Inca HowTo
2013 – 01 – 18

p24data

Since 2 month all data are copied on $CCCWORK. So you can change /dmnfs/cont003/p24data/ by /ccc/work/cont003/dsm/p24data in your cards

For exemple in inca.card

[BoundaryFiles]

List= (/dmnfs/cont003/p24data/ECMWF320x160/AN${year}/165_${year}${month}.nc   , u10mec.nc)\
        (/dmnfs/cont003/p24data/ECMWF320x160/AN${year}/166_${year}${month}.nc   , v10mec.nc)\
 (/dmnfs/cont003/p24data/ECMWF96x95/AN${year}/u10m_ecmwf_${year}${month}.nc , u10m.nc)\
 (/dmnfs/cont003/p24data/ECMWF96x95/AN${year}/v10m_ecmwf_${year}${month}.nc , v10m.nc)

[BoundaryFiles]

List= (/ccc/work/cont003/dsm/p24data/ECMWF320x160/AN${year}/165_${year}${month}.nc , u10mec.nc)\
 (/ccc/work/cont003/dsm/p24data/ECMWF320x160/AN${year}/166_${year}${month}.nc   , v10mec.nc)\
 (/ccc/work/cont003/dsm/p24data/ECMWF96x95/AN${year}/u10m_ecmwf_${year}${month}.nc , u10m.nc)\
 (/ccc/work/cont003/dsm/p24data/ECMWF96x95/AN${year}/v10m_ecmwf_${year}${month}.nc , v10m.nc)

DRIVER and PARAM

Some variables of PARAM files are drived by the componante driver file (ex : lmdz.driver or inca.driver).

In lmdz.card we can choose some option and it will overwrite the value in PARAM/*def file.

For exemple :

LMDZ_NbPerdiod_adjust / ok_guide / LMDZ_Physics …

And lmdz.driver will overwrite :

adjust / ok_guide / choose the good card for physic.def

Nudging simulation

- If you want work with a nudge simulation :
  - You choose « ok_guide=y » in lmdz.card
  - You un-comment lines with wind files in lmdz.card
  - Check that files for your simulation year exist (remember on p24data or on p86ipsl)

(Un-)Use radiative code

- When you work with lmdzorinca you can choose to add the aerosol impact on climate or no.

- If you work with old configuration (before LMDZORINCA_v5), you need to make some change in physic.def(_L39_AP)

    - ok_ade=y (or n)

    - ok_aie=y (or n)

    - aerocol_couple=y If you forget this option lmdz will try to read aerosol concentration in input file, and not use inca values

- If you work with lmdzorinca_v5 : the radiative code is actived by default for aer and nmhc_aer (ok_ade=y / ok_aie = n). If you want unactive it you need to modify lmdz.driver :

```
case ${CHEM} in
  AER)
    LMDZ_sed config.def ok_ade y
    LMDZ_sed config.def ok_aie n
    LMDZ_sed config.def aerosol_couple y
    LMDZ_sed config.def read_climoz 0
    ;;
  NMHC_AER)
    LMDZ_sed config.def ok_ade y
    LMDZ_sed config.def ok_aie n
    LMDZ_sed config.def aerosol_couple y
    LMDZ_sed config.def read_climoz 0
    ;;
  GES)
```

→
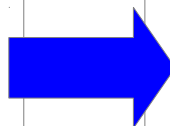
```
case ${CHEM} in
  AER)
    LMDZ_sed config.def ok_ade n
    LMDZ_sed config.def ok_aie n
    LMDZ_sed config.def aerosol_couple n
    LMDZ_sed config.def read_climoz 0
    ;;
  NMHC_AER)
    LMDZ_sed config.def ok_ade n
    LMDZ_sed config.def ok_aie n
    LMDZ_sed config.def aerosol_couple n
    LMDZ_sed config.def read_climoz 0
    ;;
  GES)
```

Adjust

During the execution in parallel we need to adjust the node distribution on each process. For this we count all operation on each process and we try to find the best distribution to balance all of them.

In lmdz.card :

LMDZ_NbPeriod_adjust=3

After each month the simulation will create a file : Bands_resol_...... The last one (here the third) is the best of them. Then you will relaunch your simulation with

LMDZ_NbPeriod_adjust=0

 LMDZ_Bands_file_name=path_of_you_bands_resol_file

Rebuild and post-treatment

- **Rebuild** : tool which allows to recombine output files created in « multiple files mode », runs on front-ends, in asychroneous mode (launched through libIGCM)

Rebuild_fromWorkdir.job → RebuildFrequency

- **Pack** : tool which allows to « pack » output files of the models in order to reduce the number of stored files

pack_output.job → PackFrequency

pack_restart.job → PackFrequency

pack_debug.job → PackFrequency

- **Times Series :** tool which allows to create Times Series of output variables

create_ts.job → TimeSeriesFrequency

Relaunch Rebuild

Copy rebuild_fromWorkdir.job in your Experiment directory

```
cd modipsl/config/LMDZORINCA_v5/My_EXP/

cp ../../../libIGCM/rebuild_fromWorkdir.job .
```

Check :

- LibIGCM path
- REBUILD_DIR : where your output files are stored ($SCRATCHDIR/REBUILD/.../)
- NbRebuildDir : how many directories to rebuild
- LastPeriodForRebuild : date of the last rebuild we want

After execution it will create two files : REBUILDWRK.o and REBUILDWRK.e where you will find all information about the execution.

Relaunch other post-treatment

- The same way to work.

- Check :
  - LibIGCM path
  - DateBegin
  - DateEnd

- For create_ts : use TimeSeries_Checker.job. It will find all your times Series missing.