



An Introduction to Navigating the Copernicus Browser

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Part 2 Objectives

By the end of this training, participants will be able to:

- Explore the Copernicus Browser features for accessing water quality data products
- Create presentation-quality visualizations for water quality parameters across space and time
- Download water quality products for their area of interest using the Copernicus Browser



Prerequisites

- [Fundamentals of Remote Sensing](#)
- Or ... equivalent knowledge
- Recommended: a free Copernicus Data Space Ecosystem account (register at dataspace.copernicus.eu) — required for product downloads and timelapse export.



Training Outline

Part 1

An Overview of
Worldview's Main
Features for
Visualizing Remote
Sensing Imagery
and Products

August 31, 2026

4-5pm ET

Part 2

An Introduction to
Navigating the
Copernicus Browser

August 31, 2026

5-6pm ET





Worldview and Water Quality Applications in Coastal Regions Part 2: An Introduction to Navigating the Copernicus Browser

Copernicus Browser Main Page

The screenshot displays the Copernicus Browser Main Page. The interface is divided into a left sidebar and a main map area.

Left Sidebar:

- Top Bar:** Includes the Copernicus logo, language selection (EN), user profile (Justin Fain), and navigation buttons for **VISUALISE** (highlighted with an orange oval) and **SEARCH** (also highlighted with an orange oval).
- Navigation:** Links for **SH DASHBOARD** and **WORKSPACE**.
- DATE: SINGLE:** A date selection interface with a calendar icon, a date input field (YYYY-MM-DD), a weather icon showing 30% cloud cover, and a **Show latest date** button.
- Find products for current view:** A link to search for products.
- CONFIGURATION:** A section with a **Default** dropdown menu.
- DATA COLLECTIONS:** A section with a dropdown menu showing **Sentinel-2**. Below it, a list of data collections is shown: **Sentinel-2 L1C** and **Sentinel-2 L2A** (which is selected with a checkmark).

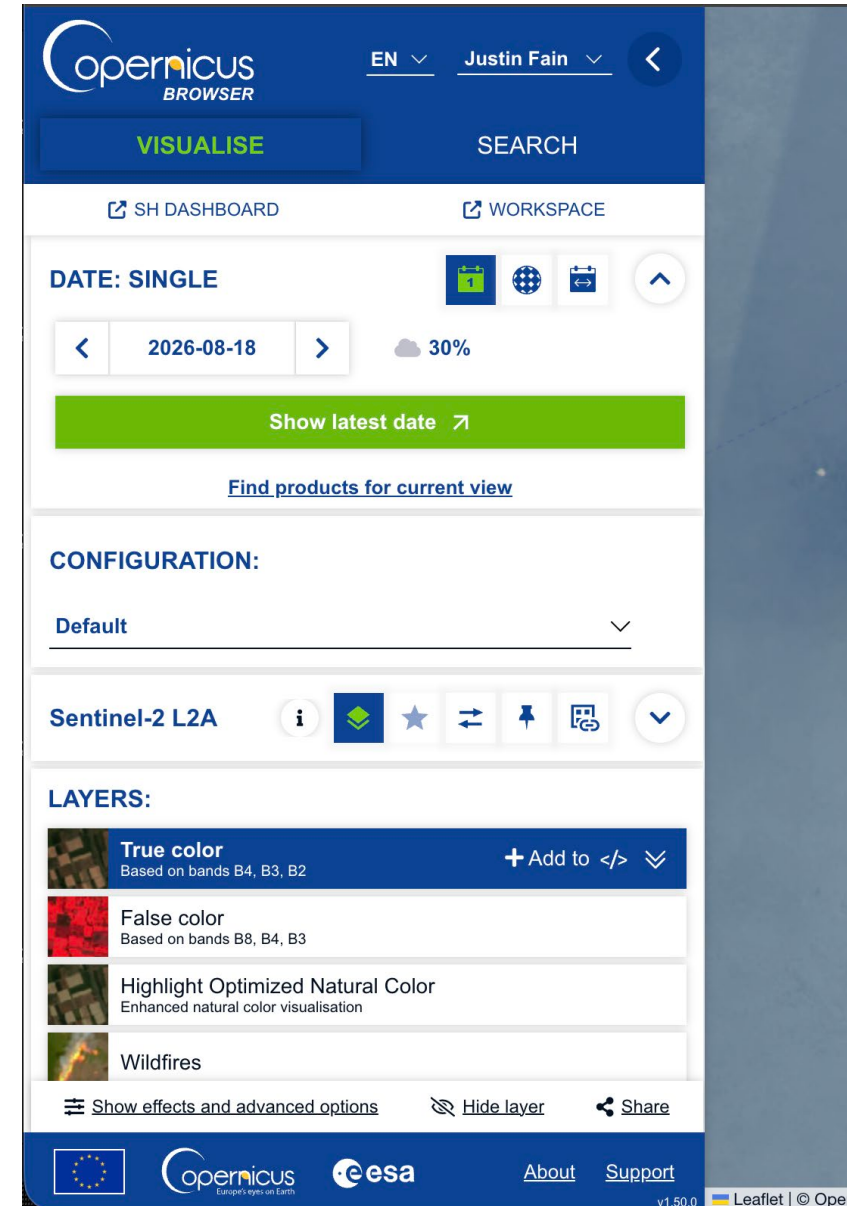
Main Map Area:

