



ARIS GRID Editor for ArcMap User's Manual

2 July 2012

ARIS B.V.
<http://www.aris.nl/>

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1. Introduction

The ARIS GRID Editor for ArcMap is designed to edit ESRI GRID datasets easily in ArcMap, without the need of Spatial Analyst. One can, for instance, change the value of a single cell, or change the value of more cells by sketching in the map.

One possible use of the ARIS GRID Editor is to correct errors in an existing GRID. For example, when a GRID is input for a model, NODATA cells and wrong cell values at the edges of the GRID can cause the model to create wrong output data. With the ARIS GRID Editor these cell values can simply be modified.

The ARIS GRID Editor can also be used as a sketch tool. The GRID Editor can be used to interactively design plans, which can be processed and evaluated with Spatial Analyst tools immediately.

ARIS GRID Editor version 2.2 is the release for ArcMap 9.2, 9.3 or 9.3.1.

ARIS GRID Editor version 3.0 can be used with ArcMap version 10.0.

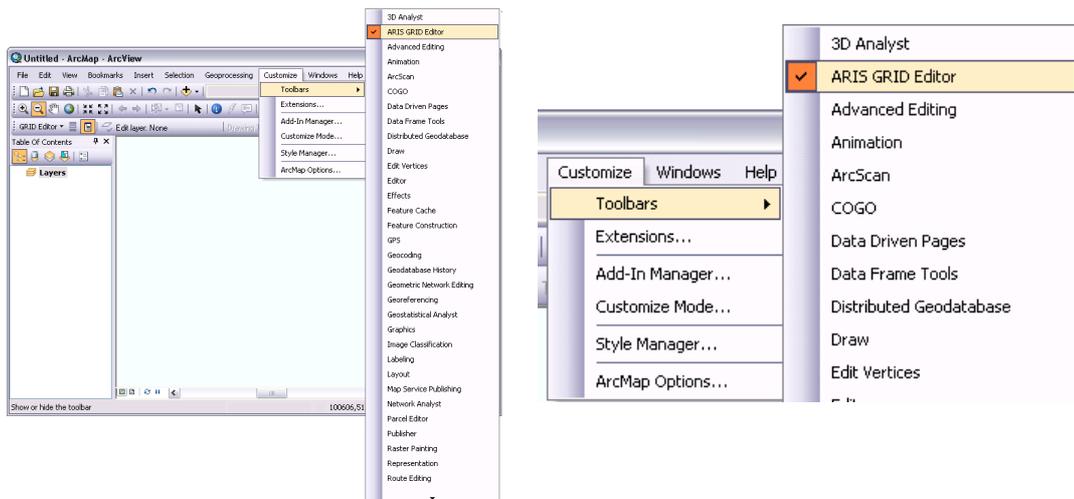
In ARIS GRID Editor version 3.1 and 2.2 functionality has been added to work within a selection area and to replace values "by value" throughout the GRID. This version is not an ArcGIS extension anymore, but just a toolbar to make the use of the GRID Editor easier.

ARIS GRID Editor version 3.1 can be used with ArcMap 10.0 and 10.1.

2. Installation

Installation of the ARIS GRID Editor for ArcMap is accomplished by the following steps:

1. Execute the automatic installer, ArisGridEditor3.exe for ArcMap 10, or ArisGridEditor2.exe for ArcMap 9. You need to be logged in as a user with administrator privileges to run the installer;
2. In ArcMap 10, from the the *Customize* menu choose *Toolbars* and make sure there is a checkmark next to ARIS GRID Editor to make the toolbar visible. In ArcMap 9, from the *View* menu choose *Toolbar* and check the ARIS GRID Editor.



If you have the ARIS License Checker installed, the registration forms are also accessible through the ARIS License Checker. The ARIS License Checker is available without cost from <http://www.aris.nl/download>.

The ARIS License Checker is also a better alternative for registration if you still get reminder messages after successful registration (see also the Fout: Bron van verwijzing niet gevonden in chapter Fout: Bron van verwijzing niet gevonden).

