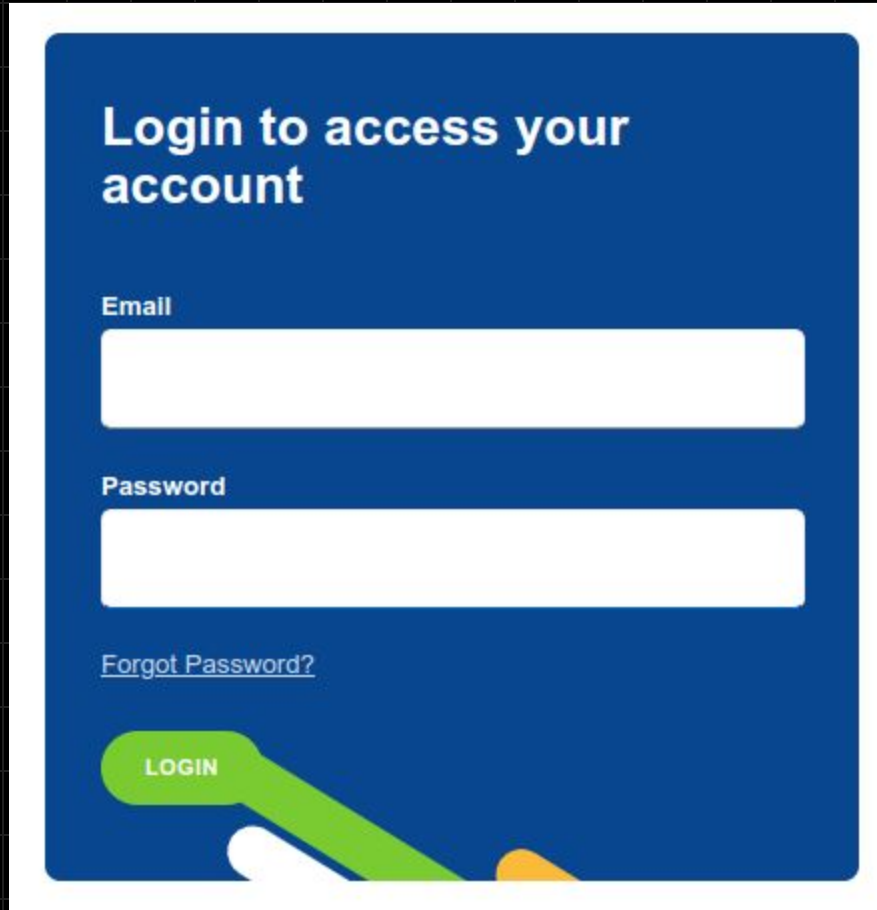


Cómo descargar imágenes de satélite de Internet

Teledetección

Alejandro Millán Calderón
Dept. Tecnología Electrónica
Universidad de Sevilla
personal.us.es/amillan

Paso 1: Identificarse en la plataforma



Login to access your account

Email

Password

[Forgot Password?](#)

LOGIN

The image shows a login form with a blue background. At the top, it says 'Login to access your account'. Below this are two white input fields for 'Email' and 'Password'. There is a link for 'Forgot Password?' and a green 'LOGIN' button. A stylized graphic of a hand holding a pen is visible at the bottom right of the form.

`browser.dataspace.copernicus.eu`

Paso 2: Buscar la zona y elegir la fecha

The screenshot displays the Copernicus Browser interface. The top navigation bar includes the Copernicus logo, language settings (EN), and a user profile (Alejandro Millan...). Below this, there are buttons for 'VISUALISE' and 'SEARCH'. The 'DATE: SINGLE' section shows a date selector for '2025-01-15' and a 'Show latest date' button. A 'Find products for current view' link is also present. The 'LAYERS' section on the left lists various visualization options: True color (Based on bands B4, B3, B2), False color (Based on bands B8, B4, B3), Highlight Optimized Natural Color (Enhanced natural color visualisation), NDVI (Based on a combination of bands (B8 - B4)/(B8 + B4)), False color (urban) (Based on bands B12, B11, B4), Moisture index (Based on a combination of bands (B8A - B11)/(B8A + B11)), and SWIR (Based on bands B12, B8A, B4). The main map area shows a satellite view of Seville, Spain, with various geographical features and labels. The bottom status bar includes the Copernicus logo, ESA logo, and a scale bar indicating 5 km. The coordinates are Lat: 37.4640, Lng: -5.8198.

Es muy conveniente crear un archivo **GEOJSON** con la región de interés para poder trabajar siempre con la misma zona exacta (cargándolo mediante el icono 📍). Puede hacerse utilizando la web: geojson.io

Paso 3: Descargar las bandas

The screenshot shows a web interface with three tabs: 'Basic', 'Analytical' (selected), and 'High-res print'. Under the 'Analytical' tab, the 'Image download' section contains the following settings:

- Show logo: ☐ (disabled)
- Image format: PNG (no georeference)
- Image resolution: HIGH (2500 x 2000 px)
- Coordinate system: Popular Web Mercator (EPSG:3857) (Projected resolution: 680 m/px)
- Layers: Two columns of checkboxes are shown:
 - Visualised:
 - ☐ True color
 - ☐ False color
 - ☐ Highlight Optimized Natural Color
 - ☐ NDVI
 - ☐ False color (urban)
 - ☐ Moisture index
 - ☐ SWIR
 - ☐ NDWI
 - ☐ NDSI
 - ☐ Scene classification map
 - Raw:
 - ☐ B01
 - ☒ B02
 - ☒ B03
 - ☒ B04
 - ☐ B05
 - ☐ B06
 - ☐ B07
 - ☒ B08
 - ☐ B8A
 - ☐ B09
 - ☐ B11
 - ☐ B12

A green 'Download' button is located at the bottom of the interface.

- Analytical:
 - Image format: PNG
 - Image resolution: HIGH
 - Coordinate system: Popular Web Mercator
 - Layers: Raw (como mínimo B02, B03, B04 y B08)

Paso 4: Cargar la imagen en MATLAB [1]

Ejecutar los siguientes comandos en MATLAB:

```
>> r = imread('B04.png');  
>> g = imread('B03.png');  
>> b = imread('B02.png');  
>> n = imread('B08.png');
```

Paso 4: Cargar la imagen en MATLAB [2]

Si la imagen es demasiado grande puede cargarse a menor resolución. Por ejemplo para cargar sólo 1 de cada 4 filas y 1 de cada 4 columnas (suponiendo que la imagen tiene 2000 filas y 3000 columnas) habría que ejecutar:

```
>> r = imread('B04.png', "PixelRegion", {[1 4 2000], [1 4 3000]});  
>> g = imread('B03.png', "PixelRegion", {[1 4 2000], [1 4 3000]});  
>> b = imread('B02.png', "PixelRegion", {[1 4 2000], [1 4 3000]});  
>> n = imread('B08.png', "PixelRegion", {[1 4 2000], [1 4 3000]});
```

Gracias