- Search Bar:** A search bar at the top right with the text "San Juan, Puerto Rico".
- Map:** A satellite map of Puerto Rico with various locations labeled, including San Juan, Ponce, and Mayaguez.
- Right Sidebar:** A vertical toolbar with icons for home, search, location, 3D view, and other map functions.
- Bottom Bar:** Includes the European Union flag, Copernicus logo, ESA logo, and links for **About** and **Support**. It also displays the version number (v1.50.0) and a disclaimer: "Leaflet | © OpenStreetMap contributors - Disclaimer, © Sentinel Hub".



Data Collections and Layers

- Imagery in the Copernicus Browser is organized by mission using the "Data Collections" dropdown on the "VISUALISE" tab.
- Each collection offers pre-configured layers (i.e., True color, False color, NDVI) plus a "Custom" option for building band composites and indices.
- The user first selects a collection, then a layer, unlike Worldview's single list of >1,200 layers.
- "Show latest date" displays the most recent available image for the current view.
- "Find products for current view" lists the underlying products behind the displayed imagery.



Product Search and Download

- The "SEARCH" tab lets users find the underlying Sentinel data products for an area and date range.
- Results list each product with an info icon (full metadata), a visualize button, and a download icon.
- Downloading full products requires a free Copernicus Data Space Ecosystem login.

Copernicus BROWSER EN Justin Fain

SEARCH

SH DASHBOARD WORKSPACE

Search Showing 50 results of 164

Select all Add to workspace

	S2C_MSIL2A_20260819T150721_N0512_R082_T19QGU_20260819T194213.SAFE Mission: SENTINEL-2 Instrument: MSI Size: 1006MB Sensing time: 2026-08-19T15:07:21.025000Z	
	S2C_MSIL2A_20260819T150721_N0512_R082_T20QKE_20260819T194213.SAFE Mission: SENTINEL-2 Instrument: MSI Size: 478MB Sensing time: 2026-08-19T15:07:21.025000Z	
	S2C_MSIL2A_20260819T150721_N0512_R082_T19QHV_20260819T194213.SAFE Mission: SENTINEL-2 Instrument: MSI Size: 811MB Sensing time: 2026-08-19T15:07:21.025000Z	
	S2C_MSIL2A_20260819T150721_N0512_R082_T19QGA_20260819T194213.SAFE Mission: SENTINEL-2 Instrument: MSI Size: 1043MB Sensing time: 2026-08-19T15:07:21.025000Z	
	S2C_MSIL2A_20260819T150721_N0512_R082_T19QFU_20260819T194213.SAFE	

