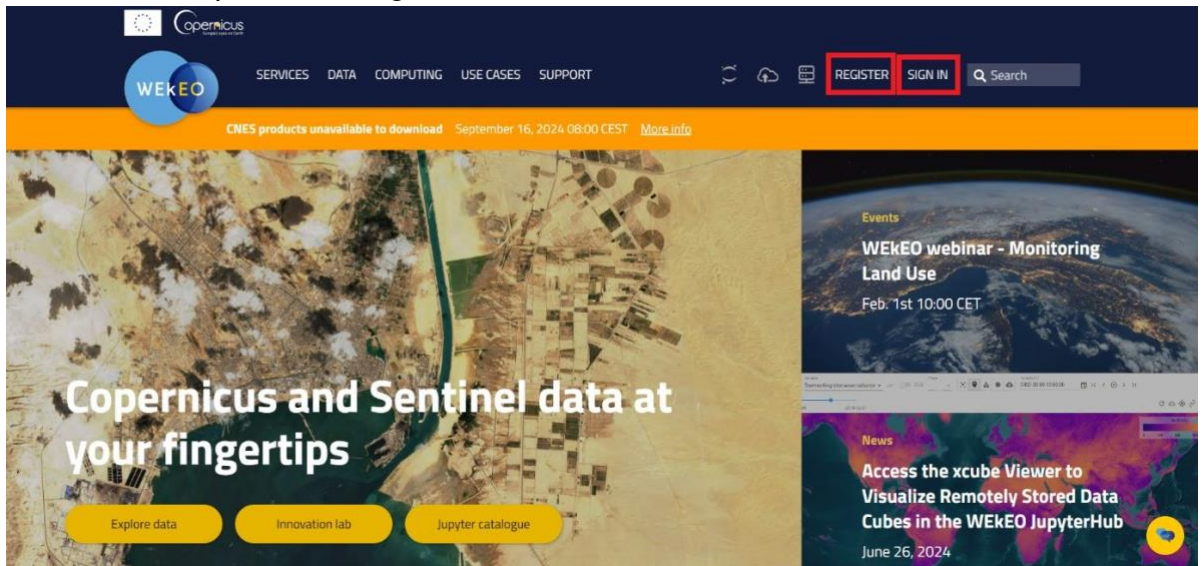


Guidance for Jupyter notebooks

Option 1: Use WEkEO

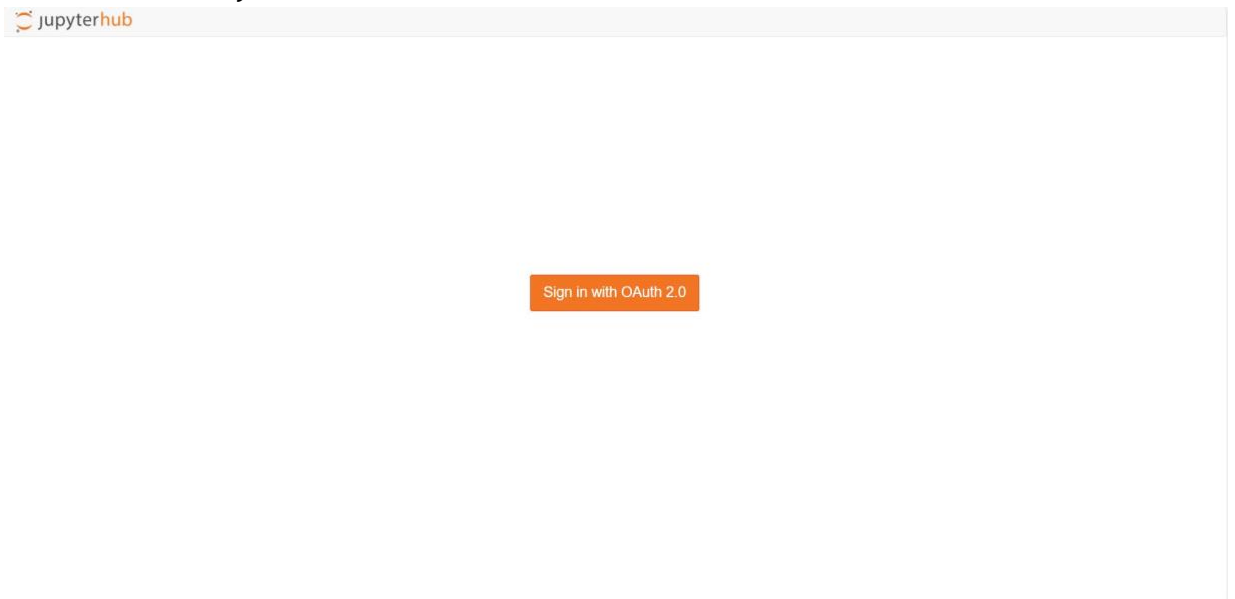
1. Go to <https://www.wekeo.eu/>
2. Click on 'SIGN IN' if you registered already before. Put in your credentials. If not, click on 'REGISTER' and proceed to register.



