# INTRODUCTION TO ENVIRONMENTAL DATA SCIENCE - MICRO-CREDENTIAL

Learn fundamental Environmental Data Science (EDS) skills using Python and GitHub. Here, participants will learn how to use open EDS tools, including the following Python libraries: Pandas, Geopandas, Rioxarray, Folium and Matplotlib.

Learners will also get to practice their GitHub skills with GitHub Classroom, GitHub Pages and GitHub Codespaces. Course materials will be made available using cloud-based Jupyter Notebooks that learners will be able to take with them upon completion.

## Eligibility

All members of the general public, including those from corporations, community members, and others, are welcome to participate in this micro-credential program.

## Delivery Mode

Online.

## Credit Status

Noncredit

## Academic Level

Professional

## Time to Completion

Weekly meetings for four consecutive weeks.

# Requirements

Participants will be required to:

- Attend all regularly held synchronous meetings.

- Participate in all asynchronous discussions.

- Complete all assigned work (weekly homework, final project/presentation).

## Criteria

At the completion of the micro-credential, learners will be able to:

- Complete the following tasks with Python:

  - Open, clean, describe and plot data using Pandas.

  - Create plots with Matplotlib.

  - Create maps with Folium.

  - Work with vector spatial data using Geopandas.

  - Work with raster spatial data using Rioxarray.

- Complete the following tasks with GitHub:

  - Create a professional portfolio pages using GitHub pages.

  - Create a cloud-based programming environment using GitHub codespaces.

  - Accept and submit assignments with GitHub Classroom.

  - Learn how to use GitHub for collaboration.

## Skills

- Coding
- Data science fundamentals
- Data visualization
- Environmental data science
- GitHub
- Jupyter Notebook
- Open science
- Python (pandas, matplotlib, geopandas, rioxarray, folium)
- Science communication