



HEXAGON

Release Guide

Release Guide

M.App X 2020 Update 3 Version 16.6.3

24 March 2021

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About This Release

This document describes the latest enhancements, fixes, and system requirements for M.App X. Although the information in this document is current as of the product release, see the [Hexagon Geospatial Support website](#) for the most updated version.

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 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 2020

M.App X 2020 supports Microsoft® Windows Server 2016 and 2019.

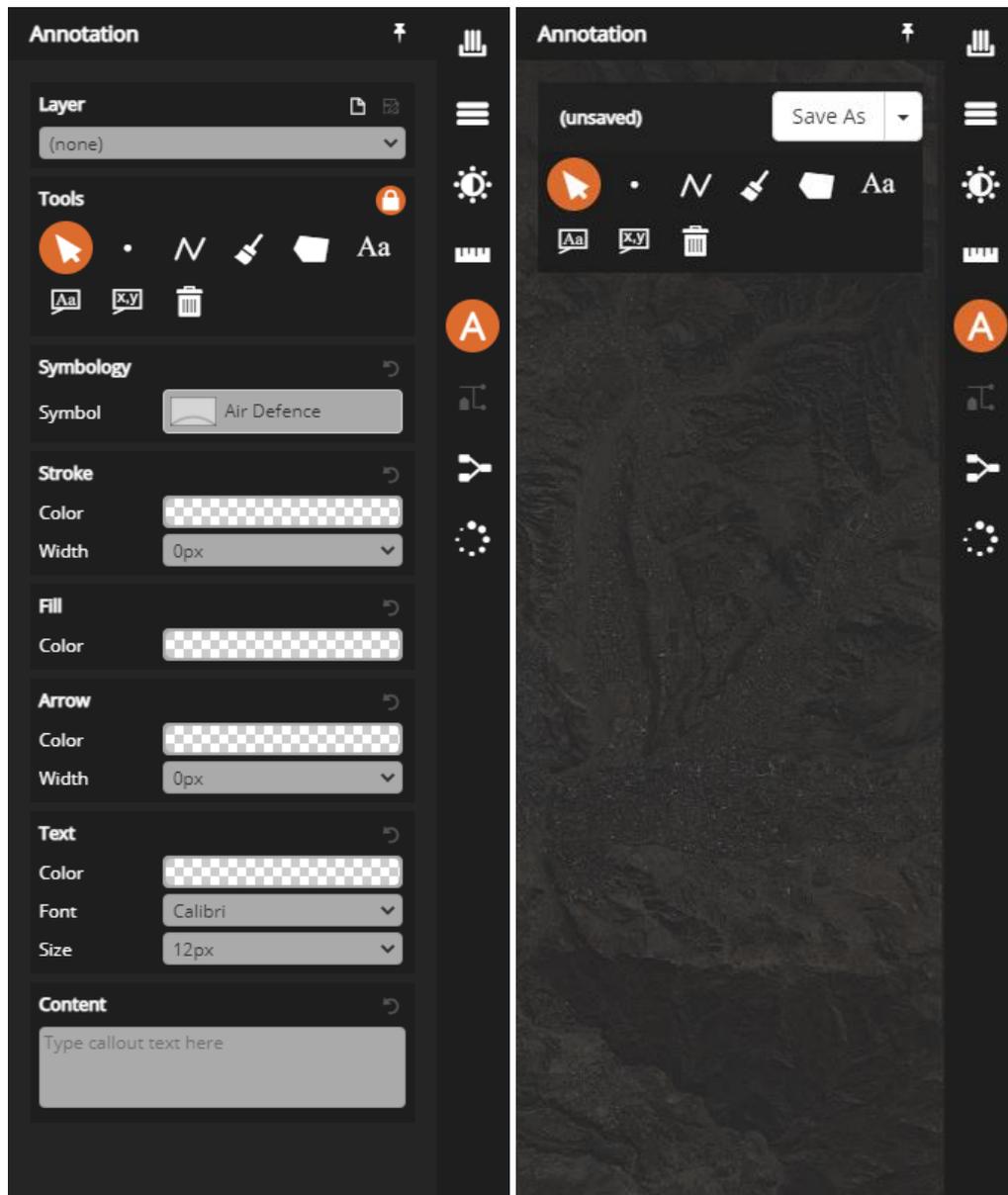
New Technology – M.App X 2020 Update 3

User Facing Improvements and Additions

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

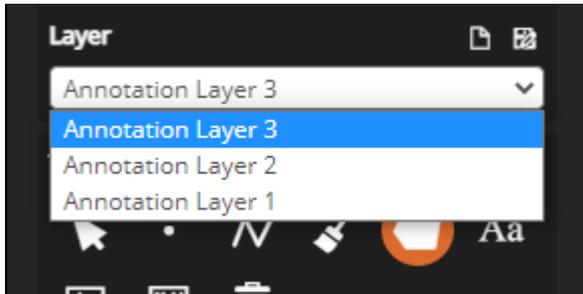
Improved Annotation Panel User Interface

We have improved the style of the Annotation Panel to use the space more efficiently and reduce clutter. In the current version, all style controls are visible. Additionally, it is now possible to toggle if the annotation tools work continuously or stop after adding an annotation.



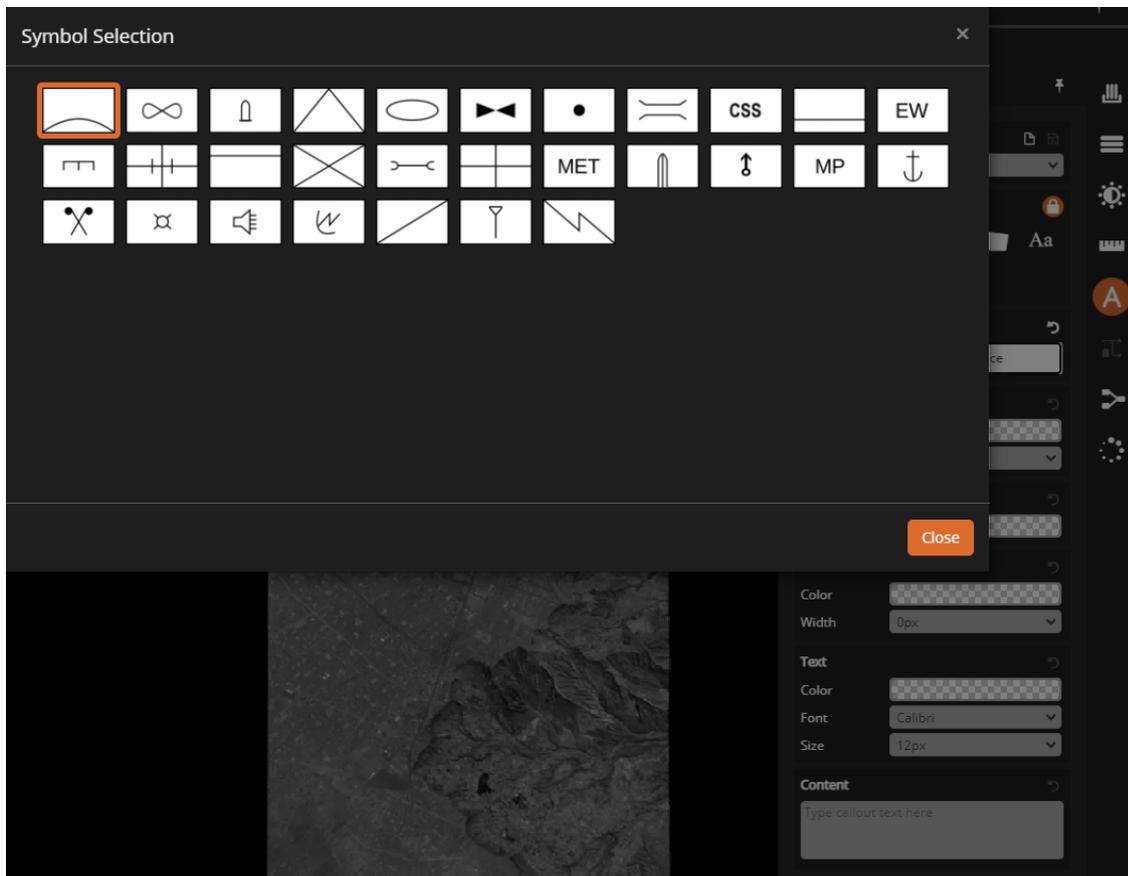
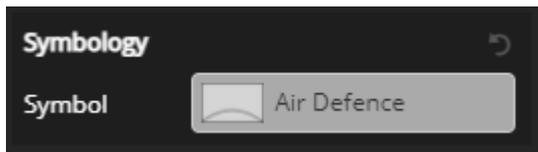
Ability to Select and Edit Specific Annotation Layer

In previous versions of M.App X, users could only edit an annotation layer located at the top of the list in the contents panel. Update 3 allows you to select the annotation layer you want to modify within the annotation panel.



Enhanced User Interface for Symbol Selection

The annotation symbols selection is now moved to a separate dialog. You can also add additional symbols using the Application Programming Interface (API).

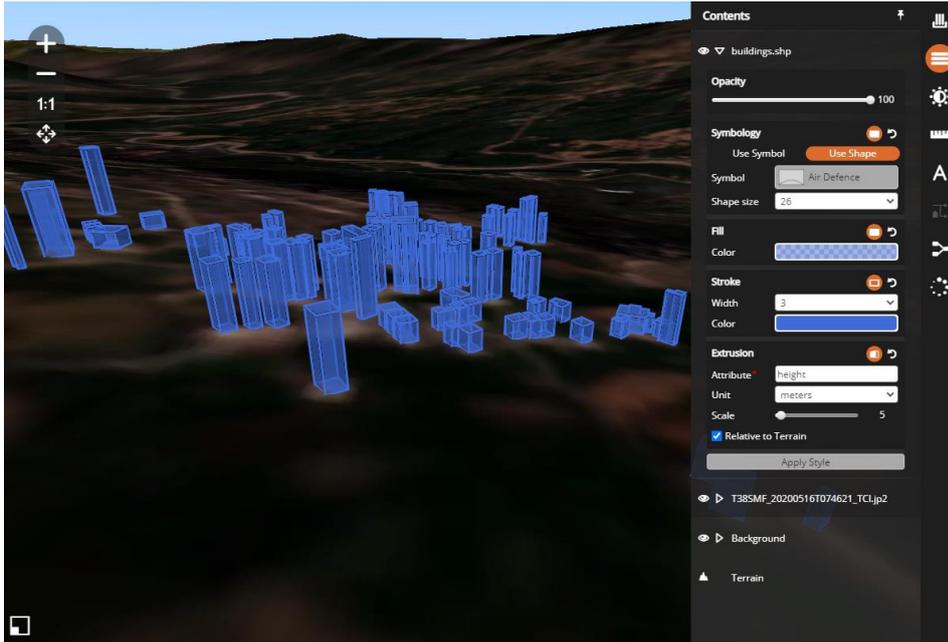


Extended the “Center map at” Action

In previous versions of M.App X, this action required formatted coordinates string (e.g., “36°40’28.0989”N 44°19’25.4286”E”). In Update 3, you can center the map using raw coordinates.

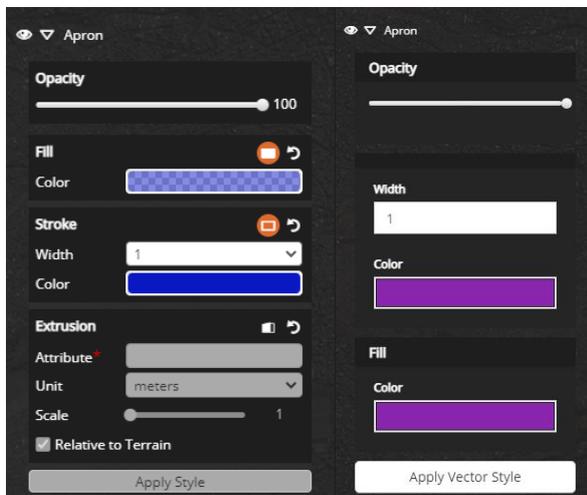
Updated Feature Style Panel and Added Vertical Exaggeration

Update 3 extends the contents panel entry for the feature layer using a new user interface. This interface allows you to configure the feature extrusion properties for a given feature layer.



Contents Panel Improvements

We have updated the user interface of the contents panel entries to use the space more efficiently and reduce clutter. Additionally, we have extended the entries for feature layers with a user interface that allows you to change the style of point features. You can represent the point features either as a circle with given radius or by using the symbols.



Feature Info Dialog Uses Aliases

In Update 2, the *Feature Info* dialog displayed raw feature data. In Update 3, you can configure aliases. Below, you can see the *Feature Info* dialog uses aliases in Update 3 (pictured left) compared to raw data in the dialog from Update 2 (pictured right).