3.3 Unregister

When your license is not valid anymore through changes on your PC or if you want to move your license to a new PC, you can obtain a new license (fair use policy) after you unregister the license using the ARIS License Checker. The ARIS License Checker is available without cost from <http://www.aris.nl/download>.

Send an e-mail to helpdesk@aris.nl with:

- ARIS product name and version
- Original hardware fingerprint (active license, if available)
- Registration name (active license)
- License key (active license)
- Confirmation code (from unregister)
- New hardware fingerprint (from register)

If you are entitled to receive a new license key, a new key will be sent to you by e-mail as soon as possible (same day, but might also take some days as this is not an automated process).

3.4 Invalid license

When major changes to your hardware have caused the license to become invalid, you can obtain a new valid license if you provide the necessary information (fair use policy). Note that it is no longer possible to get license information using the license checker, use the information in the email you received with your license.

To verify that hardware changes are the cause of the invalid license, you need to send a 'Hardware Change Log' file with the request for a new license.

To get this Hardware Change Log, start ARIS License Checker, select the ARIS product and press the **AHCL** button, you will be asked for a location to store the file.

Send an e-mail to helpdesk@aris.nl with:

- ARIS product name
- Original hardware fingerprint (from license information sent by email)
- Registration name (from license information sent by email)
- License key (from license information sent by email)
- AHCL file (from AHCL)
- New hardware fingerprint (from Register/Enter Key)

4. Version History

4.1 ARIS GRID Editor for ArcMap 9

4.1.1 Version 1.0

Version 1.0 is the first release of ARIS GRID Editor for ArcMap.

4.1.2 Version 1.1

Version 1.1 of the ARIS GRID Editor for ArcMap is compatible for ArcGIS 9.0 and 9.1.

4.1.3 Version 2.0

ArcGIS 9.2 compatibility

Version 2.0 of the ARIS GRID Editor for ArcMap is compatible for ArcGIS 9.2. A typical ArcGIS 9.2 problem was that the eraser assigned 0-values to cells originally having NoData. This problem is now solved.

Additional functionality

- A new command for validating layers has been added to the toolbar.
- The Nodata-value can be used as edit-value.

Bug-fixes

- When toggling the GRID Editor legend dockable window, the value in *New cellvalue* editbox was set to the lowest value in the classification. The problem is solved and the value in the editbox does not change anymore when toggling the window.
- When using a Classified classification for symbology, the mean value of the selected class was not calculated correctly. Now, this problem is solved.
- The editgrid is always visible, also if the original layer is not visible.
- Values outside the original range of the grid can be assigned to the editgrid.

4.1.4 Version 2.1

Version 2.1 of the ARIS GRID Editor for ArcMap no longer locks the Table Of Contents during editing.

4.1.5 Version 2.1.1

Bug-fix

In some situations then ARIS GRID Editor caused problems with the ArcMap template Normal.mxt. These (potential) problems have been fixed in this version.

4.1.6 Version 2.1.2

ArcGIS 9.3 and 9.3.1 compatibility

Version 2.1.2 of the ARIS GRID Editor for ArcMap can be used with ArcGIS 9.3 and 9.3.1 (and ArcGIS 9.2).

Performance

Redesign of the Stop Editing resulted in a performance gain especially with a large GRID.

Bug fixes

- When the temporary directory resides on a disc with low disc space, the *Stop Editing* menu option could give an error. This problem is solved.

- When no NODATA is defined in the GRID, it is not possible anymore to choose NODATA in the edit session.

4.1.7 Version 2.1.3

Bug-fix

Licenses keep registered better now in specific situations (like Windows 7 laptops).

4.1.8 Version 2.2.0

Changed functionality

- The ARIS GRID Editor for ArcMap is not an extension anymore. Just enable the ARIS GRID Editor toolbar and start working.
- "Start Editing" is available as soon as the toolbar is enabled. If no ESRI GRID is selected, Start Editing will tell you.
- Some messages in popups, now show up in a mouse tip.
- A new message popup after "Start Editing" and "Cancel Editing" as long as the edit layer is being created or removed (because creating and removing the edit layer can take a long time especially with a large GRID).
- The ArcMap "Undo" is disabled while editing, because "Undo" is not supported by the ARIS GRID Editor. To Undo changes use the "Restore original values"-tool (Erase) in the ARIS GRID Editor toolbar.

