Training on AROME

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METEO FRANCE

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1. INTRODUCTION

This report describes the work done during my stage in CNRM/GMAP (Toulouse), where it's proposed to learn the necessary steps to run AROME model for my first time. Unfortunately, the period of my stay was about two weeks, and so, it was no possible to run a configuration with data assimilation into the model, meaning this that only the traditional configurations (E923, PGD, EE927_surfex, EE927, E001, FullPos) were used and managed by scripts and respective namelists.

In a near future, I hope to come back again to Toulouse to fit this lack, giving also my contribution to the development of AROME, if possible, since I've started my second year of PhD in the University of Lisbon - Faculty of Sciences and I am working at the National Meteorological Institute of Portugal. In the PhD, we pretend to develop some kind of reinforcement on the assimilation schemes, the ones mostly used by mesoscale models (e.g. AROME), to reduce, by some way, the "unphased" forecasts of wind speeds for periods not longer than 48h once we compares forecasted times series with asynoptic wind data collected in locals strongly dominated by complex orography. This locals favours the occurrence of phenomena's like stratification and atmospheric turbulence sometimes (or often) very difficult to be reproduced my atmospheric mesoscale models.

2. MODEL CONFIGURATIONS

Before going into each configuration of AROME, it must be noted than from times to times, new incoming updated versions of the code will surge, and we can face the necessity to deal with some minor changes in namelists or scripts to run the model. By the present date, this work was all done with AROME cycle CY33T1, the most up to date.

Like appointed above, the fundamental configurations for AROME are the E923, EE927, EE927_surfex, PGD, E001 and FullPos. There is another configuration, not tested in this work, exclusivity related to GRIB conversions of post processed forecast fields - the ProGRID configuration.

Not pretending to go into deeply of each configuration's description, we should say that configuration E923 serves to prepare the climatological files, like the orography, and other specific variables (e.g. aerosols, ozone, etc). The configuration E923 has two sets. One of them creates the orography as a quadratic truncated climatological file and the other variables are computed as linear truncated climatological files. This configuration can also project the climatological fields into two kinds of projections, namely, the Lambert projection and a regular latitude-longitude grid projection, exclusively used in Fullpos configuration.

Configuration EE927 creates the atmospheric boundary conditions for AROME and it usually makes interpolations from previous forecasts from a coarse meteorological model (e.g. ALADIN) to the target domain of AROME. Configuration EE927_surfex, do the same thing but only to the surface fields.

Configuration PGD creates specific physiographic fields to AROME's domain, extracting special fields from known data bases, such as the gtopo or ecoclimats, with help of Meso-NH packages.

Configuration E001 makes the integration job of AROME and finally, the FullPos converts the forecasted fields from a lambert projection into a regular latitude-longitude grid geometry.

3. CASE STUDY

First of all one need to create an user "area" into two machines: the **tori** - a frontend computer to launch jobs in the nodes (i.e. the supercomputer NEC) and **cougar** – an archiver file machine. Some GMAP stuff (e.g. Eric ESCALIERE) are responsible to do this task. It is also desirable to have another user "area" in other machine, like **sxalgo1** (from Pierre BENARD team) for running some useful utility programs just like the well known "frodo" utility witch is used when we want to consult the headers/contents of FA files. In that machine we will run also post-processing programs to plot the forecast results in METVIEW or CHAGAL.

After creating my user "area" in computers **tori**, **cougar** and **sxalgo1**, we started to create a general folder in **tori**, named AROME in the $HOME directory. Inside that folder, other six folders were created and they have been renamed by the name of configurations stated above like, E001, E923, EE927, EE927-surfex, FPOS, PGD. Inside of each folder there are always a specific script to sumbit the job in **tori** machine, and a namelist too. Some configurations demands more than one namelist. For this cases, all namelists are included in the respective configuration folder.

To start the work it was necessary to define the area for model simulation to get some specific parameters to the projections available. In GMAP, there is an internet site available only to internal users which permit the retrieval of the global grid parameters for the domain of interest. The URL of the site is: http://sicompas.meteo.fr/

In figure 1, one can see the limits chosen in this work for AROME's domain. The area selected just as they are, comprehends most of the western part of Portugal. This region can be strongly influenciated by sea-breeze effects, specially during summer months, where the wind speed outside the cities can substantially be increased in the beginning of the afternoon by those thermical effects. So, for a first test, we planned to make a simulation for this area for a particular day in the past to see if AROME can deal well with the wind speed intensity under this circumstances. Unfortunately, by this time, we

don't have any real wind data station to prove/confirm or validate the results given by AROME model.

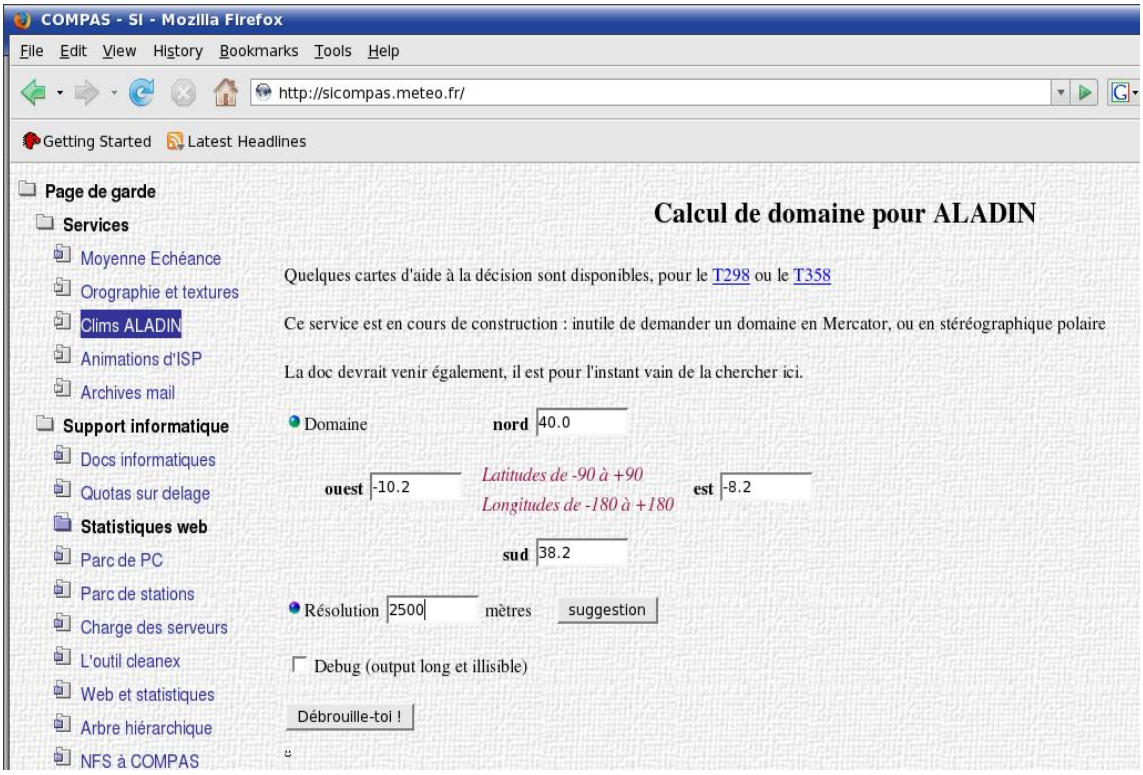

Figure 1 – web site for creating domains for ALADIN or AROME models

After confirming the check-box "Debrouille-toi" in the website, the following parameters (shown in table I) were obtained.

Table I – Domain parameters for AROME simulation

Données d'entrée

```
           nord = 40.0
ouest=-10.2                  est=-8.2    resolution=2500
            sud = 38.2
```

Calcul du domaine

```
/domala 40.0 -10.2 38.2 -8.2 2500 26714
 La resolution angulaire de 0.025 degres correspond a   2.130 km (  2100 m)
 La resolution angulaire de 0.050 degres correspond a   4.259 km (  4200 m)
 La resolution angulaire de 0.075 degres correspond a   6.389 km (  6300 m)
 La resolution angulaire de 0.100 degres correspond a   8.518 km (  8500 m)
 La resolution angulaire de 0.125 degres correspond a  10.648 km ( 10600 m)
 La resolution angulaire de 0.200 degres correspond a  17.037 km ( 17000 m)
 La resolution angulaire de 0.250 degres correspond a  21.296 km ( 21200 m)
 La resolution angulaire de 0.500 degres correspond a  42.592 km ( 42500 m)

 erpk  =   0.630704372347608
 ndlon =           90     ndlux =           79
 ndgl  =          108     ndgux =           97
 lat0  =    39.1021079012600
 lon0  =    350.800000000000
 lat1  =    38.0177654333830
```

```
 lon1  =    349.687329473701
 lat2  =    40.1755466171226
 lon2  =    351.947257797131
 dx    =    2499.74679420999
```

Extraction de l'orographie

```
/geoget -o 26714.h16 -x -11.30000 -7.100000 -y 37.00000 41.20000 -at never
/data/mcdi/data/mnt/edc/EDC_Mean.hdr
dx = 0.0416667     102 pixels    -11.3333333 <= x <= -7.08333333
dy = 0.0416667     101 pixels             37 <= y <= 41.2083333
Output file : 26714.h16, from 1-band(s) 16-bits data.
```

Namelist pour Aladin :

```
 &NAMDIM
 NDLUX=79,
 NDGUX=97,
 NDGL=108,
 NDLON=90,
 NSMAX=35,
 NMSMAX=29,
 /
 &NEMDIM
 NBZONL=8,
 NBZONG=8,
 /
 &NEMGEO
 NSOTRP=1,
 NROTEQ=0,
 ERPK=0.630704372347608,
 ELAT1=38.0177654333830,
 ELON1=349.687329473701,
 ELAT2=40.1755466639089,
 ELON2=351.947257797131,
 ELAT0=39.1021079012600,
 ELON0=350.800000000000,
/
```

In Figure 2 one can see the area under study processed from the website.

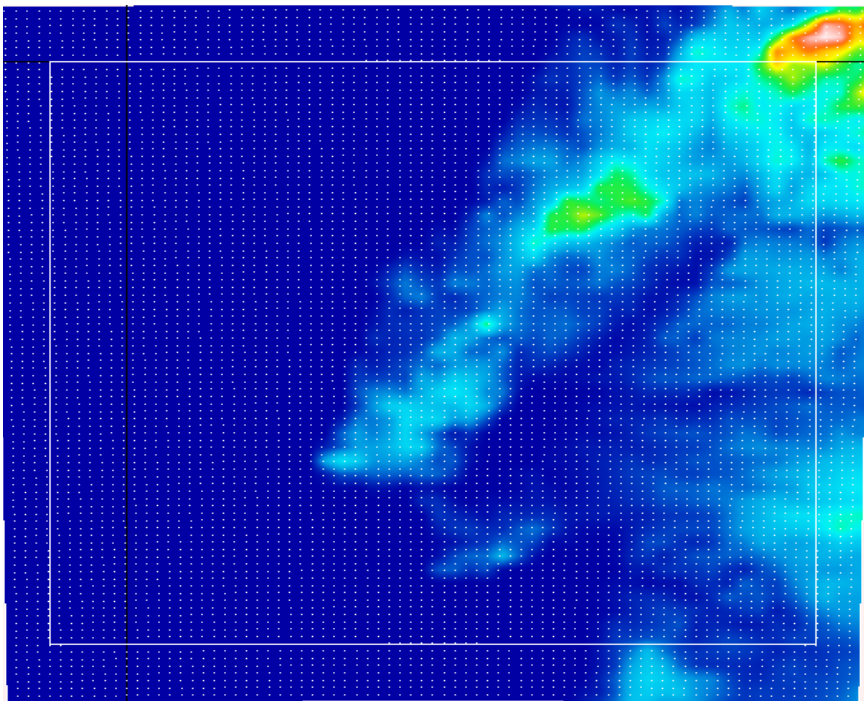

Figure 2– domain representation as processed via website for AROME

3.1 E923 CONFIGURATION

Once the parameters computed, it was time to run the E923 configuration. This configuration can be launch in **tori** (via qsub command) with a script named as **Domain01_2.5**. A copy of them is provided in Appendix I.

In the script there are some informations that users must take care when they will pretend to prepare your own cases. I decided to select them as bold for a clearly and easy understand. In my work, these informations are related with parameters shown previously in table I and also it contains the paths of directories where the results will be putted.

In fact we decided to apply this methodology to all of other configuration scripts including the namelists. This way, users can immediately focuses the right places for substitutions. If users want, they can copy all the scripts and namelist from my "area" in **tori** going to directory of **/gp/cnrm/mrpm/mrpm623/AROME**

After submitting the script **Domain01_2.5** the climatology fields were generated in the $WORKDIR directory (in **tori**) prefixed by **zo_2.5m_$$** where **$$** is a number between 01 to 12 (each month).

In appendix II, there is a script named **claro_bdap** ready to be submitted to **tori** in order to create the climatology fields for a regular latitude-longitude grid. This script needs two namelists both included in appendix IIa and IIb, and they are named as **nam_bdap** and **nam_bdap_zoeste** respectively. The output of the script will generate in $WORKDIR directory the climatology files named by **bdap_zoeste_m$$** where **$$** varies again between 01 and 12.

The execution of the above two tasks completes the E923 configuration. It must be noted here that climatology files generated for a rectangular longitude-latitude grid will only be used in the Fullpos configuration while the other files in a lambert projection will be used in the all configurations except in E001.

3.2 PGD CONFIGURATION

For executing this configuration one may use the script named **scr_pgd_zoeste** included in appendix III. The script will need a namelist called **PRE_PGD1_zoeste_arome_2.5** and she's is also included in the same appendix. In the namelist we must pay attention to the values of parameters that must be the same as the ones in table I.

The script must be launched in **tori** with the qsub command, and the output of this configuration will generate a LFI file, needed by both EE927_surfex and E001 configurations. The script will output the file in the $WORKDIR directory with the following name: **PGDFILE_zoeste_arome_2.5km.lfi**

3.3 EE927_surfex CONFIGURATION

After complete the last PGD step one can proceed to this new configuration. To execute this EE927_surfex configuration we need a script called **ee927_surfex_zoeste_qsub** included in appendix IV. In the script it was highlighted some bold statements that users must be full-fitted for they own cases. This script, like the others, will be run via a qsub command on **tori** and it depends of three namelists. These namelists are included in appendixes IVa, IVb and they are called by **namel_ee927_surf_cy33t1**, **NAMFPD_zoeste** and **NAMFPG_zoeste**. The first namelist contains the physical options that one need to consider when we use a coarse mesh grid model to extract the surface fields from the forecast files. The other two namelists are focused in grid parameters (taken from table I) and also the vertical levels to be used in AROME. In fact, this configuration will only use the first step +0000 from the coarse grid mesh model to initialise the surface fields.

We also need to get the climatology files from the coarse coupling mesh model. In this work, the coupling model used was the operational suite of ALADIN at 9km run four times per day in MeteoFrance. The domain model of ALADIN 9km covers perfectly the whole Continental Portugal. The data files are usually placed in **cougar** machine and they can be retrieved to **tori** with a ftget command such as:

for climatology files:

ftget
/divmet_previ/marp/marp001/pub/const/clim_france/09km51/**clim_france.09km51.14.m**
${mm}

for coupling files:

ftget
/chaine/mxpt/mxpt001/france/oper/production/**$AAAA/$MM/JJ/rRR/ICMSHALAD**
+00??

where

$AAAA = year (e.g. 2007)
$MM = month (e.g. 06)
$JJ = day (e.g. 25)
$RR = hour of analysis (e.g. 00)
+00?? = forecast time in a 3 hour interval (e.g. 0000 0003 0006 0009 0012 .... 0048)

are associated to the start for start forecasting.

All the files must be placed in $WORKDIR directory before launch the script. For the output, we will obtain the LFI file called **INITSURF_EXP1_zoeste.lfi** to be used in E001 configuration.

3.4 EE927 CONFIGURATION

This configuration is totally quasi-equal to the last one, with exception they will use all time steps +00?? from the coarse ALADIN 9km to coupling the AROME's boundary conditions. In fact, the appendix IVb with the two namelists **NAMFPD_zoeste** and **NAMFPG_zoeste** can be shared between both EE927 and EE927_surfex configurations. A new namelist with specific physical options must be used for coupling the 3D atmospherical variables. That namelist is included in appendix Va and is called by **namel_ee927_cy33t1**.

The script to submit the job in **tori** is presented in appendix V and is named by **ee927_mstep**. In fact, the script can't yet be launched by qsub command. It only runs via a mtool command (with some perl statements) just like that:

mtool_filter.pl ***ee927_mstep***

Users must have a link to this script in file **.PROFILE** and case not, one may edit **.PROFILE** and add the following line :

export PATH=$PATH:/~mrpm631/public/mtool/bin

This configuration demans that all forecast ALADIN 9km files as well as the climatologies and LFI files must be present in **cougar**. In fact, the script in appendix V informs the user to pay attention for that!

The output files, i.e., the coupling files for AROME will be generated in **cougar** too.

3.5 E001 CONFIGURATION

This configuration will do the forecast for the date and hours previously declared in last two configuration's scripts. To start E001 we would need another script just like the same presented in appendix VI, named as **arome_zoeste_e001**. This script can be run in **tori** via qsub command. To do the forecast, it is necessary to locate the LFI file generated by the EE927_surfex configuration in **tori**. We also need to inform the script where to locate the coupling files generated by EE927 configuration. If this files were putted on **cougar** we must transfer these files to the $WORKDIR in **tori**.

To run this configuration we'll need two namelists, one with all chosen physical options for AROME with vertical levels defined and the other to activate the surface physics. These namelists can be found in appendix VIb and VIc and their names are, respectively, defined by **namel_e001_dyn_cy33t1** and **namel_previ_surfex_cy33t1**. To run AROME successfully we need an external file nicknamed by **TEST.des** but, in my work, that file

was previously renamed for **namel_surfex_output_cy33t1** (see appendix VIa) and the script **arome_zoeste_e001** (the one to submit the AROME job) will take care for replacing the correct name.

The file in cause must be provided/shared by someone in cnrm/GMAP or it can be retrieved from my "area" in **tori** in the following folder:

/cnrm/gp/mrpm/mrpm623/AROME/E001.

The output files will be saved in folder $WORKDIR or another chosen by user. In my work, a special folder were generated, namely, **/arome_forecast** in $WORKDIR on **tori** to put files during AROME's integration. A time step for output was fixed by 3 hours ranging from 0000h up to 0048h. The output folder will have two kinds of files, one for the surface fields in lfi format (syntax as **AROMOUT_.0??.lfi**) and other for 3D and 2D meteorological files (syntax as **ICMSHAR01+00??**)

It should be pointed here that the period of 48h of forecast started at 00h of the day 25/06/2007 had a main objective to see if after 24h of forecast length the model has or not the capability to simulate transitions between calm days, like the day of 25/06/2007 followed by a strongly windy day, the next one, in 26/06/2007.

3.6 FullPos CONFIGURATION

After finished the simulation it was time to process the results. For that we need the FullPos configurqtion. in my folder $HOME/AROME/FPOS, there are some namelists (e.g. **namel_fp_cy33t1, namel_progrid, NAMFPD_bdap_zoeste, select_fp_cy33t1**) and a script (**scr_fpos_qsub**) that must be used into this configuration. In appendix VII, I decided to include them. Finally, in the appendix VIIc, there is a script to be launched in machine **sxalgo1** to generate one tabular ASCII file with the results.

