

How to Convert LANDFIRE Anderson's 13 Fuel Maps and Topography Data with WRFXPY

[WRFXPY](#) is a publicly available set of tools related to running WRF and WPS. This package can be used to convert fuel and topography data downloaded from LANDFIRE into a format that is readable by WPS/WRF. It should be noted that this package can convert only Anderson 13 fuel categories and cannot convert Scott and Burgan 40 fuel categories, or any other fuel models. This package automatically creates the converted files to be used in WPS as well as the required index file, as shown in the related recorded video.

Note: using WRFXPY is an alternative approach to some of the steps shown in the “Geogrid” YouTube video, where the LANDFIRE files are converted manually using gdal.

The following steps can be utilized to convert the downloaded fuel and topography data from LANDFIRE to be used by WPS:

1. Install required Python packages:
 - The following Python packages should be installed in a Python environment prior to using WRFXPY: gdal, netcdf4, pyproj, paramiko, dill, scikit-learn, h5py, pandas, psutil, proj4, simplekml, pygrib, f90nml, pyhdf, xmldict, basemap, MesoPy, python-cmr
2. Download the WRFXPY package:

```
git clone https://github.com/openwfm/wrfxpy.git
```

3. For converting the fuel data, run:

```
./convert_geotiff.sh <path to LANDFIRE .tif file> <target directory> NFUEL_CAT
```

4. For converting the topography data, run:

```
./convert_geotiff.sh <path to LANDFIRE .tif file> <target directory> ZSF
```

In the above commands, replace “<path to LANDFIRE .tif file>” with the directory location of the .tif that has been downloaded from the LANDFIRE website, and replace “<target directory>” with the directory location where you would like to save the converted files.

Note: WRFXPY can become very memory (RAM) demanding. If you see that the code is stuck or crashing without any issues, you are running out of memory. You either need to make your data domain smaller, or use other methods introduced in the workshop.