Additional functionality

After "Start Editing" checks are done on Coordinate System (Spatial Reference) and Pyramids to warn users for possible problems.

Three new commands have been added to the toolbar:

- Make a selection in the map.
- Undo the selection in the map.
- Replace one value with another value (Value Replacer)

If a selection is active, the changes in the GRID by the various tools will be only effective within the selection area.

Performance

Drawing with the polygon-tool is extremely faster now (especially in a large GRID).

Bug-fixes

- Using Paintcan on a floating point GRID might result in some situations in an endless filling of the same cells. This problem should now be solved.
- A Stretched Color Ramp with Invert checked will now give the correct legend in an Edit Session.

4.2 ARIS GRID Editor for ArcMap 10

4.2.1 Version 3.0

ArcGIS 10 compatibility

Version 3.0 of the ARIS GRID Editor for ArcMap can be used with ArcGIS 10.0 (and not with earlier versions of ArcGIS).

Bug fixes

- It is not necessary anymore to remove and add the GRID after Stop Editing to show new values added to the legend in a Unique Values classification.
- Paintcan in a *Floating Point* GRID can now also be used on non-integer values and non-integer NoData values.

- Using a *New cellvalue* outside the scope of the GRID (depending on Pixel Type and Pixel Depth) will no longer result in a conversion error, but will give a warning when entering such a value in the *New cellvalue* edit box.

4.2.2 Version 3.0.1

Bug-fix

Licenses keep registered better now in specific situations (like Windows 7 laptops).

4.2.3 Version 3.1

ArcGIS 10.1 compatibility

Version 3.1 of the ARIS GRID Editor for ArcMap can be used with ArcGIS 10.1 (and ArcGIS 10.0).

Changed functionality

- The ARIS GRID Editor for ArcMap is not an extension anymore. Just enable the ARIS GRID Editor toolbar and start working.
- "Start Editing" is available as soon as the toolbar is enabled. If no ESRI GRID is selected, Start Editing will tell you.
- Some messages in popups, now show up in a mouse tip.
- A new message popup after "Start Editing" and "Cancel Editing" as long as the edit layer is being created or removed (because creating and removing the edit layer can take a long time especially with a large GRID).
- The ArcMap "Undo" is disabled while editing, because "Undo" is not supported by the ARIS GRID Editor. To Undo changes use the "Restore original values"-tool (Erase) in the ARIS GRID Editor toolbar.

Additional functionality

After "Start Editing" checks are done on Coordinate System (Spatial Reference) and Pyramids to warn users for possible problems.

Three new commands have been added to the toolbar:

- Make a selection in the map.
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If a selection is active, the changes in the GRID by the various tools will be only effective within the selection area.

Performance

Drawing with the polygon-tool is extremely faster now (especially in a large GRID).

Bug-fixes

- Using Paintcan on a floating point GRID might result in some situations in an endless filling of the same cells. This problem should now be solved.
- A Stretched Color Ramp with Invert checked will now give the correct legend in an Edit Session.

5. Using the ARIS GRID Editor

5.1 Start editing

In ArcMap, from the *Customize* menu choose *Toolbars* and make sure there is a checkmark next to ARIS GRID Editor to make the toolbar visible (see also chapter 2 Installation).

In the table of contents in ArcMap, select one layer that is shown in the Map View and which dataset's format is ESRI GRID. From the GRID Editor dropdown menu, choose *Start Editing*.

The GRID Editor will ask you for a new name, in which changes will be saved. This way, your original data will always be safe.



Enter a new name and press *Save*.

Note: A GRID name can only be 13 characters long, cannot contain any spaces, and cannot start with a number.

After copying your original GRID to the new one, the new GRID will be added to the map as a new layer. The GRID Editor Legend will be opened, and the ArcMap table of contents will be hidden.

