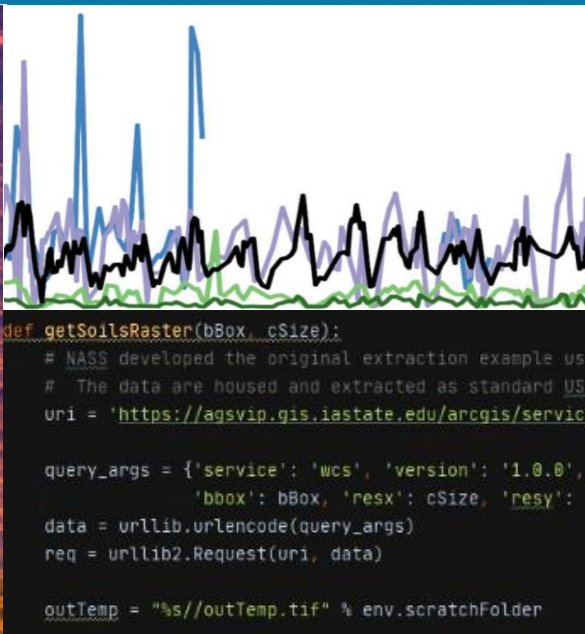
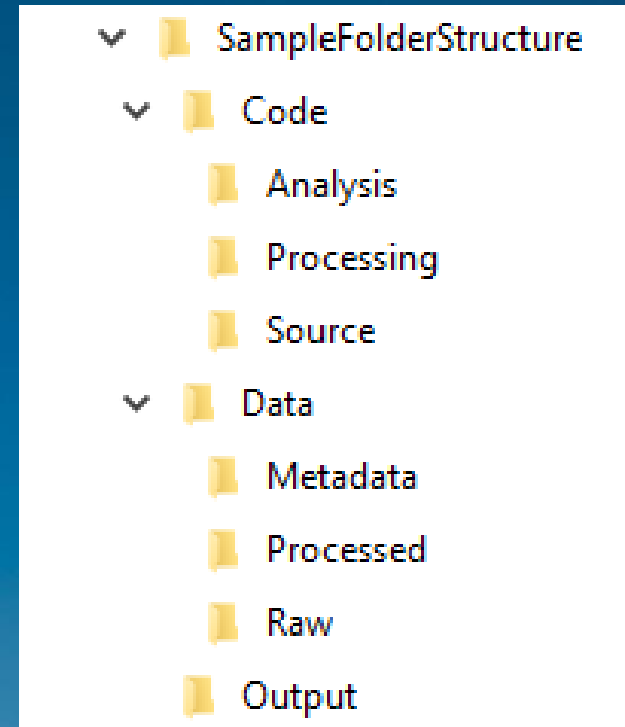


Data Management



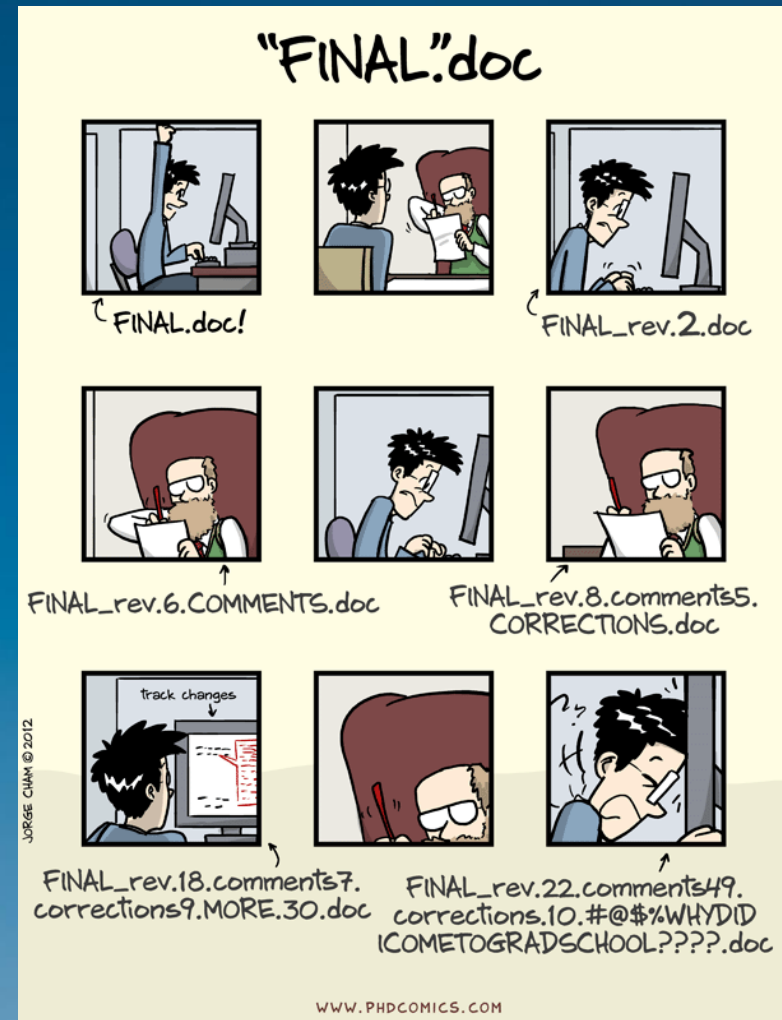
Files and Folder Structures

- **File naming conventions**
 - No spaces!
 - Use only letters, numbers, punctuation
 - Consistent naming structure throughout a project (e.g., *LakeA_Nutrients_Raw.csv*)
- **Folder structure conventions**
 - Nested folders are helpful
 - Separate folders for raw and processed data (optional: metadata folder)
 - Consider separating code folder into processing scripts, analysis scripts, and scripts received from elsewhere (source)
 - Output can contain image files, reports, slides, etc.