Building		Building	
Identification	6	hgt	0
Usage	12312	id	6
Height	0	uid	6
Feature universally uni...	6	use	12312

Recall Last Used Parameter Values in the Geoprocessing Forms

We extended the API to allow persistence and recall of geoprocessing form parameters between model executions, including reloading the application in the browser. All built-in geoprocessing forms recall previously used parameter values.

Adding as Feature no Longer Requires Crawling LuciadFusion

This update greatly reduces the time it takes to add a shapefile feature to the shoebox.

Installation and Administration

The following items describe improvements or changes in the product installer or the capabilities or experience in the administration tools.

Ability to Configure Backend Application Pool Identity in the Configuration Wizard

This update gives you control of the account under which the backend runs.

Added Support for Maintenance Permanent Licenses

The Maintenance variants of standard permanent licenses now work with the M.App X.

API Improvements and Additions

The following describe changes made to the API which support integration and customization of M.App X.

Ability to Specify Custom WMS Request Parameters

Update 3 extends the API to allow configuration of custom parameters for WMS tile requests.

API Now Uses Custom 3D Terrain Source

This update allows developers to override the single 3D terrain source which is set at configuration time.

API Now Specifies 3D Terrain Source Options using Luciad Terrain Source

Developers can pass options that affect the terrain delivery to LuciadFusion.

Exposed Geometry Editing API for use in Geoprocessing Forms



The geoprocessing forms can now collect a geometry and allow the user to modify it. Previously, if you wanted to modify the collected geometry, your only option was collecting the entire geometry again.

Online Guide for Adding New Geoprocessing Panels

Our updated tutorials describe the step-by-step process of adding a new, custom geoprocessing form. Additionally, we have prepared several samples that instruct you how to use the API.



New Technology – M.App X 2020 Update 2

Make Geoprocessing Panels Modular

A key feature of M.App X is the ability to create and add new types of geoprocessing solutions based on Spatial Modeler technology. However, until this update, the process of integrating a new geoprocessing panel involved a lot of manual modification of configuration files, which made the process difficult and problematic when upgrading to next version because all of the same configurations had to be repeated.

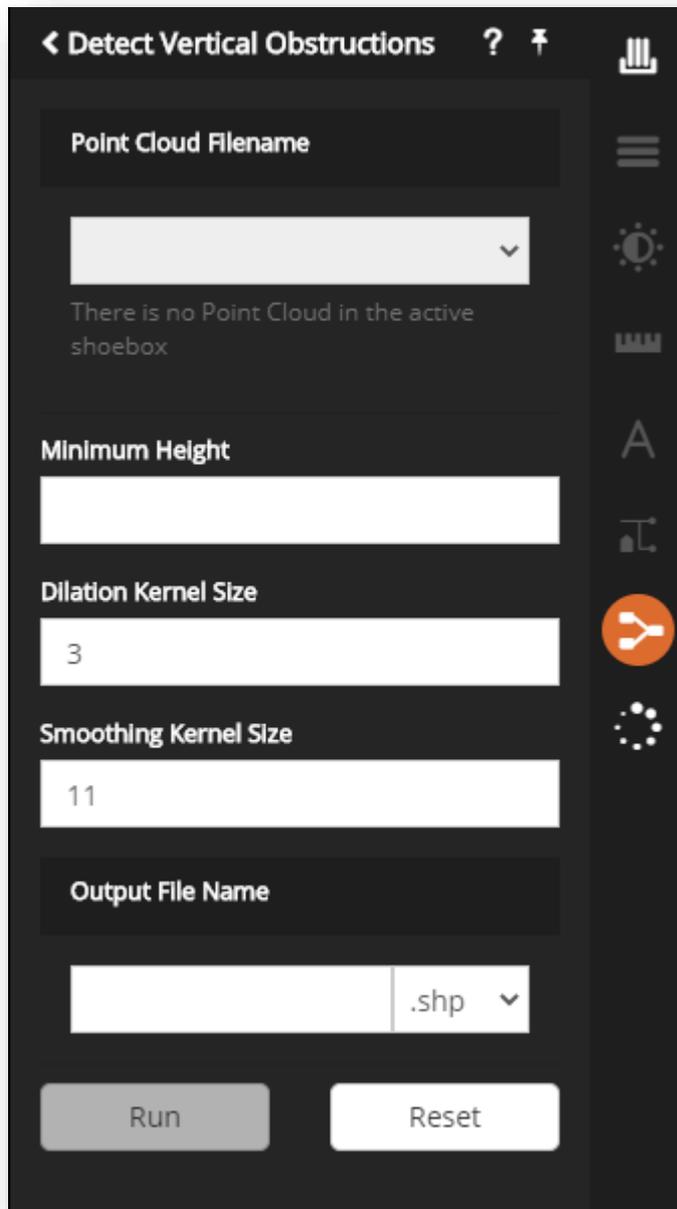
With this update, the whole mechanism of discovering geoprocessing panels has been made simple. Once a spatial model and panel javascript (and even HTML help) have been developed, they are delivered as a single folder placed into an extensions area on the server. Once this is done, refreshing the client application will cause the new panel to be discovered and made available to the user. In addition, nothing needs to be done when the software is upgraded.

Added Support for Geoserver Features from PostGIS

Editing features coming from PostGIS via Geoserver were not supported until this release. Now PostGIS can be used as the feature source when working with Geoserver, for both display and editing

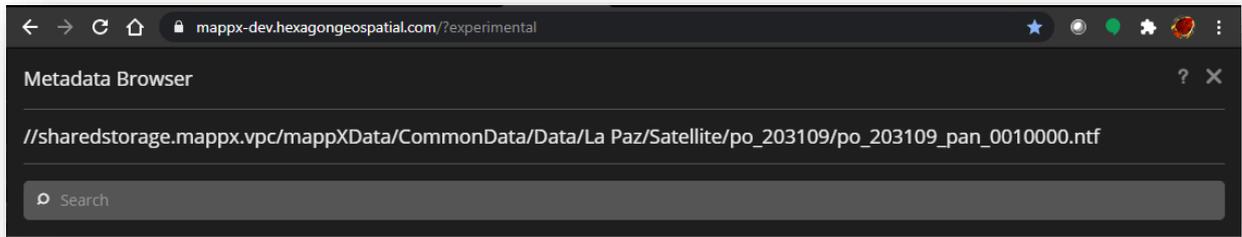
Added Help Button to Geoprocessing Panels

While each of the Geoprocessing Panels has always had online help available, users had to search for the panel in the online help. Since it is common for a user to want to consult the help about the purpose of the particular geoprocessing function and get more detailed information about the inputs, a new help button has been added to the top of each panel. The button displays the specific page in the help for the geoprocessing panel in question. The help button is a question mark (“?”) that appears to the right of the panel title and to the left of the pushpin.



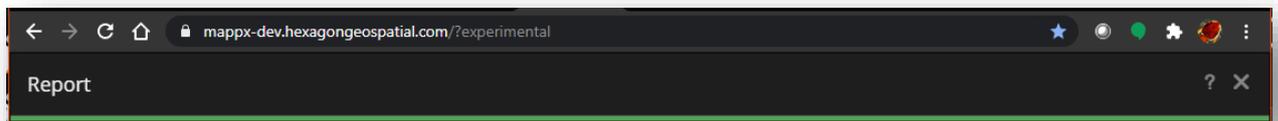
Added Help Button to Fullscreen Modal Dialogs

Fullscreen dialogs such as Metadata Browser and Add, Report or Show Related Images hide the help button on the main view, which previously meant that to consult help it was necessary to exit the dialog. Each of these dialogs now has a help button that displays the help for that specific dialog. The help button appears as a question mark (“?”) on the top right of the dialog to the left of the dismiss button (“X”).



Added Loading Progress Indicator to Report Dialog

To provide additional user feedback, a horizontal progress indicator appears at the top of the Report window (just below the title area) like the progress bar, which appears on the main window when tiles are loading.

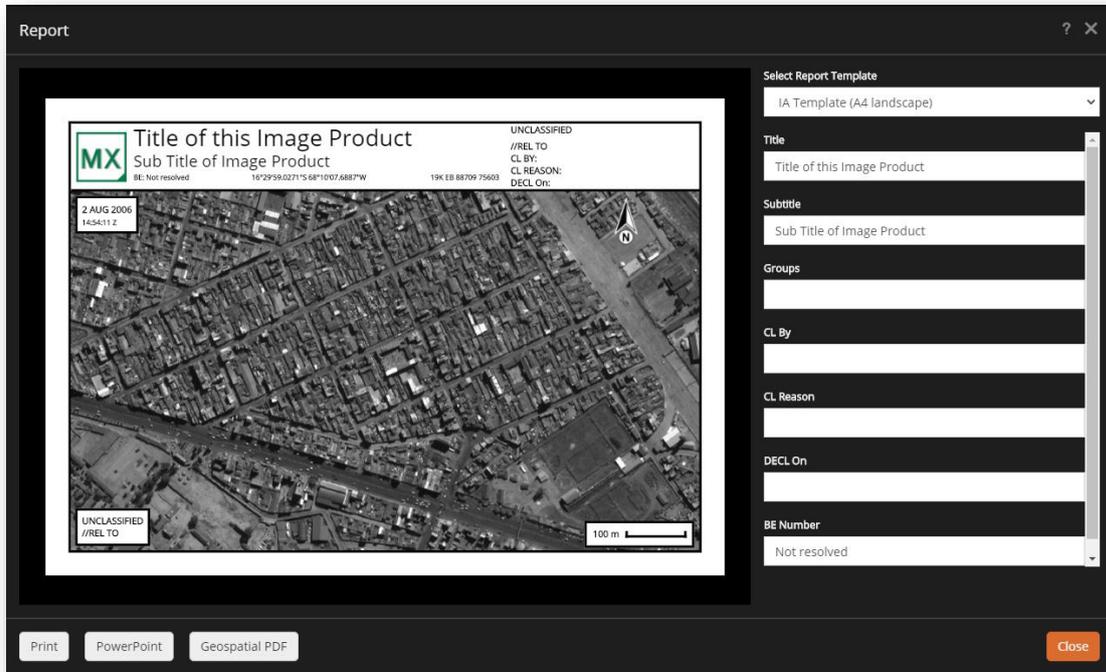


Improved Behavior of Some Geoprocessing Panels

Some geoprocessing panels would automatically close if the currently displayed image was cleared. This has been changed so that if the panel needs no interaction with the display, this no longer happens. Also, the bottom panel that appears for tools such as 2D and 3D correction now disappears when the associated panel is closed.

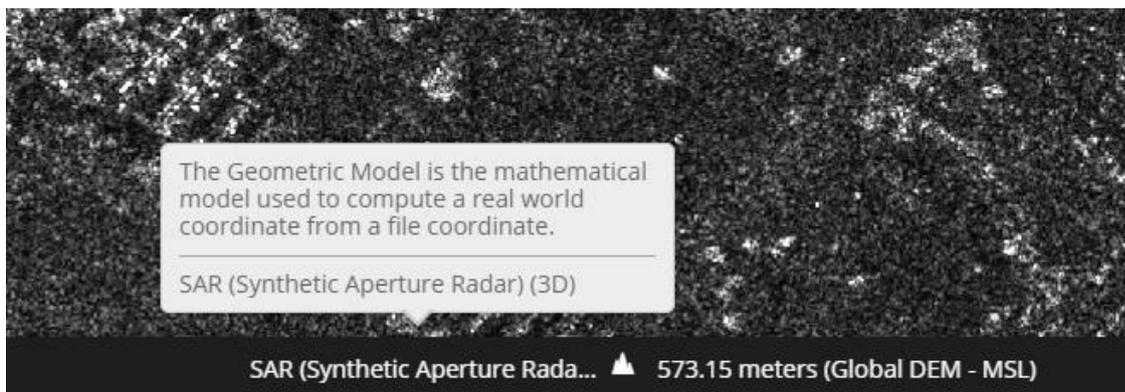
Updated Layout of Report Dialog

The layout of the Report dialog was changed to make it consistent with the other fullscreen dialogs. It now has a strip on the bottom with action buttons on the left side and a Close button on the right side.

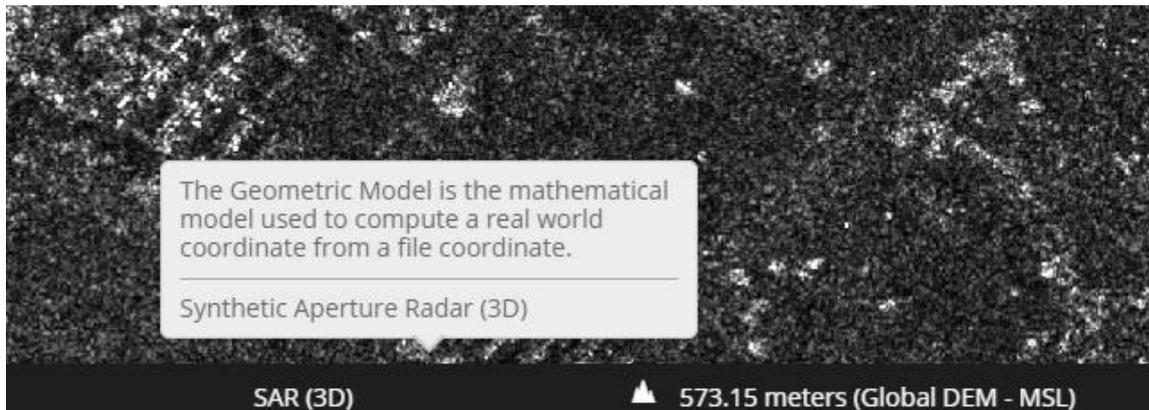


Improved Sensor Model Display in Status Bar

Some of the sensor model names are so long that they are truncated when displayed in the status bar, as shown below.

