GEOCOMPUTATION

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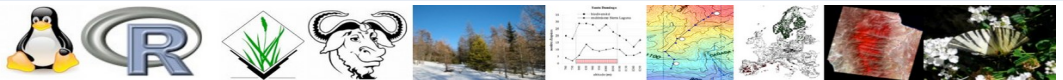
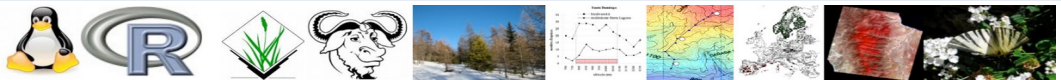
Founder of
Spatial Ecology



Background

- **Forester by training**
- **Geographic information science by training**
- **Computer scientist by trade**

- **Coding in BASH, R, PYTHON, GDAL & PKTOOLS, GRASS for geographical analysis**



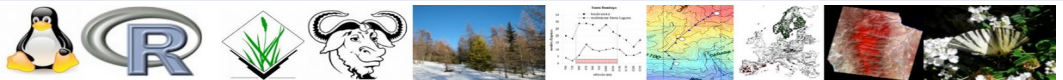
Teaching Tools

LINUX Bash shell programming

AWK for processing text-based data

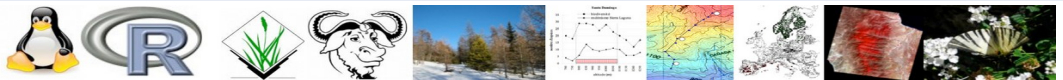
GDAL/OGR/PKTOOLS geotools library for the manipulation of geospatial data

(Grass & Qgis Geographic Information Systems)



Knowing each other (3 min)

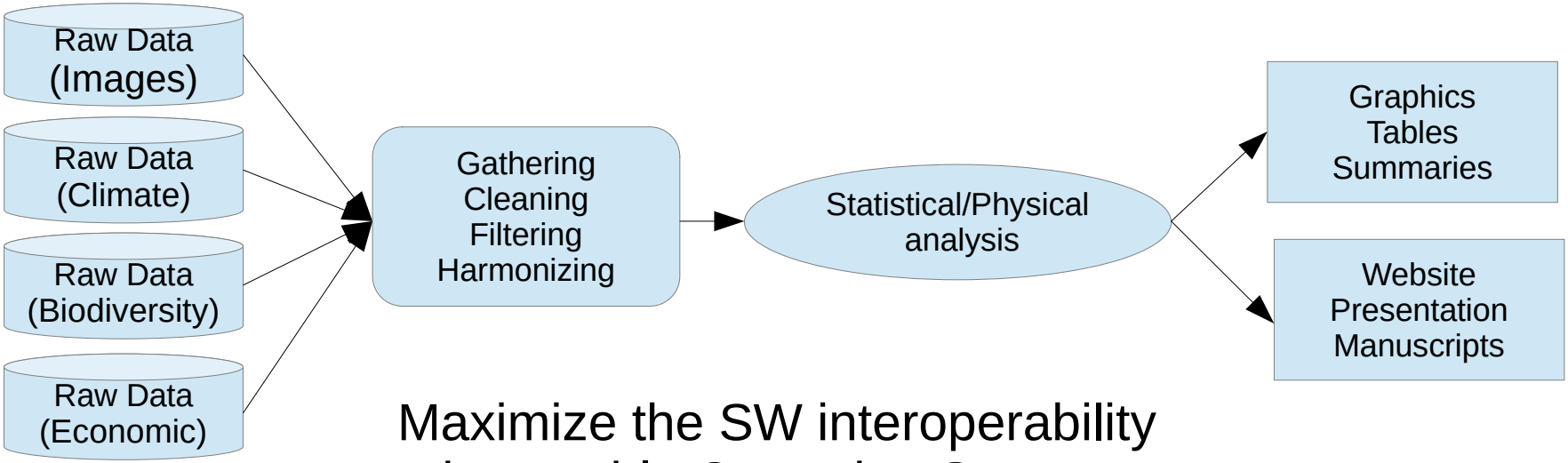
- Name, where are you coming from….
- What is your background and personal interest?
- Final project / PhD thesis objectives / keywords?
  - What data are you going to analyses?
  - Not sure yet… no problem
- Do you have an experience on Linux OS or other open source software?
- Do you currently use any programming language?
- What are your interests and expectations on this training?



Reproducible research & “big data” processing

Codes that are easily published > no license constraints

Complex work-flows > integrate different data analysis methods



Maximize the SW interoperability
in a stable Operating System

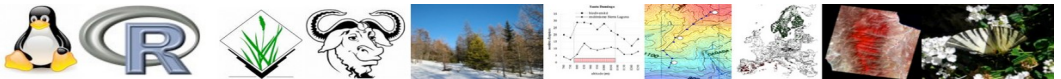
Why use Linux/OpenSource?

Security: extremely stable and reliable, no viruses, interoperable: Unix, Windows, Mac, Android, …

Applications: thousands of free programs, programming languages, server services

Versatility: minimum HW requirements, extremely portable, very fast performance

Freedom: free to download/test/install/modify/ configure/develop/distribute/... it's fun!



Freedom? and why it's fun?

Code:
- Understating the code beyond a process
- Be able to modify the code
- Build up your own algorithm.
- Use all the SW that I want without license constraints

Help:
- Get help from mailing list
- Keep in touch with the developers for code adjustment and improvement

Process:
- Job priority processing
- Job scheduling
- RAM management

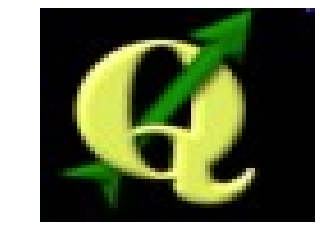
Remote server:
- Automatic connection to remote servers
- Overpassing quota issues in remote servers, by creating a folder linked to your PC

Hardware resources:
- Storing temporal file in ram rather in the hard-disk, by creating a folder in the ram
- Get the best of different programing languages and create a unique work flow.

Last but not least:
- Enjoy the life in the meantime the PC is working for you!

Ubuntu Linux operating system

Programming languages interaction



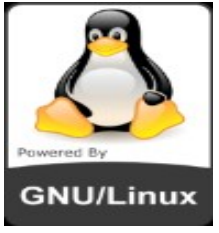
QGIS

RS

Grass

RS

Open Foris Geospatial Toolkit



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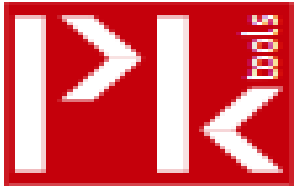

PKTOOLS a and OFT are a collection of programs written in C++ to perform operations on raster images.

RS

Orfeo Toolbox

Ubuntu Linux operating system

Programming languages interaction

QGIS

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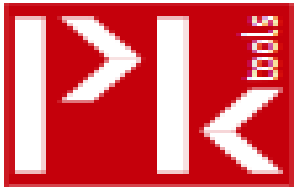
Open Foris Geospatial Toolkit



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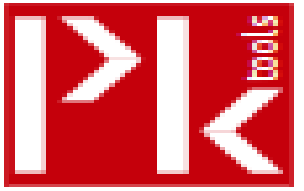

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Orfeo Toolbox