Version Control: Benefits

- Track multiple versions of a file through time
- Revert back to a previous version to fix a mistake
- Access files from any machine
- Provide access to multiple people who can work simultaneously



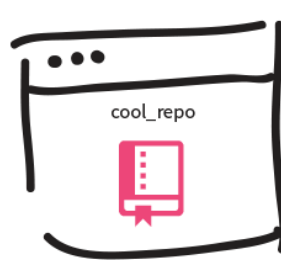
GitHub

- Cloud-based storage for files
- Max. file size = 100 MB
- File repositories track version history w/ ability to revert
- Can link multiple machines to a repository
- Repositories can be private or public



REMOTE

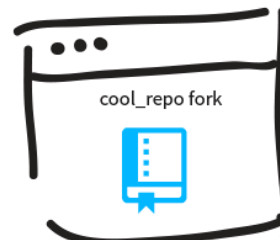
Someone else's repository.



Fork!

REMOTE

Your fork of the repository.



Clone to your computer from GitHub.

Push and **Pull** to your fork 'origin'.

Pull from 'upstream' changes to original.

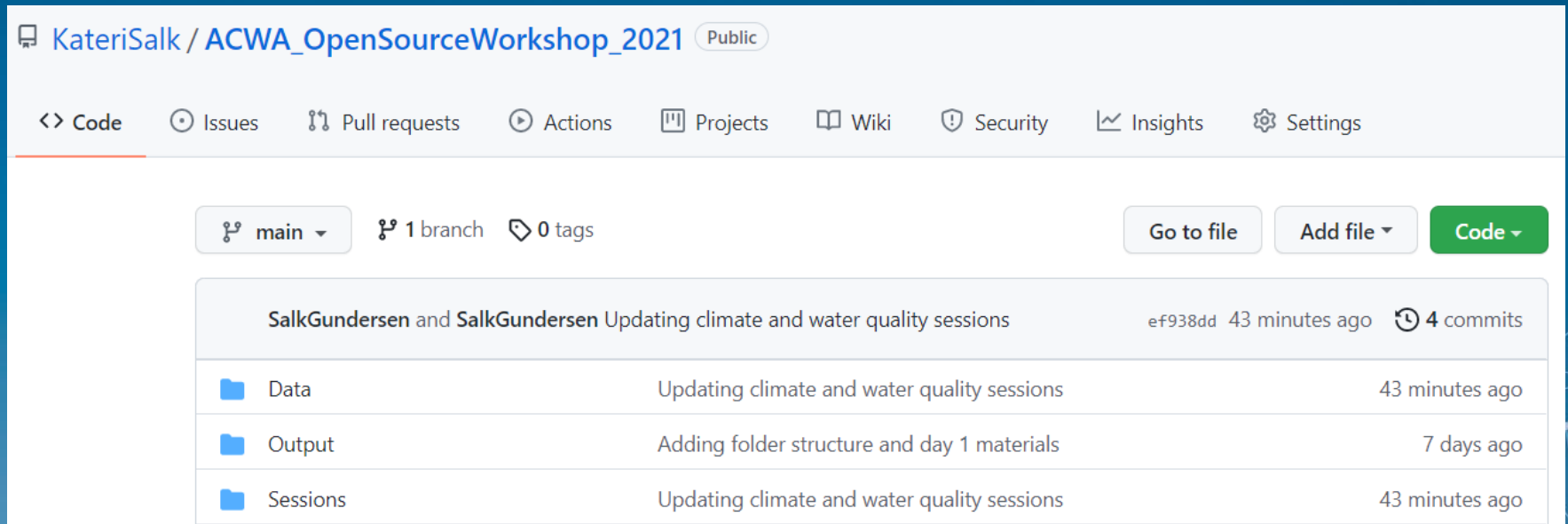


LOCAL

Use your computer's **terminal** to talk to two repositories via **two remotes** to the GitHub servers.

GitHub Example: Workshop Repository

https://github.com/KateriSalk/ACWA_OpenSourceWorkshop_2021



The screenshot shows the GitHub repository page for **KateriSalk / ACWA_OpenSourceWorkshop_2021**, which is a public repository. The navigation bar includes links for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. The repository is currently on the **main** branch, with 1 branch and 0 tags. The commit history shows a recent commit by **SalkGundersen and SalkGundersen** titled "Updating climate and water quality sessions" (commit `ef938dd`, 43 minutes ago, 4 commits total). The file list includes:

File/Folder	Description	Time
Data	Updating climate and water quality sessions	43 minutes ago
Output	Adding folder structure and day 1 materials	7 days ago
Sessions	Updating climate and water quality sessions	43 minutes ago