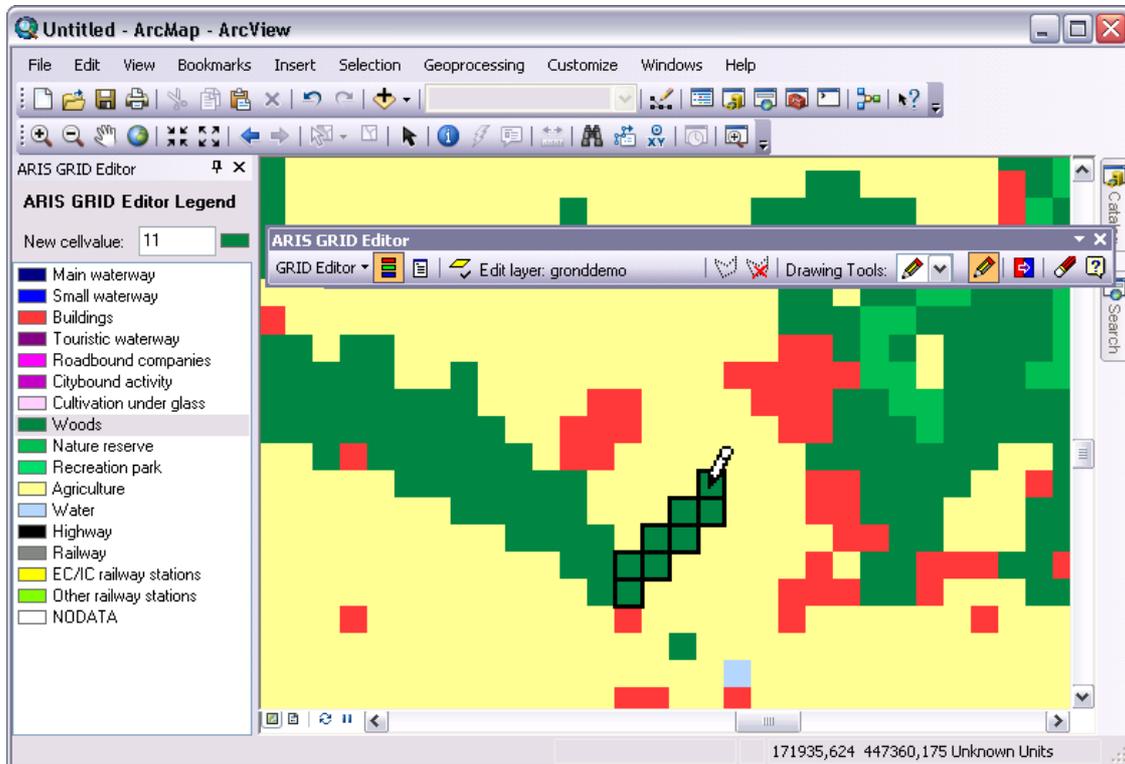


The GRID Editor Legend reflects the current raster symbology for your GRID. It is recommended to use a *Unique Values* classification and define the "all other values" symbol.

Tip: Set the NODATA symbol and "all other values" symbol to easily detectable symbology (not a hollow symbol).

5.2 Editing a GRID

The GRID Editor Legend shows a list of available classes and the *New cellvalue*. Beside the available classes an extra legend item with the NODATA-symbol is added to the list. You can either select a legend item in the list, or manually enter its numerical value in the edit box. Edited gridcells will be changed to this value.



To use the Nodata-value as New cellvalue, select the NODATA legend item in the list or enter the word *NODATA* in the edit box.

After selecting the desired legend item, choose a *drawing tool* from the *Drawing Tools* dropdown list. These tools work similar to most painting applications, such as *Paint*, *PhotoShop* and *Paint Shop Pro*. See paragraph 5.7 for a description of the available drawing tools in the ARIS GRID Editor Toolbar.

When a value is entered in the *New cellvalue* editbox that's not defined in the current classification, a yellow exclamation mark is shown, indicating that cells you edit may not show up on the map.