4. SOME RESULTS

In this chapter we presented some obtained forecasted fields, namely the temperature at 2m at forecast time +06h +15h +30h +39h (figure 3 - panel) . For wind fields, it was processed 2 heights, at 10m and 50m both of them forecasted at times of +12h +24h +36h +48h (figures 4 a 5 in panel)

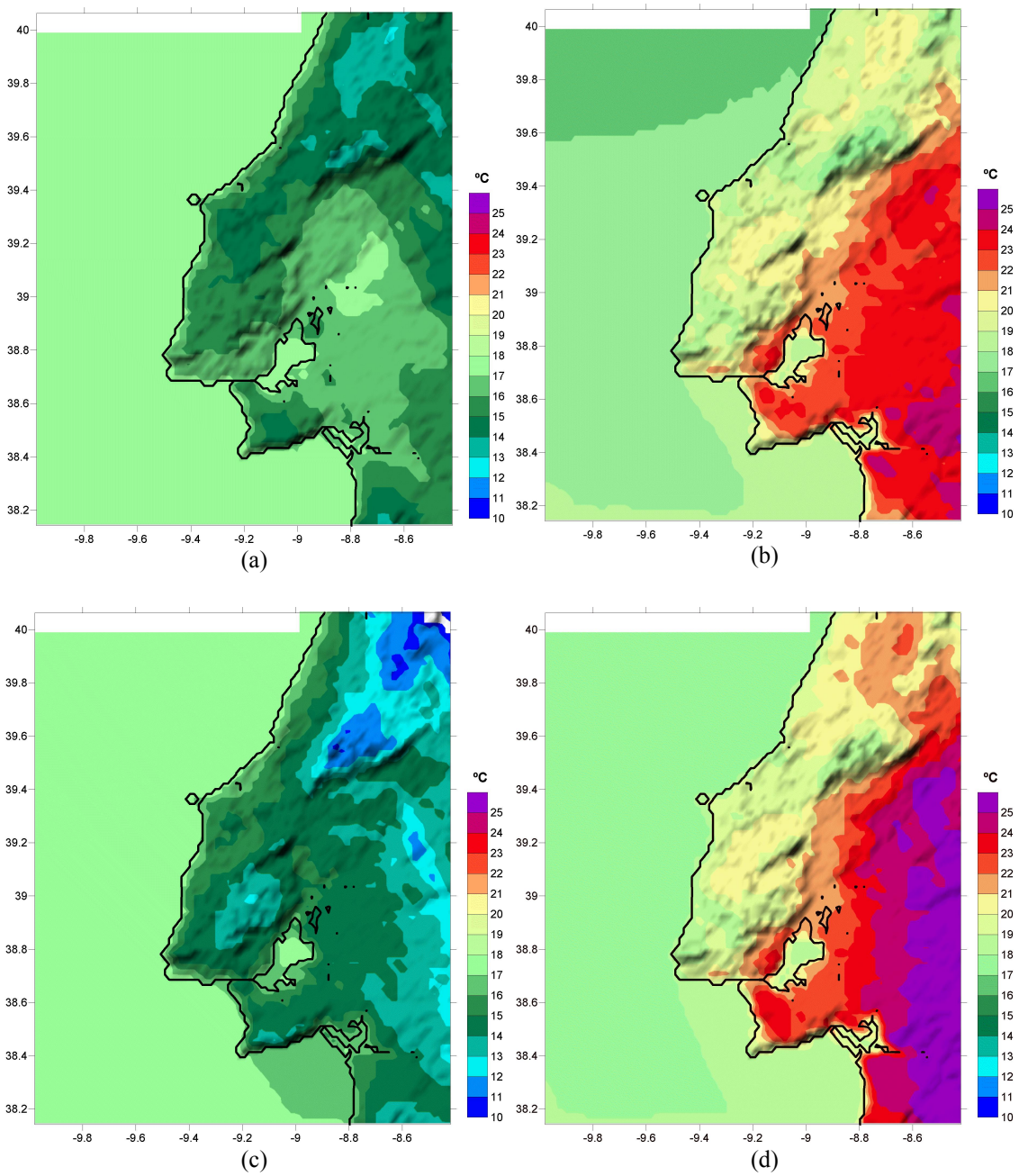

Figure 3– panel with forecasted t2m temperature for +06h(a) +15h(b) +30h(c) +39h(d). Analysis of day 25/06/2007 at 00h

The figures obtained for t2m at forecasted times seems to have a normal behavior taking into account the time of the year, althought we cannot compare forecasted values with observations here.

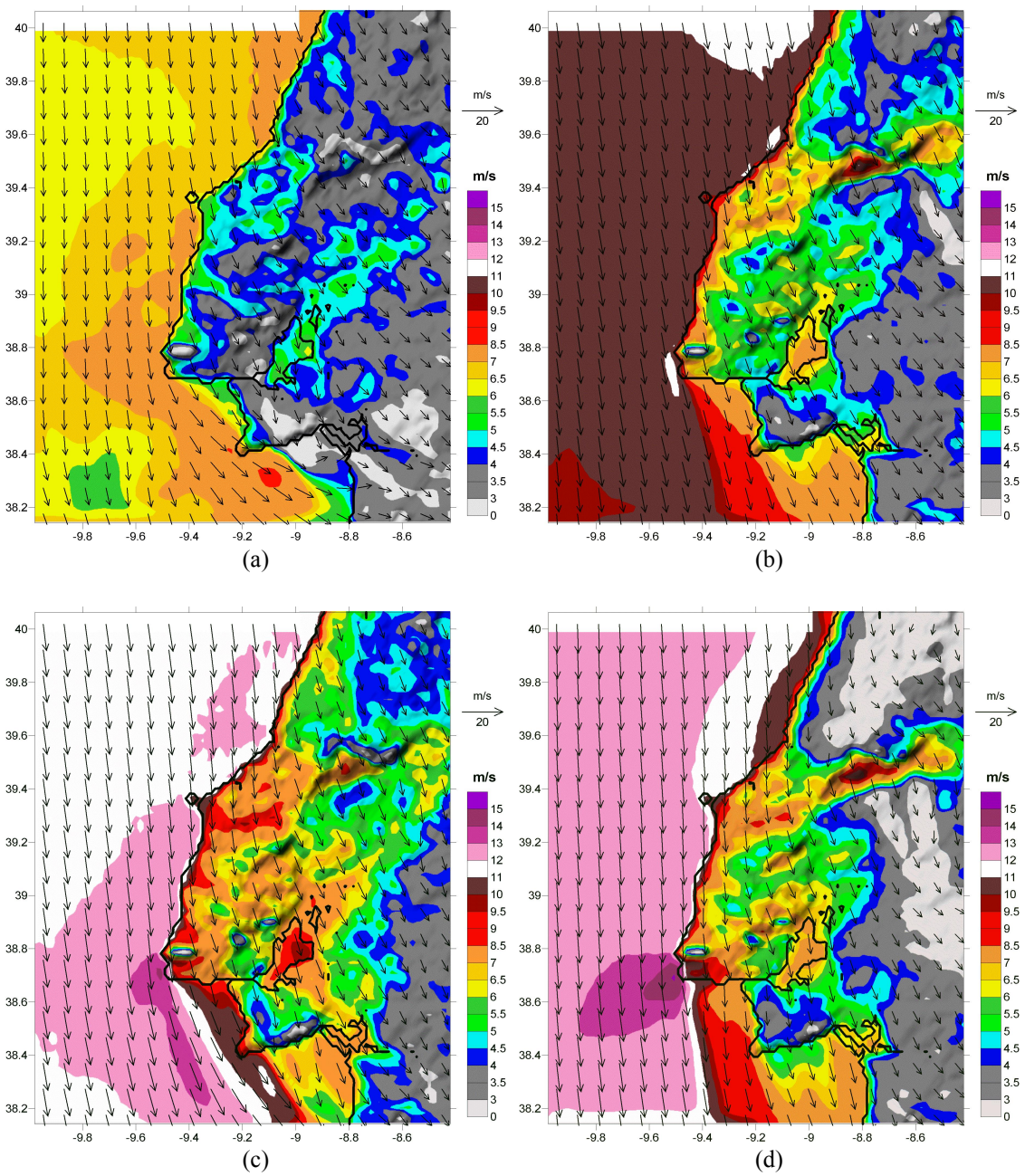

Figure 4– panel with forecasted wind speed at 10m height for +12h(a) +24h(b) +36h(c) +48h(d). Analysis of day 25/06/2007 at 00h

The wind at 10m within this panel has a "strange" problem on some little mountaneous regions where the forecasted wind speed abnormally decreases with height and this situation is not normal. Although as previously stated, one must compare forecasted results with observational data to make a final judgment.

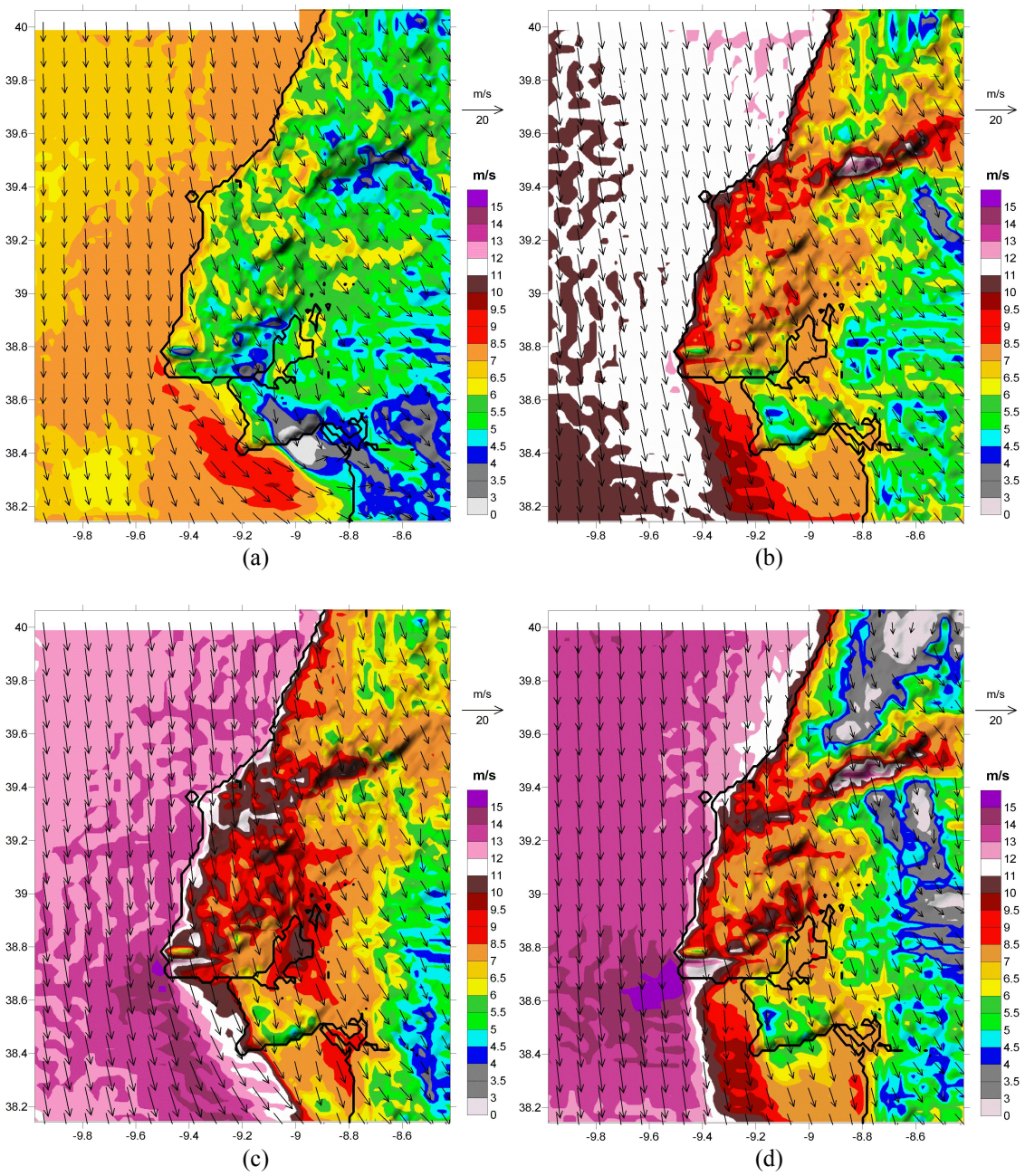

Figure 5– as figure 4 but wind fields computed for 50m height

The same strange situation is also happening at 50m height. Could be the wind speed results be motivated by inadequade values for some physiographic fields in SURFEX such as a too much strong roughness on that places? Is it the Town model in SURFEX? Once again, observational data will be crucial to answer this questions.

5. FINAL NOTES

This training experience with AROME model gave me the basic skills to understand the concept of procedures and to learn valuable techniques not only related with AROME cycle itself but with the infrastructures available in MeteoFrance. I hope, soon, to turn back again to CNRM/GMAP to use/learn/add/modify/ assmilation techniques to make the AROME model more robustest (I hope!!) for situations involving phenomena's like turbulence e/or stratification due to the complexity of orography, for some places.

