



Pacific  
Community  
Communauté  
du Pacifique

## 3 Discussion Points

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# Overview

- Good habits** *commit early and often, keep commits small, commit messages, keep a light repo, pull before making changes*
- Collaboration** *multiple contributors, merge conflicts, plumbing analogy, communication, forks, branches, pull requests*
- Repo management** *separate folders vs. repos vs. forks vs. branches, main git folder*
- SPC projects** *github vs. penguin vs. onedrive vs. teams vs. c-drive vs. vm, open science, reproducible analyses, regional/global collaboration*

## Good Habits

# Good Habits

## Commit early and often

Create repo and first commits as soon as you begin working on something new

Keep each commit small *so it can be described with a short commit message*

## Write descriptive commit messages

Relatively short, around 60 chars

Describing purpose or specific things that were changed

## Good Habits (cont)

### Keep a light repo

Usually under 1 GB

Avoid including a large file that will change

General idea with repos is not to include output files

*Release assets* are a good approach to attach heavy files while keeping the repo light

### Pull before making changes

To make sure you're adding to the current state of the repo

Avoiding merge conflicts

# Collaboration

# Collaboration

## Multiple contributors

- Merge conflicts

- Plumbing analogy

- Communication

## Pull requests

- Forks, branches

- Submitting and handling pull requests

# Repo Management



# Repo Management

## Related workflows can be organized in

- Separate files

- Separate folders

- Separate repos

⇒ *Makes things easier to understand, extend, and maintain*

⇒ *Also reduces the risk of merge conflicts*

## Repo Management (cont)

### Main git folder

Consider storing all Git repos in one place

c:/git    *in Windows*

~/git    *in Linux*

For example, I store this workshop repo

`https://github.com/PacificCommunity/ofp-sam-git-workshop`

on my computer as

`~/git/PacificCommunity/ofp-sam/git-workshop`

### Benefits

Easy to find repos

Repos are not repeated or forgotten in multiple places

Related repos are next to each other

The main Git folder can be excluded from regular backups

## SPC Projects

# SPC Projects

## Where to work on a project

GitHub repo

Shared drive     *penguin*

OneDrive

Teams folder

C-drive             *desktop*

Personal VM       *wsl*

No rules, but worth thinking about the pros and cons of each options

Git/GitHub skills are one factor to consider

GitHub repos are the default standard for open science and reproducible analyses

Also practical for regional and international collaboration

# GitHub vs. Shared drive

## GitHub

## Shared drive

Backups

Every change is saved as snapshot

Some

Collaboration

Pull requests, view contributions, issues

Difficult to see what others do

Dissemination

Can share with the world

Local network only

Large files

Each repo < 1 GB plus assets

No limits

Expectation

Should (ideally) run on any computer

Can be anything

Expertise

Requires Git/GitHub skills

Easy to copy files

# Summary

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