



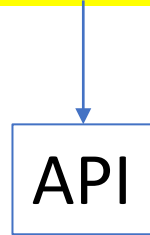
WORLD FOOD AND ECOSYSTEMS practical 3

BSC Future Planet Studies
Ac. Year 2021-2022



What were we doing again?

- Learning how to use different (command-line-based) tools to analyse big spatial databases
- Why? Because command-line-based tools allow repetition, (parallel) processing, and automatic data retrieval...

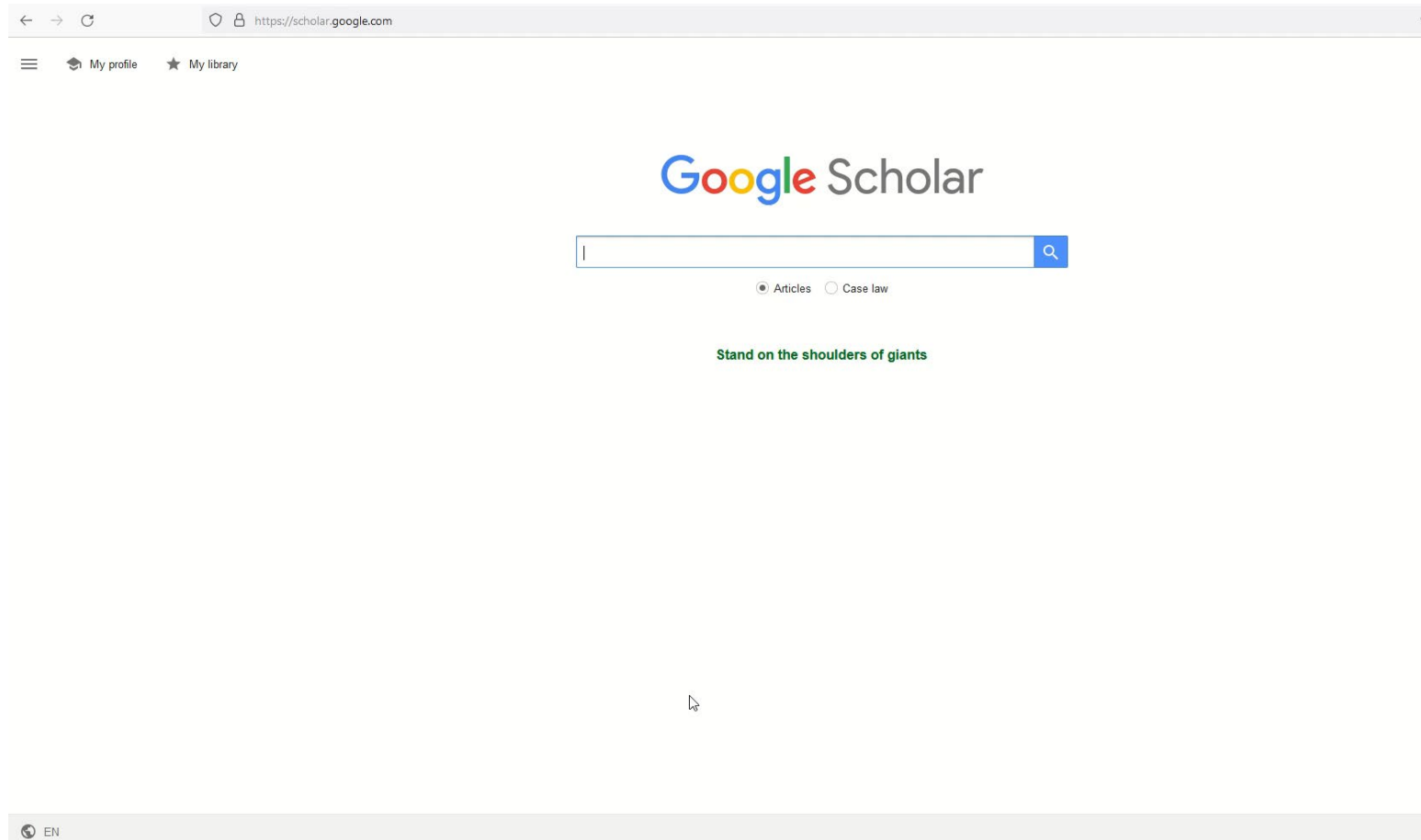


Application Programming Interface

Set of definitions/conventions that can be used so that one application can communicate with another.