Acknowledgements

I would like to start acknowledge Yann Seity for his enormous help, giving to me nice and utility documents/tools and also the scripts/namelists to start using the AROME model. I would thank him for the nice conversations we had about my work at Meteo-France. I would like to thank Maria Monteiro for the help, support and nice conversations in Toulouse. I also must thank to all other people that I knew in CRNM/GMAP in particularity to Eric ESCALIERE for helping me about connecting/open my personal "area" into the supercomputer at Meteo-France and also thank him the nice utility program to draw the domain from Gtopo database. I am especially thankfull to Claude Fisher and Francois Bouttier for offering me the chance to work and to be here. I also express my thanks to Patricia for helping so nice with EGIDE and "Hebergement" questions. To my "stagiaire" colleagues Lora Taseva (Bulgary) Iwona Lelatko (Poland) and Adam Dziedzic (Poland) I acknowledge the friendship developed during my stay. Finally, I kindly acknowledge the financial support of EGIDE.

```
#PBS -N zoest
#PBS -S /bin/ksh
#PBS -T distrib
#PBS -j o
#PBS -b 1
#PBS -l cpunum_job=1
#PBS -l memsz_job=1160mb
#PBS -l cputim_job=00:40:00
#PBS -l elapstim_req=00:45:00


#
#   Building of the climatological files for ALADIN
#
#   Orography (part 1) is always quadratic.
#   The other fields are linear.
#


#export F_PROGINF=DETAIL
export F_RECLUNIT=BYTE
export F_SYSLEN=1000
export F_FMTBUF=131072
export MPIPROGINF=DETAIL
export MPISEPSELECT=0


export DR_HOOK=0
export DR_HOOK_IGNORE_SIGNALS=-1
export DR_HOOK_SILENT=1

cd $TMP_LOC
set -x

#~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

pref=zo_2.5

#~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

#       ***************
#       *  NAMELISTS  *
#       ***************

cat << FIN > nam923_part1_quad
 &NAMCLA
   FACZ0=0.53,
   FENVN=0.,
   LKEYF=.TRUE.,
   LNEWORO=.TRUE.,
   LNEWORO2=.FALSE.,
   LNORO=.FALSE.,
 /
 &NAMDIM
   NDGLG=108,
   NDGUXG=97,
   NDLON=90,
   NDLUXG=79,
   NFLEVG=1,
   NMSMAX=29,
   NSMAX=35,
 /
FIN

#####################################################
# PCOSTA
#
#    FOR LINEAR in &NAMDIN :
#           NMSMAX = NDLON / 2 - 1   and
#           NSMAX  = NDGLG / 2 - 1
#
#####################################################


cat << FIN > nam923_part1_lin
 &NAMCLA
   FACZ0=0.53,
```

```
   FENVN=0.,
   LKEYF=.TRUE.,
   LNEWORO=.TRUE.,
   LNEWORO2=.FALSE.,
   LNORO=.TRUE.,
   NLISSP=1,
 /
 &NAMDIM
   NDGLG=108,
   NDGUXG=97,
   NDLON=90,
   NDLUXG=79,
   NFLEVG=1,
   NMSMAX=44,
   NSMAX=53,
 /
FIN

cat << FIN > nam923_geo
 &NAMGEM
   NHTYP=0,
   NSTTYP=1,
   RMUCEN=1.,
   RLOCEN=0.,
   RSTRET=1.,
 /
 &NEMGEO
   ELON0=350.800000000000,
   ELAT0=39.1021079012600,
   ELONC=350.800000000000,
   ELATC=39.1021079012600,
   EDELX=2499.74679420999,
   EDELY=2499.74679420999,
 /
FIN

cat << FIN > nam923_fixe
 &NAEPHY /
 &NAERAD /
 &NAMAFN /
 &NAMARPHY /
 &NAMCAPE /
 &NAMCFU /
 &NAMCHET /
 &NAMCHK /
 &NAMCLB /
 &NAMCLI /
 &NAMCOM /
 &NAMCT0
   NCONF=923,
   CNMEXP='CLIM',
   LECMWF=.FALSE.,
   LELAM=.TRUE.,
   LRPLANE=.TRUE.,
 /
 &NAMCT1 /
 &NAMCUMFS /
 &NAMCVA /
 &NAMCVER /
 &NAMDDH /
 &NAMDFHD /
 &NAMDIF /
 &NAMDPHY /
 &NAMDYN /
 &NAMDYNA /
 &NAMFA /
 &NAMFPC /
 &NAMFPSC2 /
 &NAMFPD /
 &NAMGFL /
 &NAMGRIB /
 &NAMHLOPT /
 &NAMINI
   NEINI=0,
 /
 &NAMIOMI /
 &NAMIOS /
```

```
 &NAMJG /
 &NAMLEG /
 &NAMLCZ /
 &NAMMCC
   LN923=.TRUE.,
   N923=0,
 /
 &NAMMCUF /
 &NAMMTS /
 &NAMMTT /
 &NAMNMI /
 &NAMNUD /
 &NAMOPH /
 &NAMPAR0
   NOUTPUT=1,
   NPROC=1,
   NPRGPEW=1,
   NPRTRV=1,
   NPRGPNS=1,
   NPRTRW=1,
 /
 &NAMPAR1
   LSPLIT=.FALSE.,
   NSTRIN=1,
   NSTROUT=1,
 /
 &NAMPARAR /
 &NAMPHY
   LMPHYS=.TRUE.,
   LSOLV=.TRUE.,
   LVGSN=.TRUE.,
 /
 &NAMPHY0
   GCVPSI=0.,
 /
 &NAMPHY1 /
 &NAMPHY2 /
 &NAMPHY3 /
 &NAMPHYDS /
 &NAMPM3D /
 &NAMPONG /
 &NAMPPC /
 &NAMRCOEF /
 &NAMRES /
 &NAMRINC /
 &NAMRIP /
 &NAMSCM /
 &NAMSENS /
 &NAMSIMPHL /
 &NAMSTA /
 &NAMSTOPH /
 &NAMTESTVAR /
 &NAMTLEVOL /
 &NAMTOPH /
 &NAMTRAJP /
 &NAMTRANS /
 &NAMVAR /
 &NAMVAREPS /
 &NAMVDOZ /
 &NAMVFP /
 &NAMVRTL /
 &NAMVV1 /
 &NAMVWRK /
 &NAMXFU /
 &NAMZDI /
 &NAM_DISTRIBUTED_VECTORS /
 &NAPHLC /
 &NEMBICU /
 &NEMCT0 /
 &NEMDIM
   NBZONG=8,
   NBZONL=8,
 /
 &NEMDYN /
FIN

cat << FIN > grid6
```

```
 &NAMCLI
   NDATX=360,
   NDATY=180,
   STR=0.,
 /
FIN

sed "s/ N923=0/ N923=1/" nam923_fixe > nam1
cat nam923_part1_quad nam923_geo nam1 > nam923_1_1

cat nam923_part1_lin nam923_geo nam1 > nam923_1_2

sed "s/ N923=0/ N923=2/" nam923_fixe > nam1
cat nam923_part1_lin nam923_geo nam1 > nam923_2

sed "s/ N923=0/ N923=3/" nam923_fixe > nam1
cat nam923_part1_lin nam923_geo nam1 > nam923_3

sed "s/ N923=0/ N923=4/" nam923_fixe > nam1
cat nam923_part1_lin nam923_geo nam1 > nam923_4

sed "s/ N923=0/ N923=5/" nam923_fixe > nam1
cat nam923_part1_lin nam923_geo nam1 > nam923_5

sed "s/ N923=0/ N923=6/" nam923_fixe > nam1
cat nam923_part1_lin nam923_geo nam1 > nam923_6
/cnrm/gp/mrpm/mrpm631/public/gco-tools/sx8/xpnam -i --rmblock=NAMCLI nam923_6
/cnrm/gp/mrpm/mrpm631/public/gco-tools/sx8/xpnam -i --dfile=grid6 nam923_6

sed "s/ N923=0/ N923=8/" nam923_fixe > nam1
cat nam1 nam923_part1_lin nam923_geo > nam923_8

sed "s/ N923=0/ N923=9/" nam923_fixe > nam1
cat nam1 nam923_part1_lin nam923_geo > nam923_9

rm nam1 grid6 nam923_fixe nam923_geo nam923_part1_lin nam923_part1_quad

#       ***************
#       *  EXECUTABLE *
#       ***************

MASTER=/mf/dp/marp/marp001/tampon/bin/ald/al33/al33t0_t1.02.SX8RV20.x.exe
#MASTER=~mxpt001/aladin/france/oper/exec/ALADIN

#MPIEXPORT="F_PROGINF,F_RECLUNIT"
MPIEXPORT="F_RECLUNIT"
MPIEXPORT=${MPIEXPORT}",F_SYSLEN,F_FMTBUF,MPIPROGINF,MPISEPSELECT"
MPIEXPORT=${MPIEXPORT}",DR_HOOK,DR_HOOK_OPT,DR_HOOK_PROFILE,DR_HOOK_IGNORE_SIGNALS"
MPIEXPORT=${MPIEXPORT}",DR_HOOK_SILENT"
export MPIEXPORT


#       ************
#       *  PART 1  *
#       ************

cp /cnrm/gp/mrpe/mrpe603/923/RELIEF_G/GTOPT030/* .

#------------------
#  QUADRATIC part
#------------------

mv nam923_1_1 fort.4

mpirun -nn 1 -nnp 1 $MASTER
codrep=$?

cat NODE.001_01

if [ $codrep -ne 0 ] ;then
  echo "  >>>>>>>>>failed: part 1 quadratic "
  exit
fi

cp Const.Clim $WORKDIR/${pref}_1
#cp Const.Clim $FTDIR/${pref}_1
mv Const.Clim Neworog
```

```
#---------------
#  LINEAR part
#---------------

mv nam923_1_2 fort.4

mpirun -nn 1 -nnp 1 $MASTER
codrep=$?

cat NODE.001_01

if [ $codrep -ne 0 ] ;then
  echo "  >>>>>>>>>failed: part 1 linear "
  exit
fi

rm fort.4 Neworog doc*
rm  Water_Percentage Oro_M* Sigma Nb_Peaks Urbanisation Dh_*  Hmax-HxH-Hmin_ov4
ls -l


#      ************
#      *  PART 2  *
#      ************

path_2=/cnrm/gp/mrpe/mrpe603/923/SURFACE_G/version2/i3e
cp ${path_2}/itp_GL   itp_GL
cp ${path_2}/alb_GL   alb_GL
cp ${path_2}/emi_GL   emi_GL
cp ${path_2}/dps_GL   dps_GL
cp ${path_2}/arg_GL   arg_GL
cp ${path_2}/sab_GL   sab_GL
cp ${path_2}/vgx_GL   vgx_GL
cp ${path_2}/dpr_GL   dpr_GL

mv nam923_2 fort.4

mpirun -nn 1 -nnp 1 $MASTER
codrep=$?

cat NODE.001_01

if [ $codrep -ne 0 ] ;then
  echo "  >>>>>>>>>failed: part 2 "
  exit
fi

rm fort.4 *_GL
ls -l


#      ************
#      *  PART 3  *
#      ************

cp /cnrm/gp/mrpe/mrpe603/923/N108/i3e/N108_GL  N108_GL

mv nam923_3 fort.4

mpirun -nn 1 -nnp 1 $MASTER
codrep=$?

cat NODE.001_01

if [ $codrep -ne 0 ] ;then
  echo "  >>>>>>>>>failed: part 3 "
  exit
fi

rm fort.4 N108_GL
ls -l


#      ********************************************************
#      *  PART 4 , 5 , 6 , 8 , 9 (for each of the 12 monthes)  *
#      ********************************************************
```

```
cp ${path_2}/z0v_GL  z0v_GL
cp ${path_2}/alv_GL  alv_GL
cp ${path_2}/rsm_GL  rsm_GL

path_5=/cnrm/gp/mrpe/mrpe603/923/SURFACE_L/EUROPEb_v1/i3e
cp ${path_5}/msk_HR  msk_HR
cp ${path_5}/itp_HR  itp_HR
cp ${path_5}/dpr_HR  dpr_HR
cp ${path_5}/rsm_HR  rsm_HR
cp ${path_5}/vgx_HR  vgx_HR
cp ${path_5}/alv_HR  alv_HR
cp ${path_5}/z0v_HR  z0v_HR

path_6=/cnrm/gp/mrpe/mrpe603/923/CLIM_G/version2/i3e
cp ${path_6}/rel_GL.Z  rel_GL.Z
uncompress  rel_GL.Z

for MM in 01 02 03 04 05 06 07 08 09 10 11 12
#for MM in 02 06
do
mv  Const.Clim.${MM}  Const.Clim

cp ${path_2}/veg${MM}_GL  veg_GL
cp ${path_2}/lai${MM}_GL  lai_GL

cp nam923_4 fort.4

mpirun -nn 1 -nnp 1 $MASTER
codrep=$?

cat NODE.001_01

if [ $codrep -ne 0 ] ;then
  echo "  >>>>>>>>>failed: part 4 "
  exit
fi

rm fort.4 veg_GL lai_GL


cp ${path_5}/veg_${MM}_HR  veg_HR
cp ${path_5}/lai_${MM}_HR  lai_HR

cp nam923_5 fort.4

mpirun -nn 1 -nnp 1 $MASTER
codrep=$?

cat NODE.001_01

if [ $codrep -ne 0 ] ;then
  echo "  >>>>>>>>>failed: part 5 "
  exit
fi

rm fort.4 veg_HR lai_HR


cp ${path_6}/tpl_${MM}_GL.Z  tsl_GL.Z
cp ${path_6}/tpl_${MM}_GL.Z  tpl_GL.Z
cp ${path_6}/wpl_${MM}_GL.Z  wsl_GL.Z
cp ${path_6}/wpl_${MM}_GL.Z  wpl_GL.Z
cp ${path_6}/snl_${MM}_GL.Z  snl_GL.Z
uncompress  tsl_GL
uncompress  tpl_GL
uncompress  wsl_GL
uncompress  wpl_GL
uncompress  snl_GL

cp nam923_6 fort.4

mpirun -nn 1 -nnp 1 $MASTER
codrep=$?

cat NODE.001_01
```

```
if [ $codrep -ne 0 ] ;then
  echo "  >>>>>>>>>failed: part 6 "
  exit
fi

rm fort.4 tsl_* tpl_* wsl_* wpl_* snl_*


cp /cnrm/gp/mrpe/mrpe603/923/CLIM_G/ozone/ascii/abc_quadra_${MM} abc_coef

cp nam923_8 fort.4

mpirun -nn 1 -nnp 1 $MASTER
codrep=$?

cat NODE.001_01

if [ $codrep -ne 0 ] ;then
  echo "  >>>>>>>>>failed: part 8 "
  exit
else
  echo "  OZONE OK "
fi

rm fort.4 abc_coef


cp /cnrm/gp/mrpe/mrpe603/923/CLIM_G/aerosols/ascii/aero.tegen.m${MM}_GL aero_GL

cp nam923_9 fort.4

mpirun -nn 1 -nnp 1 $MASTER
codrep=$?

cat NODE.001_01

if [ $codrep -ne 0 ] ;then
  echo "  >>>>>>>>>failed: part 9 "
  exit
else
  echo "  aerosols OK "
fi

rm fort.4 aero_GL

mv Const.Clim Const.Clim.${MM}
cp Const.Clim.${MM} $WORKDIR/${pref}_m${MM}
#cp Const.Clim.${MM} $FTDIR/${pref}_m${MM}

done

/usr/local/bin/ja
```

```
#PBS -N cbdap
#PBS -S /bin/ksh
#PBS -T distrib
#PBS -j o
#PBS -b 1
#PBS -l cpunum_job=1
#PBS -l memsz_job=2000mb
#PBS -l cputim_job=00:10:00
#PBS -l elapstim_req=00:15:00


#
#   Building of the climatological files n a regular lat-lon grid
#
#######################################
#  CYCLE=al33t1
#######################################
MASTER=/mf/dp/marp/marp001/tampon/bin/ald/al33/al33t1_arome-main.01.SX8RV20.x.exe
#
# Experiment setup
#########################
DOMAIN=zoeste
NAMPATH=/cnrm/gp/mrpm/mrpm623/AROME/E923/reg_lat_lon
NAMBDAP=nam_bdap
NAMGEOBDAP=namgeo_bdap_$DOMAIN
NAMDIMBDAP=namdim_bdap_$DOMAIN

#export F_PROGINF=DETAIL
export F_RECLUNIT=BYTE
export F_SYSLEN=1000
export F_FMTBUF=131072
export F_SETBUF0=0
export F_SETBUF6=0
export F_SETBUF20=0
export MPIPROGINF=DETAIL
export MPISEPSELECT=0


export DR_HOOK=0
export DR_HOOK_IGNORE_SIGNALS=-1
export DR_HOOK_SILENT=1

cd $TMP_LOC
set -x
#      *  NAMELISTS  *
#      ***************
cat << EOF > namcli
 &NAMCLI
 /
EOF
cat << EOF >namcli6
 &NAMCLI
   NDATX=360,
   NDATY=180,
   STR=0.,
 /
EOF
cat $NAMPATH/$NAMBDAP $NAMPATH/$NAMGEOBDAP $NAMPATH/$NAMDIMBDAP namcli > nam923
cp nam923 $WORKDIR/nam923_$DOMAIN
cat $NAMPATH/$NAMBDAP $NAMPATH/$NAMGEOBDAP $NAMPATH/$NAMDIMBDAP namcli6 > nam923_6_tmp
cp nam923_6_tmp  $WORKDIR/nam923_6_tmp_$DOMAIN

sed "s/ N923=0/ N923=1/" nam923 > nam923_1
sed "s/ N923=0/ N923=2/" nam923 > nam923_2
sed "s/ N923=0/ N923=3/" nam923 > nam923_3
sed "s/ N923=0/ N923=4/" nam923 > nam923_4
sed "s/ N923=0/ N923=5/" nam923 > nam923_5
sed "s/ N923=0/ N923=6/" nam923_6_tmp > nam923_6

rm nam923 nam923_6_tmp namcli namcli6
```

```
#       ***************
#       *  EXECUTABLE *
#       ***************

MPIEXPORT="F_RECLUNIT"
MPIEXPORT=${MPIEXPORT}",F_SETBUF0,F_SETBUF6,F_SETBUF20"
MPIEXPORT=${MPIEXPORT}",F_SYSLEN,F_FMTBUF,MPIPROGINF,MPISEPSELECT"
MPIEXPORT=${MPIEXPORT}",DR_HOOK,DR_HOOK_OPT,DR_HOOK_PROFILE,DR_HOOK_IGNORE_SIGNALS"
MPIEXPORT=${MPIEXPORT}",DR_HOOK_SILENT"
export MPIEXPORT


#       ************
#       *  PART 1  *
#       ************

cp /cnrm/gp/mrpe/mrpe603/923/RELIEF_G/GTOPT030/* .

mv nam923_1 fort.4

mpirun -nn 1 -nnp 1 $MASTER
codrep=$?

cat NODE.001_01

if [ $codrep -ne 0 ] ;then
  echo "  >>>>>>>>>failed: part 1 quadratic "
  exit
fi

rm fort.4 Neworog doc*
rm  Water_Percentage Oro_M* Sigma Nb_Peaks Urbanisation Dh_*  Hmax-HxH-Hmin_ov4
ls -l


#       ************
#       *  PART 2  *
#       ************

path_2=/cnrm/gp/mrpe/mrpe603/923/SURFACE_G/version2/i3e
cp ${path_2}/itp_GL   itp_GL
cp ${path_2}/alb_GL   alb_GL
cp ${path_2}/emi_GL   emi_GL
cp ${path_2}/dps_GL   dps_GL
cp ${path_2}/arg_GL   arg_GL
cp ${path_2}/sab_GL   sab_GL
cp ${path_2}/vgx_GL   vgx_GL
cp ${path_2}/dpr_GL   dpr_GL

mv nam923_2 fort.4

mpirun -nn 1 -nnp 1 $MASTER
codrep=$?

cat NODE.001_01

if [ $codrep -ne 0 ] ;then
  echo "  >>>>>>>>>failed: part 2 "
  exit
fi

rm fort.4 *_GL
ls -l


#       ************
#       *  PART 3  *
#       ************

cp /cnrm/gp/mrpe/mrpe603/923/N108/i3e/N108_GL  N108_GL
```

```
mv nam923_3 fort.4

mpirun -nn 1 -nnp 1 $MASTER
codrep=$?

cat NODE.001_01

if [ $codrep -ne 0 ] ;then
  echo "  >>>>>>>>>failed: part 3 "
  exit
fi

rm fort.4 N108_GL
ls -l


#      ************************************************
#      *  PART 4 , 5 , 6 (for each of the 12 monthes)  *
#      ************************************************

cp ${path_2}/z0v_GL  z0v_GL
cp ${path_2}/alv_GL  alv_GL
cp ${path_2}/rsm_GL  rsm_GL

path_5=/cnrm/gp/mrpe/mrpe603/923/SURFACE_L/EUROPEb_v1/i3e
cp ${path_5}/msk_HR  msk_HR
cp ${path_5}/itp_HR  itp_HR
cp ${path_5}/dpr_HR  dpr_HR
cp ${path_5}/rsm_HR  rsm_HR
cp ${path_5}/vgx_HR  vgx_HR
cp ${path_5}/alv_HR  alv_HR
cp ${path_5}/z0v_HR  z0v_HR

path_6=/cnrm/gp/mrpe/mrpe603/923/CLIM_G/version2/i3e
cp ${path_6}/rel_GL.Z  rel_GL.Z
uncompress  rel_GL.Z

for MM in 01 02 03 04 05 06 07 08 09 10 11 12
do
mv  Const.Clim.${MM}  Const.Clim

cp ${path_2}/veg${MM}_GL  veg_GL
cp ${path_2}/lai${MM}_GL  lai_GL

cp nam923_4 fort.4

mpirun -nn 1 -nnp 1 $MASTER
codrep=$?

cat NODE.001_01

if [ $codrep -ne 0 ] ;then
  echo "  >>>>>>>>>failed: part 4 "
  exit
fi

rm fort.4 veg_GL lai_GL


cp ${path_5}/veg_${MM}_HR  veg_HR
cp ${path_5}/lai_${MM}_HR  lai_HR

cp nam923_5 fort.4

mpirun -nn 1 -nnp 1 $MASTER
codrep=$?

cat NODE.001_01

if [ $codrep -ne 0 ] ;then
  echo "  >>>>>>>>>failed: part 5 "
```

```
  exit
fi

rm fort.4 veg_HR lai_HR


cp ${path_6}/tpl_${MM}_GL.Z  tsl_GL.Z
cp ${path_6}/tpl_${MM}_GL.Z  tpl_GL.Z
cp ${path_6}/wpl_${MM}_GL.Z  wsl_GL.Z
cp ${path_6}/wpl_${MM}_GL.Z  wpl_GL.Z
cp ${path_6}/snl_${MM}_GL.Z  snl_GL.Z
uncompress  tsl_GL
uncompress  tpl_GL
uncompress  wsl_GL
uncompress  wpl_GL
uncompress  snl_GL

cp nam923_6 fort.4

mpirun -nn 1 -nnp 1 $MASTER
codrep=$?

cat NODE.001_01

if [ $codrep -ne 0 ] ;then
  echo "  >>>>>>>>>failed: part 6 "
  exit
fi

rm fort.4 tsl_* tpl_* wsl_* wpl_* snl_*

mv Const.Clim Const.Clim.${MM}
cp Const.Clim.${MM} $WORKDIR/bdap_${DOMAIN}_m${MM}

done

/usr/local/bin/ja
```

```
&NAEPHY
 /
 &NAERAD
 /
 &NAMAFN
 /
 &NAMARPHY
 /
 &NAMCAPE
 /
 &NAMCFU
 /
 &NAMCHET
 /
 &NAMCHK
 /
 &NAMCLA
   FACZ0=0.53,
   FENVN=0.,
   LKEYF=.FALSE.,
   LNEWORO=.FALSE.,
   LNEWORO2=.FALSE.,
   LNORO=.FALSE.,
 /
 &NAMCLB
 /
 &NAMCOM
 /
 &NAMCT0
   CNMEXP='CLIM',
   LECMWF=.FALSE.,
   LELAM=.TRUE.,
   LRPLANE=.FALSE.,
   NCONF=923,
 /
 &NAMCT1
 /
 &NAMCUMFS
 /
 &NAMCVA
 /
 &NAMCVER
 /
 &NAMDDH
 /
 &NAMDFHD
 /
 &NAMDIF
 /
 &NAMDPHY
 /
 &NAMDYN
 /
 &NAMDYNA
 /
 &NAMFA
 /
 &NAMFPC
 /
 &NAMFPD
 /
 &NAMFPSC2
 /
 &NAMGEM
   NHTYP=0,
   NSTTYP=1,
   RLOCEN=0.,
   RMUCEN=1.,
   RSTRET=1.,
 /
 &NAMGFL
```

```
/
&NAMGRIB
/
&NAMHLOPT
/
&NAMINI
  NEINI=0,
/
&NAMIOMI
/
&NAMIOS
/
&NAMJG
/
&NAMLCZ
/
&NAMLEG
/
&NAMMCC
  LN923=.TRUE.,
  N923=0,
/
&NAMMCUF
/
&NAMMTS
/
&NAMMTT
 /
&NAMNMI
/
&NAMNUD
 /
&NAMOPH
/
&NAMPAR0
  NOUTPUT=1,
  NPROC=1,
  NPRGPEW=1,
  NPRTRV=1,
  NPRGPNS=1,
  NPRTRW=1,
/
&NAMPAR1
  LSPLIT=.FALSE.,
  NSTRIN=1,
  NSTROUT=1,
/
&NAMPARAR
/
&NAMPHY
  LMPHYS=.TRUE.,
  LSOLV=.TRUE.,
  LVGSN=.TRUE.,
/
&NAMPHY0
  GCVPSI=0.,
/
&NAMPHY1
/
&NAMPHY2
/
&NAMPHY3
/
&NAMPHYDS
/
&NAMPM3D
/
&NAMPONG
/
&NAMPPC
/
```

```
&NAMRCOEF
/
&NAMRES /
&NAMRGRI /
&NAMRINC /
&NAMRIP /
&NAMSCM /
&NAMSENS /
&NAMSIMPHL /
&NAMSTA /
&NAMSTOPH /
&NAMTESTVAR /
&NAMTLEVOL /
&NAMTOPH /
&NAMTRAJP /
&NAMTRANS /
&NAMVAR /
&NAMVAREPS /
&NAMVDOZ /
&NAMVFP /
&NAMVRTL /
&NAMVV1 /
&NAMVWRK /
&NAMXFU /
&NAMZDI /
&NAM_DISTRIBUTED_VECTORS /
&NAPHLC /
&NEMBICU /
&NEMCT0 /
&NEMDIM
  NBZONG=8,
  NBZONL=8,
/
&NEMDYN /
```

Namelist **namdim_bdap_zoeste**

```
&NAMDIM
   NDGLG=108,
   NDGUXG=97,
   NDLON=90,
   NDLUXG=79,
   NFLEVG=1,
 /
```

Namelist **namgeo_bdap_zoeste**

```
&NEMGEO
   ELAT0=39.1021079012600,
   ELON0=350.800000000000,
   ELATC=39.1021079012600,
   ELONC=350.800000000000,
   EDELX=0.020,
   EDELY=0.020,
 /
```

Script **scr_pgd_zoeste**

```
# ------------------------------------------------------------
#   Script: scr_pgd
#   Purpose: Building Surfex climatological files for AROME
#   to run it: qsub job_name
#     the specific namelist  PRE_PGD1 is to be prepared depending
#     on the domain
# ------------------------------------------------------------
#PBS -N pgdzoeste
#PBS -S /bin/ksh
#PBS -T distrib
#PBS -j o
#PBS -b 1
#PBS -l cpunum_job=1
#PBS -l memsz_job=3000mb
#PBS -l cputim_job=00:40:00
#PBS -l elapstim_req=00:45:00

##########################################################
MASTER=/mf/dp/marp/marp009/MESONH/masdev4_6.ABSPREP_PGD.exe
##########################################################
#
# Experiment setup
#########################

NAMPATH=/cnrm/gp/mrpm/mrpm623/AROME/PGD
NAMNAME=PRE_PGD1_zoeste_arome_2.5

-------------------------------------------------------------

export F_RECLUNIT=BYTE
export F_SYSLEN=1000
export F_FMTBUF=131072
export MPIPROGINF=DETAIL
export MPISEPSELECT=0


export DR_HOOK=0
export DR_HOOK_IGNORE_SIGNALS=-1
export DR_HOOK_SILENT=1

cd $TMP_LOC
set -x

# ********************
#  Geting inamelist  *
# ********************

\cp  $NAMPATH/$NAMNAME  PRE_PGD1.nam

# ************
#   FICHIERS *
# ************
PATHC=/cnrm/ge/mrmh/mrmh005/mesonh/PGD
cp /cnrm/ge/mrmh/mrmh005/mesonh/PGD/clay_fao.hdr .
cp /cnrm/ge/mrmh/mrmh005/mesonh/PGD/clay_fao.dir .
cp /cnrm/ge/mrmh/mrmh005/mesonh/PGD/ecoclimats_v2.hdr .
cp /cnrm/ge/mrmh/mrmh005/mesonh/PGD/ecoclimats_v2.dir .
cp /cnrm/ge/mrmh/mrmh005/mesonh/PGD/gtopo30.hdr .
cp /cnrm/ge/mrmh/mrmh005/mesonh/PGD/gtopo30.dir .
cp /cnrm/ge/mrmh/mrmh005/mesonh/PGD/sand_fao.hdr .
cp /cnrm/ge/mrmh/mrmh005/mesonh/PGD/sand_fao.dir .
#

MPIEXPORT="F_RECLUNIT"
MPIEXPORT=${MPIEXPORT}",F_SYSLEN,F_FMTBUF,MPIPROGINF,MPISEPSELECT"
MPIEXPORT=${MPIEXPORT}",DR_HOOK,DR_HOOK_OPT,DR_HOOK_PROFILE,DR_HOOK_IGNORE_SIGNALS"
MPIEXPORT=${MPIEXPORT}",DR_HOOK_SILENT"
export MPIEXPORT
mpirun -nn 1 -nnp 1 $MASTER PRE_PGD1.nam
codrep=$?

#cat OUTPUT_LISTING0
```

```
if [ $codrep -ne 0 ] ;then
  echo "  >>>>>>>>>failed:  PGD "
  ls -lrt
  exit
else
  ls -lrt
fi

#cp PDGFILE.lfi $WORKDIR/PDGFILE_${pref}.lfi
cp PGDFILE*  $WORKDIR

/usr/local/bin/ja
```

