

Mapping Toolbox Release Notes

The “Mapping Toolbox 1.3 Release Notes” on page 1-1 describe the changes introduced in the latest version of the Mapping Toolbox. The following topics are discussed in these Release Notes:

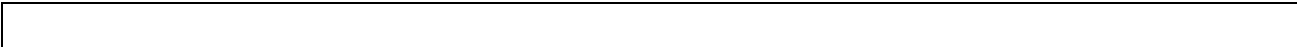
- “New Features” on page 1-2
- “Major Bug Fixes” on page 1-4
- “Upgrading from an Earlier Release” on page 1-5

The Mapping Toolbox Release Notes also provide information about the earlier versions of the product, in case you are upgrading from a version that was released prior to Release 12. If you are upgrading from a release earlier than Release 12, you should also see “Mapping Toolbox 1.2 Release Notes” on page 2-1.

If you are upgrading from a release prior to Release 11.1, see the Release 11 New Features Guide. Note that this a PDF document.

Printing the Release Notes

If you would like to print the Release Notes, you can link to a PDF version.



Mapping Toolbox 1.3 Release Notes

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New Features

This section summarizes the new features and enhancements added in the Mapping Toolbox 1.3.

If you are upgrading from a release earlier than Release 12.0, then you should also see the Mapping Toolbox 1.2.1 Release Notes (for enhancements introduced between Release 11.0 and Release 12.0).

New and Enhanced Map Display Functions

New northarrow Annotation Function

The new northarrow function lets you add a north arrow symbol to a map, pointing to geographic north. You can reposition a north arrow by clicking and dragging it, or adjust other properties such as position, color, and size via alternate-clicking.

New mlabelzero22pi Axes Label Command

The new mlabelzero22pi command converts meridian labels to use the range 0 to 360 degrees, instead of the default -180 to 180 degrees.

Enhanced clegendm Contour Annotation Function

The clegendm function has been enhanced with a new, optional syntax that accepts a string indicating the contour line units. Alternatively, text label strings can be supplied for each and every contour level via a cell array.

New Interactive Interface

The new lightmui function provides an interactive, graphical user interface to control the position of lights on a globe or 3-D map.

Mapping Data Enhancement

Updated Atlas Data

Political boundaries and country names have been updated in both the worldlo and worldhi atlas files.

Other Enhancements

Ellipses Now Drawn More Smoothly

The `ellipse1` function has been modified to create smoother ellipses. A weighted distribution of azimuth points is used instead of the uniform distribution between the starting and ending points. More points are added at locations near the semi-major and semi-minor axes and fewer points at the other intermediate locations.

Major Bug Fixes

The Mapping Toolbox 1.3 includes several dozen bug fixes made since Version 1.2.1. Most are minor or cosmetic in nature. However, there are several significant Version 1.3 bug fixes.

If you are viewing these Release Notes in PDF form, please refer to the HTML form of the Release Notes, using either the Help browser or the MathWorks Web site and use the link provided.

Upgrading from an Earlier Release

This section describes an upgrade issue involved in moving from the Mapping Toolbox 1.2.1 to Version 1.3.

Obsolete Functions

Functions `contorm` and `contor3m` are now obsolete. You should now use `contourm` and `contour3m` instead, which are functionally identical. The older functions still exist, but have been removed from the Mapping Toolbox documentation.

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New Features

This section introduces the new features and enhancements added in the Mapping Toolbox 1.2 since the Mapping Toolbox 1.1 (Release 11.0).

Higher Resolution Atlas Data

There are now high-resolution country outlines and more city locations available through the `worldhi` database. The `worldmap` command automatically chooses this high-resolution data if the region's area is small enough.

The `worldlo` atlas file has been updated to make it coincide more closely with high-resolution coastlines and boundaries.

The `worldmtxmed` MAT-file provides a medium-resolution political world matrix map.

External Data Interface Improved

Importing high-resolution atlas data is now much easier with these two visual interfaces:

- Digital Elevation Map Data user interface (invoked with the `demdataui` function)
- Vector Map Level 0 user interface (invoked with the `vmap0ui` function)

Many of the matrix map data interface functions now automatically concatenate data across separate files.

The external interface now supports the GLOBE digital elevation map data, a product similar to GTPO30. Use the `globedem` function for working with that data.

New Interactive Interfaces

You can now adjust interactively, on a map display, geographic lines such as great circle tracks, small circles and sectors of small circles. Use the `trackg`, `scircleg`, and `sectorg` functions to make these interactive adjustments. While in an edit mode, you can drag the lines around on the map, modify the lines in a control panel, or read measurements.

There is a new visual interface to create colormaps. Use the `cmapui` function to invoke this new interface.

New Analysis Functions for Geographic Data

You can use the new `elevation` function to find the elevation angle of a geographic point.

The new `gradientm` function performs matrix map data calculations, including gradient, slope, and aspect.

You can use the new `los2` and `viewshed` functions with terrain data to check the line of sight visibility between points or the visibility of entire regions.

Several new functions have been added to support polygon operations.

Function	Description
<code>bufferm</code>	Compute polygon buffer regions
<code>polybool</code>	Perform polygon Boolean operations
<code>polyjoin</code>	Combine polygon segments into a NaN-clipped polygon
<code>polymerge</code>	Merge polygon segments with abutting ends
<code>polysplit</code>	Separate NaN-clipped polygon segments into cell arrays
<code>polyxpoly</code>	Polygon intersections

Other New Functions

Several new functions have been added to support polygon operations.

Function	Description
contourmap	Contour-like color jumps on surface objects
driftcorr	Compute correction for drift
driftvel	Compute drift speed and direction
flatearthpoly	Cut polygons at dateline
lcolorbar	Labeled colorbar
mapprofile	Matrix map values along a path
str2angle	String conversion to angle