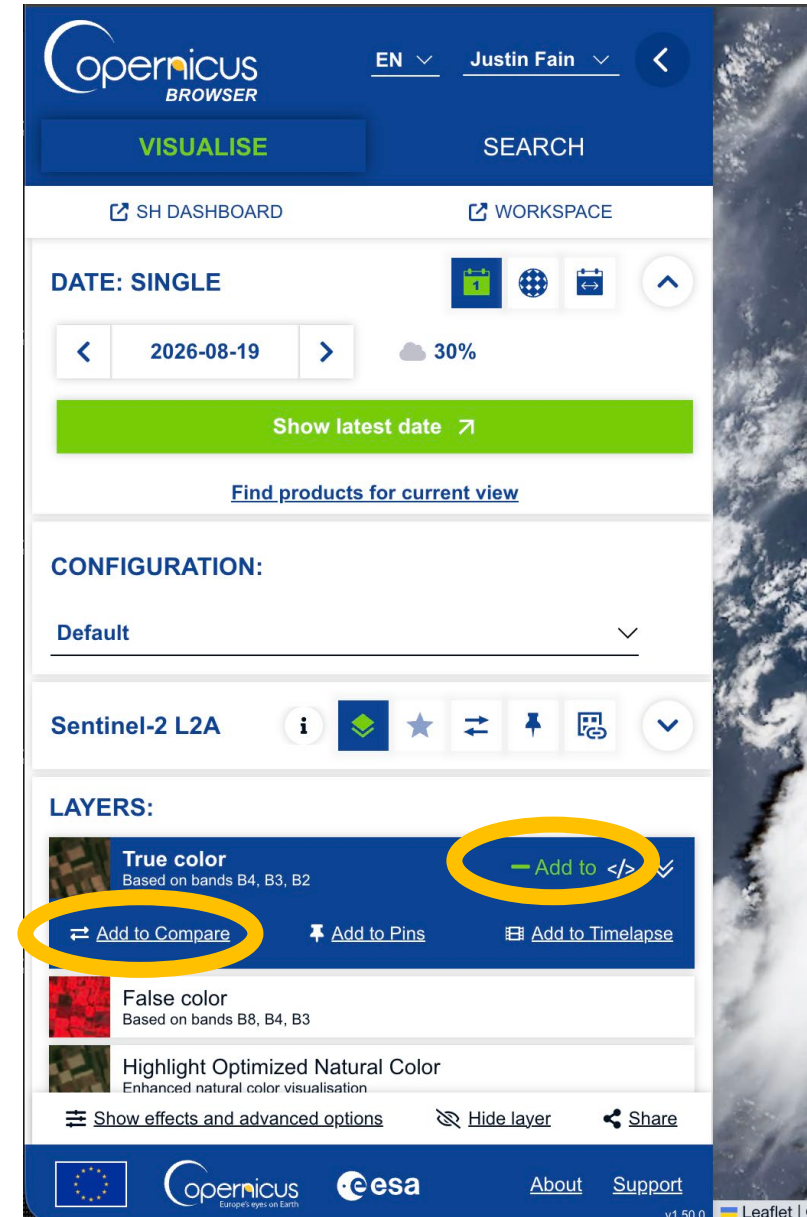
Load more

European Union Copernicus Europe's eyes on Earth esa About Support v1.50.0 Leaflet | © OpenStreetMap



