

Fledermaus Software Release Notes

Version 7.2.0 - August 2010

What's New

FMMIDWATER*

- FMMidwater is a completely new module for extracting and visualizing water column data. Based on joint work between IVS 3D and the Center for Coastal and Ocean Mapping at the University of New Hampshire, FMMidwater allows for intuitive processing of huge water column files, and easy creation of time-aware visualization objects such as beamlines, beam fans, point clouds, and volume objects.

*FMMidwater is available as an add-on to any Fledermaus bundle.

FMGIS* (Windows 32-bit only)

- FMGIS is a new module that adds a direct link between the Fledermaus work environment and ArcGIS file, folder, personal, or ArcSDE Geodatabases. Information can be directly exchanged between Fledermaus and the selected ArcGIS workspaces without the need to import / export external files and with the assurance that all attributes will be retained. Information types include bathymetric surfaces, processed soundings, selected soundings, polygons representing survey areas, BAG surfaces, interpretation feature classes, depth contours, and any other point or line object. The process is bi-directional – anything stored as a feature class in an ArcGIS Geodatabase can be loaded with a mouse click to your Fledermaus Scene.

*FMGIS is part of the FMHabitat and FMPro bundles, or as an add-on to any other Fledermaus bundle.

FLEDERMAUS

- Added a new interpretation tool for efficient "node-less" creation of seabed interpretations in the Fledermaus environment.

DMAGIC

- You can now set the input file configuration for a group of raw data by setting it at the parent level.

- ASCII files can be added in the vector group.

ALL APPLICATIONS

- Added a new option in the About... dialog of all applications to display details of the currently used licenses.
- Added a "Save As..." button to the Surface Statistics dialog.
- Added support for 8-bit paletted TIFF images with transparency

Resolved Bugs

FLEDERMAUS

- The interface for running the plotted soundings filter (NAVO) was broken.
- Draping any line object that was being projected on the fly would not work.
- Running filters and doing a re-CUBE where not working properly when using a polygon selection.
- When adding new keyframes to an existing flight path, some of the original keyframes were being improperly deleted.
- When projecting to a coordinate reference system that has different vertical and horizontal units, only the horizontal units are converted.

DMAGIC

- Recently used files and directories where not being properly saved.

FMGEOCODER

- The Imagery 89 packet in Simrad .all files was being read using an incorrect scaling factor. This fixes problems using EM710 and EM122 sonars.
- When processing dual head sonar backscatter the z-offset installation parameter was not properly applied for ARA grazing angle calculations.
- Added an additional ARA export parameter to identify if the result comes from the port or starboard patch.

CMDOP

- The mksurfseries applet was not properly creating a Surface Series object when using v7 objects.

Version 7.1.2b - July 2010

Resolved Bugs

- The cmdop application was non functional for most 64-bit Windows installations
- The Mac installer was often reporting a failed installation even if the installation was successful
- 3DEditor could crash if not all PFM paths were updated to be absolute
- When using two surfaces that only slightly overlap, the cmdop surfacediff applet was improperly looking for a polygon
- Crosscheck was not properly loading files when the -bath option was used as a command line argument
- Crosscheck was missing the -icoordsys command line option needed for specifying a coordinate system

Version 7.1.2a - July 2010

- Added a new cmdop tool to export from the PFM surface to an ASCII XYZ+attribute file
- Added an new command line option for DMagic to load an existing project
- Added an option for the cmap histogram to be one color, or the cmap colors
- Add a quick export to Google Earth option in the image editing mode of DMagic
- When importing GeoTIFF images with PixelIsPoint to edge-to-edge
- Exported GeoTiff images are always written with edge-to-edge georeferencing

Resolved Bugs

FLEDERMAUS/DMAGIC

- Added a warning when importing a TIFF with a TFW that has rotation parameters

FLEDERMAUS

- When creating an SD surface object from a PFM, the georeferencing is converted to center-to-center
- If you created two consecutive movies it would fail
- When importing a DXF/DWG with a large amount of data in the first layer, there was a long delay before the second progress bar was displayed
- Some DWG files cause a crash during import

