

- Geographic Resources Analysis Support System
- http://grass.osgeo.org
- Current versions
 - 6.3 "stable" (old)
 - 6.4 "next stable" (new)
 - 7 "development" (future)
- Related software
 - QGIS
 - http://qgis.org



Welcome to GRASS GIS Version 6.3.cvs The world's leading open source GIS

Select an existing project location and mapset or define a new location

GIS Data Directory:	Browse.					
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Path to the	EPSG-codes 1	file /usr/local/share/proj/epsg		Browse		
EPSG code num	iber of projecti	ion 3005	_	Browse		
Define location				Cancel		



GRASS Capabilities

- Spatial data display and management as raster, vector, and volumes
- Data import in multiple formats, reprojection, digitizing
- Attribute data management
- Links to external DBMS (e.g., SQLite, MySQL, PostgreSQL, and ODBC)
- Spatial analysis and geostatistics
- Interpolation and modeling
- Multispectral image display and analysis
- N-dimensional visualization

GRASS











Installation: Windows

- Only version 6.4 available
- Download windows installer from grass.osgeo.org/download/index.php
- Install WinGRASS by double clicking and following the dialog.
- Opt to download both the Spearfish and North Carolina datasets

Installation: Mac

Install "frameworks"

- = utilities/dependencies
- individually or as complete package (dmg)
- Install GRASS (recommend 6.4)
 - note differences for OS X 10.4 ("Tiger") and 10.5 ("Leopard") versions
 - drag and drop in applications or in folder
- Create folder for GRASS data files
 - Download demo datasets from grass.osgeo.org/download/data.php
 - drag and drop demo data into folder

Installation: Linux

Use package installer

Make sure that dependencies are installed

Create directory for GRASS data files

Download demo datasets from grass.osgeo.org/download/data.php
drag and drop demo data into data directory

GRASS Data

- GRASS has it's own way of storing raster and vector information
- These are not (yet) "drag and drop" style files, so you have to manage files with the GRASS menu options
- You can import from and export to ANY standard GIS formats

GRASS Data Structure

GRASS GIS database = data directory

- Place where you keep your GIS data
- Can be any folder/directory
- Just have to tell GRASS what it is
- GRASS project location
 - Special folder/directory
 - Created by GRASS
 - All geospatial inside a location have the same geographic projection
 - All work in a GRASS session takes place within a single location

GRASS Data Structure

GRASS mapset

- Special folder/directory that holds geospatial data files
- Created by GRASS
- Every location always has at least 1 location = PERMANENT
- Can make other mapsets to organize your data
- Can change data in current working mapset
- Can read data in all mapsets in the current working location
- Cannot access data in mapsets in a different location (with some exceptions)

GRASS Data Structrure

GRASS data directory



Starting GRASS

- You must select the location and mapset where you want to work before you can enter GRASS.
- Helps to make sure that all your data are georeferenced in the same way. Critical for combining multiple data layers accurately in a GIS.
- Can only create a new location or a mapset when you start GRASS, or when importing external GIS data.

Starting GRASS

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Welcome	to GRASS GIS Versio	n 6.3.cvs rce GIS				
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nc_II nc_spf nc_spm nc_spm_02 nc_spm_03	PERMANENT	Create new mapset				
nc_spm_04 nc_spm_05	sqlite user1	Georeferenced file				
nc_xy nccoast-spft-wks06 northcarol_lcc	user2	EPSG codes				
Enter GRASS Exit		Help				

Creating Locations & Mapsets

Create location

- Match georeferenced file
- Pick EPSG code
- Specify georeferencing parameters and (optionally) resolution and extents
- Create mapset
 - Enter new name
 - Press "Create new mapset" button

Creating Locations & Mapsets



Import Data

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Bearing/distance to coordinates	Terra ASTER HDF import							
Postscript plot	WMS import							
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U	sing OGR							

Reprojection

Reproject from one projection system to another with g.proj

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Change category values and labels Concentric circles Generate random cells Generate surfaces Generate contour lines Interpolate surfaces	one location to the current location.					
Report and statistics						
from an	nother					
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Add created map into laver tre

Enter parameters for r.proj (those in bold typeface are required)

Close dialog on finish

Pull data in from another location rather than push data into another projection

Digitizing vectors in GRASS

X v.digit - new_roads@user1

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Old v.digit module, only for windows users

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Georectification

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Digitizing vectors in GRASS

wxPython GUI, Mac, Linux



Digitizing vectors in GRASS

QGIS with GRASS plug-in, all platforms

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