



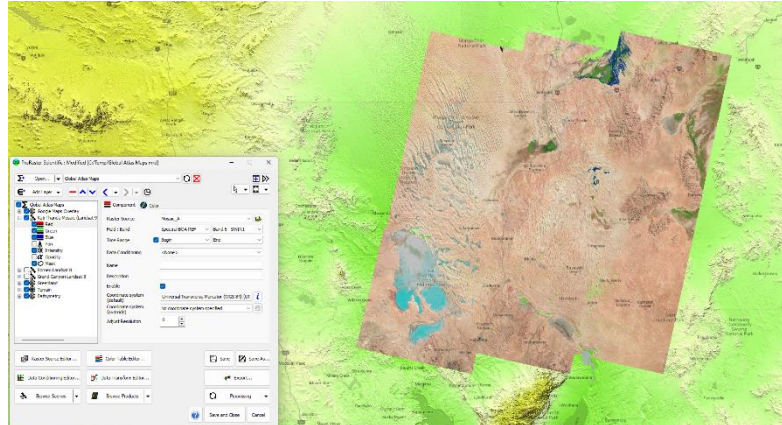
## ProRaster Scientific Product Guide

### Introducing ProRaster Scientific: Satellite Multispectral Imagery Processing and Analysis

Discover value in Landsat and Sentinel2 multispectral satellite imagery with ProRaster Scientific. No other Earth Observation Imagery processing software is as easy to use, as productive, or as inexpensive. The advanced virtual raster processing pipeline technology minimises time, costs, and computation resources, whilst maximising efficiency, performance, and data quality.

Whether you are a data scientist, a GIS professional, or an amateur scientist, you can work less and achieve more – faster

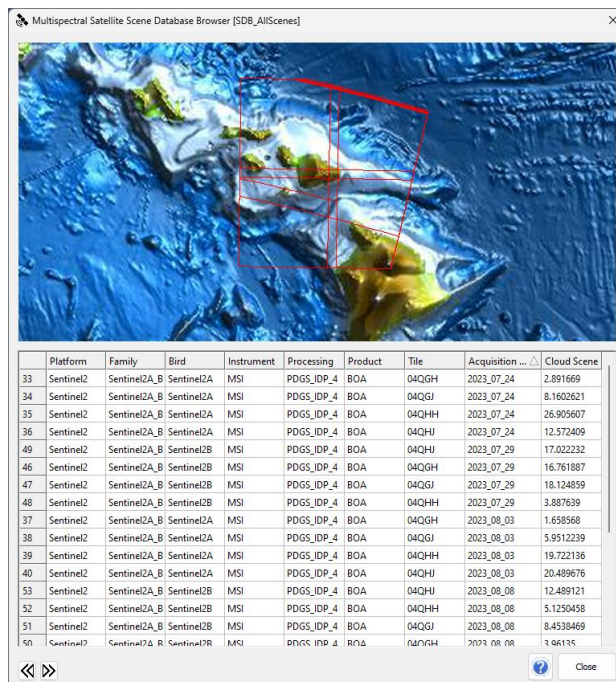
and more efficiently – with ProRaster Scientific. Combining a state-of-the-art raster rendering engine and mapping platform with an all-new suite of tools for automated multispectral imagery ingestion, processing, rendering, and analysis, you have a powerful platform for discovery.



Purchase from the Microsoft Store and start your analysis today!

#### Why use ProRaster Scientific?

Because it provides three industry leading capabilities that will transform the way you work. A virtual raster powered multispectral imagery ingestion, processing, and analysis platform, benefiting from the capabilities of a suite of virtual raster powered raster processing operations, built on top of a state-of-the-art raster rendering engine and mapping platform.



Ingesting multispectral imagery – Landsat scenes or Sentinel2 tiles - is a single click process that applies all the corrections and transformations required to convert from digital numbers to reflectance and temperature. Then combine scenes into mosaics and temporal sequences. Apply processing operations, compute more than 200 spectral indices, compute multidimensional distribution statistics for analysis, and export your data and imagery. Through automation, ProRaster Scientific eliminates user error and maximises data quality and correctness. And that means your analysis starts on solid ground.

