# Data extraction and easy visualization with galaxy climate science workbench

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# Sticky Notes

1. Status indicators
    - 🟩 Green: Used to indicate your progress
    - 🟥 Pink: Put on your screen if you need help

2. End-of-day feedback
    - 🟩 Green: what did you like?
    - 🟥 Pink: what could we improve tomorrow / next time?
    - Leave them on the whiteboard at the end of the day

*your sticky notes may be different colours | back to start

# I have heard of Galaxy before

YES

NO

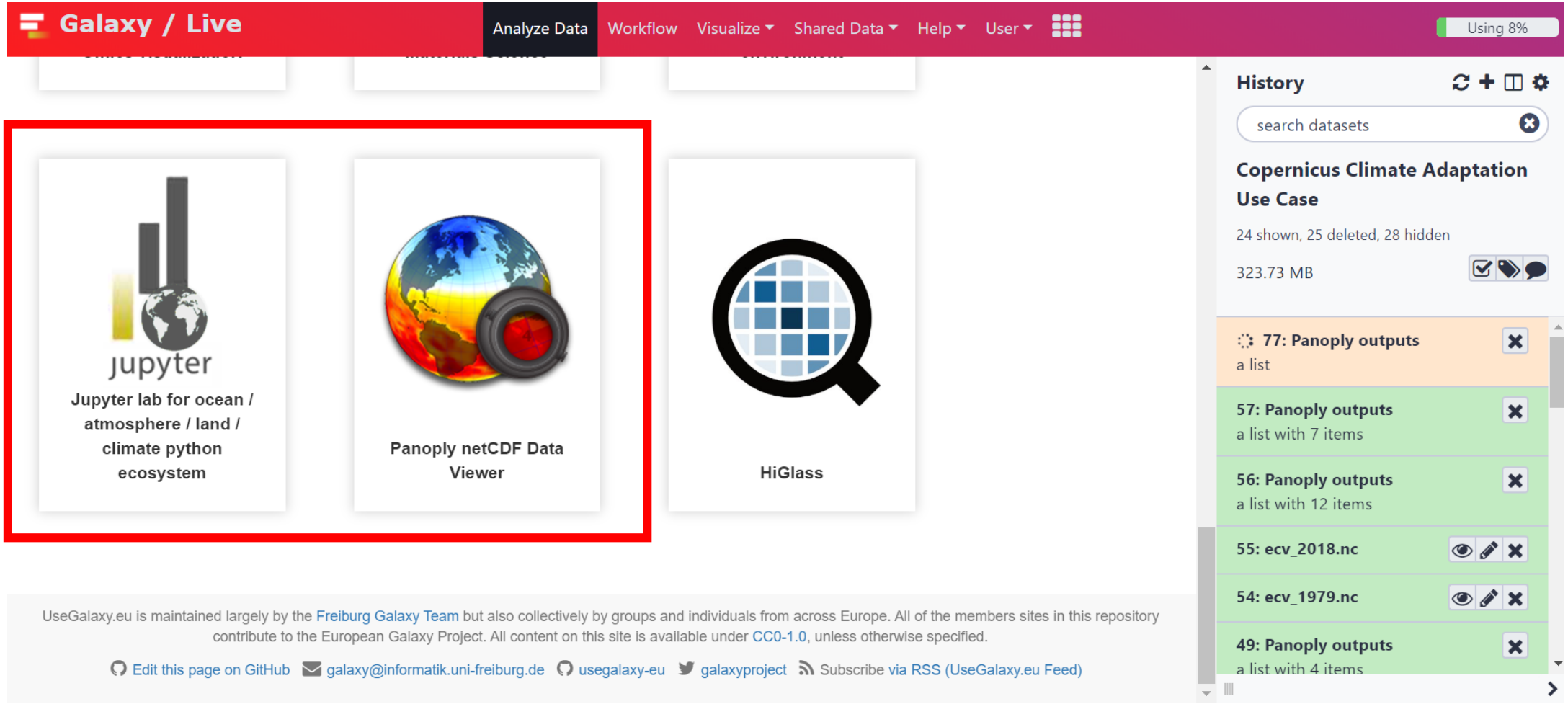
# I have used Galaxy before

YES

NO

# Galaxy Climate workbench

https://live.usegalaxy.eu



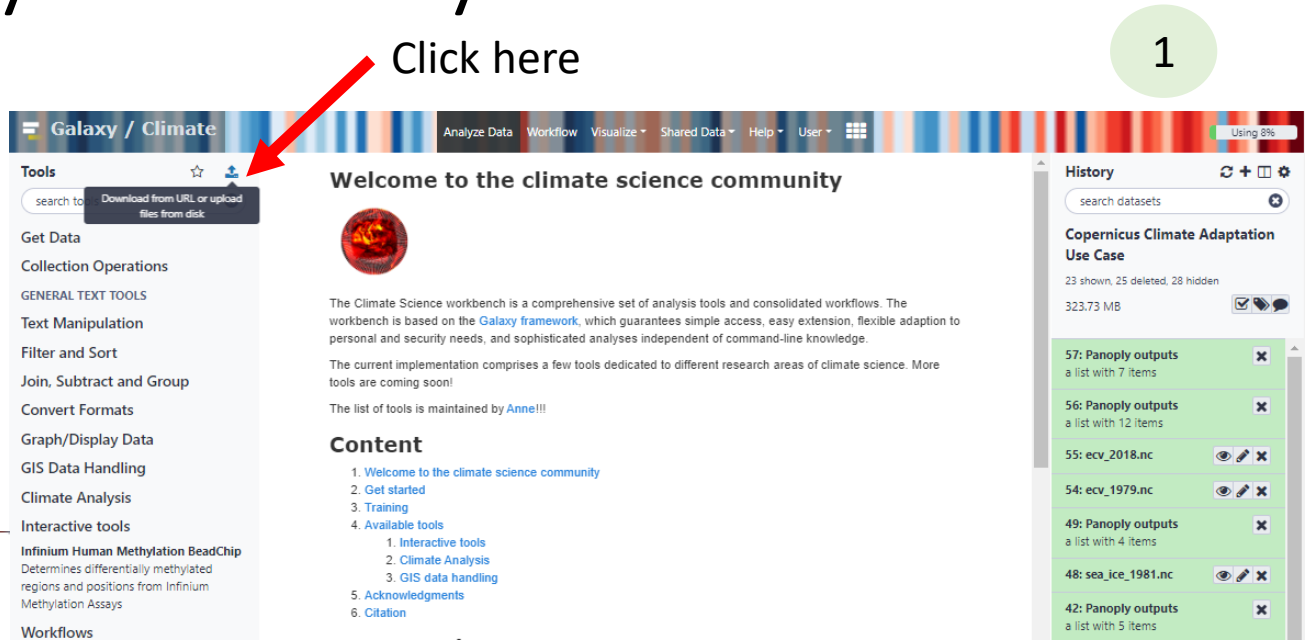
# Set up for workshop

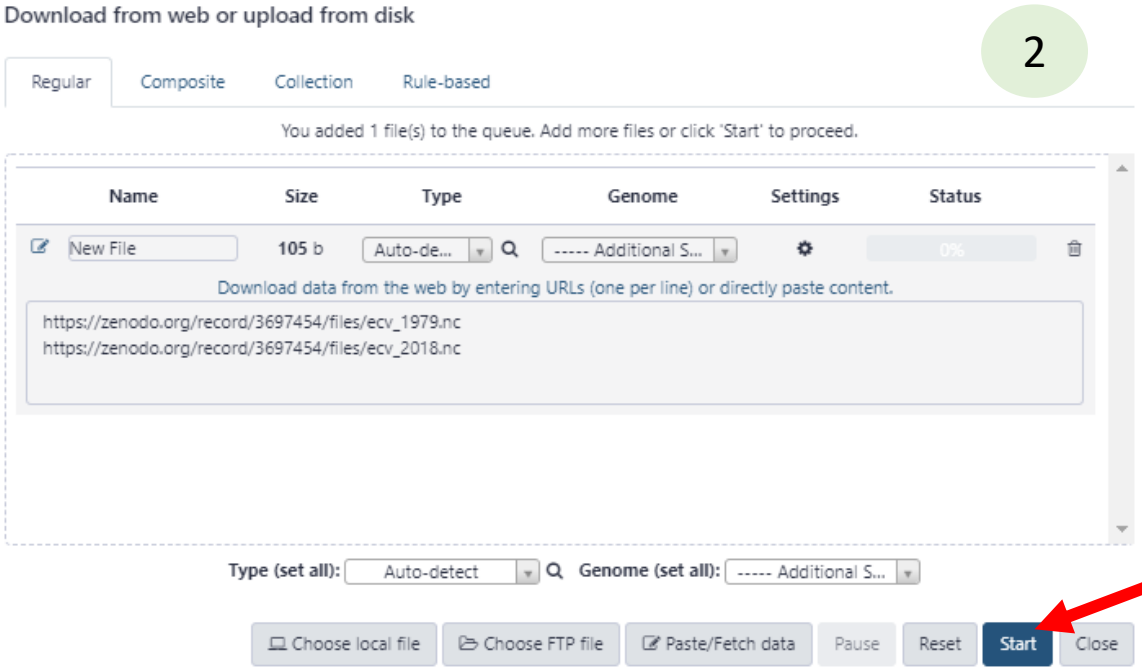
- Register and log in to https://climate.usegalaxy.eu
  - You may receive an e-mail with an activation link

