Wikiprint Book

Title: Reforecast Tutorial

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Reforecast Tutorial

How to get driving model (NCEP) data.

In this example, the publicly available NCEP Reanalysis (run 1) data are going to be used. This data can be dowloaded from ?http://nomad3.ncep.noaa.gov/pub/reanalysis-1/6hr in GRIB format. These are monthly files that get updated each month nearly in real time. Two files are needed for each month, one with the pressure level data, labeled "pgb", and other one with 2D data, labeled "grb2d". extdata_path defined in experiment.wrf4g must point to the folder where these files are located. Alternatively, it is possible to write a preprocessor that downloads the data itself. Note that the file names must be parsed by the preprocessor. In this case, if both files are located into the same folder, and provided the extension ".grb" is appended to them, the default preprocessor will parse them correctly, since it looks for monthly files with year/month (YYYY/mm) into their names. For example, the files for December 2010 should be:

```
grb2d201001.grb
pgb.ft00.201001.grb
```

Creating a WRF experiment

Keeping organized

Before starting to create an experiment, is good practice to create some directories to be tidy. For example, if our project is called "seawind", we can create the following directory hierarchy.

```
projects/seawind/submit/exp1
projects/seawind/submit/exp2
...
projects/seawind/domains
projects/seawind/data
projects/seawind/scripts
projects/seawind/figures
```

Of course, many other combinations are possible, depending in the organization of the resources available to the user.

The test experiment

Before creating a large experiment, with many chunks and realizations, it is convenient to run a smaller test experiment with exactly the same model configuration. This way we can see that everything is working as we want. Frequently, some attempts are needed before WRF runs, because of mistakes in the configuration files or in the set up of input files.

Go to the "submit" folder and create another folder called "sw_test":

```
cd projects/seawind/submit
mkdir sw_test
cd sw_test
```

Now we need to copy here the templates of experiment.wrf4g and resources.wrf4g.

```
cp $WRF4G_LOCATION/experiments/wrfuc_single_serial/experiment.wrf4g .
cp $WRF4G_LOCATION/etc/resources.wrf4g .
```

Now we can configure our test experiment, following the instructions in WRF4Gexperiment_wrf4g and WRF4Gresources_wrf4g. Note that, as it is a reforecast, we need to use the multiple dates configuration variables.