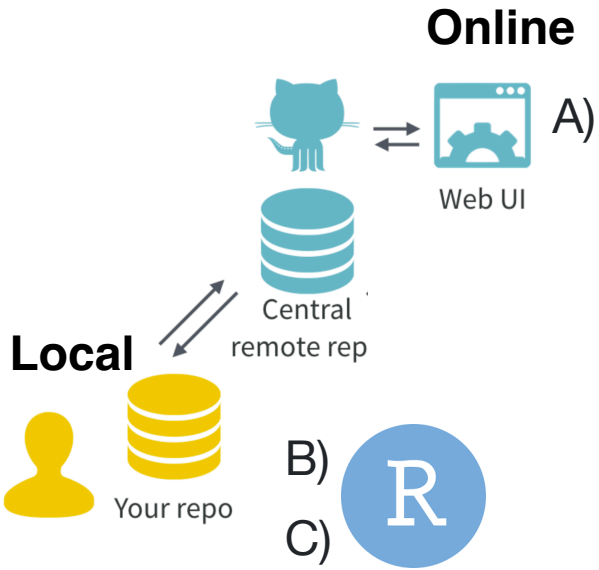

Different ways to get started:

- A) New project, GitHub first
  is the easiest way to get a working project.
- B) Existing project, GitHub first
  is a pragmatic way to get pre-existing work onto GitHub.
- C) Existing project, GitHub last
  is the more proper way to connect existing local work to a remote on GitHub.

Detailed instructions:
https://happygitwithr.com/usage-intro

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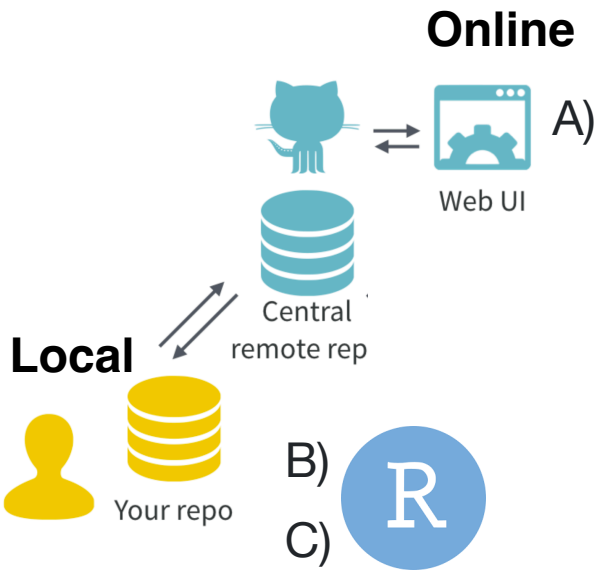

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How does this look in practice?

Live tutorial:

- start a new GitHub repo
- create a connected RStudio project
- write the code for our data analysis
- commit frequently with informative commit messages
    - only add what is needed to git history