HEXAGON

Release guide

M.App X 2022 Update 1

Version 16.7.1

19 October 2022

Contents

About this release

This document describes the latest enhancements, fixes, and system requirements for M.App X 2022 Update 1.

For information on new features, see the "New technology" section. For information on fixes that were made for this release, see the "Issues resolved" section. For information on hardware and software requirements, see the "System requirements" section.

This document is only an overview and does not provide all of the details about the product's capabilities. See the product description, the online help and other documents provided with M.App X for more information.

M.App X

M.App X provides tools to exploit imagery and create imagery-derived information products and reports deployed in an enterprise platform for system integrators. All M.App X users can create and share information across the enterprise using the rich, web-based client application.

New platforms – M.App X 2022

M.App X 2022 supports Microsoft® Windows Server 2022.

New technology – M.App X 2022

User-facing improvements and additions

The improvements in this section describe changes that affect either the use of the client application or its performance.

Support for point clouds (requires LuciadFusion)

When a licensed copy of LuciadFusion is installed, users can leverage its capabilities to manage and visualize point clouds in M.App X. Point cloud files (i.e., LAS or LAZ) can be added to the shoebox, much as an image or a shapefile.

The file will be tiled by LuciadFusion and streamed to the M.App X client, where it can be visualized using a single color, RGB, intensity, height, or classification (depending on the dataset metadata).
Display using RGB vs. height.
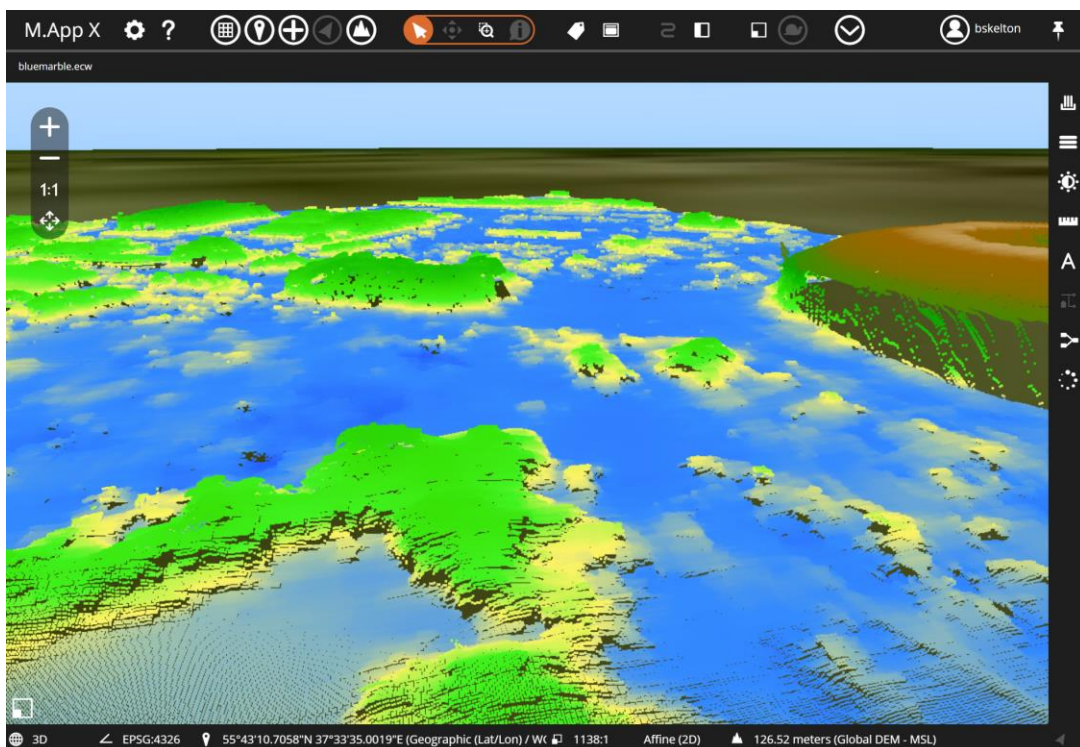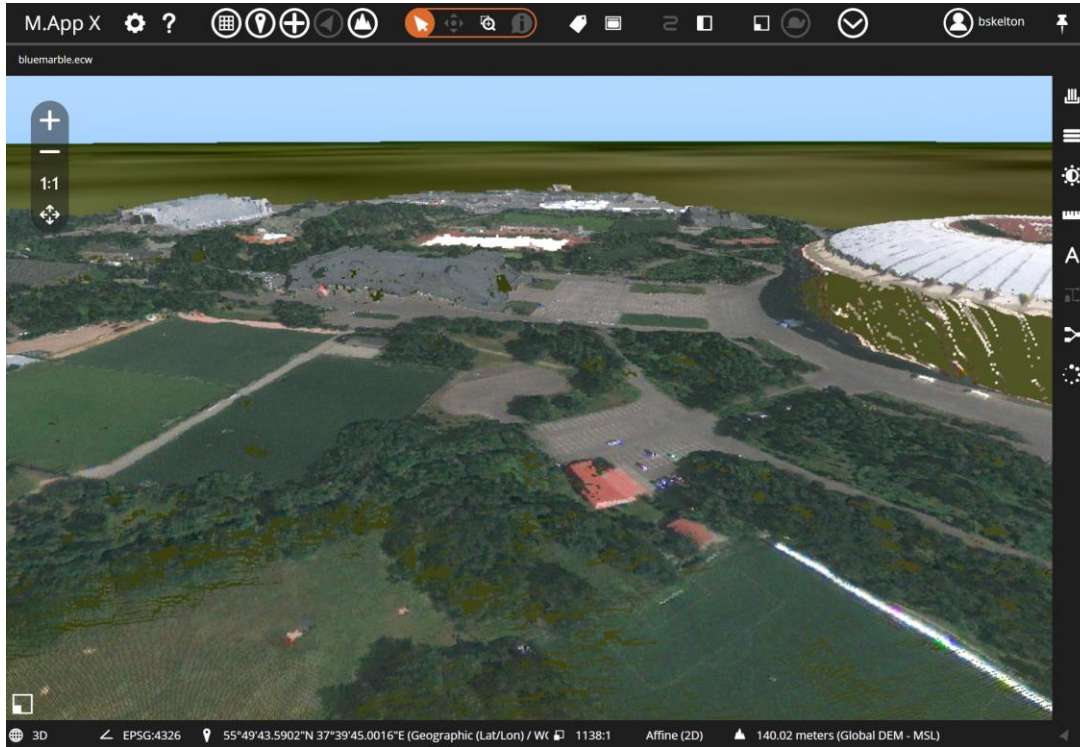
## Display point clouds and features without a base image

