**Course offered for the PhD program
in Civil, Chemical and Environmental Engineering
a.y. 2023/2024  (XXXIX cycle)**
(course is open for participation of students from other PhD cycles or programs)

## 1. Title
Pangeo Pathfinder Short Course

## 2. Course Description
Program: This course is designed to provide advanced training in utilizing Pangeo tools and technologies for processing, analyzing, and visualizing meteorological and oceanographic (meteocean) data. Participants will gain proficiency in utilizing Xarray, Dask, Holoviz, and other associated libraries to efficiently handle large datasets, perform complex computations, and create interactive visualizations. Additionally, participants will explore cloud-optimized data formats and tools for data storage, retrieval, and manipulation.
Prerequisite Knowledge: Participants are expected to have a sufficient level of knowledge in Python programming, covering libraries such as Pandas, NumPy, DateTime, and Xarray. Familiarity with these libraries will facilitate the understanding and application of advanced concepts covered in the course.

## 3. Course Organization
The course will consist of lectures, hands-on workshops, and practical exercises aimed at developing participants' skills in using Pangeo tools for meteocean data analysis. The course is organized in 5 sessions of 4 hour duration.

## 4. Teacher
PhD Richard Signell
PhD Andrea Lira Loarca – andrea.lira.loarca@unige.it

## 5. Duration and credits
The course will span 5 sessions of 4-hours each for a total of 20 hours, with 20 credits allocated upon successful completion.

## 6. Activation mode and teaching period
The course will be conducted in-presence sessions for the following days:
- Thursday 18th April 09:00-13:00
- Friday 19th April 09:00-13:00
- Monday 22nd April 09:00-13:00
- Tuesday 23rd April 11:00-13:00 and 14:00-16:00
- Thursday 02nd May 09:00-13:00

## 7. Deadline for registration
Limited spots available. The deadline for registration is 10th of April on the link: https://docs.google.com/forms/d/e/1FAIpQLSc62SMSiV6ROq-gFcVWD2yJSynIII0mggZennmh99BLL14wWA/alreadyresponded

## 8. Final exam
The course will culminate in a final assessment, of a project developed by the students proving their understanding and proficiency in utilizing Pangeo tools for meteocean data analysis.