Namelist **PRE_PGD1_zoeste_arome_2.5**

```
&NAM_PGDFILE CPGDFILE='PGDFILE_zoeste_arome_2.5km' /
&NAM_CONF_PROJ
 XLAT0=39.1021079012600, XLON0=350.800000000000, XRPK=0.630704372347608,  XBETA=0.00 /
&NAM_CONF_PROJ_GRID
 XLATCEN=39.1021079012600,  XLONCEN=350.800000000000,
 NIMAX=79, NJMAX=97,
 XDX=2499.74679420999, XDY=2499.74679420999 /
&NAM_COVER     YCOVER='ecoclimats_v2', YFILETYPE='DIRECT' /
&NAM_ZS        YZS='gtopo30',    YFILETYPE='DIRECT' /
&NAM_ISBA      YCLAY='clay_fao', YCLAYFILETYPE='DIRECT' ,
               YSAND='sand_fao', YSANDFILETYPE='DIRECT' /
```

```
#PBS -S /bin/ksh
#PBS -N ee927_zoeste_surf
#PBS -T mpisx
#PBS -q vector
#PBS -j o
#PBS -b 1
#PBS -l cpunum_job=1
#PBS -l cpunum_prc=1
#PBS -l memsz_job=20000mb
#PBS -l elapstim_req=00:03:00
date

NPROC=1

# NPROC        = (cpunum_job)*(-b)
# memsz_job    = for 1 node
if [ "$NPROC" ] ; then
  echo;echo "  NPROC=$NPROC"
else
  echo;echo FATAL : NPROC is not set.;exit 1
fi
set -x
#
########################################
#  CYCLE=al33t1
########################################
EXEC=/mf/dp/marp/marp001/tampon/bin/ald/al33/al33t1_arome-main.01.SX8RV20.x.exe
#
export DR_HOOK=0
export DR_HOOK_IGNORE_SIGNALS=-1
export DR_HOOK_NOT_MPI=1
export DR_HOOK_SILENT=1
export EC_PROFILE_HEAP=0
export TVSEARCHPATH=$SOURCE

export F_SYSLEN=1000
export F_FMTBUF=131072
export F_RECLUNIT=BYTE
export F_PROGINF=DETAIL
export F_FTRACE=FMT2
export MPIPROGINF=DETAIL
export MPISUSPEND=ON
export MPISEPSELECT=0

cd $TMP_LOC

# Experiment setup
#########################

dat=2007062500

AA=$(echo $dat | cut -c1-4)
MM=$(echo $dat | cut -c5-6)
JJ=$(echo $dat | cut -c7-8)
RR=$(echo $dat | cut -c9-10)

DOMAIN=zoeste

LEVELS=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31
,32,33,34,35,36,37,38,39,40,41,
EXP=ALAD
CNMEXP=EXP1
# Clim Arome
ARCLIMNAME=zo_2.5_m$MM
ARCLIMPATH=$WORKDIR
PGDNAME=PGDFILE_zoeste_arome_2.5km.lfi
# Clim Aladin
ALCLIMNAME=clim_france.09km51.14.m$MM
ALCLIMPATH=$WORKDIR
# Aladin file
ALFILEPATH=$WORKDIR
ALFILENAME=ICMSH${EXP}+0000
# Namelists
NAMEE927=namel_ee927_surf_cy33t1
NAMFPD=NAMFPD_$DOMAIN
```

```
NAMFPG=NAMFPG_$DOMAIN
NAMPREP=NAMPREP_$DOMAIN
NAMPATH=/cnrm/gp/mrpm/mrpm623/AROME/EE927_surfex
OUTPUTPATH=$WORKDIR
#
NCONF=001
VERSION=meteo
TSTEP=1200.
NSTOP=t0
ADVEC=eul
MODEL=aladin
#
#       *************************
#       *  Saisie des NAMELISTS  *
#       *************************
#
cp $NAMPATH/$NAMEE927 nam_ee927_surf
cp $NAMPATH/$NAMFPD namfpd
cp $NAMPATH/$NAMFPG namfpg
cat nam_ee927_surf namfpd namfpg > nam_tmp
sed -e s/DOMAIN/$DOMAIN/ -e s/LEVELS/$LEVELS/ -e s/NBPROC/$NPROC/ nam_tmp > fort.4
/bin/cat < fort.4
echo
/bin/cat <<FIN > PRE_REAL1.nam
&NAM_FILE_NAMES
  HPGDFILE='PGDFILE',
  CINIFILE='INIT_SURF',
/
FIN
/bin/cat PRE_REAL1.nam

#       ****************************************
#       *  Acquisition du fichier de demarrage  *
#       ****************************************
echo
set -x

cp -b 32768 $ALFILEPATH/$ALFILENAME  ICMSH${CNMEXP}INIT
cp -b 32768 $ALCLIMPATH/$ALCLIMNAME Const.Clim
cp -b 32768 $ARCLIMPATH/$ARCLIMNAME  const.clim.$DOMAIN
cp -b 32768 $ARCLIMPATH/$PGDNAME PGDFILE.lfi

set +x
if [ ! -f ICMSH${CNMEXP}INIT ] ; then exit 1;fi

#       ***************
#       *  Chargement *
#       ***************

echo
set -x
cp -b 32768 $EXEC MASTER
set +x
if [ ! -f MASTER ] ; then exit 1;fi

##############################################
# FILE GAVE BY YANN SEITY
#
cp $HOME/bin/mpisep.sh .
#
#
#############################################

#       ***************
#       *  Execution  *
#       ***************

echo
set -x
/cnrm/gp/mrpm/mrpm631/public/mpi/xmpirun -np $NPROC ./MASTER -m$MODEL -v$VERSION -e
$CNMEXP -c$NCONF -t$TSTEP -f$NSTOP -a$ADVEC >lola
set +x
echo
pwd
if [ -f lola ] ; then
  echo;echo Standard output :;echo;cat lola
fi
```

```
if [ -f stderr.* ] ; then
  for file in stderr.* ; do
    echo;echo $file :;cat $file
  done
fi
if [ -f stdout.* ] ; then
echo;echo stdout :;echo;cat stdout.*
fi
if [ -a NODE.001_01 ] ; then
  for file in NODE* ; do
    echo;echo Listing $file;echo
    cat $file
  done
fi
echo;echo tail of OUTPUT_LISTING;echo
tail OUTPUT_LISTING

#       *******************
#       *  Sauvegardes    *
#       *******************
#
cp -b 32768 INIT_SURF.lfi $OUTPUTPATH/INITSURF_${CNMEXP}_${DOMAIN}.lfi
#
#       ****************
#       *  Epilogue    *
#       ****************

ls -ltr
pwd
date
set +x
```

```
&NAEPHY
 /
 &NAERAD
 /
 &NALBAR
 /
 &NAM926
 /
 &NAMAFN
   TFP_U%CLNAME='WIND.U.PHYS',
   TFP_V%CLNAME='WIND.V.PHYS',
   TFP_W%CLNAME='CLOUD_WATER',
   TFP_CLF%CLNAME=' CLOUD FRACTION',
   TFP_S%CLNAME='ICE_CRYSTAL',
   TFP_SN%CLNAME='SNOW',
   TFP_RR%CLNAME='RAIN',
   TFP_GR%CLNAME='GRAUPEL',
   TFP_TKE%CLNAME='TKE',
   TFP_Q%LLGP=.TRUE.,
   TFP_W%LLGP=.TRUE.,
   TFP_CLF%LLGP=.TRUE.,
   TFP_S%LLGP=.TRUE.,
   TFP_SN%LLGP=.TRUE.,
   TFP_RR%LLGP=.TRUE.,
   TFP_GR%LLGP=.TRUE.,
   TFP_TKE%LLGP=.TRUE.,
 /
 &NAMANA
 /
 &NAMARPHY
   LMSE=.TRUE.,
 /
 &NAMCAPE
 /
 &NAMCFU
 /
 &NAMCHET
 /
 &NAMCHK
 /
 &NAMCOK
 /
 &NAMCOM
 /
 &NAMCOS
 /
 &NAMCT0
   LFPOS=.TRUE.,
   NSPPR=0,
 /
 &NAMCT1
   N1HIS=0,
   LRFILAF=.FALSE.,
 /
 &NAMCUMFS
 /
 &NAMCVMNH
 /
 &NAMDDH
 /
 &NAMDFI
 /
 &NAMDIF
 /
 &NAMDIM
   NPROMA=-1747,
   NDLUXG=79,
   NDGUXG=97,
   NDGLG=108,
 /
 &NAMDPHY
 /
 &NAMDYN
   NDLNPR=1,
 /
```

```
&NAMDYNA
/
&NAMEMIS_CONF
/
&NAMFA
  NBITCS=-1,
  NSTRON=-1,
  NBITPG=-1,
  YFAL='CLOUD_WATER',
  YFAI='ICE_CRYSTAL',
  YFAS='SNOW',
  YFAR='RAIN',
  YFAG='GRAUPEL',
  YFATKE='TKE',
  YFACLF=' CLOUD FRACTION',
/
&NAMFPC
  NFPSURFEX=1,
  LTRACEFP=.TRUE.,
  CFPFMT='LELAM',
  CFPDOM(1)='DOMAIN',
  CFP3DF(1)='TEMPERATURE',
  CFP3DF(2)='WIND.U.PHYS',
  CFP3DF(3)='WIND.V.PHYS',
  CFP3DF(4)='HUMI.SPECIFIQUE',
  CFP3DF(5)='PRESS.DEPART',
  CFP3DF(6)='VERTIC.DIVER',
  CFP3DF(7)='RAIN',
  CFP3DF(8)='ICE_CRYSTAL',
  CFP3DF(9)='SNOW',
  CFP3DF(10)=' CLOUD FRACTION',
  CFP3DF(11)='GRAUPEL',
  CFP3DF(12)='CLOUD_WATER',
  CFP3DF(13)='TKE',
  CFP2DF(1)='SURFPRESSION',
  CFP2DF(2)='SPECSURFGEOPOTENTIEL',
  CFPPHY(1)='SURFTEMPERATURE',
  CFPPHY(2)='PROFTEMPERATURE',
  CFPPHY(3)='SURFRESERV.EAU',
  CFPPHY(4)='PROFRESERV.EAU',
  CFPPHY(5)='PROFRESERV.GLACE',
  CFPPHY(6)='SURFRESERV.GLACE',
  CFPPHY(7)='SURFRESERV.NEIGE',
  CFPPHY(8)='SURFPROP.ARGILE',
  CFPPHY(9)='SURFPROP.SABLE',
  CFPPHY(10)='SURFEPAIS.SOL',
  CFPPHY(11)='SURFGEOPOTENTIEL',
  CFPPHY(12)='SURFA.OF.OZONE  ',
  CFPPHY(13)='SURFB.OF.OZONE  ',
  CFPPHY(14)='SURFC.OF.OZONE  ',
  CFPPHY(15)='SURFAEROS.SEA   ',
  CFPPHY(16)='SURFAEROS.LAND  ',
  CFPPHY(17)='SURFAEROS.SOOT  ',
  CFPPHY(18)='SURFAEROS.DESERT',
  CFPPHY(19)='SURFIND.TERREMER',
  CFPPHY(20)='SEASURFTEMPERATU',
  NRFP3S=LEVELS
  NFPCLI=1,
  LFPQ=.FALSE.,
  LFPSPEC=.TRUE.,
/
&NAMFPEZO
/
&NAMFPF
/
&NAMFPIOS
/
&NAMFPSC2
/
&NAMFPSC2_DEP
/
&NAMGEM
/
&NAMGFL
/
&NAMGRIB
/
```

```
&NAMHLOPT
/
&NAMINI
  NEINI=0,
/
&NAMIOMI
/
&NAMIOS
/
&NAMJBCODES
/
&NAMJFH
/
&NAMJG
/
&NAMJO
/
&NAMLCZ
/
&NAMLEG
/
&NAMMARS
/
&NAMMCC
/
&NAMMCUF
/
&NAMMKODB
/
&NAMMODERR
/
&NAMMTS
/
&NAMMTT
/
&NAMNASA
/
&NAMNMI
/
&NAMNUD
/
&NAMOBS
/
&NAMOPH
  NCADFORM=1,
/
&NAMPAR
/
&NAMPAR0
  LMPOFF=.FALSE.,
  NPROC=NBPROC,
  NPRGPNS=NBPROC,
  NPRTRW=NBPROC,
  NPRGPEW=1,
  NPRTRV=1,
  NOUTPUT=1,
  MP_TYPE=2,
/
&NAMPAR1
  NSTRIN=1,
  NSTROUT=1,
  LSPLIT=.FALSE.,
/
&NAMPARAR
/
&NAMPHY
  LNEBN=.FALSE.,
  LO3ABC=.TRUE.,
  LAEROSEA=.TRUE.,
  LAEROLAN=.TRUE.,
  LAEROSOO=.TRUE.,
  LAERODES=.TRUE.,
/
&NAMPHY0
/
&NAMPHY1
/
```

```
&NAMPHY2
/
&NAMPHY3
/
&NAMPHYDS
/
&NAMPONG
/
&NAMPPC
/
&NAMRAD15
/
&NAMRCOEF
/
&NAMRES
/
&NAMRGRI
/
&NAMRINC
/
&NAMRIP
/
&NAMSCAT
/
&NAMSCM
/
&NAMSENS
/
&NAMSIMPHL
/
&NAMSSMI
/
&NAMSTA
/
&NAMSTOPH
/
&NAMTESTVAR
/
&NAMTLEVOL
/
&NAMTOPH
/
&NAMTRAJP
/
&NAMTRANS
/
&NAMTSK
/
&NAMVAR
/
&NAMVAREPS
/
&NAMVDOZ
/
&NAMVFP
/
&NAMVRTL
/
&NAMVV1
/
&NAMVWRK
/
&NAMXFU
/
&NAM_DISTRIBUTED_VECTORS
/
&NAPHLC
/
&NAV1IS
/
&NEMBICU
/
&NEMBIG
/
&NEMCT0
/
&NEMDIM
```

```
/
&NEMDYN
/
&NEMGEO
/
&NEMIOS
/
&NEMJK
/
```

Namelist **NAMFPD_zoeste**

```
&NAMFPD
   NLAT=108,
   NLON=90,
   RLONC(1)=350.8,
   RLATC(1)=39.1021079012600,
   RDELX(1)=2499.74679420999,
   RDELY(1)=2499.74679420999,
   NFPLUX=79,
   NFPGUX=97,
 /
```