Previously, features could only be displayed on top of a base image, but with the addition of point clouds, it is much more likely that the point cloud data may be the only thing the user is looking at. The requirement for a base image was relaxed, and now it is possible to display both point clouds and features without a base image.

Transitions now work in 3D

The transition tools (swipe, fade, and flicker) now work in 3D as well as in 2D.
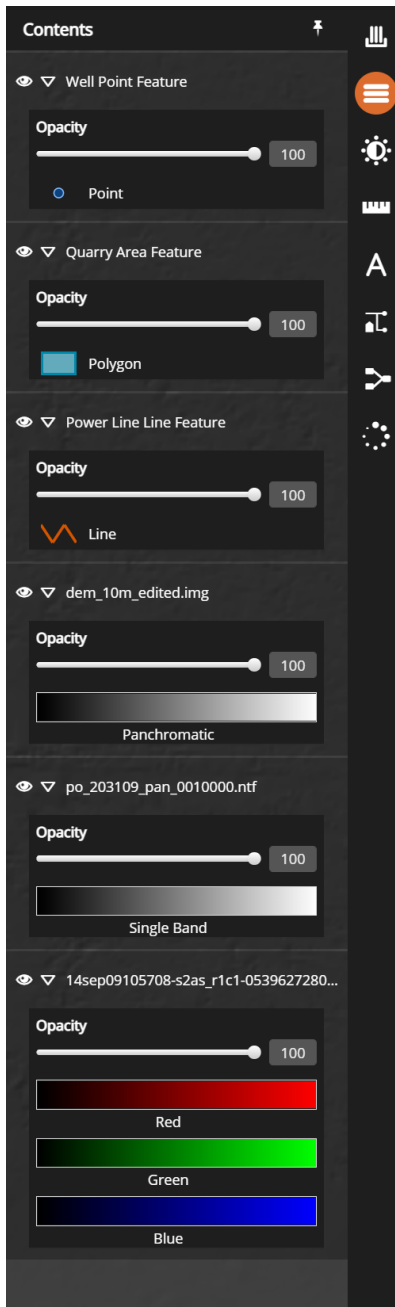
Shoebox deletion is now confirmed

