

Using GitHub for Project Management

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EcoDataScience
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Today's Agenda

- Why GitHub for Project Management?
- GitHub Tools for Project Management
 - Issues
 - Overview
 - Example
 - Demo
 - Projects
 - Overview
 - Example
 - Demo

About me



- NCEAS Learning Hub Data Training Program Lead
- EcoDataScience & RLadies SB Co-organizer
- I'm not an expert on this topic

Why am I here?

- I'm a Virgo. Organization and systems bring me joy.

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With this set.. Feel free to interrupt me, ask questions, share your experiences with these tools or with project management in general.

Let's have a conversation about this topic and learn together.

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(in an academic research context)

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- GitHub is mainly known for being a version control platform (extensively used by software developers).
- As researchers who code, we know the benefits and value of version controlling our work.
- Also from the software development world comes the idea of using product management software to organize all the moving parts of a project.
- As scientist, we can relate because research also has many moving pieces.

Why talk about GitHub for Project Management?

(in an academic research context)

To organize all the moving parts of a project (in one place), from analysis to final product to outreach.

GitHub for Project Management

- **Organize and track projects** with single or multiple & overlapping users

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- **Organize and track projects** with single or multiple & overlapping users
- **Streamline technical discussions** for people with different responsibilities
- **Key for onboarding Future You and Future Us**
- **Already managing code** and is linked to collaborators

GitHub Tools for Project Management

- Issues
- Projects

GitHub Issues

Issues “track ideas, enhancements, tasks, or bugs for work on GitHub.” - [GitHub](#)

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- A “place” where you can have active discussions about any “issue” of your project(s). Code related or not.

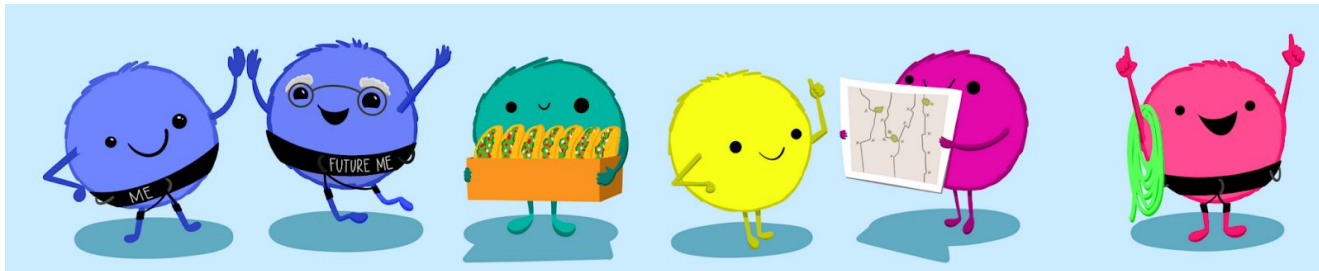
GitHub Issues

Issues “track ideas, enhancements, tasks, or bugs for work on GitHub.” - [GitHub](#)

- Let you discuss/organize in the same place as your code & documentation (compared with Asana, Trello).
- A “place” where you can have active discussions about any “issue” of your project(s). Code related or not.
- It streamlines technical discussions with people who are coming/joining the group.

GitHub Issues

- A project bug tracker
- Digital “Lab Notebook” (ideas, brainstorming)
- Act like an external memory (notes to self, links to resources)
- Identify and delegate task
- Documentation of process over time



Artwork by Allison Horst

GitHub Issues

You can see and access and issue from

- Your project repository web interface on GitHub

The screenshot shows a GitHub issue interface. At the top, there's a green 'Open' button and the issue title 'Restructure Cleaning and Wrangling Data Lesson #10' by user 'camilavargasp', opened on Apr 24 with 3 comments. On the right, there are options: 'Lock conversation', 'Pin issue', and 'Transfer issue'.

