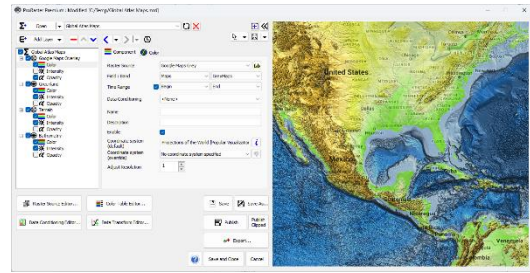




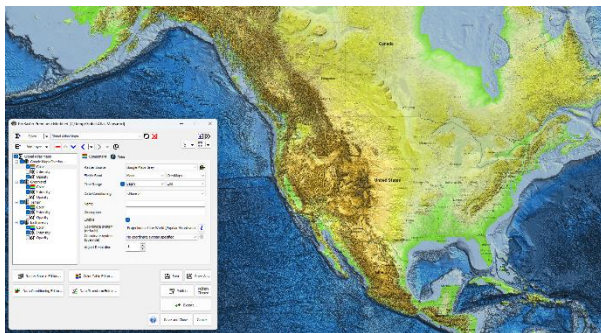
ProRaster Premium Product Guide

Introducing ProRaster Premium: Advanced raster rendering for GIS professionals

ProRaster Premium helps you to explore, understand, and make discoveries in modern raster imagery and data. Explore rasters in ProRaster Premium, or work with GIS and mapping applications to provide next-level raster rendering in your production maps. Take advantage of the power, ease of use, flexibility, and precision quality of this mapping solution. Purchase from the Microsoft Store and start producing superior maps and analysis today!



Why use ProRaster Premium?



ProRaster Premium provides a state-of-the-art raster rendering engine, mapping platform, and rendering algorithm editor that assist you to make discoveries in raster data, and make it fun and engaging!

Break through the limitations that your current GIS or mapping software imposes. Displaying grids and images in GIS and mapping applications is generally restrictive and problematic. The software may require you to import and duplicate the raster data. It may not be able to handle large rasters. It may have poor support for many different raster

formats. It may be inflexible or incapable of mixing rasters with different coordinate systems or properties in the same map. It may have critical bugs or performance issues.

ProRaster Premium resolves all these problems using a raster rendering algorithm, backed by a multithreaded and hardware accelerated rendering engine. It provides you with freedom from restrictions, consistently high rendering performance, pixel perfect quality at any scale, simplicity, and ease of use.

Overview

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.

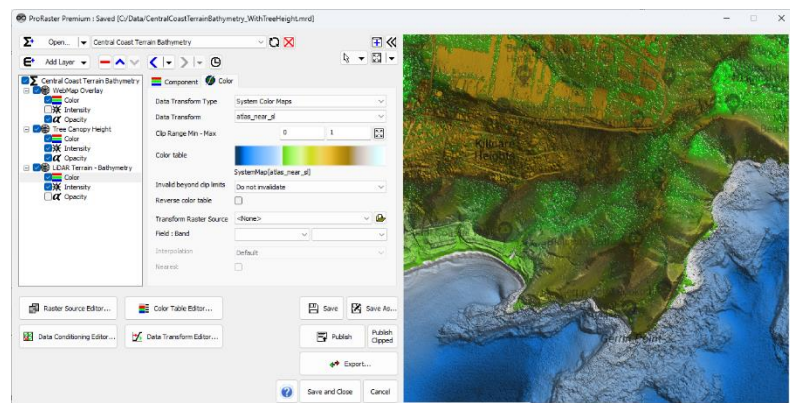
Easily add supplied WebMap (WMS, WMTS) layers to your algorithms, or use the WebMap Overlay layer to blend street map imagery with underlying raster imagery.