The symbol used for drawing cells with values not falling within the defined symbology depends on the type of classification:

Unique Values classification

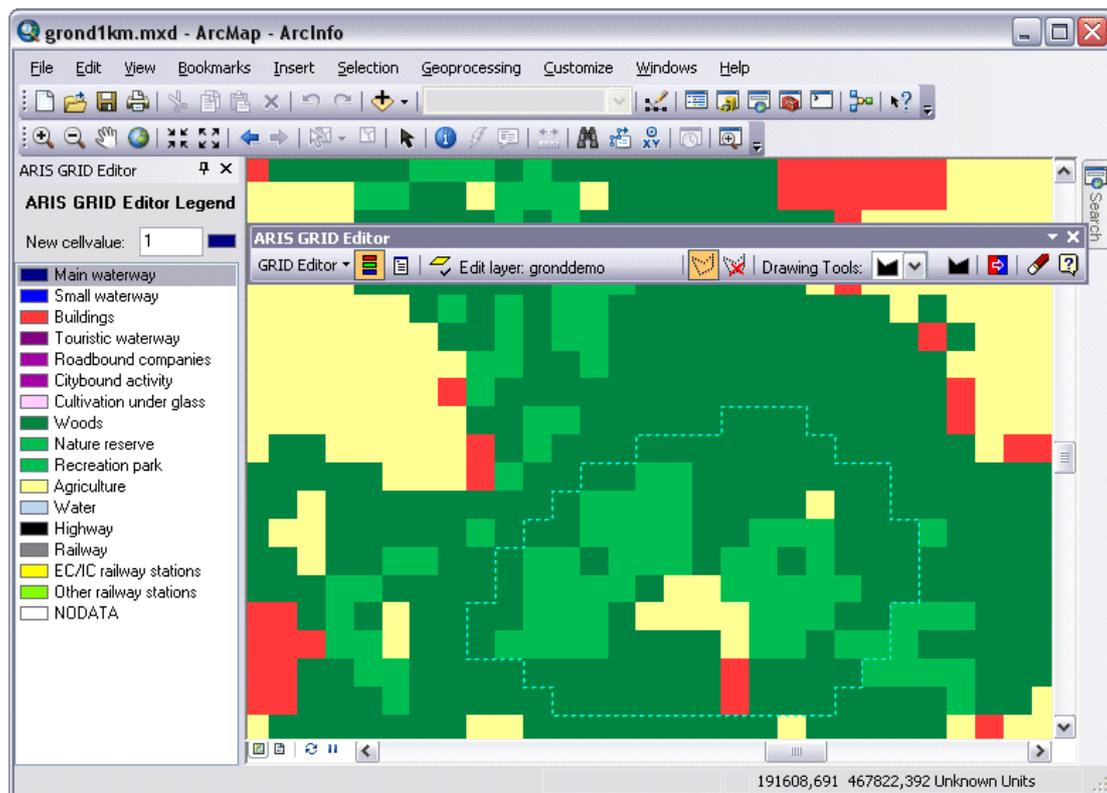
The cells will typically be drawn using the "all other values" symbol if defined for the symbology. If "all other values" is not defined, new values will be drawn using the NODATA symbol, as defined in the layer properties. It's advised to always set "all other values" to an easily detectable symbology.