DMAGIC

- The image editing mode was ignoring if the image had the bounds manually updated
- Rendering of images in the image editing mode have been modified to be identical to the rendering of SD GeoImages in Fledermaus (when interpolation is off)
- When saving a file in the image editing mode, the georeferencing reverts to ASSUMED
- The surface stats window is editable
- The generated filenames during the draping of an image on a surface are invalid
- Indexed TIFF images are not properly converting to SD GeoImages
- When saving an image that was a JPEG to a TIFF, it was still saving as a JPEG
- Cannot unload un-rejected soundings to OMG format
- Cannot unload un-rejected soundings for PDS2000 format

Version 7.1.2 - June 2010

- Added back the 64-bit Windows packages.

Version 7.1.1b - June 2010

Resolved Bugs

FLEDERMAUS/DMAGIC

- The "Color By" options for PFM surfaces were broken.
- The ASCII grid importer was not properly handling "x y z" data sets that had holes.
- Importing ArcView binary grids was not properly handling negative height values.
- If the reference surface was higher resolution than the new surface, the surface difference would fail when using a polygonal bounds.
- When doing a surface difference using polygonal bounds the interpolation routine was adding artifacts to the resultant surface.

Version 7.1.1a - May 2010

Resolved Bugs

FLEDERMAUS/DMAGIC

- When adding a UTM gridded ASCII file in a UTM Project, the coordinate system was not properly set to the default UTM coordinate system. This could cause problems when converting to SD.
- Importing ASCII XYZ files in DMagic was not working for certain data sets.
- Fixed a 1-cell shift seen when switching from interpolated to non-interpolated view for SD GeoImages.
- Fixed the SD GeoImage to properly render $m \times n$ cells instead of $m-1 \times n-1$.
- When exporting GeoTIFF image files, the PixelIsPoint tag is now written when necessary.
- Fixed import of BAG surfaces that are in geographic.

IVIEW4D

- Fixed a runtime error when launching iView4d (Windows 32-bit only).

OMNIVIEWER

- Fixed a runtime error when launching Omniviewer (Windows 32-bit only).

Version 7.1.1 - May 2010

What's New

CMDOP

- Added a new command line tool that allows data to be added to a DMagic project.
- Added a new command line tool that allows you to create a DMagic project.
- Added a new command line tool to convert from BAG to ASCII.

Resolved Bugs

FLEDERMAUS

- When parent nodes are created they now take the bounds of the full scene. Also, the parent object bounds update properly when dragging objects in or out of a parent.
- When reading BAG files:
 - You could not read BAG files without having to set an extra environment variable on the Mac platform.
 - Fledermaus and DMagic will now properly detect the projection information and set it automatically.
 - Error messages reading BAG's are now displayed properly if they occur.
- When writing BAG files from a CUBE'd PFM a dialog box lets your review and edit all the related metadata before writing the file.
- Added a new dialog when creating an SD file from DXF/DWG files. This provides better feedback about when entities are being imported.
- When reading DXF/DWF files:
 - Improved the memory usage when importing large files.
 - Improved support for BLOCK entities.
 - Added a second progress bar when importing very large files. The first progress bar is for the loading time, the second for the processing time.
 - Added support for 2D polyline entities.

- The output scalar SD from masking a Scalar SD did not have the correct z-range.
- When masking an area of a Scalar SD, the resulting SD would lose transparency.
- Added an option to create a new cropped SD file when draping an image on a surface.
- Application crashed if a non supported file format was loaded as a GeoImage.
- Fixed a crash when a vessel has the option "Lock Main View to Vessel" checked and you try to remove it from a scene.
- If you have more than 10 unsaved objects in a Scene and try to exit the program, it will now only display the first 10 object names. This prevents the window from growing too large.
- Fixed a one cell offset when creating an SD surface from a PFM object (using "Create Surface").
- Fixed the undo so that it is working properly for parent nodes.
- When loading a V6 scene, the positions are now locked by default.
- The "Lock New View to Vessel" toggle did not work properly unless the 'Show View' button was clicked.
- Added detection for floating point GeoTiff files that have no data values of -9999 and at least one value where the height is set to the negative FLOAT_MAX value.
- The show/hide status of the timebar was not being properly saved as part of the preferences.
- Fixed an occasional bug when switching between plan view and 3D.
- Updated the surface difference operation to fully support scalar objects.