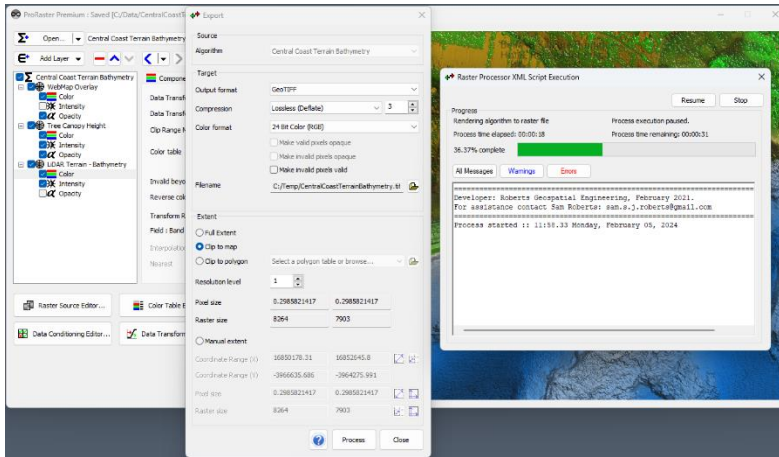
Prepare your raster data using the Raster Source Editor, combine rasters together for convenience and control how rasters are loaded.

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.

Publish algorithms to MapInfo Pro 2021+, optionally clipping the algorithm to a polygon.

ProRaster Premium is for all geospatial data professionals and GIS users. Enjoy all the features of ProRaster Essential,

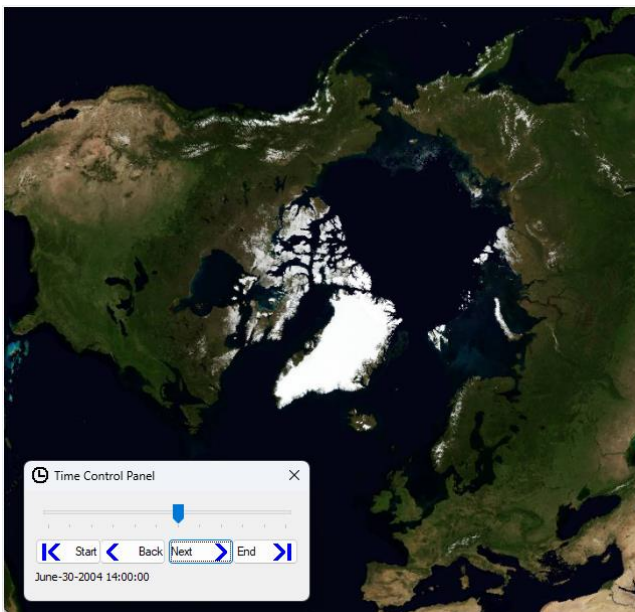
and in addition unlock a wide variety of advanced capabilities including multi-layered algorithms, blending and opacity modulation, advanced data transforms, data conditioning filters, unrestricted map windows, temporal support, WMS web mapping, located imagery export, and more.

Features

Your raster rendering algorithm is stored in a small text file with an MRD extension. Open MRD algorithm files for editing and display, then save to disk. Edit multiple algorithms simultaneously using undo and redo.

Create default algorithms for rasters, raster sources, and WebMaps. Create new algorithms with multiple Image, LUT Color, and RGB Color layers. Add, delete, and reorder layers. Add default layers for rasters, raster sources, and WebMaps. Add WebMap Overlay layers (a greyscale transparent street map that preserves detail like roads and place names, whilst removing other map information to maximise the color saturation of underlying raster layers).

Render the algorithm as you edit it in a preview map or in multiple resizable map windows. Zoom and pan the maps using the mouse and define zoom ranges manually. Display the data values and coordinates at any pixel in a floating tooltip and acquire a deep pixel data report by double clicking on any map.

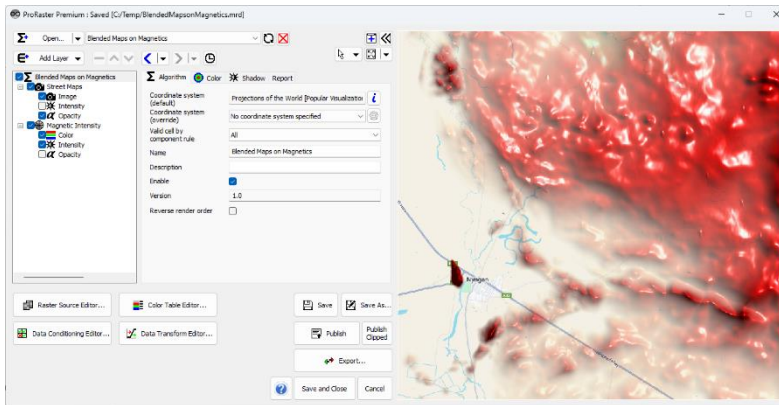


Use the floating Time Control Panel to change the event time in an algorithm - to go forward or backwards in time, or to a specific time.