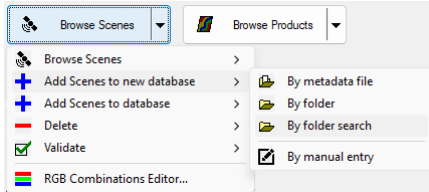
If you want to apply a calculator expression to a very large raster, but don't want to wait four hours for the processing to complete, you will benefit from the virtual raster powered processing operations suite. The processing operations are applied in real time and on-demand – so you can immediately render the result, validate it, and iterate if required. Chain operations together, save time and money, and export data and imagery.

ProRaster Scientific inherits and extends all the raster rendering capabilities in ProRaster Premium. Create and edit multi-layered rendering algorithms and explore your raster data in maps employing a multithreaded and hardware accelerated



rendering engine. Freedom from restrictions, consistently high rendering performance, pixel perfect quality at any scale, simplicity, and ease of use - that's ProRaster Scientific.

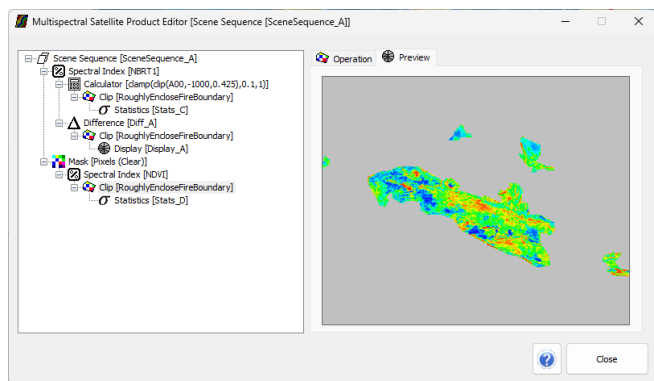
## Overview



Prepare Earth Observation Imagery for visualisation and analysis with single click automation. No programming skills are required. Ingest geospatial rasters without duplicating the original data, thereby minimising hardware requirements.

Using the Product Wizard, create and edit multispectral products that combine scenes and tiles spatially and temporally, and improve data quality by masking out cloud or other features and compositing pixels temporally.

Use the Product Editor to apply processing operations to your multispectral products. Compute over 200 different spectral indices automatically. Apply clipping and flexible data transformations. Render your products at any stage of the processing pipeline. Complete your analysis by computing summary, distribution, and multidimensional statistics.



The multispectral scene database browser, product database browser, and product editor are fully integrated with the main rendering algorithm interface. Automatically display spectral band combinations and spectral index rasters. Apply pan-sharpening and masking on the fly, and drape on hill-shaded terrain.

Access a growing list of raster processing operations, as well as raster export/convert and statistics computation. Raster processing operations are implemented by generating a virtual raster which will be immediately rendered to display the result, and many can operate on multiple input rasters in batch mode. Operations include - Join, Clip to polygon, Clip to raster, Reproject, Resample, Realign, Calculator, Create Raster Mask, Conditioning, Transform, Image Sequence, Statistics, Export, Publish Algorithm, Publish Polygon Clipped Algorithm.



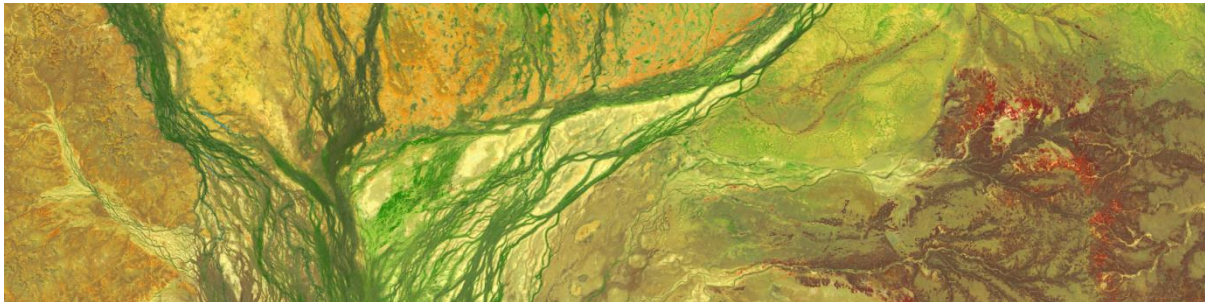
Generate default algorithms for rasters using drag & drop. Create, open, and edit multiple algorithms simultaneously and display the algorithm in multiple resizable and interactive maps supporting zoom and pan. Display the data values and coordinates at any pixel in a floating tooltip.