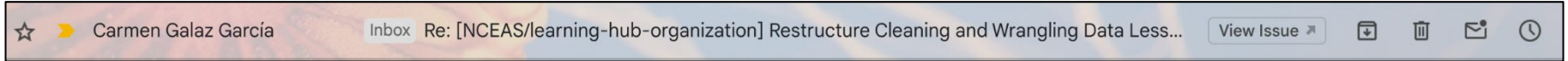
The first comment is from 'camilavargasp' (Member, Author) dated Jun 12. It contains two sections: 'General Notes' and 'Specific changes'. The 'General Notes' section has two bullet points: one about streamlining the introduction by explaining code first, and another about better explaining the `summarize(n = n())` function. The 'Specific changes' section has one bullet point about removing the `View(catch_original)` in the 7.3 Exploring data section.

The second comment is from 'carmengg' (Member) dated Jun 20. It starts with 'Hi Camila,' and thanks the first user for comments, stating they will implement suggestions. It then lists two specific changes: moving the split-apply-combine explanation and combining the `pivot_longer` example into the `pivot_longer` section.

GitHub Issues

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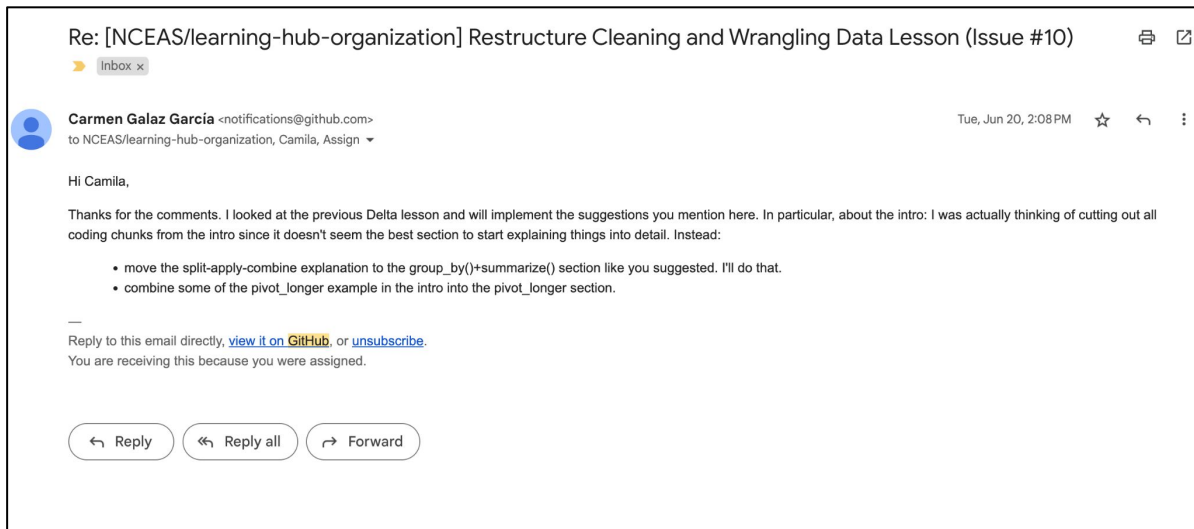
- Your email, just like regular messages (this can, of course, be configured)



GitHub Issues

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GitHub Issue: Example

- ggplot2 bug reports, code, feature, & help requests

The screenshot shows the GitHub repository page for `tidyverse/ggplot2`. The top navigation bar includes links for Code, Issues (205), Pull requests (53), Actions, Wiki, Security, and Insights. A search bar is located in the top right corner. Below the navigation bar, there is a banner encouraging contributions with a link to the contributing guidelines. The main section displays a list of open issues, filtered by 'is:issue is:open'. The issues are sorted by 'Sort' and include details such as the issue title, the user who opened it, the time it was opened, and the number of comments. The issues are categorized by labels like 'feature', 'internals', 'guides', and 'themes'.

Want to contribute to tidyverse/ggplot2? Dismiss

If you have a bug or an idea, read the [contributing guidelines](#) before opening an issue.

