

# Efficient workflows with git & GitHub

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Francisco Rodriguez-Sanchez

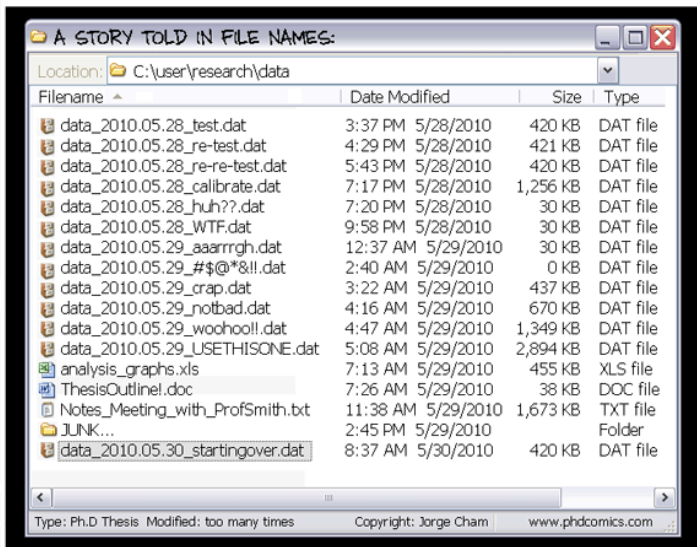
@frod\_san

<https://frodriguezsanchez.net>

Workshop materials:

<https://github.com/Pakillo/github-workshop>

# Version control without git



# Version control without git

"FINAL".doc



FINAL.doc!



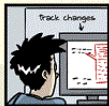
FINAL\_rev.2.doc



FINAL\_rev.6.COMMENTS.doc



FINAL\_rev.8.comments5.  
CORRECTIONS.doc













































FINAL\_rev.18.comments7.  
corrections9.MORE.30.doc



FINAL\_rev.22.comments49.  
corrections.10.##\$%WHYDID  
ICOMETOGRADSCHOOL?????.doc

© 2012 PHD COMICS

# Version control without git

 Coordinates_rawdata.csv	18/05/2015 19:07
 coords_2015-09-09.csv	23/09/2015 17:18
 coords_2015-09-09_modif.csv	05/11/2015 15:20
 coords_2015-10-11_modif_YC.csv	17/11/2015 13:49
 coords_2015-10-18_modif_YC.csv	18/11/2015 17:26
 coords_2015-12-26_modif_YC.csv	28/12/2015 13:33
 coords_2015-12-26_modif_YC_years.csv	30/03/2016 19:38
 Pulido et al_SMI_Data.csv	20/10/2015 11:55
 Pulido et al_SMI_Data_modif_YC_2015-12-26.csv	28/12/2015 13:30
 qualitative_data.csv	04/07/2016 15:50
 cleandata.xlsx	25/06/2015 01:14
 cleandata_YC.xlsx	30/06/2015 16:22
 COORDENADAS PACO_20-05-2016 CON REVIEWS.xlsx	20/05/2016 16:23
 COORDENADAS PACO_20-05-2016 CON REVIEWS_FRS.xlsx	27/05/2016 19:41
 COORDENADAS_paper195(Girella_elevata).xlsx	08/06/2016 13:09
 coordenadas_raw_2016-06-08.xlsx	09/06/2016 15:53
 coordenadas_raw_2016-06-08_old.xlsx	08/06/2016 16:00
 coordenadas_raw_2016-06-21.xlsx	21/06/2016 16:12
 coords_2015-09-09_modif.xlsx	05/11/2015 15:23
 coords_2015-10-11_modif_YC.xlsx	17/11/2015 13:37
 coords_2015-10-11_modif_YC_PACO.xlsx	17/11/2015 17:06
 coords_2015-10-18_modif_YC.xlsx	18/11/2015 17:24
 coords_2015-12-26_modif_YC.xlsx	30/03/2016 19:38
 coords_2016-04-02.xlsx	06/04/2016 17:46
 coords_2016-04-02_YC.xlsx	06/04/2016 18:03
 coords_2016-04-08_YC.xlsx	11/04/2016 13:51
 dataset_y_coords_09_09_15.xlsx	23/09/2015 17:18
 Datos metaanalysis_18-04-2016.xlsx	19/04/2016 16:24
 FINAL METAANALISYS_14-6-2016_WITH REVIEWS.xlsx	21/06/2016 16:15
 FINAL METAANALISYS_16-6-2016_WITH REVIEWS.xlsx	21/06/2016 16:13
 FINAL METAANALISYS_2016-04-27_WITH REVIEWS.xlsx	25/05/2016 18:05
 FINAL METAANALISYS_2016-04-27_WITH REVIEWS_FRS.xlsx	27/05/2016 18:44
 FINAL METAANALISYS_2016-04-29_EXCLUDING REVIEWS.xlsx	08/06/2016 13:06
 FINAL VOTECOUNTING_1-7-2016.xlsx	04/07/2016 15:46
 fitnessdata_2016-06-22.xlsx	22/06/2016 21:00
 IFS for Bastien_19-3-2016_YC.xlsx	28/03/2016 19:26
 Metaanalysis final_01-05-2015 with coordinates.xlsx	18/05/2015 19:20
 Metaanalysis final_22-05-2015 coords.xlsx	24/06/2015 15:50
 Metaanalysis final_25-06-2015.xlsx	30/06/2015 16:55
 Metaanalysis y coords revisadas_06-08-2015_AHJ_E.xlsx	23/09/2015 12:57
 Pulido et al_SMI_Data_2016-05-27.xlsx	27/05/2016 18:48
 Pulido et al_SMI_Data_2016-06-27_PACO.xlsx	09/06/2016 16:23

