

Defining the model domain and initial conditions



National Center for Atmospheric Research



WRF Pre-Processing System (WPS)

Domain Definition & Static Input Data

- WRF Pre-processing System (WPS)
 - http://www2.mmm.ucar.edu/wrf/users/docs/user_guide/users_guide_chap3.html
- Suite of programs and data to prepare real world simulations
- geogrid.exe
 - Defines model domains
 - Interpolates static geographical data to the model grids
- GEOGRID file (geo_em*.nc)
 - Coordinate system information contained in global attributes
 - Static 2D and 3D gridded variables

WPS Namelist for NWM

```
&share
wrf_core = 'ARW',
max_dom = 1,
start_date = '2006-08-16_12:00:00','2006-08-16_12:00:00',
end_date   = '2006-08-16_18:00:00','2006-08-16_12:00:00',
interval_seconds = 21600
io_form_geogrid = 2,
/
```

```
&geogrid
parent_id      = 1, 1,
parent_grid_ratio = 1, 3,
i_parent_start = 1, 31,
j_parent_start = 1, 17,
e_we          = 4609, 112,
e_sn          = 3841, 97,
geog_data_res = '30s','2m',
dx = 1000,
dy = 1000,
map_proj = 'lambert',
ref_lat  = 40.00,
ref_lon  = -97.00,
truelat1 = 30.0,
truelat2 = 60.0,
stand_lon = -97.0,
geog_data_path = '/glade/u/home/wrfhelp/WPS_GEOG'
/
```

```
&ungrib
out_format = 'WPS',
prefix = 'FILE',
/
```

```
&metgrid
fg_name = 'FILE'
io_form_metgrid = 2,
/
```

References

WRF & WPS

- [Technical Description](#)
- [User's Guide](#)
- [Tutorials](#) (online, in person, slides from previous tutorials)



WRF-Hydro[®]
MODELING SYSTEM

WRF-Hydro: http://www.ral.ucar.edu/projects/wrf_hydro/