Before deleting a shoebox, there is now a confirmation dialog that helps prevent accidental loss of data.
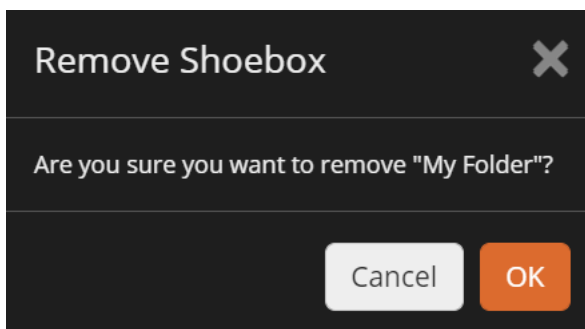
Contents panel improvements

The contents panel has been changed to show a legend for most data types, and feature and point cloud styling can now be changed using a new Adjustment button.

Automatically generated user interface for custom models

Spatial models can now be developed on the desktop with either ERDAS IMAGINE or GeoMedia and deployed to a M.App X installation using drag and drop into the geoprocessing section of the admin console. The custom models appear in the Geoprocessing panel.
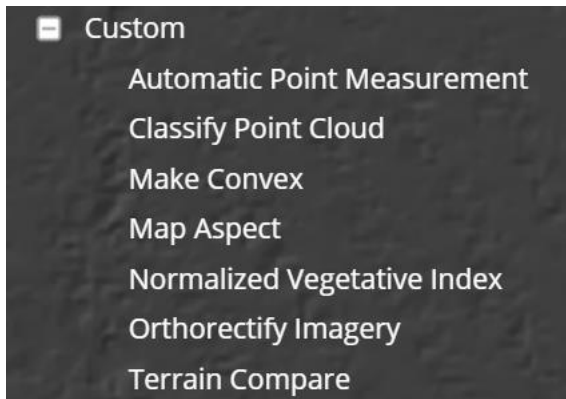
Clicking on the model will automatically create an input form from which the model can be run.
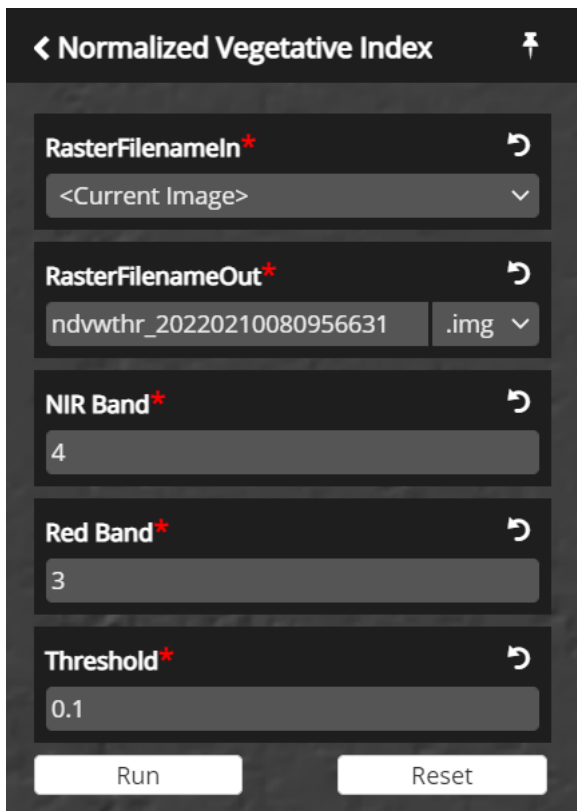

