

MIRONE – MATLAB-based framework tool for display and manipulation of a large number of grid/images formats

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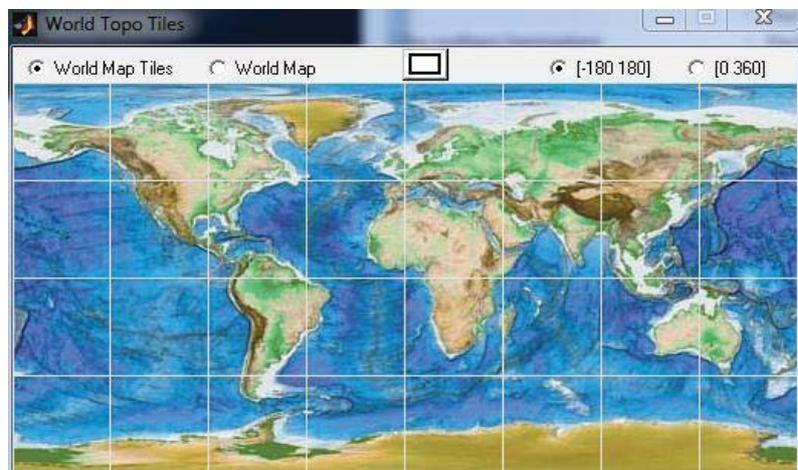
□ Key words

Communications - Data management - Sensors / instrumentation / electronics

□ Description

MIRONE is a **MATLAB-based framework tool that allows the display and manipulation of a large number of grid/images formats through its interface with the GDAL library**. Its main purpose is to provide users with an easy-to-use graphical interface to manipulate GMT grids. In addition it offers a wide range of tools dedicated to topics in the earth sciences, including tools for multibeam mission planning, elastic deformation studies, tsunami propagation modelling, earth magnetic field computations and magnetic Parker inversions, Euler rotations and poles computations, plate tectonic reconstructions, and seismicity and focal mechanism plotting. The high quality mapping and cartographic capabilities for which GMT is renowned is guaranteed through Mirone's ability to automatically generate GMT cshell scripts and dos batch files.

MIRONE is written in Matlab but a stand-alone version to run under Windows is also provided. This version now



loads windows faster than the native Matlab code and provides a solution for users that don't have Matlab.

Besides the grid/image processing capacities, MIRONE provides tools to measure length, area, azimuths; register images, digitize, drawing lines, circles, squares; plotting symbols, text, etc... All this graphical elements may be edited, moved interactively and saved to disk as x,y ascii files.

For teaching, demonstration or just getting info Mirone provides a small database with plate boundaries, volcanic and seismic activity, ODP/DSDP sites, hot-spots locations (according to some opinions), magnetic isochrons and tools to calculate and draw plate Euler velocities using the available models.

□ **Applicability of Technology to Maritime SMES**

One very useful tool to marine sector is the multi-beam planning tool. With this, you can plan your next multi-beam survey and take most advantage to the time scheduled to your mission. All you need is a gmt grid (satellite bathymetry is enough) for the region you want to survey.