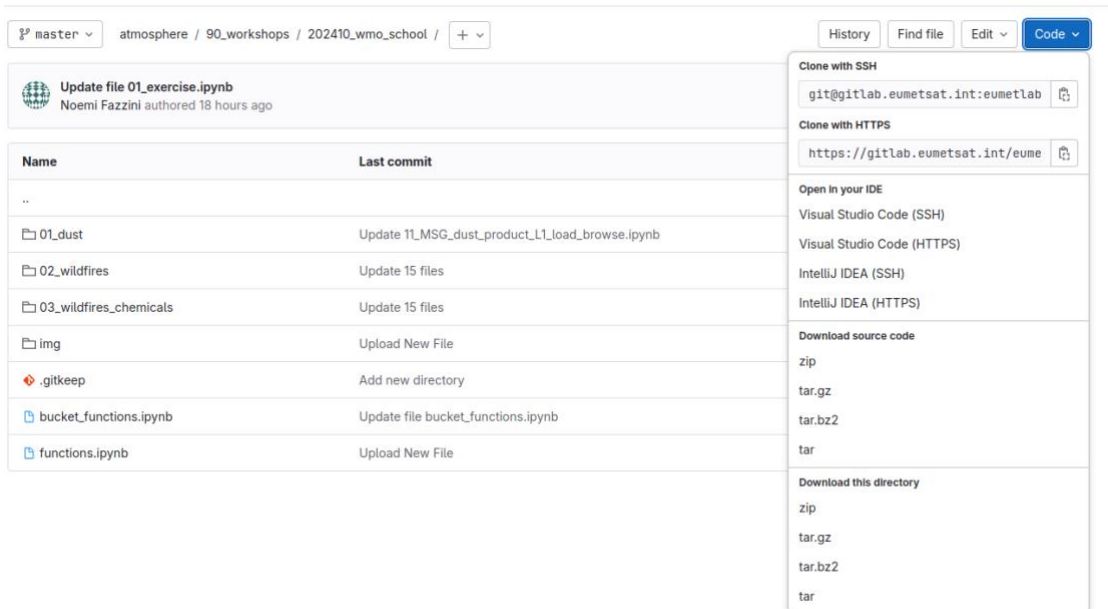
3. Click on a Jupyter Hub icon, the first on the right from 'SUPPORT':



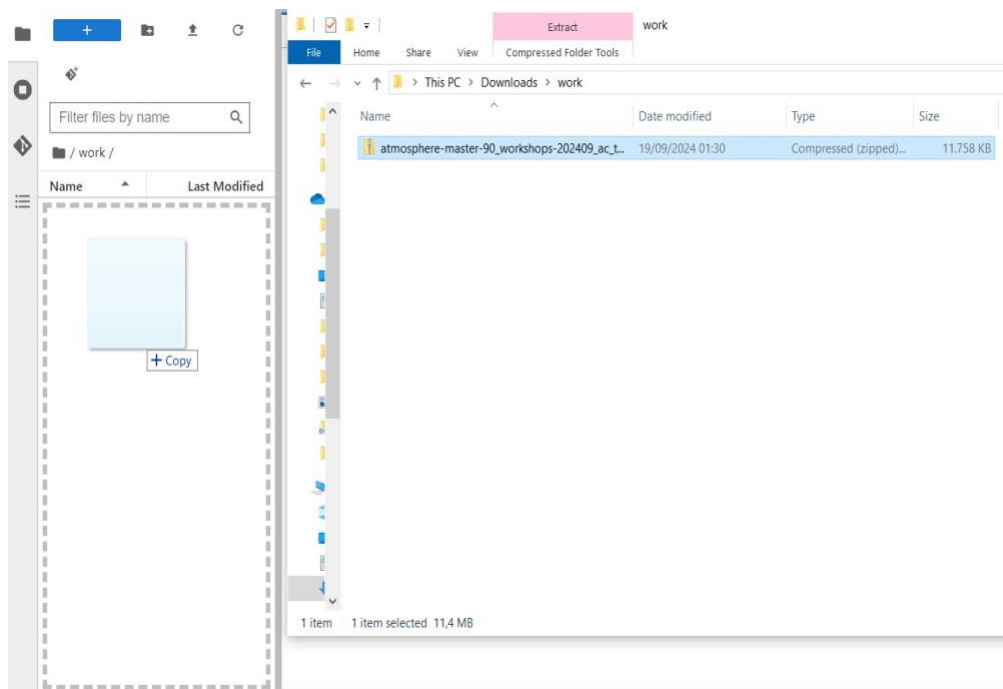
- Sometimes, there will be a 2-factor authentication. Click on ‘Sign in with OAuth 2.0’, put in a code sent on your email.