Filters Labels 22 Milestones 1 New issue

205 Open	3,542 Closed	Author	Label	Projects	Milestones	Assignee	Sort
Stack imbalance warnings on CI/CD	#5563 opened yesterday by krlmlr						2
We can do better text/label keys now	#5561 opened yesterday by teunbrand						1
Should the <code>trans</code> argument in <code>scale_*_continuous</code> etc be renamed to <code>transform</code>?	#5558 opened 3 days ago by davidhodge931						5
Feature request: Add <code>gg</code> class in <code>ggplot2::labs()</code>	#5553 opened 4 days ago by Yunuuuu	feature	internals				1
Feature request: colourbar as gradients	#5547 opened last week by teunbrand	feature	guides				1
Feature request: <code>legend.byrow</code> argument added to <code>theme</code>	#5541 opened last week by davidhodge931	feature	guides	themes			3

GitHub Issue: Example

- Ocean Health Index Team

The screenshot shows a GitHub issue page for the repository 'OHI-Science / OHI-website'. The issue title is 'Set up email addresses #87', marked as 'Open' and created by ThomasThelen on August 18, 2021. The issue has one comment. The comment from ThomasThelen, dated August 18, 2021, discusses associating an email address with the Ocean Health Index, mentioning a decision from an August 18th call to use 'info@oceanhealthindex.org' that forwards to '@gclawson1'. A second comment from ThomasThelen, dated October 4, 2021, provides an update stating that server hardware is still needed before proceeding. The right sidebar shows fields for Assignees (none assigned), Labels (none yet), Projects (none yet), Milestone (no milestone), and Development (no branches or pull requests).

OHI-Science / OHI-website

Code Issues 28 Pull requests Actions Projects Security Insights

Set up email addresses #87

Open ThomasThelen opened this issue on Aug 18, 2021 · 1 comment

ThomasThelen commented on Aug 18, 2021 Member

We should associate at least one email address with the Ocean Health Index.

From the August 18th call, we decided that an email address of `info@oceanhealthindex.org` that forwards to `@gclawson1` is the path that we want to go down.

ThomasThelen commented on Oct 4, 2021 Member Author

Update: we still need the server hardware before going through with this

Assignees
No one assigned

Labels
None yet

Projects
None yet

Milestone
No milestone

Development
No branches or pull requests


GitHub Issue: Example

- Openscapes Team

Summary blog post [2023-fred-hutch] - pub Nov 14, draft Nov 07 #187

New issue

Open 3 tasks stefaniebutland opened this issue on Aug 1 · 3 comments



stefaniebutland commented on Aug 1

Member

...

- ☐ select one project or pathway element from each team
- ☐ draft post
- ☐ publish & tweet / toot post

😊


🔖 stefaniebutland added the following label on Aug 1

👤 stefaniebutland self-assigned this on Aug 1

📁 stefaniebutland added this to CohortPlanning on Aug 1

🤖 github-project-automation bot moved this to Todo in CohortPlanning on Aug 1

Assignees

 stefaniebutland

Labels

following

Projects

📁 CohortPlanning

Status: Todo

📁 MainPlanning

Status: In Progress This Week

Milestone

No milestone



stefaniebutland commented on Sep 28

Member

Author



"Tell your roommate moments" like posit::conf sharing back to Julie.

Near end, what was different about this cohort?

Julie's back from vacation in plenty of time to review



stefaniebutland changed the title ~~Summary blog post [2023-fred-hutch]~~ Summary blog post [2023-fred-hutch] - pub Nov 14, draft Nov 07 on Sep 28



stefaniebutland added this to MainPlanning on Oct 29



stefaniebutland moved this to In Progress This Week in MainPlanning on Oct 29



stefaniebutland mentioned this issue on Nov 2

Champions Cohort: 2023-fred-hutch. Aug 29 - Oct 24 Openscapes/how_we_work#268

Closed



stefaniebutland commented last month

Member

Author



@jules32 rough draft PR for wrap up post: [Openscapes/website-new#69](#)

For now, each team/lab text is not good - just copied what I had in Call 5 digest. It would help me a lot if you took a quick look and noted anything I might highlight. I haven't yet rewatched the video to do my next round of draft.



Development

No branches or pull requests

Notifications

Customize



Subscribe

You're not receiving notifications from this thread.