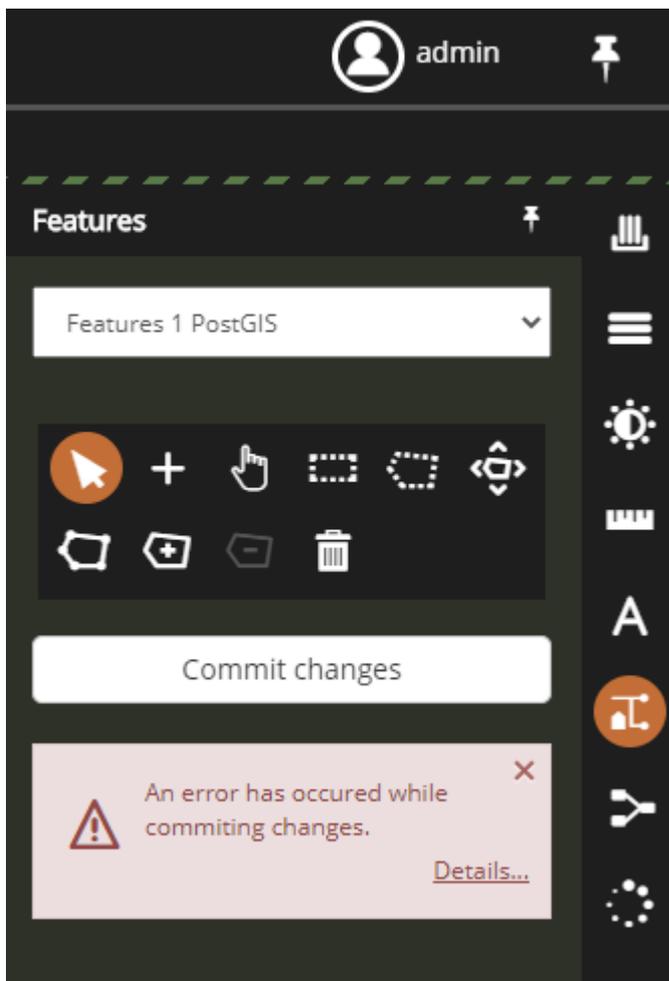


In this update, an abbreviated name is displayed in the status bar, while the whole name is displayed in the tooltip, as shown below.



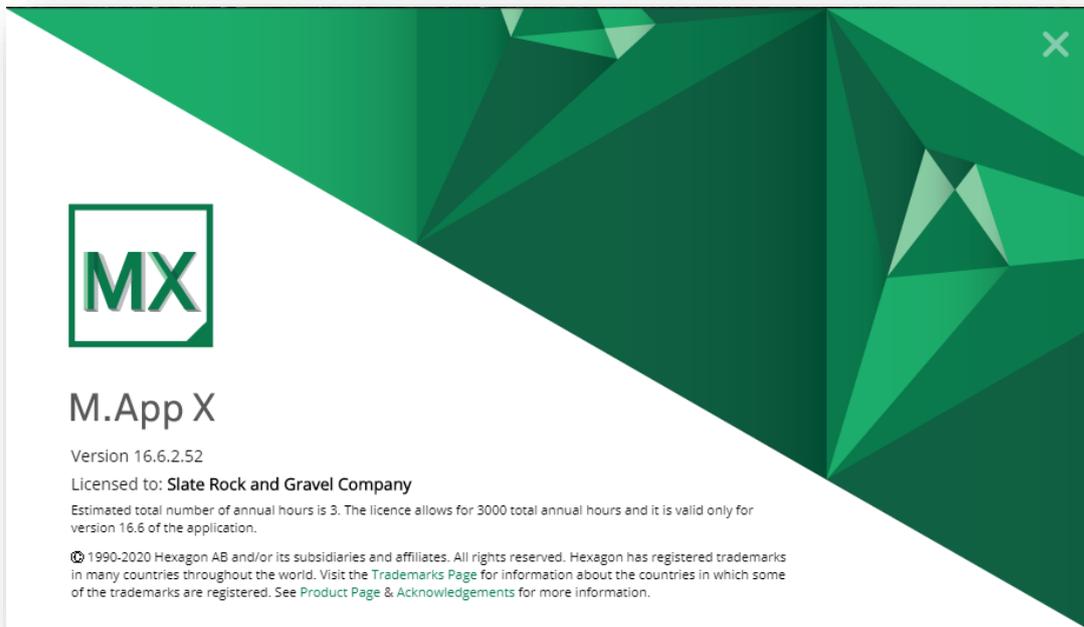
Improved Error Handling in the Features Panel

If an error occurs during a feature commit, the vector panel now displays an updated error message with a link to display details about the error.



Updated Splash Screen and About Box

The Splash Screen and About dialogs have been updated to provide more information and to make the account name easier to see.



New Technology – M.App X 2020 Update 1

Improve Handling of Print Requests Outside Report Mode

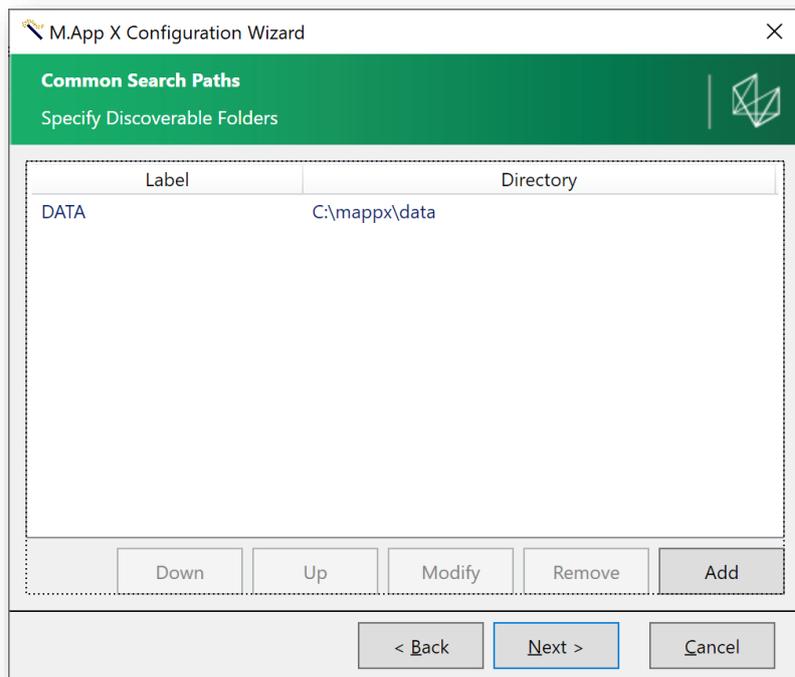
If the browser print function was used outside the Report Mode, a blank page was produced. To clarify how to print in M.App X, a message has been added to this blank page to direct the user to enter Report Mode to print.

Printing is only supported from the report mode in M.App X.

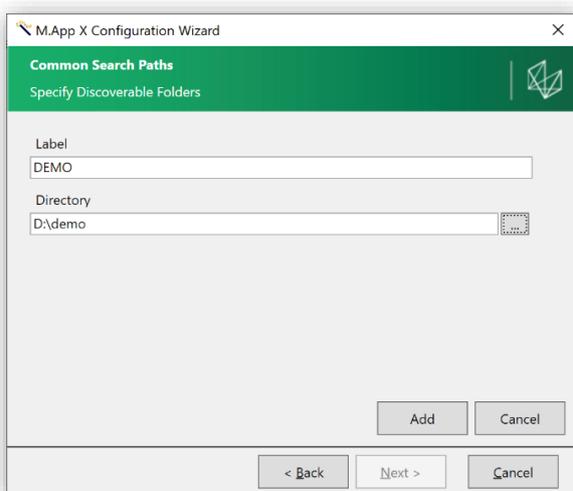
Click on the  button in the Smartbar to enter the report mode and then use the browser print function to create a printed report or save a PDF file.

Configure Multiple File Sources

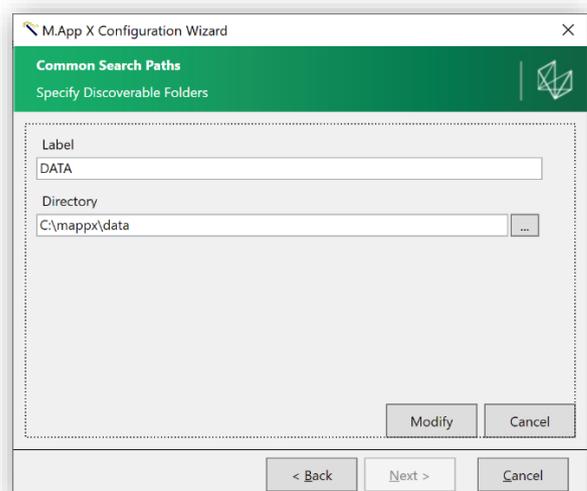
M.App X searches a server-side file store to discover data to be added to the user's shoebox. Because an organization's data may reside in more than just one file store, the backend search capability has been extended so that it can be configured to look at multiple file stores. This is done using the following three new panels in the Configuration Wizard.



List of Configured Data Sources



Add A Data Source



Modify a Data Source

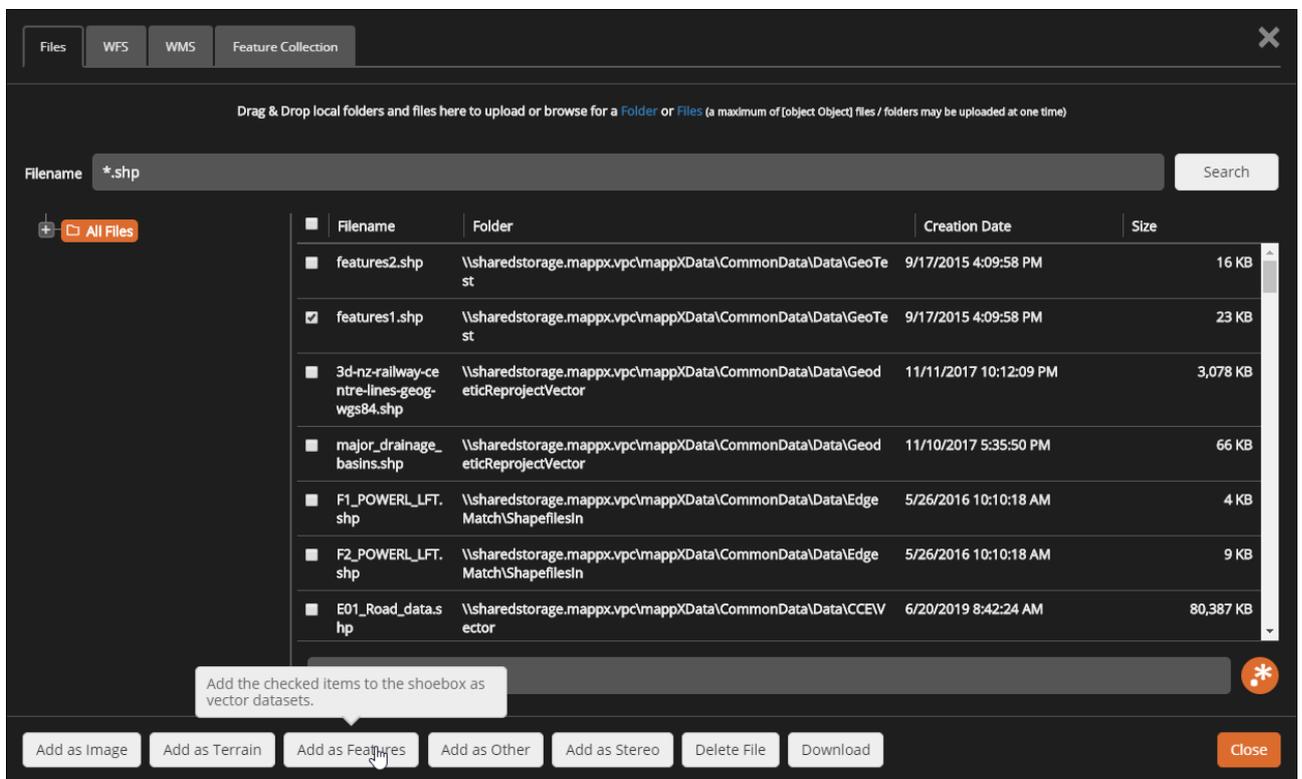
Use Themes (Dark and Light) Throughout

M.App X has had dark and light themes for the main user interface for a while. The themes have now been extended to all the dialogs, making the user experience more consistent. When using a dark theme, previously, switching to the Report or even Add dialog could be a jarring change in screen brightness.