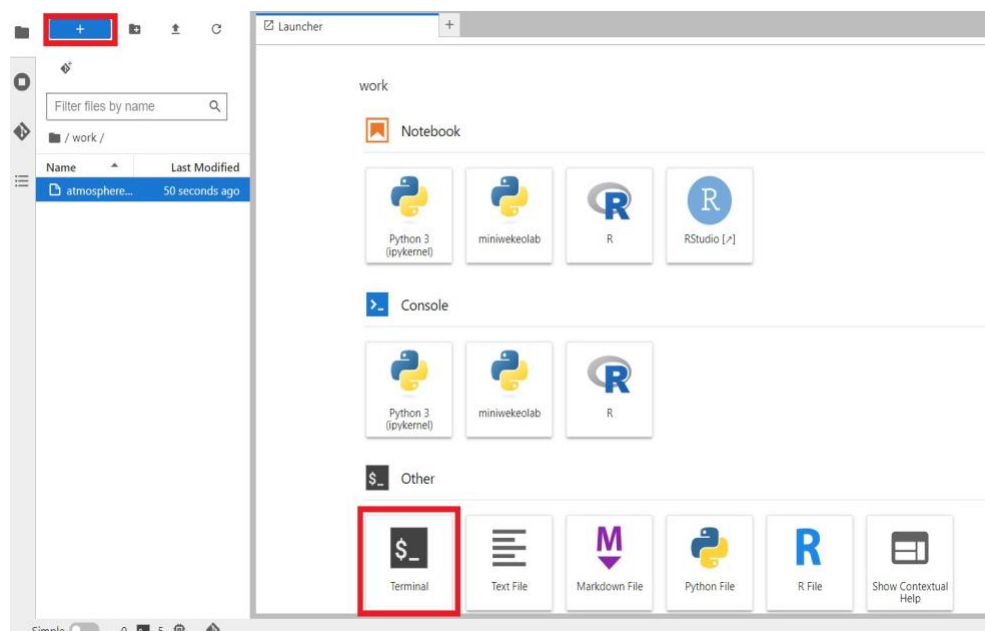
- Choose a server: [Earth Observation Tools](#).
- Get the notebook into your working directory. You can do this in two ways:
 - Alternative one - drag and drop zip file
 - Go to the Gitlab to the desired directory.
 - Download the directory by clicking on the blue “Code” and then “Download this directory: zip”.



- Drag and drop the zip file into your WEkEO working space



- If the Launcher tab is not open, click on the blue “+” button. Open the Terminal by clicking on its icon in the Launcher.



- In the terminal, type: `unzip <name-of-downloaded-directory>.zip`
- Navigate the folder in the menu on the left and open the desired notebook by a double-click.

Filter files by name	
/ ... / 90_workshops / 202410_wmo_school /	
Name	Last Modified
01_dust	18 hours ago
02_wildfires	18 hours ago
03_wildfires_chemicals	18 hours ago
img	18 hours ago
bucket_functions.ipynb	18 hours ago
functions.ipynb	18 hours ago

b. Alternative two - git clone directory

- Go to the Gitlab to the desired directory.
- Click on the blue “Code” and then copy the line under “Clone with HTTPS”
- If the Launcher tab is not open, click on the blue “+” button. Open the Terminal by clicking on its icon in the Launcher.
- In the terminal, type: `git clone <copied link>`
- Navigate the folder in the menu on the left and open the desired notebook by a double-click.