Classified or Stretched classification

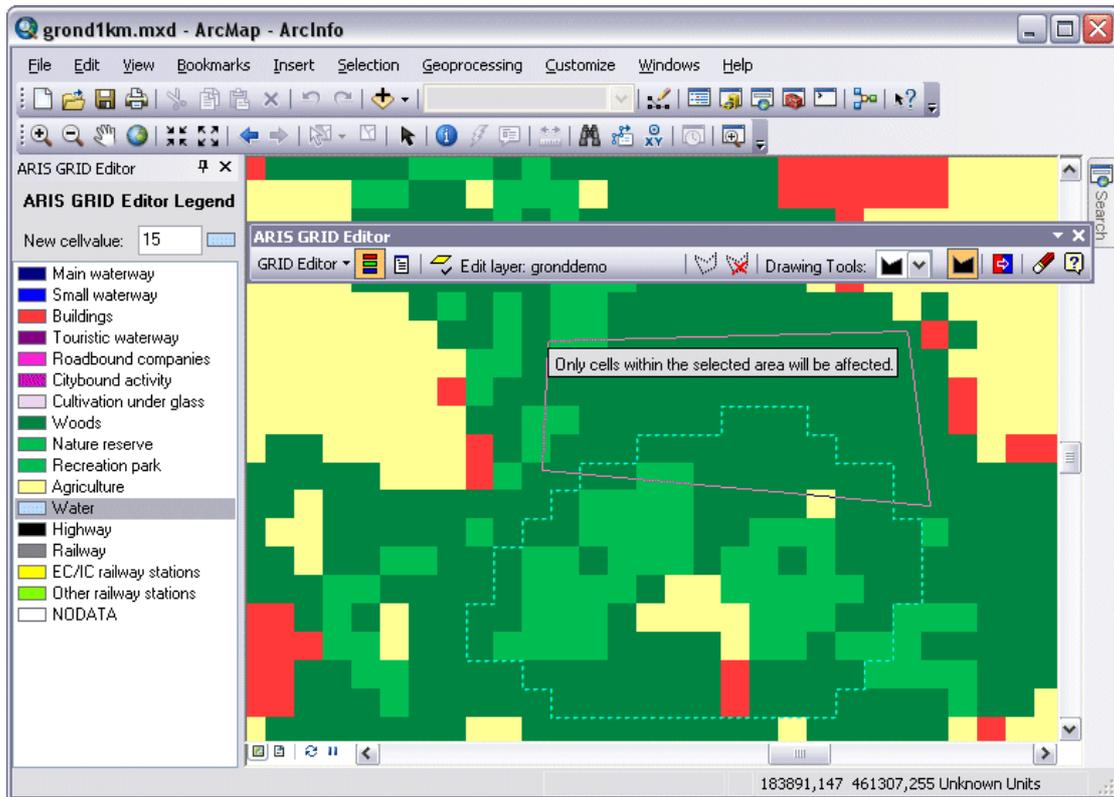
The cells will typically be drawn using the NODATA symbol that's defined for the symbology.

5.3 Edit within selected area

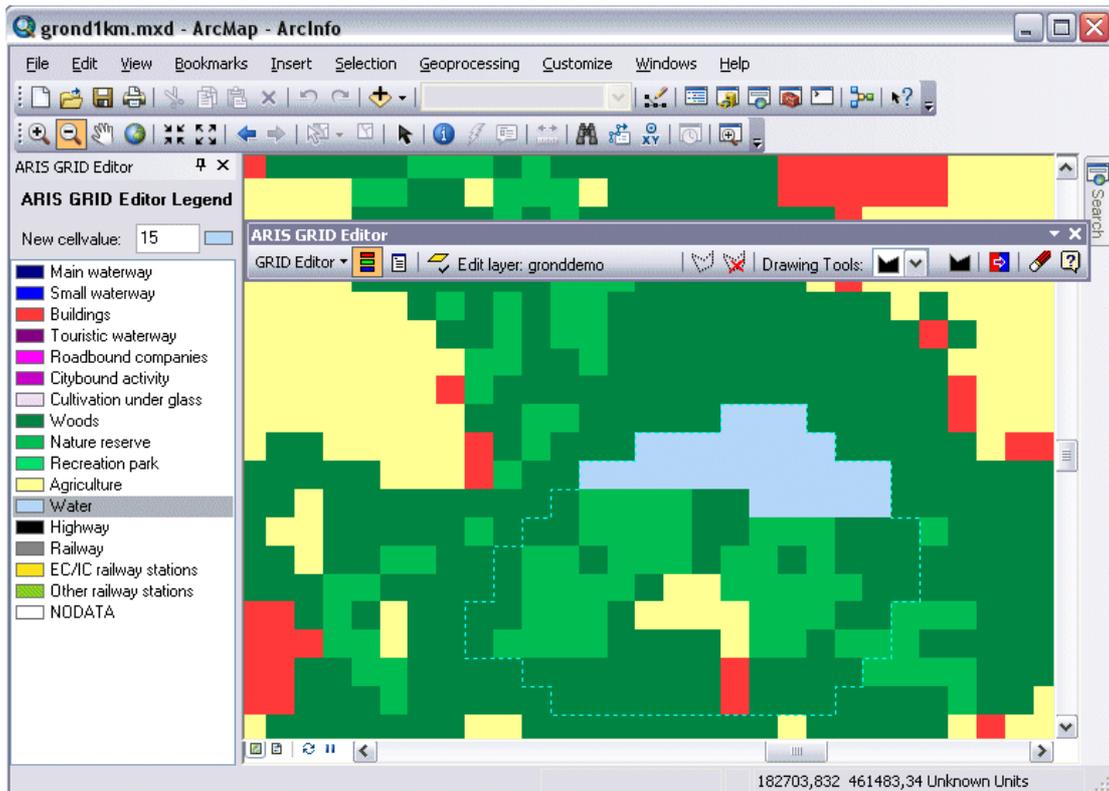
Choose the select area tool  to draw an area within which all edit actions will take place. The select area only shows the exact outline of the selected cells. As soon as a selected area is present, the edit tools will only work for cells falling completely within this area. Also the replace value tool will only work on cells inside this area.



