Brief introduction to GRASS GIS 7
GRASS GIS Temporal Workshop

September, 2013
GRASS data structure
GRASS GUI: Add raster map elev_lid792_1m
Display elevation in 3D view
Display elevation in 3D view
Display elevation in 3D view
Display elevation in 3D view
GRASS functionality is available through modules (tools). Modules respect following naming conventions:

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<th>group</th>
<th>prefix</th>
<th>examples</th>
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<tr>
<td>general</td>
<td>g.*</td>
<td>g.list, g.remove, g.copy</td>
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<tr>
<td>raster</td>
<td>r.*</td>
<td>r.univar, r.neighbors, r.contour</td>
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<tr>
<td>vector</td>
<td>v.*</td>
<td>v.info, v.generalize, v.db.select</td>
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<td>3D raster</td>
<td>r3.*</td>
<td>r3.info, r3.to.rast, r3.colors</td>
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<td>temporal</td>
<td>t.*</td>
<td>t.list, t.rast.aggregate, t.vect.univar</td>
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<tr>
<td>...</td>
<td></td>
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</table>
Finding and running a module

Type name or keyword in Search
Finding and running a module

Raster → Reports and statistics → Basic raster metadata
Finding and running a module

Type beginning of command in Command console
Finding and running a module
Finding and running a module
Finding and running a module

Use up/down arrows in command console to browse through command history

Click and press up arrow
Before we use a module to compute a new raster map...
Computational region

g.region -p

north: 220750
south: 220000
west: 638300
east: 639000
nsres: 1
ewres: 1
rows: 750
cols: 700
cells: 525000
Computational region

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Module example: r.slope.aspect

Raster → Terrain analysis → Slope and aspect
Module example: `r.slope.aspect`

```
r.slope.aspect elevation=elev_lid792_1m@PERMANENT slope=slope aspect=aspect
```
Module example: r.slope.aspect

r.slope.aspect generates raster maps of slope, aspect, curvatures and partial derivatives from an elevation raster map. Aspect is calculated counterclockwise from east.

**DESCRIPTION**

The **elevation** input raster map specified by the user must contain true elevation values, not rescaled or categorized data. If the elevation values are in feet or other units than meters (with a conversion factor `meters`; defined in PROJ_UNITS), they must be converted to meters using the parameter **zfactor**.

The **aspect** output raster map indicates the direction that slopes are facing. The aspect categories represent the number degrees of east. Category and color table files are also generated for the aspect raster map. The aspect categories represent the number degrees of east and they increase counterclockwise: 90 degrees is North, 180 is West, 270 is South 360 is East.

The aspect is not defined for slope equal to zero. Thus, most cells with a very small slope end up having...
Module example: r.slope.aspect
Uncheck newly created maps:
Add vector map streams:
GRASS GUI: 3D view
GRASS GUI: 3D view
GRASS GUI: 3D view

Image of a 3D view interface with various settings and options, including a highlighted color attribute named "slope@intro".
GRASS GUI: 3D view

Save picture
GRASS GUI: Quit

Quit GUI

Do you want to store current settings to workspace file?

[Options: No, Cancel, Yes]
GRASS GUI: Quit

Quit session

```
GRASS 7.1.svn (NC_spm_temporal_workshop):~ >
exit
Cleaning up temporary files...
Done.
Goodbye from GRASS GIS
```
GRASS GIS 7  Free download for MS Windows, Mac OSX, Linux and source code: http://grass.osgeo.org/download/

Addons (user contributed extensions):
http://grasswiki.osgeo.org/wiki/GRASS_AddOns

Sample data  Rich data set of North Carolina (NC) available as GRASS GIS location and in common GIS formats:
http://grass.osgeo.org/download/sample-data/

User Help  Mailing lists (in different languages):
http://grass.osgeo.org/support/

Wiki including FAQ:
http://grasswiki.osgeo.org/wiki/

Manuals:
http://grass.osgeo.org/documentation/manuals/