7. Run cell by cell or click on Run>Run All Cells

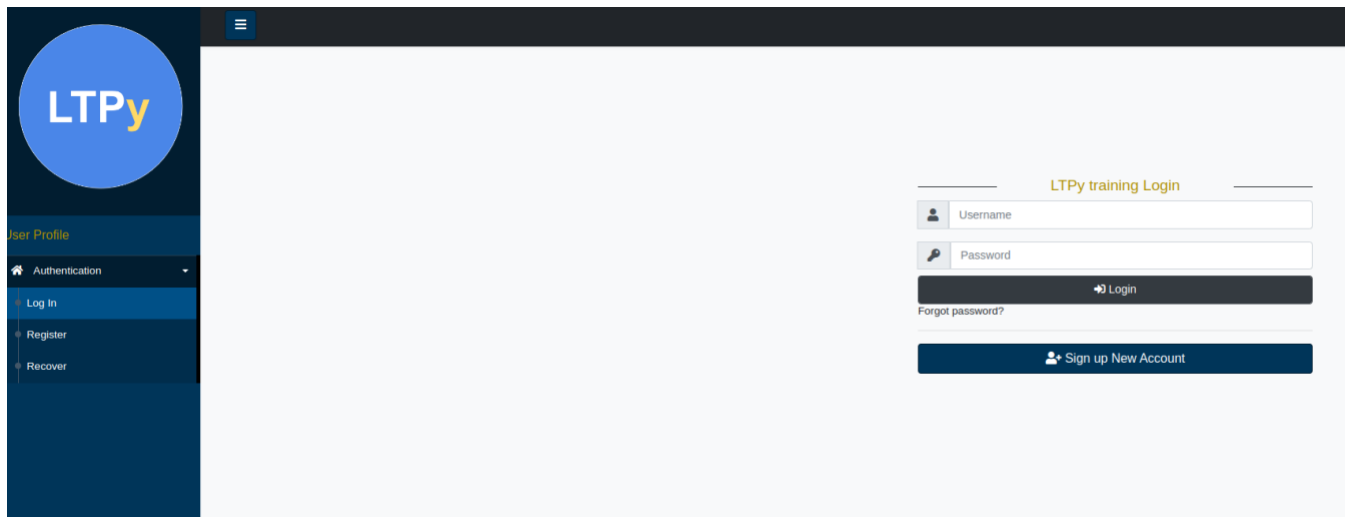
The screenshot shows a JupyterLab environment. On the left is a file explorer showing a directory structure with files like `01_dust`, `02_wildfires`, `img`, `task1_functions.ipynb`, and `functions.ipynb`. The main area displays a notebook titled "1.1 Meteosat Second Generation (MSG) SEVIRI - Dust RGB - Level 1.5". The notebook content includes:

- About:** Introduction to SEVIRI instrument data and the `satpy` Python package.
- Basic Facts:** Spatial resolution (3 km x 3 km), Spatial coverage (81 to 83 degrees latitude, -79 to 79 degrees longitude), Revisit time (every 15 minutes), and Data availability (since 2004).
- How to access the data:** Information on downloading High Rate SEVIRI Level 1.5 Image Data via the EUMETSAT Data Store.
- Module outline:** A list of five steps: 1. Load and browse High Rate SEVIRI Level 1.5 Image Data - MSG - 0 degree; 2. Browse and visualize RGB composite IDs; 3. Generate a geographical subset for southern Europe; 4. Visualize MSG Natural Color RGB composite with Category features; 5. Load, visualize and interpret the MSG SEVIRI Dust RGB.
- Further resources:** Links to MSG 0-degree service, SEVIRI Dust RGB - Quick Guide, and a Meteosat SEVIRI instrument overview PDF.

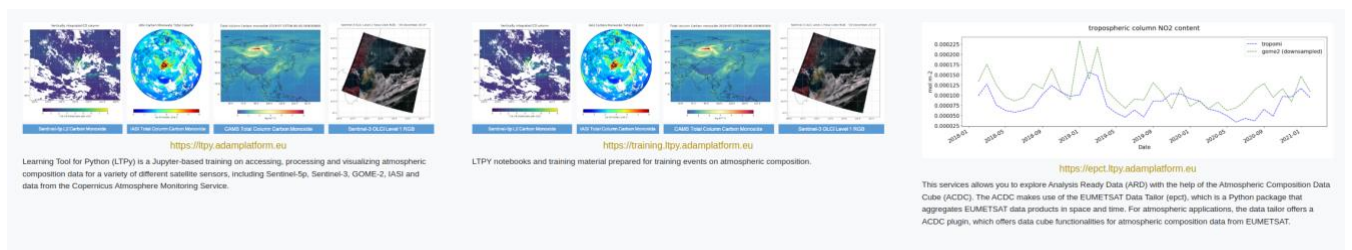
Logos for the European Union, Copernicus, and EUMETSAT are displayed at the top of the notebook content.