# Collaborating without git

You've got email:

*I'm attaching the final dataset to this email. Hope the analysis goes well!*

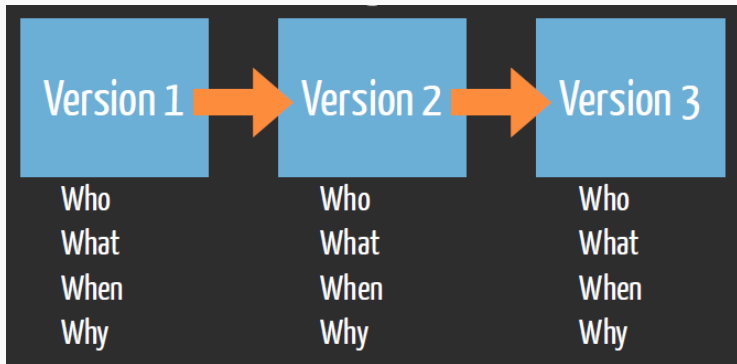
Later:

*We just found a mistake in the data so I'm attaching the **revised final** dataset. Sorry about that!*

## Version control with git

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# Version control with git



R. Fitzjohn (<https://github.com/richfitz/reproducibility-2014>)



## Why version control

- Who did what, when, and why

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- Who did what, when, and why
- Record all changes

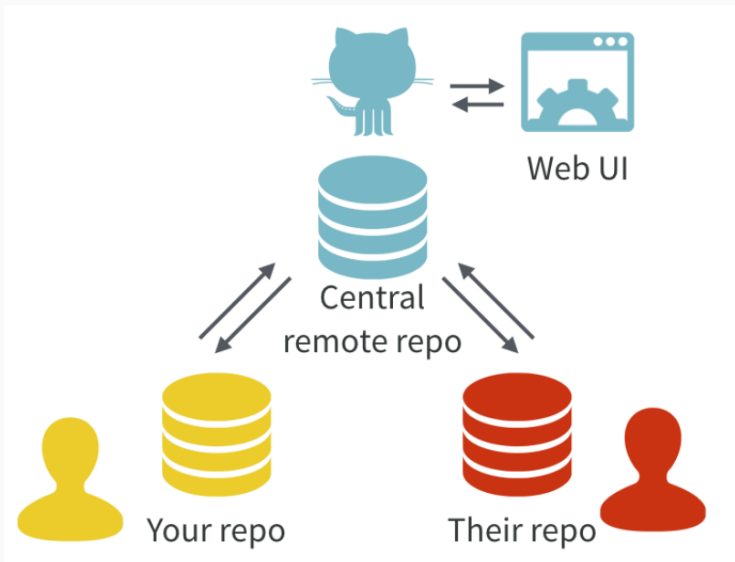
## Why version control

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## Why version control

- Who did what, when, and why
- Record all changes
- Can go back (undo)
- Easy collaboration (GitHub, GitLab...)

