



GeraDP

Users Guide – version 5.0.1

March 2018

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1. Introduction:

The GeraDP is a tool used to convert files from atmospheric initial conditions of the GFS, available in GRIB format, to the specific format for the BRAMS. This guide aims to present the process of installing and running the GeraDP.

2. Structure:

GeraDP contains the following files:

- a) geraDP.sh – main execution script.
- b) geraBIN.gs – GRADS script for intermediate data processing.
- c) geraDP.f90 – Fortran file for post data processing.

3. Execution and Installation Instructions:

a) PHASE I – Compilation and environment construction.

Requirements:

- UNIX/Linux like Operational System;
- GRADS Program;
- Fortran Compiler.

Download GeraDP at the Atmospheric State section in page <http://brams.cptec.inpe.br/input-data/>.

Unzip the downloaded file in your working area, e.g: /dados/fontes:

```
→ cd /dados/fontes
```

```
→ tar zxvf geraDP.gz
```

Compile geraDP.f90 file using geraDP.x as the binary file name:

```
→ gfortran -o geraDP.x geraDP.f90
```

Copy the files geraDP.sh , geraBIN.gs and geraDP.x to the directory that contains the GRIB files and the CTL file. The CTL file is required to open the GRIB files in grads.

The CTL file is not available at the grib files, then you must create the file with the g2ctl application. Visit

<http://www.cpc.ncep.noaa.gov/products/wesley/g2ctl.html> for information and download the application.

b) PHASE II – Execution

Execute the geraDP.sh script with the following parameters:

```
→ /geraDP.sh gfs025gr.pgrb2.2016041800.ctl uvel vvel temp zgeo umrl 41  
-70 29 250 358 N
```

The parameters are:

1. CTL template file name using the GRIB files;
2. Wind Zonal variable name *uvel* (m / s) defined in CTL;
3. Wind Southern variable name *vvel* (m / s) defined in CTL;
4. Temperature variable name *temp* (K) defined in CTL;
5. Geo potencial variable name *zgeo* (m), defined in the CTL;
6. Relative humidity variable name *umrl* (%), defined in the CTL;
7. Number of levels defined in the CTL;
8. Initial Latitude. Use -999 to not change;
9. Final Latitude. Use -999 to not change;
10. Initial Longitude. Use -999 to not change;
11. Longitude end. Use -999 to not change;
12. In the last parameter, use "N" as default to generate the file intermediate grads binary file "to_dp.gra", remove it at the end of the process and generate the final files of DP's in one step.

Use the parameter "S" to generate only the intermediate grads binary file "to_dp.gra" and not remove it at the end of the process. Using "S", the DP end files are not generated. To generate the DP end files from the intermediate file "to_dp.gra", use the "Y" parameter.

Input files:

- Boundary and Initial Condition Atmospheric files:

The Boundary and Initial Condition Atmospheric files are files from the GFS, download-able from <http://nomads.ncep.noaa.gov/pub/data/nccf/com/gfs/prod/> . The interested files are files like gfs.t<HOUR>z.pgrb2.0p25.f*, which are in folders like gfs.<YYYYMMDDHH>.