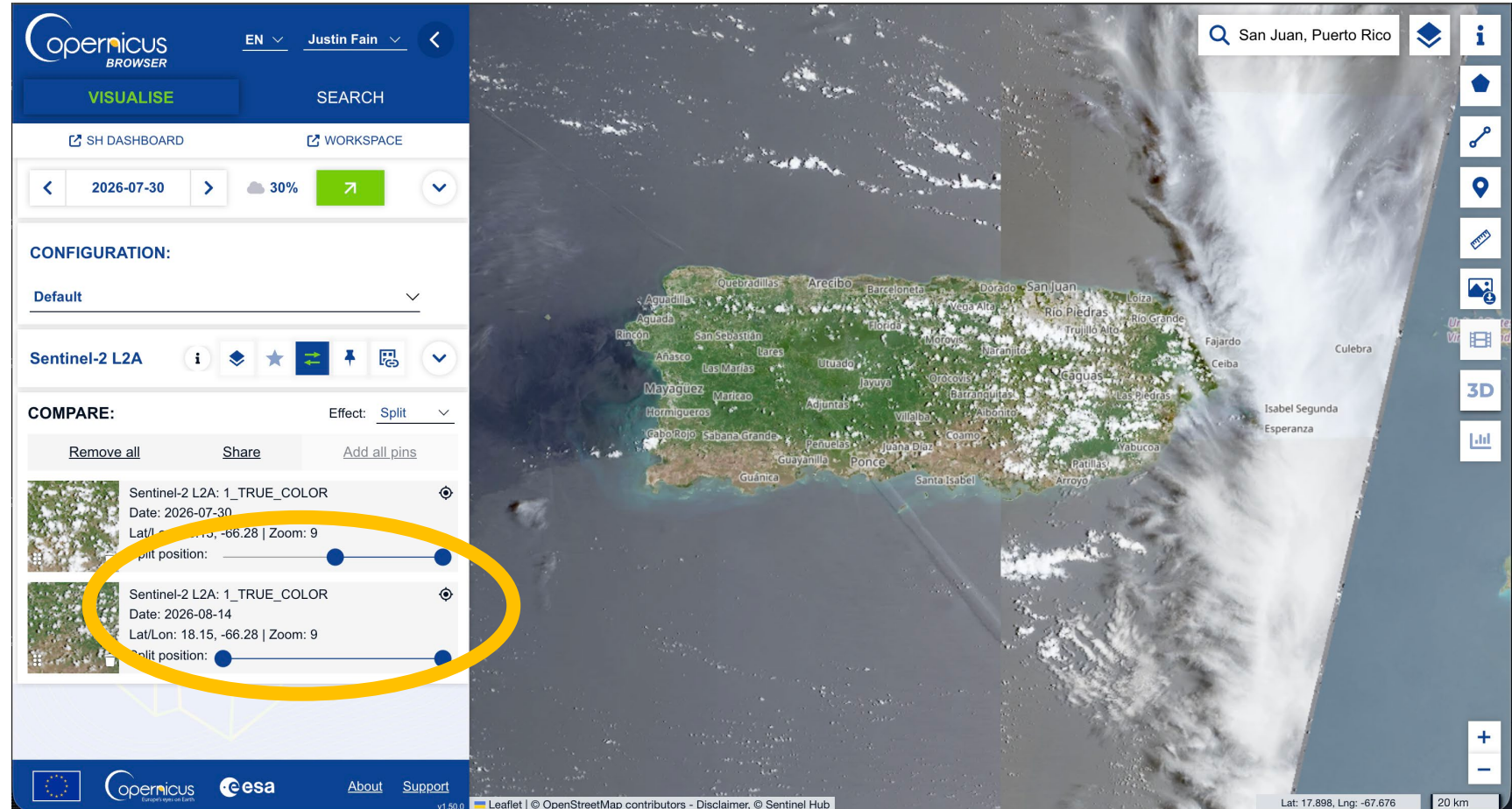
Layers Comparison

- The "Add to Compare" button places the current visualization in the compare panel.
- It allows the user to compare images from two different dates, the same date but different collections, or both.
- The compare panel offers "Split" and "Opacity" modes.



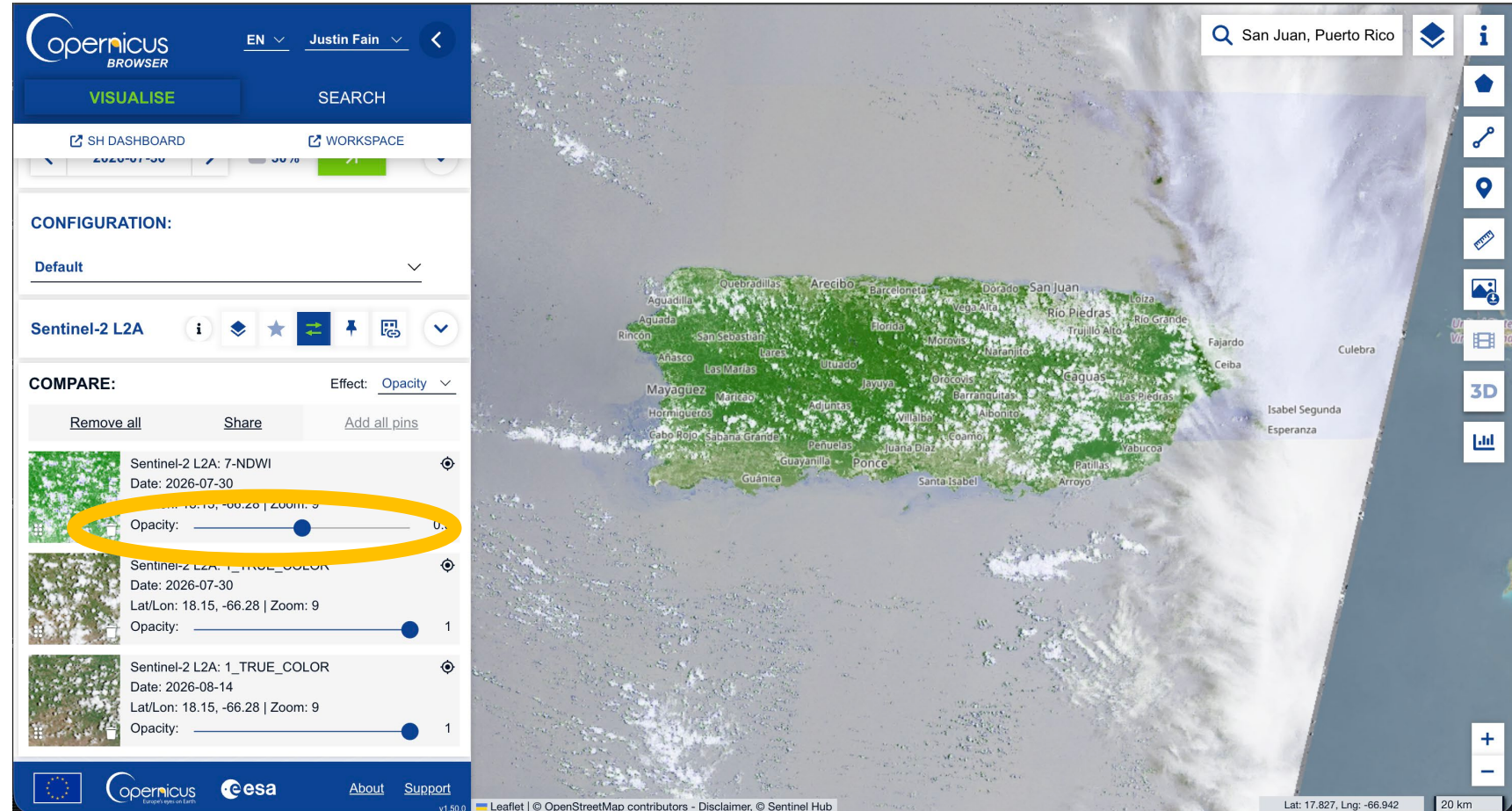
Layers Comparison - Split

- The "Split" mode places the two images side by side, with a divider the user can drag right or left — the equivalent of Worldview's "Swipe".