Namelist **NAMFPG_zoeste**

```
&NAMFPG
   FPLAT0=39.1021079012600,
   FPLON0=350.8,
   NFPMAX=53,
   NMFPMAX=44,
   NFPLEV=41,
   FPVALH( 0) =     0.000000,
   FPVALH( 1) =   271.828156,
   FPVALH( 2) =   516.473511,
   FPVALH( 3) =   734.981567,
   FPVALH( 4) =   928.397766,
   FPVALH( 5) =  1097.767700,
   FPVALH( 6) =  1244.136719,
   FPVALH( 7) =  1368.550293,
   FPVALH( 8) =  1472.054077,
   FPVALH( 9) =  1555.693481,
   FPVALH(10) =  1620.514160,
   FPVALH(11) =  1667.561401,
   FPVALH(12) =  1697.880737,
   FPVALH(13) =  1712.517578,
   FPVALH(14) =  1712.517456,
   FPVALH(15) =  1698.926147,
   FPVALH(16) =  1672.788818,
   FPVALH(17) =  1635.151123,
   FPVALH(18) =  1587.058350,
   FPVALH(19) =  1529.556152,
   FPVALH(20) =  1463.690186,
   FPVALH(21) =  1390.505737,
   FPVALH(22) =  1311.048096,
   FPVALH(23) =  1226.363403,
   FPVALH(24) =  1137.496460,
   FPVALH(25) =  1045.493042,
   FPVALH(26) =   951.398682,
   FPVALH(27) =   856.258728,
   FPVALH(28) =   761.118896,
   FPVALH(29) =   667.024536,
   FPVALH(30) =   575.021118,
   FPVALH(31) =   486.154266,
   FPVALH(32) =   401.469360,
   FPVALH(33) =   322.011841,
   FPVALH(34) =   248.827347,
   FPVALH(35) =   182.961258,
   FPVALH(36) =   125.459160,
   FPVALH(37) =    77.366501,
   FPVALH(38) =    39.728729,
   FPVALH(39) =    13.591413,
   FPVALH(40) =     0.000000,
   FPVALH(41) =     0.000000,
   FPVBH( 0) = 0.0000000000,
   FPVBH( 1) = 0.0000000000,
   FPVBH( 2) = 0.0034566391,
   FPVBH( 3) = 0.0101978322,
   FPVBH( 4) = 0.0200514905,
   FPVBH( 5) = 0.0328455307,
```

```
   FPVBH( 6) = 0.0484078601,
   FPVBH( 7) = 0.0665664002,
   FPVBH( 8) = 0.0871490464,
   FPVBH( 9) = 0.1099837348,
   FPVBH(10) = 0.1348983943,
   FPVBH(11) = 0.1617208868,
   FPVBH(12) = 0.1902791560,
   FPVBH(13) = 0.2204010785,
   FPVBH(14) = 0.2519146502,
   FPVBH(15) = 0.2846477032,
   FPVBH(16) = 0.3184281588,
   FPVBH(17) = 0.3530840278,
   FPVBH(18) = 0.3884431124,
   FPVBH(19) = 0.4243333638,
   FPVBH(20) = 0.4605826735,
   FPVBH(21) = 0.4970190227,
   FPVBH(22) = 0.5334702730,
   FPVBH(23) = 0.5697643161,
   FPVBH(24) = 0.6057290435,
   FPVBH(25) = 0.6411924958,
   FPVBH(26) = 0.6759824157,
   FPVBH(27) = 0.7099269032,
   FPVBH(28) = 0.7428537607,
   FPVBH(29) = 0.7745908499,
   FPVBH(30) = 0.8049662113,
   FPVBH(31) = 0.8338077664,
   FPVBH(32) = 0.8609431386,
   FPVBH(33) = 0.8862006068,
   FPVBH(34) = 0.9094079137,
   FPVBH(35) = 0.9303930998,
   FPVBH(36) = 0.9489839077,
   FPVBH(37) = 0.9650081992,
   FPVBH(38) = 0.9782941937,
   FPVBH(39) = 0.9886693358,
   FPVBH(40) = 0.9959621429,
   FPVBH(41) = 1.0000000000,
 /
```

```
# ------------------------------------------------------------
#   Script: ee927-Zoeste
#   Configuration: ee927
#   Purpose: this script creates initial and lateral boundaries
#            conditions for AROME Portugal - West Region .
#   to run it: mtool_filter.pl job_name
# ------------------------------------------------------------

#MTOOL set jobname=ee927BUC
#MTOOL autoclean
#MTOOL autolog
#MTOOL set logtarget=toritx
#MTOOL set nnp=2
#MTOOL set node=1

#MTOOL profile target=torisx
#PBS -S /bin/ksh
#PBS -N [this:jobname]
#PBS -j o
#PBS -T mpisx
#PBS -l elapstim_req=00:50:00
#PBS -l cputim_job=00:30:00
#PBS -l cpunum_job=[this:nnp]
#PBS -b [this:node]
#PBS -l memsz_job=16000mb
#PBS -q vector
#MTOOL end

set -aex

#MTOOL export TARGET=[this:target]
#MTOOL export NNP=[this:nnp]
#MTOOL export NN=[this:node]
export NPROC=$(($NN*$NNP))

#MTOOL include files=path.basic.[this:target]
#MTOOL include files=path.mtool.[this:target]
#MTOOL include files=auto.error.[this:target]

date
cd $MTOOL_STEP_WORKSPACE

#MTOOL common join=compute

#MTOOL include files=arch.fortran.[this:target],arch.mpi.[this:target]
#MTOOL include files=arch.drhook.[this:target]
EC_PROFILE_HEAP=0
F_UFMTENDIAN=31

#MTOOL common

#MTOOL banner string=927 size=1
#
#########################################
CYCLE=al33t1_arome-main.01.SX8RV20.x.exe
#########################################

# Experiment setup
#########################

dat=2007062500

AA=$(echo $dat | cut -c1-4)
MM=$(echo $dat | cut -c5-6)
JJ=$(echo $dat | cut -c7-8)
RR=$(echo $dat | cut -c9-10)
AAMMJJ=$AA$MM$JJ
DOMAIN=zoeste
EXP=ALAD
CNMEXP=EXP1

# Clim Arome in cougar
ARCLIMNAME=zo_2.5_m
```

```
ARCLIMPATH=/home/m/mrpm/mrpm623
# Clim Aladin in cougar
ALCLIMNAME=clim_france.09km51.14.m
ALCLIMPATH=/home/m/mrpm/mrpm623
# forecast aladin france_9km in cougar
ALFILENAME=ICMSH${EXP}+
ALFILEPATH=/home/m/mrpm/mrpm623/$dat
NAMNAME=nam_ee927_cy33t1
NAMFPD=NAMFPD_$DOMAIN
NAMFPG=NAMFPG_$DOMAIN
# My path in tori
NAMPATH=/cnrm/gp/mrpm/mrpm623/AROME/EE927
# the outputpath should exist on cougar !!!
# ----------------------------------------

OUTPATH=/home/m/mrpm/mrpm623/$dat/couplings

#
# Parameter executable
NCONF=001
VERSION=meteo
TSTEP=1200.
NSTOP=t0
ADVEC=eul
MODEL=aladin
#  Echeance
ECHD='00'
ECHF='48'
ECHSTEP='03'
#=====================================

#   Proc
NBPROC=$NPROC
#
#      ************************************
#      * Building the forecast range loop *
#      ************************************

#                    construction boucle echeance
echo
#set +x
list_ech=''
i=$ECHD
while [ $i -le $ECHF ]
do
  list_ech=$list_ech$(perl -e "printf '%04u ', $i")
  i=$((i + ECHSTEP))
 done
list_ech=$(echo $list_ech | sed 's/ $//')
#
#
echo  $list_ech
MENCOURS=99

#MTOOL common join=fetch
#----------------------------------

\cp /cnrm/gp/mrpm/mrpm631/public/sms-gateway/tx7/smsdate smsdate
#

for iech in $list_ech
#  style   0000 0003 0006 0009
do

#  initial file   for  coupling
ftget $ALFILEPATH/${ALFILENAME}${iech} ICMSH${CNMEXP}INIT_${iech}

#  decalage de mois

DECAL=$(( ( RR + iech )/ 24 ))
#echo $DECAL
SAUT=` ./smsdate -D $AAMMJJ +$DECAL `
#echo  " SAUT" $SAUT
MSUIV=$( echo $SAUT | cut -c5-6)
 echo "MSUIV " $MSUIV
```

```
#---
#    call clim
#---
 if [ $MSUIV != $MENCOURS ] ; then
#    premier passage ou saut de mois
#
#    call clim modele
#
 ftget ${ALCLIMPATH}/${ALCLIMNAME}${MSUIV} Const.Clim_${MSUIV}

#
#     call clim dom
ftget ${ARCLIMPATH}/${ARCLIMNAME}${MSUIV} const.clim.${DOMAIN}_${MSUIV}

 fi

 MENCOURS=$MSUIV

done


ls -rtl

#      ********************************
#      *  Acquisition de l'Executable *
#      ********************************

/mf/dp/marp/marp001/public/bin/gget $CYCLE

\ln -s  $CYCLE  MASTER

if [ ! -f MASTER ] ; then exit 1 ; fi

#      ********************************
#      *  Namelist  namel e927        *
#      ********************************
#
  if [ $ECHD -eq 00 ] ; then
# Why 0 after NAMNAME??
#     \cp  $NAMPATH/${NAMNAME}0 nam_base

     \cp  $NAMPATH/${NAMNAME} nam_base
     \cp  $NAMPATH/$NAMFPD namfpd
     \cp  $NAMPATH/$NAMFPG namfpg
     cat  nam_base  namfpd  namfpg > namel_total
#    write the domain name / substitution of DOMAIN
#    write the real number of processors / substitution Nb de processeurs
         sed -e s/DOMAIN/${DOMAIN}/g -e s/NBPROC/${NBPROC}/g namel_total  \
                     > mynam_ee927_cpl0
     \rm -f  namel_total nam_base
#
     if [ ! -f mynam_ee927_cpl0 ] ; then exit 4 ; fi
     echo ' ==== mynam_ee927_cpl0 ====== '
     cat mynam_ee927_cpl0
  fi #if ECHD
#
  if [ $ECHF -ne 00 ] ; then
     \cp  $NAMPATH/$NAMNAME nam_base
     \cp  $NAMPATH/$NAMFPD namfpd
     \cp  $NAMPATH/$NAMFPG namfpg
     cat  nam_base  namfpd  namfpg > namel_total
#    write the domain name / substitution of DOMAIN
#    write the real number of processors / substitution Nb de processeurs
         sed -e s/DOMAIN/${DOMAIN}/g -e s/NBPROC/${NBPROC}/g namel_total \
                 > mynam_ee927_cpl
     \rm -f  namel_total nam_base
#
     if [ ! -f mynam_ee927_cpl ] ; then exit 4 ; fi
     echo ' ==== mynam_ee927_cpl ====== '
     cat mynam_ee927_cpl
  fi #if ECHF
#

#MTOOL common join=compute
```

```
#       ***************
#       *  Execution  *
#       ***************

MPIRUN_SPLIT=e927
MPIRUN_VERBOSE=yes
#
DR_HOOK=0
DR_HOOK_IGNORE_SIGNALS=-1
DR_HOOK_SILENT=1

\cp /cnrm/gp/mrpm/mrpm631/public/sms-gateway/torisx/smsdate smsdate

for iech in  $list_ech
#  style   0000 0003 0006 0009
do
   rm -f ifort.4 ncf927 core* ifs.*
   rm -f ICMSH${CNMEXP}INIT
   rm -f PF${CNMEXP}${DOMAIN}+0000
   rm -f PX${CNMEXP}000+0
   if [ $iech -eq 0000 ] ; then
     cp mynam_ee927_cpl0 fort.4
   else
     cp mynam_ee927_cpl fort.4
   fi #if iech
#
#  File for Coupling    Fichier a coupler
     \cp -b 32768  ICMSH${CNMEXP}INIT_${iech} ICMSH${CNMEXP}INIT

#  decalage de mois shift month

DECAL=$(( ( RR + iech )/ 24 ))
#echo $DECAL
SAUT=` ./smsdate -D $AAMMJJ +$DECAL `
#echo  " SAUT" $SAUT
MSUIV=$( echo $SAUT | cut -c5-6)
 echo "MSUIV " $MSUIV

#  Clim modele
 \cp -b 32768 Const.Clim_${MSUIV}  Const.Clim

#     call clim dom
 \cp -b 32768 const.clim.${DOMAIN}_${MSUIV}  const.clim.${DOMAIN}

ls -lrt

/cnrm/gp/mrpm/mrpm631/public/mpi/xmpirun -nn $NN -nnp $NNP ./MASTER -m$MODEL -v$VERSION
-e$CNMEXP -c$NCONF -t$TSTEP -f$NSTOP -a$ADVEC
#
ls -lrt

\cp -b 32768 PF${CNMEXP}${DOMAIN}+0000 PF${CNMEXP}${DOMAIN}_${iech}

done
#    Little cleaning  petit nettoyage
   \rm -f ncf927 ifs.* core*
   \rm -f PF${CNMEXP}FRAN+0000
   \rm -f PX${CNMEXP}000+0000
   \rm -f ICMSH${CNMEXP}INIT_${iech} ICMSH${CNMEXP}INIT
   \rm -f Const.Clim const.clim.${DOMAIN}

/usr/local/bin/ja

#MTOOL common join=backup

#       ***************
#       *  Listing    *
#       ***************

\ls -l

for out in stderr.* stdout.*; do
  mtool_banner.pl --line=80 --lchar=- --size=1 $out
  cat $out
done
```

```
if [ -a NODE.001_01 ] ; then
  for file in NODE* ; do
#MTOOL banner string=listing size=1
    \cat $file
  done
fi
ls -ltr

#      ********************************
#      *  Sauvegardes des resultats   *
#      *    results saving            *
#      ********************************

echo ''
echo ' Sauvegarde des fichiers de post-traitement '
echo '  saving coupling file '
echo ''
for iech in  $list_ech
#  style   0000 0003 0006 0009
do

ftput PF${CNMEXP}${DOMAIN}_$iech $OUTPATH/PF${CNMEXP}${DOMAIN}_$iech
#   attention les  repertoires coupl et $AAMMJJ  doivent exister sous cougar
#   Be careful coupl and $AAMMJJ  must exist on cougar
done

ls -lrt

#MTOOL common
set +e
trap "" 0

#MTOOL step id=fetch   target=toritx
#MTOOL step id=compute target=torisx
#MTOOL step id=backup  target=toritx
```

```
&NACOBS
 /
 &NACTAN
 /
 &NACTEX
 /
 &NACVEG
 /
 &NADOCK
 /
 &NAEPHY
 /
 &NAERAD
 /
 &NAIMPO
 /
 &NALORI
 /
 &NAMAFN
   TFP_U%CLNAME='WIND.U.PHYS',
   TFP_V%CLNAME='WIND.V.PHYS',
   TFP_Q%LLGP=.TRUE.,
   TFP_S%CLNAME='ICE_CRYSTAL',
   TFP_S%LLGP=.TRUE.,
   TFP_W%CLNAME='CLOUD_WATER',
   TFP_W%LLGP=.TRUE.,
   TFP_TKE%LLGP=.TRUE.,
   TFP_SN%LLGP=.TRUE.,
   TFP_RR%LLGP=.TRUE.,
   TFP_GR%LLGP=.TRUE.,
 /
 &NAMANCS
 /
 &NAMARPHY
 /
 &NAMCAPE
 /
 &NAMCFU
 /
 &NAMCHET
 /
 &NAMCHK
 /
 &NAMCLA
 /
 &NAMCLI
 /
 &NAMCLTC
 /
 &NAMCOK
 /
 &NAMCOM
 /
 &NAMCT0
   LFPOS=.TRUE.,
   NSPPR=0,
   NPRINTLEV=0,
 /
 &NAMCT1
   N1HIS=0,
   LRFILAF=.FALSE.,
 /
 &NAMCUMFS
 /
 &NAMCVER
 /
 &NAMCVMNH
 /
 &NAMDDH
 /
 &NAMDFHD
 /
 &NAMDFI
 /
 &NAMDIF
```

```
/
&NAMDIM
  NPROMA=-1747,
  NDLUXG=79,
  NDGUXG=97,
  NDGLG=108,
/
&NAMDMSP
/
&NAMDPHY
/
&NAMDYN
  NDLNPR=1,
/
&NAMDYNA
/
&NAMEMIS_CONF
/
&NAMFA
  NBITCS=-1,
  NSTRON=-1,
  NBITPG=-1,
/
&NAMFPC
  LTRACEFP=.TRUE.,
  CFPFMT='LELAM',
  CFPDOM(1)='DOMAIN',
  CFP3DF(1)='TEMPERATURE',
  CFP3DF(2)='WIND.U.PHYS',
  CFP3DF(3)='WIND.V.PHYS',
  CFP3DF(4)='HUMI.SPECIFIQUE',
  CFP3DF(5)='PRESS.DEPART',
  CFP3DF(6)='VERTIC.DIVER',
  CFP3DF(7)='RAIN',
  CFP3DF(8)='ICE_CRYSTAL',
  CFP3DF(9)='SNOW',
  CFP3DF(10)='GRAUPEL',
  CFP3DF(11)='CLOUD_WATER',
  CFP3DF(12)='TKE',
  CFP2DF(1)='SURFPRESSION',
  CFP2DF(2)='SPECSURFGEOPOTENTIEL',
  CFPPHY(1)='SURFTEMPERATURE',
  CFPPHY(2)='PROFTEMPERATURE',
  CFPPHY(3)='PROFRESERV.EAU',
  CFPPHY(4)='SURFRESERV.NEIGE',
  CFPPHY(5)='SURFRESERV.EAU',
  CFPPHY(6)='SURFZ0.FOIS.G',
  CFPPHY(7)='SURFALBEDO',
  CFPPHY(8)='SURFEMISSIVITE',
  CFPPHY(9)='SURFET.GEOPOTENT',
  CFPPHY(10)='SURFIND.TERREMER',
  CFPPHY(11)='SURFPROP.VEGETAT',
  CFPPHY(12)='SURFVAR.GEOP.ANI',
  CFPPHY(13)='SURFVAR.GEOP.DIR',
  CFPPHY(14)='SURFIND.VEG.DOMI',
  CFPPHY(15)='SURFRESI.STO.MIN',
  CFPPHY(16)='SURFPROP.ARGILE',
  CFPPHY(17)='SURFPROP.SABLE',
  CFPPHY(18)='SURFEPAIS.SOL',
  CFPPHY(19)='SURFIND.FOLIAIRE',
  CFPPHY(20)='SURFRES.EVAPOTRA',
  CFPPHY(21)='SURFGZ0.THERM',
  CFPPHY(22)='SURFRESERV.INTER',
  CFPPHY(23)='PROFRESERV.GLACE',
  CFPPHY(24)='SURFRESERV.GLACE',
  CFPPHY(25)='SURFA.OF.OZONE',
  CFPPHY(26)='SURFB.OF.OZONE',
  CFPPHY(27)='SURFC.OF.OZONE',
  CFPPHY(28)='SURFAEROS.SEA',
  CFPPHY(29)='SURFAEROS.LAND',
  CFPPHY(30)='SURFAEROS.SOOT',
  CFPPHY(31)='SURFAEROS.DESERT',
  CFPPHY(32)='SURFALBEDO NEIGE',
  CFPPHY(33)='SURFALBEDO.SOLNU',
  CFPPHY(34)='SURFALBEDO.VEG',
  CFPPHY(35)='SURFDENSIT.NEIGE',
```

```
   NRFP3S=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,
30,31,32,33,34,35,36,37,38,39,40,41,
   NFPCLI=1,
   LFPQ=.FALSE.,
   LFPSPEC=.TRUE.,
 /
 &NAMFPDY2
 /
 &NAMFPDYH
 /
 &NAMFPDYP
 /
 &NAMFPDYS
 /
 &NAMFPDYT
 /
 &NAMFPDYV
 /
 &NAMFPEZO
 /
 &NAMFPF
 /
 &NAMFPIOS
 /
 &NAMFPPHY
 /
 &NAMFPSC2
 /
 &NAMFPSC2_DEP
 /
 &NAMGEM
 /
 &NAMGFL
 /
 &NAMGMS
 /
 &NAMGRIB
 /
 &NAMHCP
 /
 &NAMHLOPT
 /
 &NAMINI
   NEINI=0,
 /
 &NAMIOMI
 /
 &NAMIOS
 /
 &NAMJBCODES
 /
 &NAMJG
 /
 &NAMJO
 /
 &NAMLCZ
 /
 &NAMMARS
 /
 &NAMMCC
 /
 &NAMMCUF
 /
 &NAMMETEOSAT
 /
 &NAMMKODB
 /
 &NAMMODERR
 /
 &NAMMTS
 /
 &NAMNASA
 /
 &NAMNMI
 /
 &NAMNN
 /
```

```
&NAMNUD
/
&NAMOBS
/
&NAMOPH
  NCADFORM=1,
/
&NAMPAR0
  NPROC=NBPROC,
  NPRGPNS=NBPROC,
  NPRTRW=NBPROC,
  NPRGPEW=1,
  NPRTRV=1,
  NOUTPUT=1,
  LMPOFF=.TRUE.,
  MP_TYPE=2,
/
&NAMPAR1
  NSTRIN=1,
  NSTROUT=1,
  LSPLIT=.FALSE.,
/
&NAMPARAR
/
&NAMPHY
  LO3ABC=T,
  LAEROSEA=.TRUE.,
  LAEROLAN=.TRUE.,
  LAEROSOO=.TRUE.,
  LAERODES=.TRUE.,
  LVGSN=.TRUE.,
/
&NAMPHY0
/
&NAMPHY1
/
&NAMPHY2
/
&NAMPHY3
/
&NAMPHYDS
/
&NAMPONG
/
&NAMPPC
/
&NAMPRE
/
&NAMRAD15
/
&NAMRCF
/
&NAMRCOEF
/
&NAMRES
/
&NAMRGRI
/
&NAMRINC
/
&NAMRIP
/
&NAMSCC
/
&NAMSCM
/
&NAMSENS
/
&NAMSIMPHL
/
&NAMSKF
/
&NAMSSMI
/
&NAMSTA
/
&NAMSTOPH
```

```
/
&NAMSWE
/
&NAMTESTVAR
/
&NAMTLEVOL
/
&NAMTOPH
/
&NAMTOVS
/
&NAMTRAJP
/
&NAMTRANS
/
&NAMVAR
/
&NAMVARBC
/
&NAMVAREPS
/
&NAMVDOZ
/
&NAMVFP
/
&NAMVRTL
/
&NAMVV1
/
&NAMVWRK
/
&NAMXFU
/
&NAM_CANAPE
/
&NAM_DISTRIBUTED_VECTORS
/
&NAPHLC
/
&NEMBICU
/
&NEMCT0
/
&NEMDIM
  NBZONL=8,
  NBZONG=8,
/
&NEMDYN
/
&NEMGEO
/
&NEMIOS
/
```

```
#PBS -S /bin/ksh
#PBS -T mpisx
#PBS -q vector
#PBS -j o
#PBS -b 1
#PBS -l cpunum_job=4
#PBS -l elapstim_req=09:00:00
#PBS -l memsz_job=40000mb

#-l memsz_job=48000mb
#-l cputim_job="80000,79940"
#-l cputim_prc=10000
#-l elapstim_req="12500,12400"

date
#
#NPROC=32

NPROC=4

set -x
#########################################
#  CYCLE=al33t1
#########################################
EXEC=/mf/dp/marp/marp001/tampon/bin/ald/al33/al33t1_arome-main.01.SX8RV20.x.exe
#
# Experiment setup
#########################

dat=2007062500

AA=$(echo $dat | cut -c1-4)
MM=$(echo $dat | cut -c5-6)
JJ=$(echo $dat | cut -c7-8)
RR=$(echo $dat | cut -c9-10)
DOMAIN=zoeste
EXP=EXP1
CNMEXP=AR01

COUPLPATH=$WORKDIR/couplings

COUPLNAME=PF${EXP}${DOMAIN}_00
INITSURFFILE=INITSURF_${EXP}_${DOMAIN}.lfi
NAMPATH=/cnrm/gp/mrpm/mrpm623/AROME/E001
NAM001=namel_e001_dyn_cy33t1
NAMSURFEX=namel_previ_surfex_cy33t1
NAMSURFOUT=namel_surfex_output_cy33t1

OUTPATH=$WORKDIR/arome_forecast


ECHCPL="00 03 06 09 12 15 18 21 24 27 30 33 36 39 42 45 48"

#BEFORE = hour
#FRCPLH=1
#FRCPLS=3600

#AFTER = 3 hours
FRCPLH=3
FRCPLS=10800

#
NCONF=001
VERSION=meteo
EXP=CNMEXP
TSTEP=60.
NSTOP=h48
ADVEC=sli
MODEL=aladin
#
#
export DR_HOOK=0
export DR_HOOK_IGNORE_SIGNALS=-1
```

```
export EC_PROFILE_HEAP=0
export TVSEARCHPATH=$SOURCE

export F_SYSLEN=1000
export F_FMTBUF=131072
export F_RECLUNIT=BYTE
export F_PROGINF=DETAIL
export F_FTRACE=FMT2
export MPIPROGINF=DETAIL
export MPISEPSELECT=0

set +x

cd $TMP_LOC
pwd
#
# ******************************************
# * Acquisition des fichieres de demarrage *
# ******************************************
#
for iech in $ECHCPL
 do
    icoupl=`expr $iech / $FRCPLH + 1000 | cut -c 2-4`
    dd if=$COUPLPATH/$COUPLNAME${iech} bs=134217728 of=ELSCF${CNMEXP}ALBC${icoupl}
  done
  ln -fs ELSCF${CNMEXP}ALBC000 ICMSH${CNMEXP}INIT
  dd if=$WORKDIR/$INITSURFFILE bs=134217728 of=TEST.lfi

#  dd if=$COUPLPATH/$INITSURFFILE bs=134217728 of=TEST.lfi

#
# ******************************************
# * Acquisition du namelist                *
# ******************************************

dd if=$NAMPATH/$NAM001  bs=134217728 of=namel_previ
dd if=$NAMPATH/$NAMSURFEX  bs=134217728 of=EXSEG1.nam
dd if=$NAMPATH/$NAMSURFOUT bs=134217728 of=TEST.des
sed -e s"/FRCPLS/$FRCPLS/"g -e s"/NBPROC/$NPROC/"g namel_previ > fort.4
#
# ******************************************
# * Acquisition de l'executable            *
# ******************************************

cp $EXEC AROME.EX
chmod +x AROME.EX
#
/bin/cat < fort.4
#
# *********************
#   EXECUTION         *
# *********************
#

# $NPROC processors
/cnrm/gp/mrpm/mrpm631/public/mpi/xmpirun -np $NPROC ./AROME.EX -m$MODEL -v$VERSION -e
$CNMEXP -c$NCONF -t$TSTEP -f$NSTOP -a$ADVEC  >lola

set +x
echo ''
echo ' Listing for the not parallelised part: file lola'
/bin/cat lola
echo ''
set -x
#
/bin/cat lola
#
if [ -a NODE.001_01 ]
then
  for file in NODE*
  do
    set +x
    echo
    echo " Listing d execution pour partie parallelisee: fichier " $file
    echo ' Listing for the parallelised part: file' $file
```

```
    echo
    set -x
    #/bin/cat $file
    /bin/cp $file $OUTPATH/${file}_e001
  done
fi
#
set +x
echo ''
echo ' File ifs.disp '
echo ''
set -x
/bin/cat ifs.disp
set +x
echo ''
echo ' File ifs.stat '
echo ''
set -x
/bin/cat ifs.stat
ja
ls -rtl
# ************************************
#     Archivage des output files   *
# ************************************
#
echo ''
echo ' Present files on the workdir $TMPDIR '
echo ''
set -x
ls -lrt
mv *.lfi $OUTPATH/
mv ICMSH*+* $OUTPATH/
mv class_cover_data.tex $OUTPATH/
#
# ***********************************
# *        Final Cleaning          *
# ***********************************
#
set +x
echo ''
rm *

ja
```