See the items below for examples of the themes for the Add dialog.

Add Shapefiles to the Shoebox and Display

This is an optional feature that requires an instance of the Fusion Server. When this is configured, vector files (currently only shapefiles) can be selected and added to the shoebox using the “Add as Features” button. The dataset will be added to the shoebox and registered with Fusion as a WFS and can then be viewed in M.App X just like any other WFS source in the shoebox.



Files WFS WMS Feature Collection

Drag & Drop local folders and files here to upload or browse for a Folder or Files (a maximum of {object Object} files / folders may be uploaded at one time)

Filename *.shp Search

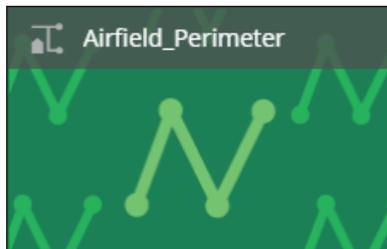
Filename	Folder	Creation Date	Size
<input type="checkbox"/> features2.shp	\\sharedstorage.mappx.vpc\mappXData\CommonData\Data\GeoTest	9/17/2015 4:09:58 PM	16 KB
<input checked="" type="checkbox"/> features1.shp	\\sharedstorage.mappx.vpc\mappXData\CommonData\Data\GeoTest	9/17/2015 4:09:58 PM	23 KB
<input type="checkbox"/> 3d-nz-railway-centre-lines-geographics84.shp	\\sharedstorage.mappx.vpc\mappXData\CommonData\Data\GeodeticReprojectVector	11/11/2017 10:12:09 PM	3,078 KB
<input type="checkbox"/> major_drainage_basins.shp	\\sharedstorage.mappx.vpc\mappXData\CommonData\Data\GeodeticReprojectVector	11/10/2017 5:35:50 PM	66 KB
<input type="checkbox"/> F1_POWERL_LFT.shp	\\sharedstorage.mappx.vpc\mappXData\CommonData\Data\EdgeMatch\ShapefilesIn	5/26/2016 10:10:18 AM	4 KB
<input type="checkbox"/> F2_POWERL_LFT.shp	\\sharedstorage.mappx.vpc\mappXData\CommonData\Data\EdgeMatch\ShapefilesIn	5/26/2016 10:10:18 AM	9 KB
<input type="checkbox"/> E01_Road_data.shp	\\sharedstorage.mappx.vpc\mappXData\CommonData\Data\CCEVector	6/20/2019 8:42:24 AM	80,387 KB

Add the checked items to the shoebox as vector datasets.

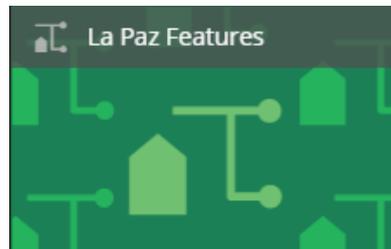
Add as Image Add as Terrain **Add as Features** Add as Other Add as Stereo Delete File Download Close

Shoebox Items Without Thumbnails Now Have Representative Graphics

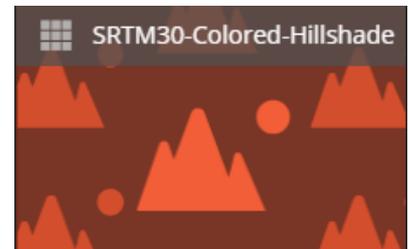
Not all items in the shoebox have thumbnails that can be displayed. Features, Annotation, Web Map Services and Other type items now each have a graphics that helps to know at a glance what is contained in the item.



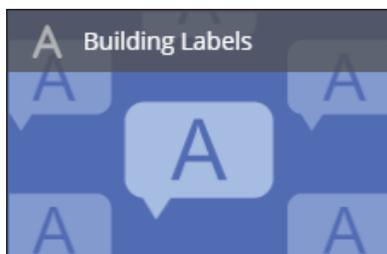
Web Feature Service



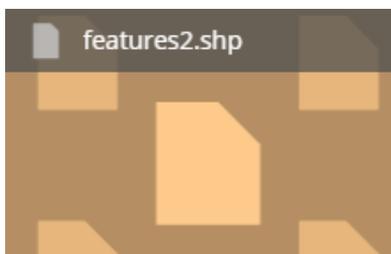
Feature Collection



Web Map Service



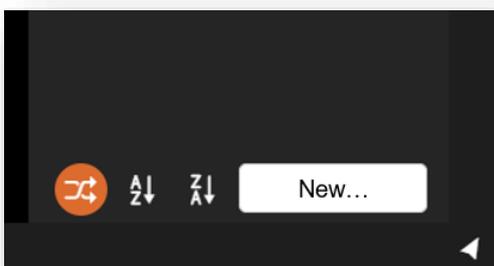
Annotation



Other Documents

Button to Create New Shoebox Renamed to “New...”

The button to create a new shoebox was named “Add...”, which is the same name as the button to add items to a shoebox. Changing the name to “New...” helps distinguish the two scenarios and prevent confusion.



Fit to Frame for Layers in the Contents Panel

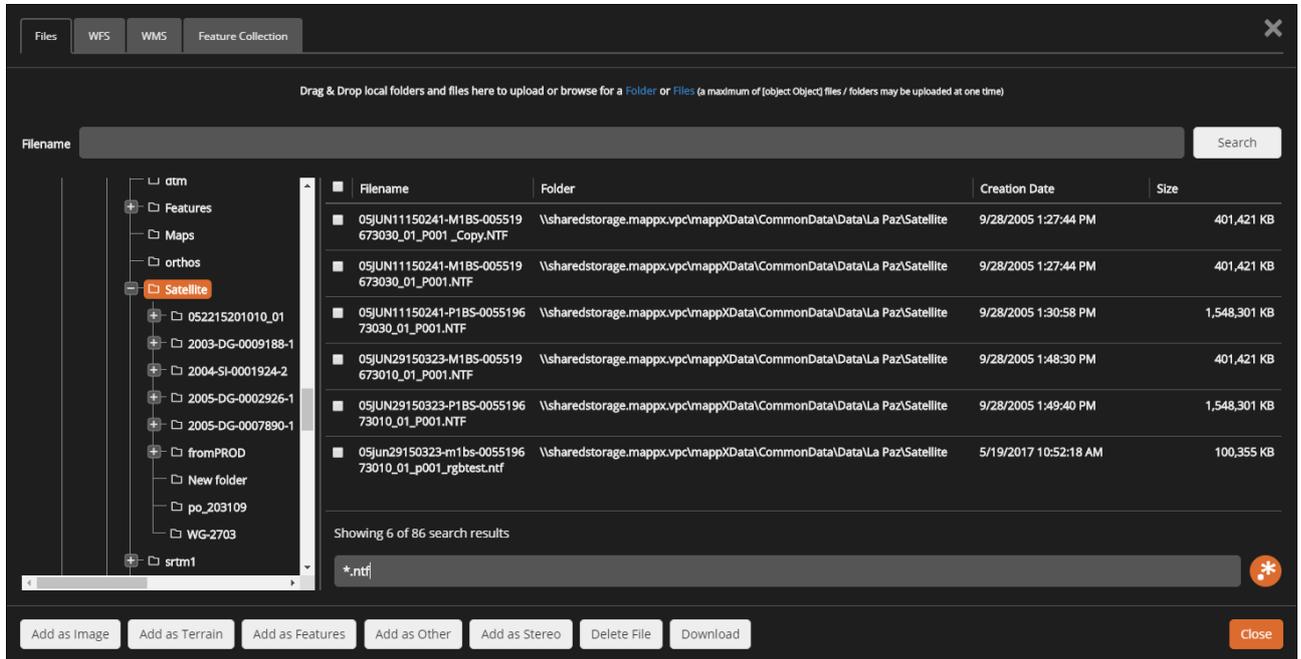
A new button on items in the Contents panel can be used to fit the associated layer to the screen. This is useful when layers do not overlap or have very different footprints, in which case one dataset may be located far off the screen. Clicking on the new “Fit Layer to Frame” button will drive the view to the dataset.



Browse Mode in the Add Dialog

The Files tab in the Add dialog has always had a search capability that would search the configured file store for the given file pattern. The results would be displayed, and a tree on the left would display the directory structure of the discovered data, which could be used to filter the data. With this update, there is an option to browse the configured data store instead. In this case, the directory hierarchy is presented first, and as the

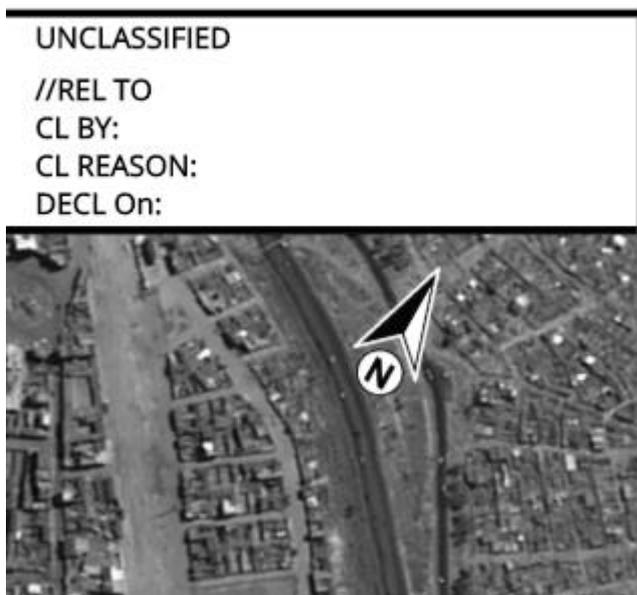
user clicks on folders, the files matching the pattern are displayed in the file list. The subfolders are exposed in the tree view.



This is very useful in the case of extremely large file stores where a search across the whole store may take a long time, especially if the folder structure is well organized. In this case, only the selected folder is searched. In addition to server side search, a client side filter at the bottom of the file list can be used to quickly reduce clutter in the list of returned filenames.

Report North Arrow Styling Improved.

The format for the north arrow graphic used in reports has been changed from JPG to PNG to be able to support transparency. This has been used to introduced improved styling for the default north arrow.



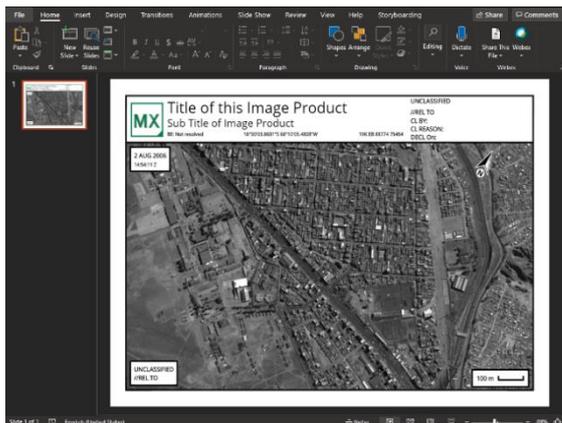
Report Templates Now Support Portrait Format

Previously only landscape report formats were supported. Support for portrait layout is now supported.