Never seen an API?

“Weather Amsterdam”



Google's weather API knows the input convention 'Weather + location' and uses this to communicate with 3rd party weather data provider, and summarizes the data

Never seen an API?

← → ↺

🔒 https://developers.google.com/earth-engine/tutorials/tutorials

Google Earth Engine

Home Guides Reference Support Community Cloud Data Catalog

JavaScript and Python Guides

Overview

Get Started

JavaScript Quickstart

Coding Best Practices

Debugging

Development Environments

Earth Engine Code Editor

Python Installation

Command Line Tool

API Tutorials

Overview

▸ Introduction to JavaScript for Earth Engine

▸ The Earth Engine API

▸ Global Forest Change

▸ Global Surface Water

Video Tutorials

Concepts

How Earth Engine works

Client vs. Server

Deferred execution

Scale

Projections

Home > Products > Google Earth Engine > Guides

Was this helpful? 👍 🗨

Tutorials 📌

Send feedback

Self-paced tutorials

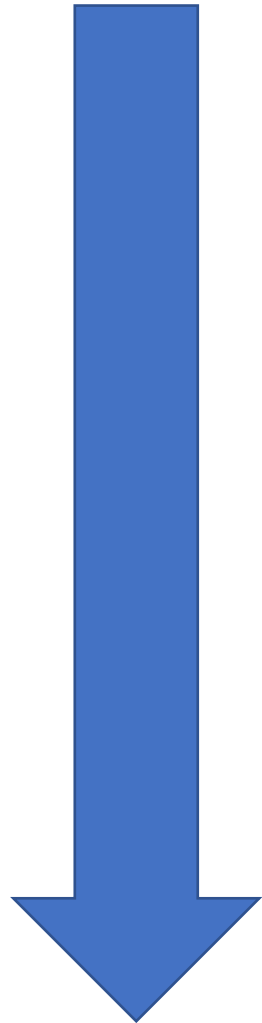
These tutorials are an introduction to using the Earth Engine JavaScript API for advanced geospatial analysis. The tutorials assume no programming background, although they do assume a willingness to learn some JavaScript programming. Use the links below to get started on the tutorials or use the menus on the left to jump to a section of interest.

- [Introduction to JavaScript for Earth Engine](#)
- [Introduction to the Earth Engine JavaScript API](#)
- [Introduction to Global Forest Change datasets](#)
- [Introduction to the JRC Global Surface Water dataset](#)

Video tutorials

Visit the [Video Tutorials](#) page to view lectures and hands-on trainings presented at Earth Engine User Summits and [Earth Outreach digital events](#).

Previously in the practicals of WFE (1)



Visualizing raster and vector data



Building plots (data visualisation)



Downloading raw data

Previously in the practicals of WFE (2)