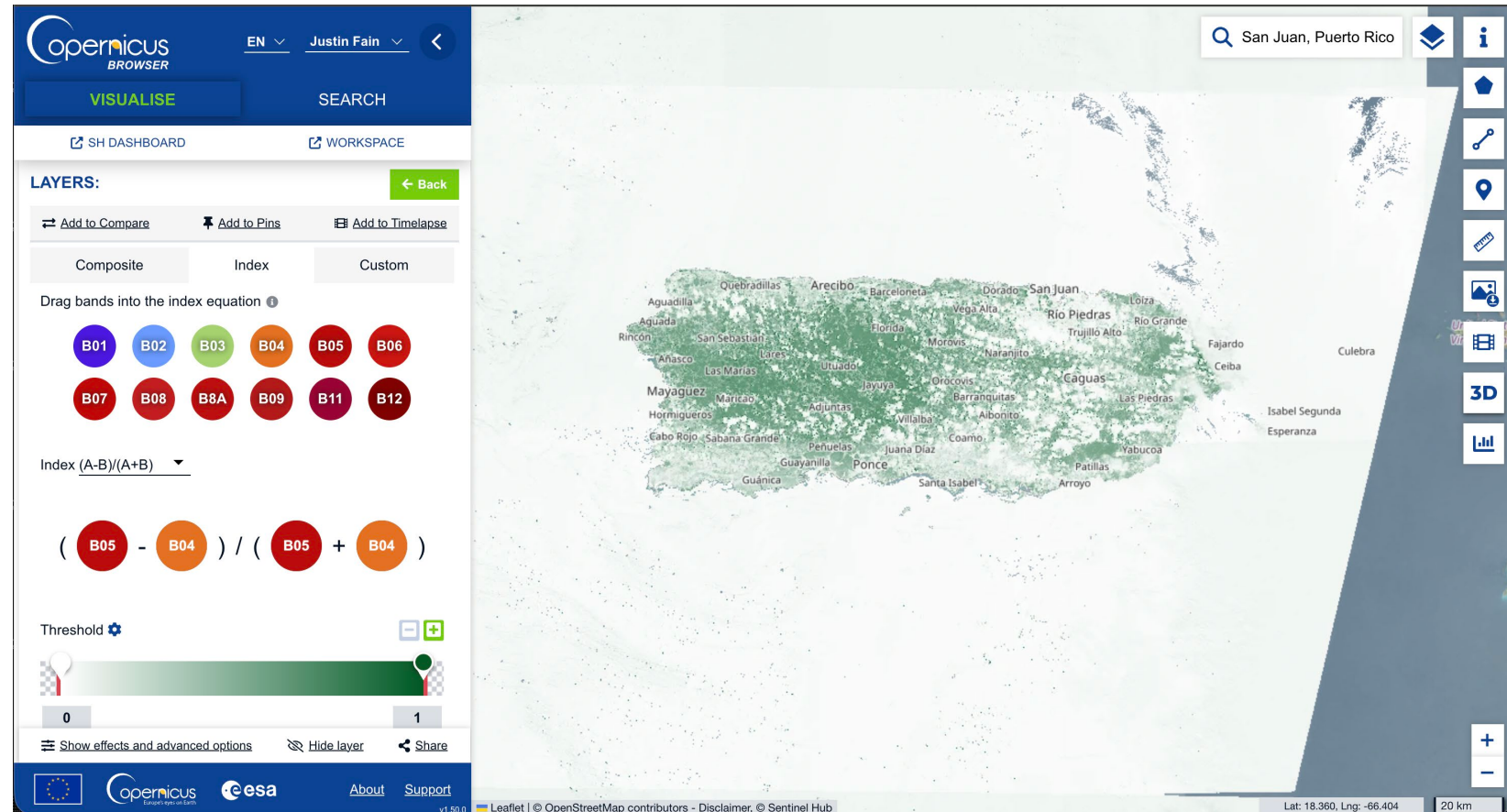
Layers Comparison - Opacity

- The "Opacity" mode stacks two (or more) visualizations and lets the user change each layer's opacity to compare them.
- Worldview's "Spy" feature has no Copernicus Browser equivalent.