Easily add supplied WebMap (WMS, WMTS) layers to your algorithms, or use the WebMap Overlay layer to blend street map imagery with underlying raster imagery.

Prepare your raster data using the Raster Source Editor, combine rasters together for convenience and control how rasters are loaded. Build, edit and import color look-up tables in the Color Table Editor. Build and edit custom data transforms in the Data Transform Editor. Build and edit Data Conditioning Filters that clean raster data in the rendering pipeline.



Export located imagery, of any size and at any scale, to a variety of standard formats including MRR, GeoTIFF, and BIL, optionally clipping the algorithm to a polygon. Clipping supports complex polygon sets comprised of multiple polygons, holes, and islands.



### Features

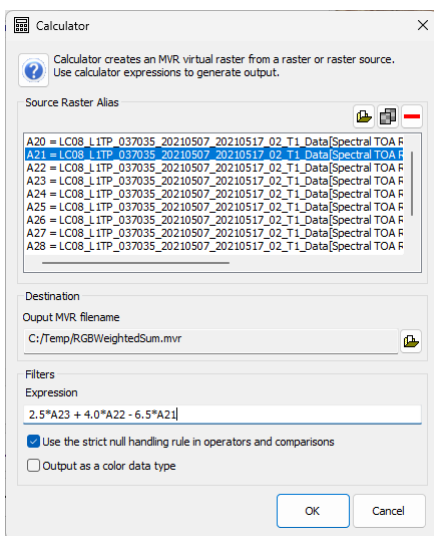
Fully automated support for ingesting Landsat scenes and Sentinel2 tiles. Supports Landsat 1-9, Pre-collection to Collection 2, Level 1-2 and Sentinel2 A&B, Baseline 2-5, Level 1-2.

Automatically apply all corrections for TOA and BOA (SR) for Landsat and Sentinel2. Work with digital numbers, radiance, reflectance, and temperature. Automatically convert the QA data into standard masks that will be used to identify cloud, water, and other pixel classifications.

Manual support for ingesting any other kind of multispectral imagery. Link single and multi-banded source rasters to spectral band definitions. Ingest Spot7, GeoEye1, and many other platforms.



Manage your scene collection using scene databases. Browse and query a scene database spatially and in a spreadsheet interface. Select scenes for rendering or from which to create new multispectral products.



Take advantage of the class leading rendering capability to render scenes and products. Automatically render using an RGB Color layer and validated band combinations or define your own band combinations. Apply pan-sharpening (when supported by the data) in real time. Mask pixels to remove cloud or other pixel classifications.

Begin your analysis by building multispectral products from a scene, or by combining multiple scenes, or by combining multiple products. Build scene sequences and mosaic sequences that are suitable for temporal rendering. Build composited scene sequences and composited mosaic sequences that are suitable for high quality temporal data analysis.

Each product you create is a multispectral geospatial raster to which you can apply processing operations using virtual raster technology. Complete your analysis using the Product Editor to apply processing operations in branching chains to your multi-dimensional geospatial rasters. Compute statistics, generate rendering algorithms, and export final data to portable raster formats.