Option 2: Easy ... adamplatform

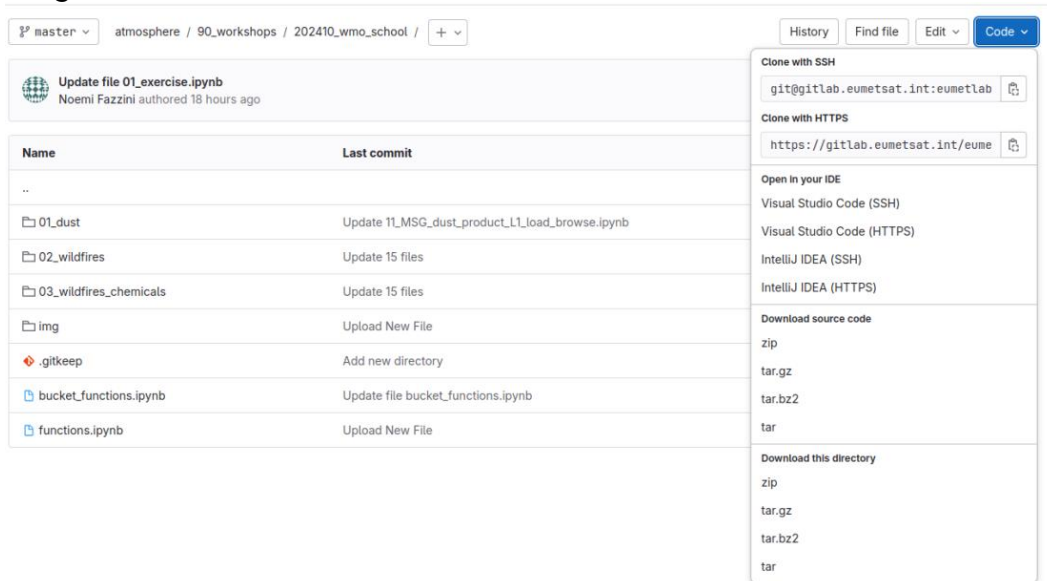
1. Go to <https://login.ltpy.adamplatform.eu/>
2. Click on 'LOG IN' if you registered already before. Put in your credentials. If not, click on 'REGISTER' and proceed to register.



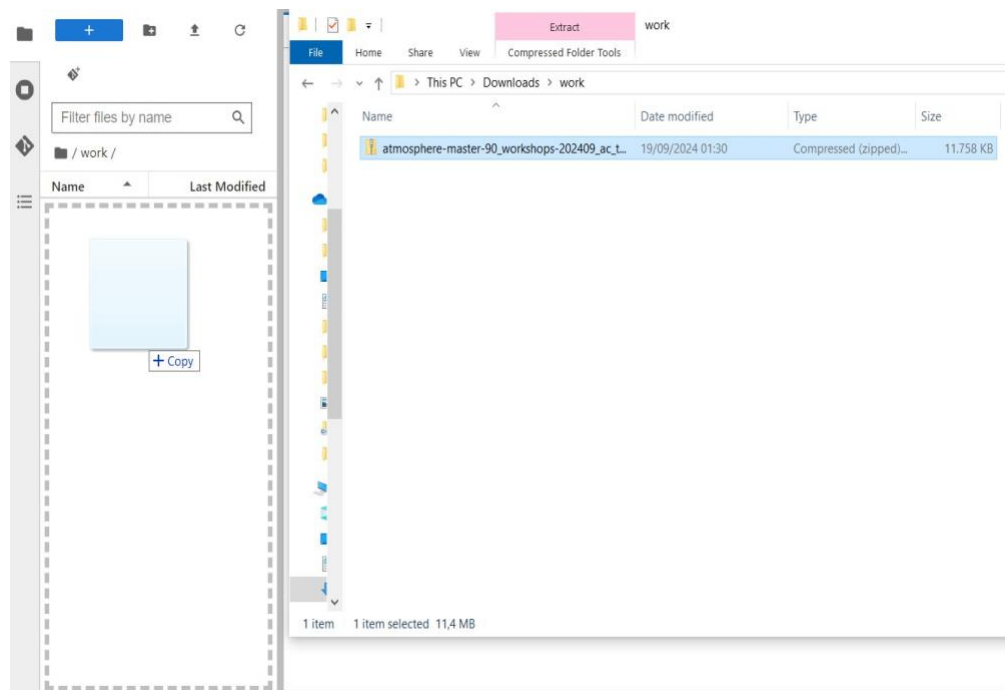
3. Once you are logged in you will see a Dashboard, click on the first entry, so to go to <https://ltpy.adamplatform.eu/>