# Distributed version control



## Advantages of GitHub / GitLab...

- Project backup (including history)

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- Easy web deployment

# Advantages of GitHub / GitLab...

- Project backup (including history)
- Easy collaboration (social coding)
- Project management (issues, task planning...)
- Easy web deployment
- Continuous integration (GitHub Actions)

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## RESEARCH ARTICLE

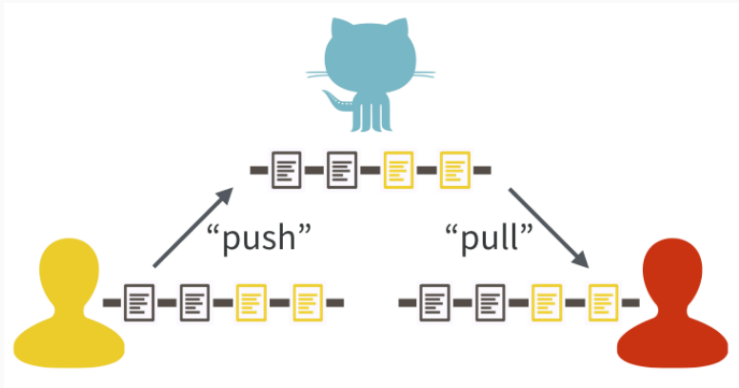
Methods in Ecology and Evolution



# Developing an automated iterative near-term forecasting system for an ecological study

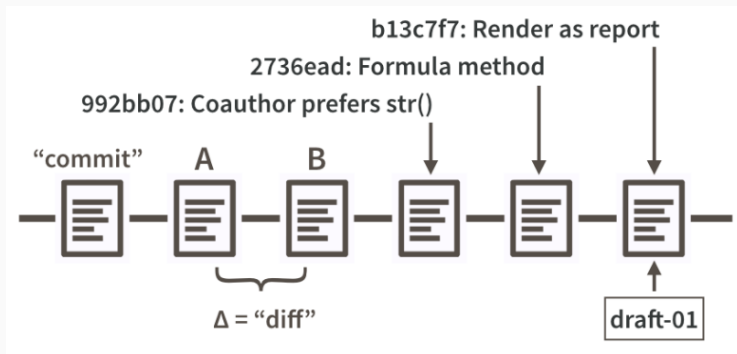
Ethan P. White<sup>1,2,3</sup>  | Glenda M. Yenni<sup>1</sup>  | Shawn D. Taylor<sup>4</sup>  | Erica M. Christensen<sup>1</sup>  | Ellen K. Bledsoe<sup>4</sup>  | Juniper L. Simonis<sup>1</sup>  | S. K. Morgan Ernest<sup>1,3</sup> 

# Distributed version control



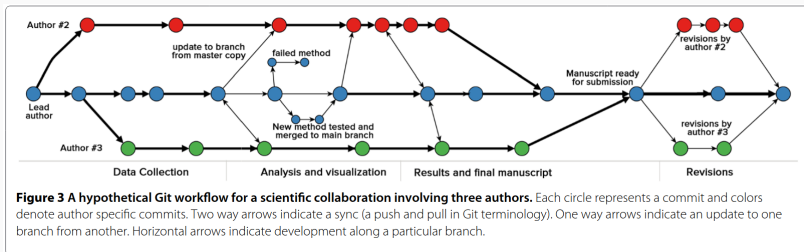
J. Bryan: [Excuse me, do you have a moment to talk about version control?](#)

# Commits save snapshots of project



J. Bryan: [Excuse me, do you have a moment to talk about version control?](#)

# Collaboration workflow



Ram 2013

## Set up

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# Set up

<https://happygitwithr.com/>

<https://git-scm.com/>

<https://github.com/>



## To read more

- [Excuse me, do you have a moment to talk about version control?](#)

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- [Pro Git book](#)