DMAGIC

- Added missing option to specify the coordinate system when importing vector source data.
- Now reading the full BAG metadata and coordinate system when importing.
- Changed the layout of the parameter window to be more horizontal than vertical. This allows it to be viewed on lower resolution laptop displays.
- Added text to status bar that a TFW file was saved.
- If you setup custom filters when building a PFM, but then decided NOT to check the "enable custom filters" box the (grayed-out) filters were still applied.
- When building a PFM, and specifying to use CUBE or not, the Area filter in the last stage was not enabled/disabled properly.
- Masking a scalar SD with another SD object caused the application to crash.

- If the source data does not load properly we now disallow viewing of the metadata.
- When building a PFM from PDS2000 files, rejected data was being excluded from the PFM instead of being added as rejected.

3DEDITOR

- You can no longer override custom hypothesis unless you use the new 'Clear Custom Hypothesis' menu option under the 'Set Custom Hypothesis' menu.
- The readings for depth and position on the bounding box in the 3D editor panel were too small with certain data sets.
- Improved the default layout so that the screen is not too large when opened on lower resolution laptop displays.
- The "Reset Interface Option" now resets the 3DEditor windows to their default location.

FMGEOCODER

- Added basic command line processing.
- Fixed a potential crash on Linux when pre-scanning for bounds.
- Fixed a bug preventing multicore scanning on Simrad .all files when the beam time series option is used.
- Fixed a memory overwrite bug when processing Fishpac MBSS data.
- Added detection of any GSF files in order to turn off mutli-threaded processing.
- Fixed a bug when reloading a saved GCS file that prevent you from picking lines or a patch. This prevented using the patch analyzer.
- Improved the handling of XTF files with corrupt data.
- The mosaic size (in rows and columns) was not being properly updated.
- The ability to select a backscatter color map was not working properly.

CMDOP

- Fixed a critical bug with the exportsurface command line applet.
- Fixed an off by one bug on the gridder when calculating the number of rows and columns.

OMNIVIEWER

- The application would crash if you tried to read a file with less than 50 records.

Fledermaus 7.1 is an important release that includes a number of new features as well as updates to the user interface addressing some often received complaints.

What's New

ALL APPLICATIONS

- The coordinate system definition used across the software now contains a vertical units component. This allows easy conversion from a number of common vertical units and works with the existing geo-referencing system.

FLEDERMAUS

- A completely new encoding engine has been added for rendering movies. This new system is optimized to work with high resolution movies using the latest movie formats. On the Mac and Linux platforms, Mpeg-1, Mpeg-2, and Mpeg-4 are supported. On the Windows platform, the Windows Media Video (WMV) format is supported.
- A completely new method for quickly manipulating color map intervals has been added. Instead of just viewing the color map in the attribute panel, you can graphically adjust each range.
- The point object now has full color map support, with the ability to adjust ranges and view the data histogram.
- A number of new options were added for CUBE filtering:
 - The ability to filter using standard deviation with a meters limit.
 - The ability to filter only above or only below the surface
 - The ability to apply separate filters to the top of the surface and to the bottom of the surface at the same time.
- The ability to export directly to Google Earth compatible formats has been added to a number of SD object types.

DMAGIC

- Greatly enhanced the selection of source data with the ability to select multiple objects at once. This can be done both graphically and using the source data list area.
- Added tools for moving DMagic projects from one location to another. Also made improvements so that completely self contained projects (all source and SD data is contained with the project hierarchy) can be moved without any changes.
- Added tools to update the paths for PFM components, source files and PFM SD objects. This allows PFM data sets to be moved from one location to another.

