Session 2:

Markdown and Git

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Agenda

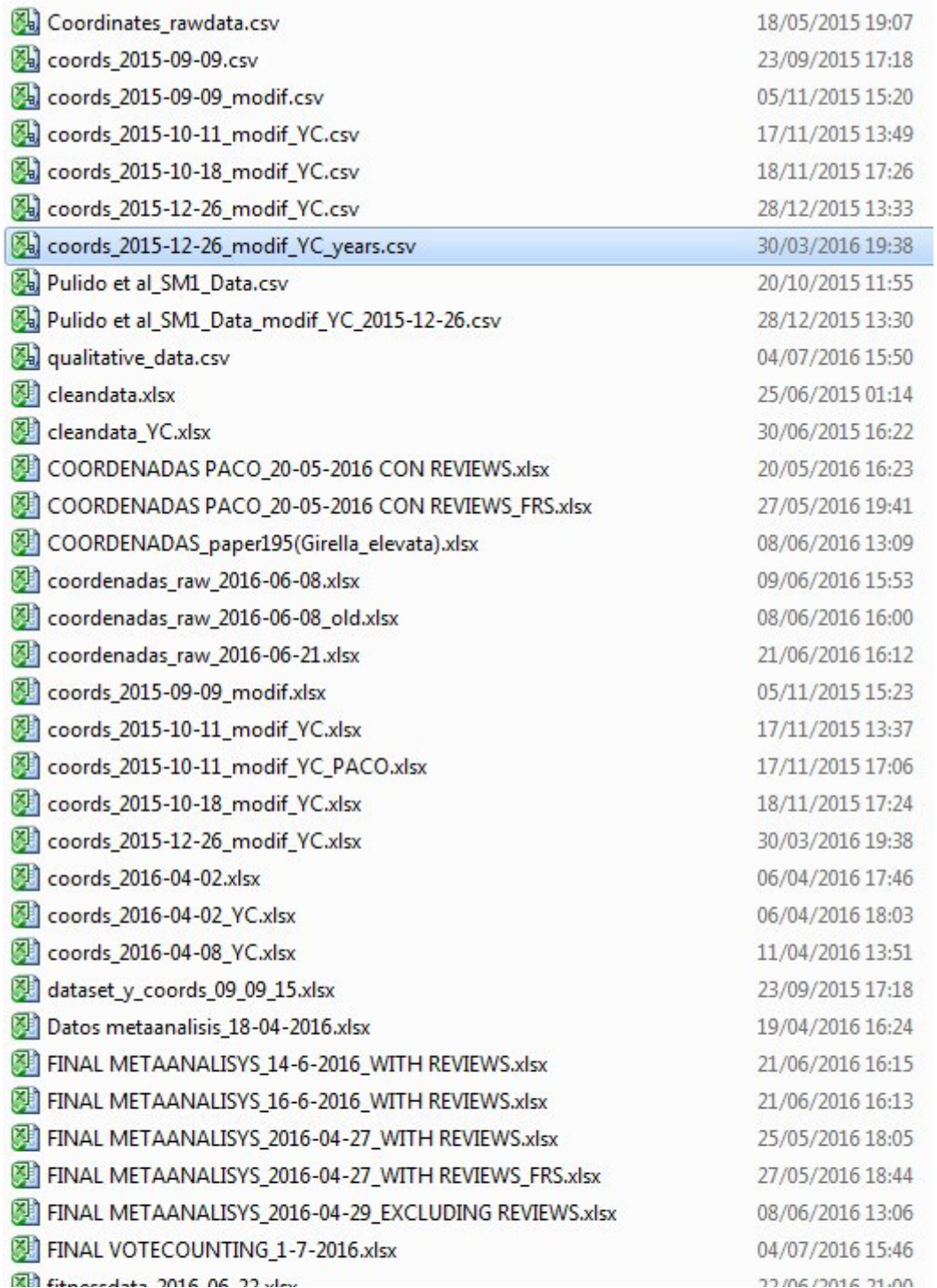
- In this session we will get some useful tools to conduct research.
- `Git` is a version control system
    - It is useful when several people are colaborating on the same code.
    - Today: Motivation for trying Git
- `Markdown` which is an easy to use text operator.
    - Start using Markdown

