AppsWrf

Using WRF and WPS

Many versions of WRF and WPS are installed in /usr/local/pkg on the power7 and BlueGene nodes.

Geodata for WPS is installed in /hpc/scratch/geog and you can access it with **geog_data_path = '/hpc/scratch/geog'** in your namelist.wps file.

Historical weather data ("FNL files") are stored in **/hpc/scratch/FNL**

There is a script on hpclogin1 called **/usr/local/bin/setupwrf.sh** that creates a directory and sets it up with symbolic links to the WRF installation, so that you only have to copy in GRIB data and namelist files - of course, you might want to copy over your own LANDUSE tables, etc as well. Depending on the login node where you run **setupwrf.sh** it will assume that you want WRF to run on that architecture (Foster for the BlueGene/P, Beatrice for Power7 Linux). WPS is always setup to run on the power7, though.

For example, you might run these commands to set up, edit and then run a polarWRF simulation in the directory wrfTest on the BlueGene/P:

```
# Change the default location of WRF:

export WRF_DIR=/bgp/local/pkg/polarWRF/version

# Set up the directory:
setupwrf.sh wrfTest
cd wrfTst
nedit namelist.wps namelist.input
ln -s some_GRIBFILE_directory/gfs.t12z.* .
llsubmit wps.ll
llsubmit wrf.ll
```

To restart a WRF simulation

- Create restart files: In namelist.input, set restart_interval to your desired restart output file interval in minutes.
- It's a good idea to make the restart interval a nice multiple of 24 hours, or whatever the time period covered by the WRF simulation is. For example: 4320 minutes (3 days). Otherwise, WRF will restart the simulation from a strange time like 07:20am.
- You don't need to re-run real.exe.

In namelist.input:

1. Set restart = .true.
2. Set start_* time to reflect restart time. You get this from the name of the last restart file created, eg: wrfrst_d01_2008-09-07_22:40:00 means we will restart from 22:40 on 7/9/2008, so the parameters are:

```
start_year      =       2008,   2008,   2008,   2008,
start_month     =       09,     09,     09,     09,
start_day       =       07,     07,     07,     07,
start_hour      =       22,     22,     22,     22,
start_minute    =       40,     40,     40,     40,
start_second    =       00,     00,     00,     00,
```

- Re-run wrf.exe

CategoryApps CategoryHpc