New geoprocessing management in the admin console

The M.App X administration console now has a new section for managing geoprocessing. This provides three types of functionality: managing running jobs, configuring geoprocessing workers, and managing spatial models. Running jobs for the whole system can be monitored or cancelled. Worker node information can be displayed, and some parameters can be modified. Spatial models can be added and deleted.
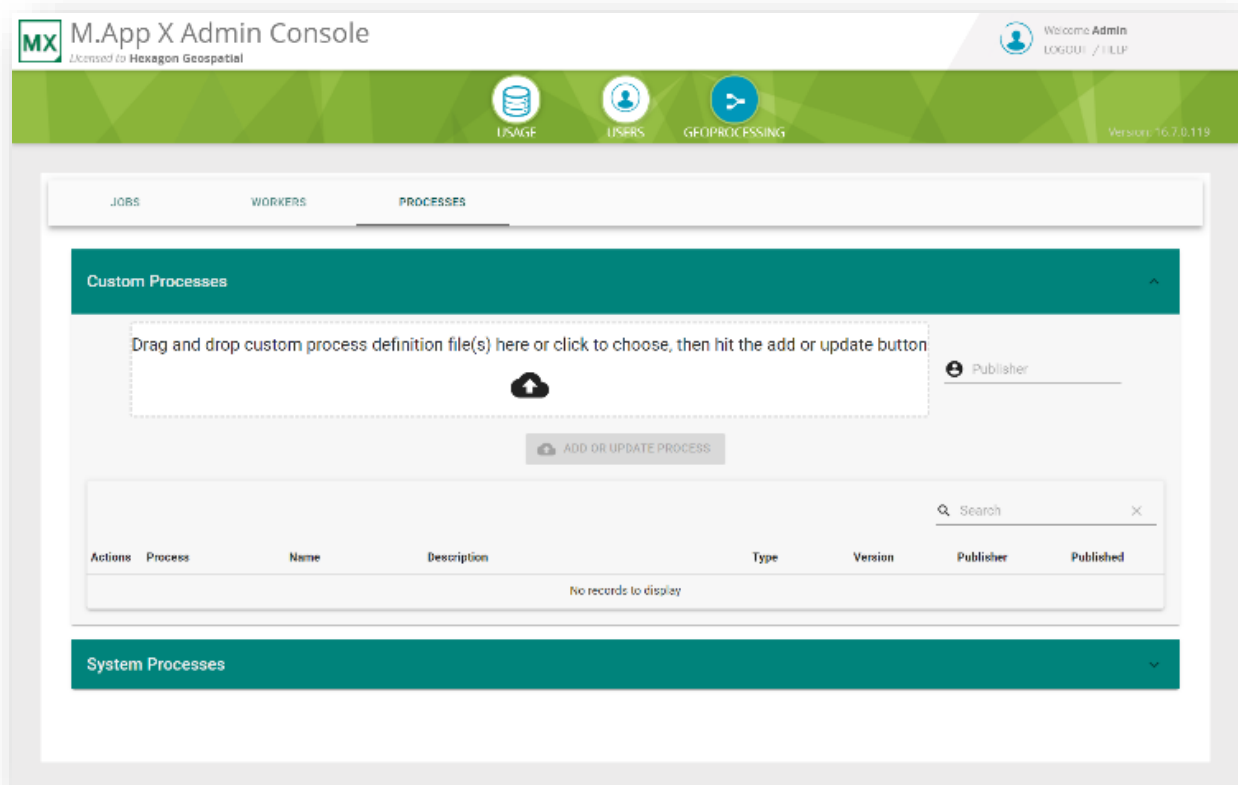
API improvements and additions

The following section describes changes made to the API that support integration and customization of M.App X.