- Go to the following URL: https://usegalaxy.eu/join-training/c3s to join the c3s training group
  → Give us higher priority for running

# Panoply in Galaxy

- Go to https://climate.usegalaxy.eu/
  1. Upload sample dataset
  2. Paste/Fetch data

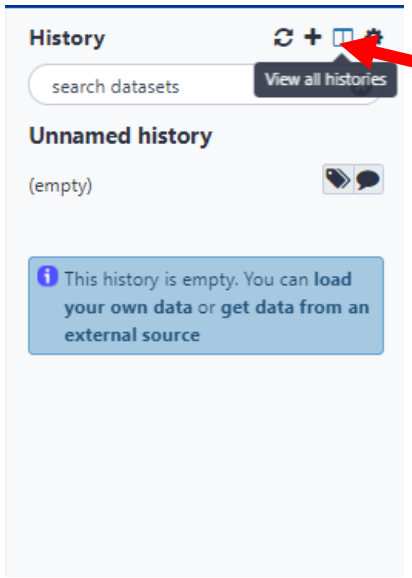



https://zenodo.org/record/3697454/files/ecv_1979.nc
https://zenodo.org/record/3697454/files/ecv_2018.nc

# Start Panoply in Galaxy

- Go to Start Panoply
- Select dataset *ecv_1979.nc* and press **Execute**
  - *If you do not see ecv_1979.nc in your history (right panel), make sure to switch to the history that contains your dataset.*



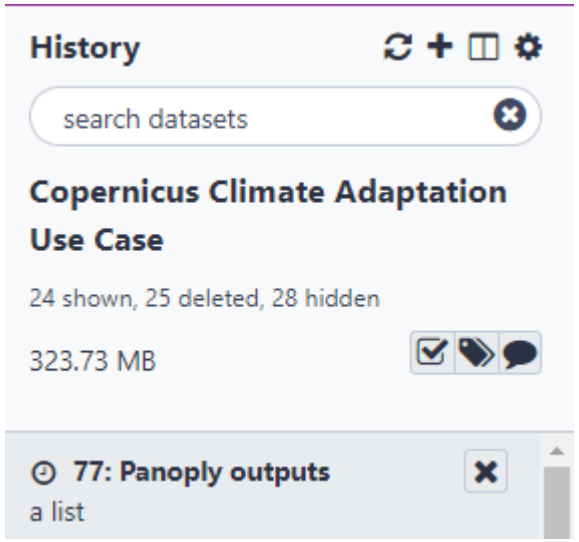

Click , «switch to» to select the history with your dataset

and then Start Panoply

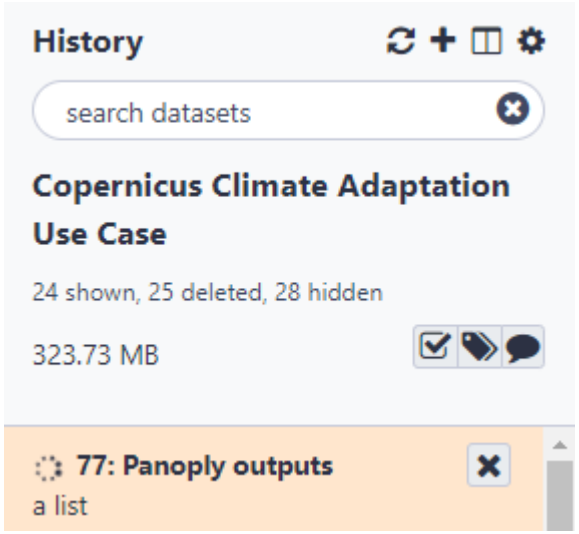
https://live.usegalaxy.eu/?tool_id=interactive_tool_panoply