Ask someone to share you this ASCII file

```
&NAM_LUNITN CINIFILE="PREP_SURFEX_OUTPUT          ",CCPLFILE="
","                            ","                            ","
","                            ","                            ","
","                            "/
 &NAM_CONFN
LUSERV=T,LUSERC=F,LUSERR=F,LUSERI=F,LUSERS=F,LUSERG=F,LUSERH=F,LUSECI=F,NSV_USER=0/
 &NAM_DYNN
XTSTEP=60.00000000000000,CPRESOPT="RICHA",NITR=12,XRELAX=1.000000000000000,LHORELAX_UVWT
H=F,LHORELAX_RV=F,LHORELAX_RC=F,LHORELAX_RR=F,LHORELAX_RI=F,LHORELAX_RS=F,LHORELAX_RG=F,
LHORELAX_RH=F,LHORELAX_TKE=F,LHORELAX_EPS=F,LHORELAX_SVC2R2=F,LHORELAX_SVCHEM=F,LHORELAX
_SV=F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,
F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,
F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,
F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,
F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,F,LVE_RELAX=F,NRIMX=6,NRIMY=6,XRIMKMAX
=1.666666666666667E-04,XT4DIFF=6000.000000000000/
 &NAM_ADVN
CMET_ADV_SCHEME="FCT2ND",CSV_ADV_SCHEME="FCT2ND",CFV_ADV_SCHEME="MPDATA",NLITER=2/
 &NAM_PARAMN
CTURB="NONE",CRAD="NONE",CDRAG="NONE",CGROUND="ISBA",CCLOUD="NONE",CDCONV="NONE",CSEA_FL
UX="DIRECT",CELEC="NONE"/
 &NAM_PARAM_GROUNDN CISBA="3-
L",CPHOTO="NON",CRUNOFF="WSAT",XCO2_TOWN=1000.000000000000,CSCOND="PL98",CROUGH="Z04D",C
ALBEDO="DRY
",XBEGIN_TRAFFIC_TIME=21600.00000000000,XEND_TRAFFIC_TIME=64800.00000000000,LWRITE_PGD=F
,LTSZ0=F/
 &NAM_LBCN
CLBCX="OPEN","OPEN",CLBCY="OPEN","OPEN",NLBLX=1,1,NLBLY=1,1,XCPHASE=20.00000000000000/
 &NAM_CONF
CCONF="START",L2D=F,L1D=F,LFLAT=F,NMODEL=1,CEQNSYS="DUR",NVERB=5,CEXP="EXP01",CSEG="SEG0
1",LFORCING=F,LPACK=T,NHALO=1,CSPLIT="YSPLITTING",LLG=F,LINIT_LG=T,LNOMIXLG=F/
 &NAM_DYN
XSEGLEN=43200.00000000000,XASSELIN=0.2000000000000000,LCORIO=T,LNUMDIFF=F,LSTEADYLS=T,XA
LKTOP=1.000000000000000E-02,XALZBOT=4000.000000000000/
 &NAM_NESTING
NDAD=1,1,2,3,4,5,6,7,NDTRATIO=1,1,1,1,1,1,1,1,XWAY=0.000000000000000E+00,2.0000000000000
00,2.000000000000000,2.000000000000000,2.000000000000000,2.000000000000000,2.00000000000
0000,2.000000000000000/
 &NAM_BLANK
XDUMMY1=0.000000000000000E+00,XDUMMY2=0.000000000000000E+00,XDUMMY3=0.000000000000000E+0
0,XDUMMY4=0.000000000000000E+00,XDUMMY5=0.000000000000000E+00,XDUMMY6=0.000000000000000E
+00,XDUMMY7=0.000000000000000E+00,XDUMMY8=0.000000000000000E+00,NDUMMY1=0,NDUMMY2=0,NDUM
MY3=0,NDUMMY4=0,NDUMMY5=0,NDUMMY6=0,NDUMMY7=0,NDUMMY8=0,LDUMMY1=T,LDUMMY2=T,LDUMMY3=T,LD
UMMY4=T,LDUMMY5=T,LDUMMY6=T,LDUMMY7=T,LDUMMY8=T,CDUMMY1="
",CDUMMY2="
",CDUMMY3="
",CDUMMY4="
",CDUMMY5="
",CDUMMY6="
",CDUMMY7="
",CDUMMY8="
",XDUMMY=0.000000000000000E+00,0.000000000000000E+00,0.000000000000000E+00,0.00000000000
0000E+00,0.000000000000000E+00,0.000000000000000E+00,0.000000000000000E+00,0.00000000000
0000E+00,0.000000000000000E+00,0.000000000000000E+00,0.000000000000000E+00,0.00000000000
0000E+00,0.000000000000000E+00,0.000000000000000E+00,0.000000000000000E+00,0.00000000000
0000E+00,0.000000000000000E+00,0.000000000000000E+00,0.000000000000000E+00,0.00000000000
0000E+00,NDUMMY=0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,LDUMMY=T,T,T,T,T,T,T,T,T,T,T,T,T
,T,T,T,T,T,T,T,CDUMMY="
","                                                                                ","
","                                                                                ","
","                                                                                ","
","                                                                                ","
","                                                                                ","
","                                                                                ","
","                                                                                ","
","                                                                                ","
","                                                                                ","
","                                                                                "/
```

```
&NAEPHY
 /
 &NAERAD
   LSRTM=.FALSE.,
   LRRTM=.TRUE.,
   NAER=1,
   NOZOCL=2,
   NRADFR=15,
   NSW=6,
   NOVLP=6,
 /
 &NAMAFN
  GFP_CLSS%CLNAME='SURFACCNEIGE'
  GFP_CLSP%CLNAME='SURFACCPLUIE'
  GFP_CLSG%CLNAME='SURFACCGRAUPEL'
  GFP_XLSS%CLNAME='SURFINSNEIGE'
  GFP_XLSP%CLNAME='SURFINSPLUIE'
  GFP_XLSG%CLNAME='SURFINSGRAUPEL'
 /
 &NAMANCS
 /
 &NAMCAPE
 /
 &NAMCFU
   LCUMFU=.TRUE.,
   LFR=.TRUE.,
   LNEBTT=.TRUE.,
   LNEBPAR=.TRUE.,
   LFSF=.TRUE.,
   LFPLS=.TRUE.,
   LFPLSG=.TRUE.,
   LRAYD=.TRUE.,
   LRAYS=.TRUE.,
 /
 &NAMCHK
 /
 &NAMCT0
   CFPATH='ICMSH',
   LFPOS=.FALSE.,
   LTWOTL=.TRUE.,
   NFRHIS=1,
   NFSRHIS=1,
   NFRISP=2,
   NFRSDI=15,
   NHISTS(0)=-49,
   NHISTS(1)=-0,
   NHISTS(2)=-1,
   NHISTS(3)=-2,
   NHISTS(4)=-3,
   NHISTS(5)=-4,
   NHISTS(6)=-5,
   NHISTS(7)=-6,
   NHISTS(8)=-7,
   NHISTS(9)=-8,
   NHISTS(10)=-9,
   NHISTS(11)=-10,
   NHISTS(12)=-11,
   NHISTS(13)=-12,
   NHISTS(14)=-13,
   NHISTS(15)=-14,
   NHISTS(16)=-15,
   NHISTS(17)=-16,
   NHISTS(18)=-17,
   NHISTS(19)=-18,
   NHISTS(20)=-19,
   NHISTS(21)=-20,
   NHISTS(22)=-21,
   NHISTS(23)=-22,
   NHISTS(24)=-23,
   NHISTS(25)=-24,
   NHISTS(26)=-25,
   NHISTS(27)=-26,
   NHISTS(28)=-27,
   NHISTS(29)=-28,
   NHISTS(30)=-29,
   NHISTS(31)=-30,
```

```
  NHISTS(32)=-31,
  NHISTS(33)=-32,
  NHISTS(34)=-33,
  NHISTS(35)=-34,
  NHISTS(36)=-35,
  NHISTS(37)=-36,
  NHISTS(38)=-37,
  NHISTS(39)=-38,
  NHISTS(40)=-39,
  NHISTS(41)=-40,
  NHISTS(42)=-41,
  NHISTS(43)=-42,
  NHISTS(44)=-43,
  NHISTS(45)=-44,
  NHISTS(46)=-45,
  NHISTS(47)=-46,
  NHISTS(48)=-47,
  NHISTS(49)=-48,
  NSHISTS(0)=-17,
  NSHISTS(1)=-0,
  NSHISTS(2)=-3,
  NSHISTS(3)=-6,
  NSHISTS(4)=-9,
  NSHISTS(5)=-12,
  NSHISTS(6)=-15,
  NSHISTS(7)=-18,
  NSHISTS(8)=-21,
  NSHISTS(9)=-24,
  NSHISTS(10)=-27,
  NSHISTS(11)=-30,
  NSHISTS(12)=-33,
  NSHISTS(13)=-36,
  NSHISTS(14)=-39,
  NSHISTS(15)=-42,
  NSHISTS(16)=-45,
  NSHISTS(17)=-48,
  NPISPS(0)=0,
  LNHDYN=.TRUE.,
  LPC_OLD=.FALSE.,
  LPC_FULL=.FALSE.,
  LPC_NESC=.FALSE.,
  LSPRT=.TRUE.,
  LAROME=.TRUE.,
  NFRCO=60,
/
&NAMCT1
  LRFILAF=.FALSE.,
  N1POS=0,
  N1RES=0,
  N1ISP=0,
/
&NAMCUMFS
/
&NAMCVER
/
&NAMDDH
/
&NAMDFHD
/
&NAMDFI
/
&NAMDIF
/
&NAMDIM
  NPROMA=1747,
/
&NAMDMSP
/
&NAMDPHY
/
&NAMDYN
  LADVF=.TRUE.,
  LSETTLS=.TRUE.,
  NTLAG=3,
  NVLAG=3,
  NWLAG=3,
  REPS1=0.,
```

```
  REPS2=0.,
  REPSM1=0.,
  REPSM2=0.,
  REPSP1=0.,
  SITR=350.,
  VESL=0.,
  XIDT=0.0,
  NDLNPR=1,
  NSVDLAG=3,
  NSPDLAG=3,
  NSITER=0,
  SIPR=101325.,
  SITRA=50.,
  LQMPD=.FALSE.,
  LQMT=.FALSE.,
  LQMVD=.FALSE.,
  SLHDA0=0.25,
  ZSLHDP3=0.6,
  SLHDD00=0.000065,
  ZSLHDP1=1.7,
  RDAMPDIV=20.,
  RDAMPVOR=20.,
  RDAMPT=20.,
  RDAMPQ=20.,
  RDAMPPD=200000.,
  RDAMPVD=20.,
/
&NAMDYNA
  NVDVAR=4,
  LGWADV=.FALSE.,
  NPDVAR=2,
  LRDBBC=.TRUE.,
  LSLHD_W=.FALSE.,
  LSLHD_T=.FALSE.,
  LSLHD_SVD=.FALSE.,
  LSLHD_SPD=.FALSE.,
/
&NAMEMIS_CONF
/
&NAMFA
  NBITCS=-1,
  NBITPG=-1,
  NSTRON=-1,
/
&NAMFPC
/
&NAMFPD
/
&NAMFPEZO
/
&NAMFPF
/
&NAMFPG
/
&NAMFPIOS
/
&NAMFPSC2
/
&NAMGEM
  REFLKUO=5000.,
/
&NAMGFL
  YQ_NL%LPT=.FALSE.,
  YQ_NL%LQM=.TRUE.,
  YQ_NL%NREQIN=1,
  YL_NL%LPT=.FALSE.,
  YL_NL%NREQIN=0,
  YL_NL%NCOUPLING=0,
  YL_NL%LQM=.TRUE.,
  YI_NL%LPT=.FALSE.,
  YI_NL%NREQIN=0,
  YI_NL%NCOUPLING=0,
  YI_NL%LQM=.TRUE.,
  YS_NL%LPT=.FALSE.,
  YS_NL%NREQIN=0,
  YS_NL%NCOUPLING=0,
  YS_NL%LQM=.TRUE.,
```

```
  YR_NL%LPT=.FALSE.,
  YR_NL%NREQIN=0,
  YR_NL%NCOUPLING=0,
  YR_NL%LQM=.TRUE.,
  YG_NL%LPT=.FALSE.,
  YG_NL%NREQIN=0,
  YG_NL%NCOUPLING=0,
  YG_NL%LQM=.TRUE.,
  YTKE_NL%LPT=.FALSE.,
  YTKE_NL%NREQIN=-1,
  YTKE_NL%NCOUPLING=0,
  YA_NL%LPT=.FALSE.,
  YSRC_NL%LPT=.FALSE.,
/
&NAMGMS
/
&NAMGRIB
/
&NAMHCP
/
&NAMINI
  NEINI=0,
/
&NAMIOMI
/
&NAMIOS
/
&NAMJG
/
&NAMJO
/
&NAMLCZ
/
&NAMMARS
/
&NAMMCC
/
&NAMMETEOSAT
/
&NAMMKODB
/
&NAMMODERR
/
&NAMMTS
/
&NAMNASA
/
&NAMNMI
/
&NAMNN
/
&NAMNUD
/
&NAMOBS
/
&NAMOPH
  CFNHWF='ECHIS',
  LINC=.TRUE.,
/
&NAMPAR0
  MP_TYPE=2,
  MBX_SIZE=128000000,
  LIMP=.FALSE.,
  LIMP_NOOLAP=.TRUE.,
  LMPOFF=.FALSE.,
  NOUTPUT=1,
  NPROC=NBPROC,
  NPRGPNS=NBPROC,
  NPRGPEW=1,
/
&NAMPAR1
  NCOMBFLEN=1800000,
  LSLONDEM=.TRUE.,
  LSPLIT=.TRUE.,
  LSYNC_SLCOM=.TRUE.,
  LSYNC_TRANS=.TRUE.,
  NSTRIN=1,
```

```
  NSTROUT=1,
 /
 &NAMPHY
  LMPHYS=.TRUE.,
  LRAYFM=.TRUE.,
  LO3ABC=.TRUE.,
  LAEROSEA=.TRUE.,
  LAEROLAN=.TRUE.,
  LAEROSOO=.TRUE.,
  LAERODES=.TRUE.,
 /
 &NAMPHY0
  ALMAV=300.,
  BEDIFV=0.05,
  ECMNP=3000.,
  GCCSV=0.,
  GCOMOD=1.,
  GCVADS=0.8,
  GCVALFA=4.5E-05,
  GCVBETA=0.2,
  GCVMLT=0.00016,
  GCVNU=2.5E-05,
  GCVPSI=1.,
  GDDEVA=0.25,
  GDDSDE=0.5,
  GWDCD=6.,
  HUCOE=0.5,
  HUTIL=1.8,
  QSSC=400.,
  RCVEVAP=0.25,
  SCO=-20.,
  TDDGP=0.8,
  TENTR=2.5E-06,
  TENTRX=8.E-05,
  TUDGP=0.8,
  UHDIFV=8.E-04,
  USURIC=0.175,
  USURICE=0.5,
  USURICL=1.,
  USURID=0.1,
  VZ0CM=1.5E-04,
  GCVPSIE=1.,
  USURIDE=0.25,
  QSSUSC=0.75,
  QSUSXC=0.0002,
  QSUSXS=0.0003,
  REVGSL=15.,
  QSSUSS=0.4,
  QSSUSV=250.,
  QXRAL=130.,
  QXRDEL=0.49,
  QXRR=0.25,
  QXRHX=0.99,
 /
 &NAMPHY1
  GCGEL=3.E-5,
  GCGELS=5.E-5,
  GNEIMX=1.8,
  GNEIMXS=1.8,
  ALBMIN=0.65,
  ALCRIN=0.75,
  RCTVEG(3)=1.2E-05,
  RCTVEG(4)=1.0E-05,
 /
 &NAMPHY2
  LRAFTUR=.TRUE.,
  XMULAF=-1.85,
  LMULAF=.TRUE.,
  XDAMP=1.,
 /
 &NAMPHY3
 /
 &NAMPHYDS
 /
 &NAMPONG
 /
 &NAMPPC
```

```
  LMOVIE=.TRUE.,
  LMOVPH=.TRUE.,
  MPLEV(1)=10000,
/
&NAMRAD15
/
&NAMRCOEF
/
&NAMRES
/
&NAMRGRI
/
&NAMRINC
/
&NAMRIP
/
&NAMSCM
/
&NAMSENS
/
&NAMSIMPHL
/
&NAMSSMI
/
&NAMSTA
/
&NAMCHET
/
&NAMMCUF
/
&NAMSTOPH
/
&NAMTESTVAR
/
&NAMTLEVOL
/
&NAMTOPH
  XDRMTK=6.E-07,
  XDRMTP=800.,
  XDRMUK=3.E-07,
  XDRMUP=800.,
  ETCVIM=5000.,
  ETPLUI=5000.,
  ETNEBU=5000.,
/
&NAMTOVS
/
&NAMTRAJP
/
&NAMTRANS
/
&NAMVAR
/
&NAMVDOZ
/
&NAMVFP
/
&NAMVRTL
/
&NAMVV1
/
&NAMVWRK
/
&NAMXFU
 LXFU=.TRUE.,
 LXPLS=.TRUE.,
 LXPLSG=.TRUE.,
 LXTTCLS=.TRUE.,
 LXCLS=.TRUE.,
 LXQCLS=.TRUE.,
 LXR=.TRUE.,
 LXNEBTT=.TRUE.,
 LXNEBPA=.TRUE.,
 LXTGST = .TRUE.,
 LXSOIL=.FALSE.,
 LXTHW=.TRUE.,
 LXTRT=.TRUE.,
```

```
/
&NAM_DISTRIBUTED_VECTORS
/
&NAPHLC
/
&NEMBICU
  ZEPA(1)=2.16,
  ZEPA(2)=2.16,
  ZEPA(3)=5.52,
  ZEPA(4)=2.16,
  ZEPA(5)=2.16,
  ZEPA(6)=2.16,
/
&NEMCT0
  NBICOP=2,
  NBICOQ=2,
  NBICOT=2,
  NBICOU=2,
  NBICPD=2,
  NBICVD=2,
  NECRIPL=1,
/
&NEMDIM
/
&NEMDYN
  TEFRCL=FRCPLS,
/
&NEMGEO
/
&NEMIOS
/
&NAMPARAR
  NPTP=1,
  NPRINTFR=10000,
  LOSUBG_COND=.TRUE.,
  LOSIGMAS=.TRUE.,
/
&NAMARPHY
  LMPA=.TRUE.,
  LMICRO=.TRUE.,
  LTURB=.TRUE.,
  LMSE=.TRUE.,
  LKFBCONV=.TRUE.,
  LKFBD=.FALSE.,
  LKFBS=.TRUE.,
/
&NAMVAREPS
/
&NEMJK
/
&NAMLSFORC
/
&NAMHLOPT
/
&NAMJBCODES
/
&NAMCOM
/
&NAMCVMNH
/
&NAMFPSC2_DEP
/
```

```
&NAM_SURF_ATMn /
&NAM_ISBAn  /
&NAM_DIAG_SURFn
   LSURF_BUDGET=.TRUE.,
   N2M=1,
/
&NAM_DIAG_ISBAn
   LPGD=.FALSE.,