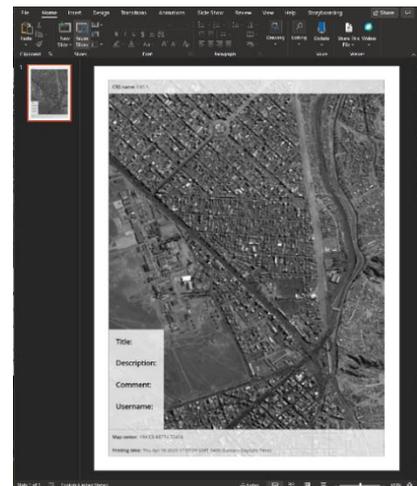


Report PowerPoint Templates Improved

Each report template can now have its own PowerPoint template. This has been used to provide an optimized template for both landscape and portrait mode layouts



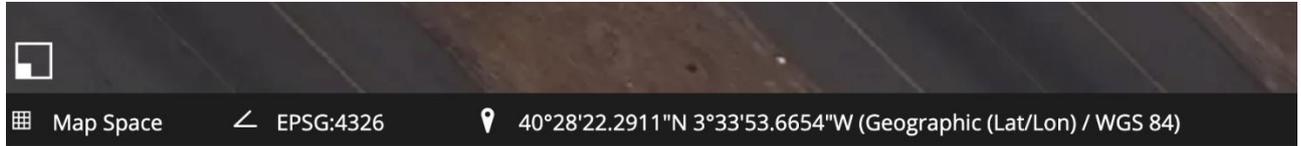
Landscape



Portrait

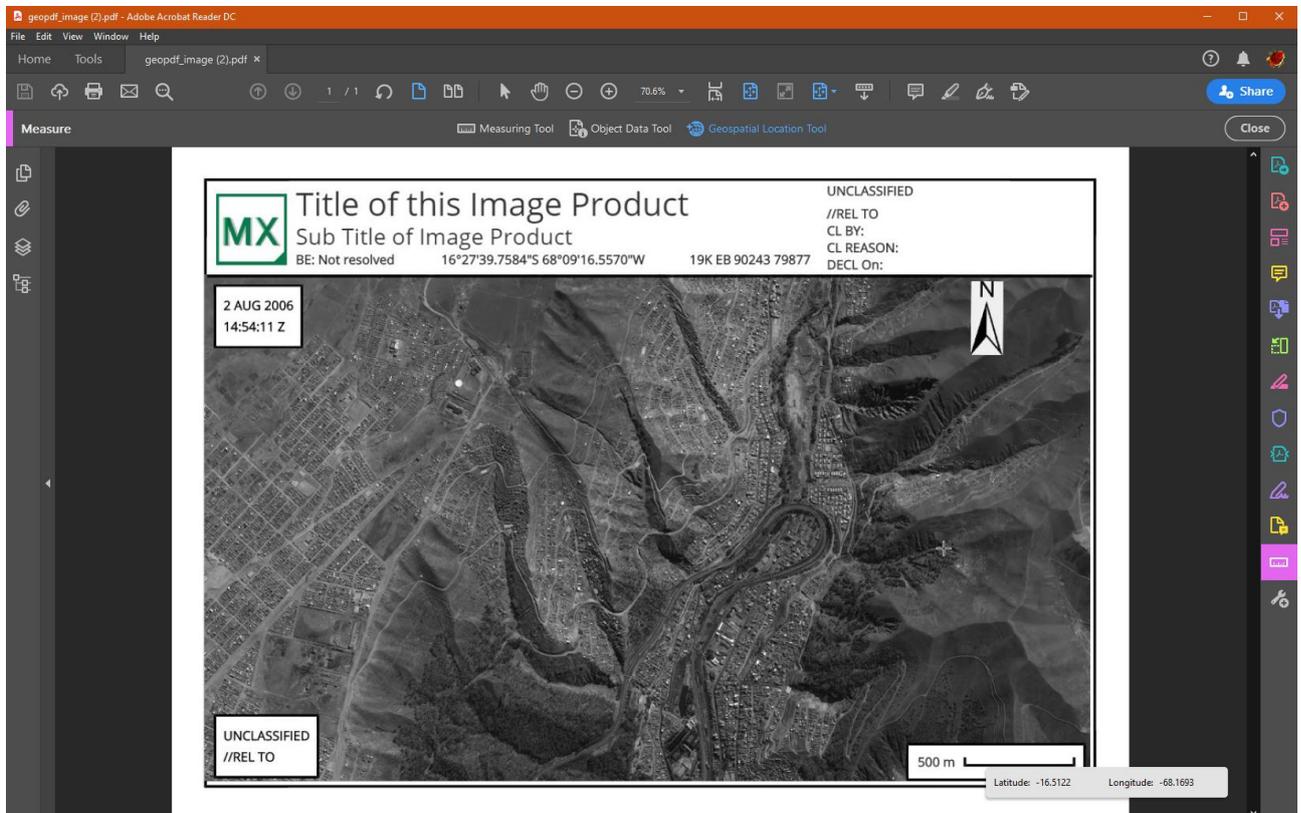
Display Coordinate System Now in the Status Bar

The coordinate reference system (CRS) used when in Map Space is now displayed as the second item from the left in the status bar as an EPSG code. The full description can be seen in the tooltip.



Report Can Now be Exported to Geospatial PDF

Report can now be exported a Geospatial PDF file. The measure tools in Adobe Illustrator can be used to indicate position and to make measurements from the layout.



Support for SICD Sensor Models (SAR Imagery in NITF)

Synthetic Aperture Radar (SAR) data stored in the NITF format is called Sensor Independent Complex Data (SICD). The SAR sensor model parameters can now be retrieved from these files and used to provide precise georeferencing information in M.App X.

Feature Operators Now Included in the Geoprocessing Engine

Generate Functional Attributes	Add functional attributes to features using feature expressions.
Define Functional Attribute	Define a functional attribute by field name and expression.

Mask Features	Masks the geometry of one set of features with the geometry of another set of features.
Intersect Features	Intersects the geometry of one set of features with the geometry of another set of features, joining them based on a spatial relationship and generating output intersection geometries.
Merge Features	Merges groups of features together based on attribute matches and/or spatial relationships, summarizing data for the groups via functional attributes.
Union Features	Unites two or more sets of features into a single combined set of features when they have identical or similar schemas.
Join Features	Joins two or more sets of features into a single combined set of features by pairing individual features from each set based on attribute matches.
Summarize Related Features	Relates one set of features (the detail features) to another set of features (the summary features) based on spatial relationships and/or attribute matches, summarizing data from the detail features onto the summary features via functional attributes.
Calculate Flow	Creates a raster where each pixel value represents the direction that runoff would flow.
Fill Depressions	Smooths a raster surface by filling in depressions, which could interfere with the modeling of surface runoff.
Accumulate Flow	Creates a raster from an input FlowRaster where each pixel is the accumulated number of pixels that flow into it.
Find Watersheds	Creates a raster identifying the watersheds that drain to the OutletRaster zones.
Interpolate Using IDW	Performs an interpolation function that uses an Inverse Distance Weighting (IDW) algorithm to attempt to create a continuous raster data set from data that is incomplete. It computes values for NoData locations based on neighboring pixels with values.

M.App X API Documentation

There is now documentation for the M.App X API to support customization of the client application.

webgis/Core/Legend/Actions/DisplayDatasetAction

webgis/Core/Legend/Actions/DisplayDatasetAction (props)

new webgis/Core/Legend/Actions/DisplayDatasetAction(props)

DisplayDatasetAction creates new legend entry with provided dataset and displays it using the given display technique. It uses the provided legend entry style reader and elevation source reader to determine style and elevation source for new legend entry. All the legend entries which have been displayed before this action is executed, will be removed. Also the map zoom and the camera position orientation will be reset to the initial values.

Parameters:

Name	Type	Description
props	Object	An object holding all the constructor parameters

Properties:

Name	Type	Attributes	Description
dataset	webgis/Core/Dataset/Description/Dataset		A dataset used to create the new legend entry
displayTechnique	webgis/Core/Legend/DisplayTechnique	<optional>	A display technique used to create the new legend entry
elevationSourceReader	webgis/Core/Elevation/ElevationSourceReader	<optional>	A component used to determine elevation source used to display the legend entry
legendEntryId	String		An id for the new legend entry
nameReader	webgis/Core/Legend/Name/LegendEntryNameReader	<optional>	A component used to determine user facing name for a new legend entry
styleReader	webgis/Core/Legend/Style/LegendEntryStyleReader	<optional>	A component used to determine legend entry style

Version: 1
Implements: [webgis/Core/Action](#)

Methods

getDataset() → {webgis/Core/Dataset/Description/Dataset}

Returns the dataset used to create the new legend entry.

Classes

```

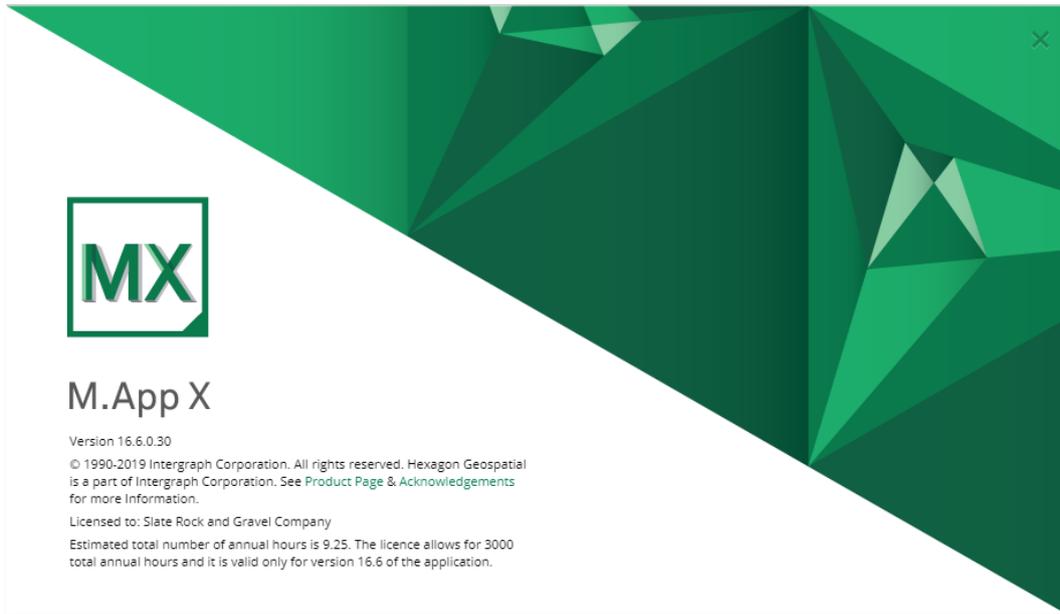
webgis/Core/Actions/ActionsHandler
webgis/Core/Annotation/Action/RemoveAnnotationAction
webgis/Core/Coordinates/CenterMapAtAction
webgis/Core/Crs/ImageSpaceCRS
webgis/Core/Crs/MapSpaceCRS
webgis/Core/Data/Geo/BoundingBox
webgis/Core/Data/Geo/Point
webgis/Core/Data/Geo/Polygon
webgis/Core/Dataset/Description/DefaultWfsFeatureSource
webgis/Core/Dataset/Description/FeatureMetadata/BooleanAttr
webgis/Core/Dataset/Description/FeatureMetadata/CrudPermiss
webgis/Core/Dataset/Description/FeatureMetadata/DateTimeAttr
webgis/Core/Dataset/Description/FeatureMetadata/Enumeration
webgis/Core/Dataset/Description/FeatureMetadata/IntegerAttr
webgis/Core/Dataset/Description/FeatureMetadata/FloatAttr
webgis/Core/Dataset/Description/FeatureMetadata/IntegerAttr
webgis/Core/Dataset/Description/FeatureMetadata/MaxLengthT
webgis/Core/Dataset/Description/FeatureMetadata/MaxValueNum
webgis/Core/Dataset/Description/FeatureMetadata/MinLengthT
webgis/Core/Dataset/Description/FeatureMetadata/MinValueNum
webgis/Core/Dataset/Description/FeatureMetadata/RegexTextCo
webgis/Core/Dataset/Description/FeatureMetadata/TextAttribu
webgis/Core/Dataset/Description/FeatureMetadata/TypeNames
webgis/Core/Dataset/Description/FeatureReference
webgis/Core/Dataset/Description/FileWfsFeatureSource
webgis/Core/Dataset/Description/GeoJsonFeatureSource
webgis/Core/Dataset/Description/Offset
webgis/Core/Dataset/Description/ServiceMetadata/WfsFeatureT
webgis/Core/Dataset/Description/Size
webgis/Core/Dataset/Description/Source/GeoJsonService
webgis/Core/Dataset/Description/Source/ImageService
webgis/Core/Dataset/Description/Source/WfsService
webgis/Core/Dataset/Description/Source/WmsService
webgis/Core/Dataset/Description/Wms/WmsServiceCapabilities
webgis/Core/Dataset/Description/WmsSource
webgis/Core/Dataset/Description/Wmts/UtilizeImage/Footprint
webgis/Core/Dictionary/MessageRetriever
webgis/Core/Elevation/IdentityElevationSourceReader
webgis/Core/Elevation/LiteralElevationSourceReader
webgis/Core/Event/RootEventDispatcher
webgis/Core/Legend/Actions/DisplayDatasetAction

```

New Technology – M.App X 2020

One Hexagon Branding

The product Icon, Splash Screen, and About Box have been changed to reflect One Hexagon branding.