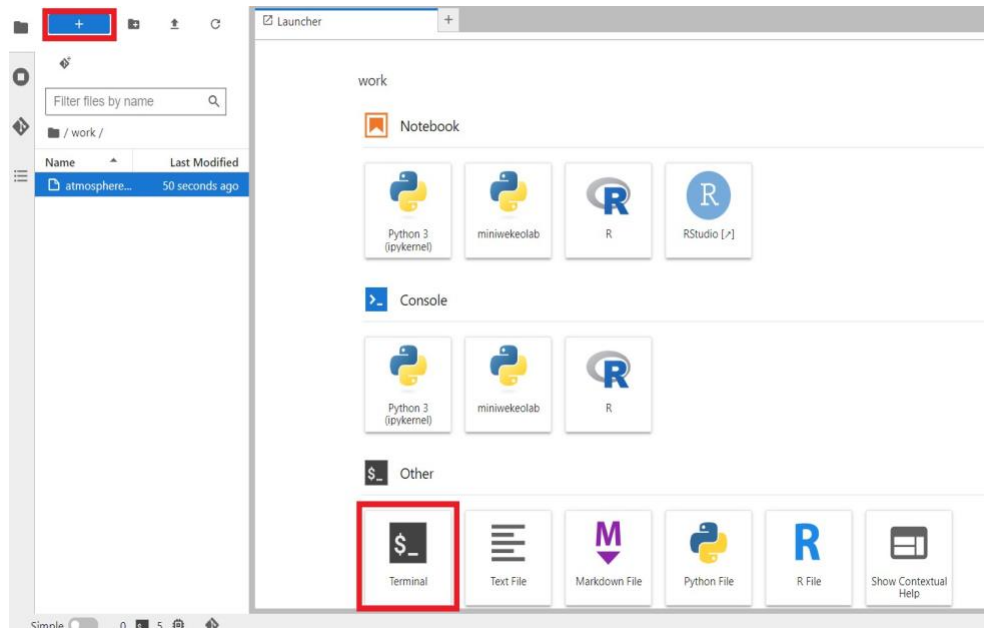
4. You will be redirected to a Jupyter environment
5. Get the notebook into your working directory.
 - a. Go to the Gitlab to the desired directory.
 - b. Download the directory by clicking on the blue “Code” and then “Download this directory: tar.gz”.



- c. Drag and drop the tar.gz file into your LTPY working space



- d. If the Launcher tab is not open, click on the blue “+” button. Open the Terminal by clicking on its icon in the Launcher.



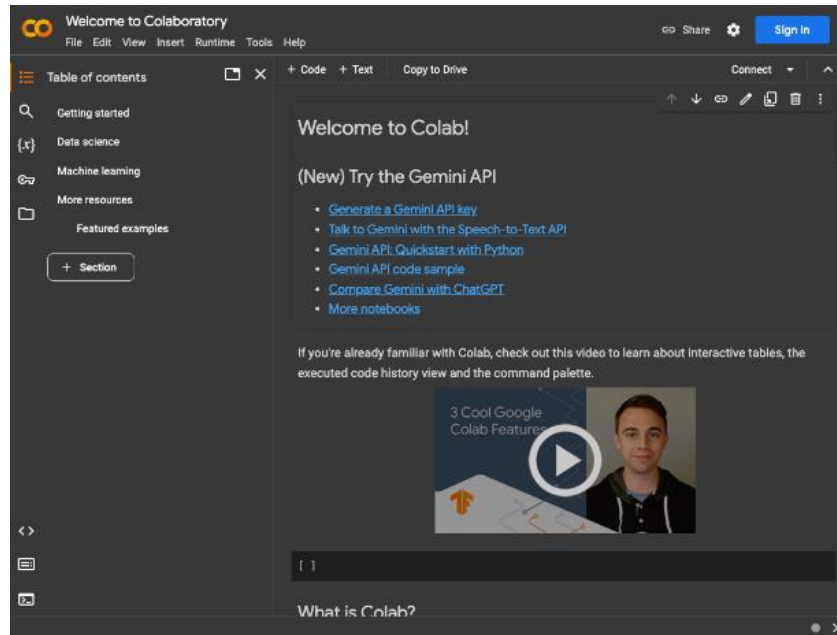
- e. In the terminal, type: `tar -xvzf <name-of-downloaded-directory>.tar.gz`
- f. Navigate the folder in the menu on the left and open the desired notebook by a double-click

Name	Last Modified
01_dust	18 hours ago
02_wildfires	18 hours ago
03_wildfires_chemicals	18 hours ago
img	18 hours ago
bucket_functions.ipynb	18 hours ago
functions.ipynb	18 hours ago

