

## How to use CORINE in WPS/WRF

This report is based on the post in the WRF Forum <http://forum.wrfforum.com/viewtopic.php?f=22&t=2266#p14238>

The procedure has two basic steps:

1. Remap, reproject and convert the original CORINE 2000/2006 tif file to ASCII
2. Convert to WPS-binary readable

=== REMAP/REPROJECT/CONVERT (Grass used) ===

- Reproject: reprojection into WGS84 with grass  
tyr> grass -gui

When login, you should choose the coordinate system as EPSG 3035 (Lambert Azimuthal Equal Area). Names of location and map must be given. Here, we use l3035 as the location and data the map.

```
grass> r.in.gdal
```

The file « g250\_6.tif » (Corine 2006 - 250m resolution) is available at  
/net/libre/jomungand/kimy/CorineLandCover/g250\_06/  
The name of variable will be needed. Here we suppose g250\_6

Logout from grass and relogin. When relogin, you should choose the coordinate system as WGS84 (longitude and latitude).

```
grass> r.proj input=g250_6@data location=l3035 output=g250_6_ll
```

- Remap: Take Table 1 in Pineda et al. 2004 and use it to reclassify the new classes into the USGS ones

```
grass> r.reclass input=g250_6_ll output=g250_6_ll_usgs rules = reclassification.txt
```

The file « reclassification.txt » is available at  
/net/libre/jomungand/kimy/CorineLandCover/g250\_06/

- Convert: to an ASCII file

```
grass> r.out.ascii input= g250_6_ll_usgs output = [filename]
```

We get now an ASCII file with a header containing:

```
north: 70:27:36.900634N  
south: 35N  
east: 44:18:47.140488E  
west: 23:49:02.613199W  
rows: 14184  
cols: 27252
```

This information will be needed in the second step

*References:*

*Pineda et al. 2004: N. Pineda, O. Jorba, J. Jorge, J.M. Baldasano. Using NOAA AVHRR and SPOT VGT data to estimate surface parameters: application to a mesoscale meteorological model*

=== Convert to WPS-binary readable format ===

(with a slightly modified version of the fortran code provided in [viewtopic.php?f=22&t=481&start=10#p12411](#) by

[Lorenzo Giovannini](#), Atmospheric Physics Group Department of Civil and Environmental

Engineering, University of Trento)

- (paths can be modified, just be sure to compile with the appropriate routines) in WPS/geogrid/src create a program to read in the data and with the help of write\_geogrid.o transform it to WPS format. A sample program is: wpsingest\_toCLC.f90

Compile the write\_geogrid.c:

```
gcc -D_UNDERSCORE -DBYTESWAP -DLINUX -DIO_NETCDF -DIO_BINARY  
-DIO_GRIB1 -D_GEOGRID -O -c write_geogrid.c
```

- Compile the ingestion program with the write\_geogrid.o

```
gfortran wpsingest_toCLC.f90 write_geogrid.o
```

- This will create the data in the file format described in the WPS documentation.

- Copy/move/link this file to where the geog data is stored: /Data/geog/landuse\_8s

- Create an index file using the header of the ASCII file created in step 1 similar to:

type=categorical

category\_min=1

category\_max=24

projection=regular\_ll

dx=0.0025

dy=0.0025

known\_x=1.0

known\_y=1.0

known\_lat=35.0

known\_lon=-23.817388

wordsize=1

tile\_x=27252

tile\_y=14184

tile\_z=1

missing\_value = 16

units="category"

description="24-category USGS landuse-from corine"