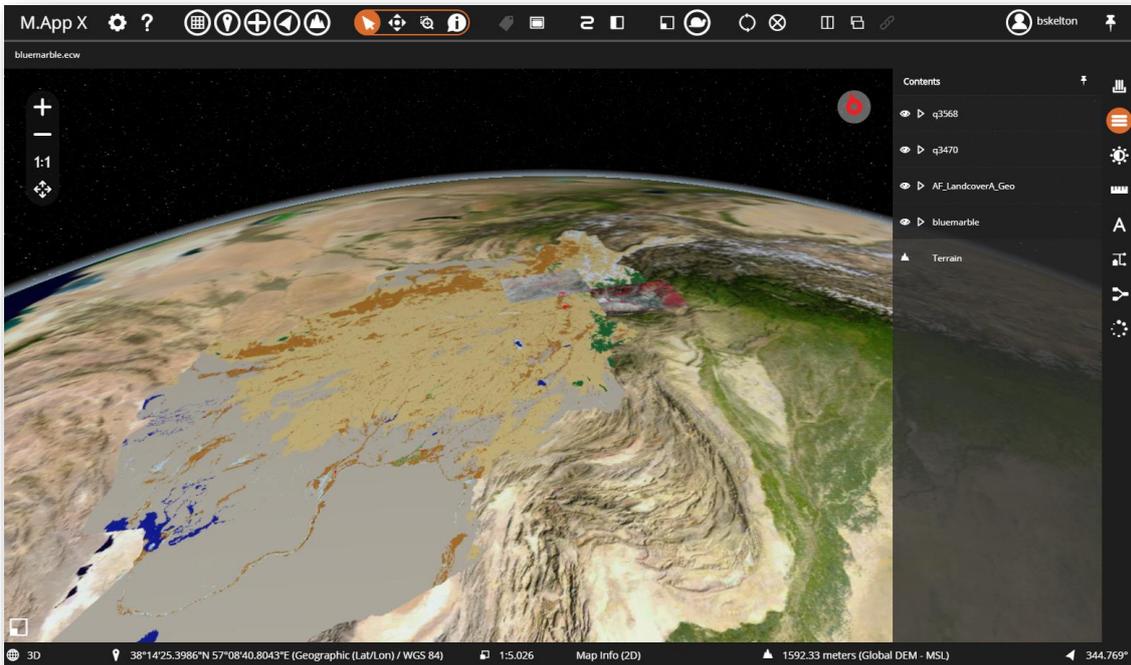


OpenLayers with LuciadRIA

The core OpenLayers mapping technology used in M.App X has been replaced and enhanced with the LuciadRIA engine. LuciadRIA is a JavaScript mapping engine that supports both 2D and 3D display modes and takes advantage of the GPU via WebGL. This technology change brings about performance improvements and enables M.App X to extend to 3D.

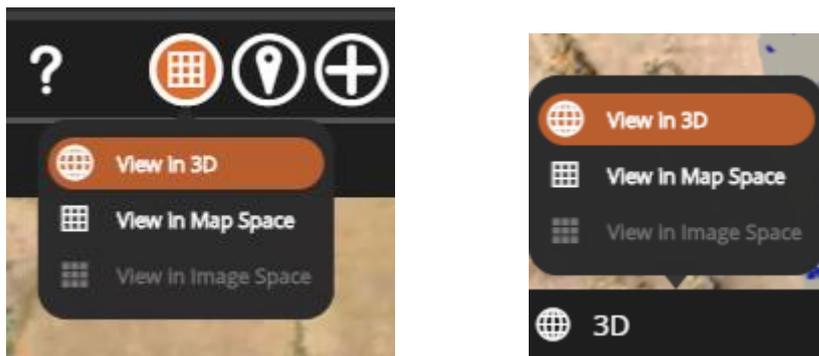
3D Display Mode

M.App X is an Image Analyst-oriented system focused on image exploitation, but the ability to view features and maps in 3D mode is useful. Using LuciadRIA technology, 3D display mode capabilities have been added. M.App X can now display imagery in 3D, optionally using terrain served from the LuciadFusion Server (if present). Features such as interactive image adjustments are also available in 3D Mode.



Switch Between Display Modes

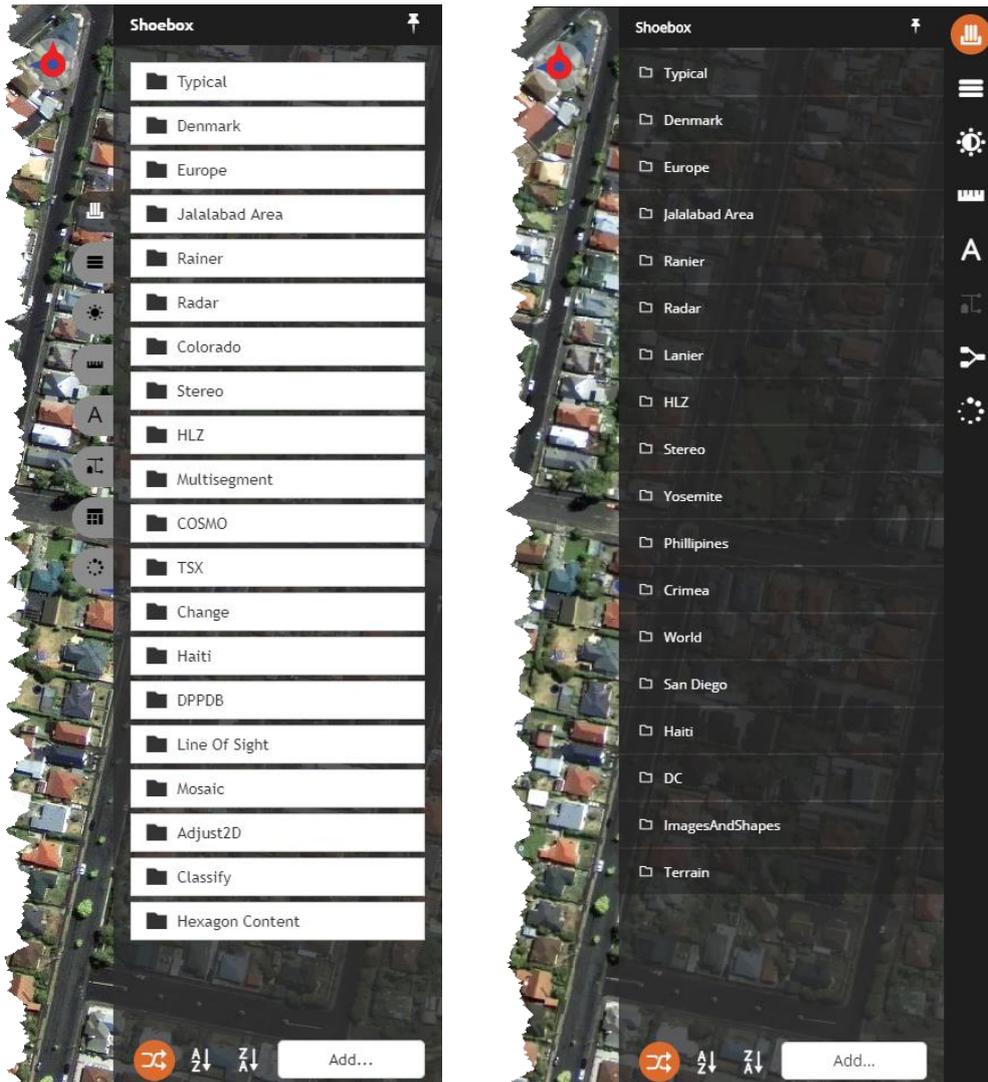
In the M.App X 2020 release, additional support includes the ability to switch between display modes. Previously, an image could be displayed “as image” or “display as map,” and a stereo pair could be displayed “as stereo”. However, there was no on-screen indicator of which mode was active and no means of easily switching between modes. A View menu has been added to the Smart Bar for better control, and a View Mode area on the left side of the status dialog displays this information.



The left side of the status bar now also includes indication of the current display mode as follows:

NavBar Replaces Tabs on Side Bar

The NavBar (navigation bar) helps users easily navigate their workflows. It is always present with a solid, opaque background. Different panels are selected using the appropriate icon, and it is now possible to hide and show a panel without moving the cursor. The currently selected panel is indicated with highlighting on the appropriate icon. The previous tabs used to control the Side Bar have been removed and replaced by the NavBar as the tabs were difficult to see, depending upon the background image (see below).



Shoebbox Style Enhancement

The style of the shoebbox folder panel has been enhanced with a dark background with white text (in dark mode) that is more consistent with the overall style. Font size has been reduced to allow longer titles to be displayed. (See the previous graphic).

Contents Panel Improvements

The style of the Contents panel entries has been improved to use the space more efficiently and reduce clutter. The layer control buttons have been moved to the left of the layer name. The hide/show button is on the left, the expand/collapse button has been updated to a triangle and located to the right of the hide/show button, and the close button appears only when hovering over the entry. This allows for more room for the layer name. Additionally, the transitions function has been removed from the Contents panel and added to a floating toolbar accessed with a new button on the Smart Bar.

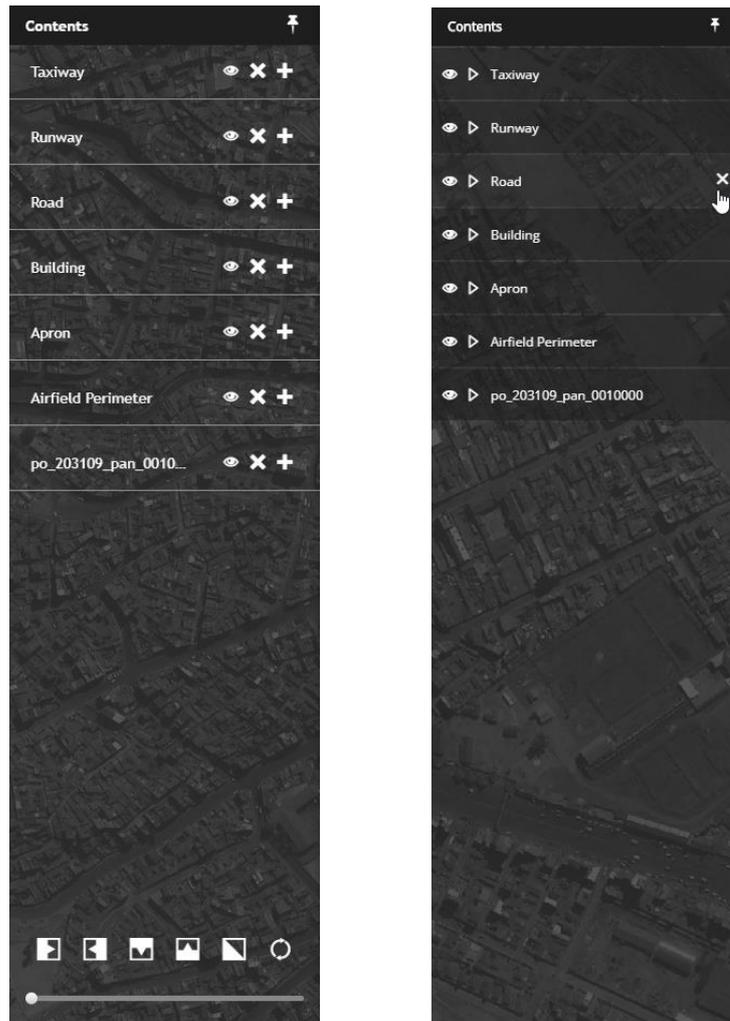
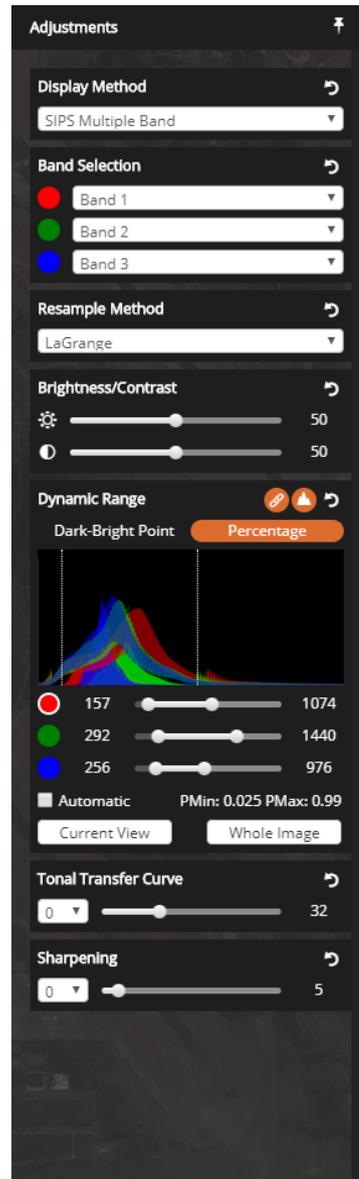
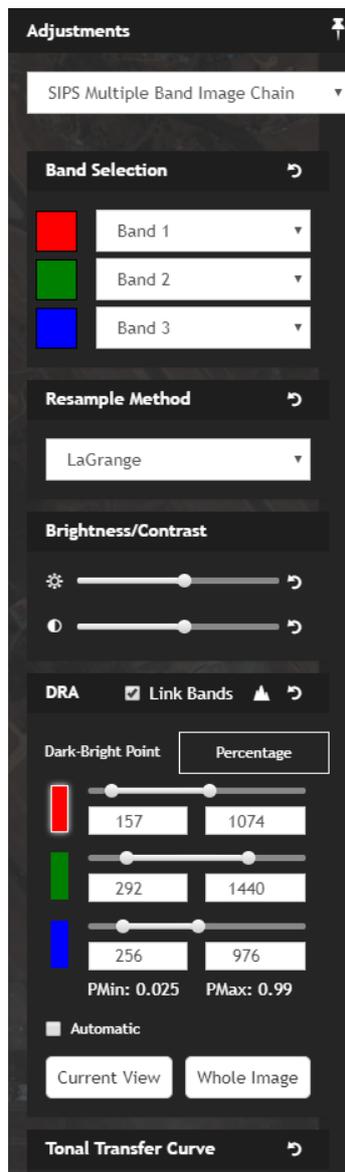