Google Colab

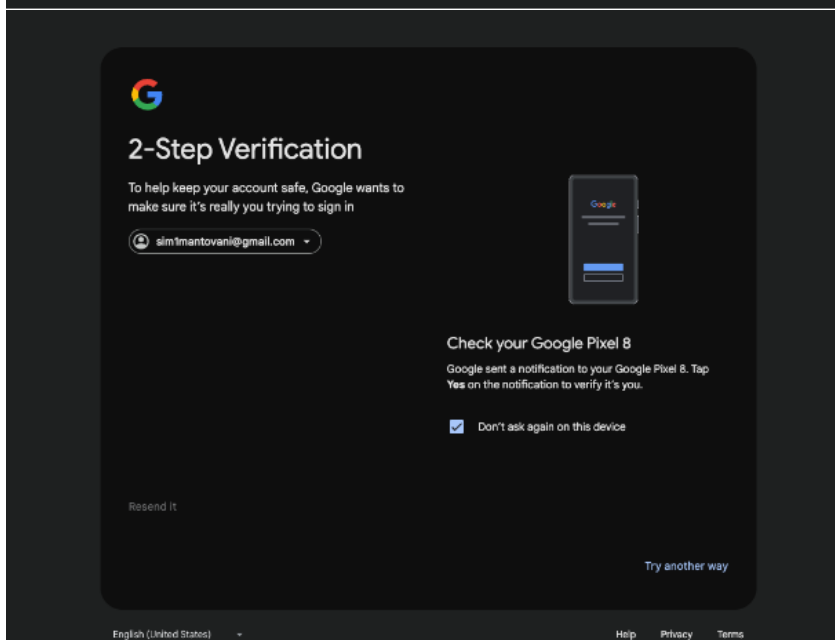
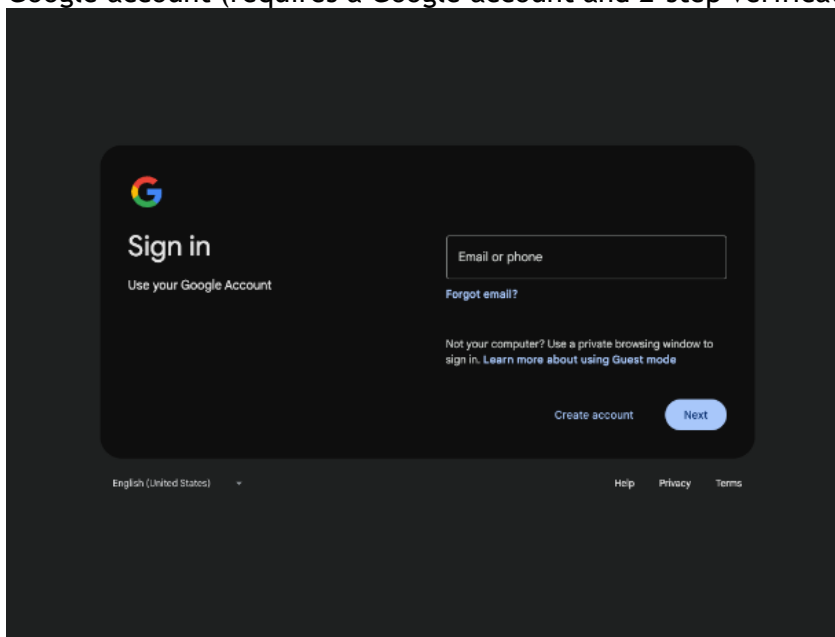
1. Unzip the previously downloaded zip file locally
2. In the unzipped content go to `atmospheric-composition-colab-90_workshops-202409_ac_training/90_workshops/202410_wmo_school/`

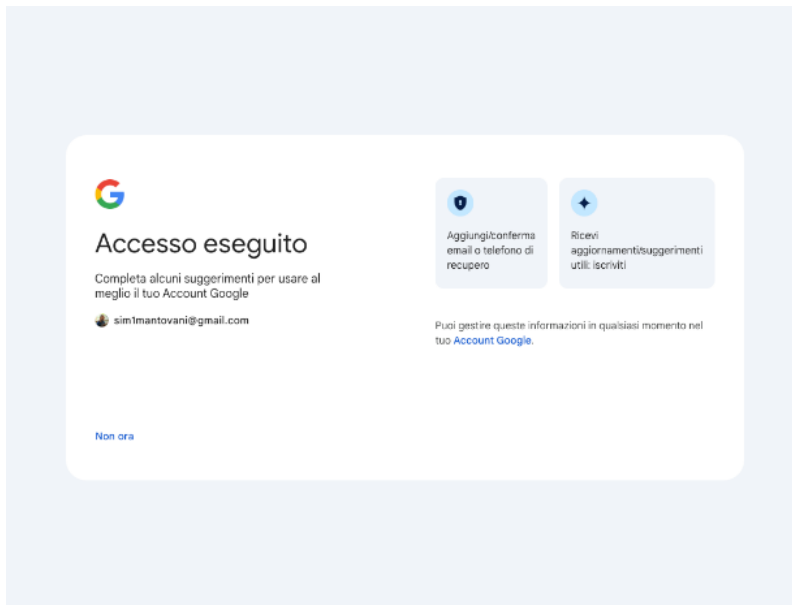
3. Connect to [Colab](#)