FMGEOCODER

- Added Angle Range Analysis (ARA) functionality for a number of the supported data formats including Kongsberg.all files, GSF files with beam time series data, and XTF Reson Snippets when paired with GSF files. The ARA patch analysis includes the ability to estimate grain size and surface type interpretation, roughness, and impedance based on a best fit Jackson model to the calibrated backscatter data. The results can be interactively examined and exported to a Fledermaus point object or ascii data.

FMCOMMAND

- Added a new applet caled "createcoveragevectors" that is used to create a polygon of a PFM data sets coverage area.
- Added coordinate system input to all remaining command line applets.

Features and Changes

ALL APPLICATIONS

- Added support for a new FAU variant with a header.
- Updated the HS2 DLL to the latest version from Hypack.

FLEDERMAUS

- When opening a V6 SD object, the dialog box button has been changed from "Save" to "Ok" in order to better match what is happening.
- Added reprojection support for vertical curtains.

- We now reset the scene coordinate system to the default state after removing all objects.
- The "Save Object As..." will now use the SD object name as the default file name.
- Added support for no-data values in SD scalar objects.
- Added the ability for a 3DEditor external app (such as a wave-viewer) to be limited to one copy running at a time and to close down when the 3d editor is closed.
- To improve clarity, the lock position button has been changed so there is an unlocked padlock icon when the object is unlocked and a locked padlock icon when the object is locked.
- Added a feature when converting gridded data to allow users to specify the output coordinate system that they want to write to. This will be defaulted to the project coordinate system in DMagic, and the scene coordinate system in Fledermaus.
- Enhanced the ASCII grid importer to handle multi-attribute files.
- Added importing of all cmap formats that FM v6 supported and also added a new ASCII format.
- Added ability for SD GeoImage objects to export their image as a GeoTIFF file.
- Added ability for users to specify the sentinel value when exporting floating point TIFF grids.
- Added "Save Object As..." to the right click menu for SD objects.
- Added a cmap function to reverse the order of colors in a colormap.
- Added an option to hide the coverage map when working with PFM data in Fledermaus.
- Added ability to import v6 DTM/GEO data as gridded source data.

DMAGIC

- Added a dialog for setting the coordinate system of V6 objects when added to a project.

- Added direct reading of the navigation data from any formats that contain navigation. This greatly improves the displayed track line and applies to HS2, GSF, HDCS, and Simrad .all files.
- Added ability to export to Google Earth directly from an SD GeoImage object.
- When a user asks to remove a file(s) from the source data, a dialog is now displayed that will ask whether the associated metadata should be removed as well.
- Added color map and shade parameters to the DMagic project options.
- Added support for importing MBSYSTEM FBT files.

FMGEOCODER

- Added a warning dialog when accepting the session setup to prevent accidental clearing of an existing project. If a project exists the user will be given the choice of whether or not they wish to proceed.
- Added the ability to add a directory of data.
- You can now reset the picked patch when a new line is selected by either clicking in the scene or from the file list.
- You can now change the color map used to display the backscatter values.
- Exported mosaic geotiffs can have empty areas set to be transparent.
- A processed line can be removed from the assembled mosaic

FMCOMMAND

- Updated all applets to handle SD surface objects instead of DTM + GEO pair.
- Updated shader applet to work with V7 object types.
- Added better detection for when V6 objects are used with an applet.
- The 'dtmmerge' applet has been renamed to 'surfacemerge' to better reflect its functionality.