Image Adjustments Panel Enhancements

The Image Adjustments panels have a consistent style and are more functional. The presentation is compact and uniform, making it possible for even the longest panels to be visible without scrolling. New features include:

- Smaller font for labels and text
- Tighter spacing
- Reset button on each group
- All sliders have a numeric value for precise adjustment

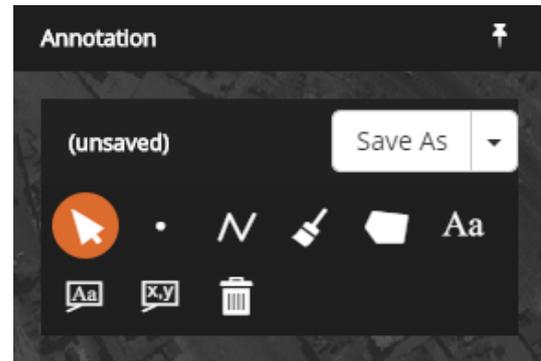
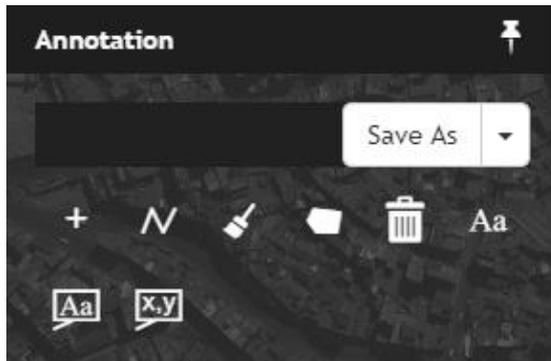


Measurements Panel Improvements

The icons in the Measurements panel tool palette have been simplified, and a pointer tool has been added. Previously, a tool had to be clicked on again to be deselected, which was not intuitive. Now, clicking on the pointer tool will deselect the current tool and set the cursor back to default.

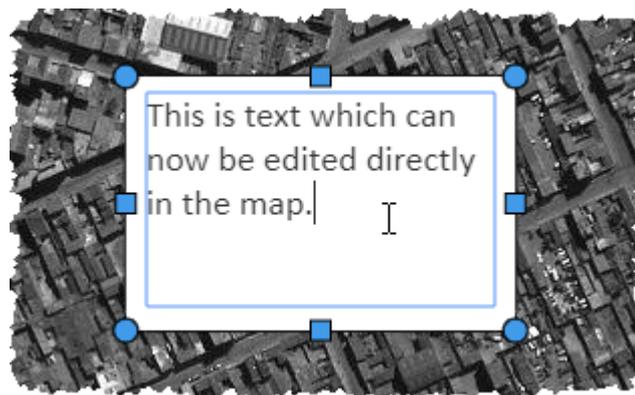
Annotation Panel Enhancements

The icons in the Annotation panel tool palette have been simplified, and a pointer tool has been added. Previously, a tool had to be clicked on again to be deselected, which was not intuitive. Now, clicking on the pointer tool will deselect the current tool and set the cursor back to default. In addition, a label indicates whether the current annotation has been saved.



New Annotation Text Rendering and Editing

Annotation text rendering now renders text as a part of the annotation layer. This means that the text stays with the layer in the stacking order and is no longer always on top. In addition, the text element now has grab handles, which makes moving, resizing, and editing text simple.



Removed Geoprocesses

The following Geoprocesses have been removed in the M.App X 2020 version, pending future replacement and/or improvement:

- Map Project Vector
- Geodetic Reproject Points

System Requirements

Server

Computer Processor	<ul style="list-style-type: none"> Xeon 2.9GHZ 4-core (or better)
Memory (RAM)	16GB (or better)
Operating System	<ul style="list-style-type: none"> Microsoft Windows Server 2016 Microsoft Windows Server 2019
Software	<ul style="list-style-type: none"> Internet Information Services (IIS) JSON MIME Type Support Java Runtime Environment Version 8 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
Operating System	<ul style="list-style-type: none"> Windows 10 Other operating systems such as MacOS or Linux are viable as the M.App X client runs entirely in the browser with no plug-ins
Browser	<ul style="list-style-type: none"> Chrome (current versions) Mozilla (current versions) Other browsers such as Safari, Opera, or Edge are viable as long as they are not mobile versions

Issues Resolved – M.App X 2020 Update 3

CR #	Summary	Description / How to Reproduce
WG-3818	When zoomed in extremely far status bar says "Infinity:1"	Status bar shows "Limit Reached" message when zoomed far enough.
WG-10201	Clicking on the help button in the geoprocessing form does not show the correct page if online help is already open.	The correct online help is displayed when the help button is clicked in the geoprocessing form.
WG-10321	Feature Info is not correctly anchored to the feature in 3D mode.	The Feature Info is now correctly positioned in 3D mode.
WG-10503	The Data Triangulation geoprocessing form allowed to specify output file formats not supported by the geoprocessing model.	The only supported output file formats are available in the Data Triangulation geoprocessing form.
WG-10568	When freehand annotation tool was active it neither panning	It is possible to pan the map using the middle mouse button and rotate it while holding the right mouse button when freehand annotation tool is active.



	over map using the middle mouse button nor rotation with right mouse button were possible.	
WG-10457	The range inputs for dynamic range adjustment section of Image Adjustment panel were auto-updating before the user finished typing.	The range inputs update only after the user finishes typing.
WG-10635	The feature info dialog was showing properties of a feature from incorrect layer.	The feature info shows the properties of a feature from the proper layer.
WG-10680	Due to floating point precision the geoprocessing model execution progress may have reported values above 100% like 100.0000001	The geoprocessing model execution progress reports only values from range from 0 to 100 percent.

Issues Resolved – M.App X 2020 Update 2

CR #	Summary	Description / How to Reproduce
WG-10100	Crs code tooltip still shows crs code when image is displayed as map or there is no image	This has been changed so that there is no CRS code displayed when there is no image displayed.
WG-10069	Verify and update geoprocessing panels that use geometry collector	Some of the geometry collection hints that are displayed in the geometry helper at the bottom of the display were misleading. These have been corrected.
WG-9907	Rubber banding issue while digitizing a polygon using the coordinates field.	There were some problems with the behavior of the rubber band line when also trying to use the tools on the geometry helper panel at the bottom of the display. These problems have now been corrected.
WG-8880	Measure height from displacement tool should be disabled on images with 2D model	Height from displacement can only be done with images that have a 3D model. The tool is now disabled if the image cannot support the function.
WG-8863	For an image displayed as Map and a DEM set as elevation source, the area outside the DEM shows up if zoomed in.	Areas outside the extent of the DEM should not show up. This has now been corrected.
WG-8590	Dragging an item in Contents Panel over the right edge of the panel causes layout issue	This would cause disruption of the layout of the user interface. This has been corrected.
WG-7909	Mosaic geoprocess don't seem to consider the change in the inputs when it is run the second time.	The mosaic geoprocess was remembering the previous inputs. This has been corrected.
WG-7405	Errors show up in the console while using some controls in the Auto Roam mode.	With some images there were errors appearing in the console during autoroom. This has been corrected.
WG-6518	Annotations displaying incorrectly in Linked View	There was a problem with synchronization of annotation in linked views. This has been corrected.

Issues Resolved – M.App X 2020 Update 1



CR #	Summary	Description / How to Reproduce
WG-7280	The reference point in a layout does not change.	Some of the layouts (IA for example) have a reference point that is populated in the marginalia when the layout is created. This point is the coordinate of the center of the map. However, it is possible to move the map contents by clicking and dragging. In this case, the reference point value should update, just like the North Arrow rotates when the map is rotated and the scale bar adjusts when the map scale is changed.
WG-7560	M.App X cannot be installed if Microsoft Visual C++ Runtime v2017 is already installed.	M.App X 2020 could not be installed on a system if there was already an installation of Microsoft Visual C++ Runtime v2017. Previously, the program had to be uninstalled first. At Update 1, this restriction is removed.
WG-7695	Adjust Georeferencing 2D workflow isn't possible with options disabled in Position menu.	The following options in the Position menu are disabled for an image without georeferencing information: Show in UTM Show in Lat/Long (DMS) Show in Lat/Long (DD) Show in MGRS But the Adjust Georeferencing 2D workflow expects these options to be enabled because this is one of the inputs for the process to execute. With these options disabled, if we execute the workflow, the output is generated but the display in the map is blank.
WG-8222	Image disappears from the overview while rotating.	The image in the overview would go blank while rotating the main view. This has been corrected.
WG-8688	Alignment of the options in the Adjustments panel in Firefox isn't the same as in Chrome.	The alignment of the text displayed in the Image Adjustments panel in Firefox isn't the same as in Chrome. Part of the text isn't fully visible. Please see the attached screenshot comparing the panel in both the browsers.
WG-8769	The first two map templates fail to load if the bluemarble.ecw file is displayed as Map.	<ul style="list-style-type: none"> • Display bluemarble.ecw as Map. • Click on the Create Report icon. Notice that in the Report window the following 2 templates fail to load. <ul style="list-style-type: none"> • IA Template (A4 landscape) • Basic map (A4 portrait)
WG-9159	Features panel crashes	<ul style="list-style-type: none"> • display a feature dataset • use select by rectangle tool • select an area where there is no features a couple of times (eventually an error message pops up InvalidArgument: revision is not valid) You cannot activate any tool any longer and app restart is required.
WG-9160	Commit Changes button was disabled in some circumstances and not allowing changes to be saved.	Problem: <ul style="list-style-type: none"> • Login into M.App X • Display ge_dg_jan_01132010_102700.ecw as image. • Add feature class 'Area/AAA012 (name as Quarries 2D)'. * Add Quarries 2D to map. • Switch to Feature panel and select Single/ multiple polygon selection. • Make sure 'Change Values for all features' checkbox is enabled if not select checkbox. Actual Result: ++ 'Commit Changes' button disabled and not allowing any changes to the feature attributes when 'Change Values for all features' check box is on. Expected Result: 'Commit Changes' button should be enabled and any changes to the feature attributes should be saved.
WG-9161	Attribute changes were not applied to all selected features when the "Change Values for All Features" checkbox is checked.	Problem: Login to M.App X Display ge_dg_jan_01132010_102700.ecw (aka Haiti image) as image. Add Feature class Area/AAA012 (name as Quarries 2D) * Add feature to map. * Select multiple polygons and enable 'Change Values for all features' checkbox. * Edit any feature attribute value and click down /up flicker

		<p>+*Actual Result:*+</p> <p>Unable to carry forward the change attributes to all selected polygons when 'Change Values for all features' check box is on.</p> <p>+*Expected Result:*+</p> <p>*The change attribute should carry forward to all the selected polygons.*</p> <p>With this update the changed attributes are correctly applied to the selected features.</p>
WG-9171	Snailtrail entries created in 16.5.2 are not handled correctly.	If a M.App X 16.5.2 system was updated to M.App X 2020 and a user's shoebox had a snailtrail entry, then attempting to open the shoebox would cause an error. That has been corrected in this update.
WG-9177	Second illustration of UI should be available in the Adjust Georeferencing 3D UI.	Within the Adjust Georeferencing 3D UI, if any other Sensor Model other than NITF RPC is selected then there would be fields available to select the RPC files of the images. This should be illustrated as a screenshot in the OLH of Adjust Georeferencing 3D UI. Please see the attached screenshot.
WG-9197	Show Related Images option is missing.	Add 09AUG24151221-P1BS_R1C1-052215201010_01_P001.NTF to the Shoebox. In the Shoebox entry of the above image, click on the top right icon drop down. Notice that the Show Related Images option is missing.
WG-9198	Labels in the Extended Grids of Adjust Georeferencing 2D and 3D are misaligned.	Please see the attached screenshot showing the Extended Grids for Adjust Georeferencing 2D and Adjust Georeferencing 3D geoprocessing panels. Notice that the labels are misaligned. The process itself works without any issues and produces outputs if the inputs are given in the appropriate fields.
WG-9301	M.App X installer fails on Turkish regional settings	The installer fails at startup when Turkish is chosen in the Format field. Semi-random testing proved that it is very specific - the following settings work correctly: English Polish Dutch Chinese Darsi(Afgan) Syrian