Git: Version control

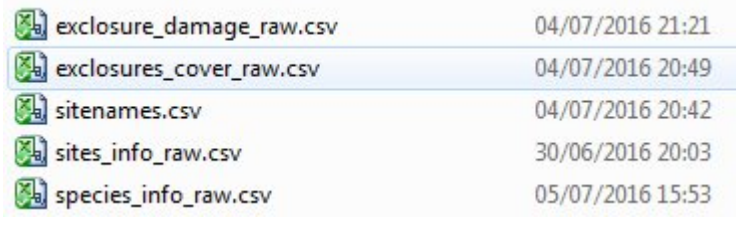
Why version control: Track of files/code

- Helps you to keep track of different version of your code

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_SM1_Data.csv 20/10/2015 11:55
Pulido et al_SM1_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 metaanalisis_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

With Git


exclosure_damage_raw.csv 04/07/2016 21:21
exclosures_cover_raw.csv 04/07/2016 20:49
sitenames.csv 04/07/2016 20:42
sites_info_raw.csv 30/06/2016 20:03
species_info_raw.csv 05/07/2016 15:53

Enables you to work with several people on the same code or text, at the same time.

```
- Might sound like a trivial problem, but in reality, there are a lot of challen
ges.
    - Confliced copies
    - Hard to track changes and why there done
    - Lots of files, taking up space
```

Why version control: Detailed log

Your closest collaborator is yourself 6 month ago - and you are not anwering e-mails.

- Detailed log of all changes
  - When, who, what
- Easy to revert back to previous versions (remembers forever)
- Clear attribution of work (who contributed what)
- Other differences from DropBox/Google Drive etc.? Some files are shared, some not

What is Git

what is `git`? Git is an open source command line program for version control.

what is `github`? Companies/web services that hosts Git repositories and enables 'social coding'

What is GitHub for Mac/Windows? A GUI (Graphical User Interface) for Git.

Makes it easier to use.

Ultimately just does command line Git.

GitHub for desktop

Vocabulary

- Repository: The place where your files are keeped
- Clone: Make a folder on your computer, with the content of a repository
- Pull: To download the newest version of a repository
- Push: Push the changes you have made, to the repository

Alternatives and resources

If you want to keep coding, you will have to get familiar with Git sooner or later. But there are alternatives.

- Google's Colab.Research (https://colab.research.google.com/notebooks/welcome.ipynb#recent=true) which is a combination of Google Docs and Jupyter Notebook.
- Plug and play: is an easy to use, less flexible, alternative.

More about Git

- Google is your friend
- Online tutorials (DataCamps tutorial on Git (https://www.datacamp.com/courses/introduction-to-git-for-data-science) is very useful)
- Try it!

Markdown

- Markdown is an easy to use text editor
    - WYSIWYG (What you see is what you get)
    - Used in Jupyter Notebook
    - Can be used to make Homepages (SDS) or slideshows (like this one)
- Basic functionalities i Markdown
- You try in the exercises

Headlines

This will be the headline
This will be the sub headline
And so on

This will be the headline

This will be the sub headline

And so on

Bold and italics

- **Text in bold** -> **Text in bold**
- *Text in italics* -> *Text in italics*

> This text will be indented

    This text will be indented

Lists

```
- fruits
    - apples
        - macintosh
        - red delicious
    - pears
    - peaches
- vegetables
    - broccoli
    - chard
```

... gives you this list

- fruits
  - apples
    - macintosh
    - red delicious
  - pears
  - peaches
- vegetables
  - broccoli
  - chard

Links

This is how you insert a link `[name of link](URL)`

```
The subreddit [DataIsBeautiful](https://www.reddit.com/r/dataisbeautiful/) loves
 data
```

->

The subreddit DataIsBeautiful (https://www.reddit.com/r/dataisbeautiful/) loves data

Images

It is almost the same, to insert an image

```
This is a cat ![](http://drupal-images.imgix.net/2015/07/03/20150622-113315-4_18
Mb.jpg?auto=format&crop=faces&fit=crop&ixjsv=1.1.3&q=82&w=620&h=349) is cute
```

This is a cat

is cute

Now for Exercises 2