About

Where can I find more information ?

- **GRASS** GIS wiki:
https://grasswiki.osgeo.org/wiki
- **GRASS** GIS mailing lists:
https://grass.osgeo.org/support
- Project website:

http://grass.osgeo.org

A free and open source philosophy

The Free and Open Source philosophy lets the user see the source code and structure of the program, which offers great transparency. Users can extend the program for their own needs. Immediate source code peer review increases the quality. With the help of the extension manager, new modules can be created without **GRASS** GIS package source code.

License
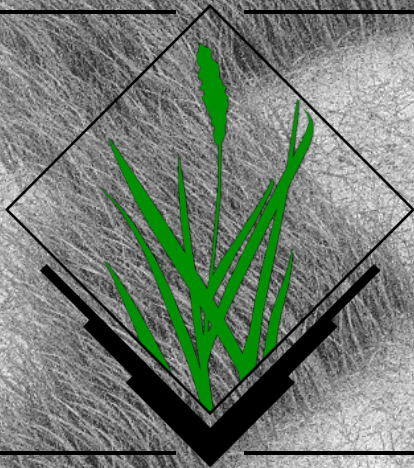
GNU General Public License (Free Software Foundation)

An OSGeo project

GRASS GIS is a founding project of the Open Source Geospatial Foundation which has the aim to create high quality open source geospatial software.
For further information visit the OSGeo homepage:

http://www.osgeo.org

GRASS GIS

Bringing advanced geospatial technologies to the world

What is **GRASS** GIS ?

GRASS GIS (Geographic Resources Analysis Support System) is a free and open source software for performing spatial analysis. It consists of more than 400 modules for processing vector (2D/3D), raster, voxel and temporal data (4D). Many interfaces to other programs in related domains like geostatistics, databases, map web services and even other GIS software exist. It is the oldest and largest free and open source GIS. It can serve as a desktop GIS and as the backbone of a complete GIS infrastructure.

History

GRASS GIS was originally developed in the early 1980's by the US Army Construction Engineering Research Laboratories (USA-CERL) and was published as public domain software. When the USA-CERL withdrew from **GRASS** GIS development, an international developer team assumed responsibility for the task. Since 1999, it has been published as free software under the terms of the GNU General Public Licence. Several people during years contributed to improve the software, they helped to add new functionality, speedup existing modules, make **GRASS** GIS easier, more useful and powerful to everybody.

Where is GRASS GIS used

GRASS GIS is used in scientific applications, commercial settings and by public authorities all over the world.
The software has shown strong potential for solving geospatial problems in numerous situations world-wide.

Technical datasheet

Design
- Modular commands
- Consists of more than 400 modules

Data management capabilities
- Raster / Vector / Voxel data processing
- 2D / 3D Raster / Vector modeling
- Image manipulation
- Vector topology / Network analysis
- Geostatistics (Interface to R)
- Temporal dataset
• WPS interface

Programming languages
- ANSI C
- GRASS-SWIG interface
- Python API, scripting library and GUI

Output
- Mapping modules (animation, cartographic . . .)
- NVIZ for visualization of 2.5D and 3D data (creation of animations & flybys)
- VTK, POVray
- Web Services

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Supported platforms
GRASS GIS runs on nearly all platforms. It supports GNU/Linux, Posix compliant Unix Systems, MS Windows and MacOS X.

Interoperability with other GIS-related software
- QGIS (Free geodata viewer and more)
- R-Language (statistics)
- Gstat (geostatistics)
- UMN MapServer (webmapping)

Supported file formats

GRASS GIS supports nearly all common GIS file formats through the use of the GDAL/OGR library. It also supports the Open GIS Consortium's Simple Features.

Vector file formats
ASCII, ARC/INFO ungenerate, ARC/INFO E00, ArcView SHAPE, BIL, DLG (U.S.), DXF, DXF3D, GMT, GPS-ASCII USGS-DEM, IDRISI, MOSS, MapInfo, MIF, PostGIS, TIGER, VRML, etc.

Image file formats
CEOS (SAR, SRTM, LANDSAT7 etc.), ERDAS LAN / IMG, HDF, LANDSAT TM/MSS, NHAP aerial photos, SAR, SPOT, MODIS, etc.

Raster file formats
ASCII, ARC/GRID, E00, GIF, GMT, TIF, PNG, Vis5D, SURFER (.grd), etc.

Database support
SQLite, PostgreSQL / PostGIS, MySQL, ODBC, DBF

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