•   Added API allowing extension of support for new model input data type of custom geoprocessing panels.

•   Added API allowing registration data in a Shoebox.

•   Added API allowing addition of custom Color Ramps and Color Palettes for styling Point Cloud data.

•   Added new UI widgets.

•   Added API allowing custom tabs to the Add to Shoebox Dialog.

New technology – M.App X 2022 Update 1

User-facing improvements and additions

The improvements in this section describe changes that affect either the use of the client application or its performance.

Active Directory authorization

With this update M.App X user accounts can be configured to authorize against a local instance of Microsoft's Active Directory. This allows a single source of authorization within an organization and avoids the duplication of accounts and reduces administration time and effort.

The Active Directory server is configured in the Configuration Wizard along with the name of the Active Directory groups that are to be mapped to the Admin and User roles. The Active Directory administrator assigns users to one of these two groups to determine their access to and role in the use of M.App X.
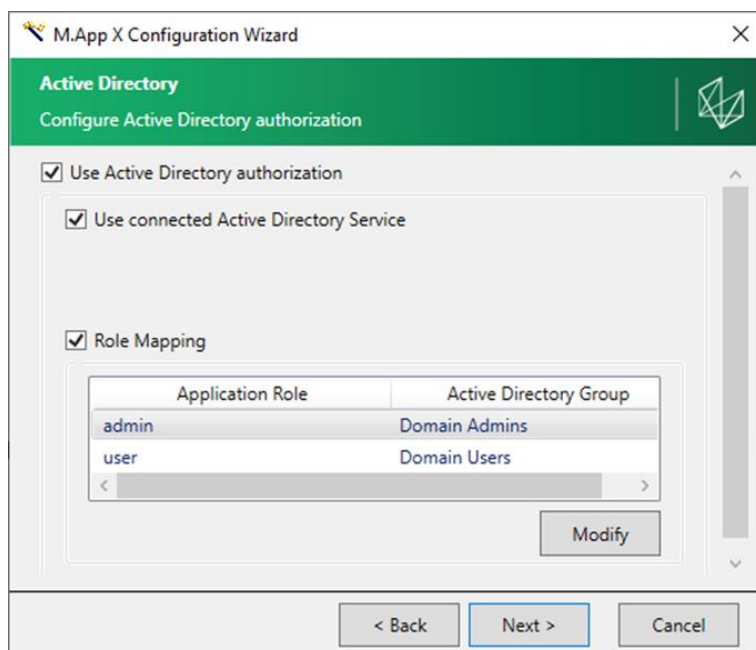
Active Directory accounts and local accounts can exist at the same time. The status of each account is presented in the "Authentication" column of the Users panel in the M.App X Admin tool.

When a new account is created, it can be designated as an Active Directory account. Also, logging in with any Active Directory account belonging to the group configured as the M.App X access group will automatically create a M.App X user account.

Level of detail control for point clouds

Point clouds can be very dense and hence contain very large amounts of points. With such data, if all of the points are rendered, it can be slow to pan around the scene. The level of detail control allows the number of points to be reduced, which can make the system more responsive.

Base image requirement removed

M.App X was initially built around displaying and manipulating images, and the assumption was that there would always be at least one image displayed. This assumption has been removed in this release so that one can easily display point clouds without any image in the display. This also applies to feature datasets.

Display mode switching improvement

M.App X supports multiple display modes for images: Image Space, Map Space and 3D. Since it is now possible to display data sets other than images, the available display modes are determined by what types of layers are present. For example, switching to Image Space is only possible if exactly one image is displayed; otherwise, the Image Space choice is disabled.

New graphic for file and service-based point cloud items

Point cloud shoebox items can be created from a discovered point cloud dataset (file-based) or from a given existing service (service-based). Only file-based shoebox items can be selected as an input to a geoservice. To help make this clearer, there now two different graphics for point cloud shoebox entries.
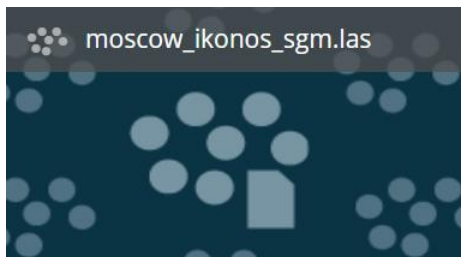
Improved switch elevation source dialog

The dialog used to select and or switch the elevation source has been improved. It now presents the options as a list of bulleted links, and it always includes the Global DEM in the list.

