Introduction to Geospatial Raster and Vector Data with Python

Francesco Nattino

ITC – University of Twente

17 November 2022

netherlands eScience center

netherlands eScience center

Contributors

Ryan Avery,
@Development Seed

Ou Ku

Francesco Nattino

Pranav Chandramouli

Robin Richardson

Fakhereh (Sarah) Alidoost

Mateusz Kuzak

netherlands eScience center

The Lesson

- **Data Carpentry** lesson, part of **The Carpentries Incubator**.
- **Hands-on** practice, code-along format, specific tools & problems.
- "Forked" from the R-based geospatial curriculum.
- Objective: Help learners to familiarize with **Python geo-spatial ecosystem**.
- Target audience: **students and researchers** with exposure to Python.

THE CARPENTRIES

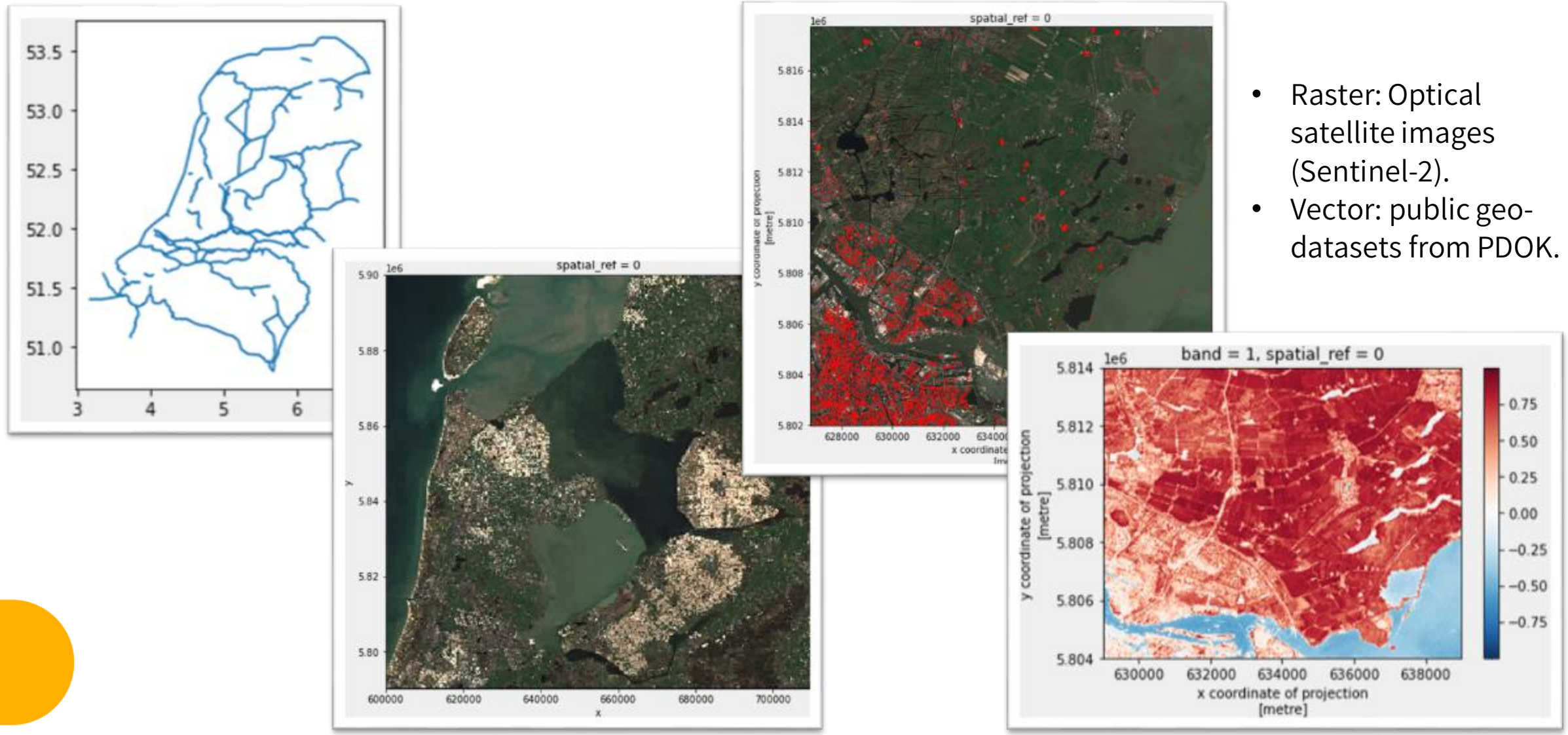
netherlands eScience center

The Curriculum

- Introduction to geospatial concepts.
- Access satellite imagery.
- Read and visualize raster data.
- Vector data.
- Data manipulations and calculations.
- Parallel raster computations.

netherlands eScience center

The Datasets



- Raster: Optical satellite images (Sentinel-2).
- Vector: public geo-datasets from PDOK.