Custom Visualizations (Band Composites and Indices)

- The "Custom" option at the bottom of the layer list is a Copernicus Browser feature with no Worldview equivalent.
- The user can drag bands into the R/G/B channels to build a composite, or build a band-ratio index — i.e., a chlorophyll-sensitive index such as NDCI using Sentinel-2 bands B05 and B04.
- Advanced users can paste a custom script for specialized visualizations (i.e., Chl-a)



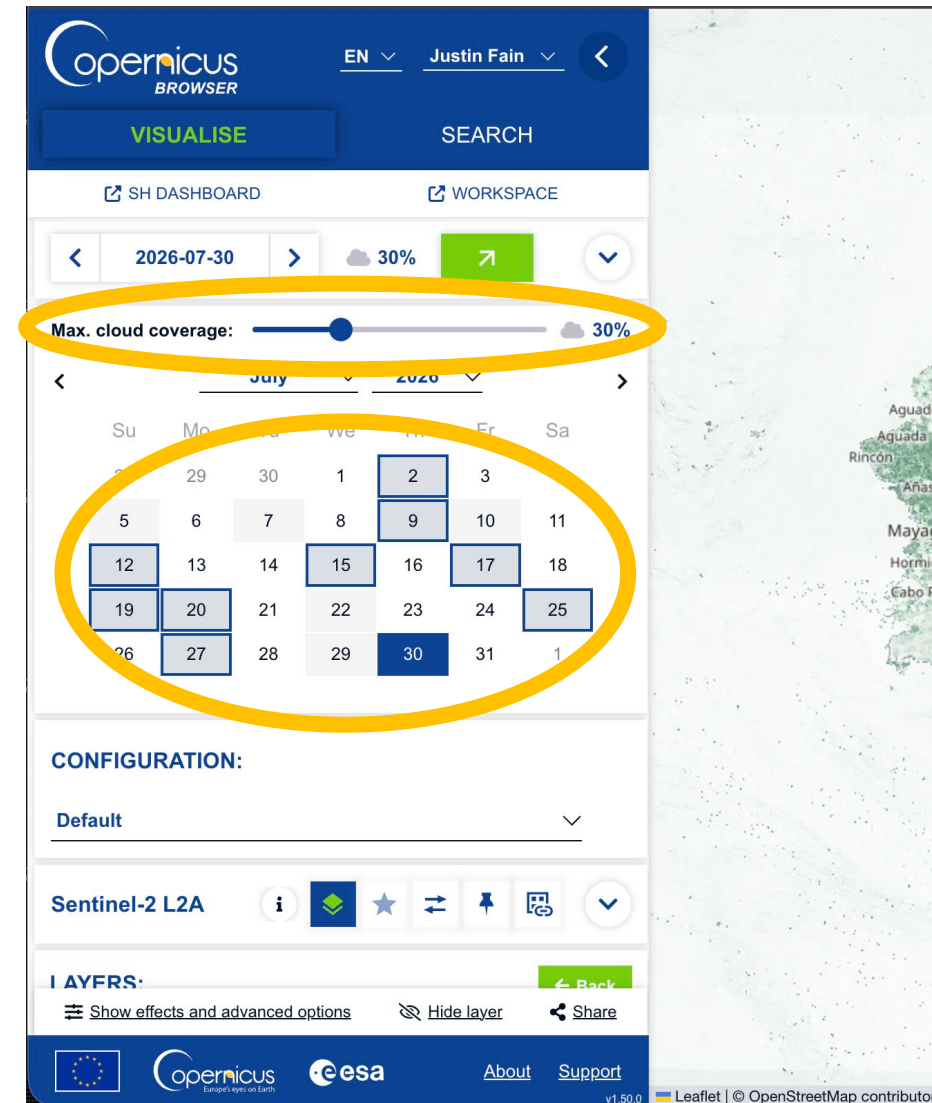
Charting with Statistical Info

- The "Statistical Info" tool (right toolbar) is the equivalent of Worldview's "Start Charting" — it charts index values over time for an Area Of Interest (AOI).
- Draw or upload an AOI with the "Area of Interest" (polygon) tool.
 - KML/KMZ, GPX, WKT, and GeoJSON uploads are supported.
- Charting works on index-type layers (i.e., NDVI or a custom index)
- As in Worldview, clouds and revisit frequency can produce gaps or "no data" values for specific dates.
- The "Histogram" tool shows the distribution of pixel values for the AOI on the current date.