Export your saved algorithm to a located image, of any size and at any scale, in a variety of standard formats including MRR, GeoTIFF, and BIL. Precisely control the resolution, size, and extent of the image or clip to a polygon. Clipping supports complex polygon sets comprised of multiple polygons, holes, and islands.

Publish your saved algorithm in the latest version of MapInfo Pro. This loads the algorithm and displays it in a map. MapInfo Pro will access the original source rasters when it displays the algorithm to guarantee high quality rendering at any scale. Clip your algorithm to a polygon and publish it in the latest version of MapInfo Pro. The clipping polygon must be stored in a MapInfo Pro TAB format file.

Override the Coordinate System of the algorithm to reproject all rasters into this coordinate system, usually to match the coordinate system of your map in MapInfo.



Specify the interpolation method separately for color components and hill shading at algorithm, layer, or component scope. Options include Default, Nearest, Linear, or Cubic interpolation. Control how overlapping layers are blended and employ data dependent per-pixel opacity modulation. Control hill shading shadow and highlight parameters (to control hill shading for all layers) at algorithm or component scope.

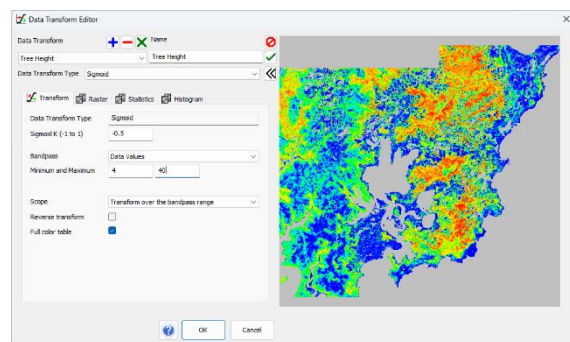
An algorithm contains any combination of one or more LUT Color layers, RGB Color layers, or Image layers. Layers are rendered from bottom to top and where layers overlap, they can be blended. Layers can be grouped together and controlled as a group. Copy properties from one layer to others in the group, or in the algorithm.

LUT Color layers have Color, Intensity, and Opacity components. They are used to displays rasters that contain continuous data, like digital terrain or bathymetry, population density, or other measured physical data. The Color component maps data values in the raster via a data transform to a color index, which is used to lookup a color from a color table. The Intensity component provides hill shading that preserves high color saturation. The Opacity component maps data values in the raster via a data transform to opacity/transparency to provide per-pixel opacity modulation.

RGB Color layers have Red, Green, Blue, Intensity, and Opacity components. They are used to display multispectral imagery or to reconstruct true color imagery that has been split into color components. They are also used to display multi-banded data – for example radiometric maps that combine natural radiation measurements of potassium, thorium, and uranium in the Red, Green, and Blue components. The Red, Green, and Blue components map data values in the raster via a data transform to a color index, which is used to lookup a color from standard Red, Green, and Blue color tables. The Intensity component provides hill shading that preserves high color saturation. The Opacity component maps data values in the raster via a data transform to opacity/transparency to provide per-pixel opacity modulation.

Image layers have Image, Intensity, and Opacity components. They are used to display true color or greyscale raster imagery without color modification or enhancement. The Image component renders the color data, usually RGB or RGBA. The Intensity component provides hill shading that preserves high color saturation. The Opacity component maps data values in the raster via a data transform to opacity/transparency to provide per-pixel opacity modulation.