/
&NAM_WRITE_SURF_ATM
    LNOWRITE_COVERS = .FALSE.,
    LNOWRITE_CANOPY = .FALSE.,
/
```

```
#PBS -N fpos4
#PBS -S /bin/ksh
#PBS -T mpisx
#PBS -q vector
#PBS -j o
#PBS -b 1
#PBS -l cpunum_job=1
#PBS -l memsz_job=30000mb
#PBS -l elapstim_req=00:45:00
date

NPROC=1
NN=1
NNP=1
# NPROC        = (cpunum_job)*(-b)
# memsz_job    = for 1 node
if [ "$NPROC" ] ; then
  echo;echo "  NPROC=$NPROC"
else
  echo;echo FATAL : NPROC is not set.;exit 1
fi
set -x
#
########################################
#  CYCLE=al33t1
########################################
BINDIR=/mf/dp/marp/marp001/tampon/bin/ald/al33
EXEC=al33t1_arome-main.01.SX8RV20.x.exe
PROGRID=/cnrm/gp/mrpe/mrpe602/SXbin/PROGRID_15012008
PROAJOUT=/cnrm/gp/mrpe/mrpe602/SXbin/PROAJOUT_best.exe

# Experiment setup
```

```
dat=2007062500

AA=$(echo $dat | cut -c1-4)
MM=$(echo $dat | cut -c5-6)
JJ=$(echo $dat | cut -c7-8)

ECHD='03'
ECHF='48'
ECHSTEP=03
CNMEXP='AR01'

# definition of the postprocesing domain (by default it is FPOS)
DOMAIN=zoeste
#  path of the Arome forecasting files
ARFILEPATH=$WORKDIR/arome_forecast
#  name of the Arome file without the forecast range (experiemnt CNMEXP)
ARFILENAME=ICMSH${CNMEXP}+
# name of the Arome postprocesing file  in FA format (experiment CNMEXP)
ARFPOSFILE=ICMSH${CNMEXP}$DOMAIN
# name of the result of ELSCFALBC0000 file (from EE927) coupling file at 0000h ???
ELSCAFNAME=PFEXP1zoeste_0000
# respective PATH for last coupling file at 0000h ?????
ELSCAFPATH=$WORKDIR/couplings
#  path of Arome climatological (lambert projection) files
ARCLIMPATH=$WORKDIR
ARCLIMNAME=zo_2.5_m
#  name of the FPOS file in  grib format
GRIDGEO=GRIDGEO_zo
#  path of the Arome climatological (regular lat-lon) files
GEOCLIMPATH=$WORKDIR
GEOCLIMNAME=bdap_zoeste_m
#  path of the namelists
NAMPATH=/cnrm/gp/mrpm/mrpm623/AROME/FPOS
NAMFP=namel_fp_cy33t1
NAMFP0=namel_fp0_cy33t1
NAMSELFP=select_fp_cy33t1
NAMSELFP0=select_fp0_cy33t1
NAMFPD=NAMFPD_bdap_zoeste
NAMGRID=namel_progrid
OUTPATH=$WORKDIR/arome_forecast/fullpos
```

```
##############################
#
NCONF=001
VERSION=meteo
TSTEP=60.
NSTOP=t0
ADVEC=eul
MODEL=aladin
#
export DR_HOOK=0
export DR_HOOK_IGNORE_SIGNALS=-1
export EC_PROFILE_HEAP=0
export TVSEARCHPATH=$SOURCE

export F_SYSLEN=1000
export F_FMTBUF=131072
export F_RECLUNIT=BYTE
export F_PROGINF=DETAIL
export F_FTRACE=FMT2
export MPIPROGINF=DETAIL
export MPISEPSELECT=0

set -x

cd $TMP_LOC
pwd
#
#
#      **************************
#      * Executable acquisition *
#      **************************
#
    if [ -f $BINDIR/$EXEC ] ; then
      ln -sf $BINDIR/$EXEC AROME.EXE
    else
      exit 1 "EXECUTABLE INTROUVABLE"
    fi
#
#      **************************
#      * Clim files acquisition *
#      **************************
#
    dd if=$ARCLIMPATH/$ARCLIMNAME$MM  bs=134217728 of=Const.Clim
    if [ ! -f  Const.Clim ] ; then exit 1 ; fi
    dd if=$GEOCLIMPATH/$GEOCLIMNAME$MM bs=134217728 of=const.clim.FPOS
    if [ ! -f  const.clim.FPOS ] ; then exit 1 ; fi
#
#      ************************************
#      * Building the forecast range loop *
#      ************************************
echo
#set +x
list_ech=''
i=$ECHD
while [ $i -le $ECHF ]
  do
    list_ech=$list_ech$(perl -e "printf '%04u ', $i")
    i=$((i + ECHSTEP))
  done
list_ech=$(echo $list_ech | sed 's/ $//')
#
echo  $list_ech
#
#     ***************************************************
#     * Namelist Acquisition and initial file updating *
#     ***************************************************
#
    dd if=$NAMPATH/$NAMGRID bs=134217728 of=namel_progrid
    if [ $ECHD -eq 00 ] ; then
      dd if=$NAMPATH/$NAMPROAJOUT  bs=134217728 of=fort.4
      dd if=$NAMPATH/$NAMFP0 bs=134217728 of=namel_fp_base
      dd if=$NAMPATH/$NAMSELFP0 bs=134217728 of=selectfp0
      cat namel_fp_base $NAMPATH/$NAMFPD > mynamel_fp
      sed -e s"/NBPROC/$NPROC/"g  mynamel_fp > namel_fp0
      echo "namelist for forecast range 00"
```

```
      echo "------------------------------"
      cat namel_fp0
    fi
#
    if [ $ECHF -ne 00 ] ; then
      dd if=$NAMPATH/$NAMFP bs=134217728 of=namel_fp_base
      dd if=$NAMPATH/$NAMSELFP bs=134217728 of=selectfp
      cat namel_fp_base $NAMPATH/$NAMFPD > mynamel_fp
      sed -e s"/NBPROC/$NPROC/"g   mynamel_fp > namel_fp
      ln -sf  selectfp xxt00000000
      echo "namelist for forecast range  > 00"
      echo "---------------------------------"
      cat namel_fp
    fi
#
#
#     ******************
#     * Loop Execution *
#     ******************
#
  for iech in  $list_ech
#       style   0000 0003 0006 0009
    do
      dd if=$ARFILEPATH/$ARFILENAME${iech} bs=134217728 of=ICMSH${CNMEXP}INIT
        if [ -f ICMSH${CNMEXP}INIT ] ; then
          if [ $iech -eq 0000 ] ; then
            /bin/mv ICMSH${CNMEXP}INIT fort.11
            dd if=$ELSCAFPATH/$ELSCAFNAME  bs=134217728 of=fort.12
            /bin/cp $NAMPATH/namel_proajout fort.4
            $PROAJOUT
            /bin/mv fort.11 ICMSH${CNMEXP}INIT
            /bin/cp namel_fp0 fort.4
            /bin/cp  selectfp0 xxt00000000
          else
            /bin/cp namel_fp fort.4
            /bin/cp  selectfp xxt00000000
          fi #if iech=00
#
          if [ ! -f fort.4 ] || [ ! -f xxt00000000 ]  ; then exit 4 ; fi
          /cnrm/gp/mrpm/mrpm631/public/mpi/xmpirun -nn $NN -nnp $NNP \
             ./AROME.EXE -m$MODEL -v$VERSION -e$CNMEXP \
                   -c$NCONF -t$TSTEP -f$NSTOP -a$ADVEC
          if [ ! -f PF${CNMEXP}FPOS+0000 ] ; then
            /bin/cp NODE.001_01 $OUTPATH/NODE_fp_$iech
            /bin/cp stdout.* $OUTPATH
            /bin/cp stderr.* $OUTPATH
            /bin/cp fort.4 $OUTPATH/fort.4_$iech
            /bin/cp xxt00000000  $OUTPATH/xxt00000000_$iech
            exit 1 "Crash of the atmospheric part postprocessing"
           else
            dd if=PF${CNMEXP}FPOS+0000  bs=134217728 \
                          of=$OUTPATH/PF${CNMEXP}${DOMAIN}+${iech}
            rm -f fort.4 core* ifs.*
            /bin/cp namel_progrid fort.4
            ln -fs  PF${CNMEXP}FPOS+0000 fort.11
            $PROGRID
            dd if=GRIDGEO  bs=134217728 of=$OUTPATH/${GRIDGEO}+${iech}
            rm -f ICMSHFPOINIT  PF${CNMEXP}FPOS+0000
            rm -f PX* fort.11
          fi #if fposfile
        fi #if icmshifposinit
    done
#
  date
#
ls -l
#
#      ***************
#      *  Listing    *
#      ***************

for out in stderr.* stdout.*; do
  cat $out
done
```

```
if [ -a NODE.001_01 ] ; then
  for file in NODE* ; do
    \cat $file
  done
fi


#
/usr/local/bin/ja
```

```
&NACTDO
/
&NAEPHY
/
&NAERAD
/
&NAMAFN
  TFP_HU%IBITS=12,
  TFP_MSL%IBITS=12,
  TFP_RCLS%IBITS=12,
  TFP_T%IBITS=12,
  TFP_TCLS%IBITS=12,
  TFP_TH%IBITS=12,
  TFP_THPW%IBITS=12,
  TFP_TN%IBITS=12,
  TFP_TX%IBITS=12,
  TFP_U%IBITS=12,
  TFP_V%IBITS=12,
  TFP_TWV%IBITS=12,
  GFP_XCCC%IBITS=8,
  GFP_XHCC%IBITS=8,
  GFP_XLCC%IBITS=8,
  GFP_XMCC%IBITS=8,
  GFP_XTCC%IBITS=8,
  TFP_ABS%ZFK=32.,
  TFP_VV%ZFK=32.,
  TFP_VOR%ZFK=32.,
  TFP_PV%ZFK=64.,
  GFP_X2T%CLNAME='CLSTEMPERATURE',
  GFP_X2T%IANO=0,
  GFP_ST%CLNAME='SURFTEMPERATURE',
  GFP_ST%IANO=0,
  GFP_X10U%CLNAME='CLSVENT.ZONAL',
  GFP_X10U%IANO=0,
  GFP_X10V%CLNAME='CLSVENT.MERIDIEN',
  GFP_X10V%IANO=0,
  GFP_X2RH%CLNAME='CLSHUMI.RELATIVE',
  GFP_X2RH%IANO=0,
  GFP_XUGST%CLNAME='CLSU.RAF.MOD.XFU',
  GFP_XUGST%IANO=0,
  GFP_XVGST%CLNAME='CLSV.RAF.MOD.XFU',
  GFP_XVGST%IANO=0,
  GFP_CLSS%CLNAME='SURFACCNEIGE',
  GFP_CLSP%CLNAME='SURFACCPLUIE',
  GFP_CLSG%CLNAME='SURFACCGRAUPEL',
/
&NAMANCS
/
&NAMARPHY
/
&NAMCAPE
/
&NAMCFU
  LFPLSG=.TRUE.,
/
&NAMCHET
/
&NAMCHK
/
&NAMCOM
/
&NAMCT0
  LAROME=.TRUE.,
  CNPPATH='.',
  LFPOS=.TRUE.,
  NSPPR=0,
  LOPT_SCALAR=.FALSE.,
  LSPRT=.TRUE.,
  LNHDYN=.TRUE.,
  NPRINTLEV=2,
/
&NAMCT1
  LRFILAF=.FALSE.,
  N1HIS=0,
/
&NAMCUMFS
/
```

```
&NAMCVMNH
/
&NAMDDH
/
&NAMDFI
/
&NAMDIF
/
&NAMDIM
  NPROMA=2047,
/
&NAMDMSP
/
&NAMDPHY
/
&NAMDYN
  NDLNPR=1,
/
&NAMDYNA
/
&NAMEMIS_CONF
/
&NAMFA
  NBITCS=-1,
  NBITPG=-1,
  NSTRON=-1,
/
&NAMFPC
  CFPFMT='LALON',
  NFPCLI=1,
  NFPGRIB=1,
  CFPDOM(1)='FPOS',
  CFP3DF(1)='GEOPOTENTIEL',
  CFP3DF(2)='TEMPERATURE',
  CFP3DF(3)='VENT_ZONAL',
  CFP3DF(4)='VENT_MERIDIEN',
  CFP3DF(5)='HUMI_RELATIVE',
  CFP3DF(6)='THETA_PRIM_W',
  CFP3DF(7)='PRESSURE',
  CFP3DF(8)='ABS_VORTICITY',
  CFP3DF(9)='VITESSE_VERTICALE',
  CFP3DF(10)='TEMPE_POTENT',
  CFP3DF(11)='POT_VORTICIT',
  CFP3DF(12)='SIM_REFLECTI',
  CFP3DF(13)='RAIN',
  CFP3DF(14)='SNOW',
  CFP3DF(15)='GRAUPEL',
  CFP3DF(16)='ICE_CRYSTAL',
  CFP3DF(17)='CLOUD_WATER',
  CFP3DF(18)='VERT.VELOCIT',
  CFP3DF(19)='DIVERGENCE',
  CFP3DF(20)='THETA_VIRTUA',
  CFPXFU(1)='CLSTEMPERATURE',
  CFPXFU(2)='CLSHUMI.RELATIVE',
  CFPXFU(3)='CLSVENT.ZONAL',
  CFPXFU(4)='CLSVENT.MERIDIEN',
  CFPXFU(5)='SURFNEBUL.TOTALE',
  CFPXFU(6)='SURFNEBUL.CONVEC',
  CFPXFU(7)='SURFNEBUL.HAUTE',
  CFPXFU(8)='SURFNEBUL.MOYENN',
  CFPXFU(9)='SURFNEBUL.BASSE',
  CFPXFU(10)='CLSU.RAF.MOD.XFU',
  CFPXFU(11)='CLSV.RAF.MOD.XFU',
  CFPXFU(12)='CLSMAXI.TEMPERAT',
  CFPXFU(13)='CLSMINI.TEMPERAT',
  CFP2DF(1)='SURFPRESSION',
  CFP2DF(2)='MSLPRESSURE',
  CFP2DF(3)='SURFTOT.WAT.VAPO',
  CFP2DF(4)='SURFISOT0.MALTIT',
  CFP2DF(5)='SURFISOTPW0.MALT',
  CFP2DF(6)='SURFISOTM10.MALT',
  CFPPHY(1)='SURFTEMPERATURE',
  CFPCFU(1)='SURFTENS.TURB.ZO',
  CFPCFU(2)='SURFTENS.TURB.ME',
  CFPCFU(3)='SURFACCPLUIE',
  CFPCFU(4)='SURFACCNEIGE',
  CFPCFU(5)='SURFACCGRAUPEL',
```

```
  CFPCFU(6)='SOMMFLU.RAY.SOLA',
  CFPCFU(7)='SURFFLU.RAY.SOLA',
  CFPCFU(8)='SOMMFLU.RAY.THER',
  CFPCFU(9)='SURFFLU.RAY.THER',
  CFPCFU(10)='SURFFLU.LAT.MEVA',
  CFPCFU(11)='SURFFLU.LAT.MSUB',
  CFPCFU(12)='SURFFLU.MEVAP.EA',
  CFPCFU(13)='SURFFLU.MSUBL.NE',
  CFPCFU(14)='SURFFLU.CHA.SENS',
  RFP3P(1)=10000.,
  RFP3P(2)=15000.,
  RFP3P(3)=20000.,
  RFP3P(4)=25000.,
  RFP3P(5)=30000.,
  RFP3P(6)=40000.,
  RFP3P(7)=50000.,
  RFP3P(8)=60000.,
  RFP3P(9)=70000.,
  RFP3P(10)=80000.,
  RFP3P(11)=85000.,
  RFP3P(12)=90000.,
  RFP3P(13)=92500.,
  RFP3P(14)=95000.,
  RFP3P(15)=100000.,
  RFP3H(1)=20.,
  RFP3H(2)=50.,
  RFP3H(3)=100.,
  RFP3H(4)=250.,
  RFP3H(5)=500.,
  RFP3H(6)=750.,
  RFP3H(7)=1000.,
  RFP3H(8)=1250.,
  RFP3H(9)=1500.,
  RFP3H(10)=2000.,
  RFP3H(11)=2500.,
  RFP3H(12)=3000.,
  RFP3PV(1)=1.5E-6,
  RFP3PV(2)=2.E-6,
  LFITV=.TRUE.,
  RFPVCAP=7000.,
  RFPCORR=5500.,
  RFPCSAB=50.,
  RFPCD2=5.,
  LFPMOIS=.TRUE.,
/
&NAMFPEZO
/
&NAMFPF
  NFMAX(1)=80,
/
&NAMFPG
/
&NAMFPIOS
/
&NAMFPSC2
  NFPROMA=2047,
/
&NAMFPSC2_DEP
  NFPROMA_DEP=2047,
/
&NAMFY2
/
&NAMGEM
  REFLKUO=5000.,
/
&NAMGFL
  YQ_NL%LGP=.TRUE.,
  YQ_NL%LSP=.FALSE.,
  YQ_NL%NREQIN=1,
  YL_NL%LGP=.TRUE.,
  YL_NL%LSP=.FALSE.,
  YL_NL%NREQIN=1,
  YL_NL%CNAME='CLOUD_WATER ',
  YI_NL%LGP=.TRUE.,
  YI_NL%LSP=.FALSE.,
  YI_NL%NREQIN=1,
  YI_NL%CNAME='ICE_CRYSTAL ',
```