Use an editing tool like the Polygon Drawing Tool  and draw a polygon:

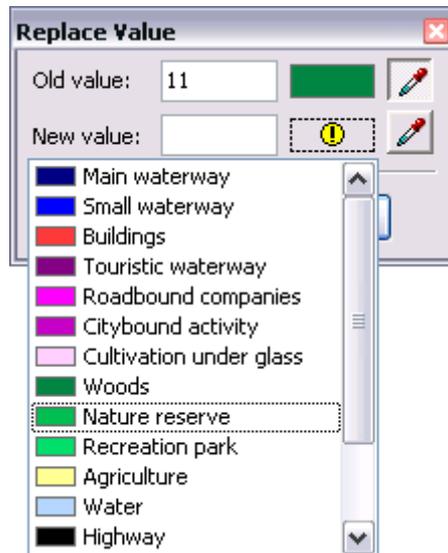


Only the cells that fall completely within the selection area will be affected:



5.4 Replace values

With the Replace Values tool  (Value Replacer) values throughout the GRID or within the selection area can be replaced. A window is shown to select the values:



For Old value an existing value in the GRID has to be entered or selected from the legend by clicking the Warning  symbol or picking a color from the GRID with the color picker . To New value applies the same, but also new (not yet existing) values in the GRID may be used.

5.5 Stop editing

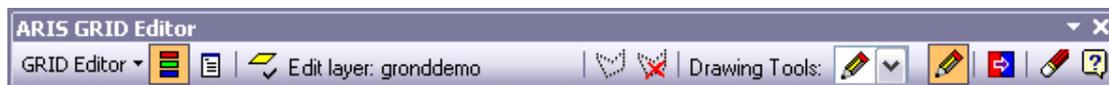
To stop editing, choose Stop Editing from the GRID Editor dropdown menu. The edit session will be closed and the statistics of the new GRID will be recalculated. When new values have been used in the GRID, it may be necessary to change the symbology of the layer (and "Add value" or Add all values" to the legend).

5.6 Cancel editing

Editing is canceled and the new GRID will be deleted. The editing tools are disabled.

5.7 Description of the GRID Editor toolbar

If the GRID Editor toolbar is not visible in ArcMap, make sure *ARIS GRID Editor* is checked in the *View | Toolbars* menu.



The toolbar contains the following commands:



The GRID Editor dropdown menu contains the following options:

Start Editing: The selected layer in the table of contents will be copied to a new layer. The editing tools are enabled for this new layer.

Stop Editing: The edit session will be closed and the statistics of the new GRID will be recalculated.

Cancel Editing: Editing is canceled and the new GRID will be deleted. The editing tools are disabled.



Toggle the visibility of the GRID Editor legend window. This button is enabled when a user starts editing, and disabled when editing is stopped or cancelled.



Toggle the visibility of the ArcMap table of contents.