2 participants



GitHub Issue: Example

- Collaborating with myself

Survey 123 Metadata notes #5

Open

camilavargasp opened this issue on Jul 7, 2022 · 4 comments

camilavargasp commented on Jul 7, 2022

From Vienna - slack with Tristin

- Friendly FYI that I have added "NAs" in the PHASE2_survey123_data_deployment2_summer22 data for purple and red urchin sizes as Grant was unable to collect these data due to safety issues.
<https://tnc.box.com/s/tk65jebfp556vu7hckw5554lvhang5to>

camilavargasp added **Survey123** **Notes** labels on Sep 19, 2022

camilavargasp commented on Oct 12, 2022 · edited

Author

Phase 1

- NA values explanation - Phase 1 count data. Valid for phase 2 winter and spring

colname	explanation
trap_number	"missing number". If the trap number was not recorded by Grant, this is an NA (and so is the trap type)
bait_status	No data collected
trapped_urchin_location	No data collected
other_bycatch_note	no notes on other bycatch

Assignees

No one—[assign yourself](#)

Labels

Notes **Survey123**

Projects

None yet

Milestone

No milestone

Development

[Create a branch](#) for this issue or link a pull request.

Notifications

Unsubscribe

You're receiving notifications because you're watching this repository.

1 participant

Lock conversation

GitHub Issues Demo 1

1. Create a new issue from: repository/issues
2. Tag a collaborator
3. Add comment
4. Paste and image

GitHub Issues Demo 2

1. Create a new issue from code
2. Add label
3. Assign who is responsible
4. Add To Do list
5. Add emoji
6. Show watching and what that means

GitHub Project

- “A project is an adaptable spreadsheet, task-board, and road map that integrates with your issues and pull requests on GitHub to **help you plan and track your work effectively.**” (GitHub)

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- Projects are GitHub’s main tool for project management.
- It is an umbrella that can include many issues.

GitHub Project

- “A project is an adaptable spreadsheet, task-board, and road map that integrates with your issues and pull requests on GitHub to **help you plan and track your work effectively.**” (GitHub)
- Projects are GitHub’s main tool for project management.
- It is an umbrella that can include many issues.
- Helps you visualize everything that is being tracked on issues.

GitHub Project

The screenshot displays a GitHub Project board for the 'Personal Organization'. The board is organized into four columns: 'To Do' (24 items), 'In Progress' (3 items), 'This Week' (4 items), and 'Done' (17 items). Each column contains a list of tasks, many of which are associated with a 'Roundtable' or 'Delta' group. The tasks are color-coded by status: green for 'To Do', yellow for 'In Progress', pink for 'This Week', and purple for 'Done'. The 'To Do' column lists tasks such as 'Update website with 2024 speakers', 'Create survey', 'Create Flyer with all upcoming speakers for the new year', 'Confirm all speakers for Jan-June 2024', and 'task-management #31'. The 'In Progress' column lists 'task-management #42' (GitHub for Project Management Module), 'task-management #36' (Practice Spatial Data Lesson), and 'task-management #49' (Create one-pager about CDC vulnerability index). The 'This Week' column lists 'task-management #5' (Get sign holder or brochure holder for AGU), 'task-management #32' (Create feedback survey report), 'task-management #34' (Send out poll to define final presentation data), and 'task-management #33' (Add slide content to Week 2 and 3 book). The 'Done' column lists 'task-management #38' (send reminder emails), 'task-management #37' (Update course book), 'task-management #13' (Create Report for week 3 survey), 'task-management #40' (Data Management Essential Lesson for GEI-Biggs), and 'task-management #41' (Intro to Git & GitHub fro GEI-Biggs). The interface includes a search bar at the top, a filter bar, and a 'Save' button.

Personal Organization

View 1 View 2 View 3 + New view

Filter by keyword or by field

Discard Save

To Do 24

This item hasn't been started.