- Removed the following depreciated applets:
 - scalarmanip
 - shade
 - xyztofph
 - omgconvert
 - mvartoscalar
 - mkatblines
 - mkgeoinfo
 - mkstepcmap
 - flipcmap
 - shiftcmap

Resolved Bugs

FLEDERMAUS

- Importing Shapefiles is not assigning the correct coordinate system.
- The license installer will corrupt the license file if an already installed license is selected (to be installed).
- The transparency is not being properly saved in plane, geoImage, scalar, camera, shape and label objects.
- If you delete a CUBE hypothesis, then use the CUBE soundings filter, the soundings in that cell are not being rejected.
- If a PFM was opened to determine if it was built with CUBE, it would incorrectly create a hypothesis directory.
- The area and volume statistics computed for a surface difference operation are not correct for geographic data.
- Added the ability for a 3DEditor external app to be limited to one copy running at a time and to close down when the 3DEditor is closed.
- The 'Lock View Direction to ROV' toggle did not work properly.
- Surface objects that were generated in Fledermaus were not being flagged as modified. This includes surfaces created from a PFM and the results from a surface difference operation.
- The coordinate selection widget was not always being update when a new coordinate system was added.
- Could not rotate or zoom when a flightpath was paused.
- Could not properly contour a V6 SD file that was not yet saved as a V7 object on disk.
- V6 surface objects would crash when the colormap was changed if the histogram was not yet calculated.
- Changed the import of CARIS colour maps so that it creates a percentage, not fixed cmap.

- When you add a V6 SD/Scene to Fledermaus and set the coordinate system, the button is labeled "Save", should say "Apply", as it does not actually do a save.
- V6 SD objects are not being properly set to modified if the coordinate system has been specified.
- Prevent the creation of a mapsheet if the coordinate system is set to 'assumed'.
- If the color map legend is turned on and screen capture is used with a magnification value, then the legend is repeated multiple times.
- Contour labels were not changing size no matter what value was used.
- Added a warning that rendering a movie in split screen stereo mode is not supported. The movie will render, but in regular (non stereo) mode.
- If a very large magnification value is used when creating a screen capture the application may crash.
- Deleting an SD Line object from a scene can cause crash.
- Importing data does not mark the created objects as modified.
- The scroll bars in a "new view" window are not working properly.
- The surface statistics allow you to select the polygon selection option, even when there is no actual selection in the workarea.
- Scalars with sparse data (data in 1 cell but no surrounding cells) are not being draped properly.
- Importing a BIL grid file is not keeping the specified coordinate system.
- The "reproject to scene" button should be disabled for objects that do not support the operation.
- The input configuration dialog for ungridded data used the 'value to grid' field even when not gridding data.
- The 'Reproject to Scene' button should be greyed out if the object is in the same coord system as the scene.
- The data gridding wizard is too small on the Mac platform. This cuts off some labels.
- Google Earth KMLs are given the name doc.kml instead of whatever you tell it when using the dtm tools option to export to google earth.
- Application crashed if a non supported file format was loaded as an image.
- The CUBE menu was not disabled when using a non-CUBE PFM.
- The surface statistics dialog is often too small to display all values without scrolling.
- When generating contour intervals, the last value was not being correctly created.
- (Linux) Launching a webpage from the help menu will result in two copies being displayed.

- If you have the "new view" open and try to clear the scene you get a crash.
- Changed the text of the "clear scene" dialog to be "Do you really want to remove all objects?" as opposed to "Do you really want to delete all objects?".
- (Mac) Changed the default background for the surface difference widget.
- Importing ASCII files with large floating point numbers can result in an overflow.

DMAGIC

- If you interpolate an SD surface, and choose to create a new SD file, the original surface will be modified.
- When appending to a blank CUBE PFM, the application does not recognize that it is a CUBE PFM. As a result, the CUBE error source controls are not displayed.
- Slope and rugosity calculations attach to existing SD as well as the new one.
- Added ability to specify the coordinate system when importing a DXF/DWG file.
- Problems appending data to a PFM.
- If you are in the point plotting mode you can open another project, which results in a crash.
- Added ability to export values from an attached scalar.
- No longer pick lines that are turned off.
- The options for calculating slope were not being properly restricted (based on the chosen algorithm).
- Importing global gridded data sets in geographic coordinates results in incorrect X cell size.
- Changed any references to 'raw data' in the GUI to 'source data'.
- A number of fixed for exporting ungridded data:
- There was also a crash that sometimes occurred when resetting the wizard when it has been opened multiple times. That has been fixed.
- The following fixes for each file format have been implemented:
 - CNC Binary: Limited to only exporting with a project coordinate system.
 - STB: Bug fixed where the header was not being written properly.
 - IVS Binary: It's ability structure wrongly indicated that it could write full records.
 - Hydro93: It's ability structure wrongly indicated that it could write full records. It was also appending the wrong default extension.