Validate the selected layer. Determine whether the selected layer can be edited by the GRID Editor. The button is enabled if one layer is selected.

Edit layer: None

The name of the currently editable layer, or *None* if the GRID Editor is inactive.



Select Working Area: Select an area within the map where changes can be made. All edit tools only apply to the selected area.



Select None: Undo the selection. All edit tools apply to the whole extent of the GRID.



The Drawing Tools dropdown list allows the user to change the drawing tool. The command button to the right of the combo box is used to actually perform the drawing operations on the grid.



Pencil: Tool for drawing individual pixels in the selected color. Either click on a cell, or drag the mouse over the map to create a sketch (subject to selection area).



Paintcan: Tool for filling connected pixels of the same value. When clicking on a cell, all connecting cells of the same value will be filled with a new value (subject to selection area).



Line: Tool for drawing a line point-to-point. Click one or more times to create a *polyline*. Double click to finish drawing, or press the *Escape* key to cancel drawing (subject to selection area).



Polygon: Tool for drawing a solid polygon. Click one or more times to create a polygon. Double click to finish drawing, or press the *Escape* key to cancel drawing (subject to selection area).



Replace Value: Tool to replace one value with another (Value Replacer) within the entire GRID or the selected area (subject to selection area).



Undo / Erase new value: Tool for restoring the original values of individual pixels (subject to selection area).



Displays the helpfile.

5.8 Restrictions

There are a number of restrictions that apply while editing a GRID.

- Only rasters in the ESRI GRID format can be edited.
- Only one GRID can be edited at a time.
- Changing to Page Layout mode will result in ending the Edit Session.
- Opening another ArcMap document will result in ending the Edit Session.
- The Data Source of the edit layer can be changed, but ARIS GRID Editor does not detect this change. Edits will be saved in the original data source of the edit layer and will not be visible in the map anymore.

5.9 Known issues

The Current Coordinate System of the Data Frame should be the same as the Coordinate System of the GRID to be edited. Otherwise changes in the GRID might not correspond with the drawings on the screen and/or you are not able to change values (You will get a message: "Only cells within the extent of the GRID will be affected"). To change the Current Coordinate System choose View | Data Frame Properties... and then Tab Coordinate System.

The *New cellvalue* must be within the scope of the GRID (depending on Pixel Type and Pixel Depth), otherwise a warning is given when entering such a value in the *New cellvalue* edit box. E.g. a GRID with PixelType "unsigned integer" and Pixeldepth "8 bit" only "0" until "255" are valid values and a GRID with PixelType "signed integer" and Pixeldepth "8 bit" only "-127" until "127" are valid values.

Pyramids may cause non-visual edits (you edit but don't see any changes) during an edit session. After zooming in or Stop Editing the edits will show correctly. This typically occurs on a GRID with edits on a small scale (zoomed out). To prevent this behaviour, build pyramids with fewer levels or delete the pyramids of the base GRID (use the Build Pyramids geoprocessing tool or delete the .AUX and/or .OVR file).

Sometimes the Map Control has double scrollbars. The extra scrollbars do not influence the performance of the Grid Editor. This problem was not yet detected with ArcGIS 10 and may be solved in ArcGIS 10.

When the stretched value renderer is used to display raster data, Start Editing can give the message:

"ARIS GRID Editor – FillLegend, Missing raster band wavelength properties".

The GRID Editor Legend doesn't show colors, but editing is still possible.

This problem only occurs in ArcGIS 10.1.

Appendix A. License Agreement

ARIS Software License Agreement for ARIS GRID Editor for ArcMap

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- ARIS terminates the agreement due to the LICENSEE's material breach of this AGREEMENT.

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ARIS GRID Editor for ArcMap - User's Manual

Limited Warranty

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Any conflict and/or inconsistency between the terms of this AGREEMENT and any purchase order, or other terms shall be resolved in favour of the terms expressed in this AGREEMENT, subject to Dutch law, unless agreed otherwise.

Governing Law

This AGREEMENT is governed by the laws of the Netherlands without references to conflict of laws principles.

Entire Agreement

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