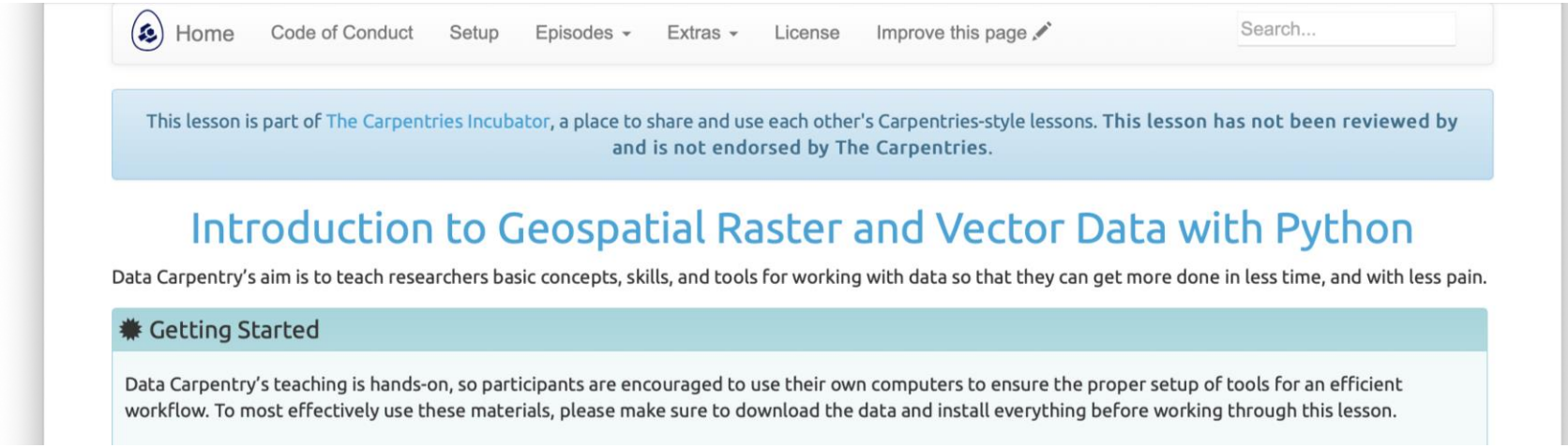
netherlands eScience center

The Lesson Development

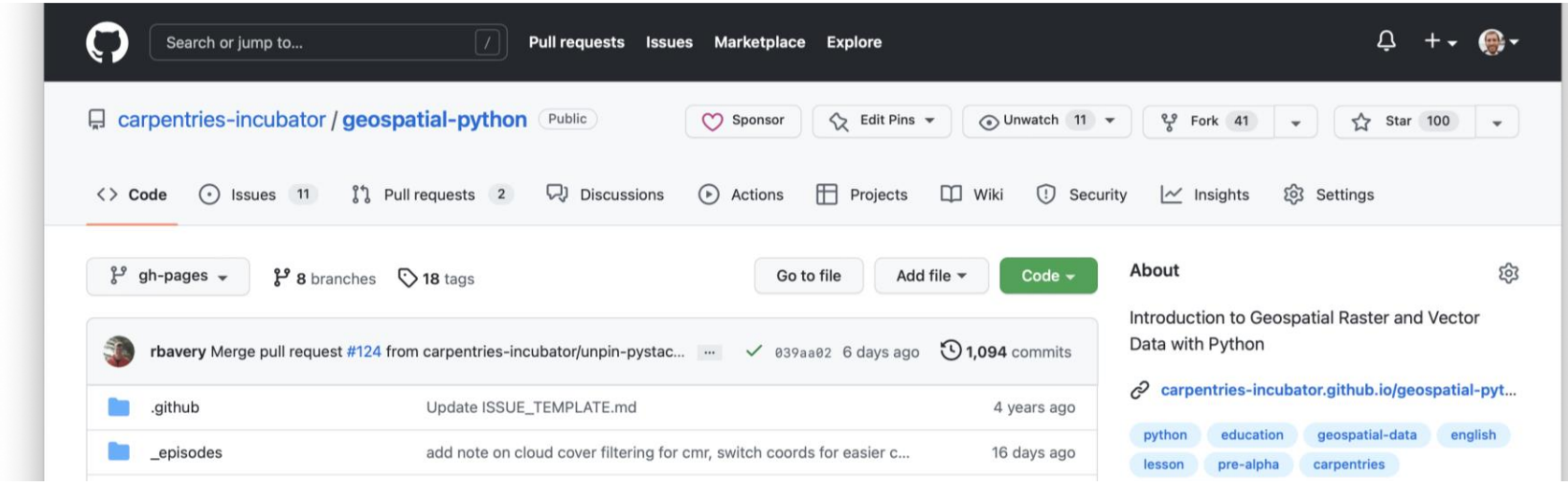
- The user community:
  - **Instructors**: The Carpentries, researchers/technicians/support staff.
  - **Learners**: students/researchers with Earth or Space science background, novice at Python.
- Development Plans:
  - Looking for pilots and feedback to move from *beta* to *stable*!
  - New content: point clouds, advanced visualizations (interactive plots, maps), big geo-data.