Added detection of elevation source overlap for point clouds and features

The elevation source is used to determine the Z value for the current cursor location. Because of this, when a dataset such as a point cloud or feature set is displayed, a check is made to see if the current elevation source overlaps the extent of the data set. If it does not, the user is notified of the mismatch, and a list of alternative elevation sources is displayed.

Choose Elevation Source ✕

The extent of the selected dataset does not overlap with the Current Elevation Source. Please select one of the following Elevation Sources:

- Global DEM

Close
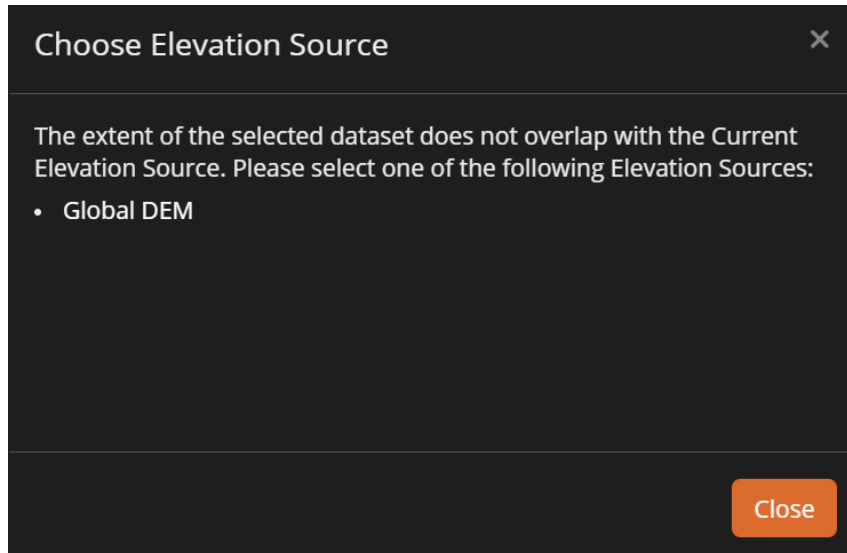
System requirements

Server

Computer processor	Xeon 2.9GHZ 4-core (or better)
Memory (RAM)	16GB (or better)
Operating system	• Microsoft Windows Server 2016 • Microsoft Windows Server 2019 • Microsoft Windows Server 2022
Software	• Internet Information Services (IIS) • JSON MIME Type Support • Java Runtime Environment Version 11 • Microsoft .NET Framework 4.7

Client

Computer processor	Any Intel or AMD x64 CPU running at 1.9GZ or greater
Graphics card	Any modern graphics card with full 32-bit support; a GPU is required to use the 3D features of the client
Network connectivity	An ethernet or WiFi connection of at least 10MBs is required for good performance (NOTE: This is not for connection to the Internet, just for connection from the client to server)
Operating system	• Windows 10 • Other operating systems such as MacOS and Linux are viable as the M.App X client runs entirely in the browser with no plug-ins • Windows 11 is viable
Browser	• Google Chrome (current versions) • Mozilla Firefox(current versions) • Other browsers such as Safari, Opera, and Microsoft Edge are viable as long as they are not mobile versions

Issues resolved – M.App X 2022 (v 16.7.0)

CR #	Summary	Description / How to Reproduce
WG-11665	In Light theme, the text in the feature information dialog isn't very clear.	The background has been made more opaque to improve contrast.
WG-11662	Options in the Status Bar should be consistent and should be disabled in cases where not needed.	All of the fields in the status bar are now consistent in behavior.
WG-11658	Label Name incorrect for Band selection in Adjustment panel for pseudocolor image type.	The pseudocolor band selection pulldown in the Adjustments panel now has the proper label.