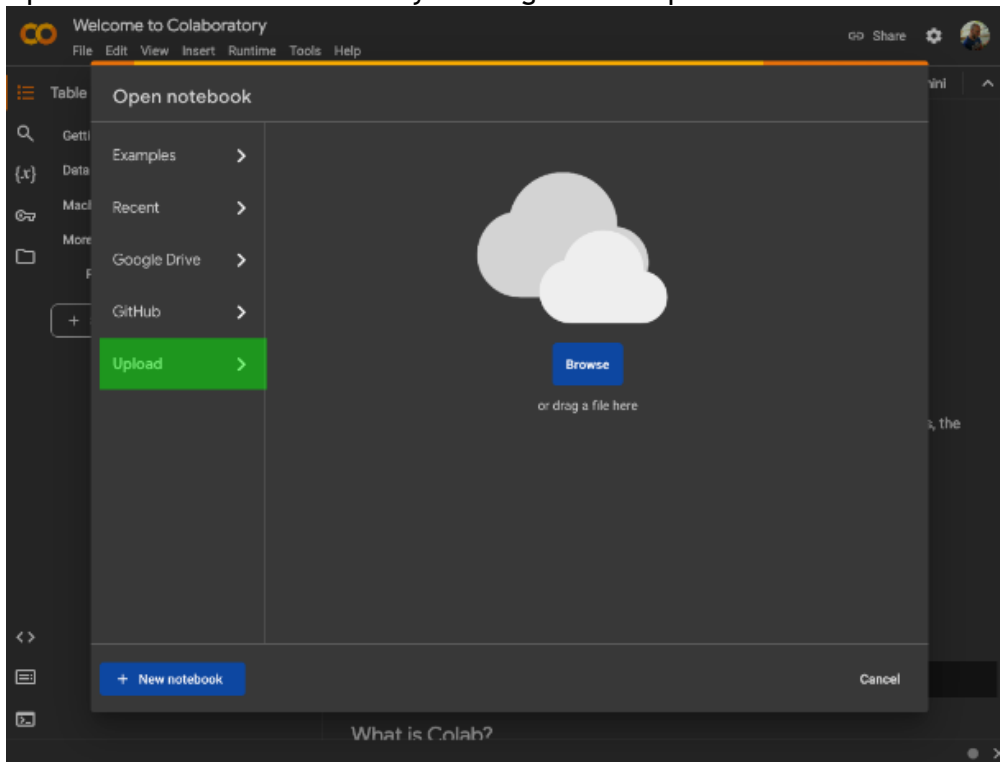
4. Sign in Google account (requires a Google account and 2-step verification)

with your





5. Upload the desired notebook by clicking on File>Upload notebook



6. Click on Runtime>Run cell by cell / run all cell

11_MSG_dust_product_LL_load_browse.ipynb

File Edit View Insert Runtime Tools Help Last accessed: 12:52 PM

Home + Text

EU Copernicus Sentinel logo

1.1 Meteosat Second Generation (MSG) SEVIRI - Dust RGB - Level 1.5

About

This notebook provides you an introduction to data from the SEVIRI instrument as part of the 0 Degree Service as well an introduction to the Python package `seviri` which allows for an efficient handling of data from meteorological satellite instruments, including SEVIRI and MODIS. At the end, a specific focus will be put on the SEVIRI Dust RGB, whose primary aim is to detect dust in the atmosphere.

The example features the Goddard dust event on 14/15 June 2020, which brought massive amounts of Saharan dust all the way to the Caribbean and south-eastern parts of the continental US. See a more detailed description of this particular event [here](#).

The [Meteosat series](#) have been providing crucial data for weather forecasting since 1977 and is a series of geostationary satellites providing imagery for weather forecasting and climate monitoring. [Meteosat Second Generation \(MSG\)](#) is the current fleet of operational geostationary satellites. The [Scanning Enhanced Visible and Infrared imager \(SEVIRI\)](#) is MSG's primary instrument and has the capacity to observe the Earth in 12 spectral channels. 11 channels provides measurements with a resolution of 3 km at the sub-satellite and one, the High Resolution Visible (HRV) channel, provides measurements with a resolution of 1 km.

The SEVIRI instrument allows for a complete image scan (Full Earth Scan) every 15 minutes. The 0 Degree Service is the main mission of MSG and provides High Rate SEVIRI image data in 12 spectral bands, processed in near real-time to Level 1.5.

Basic Facts

- Spatial resolution: 1 km at nadir
- Spatial coverage: Latitude: -81 to 81 degrees, Longitude: -79 to 79 degrees
- Revisit time: every 15 minutes
- Data availability: since 2004

+ Code | - Text

7. Repeat from step 5 for all the desired notebooks