# Wait for Panoply to be ready

Wait in the queue



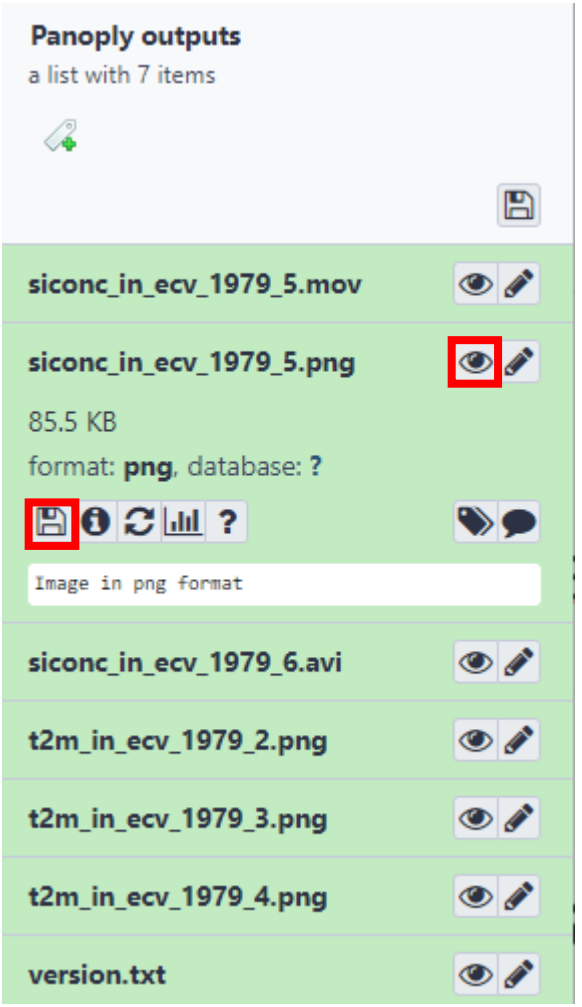

Running




- Once running go to User → Interactive Tools and click on *Panoply interactive tool* to launch it
- The use Panoply as usual.

# Start Panoply in Galaxy

- To save your plots, make sure you store them in **outputs** folder
- Quit Panoply when you are done and go back to Analyze to get your outputs (click on **Panoply outputs**)
- You can download you plot on your laptop ( and )



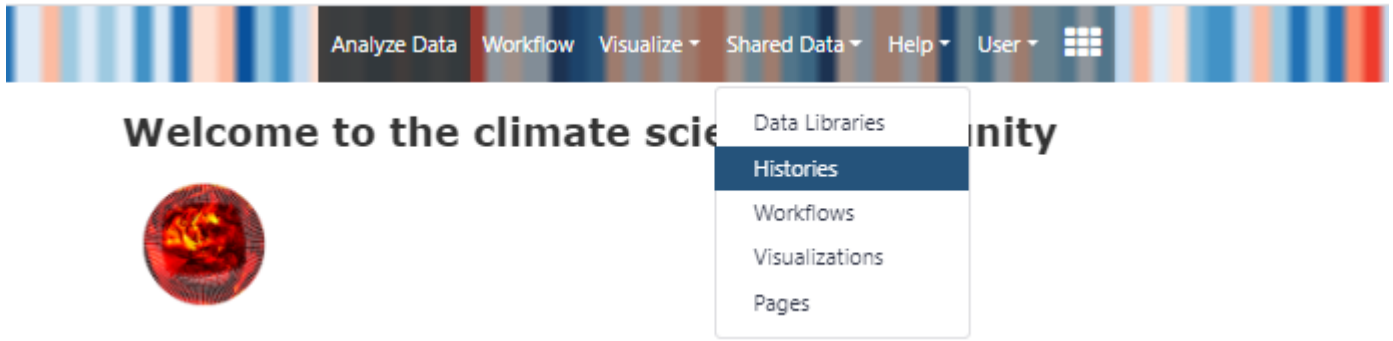

https://live.usegalaxy.eu/?tool_id=interactive_tool_panoply

# Pangeo JupyterLab in Galaxy

- Go to JupyterLab for Ocean/Atmosphere/Land/Climate python ecosystem
- Select dataset *ecv_1979.nc* and press **Execute**
- Go to User → Interactive Tools and click on *Climate interactive tool* to launch it
- Then you should get a jupyterLab session
- Open *ipython_galaxy_notebook.ipynb*
- To save your plots, data, etc. follow instructions given at the top of the default notebook (*get*, *put*)
- Quit JupyterLab when you are done and go back to Analyze to get your outputs (those you added with *put*)
- You can download your plots on your laptop ( and )

# Learn more about Galaxy

- Galaxy 101 for everyone
- Visualize Climate data with Panoply netCDF viewer
- JupyterLab in Galaxy*
- Import shared histories (click on the link)
  - Copernicus Climate Training: Panoply
  - Copernicus Climate Training: How to use climate data for Olive farming in Andalusia
  - Copernicus Climate Training: the ALPS -a dying ski tourism destination?




* *Make sure to use JupyterLab for Ocean/Atmosphere/Land/Climate*

FEEDBACK