Downloading/Accessing data

OFFLINE



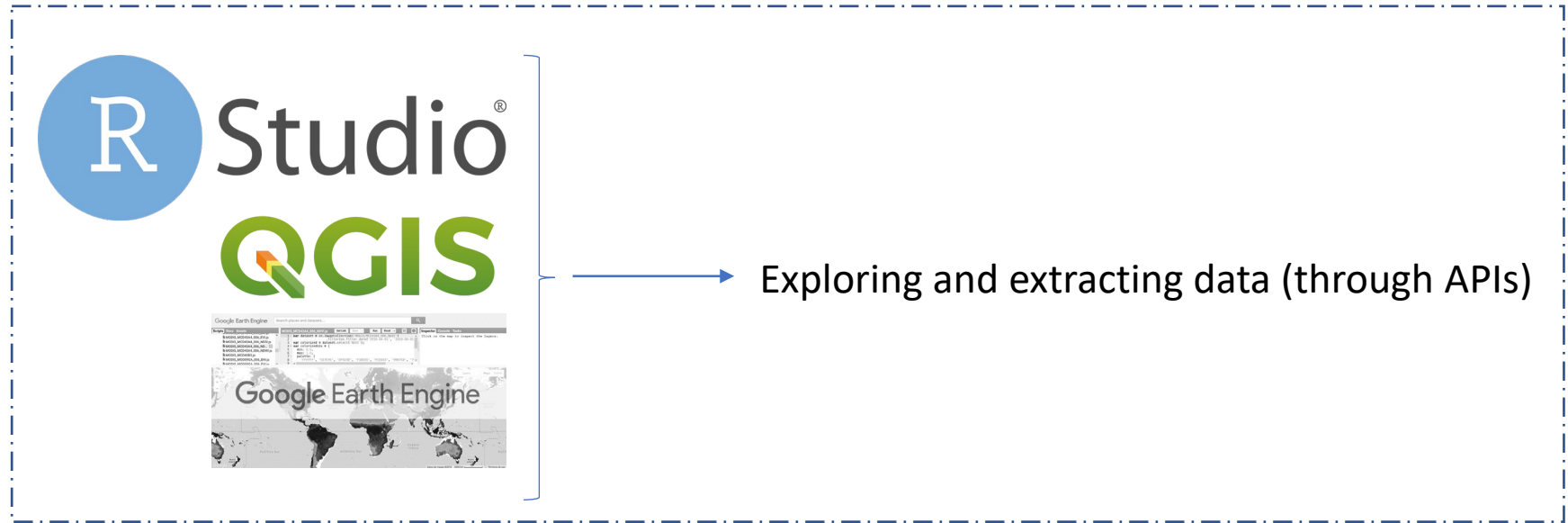
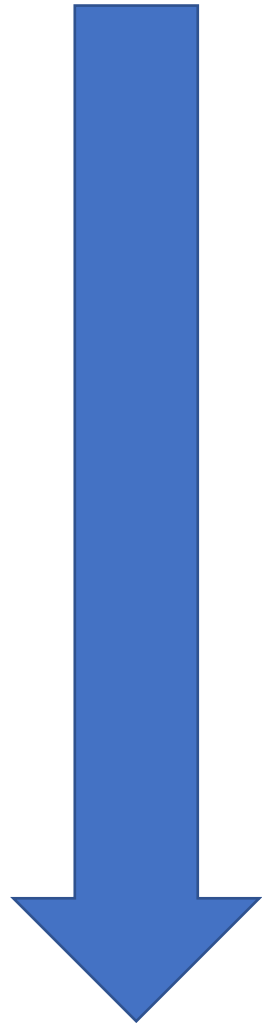
Visualizing and executing simple functions (point and click)



Data processing/regression

This Course (3)

ONLINE



Geographic data visualisation



Post-processing and data visualisation

Case : what is
the typical
raccoon
habitat in
Belgium



Simplify / structure the problem

Buiding Block	Decision
Geographic scale	Regular grids – small enough to capture relevant habitat changes
Temporal scale	All data should span same timespan. Raccoon is only recent phenomenon in Belgium, so we focus on occurrences >2015
Assumption	Human “opportunistic” observations of raccoon over the past years are of sufficient quality and can be linked to biophysical conditions
Dimensions	Based on literature of similar cases in Italy [references ommitted here], we focus on (i) topograph and (ii) the presence of water
Dimension description	(i) Topographic diversity, (ii) river network as provided by OSM

Data structures and sources

Dataset	Type	Source	Access
Raccoon sightings	Vector: points	GBIF	GBIF API in R
River network	Vector: lines	OSM	OSM API in QGIS
TPI	Raster	Derived from SRTM DEM	Google Earth Engine
Boundary of Belgium	Vector: polygon	OSM	OSM API in QGIS