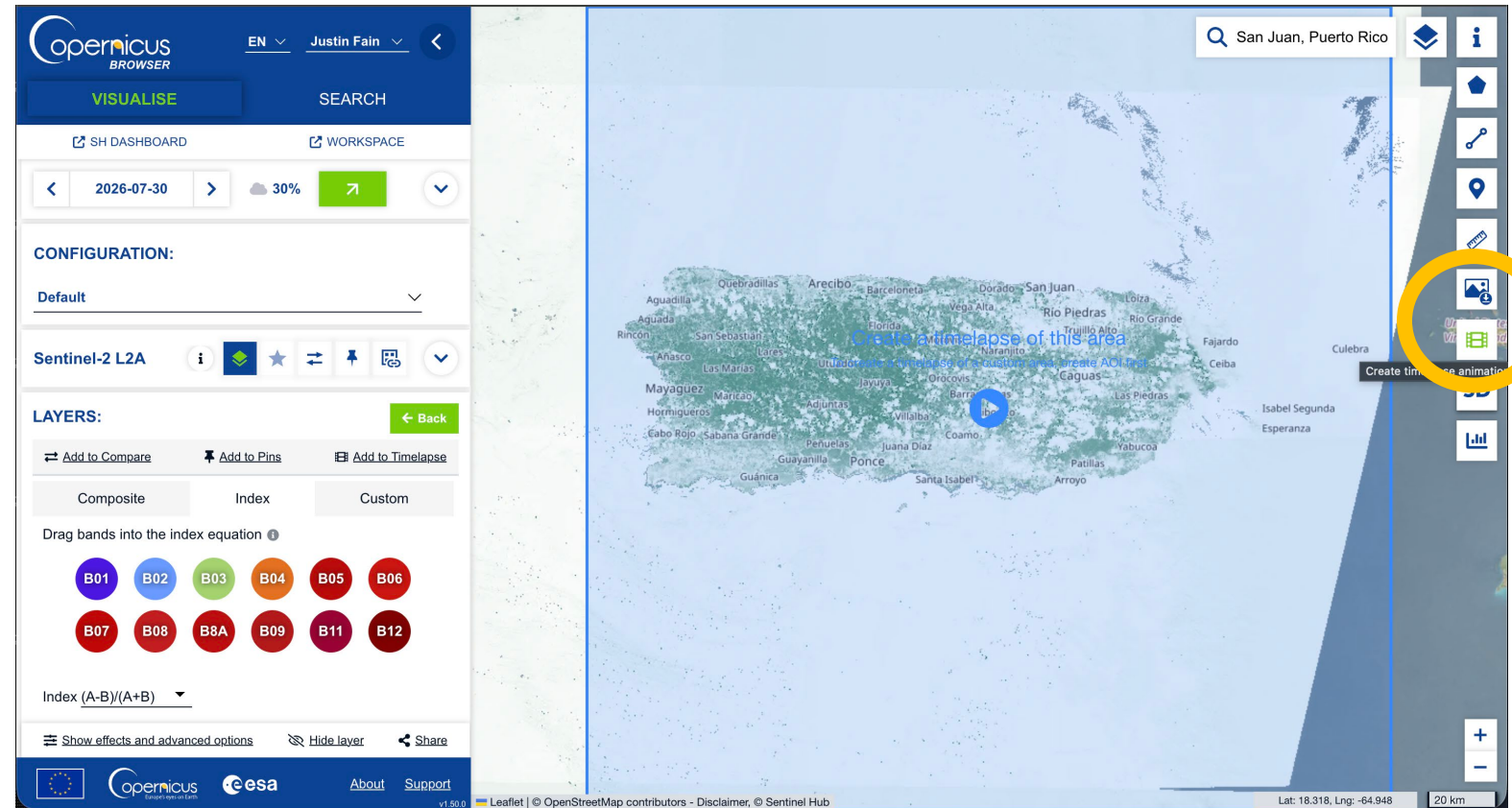
Date Selection

- The date field on the "VISUALISE" tab opens a calendar for selecting the acquisition date; arrows step between available dates.
- "Show latest date" jumps to the most recent available image; a maximum cloud coverage filter narrows the choices.
- Unlike Worldview's daily global mosaic, Sentinel-2 revisits a given coast about every 5 days — many calendar days simply have no image.



Additional Copernicus Browser Features

- Users can also:
 - Share a link of the map — the browser URL preserves location, date, and layer
 - Take a snapshot with the image download tool
 - Create a timelapse animation of their AOI
 - Save favorite visualizations as pins





Hands-on Exercise

Let's practice! Visualizing S2 Data

1. Open the Copernicus Browser (browser.dataspace.copernicus.eu) and, if you have an account, log in using the icon in the top right corner.
2. Use the location search box in the upper right corner to find your area of interest (AOI).
 - Tip: if selecting a relatively small island, zoom out enough to keep some open water in view for the later steps.
3. On the "VISUALISE" tab, choose "Sentinel-2 L2A" from the "Data Collections" dropdown and select the "True color" layer.
4. Click "Show latest date", then open the date calendar and look for a recent day with minimal clouds over your AOI.
 - Note that many days have no image at all.
 - Sentinel-2 revisits about every 5 days unlike Worldview's daily MODIS mosaics.