WG-11636	Nudgers don't show up in Firefox browser.	This has been corrected.
WG-11635	Error handling issue when data search fails.	The error condition is now detected.
WG-11604	The initial display in the map and the number for the Width of Stroke aren't in sync.	This has been corrected.
WG-11510	Alternate data paths aren't shown if any data path isn't accessible.	If more than one data paths were configured and in those even one data path was not accessible for some reason then the other data paths which were actually accessible were also not shown in the Add dialog.
WG-11396	Auto DRA check box switches OFF automatically and cannot be switched ON for some images.	The check box now remains in the selected state.
WG-11393	Hidden layer with the legend expanded doesn't have a smooth transition while changing the order in the Contents panel.	The layers in the contents panel can now be smoothly rearranged.
WG-11390	At times, clicking on a feature with Identify tool activated would pan away from the feature.	The view no longer moves when the identify tool is used.
WG-11389	Grammar error/typo in smart bar overview tool tip.	The spelling in the tool tip has been corrected.
WG-11347	Stereo layer name in contents panel does not match the name of the shoebox entry	The layer name in the contents panel now matches the name in the Shoebox.
WG-11326	Metadata is blank for img format images.	An informational message is now displayed if no metadata is available instead of just presenting a blank screen.
WG-11324	Errors in the Console while trying to remove a layer from the Contents panel after changing the order.	The errors no longer occur when removing the layer as described.
WG-11314	Features with Polygon and LineString cannot be added to a FeatureCollection (only their multi counterparts)	These types of features are now handled correctly.
WG-11319	Installation manual is launching release guide.	The proper document is now included.
WG-11291	Typo in OLH in Configure Stereo Pair Shoebox Entry paragraph	This has been corrected.
WG-11286	M.App X UI goes blank if the map report is launched second time with a non-georeferenced image displayed in the map.	This has been corrected.

WG-11285	Need to have clear licensing messages based on the scenario rather than a generic one.	The licensing messages have been made clearer and more specific.
WG-11255	With two rasters displayed, trying to change opacity for one raster after the other results in errors in the console.	This has been corrected and errors are no longer thrown.
WG-11233	Shoebox name gets dimmed out after getting back from browsing the items contained in a NITF file.	Clicking on the filename now properly returns to the parent shoebox entry.
WG-11232	Nudgers in Firefox don't seem to work.	The nudger on number controls now work properly in Firefox.
WG-11207	Warning message shows up while clearing the text in input field of Snail Trail dialog.	Warning messages are no longer generated in this scenario.
WG-11108	Need a way to get the file names from the entries in the shoebox if the tooltip of OFF.	Tool tips which carry information such as filenames now always display regardless of the preference.
WG-11043	Altering the position of a layer would make it disappear in the Contents panel when displayed in 3D Mode.	The layer tile no longer disappears when moved in 3D.
WG-10855	Add to shoebox result list unchecks items when more results are being loaded in.	
WG-10849	Fails to show appropriate results while searching for image data in files tab when user performs same operations on multiple browsers.	The correct results are now displayed.
WG-10824	The coordinates field doesn't reset and still shows information even after map is cleared.	The coordinate field is cleared when the map is cleared.
WG-10783	Alignment of the Show Related Images dialog isn't good in Split view mode.	The Show Related Images dialog now scales appropriately for the view size.
WG-10744	Update OLH for the behavior when Mosaic is run with Polygon Areas File option.	The help now describes that after generating multiple outputs the user must discover and add them to the shoebox.
WG-10645	It could get difficult to select Text with Arrow Annotation element for editing.	The arrow rendering has been modified to avoid this problem.
WG-10187	Generate RSETs fails with TIF files stored on shared storage.	The problem in RSET creation in this scenario has been corrected.
WG-10070	Lag is observed while moving the mouse over the Terrain Profile graph.	The rendering has been changed to remove this latency.
WG-9731	Layout issue in collection bar causes collection cursor to appear on area covered by the bar itself.	The contents of the collection bar now reflow correctly when the bar is narrow as in split screen.
WG-9730	Extended Grid remains on screen after Clear View is clicked	The grid is now removed when the view is cleared.
WG-9728	Z column is not filled when collecting points in Adjust 3D	The Z value is now automatically collected and displayed.