- task-management #48
Update website with 2024 speakers
Roundtable
- task-management #47
Create survey
Roundtable
- task-management #46
Create Flyer with all upcoming speakers for the new year
Roundtable
- task-management #45
Confirm all speakers for Jan-June 2024
Roundtable
- task-management #31

In Progress 3

This is actively being worked on

- task-management #42
GitHub for Project Management Module
modular training
- task-management #36
Practice Spatial Data Lesson (UCSB Faculty)
ucsb-faculty
- task-management #49
Create one-pager about CDC vulnerability index
Delta

This Week 4

Tasks that needs to be accomplished in the current week

- task-management #5
Get sign holder or brochure holder for AGU
coreR
- task-management #32
Create feedback survey report with out comments that can indirectly identify someone
Delta
- task-management #34
Send out poll to define final presentation data
Delta
- task-management #33
Add slide content to Week 2 and 3 book
Delta

Done 17

This has been completed

- task-management #38
send reminder emails
UCSB-Faculty
- task-management #37
Update course book
UCSB-Faculty
- task-management #13
Create Report for week 3 survey
- task-management #40
Data Management Essential Lesson for GEI-Biggs
- task-management #41
Intro to Git & GitHub fro GEI-Biggs

GitHub Project

A project is an adaptable spreadsheet, task-board, and road map...

The screenshot displays a GitHub Project board for the 'Personal Organization'. The interface includes a top navigation bar with the user profile 'camilavargas', the project name 'Personal Organization', and a search bar. Below the navigation bar, there are view options (View 1, View 2, View 3, New view) and a filter bar. The main area is divided into four columns representing different stages of the project:

- To Do (24 items):** This column contains four tasks, all marked as 'Roundtable':
 - task-management #48: Update website with 2024 speakers
 - task-management #47: Create survey
 - task-management #46: Create Flyer with all upcoming speakers for the new year
 - task-management #45: Confirm all speakers for Jan-June 2024
- In Progress (3 items):** This column contains two tasks, one marked as 'modular training' and one as 'ucsb-faculty':
 - task-management #42: GitHub for Project Management Module
 - task-management #36: Practice Spatial Data Lesson (UCSB Faculty)
- This Week (4 items):** This column contains three tasks, one marked as 'coreR' and two as 'Delta':
 - task-management #5: Get sign holder or brochure holder for AGU
 - task-management #32: Create feedback survey report with out comments that can indirectly identify someone
 - task-management #34: Send out poll to define final presentation data
- Done (17 items):** This column contains four tasks, one marked as 'UCSB-Faculty' and three as 'Delta':
 - task-management #38: send reminder emails
 - task-management #37: Update course book
 - task-management #13: Create Report for week 3 survey
 - task-management #40: Data Management Essential Lesson for GEI-Biggs

Each task card includes a circular progress indicator, a title, a description, and a category label. The 'Done' column also includes a '+ ' button for adding more items.

GitHub Project

- A Project can be created
 - within an Organization
 - by a User (under that user account)
- A project can be linked to a repository.
- In a project you can see and create issues in different repositories.

GitHub Project

- A Project created **within an Organization**
 - Supports issues from any repositories
 - Editable by any users in the organization

GitHub Project

- A Project created **from a user account**
 - Supports issues from any repository
 - Editable only by this user
 - *Unless the user allows other users to have admin-level powers in that project.

GitHub Project Demo 1

- Create a project within Ecodatascience organization
- Create a new Draft in the project
- Add issue created in previous Demo to project
- Add and customize columns
- Close issue and show automatization

GitHub Project Demo 2

- Navigate to my Personal Organization project
- Different ways to open the project
- Different views
- Customize categories
- Customize labels
- Start and End dates
- Milestones

Summary: The Workflow

- Issues are related to a repository
- Projects can be created under a user or organization
- Use Issues to track and document each task or idea of your project
- Use a GitHub Project to oversee all the moving pieces, each member can track their tasks and ensure equitable effort.
- Mix and match repositories and project categories as you see fit

Resources and References

- [Openscapes GitHub for Project Management \(Champion Series\)](#)
- [Openscapes GitHub Clinic slides](#)
- LTER SciComp Workshops
 - [GitHub Issues](#)
 - [GitHub Projects](#)
- GitHub Docs
 - [Issues](#)
 - [Projects](#)