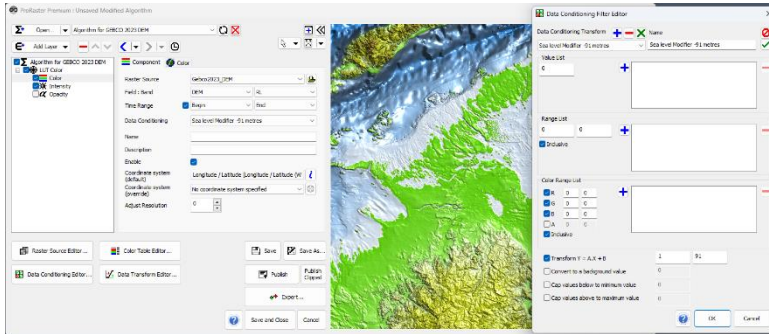
Data transforms are employed to convert raster data values to a color index in LUT Color and RGB Color layers, and to an opacity index in all layers. You can select from a wide variety of standard transforms, many of which can be modified by setting upper and lower limits manually, as a percentage, or as a percentile. Use the Data Transform Editor to design your own transforms. Create a data transform from any of the standard data transforms and customise it or create customised data transforms from tabulated data. Display a preview map applying your data transform as you edit it. Compute and explore statistics and histograms of any raster band. The supported data transform types are listed below.





- Pass Scaled
- Pass Index
- Pass Value
- Rotate Index
- Color bits linear
- Linear
- Logarithmic
- Sigmoid
- Equal Area
- Stable Equal Area
- Ranges: Spread about the mean
- Ranges: Spread about the median
- Ranges: Spread about the mode
- Ranges: Deviations about the mean
- Ranges: Jenks Natural Breaks
- Tables: Index over range
- Table: Index for value
- Table: Index for percentage
- Table: Index for percentile
- Table: Match value
- Table: Match value range
- Table: Match continuous value range
- Table: Match value string

Non-transforms - Pass (Scaled, Index, Value), Rotate Index
 Linear transforms - Color Bits, Linear
 Non-linear transforms - Logarithmic, Equal Area (Fast, Stable), Sigmoid (Lightening, Darkening)
 Ranges – Ranges (over full range, between defined limits), Quantile Ranges
 Ranges - Ranges (about the mean, median, mode), Deviations about the mean
 Ranges - Jenks Natural Breaks.
 Tables – Index (over range, for value, percentage, or percentile)
 Tables – Match (value, value range, continuous value range, or text string)
 Color Maps - Select any system or user defined color map.

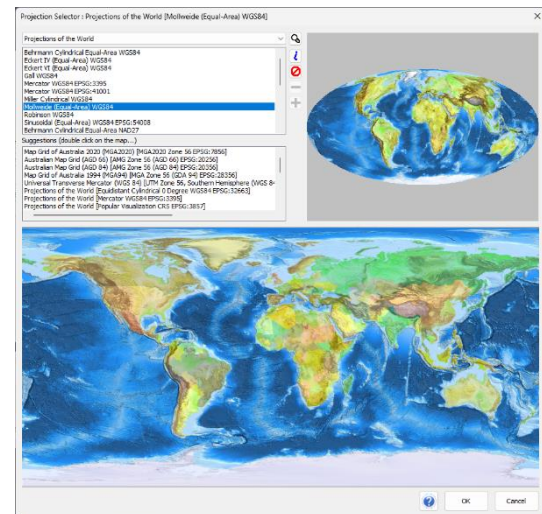


The Data Conditioning Editor is used to create and edit Data Conditioning Filters that can be applied to raster data in a component on-the-fly. Invalidate values, ranges of values, and ranges of color values to prevent them from being rendered. Apply a linear transformation to scale and translate data values (for example to simulate a change in sea level). Cap raster values to a minimum and/or maximum and convert invalid

values to a background value for rendering.

The Projection Explorer provides access to hundreds of pre-defined coordinate systems recognised in MapInfo Pro. You can specify the coordinate system for the whole algorithm. You can define or override the coordinate system of components if the system has been unable to acquire the coordinate system from the raster, or it is incorrectly interpreted.

Search for appropriate coordinate systems graphically or by EPSG code or any other text, and create custom coordinate systems using the standard technique used in MapInfo Pro.





How to buy

Purchase ProRaster Premium for \$59.99 USD from the Microsoft Store on your Windows 10 or 11 PC. You can also purchase ProRaster Premium 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 Premium. 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 Premium 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 Premium, please download the ProRaster User Guide from the Roberts Geospatial website.

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