WG-9692	The legend should remain visible even after changing symbology.	The legend is no longer temporarily removed.
WG-9610	Failed to change the attribute values for all the selected features when we select multiple features using Polygon/Rectangle tool.	This has been corrected.
WG-9479	The parent selection isn't removed after adding the selected feature class.	The checkbox on the parent folder is now appropriately cleared.
WG-9354	Map display isn't totally cleaned while performing Generate RSETs.	This has been corrected.
WG-9258	Copy|Move for annotations doesn't make a copy of the annotation file	The annotation file is now duplicated when it is copied.
WG-8864	Need rephrasing in couple of dialogs.	The Elevation Sources dialog and its associated error message have been changed to make the text clearer.
WG-8644	It could be a bit difficult to change/enter value for Offset field in Contents panel.	The stereo offset slider now updates only when the slider is released. This eliminates the problem.
WG-8588	Fit to Frame after some pan and zoom while flicker option is ON, would stop flicker with the same option still shown as ON.	This has been corrected.
WG-8533	The View Menu doesn't go away even after clicking in the map view.	This has been corrected.
WG-7809	Stereo offset isn't being retained.	The offset is now retained for the image pair while it is displayed.
WG-7691	Create Slope Map output file name field resets when process finishes	The output name is not changed until a new input is given.
WG-7688	Raster Expurgation automatically resets output file name inputs after it runs	The output name is not changed until a new input is given.
WG-7687	Remove Elevation Spikes automatically resets output file name inputs after it runs	The output name is not changed until a new input is given.
WG-6774	Scroll bar in the extended grid panel does not appear in the correct place	The scrollbar is now in the proper location.
WG-1210	Process status does not stop spinning when an error has occurred.	Errors are now detected and the status stops spinning.

Issues resolved – M.App X 2022 (v 16.7.1)

CR #	Summary	Description/How to reproduce
WG-11857	Warning message shows up every time login is done If the optional parameters in the custom model are not used during the execution	The problem has been fixed and the messages no longer appear.
WG-11923	Display Method names in the Adjustment panel do not match the names used in ERDAS IMAGINE	The names in these scenarios have been changed to match for improved consistency.
WG-12011	File upload fails sometimes	When uploading files using the "Add to shoebox" dialog the files are broken into smaller chunks. Based on the file size this process could produce chunks that were larger than a desired limit (2MB). This would cause seemingly random failures during file upload.
WG-11692	Labels in the Contents panel do not match Display Method names in the Adjustment Panel	The names in these scenarios have been changed to match for improved consistency.
WG-11822	Improved error handling of timed out requests	Some requests that had timed out were not being properly detected and handled. This has been corrected.
WG-11979	Improved the UI of the "Add to Shoebox" dialog on smaller screens and in split view	Some items were not properly arranged when the display was reduced too far. This has now been corrected.
WG-3291	Improved handling of non-georeferenced images	The application no longer allows displaying such images in the map view.
WG-2635	Create Stereo Pair geoprocess handles output file names with dots	It is now possible to create output files with names like "foo.left.img" and "foo.right.img".
WG-9234	Build in printing templates "AI Tempalte" and "Basic Map" templates handle non-georeferenced images	The templates failed to load for non-georeferenced images
WG-7419	Classify feature geoprocessing service is failing if the output file name contains a parenthesis.	It is now possible to use parenthesis in the name of the output file of "Classify Feature" geoprocess - "foo(bar).shp" is a valid filename.

About Hexagon

Hexagon is a global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications.

Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Safety, Infrastructure & Geospatial division improves the resilience and sustainability of the world's critical services and infrastructure. Our solutions turn complex data about people, places and assets into meaningful information and capabilities for better, faster decision-making in public safety, utilities, defense, transportation and government.

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