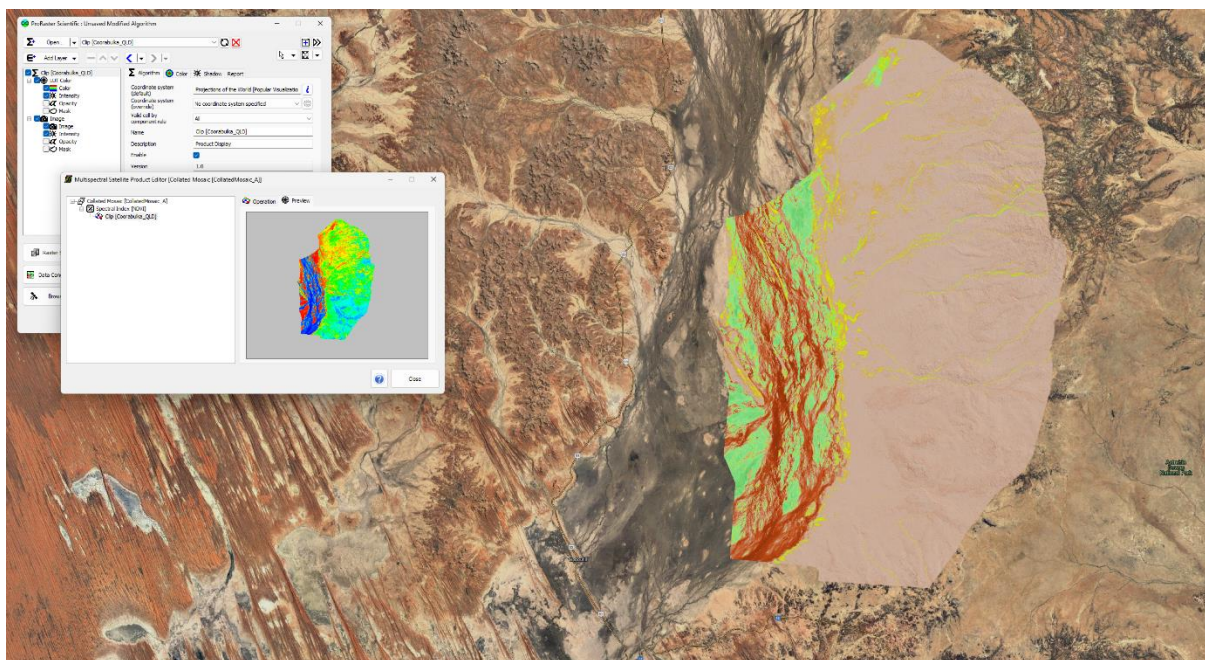


Add the following operations and objects to your product operation cascade: Mask by raster, Clip to polygon, Reproject, Spectral Index, Difference, Calculator, Transform, Render Algorithm, Display Algorithm, Statistics, Export. Render data from any position in the cascade. Modify any operation in the cascade and all downstream operations are automatically updated.

The Raster Processing Operations are unique in that they are implemented using virtual raster technology. Apply complex operations like Reprojection, or Raster Calculator, to rasters of unlimited size and instantly see the results. Operations can be chained together, and batch processing is supported (to apply the same operation to multiple input rasters).

Currently, the following operations are supplied: Join, Clip to polygon, Clip to raster, Reproject, Resample, Realign, Calculator, Create Raster Mask, Conditioning, Transform, Image Sequence, Statistics, Export, Publish Algorithm, Publish Polygon Clipped Algorithm.

ProRaster Scientific includes all the raster rendering algorithm and mapping functionality of ProRaster Premium. It extends that functionality with a new Mask component in all algorithm layer types and a pan-sharpening component in the RGB Color layer. For more information, please consult the ProRaster Premium Product Guide.





### How to buy



Purchase ProRaster Scientific for \$499.99 USD from the Microsoft Store on your Windows 10 or 11 PC. You can also purchase ProRaster Scientific on your dual boot Apple Mac.

The Microsoft Store provides a convenient and safe mechanism for acquiring software for Windows. You will need a Microsoft Account, which keeps track of your application purchases, and link a payment method to your account such as a credit card or PayPal.

Open the Microsoft Store and search for ProRaster Scientific. On the landing page you will see the price in your local currency. Hit the button to purchase, or you can take advantage of a one-day free trial. Once installed, your application will automatically update as new versions are released!

The apps you have purchased now follow you wherever you go. If you purchase a new computer or use multiple computers, simply sign into your Microsoft Account, navigate to your Order History, and you will see options to download and install the app onto your computer. The license allows you to install the app on up to ten Windows devices.

Explore your Microsoft Account and Order History at: <https://account.microsoft.com/>

### Contact

ProRaster Scientific is developed by Roberts Geospatial Engineering. Our software is proudly designed, developed, and supported in Australia. For more detailed information on all the features of ProRaster Scientific, please download the ProRaster User Guide from the Roberts Geospatial website.

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