Issues Resolved – M.App X 2020

CR #	Summary	Description / How to Reproduce
WG-7948	M.App X does not respect supported formats information from WMS capabilities	<p>GetCapabilities request of WMS returns information about supported formats by the server. Some servers do not support all the formats which browsers do. This seems to be an issue especially in case of WebP format which is relatively new and is not supported by some servers. M.App X tries to use WebP by force if the browser supports it.</p> <p>Capabilities of WMS are being read by M.App X but the information about supported formats is not used and even lost at some point.</p> <p>Once a new legend entry is being created additional information should be requested. It is important not to store information about supported formats in a</p>



		shoebox entry. Otherwise even if the configuration changes, M.App X will not respect new settings/capabilities.
WG-7848	Configuration Wizard does not allow to enter '.' or '-' (typing on a keyboard)	During E-mail account configuration and typing a hostname, it is impossible to enter a dot or a dash using a keyboard. It is possible to paste such a hostname from a clipboard, but it is impossible to do so by typing.
WG-7821	Identify feature option should be enabled only when features layer is displayed.	Identify feature option should be enabled only when features layer is displayed. It should be disabled if there is no features layer.
WG-7672	Reset for band combination of TrueColor Image Chain doesn't work and errors pop up in the console.	<ol style="list-style-type: none"> 1. Display any multispectral non-NITF image (ex: ge_dg_jan_01132010_102700.ecw) in the map. 2. Go to the Adjustments panel and change the band combinations. 3. Click the Reset option for the band combinations. <p>Notice that the band combinations don't reset and errors appear in the console.</p>
WG-7620	Changing SIPS Multiband Auto DRA throw console errors for non-NITF TrueColor images	<p>If you display a non-sips True Color image and start manipulating SIPS DRA settings, you will see errors in the console.</p> <p>Steps to reproduce:</p> <ol style="list-style-type: none"> 1. Set SIPS Default Auto DRA Behavior to Off in User Preferences 2. Display ge_dg_jan_01132010_102700.ecw as Image 3. Go to Adjustments panel 4. Select SIPS Multiple Band Image Chain 5. Now do either of following things: 6. check "Automatic" checkbox in "DRA" section 7. click "Current View" 8. click "Whole Image" button 9. try to adjust specific band using slider
WG-7619	Single click doesn't check the box for Automatic option in the image chain panels.	<ol style="list-style-type: none"> 1. Display a raster as image in the map. 2. Go to the Adjustments panel. 3. Select any one of the following image chains... 4. Panchromatic Image Chain 5. PseudoColor Image Chain 6. TrueColor Image Chain 7. Scroll down to the bottom of the panel and try to check the box for Automatic option by clicking on it. <p>Notice that with the first click the box isn't checked but this option is applied to the image in the map. It is only on the second click that the box is checked.</p>
WG-7595	Deleted annotation would show up again after the layer is saved.	<ol style="list-style-type: none"> 1. Display a raster as image. 2. Get into the Annotation panel. 3. Select any annotation tool available and place the annotation in the map view. 4. Select the delete option in the Annotation panel and click on the annotation drawn in the map view to delete it. 5. Select again any annotation tool and place the annotation in the map view. 6. Save As the annotation layer. <p>Notice that as the layer is saved the deleted annotation shows up again and is saved in the layer.</p>
WG-7559	An arrow connector is added to the text with box annotation if it is moved and the annotation layer reloaded.	<ol style="list-style-type: none"> 1. Add a raster as an image in the map. 2. Get into the Annotation panel. 3. Select the Text Placement tool and after giving an appropriate text in the Annotation panel, click in the map to place the text within a box. 4. Click again on the Text Placement tool to switch it OFF. 5. Double click in the text box and move the text box to a different location in the map. 6. Save the annotation layer and remove it from the map.



		<p>7. From the shoebox reload the annotation into the map and notice that there is a pointer added to the text box.</p>
WG-7411	Metadata browser does not trim search text	<p>If any leading or trailing white characters are in the Metadata Browser search box they are not ignored while filtering metadata.</p> <p>It is annoying because when copy pasting field names we often paste additional space at the end. Additionally the space is not visible so a user may think that there are no results containing the expected text.</p>
WG-7409	Aspect Map default output file name is wrong	<p>Pattern for the default value of Output Aspect Name field is the following: <elevation_source_name>slope<timestamp></p> <p>It contains the slope keyword which was obviously copied from the Create Slope Map panel. The pattern needs to be fixed to include aspect keyword. <elevation_source_name>aspect<timestamp></p>
WG-7350	Configuration Wizard not setting Pixel Server URL second time	<p>Configuration wizard does not change the Pixel Server URL if it has already been set, i.e. if a value already exists in the registry. It should always update the URL if it is changed.</p> <p>Need to make sure that all the values for which there is a registry setting can be overridden by the configuration wizard.</p>
WG-7312	Printing text annotations is broken in Firefox	<p>PDF report created with Microsoft Print to PDF virtual printer does not look the same when it comes to text annotations. If the text annotation area has dark-colored background and light-colored font, the colors are removed in PDF result. The background becomes white and the font becomes black.</p> <p>Steps to reproduce:</p> <ol style="list-style-type: none"> 1. Display globaldem.jp2 as Image 2. Switch to Annotations panel 3. Pick one of Text Annotation modes 4. Edit Color field in Text style section to make the color of the font light (i.e. white) 5. Edit Fill field in Box section to make the background dark (i.e. dark grey) 6. Put some text in Text field 7. Place at least annotation with this style on the map 8. Open Printing/Report dialog 9. Use Ctrl+P keyboard shortcut to display browser's native printing dialog 10. Use Microsoft Print to PDF as the printer 11. Select a location for the output file. 12. Open the created PDF file and observe that the colors of text annotations are different from what they are supposed to be
WG-7297	PixelServer drops connection during GetMetadata request	<p>This issue has been noticed in context of a specific dataset.</p> <p>PixelServer drops the connection during GetMetadata request.</p>
WG-7293	Subscription license expires too early	<p>If the license is issued to a specific day, this day is excluded from the period and the license is not valid the last day. This is wrong if license is valid till: 06/27/2018 it should expire midnight 06/28/2018</p>
WG-7291	While entering text in a text box of an annotation layer, typing hyphen would zoom out.	<p>These steps reproduce this issue.</p> <ol style="list-style-type: none"> 1. Display an image in the map area. 2. Get into the Annotation panel and click on the Text Box with a Pointer tool to activate it. 3. Make sure that the Text style color and the Outline color are black. 4. Change the Box Fill color to white. 5. Click in the map area to place the text box. 6. Click again on the Text Box with a Pointer tool to deactivate it. 7. Double click on the text box placed in the map area and hold the outline of the box and drag it such that it is resized. 8. Click inside the text box and try to type in "A1-A3". <p>Notice that while typing in "-" the image zooms in and cannot place the hyphen in the text box.</p>



WG-7264	Band selection for SIPS Multiple Band Image Chain reset to 1,1,1	<p>Display an image which defaults to SIPS Multiple Band Image ex. 11NOV10032522-M1BS-052681090020_01_P001.NTF.</p> <p>Open image adjustments panel the band selection is correct 5,3,2. Click reset button next to the band selection label and all the bands will become 1,1,1. This is not correct.</p>
WG-7212	For expired subscription Admin Panel's Summary shows negative estimate	<p>If subscription license is used and it expires, negative estimate is reported on the summary tab.</p>
WG-7207	Changing Admin account password changes the account role to User	<p>If a user logs in as administrator (here it seems the issue manifests when the page is loaded reloaded instead of simple logout). Go to the user's tab and edit their own account.</p> <p>Note that the field Role is disabled and is locked to User instead of Admin. This is wrong.</p> <p>Now if the admin checks Change password for this account, provide a new password and click Update. Everything looks to behave correctly but in reality the role of the admin has changed into User. Here is another issue because it shows the backend does not have any logic preventing client to change a role of the logged in admin.</p> <p>If the user clicks logout and try to log-in with the new password it is going to be welcomed with the message "Only Admins can view Admin Console"</p> <p>And this the admin lost access to the panel for good.</p>
WG-7205	There is no logo and no background in PDF once a report is printed in Firefox	<p>Creating a report in Firefox produces a different result than in Chrome. Report in Firefox does not seem to have a correct background and is poorly styled.</p> <p>Steps to reproduce:</p> <ol style="list-style-type: none"> 1. Open M.App X in Firefox 2. Display an image 3. Zoom out so the image does not fill whole screen 4. Open reporting dialog 5. Click CTRL + P to create pdf report file
WG-7202	Stereo point measurement does not work	<p>Steps to reproduce:</p> <ol style="list-style-type: none"> 1. Display stereo pair image 2. Open measurements panel 3. Select point measurement tool 4. Click anywhere on the image
WG-7182	Chart to Chart Detection for NTF output type fails to display in the Viewer (if both Chart1 and Chart2 images are the same.)	<p>Steps to Reproduce:</p> <ol style="list-style-type: none"> (1) Select the Chart To Chart Change Detection Process Geoprocessing Panel (2) Chart 1 Filename: chart1-geo.img (3) Chart 2 Filename: chart1-geo.img (4) Threshold: 0.5 (default) (5) Run the Chart to Chart detection command for output file type NTF (6) An NTF output file is created (7) Try to display the image in the viewer. <p>Observation:</p> <p>Display of the image fails with the following warning dialog. And also you cannot dismiss this dialog. The only way is to reload the app once again.</p> <p>NOTE: Since both Chart1 and Chart2 are one and the same, the command should produce a blank image with zero detections.</p> <p>For the same set of steps above, Chart to Chart Detection works fine if the output type is defined as either IMG or TIF. The problem is only with NTF file format.</p>
WG-7050	Terrain Shading Panel Has Duplicate Parameter Names	<p>The new Terrain Shading geoprocessing panel has three parameters labelled Vertical Exaggeration. The first two should be: Ground Reflectance and Air Visibility. The tool tips and content in the JSON payload are correct.</p>
WG-7035	Negative progress when running Image to Image Change Detection model	<p>When running Image to Image change detection model in IMAGINE 16.0.1, the progress meter goes all the way to zero and restarts when writing the output file.</p>



		<p>This is causing a problem in M.AppX since negative progress meter is interpreted as if the service has failed.</p> <p>The negative progress meter does not occur when you run the model in IMAGINE 16.5</p> <p>We need to investigate the change between 16.0.1 and 16.5, and provide a hotfix for M.AppX.</p>
WG-7033	"Use Model File" checkbox does not reset in Orthorectify Imagery process	"Use Model File" checkbox stays checked when reset button is clicked
WG-7008	Mosaic: Output Seam Polygon Filename Not Resetting	Output Seam Polygon Filename does not get reset to the default/initial value whenever the Reset button is clicked.
WG-6989	True Color Image Chain Fails after SIPS	<ol style="list-style-type: none"> 1. Display 11NOV10032522-M1BS-052681090020_01_P001.NTF as image 2. Open the Adjustments panel 3. Select the True Color Image change <ol style="list-style-type: none"> a. The image does not display b. Image chain still says SIPS Multi band <p>This appears at least partially to be because DRA information is being sent to the server and True Color has no DRA information.</p>
WG-6776	Extract terrain Reset does not reset MinZ or MaxZ	MinZ and MaxZ fields in the Extract Terrain panel do not reset when the "Reset" button is used.
WG-6367	Remove Elevation Spikes has no reset method	Remove elevation spikes geoprocessing panel does not have a reset method so when a user selects reset on the panel the output file name is set to null
WG-6253	Terrain Thinning Default Output Filename Should include "Thinned"	Default output filename generated for the Terrain Thinning geoprocess does not follow the convention of including a processing related element in the name.
WG-6129	Emin/Emax and Histogram sticking	<p>Steps to recreate:</p> <ol style="list-style-type: none"> 1. Have the user preferences set so auto DRA is on (Either "Follow Auto DRA SIPS Setting" or "On"). 2. Display as Image any NITF file. 3. Open the Adjustments panel. Observe the emin/emax values. 4. Display 1:1. Note that the displayed emin/emax values are unchanged. Manually roam the image. Note that the values do not change though Automatic is checked. 5. In the Adjustments panel, show the histogram. Continue to manually roam the image. Note that the histogram is not changing, though Automatic is checked. 6. Now uncheck and recheck Automatic. Continue to manually roam the image. Note that the emin/emax values now change and the histogram changes. This is the correct behavior.
WG-6126	Extract Terrain should allow model files other than txt files.	Currently the Extract Terrain geoprocessing panel allows only txt as input formats for model filenames. There is no option to give rpb files. IM-42281 has been submitted to correct the model. Once the model has been fixed the UI in M.App X should also be fixed.
WG-6114	Measurement tool results reporting is inconsistent	For rectangle, it shows all of the measurements with labels, and ends with a line that says "Rectangle:" Circle seems to do the same. Items that report a single measurement (Point, line) have a label before the result that says "point:" or "line:". One of the measurements (perhaps circle) seems to put out a "dividing bar" that looks something like ::=====:. And there is no separation at all between the measurements in most cases, so it can be difficult to tell where one measurement stops and the next begins. The resolution to this is to make all multi-part results report consistently, and all single part results report consistently. Also provide some sort of separator between each measurement result.
WG-5066	Use Transparency for Map default setting	When the default value is set to false in the user preferences file the resulting overlay image is surrounded by black pixels.



Deprecated

Windows® Server 2012 R2 is no longer supported.



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