- BDI: Limited to only exporting with a projected coordinate system.
 - NAVO Caris: Wasn't properly supported to be exported in the OmniReader class.
 - Caries: Wasn't properly supported to be exported in the OmniReader class. Also, now limited to only being able to convert from FAU file format.
- Added ability to specify an input coordinate system in the import grid wizard.
 - The delete from disk option did not work correctly for a PFM SD. This has been fixed so that the entire PFM is deleted.
 - Added full support for multivariate (4 column) ASCII gridded data in the ASCII grid importer.
 - If you try and save a new version of an SD file that is already in the project, the new file will not be properly added.
 - The coverage map for PFM data objects is not being updated until after the application is restarted.
 - Optimized the plotting of points to reduce the amount of data reading required when zoomed into a small area of the project.
 - While ungridded files are being scanned for metadata if you right click or drag out an area, and launch a wizard, it only adds the files with metadata.
 - When opening a project, changed the status text to "loading" if metadata has already been created.
 - If you have sub-directories in the ungridded source data and reload a project, the sub-directory labels change size and font.
 - You can right click on a group of ungridded files before they are scanned for metadata and build a grid or build a PFM. However when the wizard comes up any files that are not yet scanned are unchecked by default.
 - Exporting points to individual files causes a crash.
 - Improved trackline display for Simrad raw files.
 - Added a toggle to shade using the scalar created from the slope or rugosity calculations.
 - Removed redundant dialog when saving an SD object.
 - If you close DMagic with SDs that are modified and not saved, the dialog improperly described saving a scene.
 - DMagic: The resample dialog in DMagic currently defaults to the second tab - which is resampling based on the cell size. Most users want to resample based on the numbers of rows and columns, so the first tab should be the default.
 - If you press the cancel button on the save file dialog that comes up after selecting your resampling options, it will still try and do the resampling operation.

- Problem plotting after switching projects with different coordinate systems.
- When adding a directory of source data files to a project, an empty directory hierarchy is being created within the project files.
- When you convert gridded data to an SD, fixed the label to be 'Surface (DTM)' instead of the older 'Sonar DTM'.
- The extract area dialog is too small to properly display the extraction values correctly.

FMGEOCODER

- They was a problem reading some Kongsberg .all files that were collected after Jan. 01, 2010.
- FMGeocoder crashes if you set bounds and then add lines, if you have compute ARA ticked in session setup.
- Crash if you select another session while in an existing session.
- If you save a session, restart the application, go into session setup, run lines, and the click okay, the application will crash.
- Added a preference for the "no data" used with exported GeoTIFF mosaics. Also changed the default to be transparent.
- The display fields showing the mosaic and statistic pixel sizes are not updated when a saved session is loaded.
- The online help and IVS homepage menu items were not working correctly.
- Added extra checks to prevent a crash when picking on an mosaic that is not yet fully initialized.
- The reset display button in the preferences dialog does not work.

ROUTEPLANNER

- Added missing color map legend.
- SD objects created from Routeplanner do not have a properly specified coordinate system.
- No extension added to SD export in Routeplanner.
- Clarified the profile dialogs title.

FMCOMMAND

- The scalarexpand applet was reversing the x and y user values, and was not properly negative values for x and y.
- The mkvimage applet will crash if you specify an incorrect filename.
- The 'surfacemask' applet was not producing a valid SD file when masking with a polygon.