Let's practice! Comparing Imagery

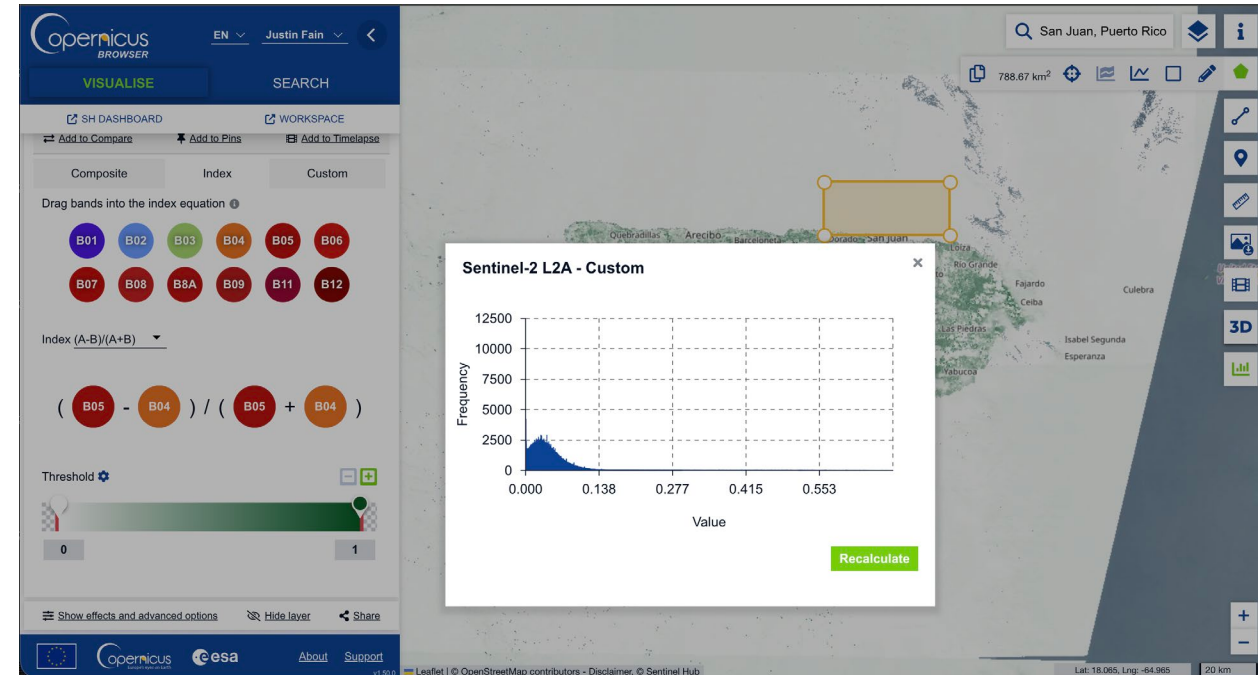
5. With a good, low-cloud image on screen, click "Add to Compare".
6. Open the date calendar, pick a second low-cloud day (i.e., a few weeks earlier), and click "Add to Compare" again.
 - Open the compare panel using the compare icon.
 - Select "Split" and drag the divider right and left to compare the two dates.
 - Now switch to "Opacity". Note that you can control the opacity of each layer with its slider.
 - Note: there is no "Spy" mode here — that feature is unique to Worldview.
7. When you are done, exit the comparison by removing the entries from the compare panel.



Let's practice! NDCI

Let's build a water quality index and chart it.

1. In the layer list, click "Custom" and open the index builder.
 - Drag band B05 and band B04 into the equation to form $(B05 - B04)/(B05 + B04)$, which is the NDCI, a chlorophyll-sensitive index
2. Using the "Area of Interest" (polygon) tool in the right toolbar, draw a small AOI.
 - Try to keep it within coastal or oceanic waters
3. Click the "Statistical Info" icon to generate a time-series chart of the index for your AOI.
 - Note that the chart aggregates all pixels within the AOI, and some dates may return no data.
4. Finally, click the image download icon, keep the "Basic" tab, and save your map as a JPG or PNG.
5. You can also download the analytical version for use in other GIS software.



Resources

- [Copernicus Browser](#)
- [Copernicus Browser – Documentation](#)
- [Copernicus Data Space Ecosystem](#)
- [Register for a free Copernicus Data Space Ecosystem account](#)
- [Copernicus Data Space Ecosystem – Frequently Asked Questions](#)
- [Custom Scripts Repository – band composites and indices](#)
- [SentiWiki – Sentinel mission user guides](#)



Training Summary

- During this workshop, participants explored some of the main features of NASA's Worldview to explore water quality products for coastal marine regions.
- Learned how to compare different images (from the same sensor or from different sensors) for their AOI.
- Created a simple chart for a given water quality parameter for their AOI.
- Explored some of the main features of the ESA's Copernicus Browser.
- Selected, filtered and visualized water quality data.
- Created a band index for a water quality parameter.
- Saved the image and explored some ways to analyze the remotely-sensed water quality data.



Contact Information

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Thank You!

