

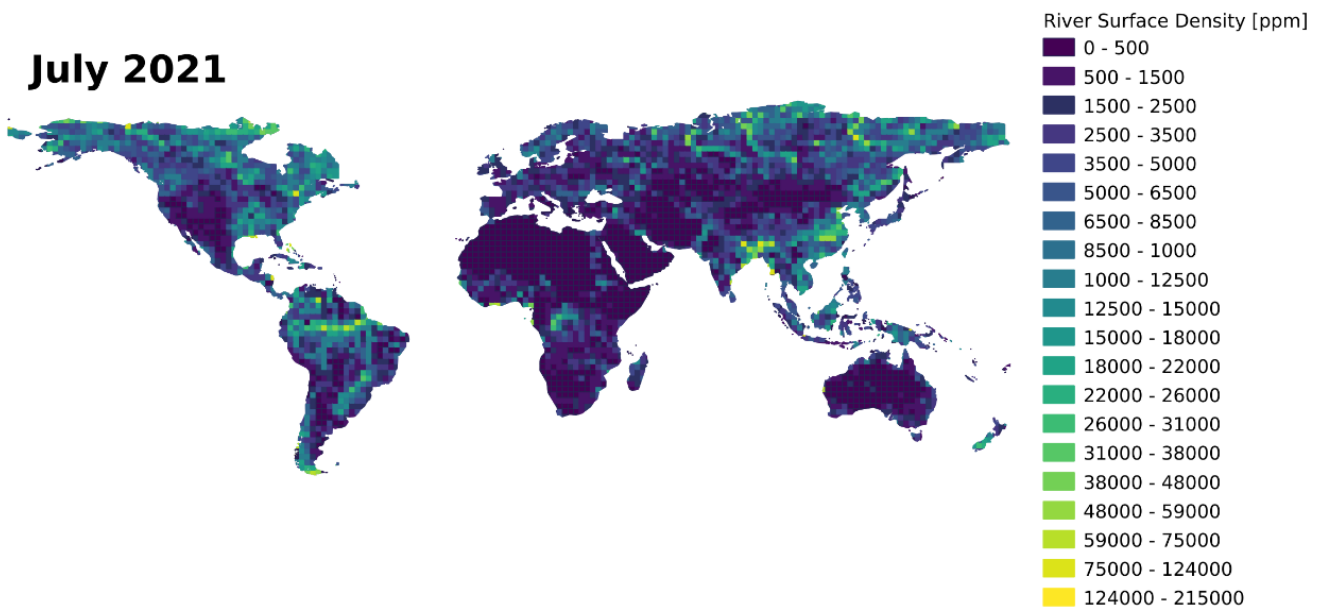
Seminario di Geoscienze

Global analysis of rivers with deep learning

Lunedì 17 aprile – ore 15:30 Aula 2M

Relatore: **Prof. Patrice Carbonneau**

Department of Geography, Durham University (UK)



Much progress has been made over the last decade to build global inventories of freshwater resources. However, existing freshwater inventories are generally produced for a fixed period in time and/or do not discriminate lakes from rivers. The emergence of deep learning methods and Big Data platforms such as Google Earth Engine offers a potential solution. However, many obstacles remain in place and the construction of a data processing pipeline that can effectively deliver global scale river classification is not trivial. This seminar will present a prototype pipeline that combines deep learning with classical remote sensing and image processing methods in order to produce semantic classes for rivers, lakes and gravel bars from Sentinel-2 imagery and at a resolution of 10 meters. The method is designed for global scale work and we show its output for the non-polar globe. The seminar will then consider challenges and opportunities related to the application of deep learning to fluvial remote sensing.

Proponente: **Simone Bizzi**