netherlands eScience center

https://carpentries-incubator.github.io/geospatial-python/



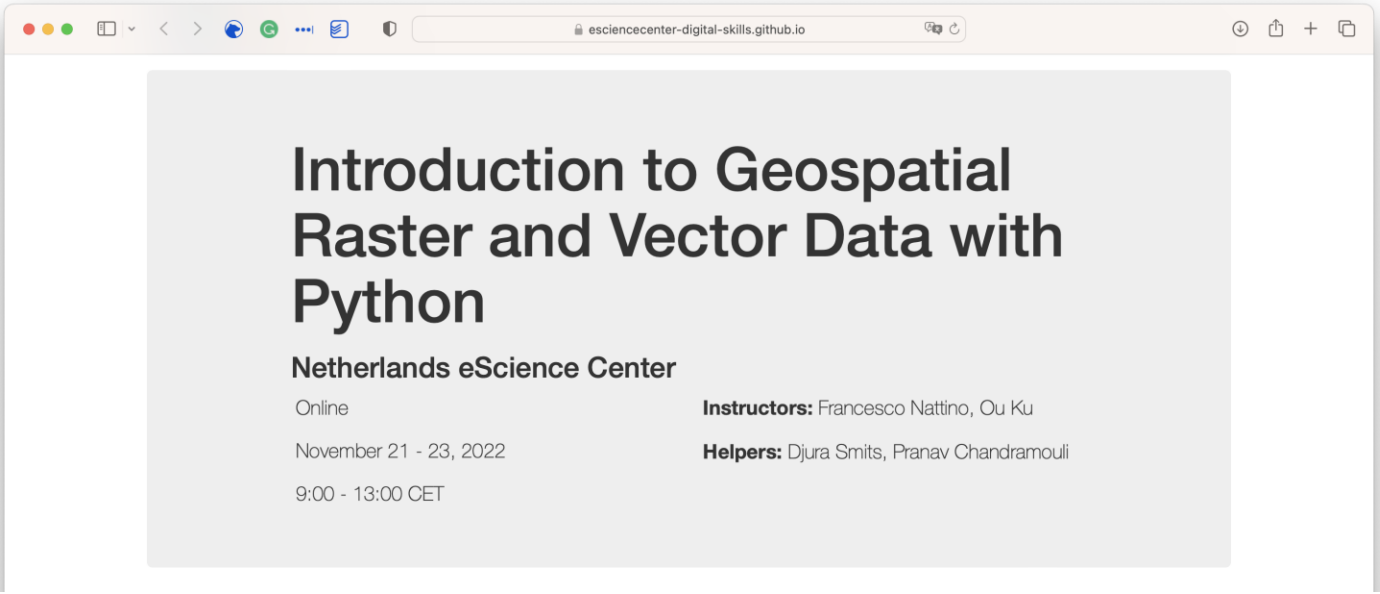
carpentries-incubator/geospatial-python



netherlands eScience center

Workshops

Upcoming workshop: **21-23 November, Online.**



https://esciencecenter-digital-skills.github.io/2022-11-21-dc-geospatial

netherlands eScience center

Let’s stay in touch

Checkout upcoming workshops and signup for the newsletter!

http://www.esciencecenter.nl/digital-skills

f.nattino@esciencecenter.nl

training@esciencecenter.nl

+31 (0)20 460 4770