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  YS_NL%LGP=.TRUE.,
  YS_NL%LSP=.FALSE.,
  YS_NL%NREQIN=1,
  YS_NL%CNAME='SNOW        ',
  YR_NL%LGP=.TRUE.,
  YR_NL%LSP=.FALSE.,
  YR_NL%NREQIN=1,
  YR_NL%CNAME='RAIN        ',
  YG_NL%LGP=.TRUE.,
  YG_NL%LSP=.FALSE.,
  YG_NL%NREQIN=1,
  YG_NL%CNAME='GRAUPEL     ',
/
&NAMGMS
/
&NAMGRIB
/
&NAMHCP
/
&NAMHLOPT
/
&NAMINI
  NEINI=0,
/
&NAMIOMI
/
&NAMIOS
/
&NAMJBCODES
/
&NAMJFH
/
&NAMJG
/
&NAMJO
/
&NAMLCZ
/
&NAMMARS
/
&NAMMCC
/
&NAMMCUF
/
&NAMMETEOSAT
/
&NAMMKODB
/
&NAMMODERR
/
&NAMMTS
/
&NAMMTSAT
/
&NAMNASA
/
&NAMNMI
/
&NAMNN
/
&NAMNUD
/
&NAMOBS
/
&NAMONEDVAR
/
&NAMOPH
  NCADFORM=1,
/
&NAMPAR0
  NOUTPUT=1,
  NPRGPEW=1,
  NPRGPNS=NBPROC,
  NPROC=NBPROC,
  MP_TYPE=2,
  MBX_SIZE=128000000,
  LIMP=.FALSE.,
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  LIMP_NOOLAP=.FALSE.,
  LMPOFF=.FALSE.,
 /
 &NAMPAR1
  LSPLIT=.FALSE.,
  NSTRIN=1,
  NSTROUT=1,
  NCOMBFLEN=1800000,
  LSLONDEM=.FALSE.,
 /
 &NAMPARAR
 /
 &NAMPHY
  LCVCAS=.TRUE.,
  LCVDD=.TRUE.,
  LCVLIS=.TRUE.,
  LRRMES=.TRUE.,
  NOIR=0,
  NPHYREP=1,
  LREWS=.TRUE.,
  LRNUMX=.TRUE.,
  LFPCOR=.TRUE.,
  LNOIAS=.TRUE.,
  CGMIXLEN='TM',
  LNEBNXR=.TRUE.,
  LSOLV=.FALSE.,
  LFGEL=.FALSE.,
 /
 &NAMPHY0
  ALMAV=400.,
  BEDIFV=0.05,
  ECMNP=3000.,
  GCCSV=0.,
  GCOMOD=1.,
  GCVADS=0.8,
  GCVALFA=4.5E-05,
  GCVBETA=0.2,
  GCVMLT=0.00016,
  GCVNU=2.5E-05,
  GCVPSI=1.,
  GDDEVA=0.25,
  GDDSDE=0.5,
  GWDCD=6.,
  SCO=-20.,
  TDDGP=0.8,
  TENTR=2.5E-06,
  TENTRX=8.E-05,
  TUDGP=0.8,
  UHDIFV=8.E-04,
  USURIC=0.175,
  USURICE=0.5,
  USURICL=1.,
  USURID=0.1,
  VZ0CM=1.0E-4,
  RCVEVAP=0.25,
  GCVPSIE=1.,
  USURIDE=0.25,
  REVGSL=15.,
  QSSUSC=15,
  XMINLM=500.,
  XMAXLM=4000.,
  RICRLM=0.5,
  XBLM=8.5,
  EDK=5.,
  XKLM=0.6,
  HUCOE=0.5,
  HUTIL=1.8,
  QSSC=400.,
  QSSUSS=0.4,
  QSSUSV=250.,
  QSUSXC=0.0002,
  QSUSXS=0.0003,
  QXRAL=130.,
  QXRDEL=0.49,
  QXRHX=0.99,
  QXRR=0.25,
  QSNEBC=-1.,
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/
&NAMPHY1
  GCGEL=3.E-5,
  GCGELS=5.E-5,
  GNEIMX=1.8,
  GNEIMXS=1.8,
  ALBMIN=0.65,
  ALCRIN=0.75,
  RCTVEG(3)=0.8E-05,
  RCTVEG(4)=0.8E-05,
  EMMGLA=0.98,
  EMMMER=0.99,
/
&NAMPHY2
  LRAFTUR=.TRUE.,
  XMULAF=-1.85,
  LMULAF=.TRUE.,
  FACRAF=10.,
  XDAMP=1.,
/
&NAMPHY3
/
&NAMPHYDS
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&NAMPONG
/
&NAMPPC
/
&NAMRAD15
/
&NAMRCF
/
&NAMRCOEF
/
&NAMRES
/
&NAMRGRI
/
&NAMRINC
/
&NAMRIP
/
&NAMSCC
/
&NAMSCM
/
&NAMSENS
/
&NAMSIMPHL
/
&NAMSKF
/
&NAMSSMI
/
&NAMSTA
/
&NAMSTOPH
/
&NAMSWE
/
&NAMTESTVAR
/
&NAMTLEVOL
/
&NAMTOPH
  XDRMTK=2.E-08,
  XDRMTP=800.,
  XDRMUK=1.E-07,
  XDRMUP=800.,
  ETCVIM=5000.,
  ETPLUI=5000.,
  ETNEBU=5000.,
  XDRMUX=2.E-06,
  XDRMTX=4.E-07,
/
&NAMTOVS
/
```

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&NAMTRAJP
/
&NAMTRANS
/
&NAMTS
/
&NAMVAR
/
&NAMVARBC
/
&NAMVAREPS
/
&NAMVDOZ
/
&NAMVFP
/
&NAMVRTL
/
&NAMVV1
/
&NAMVWRK
/
&NAMXFU
/
&NAM_DISTRIBUTED_VECTORS
/
&NAPHLC
/
&NEMBICU
/
&NEMCT0
/
&NEMDIM
/
&NEMDYN
/
&NEMGEO
/
&NEMIOS
/
&NEMJK
/
&NEMOPT
/
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&NAMFPDY2
  CL2DF(1)='SURFPRESSION',
  CLD2DF(1)='FPOS',
  CL2DF(2)='MSLPRESSURE',
  CLD2DF(2)='FPOS',
  CL2DF(3)='SURFTOT.WAT.VAPO',
  CLD2DF(3)='FPOS',
  CL2DF(4)='SURFISOT0.MALTIT',
  CLD2DF(4)='FPOS',
  CL2DF(5)='SURFISOTPW0.MALT',
  CLD2DF(5)='FPOS',
  CL2DF(6)='SURFISOTM10.MALT',
  CLD2DF(6)='FPOS',
/
&NAMFPDYH
  CL3DF(1)='PRESSURE',
  IL3DF(1,1)=1,2,3,4,5,6,7,8,9,10,11,12
  CLD3DF(1,1)='FPOS',
  CLD3DF(2,1)='FPOS',
  CLD3DF(3,1)='FPOS',
  CLD3DF(4,1)='FPOS',
  CLD3DF(5,1)='FPOS',
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  CLD3DF(7,1)='FPOS',
  CLD3DF(8,1)='FPOS',
  CLD3DF(9,1)='FPOS',
  CLD3DF(10,1)='FPOS',
  CLD3DF(11,1)='FPOS',
  CLD3DF(12,1)='FPOS',
  CL3DF(2)='TEMPERATURE',
  IL3DF(1,2)=1,2,3,4,5,6,7,8,9,10,11,12
  CLD3DF(1,2)='FPOS',
  CLD3DF(2,2)='FPOS',
  CLD3DF(3,2)='FPOS',
  CLD3DF(4,2)='FPOS',
  CLD3DF(5,2)='FPOS',
  CLD3DF(6,2)='FPOS',
  CLD3DF(7,2)='FPOS',
  CLD3DF(8,2)='FPOS',
  CLD3DF(9,2)='FPOS',
  CLD3DF(10,2)='FPOS',
  CLD3DF(11,2)='FPOS',
  CLD3DF(12,2)='FPOS',
  CL3DF(3)='VENT_ZONAL',
  IL3DF(1,3)=1,2,3,4,5,6,7,8,9,10,11,12
  CLD3DF(1,3)='FPOS',
  CLD3DF(2,3)='FPOS',
  CLD3DF(3,3)='FPOS',
  CLD3DF(4,3)='FPOS',
  CLD3DF(5,3)='FPOS',
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  CLD3DF(8,3)='FPOS',
  CLD3DF(9,3)='FPOS',
  CLD3DF(10,3)='FPOS',
  CLD3DF(11,3)='FPOS',
  CLD3DF(12,3)='FPOS',
  CL3DF(4)='VENT_MERIDIEN',
  IL3DF(1,4)=1,2,3,4,5,6,7,8,9,10,11,12
  CLD3DF(1,4)='FPOS',
  CLD3DF(2,4)='FPOS',
  CLD3DF(3,4)='FPOS',
  CLD3DF(4,4)='FPOS',
  CLD3DF(5,4)='FPOS',
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  CLD3DF(7,4)='FPOS',
  CLD3DF(8,4)='FPOS',
  CLD3DF(9,4)='FPOS',
  CLD3DF(10,4)='FPOS',
  CLD3DF(11,4)='FPOS',
  CLD3DF(12,4)='FPOS',
  CL3DF(5)='HUMI_RELATIVE',
  IL3DF(1,5)=1,2,3,4,5,6,7,8,9,10,11,12
  CLD3DF(1,5)='FPOS',
  CLD3DF(2,5)='FPOS',
  CLD3DF(3,5)='FPOS',
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   CLD3DF(4,5)='FPOS',
   CLD3DF(5,5)='FPOS',
   CLD3DF(6,5)='FPOS',
   CLD3DF(7,5)='FPOS',
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   CLD3DF(9,5)='FPOS',
   CLD3DF(10,5)='FPOS',
   CLD3DF(11,5)='FPOS',
   CLD3DF(12,5)='FPOS',
   CL3DF(6)='SIM_REFLECTI',
   IL3DF(1,6)=5,6,7,9,10,11,12
   CLD3DF(5,6)='FPOS',
   CLD3DF(6,6)='FPOS',
   CLD3DF(7,6)='FPOS',
   CLD3DF(9,6)='FPOS',
   CLD3DF(10,6)='FPOS',
   CLD3DF(11,6)='FPOS',
   CLD3DF(12,6)='FPOS',
   CL3DF(7)='RAIN',
   IL3DF(1,7)=1,2,3,4,5,6,7,8,9,10,11,12
   CLD3DF(1,7)='FPOS',
   CLD3DF(2,7)='FPOS',
   CLD3DF(3,7)='FPOS',
   CLD3DF(4,7)='FPOS',
   CLD3DF(5,7)='FPOS',
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   CLD3DF(7,7)='FPOS',
   CLD3DF(8,7)='FPOS',
   CLD3DF(9,7)='FPOS',
   CLD3DF(10,7)='FPOS',
   CLD3DF(11,7)='FPOS',
   CLD3DF(12,7)='FPOS',
   CL3DF(8)='SNOW',
   IL3DF(1,8)=1,2,3,4,5,6,7,8,9,10,11,12
   CLD3DF(1,8)='FPOS',
   CLD3DF(2,8)='FPOS',
   CLD3DF(3,8)='FPOS',
   CLD3DF(4,8)='FPOS',
   CLD3DF(5,8)='FPOS',
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   CLD3DF(8,8)='FPOS',
   CLD3DF(9,8)='FPOS',
   CLD3DF(10,8)='FPOS',
   CLD3DF(11,8)='FPOS',
   CLD3DF(12,8)='FPOS',
   CL3DF(9)='GRAUPEL',
   IL3DF(1,9)=1,2,3,4,5,6,7,8,9,10,11,12
   CLD3DF(1,9)='FPOS',
   CLD3DF(2,9)='FPOS',
   CLD3DF(3,9)='FPOS',
   CLD3DF(4,9)='FPOS',
   CLD3DF(5,9)='FPOS',
   CLD3DF(6,9)='FPOS',
   CLD3DF(7,9)='FPOS',
   CLD3DF(8,9)='FPOS',
   CLD3DF(9,9)='FPOS',
   CLD3DF(10,9)='FPOS',
   CLD3DF(11,9)='FPOS',
   CLD3DF(12,9)='FPOS',
   CL3DF(10)='ICE_CRYSTAL',
   IL3DF(1,10)=1,2,3,4,5,6,7,8,9,10,11,12
   CLD3DF(1,10)='FPOS',
   CLD3DF(2,10)='FPOS',
   CLD3DF(3,10)='FPOS',
   CLD3DF(4,10)='FPOS',
   CLD3DF(5,10)='FPOS',
   CLD3DF(6,10)='FPOS',
   CLD3DF(7,10)='FPOS',
   CLD3DF(8,10)='FPOS',
   CLD3DF(9,10)='FPOS',
   CLD3DF(10,10)='FPOS',
   CLD3DF(11,10)='FPOS',
   CLD3DF(12,10)='FPOS',
   CL3DF(11)='CLOUD_WATER',
   IL3DF(1,11)=1,2,3,4,5,6,7,8,9,10,11,12
   CLD3DF(1,11)='FPOS',
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  CLD3DF(2,11)='FPOS',
  CLD3DF(3,11)='FPOS',
  CLD3DF(4,11)='FPOS',
  CLD3DF(5,11)='FPOS',
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  CLD3DF(7,11)='FPOS',
  CLD3DF(8,11)='FPOS',
  CLD3DF(9,11)='FPOS',
  CLD3DF(10,11)='FPOS',
  CLD3DF(11,11)='FPOS',
  CLD3DF(12,11)='FPOS',
/
&NAMFPDYP
  CL3DF(1)='GEOPOTENTIEL',
  IL3DF(1,1)=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,
  CLD3DF(1,1)='FPOS',
  CLD3DF(2,1)='FPOS',
  CLD3DF(3,1)='FPOS',
  CLD3DF(4,1)='FPOS',
  CLD3DF(5,1)='FPOS',
  CLD3DF(6,1)='FPOS',
  CLD3DF(7,1)='FPOS',
  CLD3DF(8,1)='FPOS',
  CLD3DF(9,1)='FPOS',
  CLD3DF(10,1)='FPOS',
  CLD3DF(11,1)='FPOS',
  CLD3DF(12,1)='FPOS',
  CLD3DF(13,1)='FPOS',
  CLD3DF(14,1)='FPOS',
  CLD3DF(15,1)='FPOS',
  CL3DF(2)='TEMPERATURE',
  IL3DF(1,2)=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,
  CLD3DF(1,2)='FPOS',
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  CLD3DF(3,2)='FPOS',
  CLD3DF(4,2)='FPOS',
  CLD3DF(5,2)='FPOS',
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  CLD3DF(7,2)='FPOS',
  CLD3DF(8,2)='FPOS',
  CLD3DF(9,2)='FPOS',
  CLD3DF(10,2)='FPOS',
  CLD3DF(11,2)='FPOS',
  CLD3DF(12,2)='FPOS',
  CLD3DF(13,2)='FPOS',
  CLD3DF(14,2)='FPOS',
  CLD3DF(15,2)='FPOS',
  CL3DF(3)='VENT_ZONAL',
  IL3DF(1,3)=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,
  CLD3DF(1,3)='FPOS',
  CLD3DF(2,3)='FPOS',
  CLD3DF(3,3)='FPOS',
  CLD3DF(4,3)='FPOS',
  CLD3DF(5,3)='FPOS',
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  CLD3DF(8,3)='FPOS',
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  CLD3DF(11,3)='FPOS',
  CLD3DF(12,3)='FPOS',
  CLD3DF(13,3)='FPOS',
  CLD3DF(14,3)='FPOS',
  CLD3DF(15,3)='FPOS',
  CL3DF(4)='VENT_MERIDIEN',
  IL3DF(1,4)=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,
  CLD3DF(1,4)='FPOS',
  CLD3DF(2,4)='FPOS',
  CLD3DF(3,4)='FPOS',
  CLD3DF(4,4)='FPOS',
  CLD3DF(5,4)='FPOS',
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  CLD3DF(8,4)='FPOS',
  CLD3DF(9,4)='FPOS',
  CLD3DF(10,4)='FPOS',
  CLD3DF(11,4)='FPOS',
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CLD3DF(12,4)='FPOS',
CLD3DF(13,4)='FPOS',
CLD3DF(14,4)='FPOS',
CLD3DF(15,4)='FPOS',
CL3DF(5)='HUMI_RELATIVE',
IL3DF(1,5)=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,
CLD3DF(1,5)='FPOS',
CLD3DF(2,5)='FPOS',
CLD3DF(3,5)='FPOS',
CLD3DF(4,5)='FPOS',
CLD3DF(5,5)='FPOS',
CLD3DF(6,5)='FPOS',
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CLD3DF(9,5)='FPOS',
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CLD3DF(11,5)='FPOS',
CLD3DF(12,5)='FPOS',
CLD3DF(13,5)='FPOS',
CLD3DF(14,5)='FPOS',
CLD3DF(15,5)='FPOS',
CL3DF(6)='SIM_REFLECTI',
IL3DF(1,6)=9,10,11,12,13
CLD3DF(9,6)='FPOS',
CLD3DF(10,6)='FPOS',
CLD3DF(11,6)='FPOS',
CLD3DF(12,6)='FPOS',
CLD3DF(13,6)='FPOS',
CL3DF(7)='RAIN',
IL3DF(1,7)=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,
CLD3DF(1,7)='FPOS',
CLD3DF(2,7)='FPOS',
CLD3DF(3,7)='FPOS',
CLD3DF(4,7)='FPOS',
CLD3DF(5,7)='FPOS',
CLD3DF(6,7)='FPOS',
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CLD3DF(8,7)='FPOS',
CLD3DF(9,7)='FPOS',
CLD3DF(10,7)='FPOS',
CLD3DF(11,7)='FPOS',
CLD3DF(12,7)='FPOS',
CLD3DF(13,7)='FPOS',
CLD3DF(14,7)='FPOS',
CLD3DF(15,7)='FPOS',
CL3DF(8)='SNOW',
IL3DF(1,8)=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,
CLD3DF(1,8)='FPOS',
CLD3DF(2,8)='FPOS',
CLD3DF(3,8)='FPOS',
CLD3DF(4,8)='FPOS',
CLD3DF(5,8)='FPOS',
CLD3DF(6,8)='FPOS',
CLD3DF(7,8)='FPOS',
CLD3DF(8,8)='FPOS',
CLD3DF(9,8)='FPOS',
CLD3DF(10,8)='FPOS',
CLD3DF(11,8)='FPOS',
CLD3DF(12,8)='FPOS',
CLD3DF(13,8)='FPOS',
CLD3DF(14,8)='FPOS',
CLD3DF(15,8)='FPOS',
CL3DF(9)='GRAUPEL',
IL3DF(1,9)=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,
CLD3DF(1,9)='FPOS',
CLD3DF(2,9)='FPOS',
CLD3DF(3,9)='FPOS',
CLD3DF(4,9)='FPOS',
CLD3DF(5,9)='FPOS',
CLD3DF(6,9)='FPOS',
CLD3DF(7,9)='FPOS',
CLD3DF(8,9)='FPOS',
CLD3DF(9,9)='FPOS',
CLD3DF(10,9)='FPOS',
CLD3DF(11,9)='FPOS',
CLD3DF(12,9)='FPOS',
CLD3DF(13,9)='FPOS',
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CLD3DF(14,9)='FPOS',
CLD3DF(15,9)='FPOS',
CL3DF(10)='ICE_CRYSTAL',
IL3DF(1,10)=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,
CLD3DF(1,10)='FPOS',
CLD3DF(2,10)='FPOS',
CLD3DF(3,10)='FPOS',
CLD3DF(4,10)='FPOS',
CLD3DF(5,10)='FPOS',
CLD3DF(6,10)='FPOS',
CLD3DF(7,10)='FPOS',
CLD3DF(8,10)='FPOS',
CLD3DF(9,10)='FPOS',
CLD3DF(10,10)='FPOS',
CLD3DF(11,10)='FPOS',
CLD3DF(12,10)='FPOS',
CLD3DF(13,10)='FPOS',
CLD3DF(14,10)='FPOS',
CLD3DF(15,10)='FPOS',
CL3DF(11)='CLOUD_WATER',
IL3DF(1,11)=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,
CLD3DF(1,11)='FPOS',
CLD3DF(2,11)='FPOS',
CLD3DF(3,11)='FPOS',
CLD3DF(4,11)='FPOS',
CLD3DF(5,11)='FPOS',
CLD3DF(6,11)='FPOS',
CLD3DF(7,11)='FPOS',
CLD3DF(8,11)='FPOS',
CLD3DF(9,11)='FPOS',
CLD3DF(10,11)='FPOS',
CLD3DF(11,11)='FPOS',
CLD3DF(12,11)='FPOS',
CLD3DF(13,11)='FPOS',
CLD3DF(14,11)='FPOS',
CLD3DF(15,11)='FPOS',
CL3DF(12)='THETA_PRIM_W',
IL3DF(1,12)=3,4,5,6,7,8,9,10,11,12,13,14,15,
CLD3DF(1,12)='FPOS',
CLD3DF(2,12)='FPOS',
CLD3DF(3,12)='FPOS',
CLD3DF(4,12)='FPOS',
CLD3DF(5,12)='FPOS',
CLD3DF(6,12)='FPOS',
CLD3DF(7,12)='FPOS',
CLD3DF(8,12)='FPOS',
CLD3DF(9,12)='FPOS',
CLD3DF(10,12)='FPOS',
CLD3DF(11,12)='FPOS',
CLD3DF(12,12)='FPOS',
CLD3DF(13,12)='FPOS',
CL3DF(13)='ABS_VORTICITY',
IL3DF(1,13)=5,7,8,9,11,
CLD3DF(1,13)='FPOS',
CLD3DF(2,13)='FPOS',
CLD3DF(3,13)='FPOS',
CLD3DF(4,13)='FPOS',
CLD3DF(5,13)='FPOS',
CL3DF(14)='VITESSE_VERTICALE',
IL3DF(1,14)=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,
CLD3DF(1,14)='FPOS',
CLD3DF(2,14)='FPOS',
CLD3DF(3,14)='FPOS',
CLD3DF(4,14)='FPOS',
CLD3DF(5,14)='FPOS',
CLD3DF(6,14)='FPOS',
CLD3DF(7,14)='FPOS',
CLD3DF(8,14)='FPOS',
CLD3DF(9,14)='FPOS',
CLD3DF(10,14)='FPOS',
CLD3DF(11,14)='FPOS',
CLD3DF(12,14)='FPOS',
CLD3DF(13,14)='FPOS',
CLD3DF(14,14)='FPOS',
CLD3DF(15,14)='FPOS',
CL3DF(15)='VERT.VELOCIT',
IL3DF(1,15)=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,
```

```
  CLD3DF(1,15)='FPOS',
  CLD3DF(2,15)='FPOS',
  CLD3DF(3,15)='FPOS',
  CLD3DF(4,15)='FPOS',
  CLD3DF(5,15)='FPOS',
  CLD3DF(6,15)='FPOS',
  CLD3DF(7,15)='FPOS',
  CLD3DF(8,15)='FPOS',
  CLD3DF(9,15)='FPOS',
  CLD3DF(10,15)='FPOS',
  CLD3DF(11,15)='FPOS',
  CLD3DF(12,15)='FPOS',
  CLD3DF(13,15)='FPOS',
  CLD3DF(14,15)='FPOS',
  CLD3DF(15,15)='FPOS',
  CL3DF(16)='POT_VORTICIT',
  IL3DF(1,16)=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,
  CLD3DF(1,16)='FPOS',
  CLD3DF(2,16)='FPOS',
  CLD3DF(3,16)='FPOS',
  CLD3DF(4,16)='FPOS',
  CLD3DF(5,16)='FPOS',
  CLD3DF(6,16)='FPOS',
  CLD3DF(7,16)='FPOS',
  CLD3DF(8,16)='FPOS',
  CLD3DF(9,16)='FPOS',
  CLD3DF(10,16)='FPOS',
  CLD3DF(11,16)='FPOS',
  CLD3DF(12,16)='FPOS',
  CLD3DF(13,16)='FPOS',
  CLD3DF(14,16)='FPOS',
  CLD3DF(15,16)='FPOS',
  CL3DF(17)='DIVERGENCE',
  IL3DF(1,17)=5,14,
  CLD3DF(5,17)='FPOS',
  CLD3DF(14,17)='FPOS',
  CL3DF(18)='THETA_VIRTUA',
  IL3DF(1,18)=8,9,10,11,12,13,14,15,
  CLD3DF(8,18)='FPOS',
  CLD3DF(9,18)='FPOS',
  CLD3DF(10,18)='FPOS',
  CLD3DF(11,18)='FPOS',
  CLD3DF(12,18)='FPOS',
  CLD3DF(13,18)='FPOS',
  CLD3DF(14,18)='FPOS',
  CLD3DF(15,18)='FPOS',
/
&NAMFPDYS
/
&NAMFPDYT
/
&NAMFPDYV
  CL3DF(1)='GEOPOTENTIEL',
  IL3DF(1,1)=1,2,
  CLD3DF(1,1)='FPOS',
  CLD3DF(2,1)='FPOS',
  CL3DF(2)='VENT_ZONAL',
  IL3DF(1,2)=1,2,
  CLD3DF(1,2)='FPOS',
  CLD3DF(2,2)='FPOS',
  CL3DF(3)='VENT_MERIDIEN',
  IL3DF(1,3)=1,2,
  CLD3DF(1,3)='FPOS',
  CLD3DF(2,3)='FPOS',
  CL3DF(4)='TEMPE_POTENT',
  IL3DF(1,4)=1,2,
  CLD3DF(1,4)='FPOS',
  CLD3DF(2,4)='FPOS',
  CL3DF(5)='ABS_VORTICITY',
  IL3DF(1,5)=1,2,
  CLD3DF(1,5)='FPOS',
  CLD3DF(2,5)='FPOS',
  CL3DF(6)='POT_VORTICIT',
  IL3DF(1,6)=1,2,
  CLD3DF(1,6)='FPOS',
  CLD3DF(2,6)='FPOS',
/
```

```
&NAMFPPHY
  CLPHY(1)='SURFTEMPERATURE',
  CLDPHY(1)='FPOS',
  CLXFU(1)='CLSTEMPERATURE',
  CLDXFU(1)='FPOS',
  CLXFU(2)='CLSHUMI.RELATIVE',
  CLDXFU(2)='FPOS',
  CLXFU(3)='CLSVENT.ZONAL',
  CLDXFU(3)='FPOS',
  CLXFU(4)='CLSVENT.MERIDIEN',
  CLDXFU(4)='FPOS',
  CLXFU(5)='SURFNEBUL.TOTALE',
  CLDXFU(5)='FPOS',
  CLXFU(6)='SURFNEBUL.CONVEC',
  CLDXFU(6)='FPOS',
  CLXFU(7)='SURFNEBUL.HAUTE',
  CLDXFU(7)='FPOS',
  CLXFU(8)='SURFNEBUL.MOYENN',
  CLDXFU(8)='FPOS',
  CLXFU(9)='SURFNEBUL.BASSE',
  CLDXFU(9)='FPOS',
  CLXFU(10)='CLSU.RAF.MOD.XFU',
  CLDXFU(10)='FPOS',
  CLXFU(11)='CLSV.RAF.MOD.XFU'
  CLDXFU(11)='FPOS',
  CLXFU(12)='CLSMAXI.TEMPERAT '
  CLDXFU(12)='FPOS',
  CLXFU(13)='CLSMINI.TEMPERAT '
  CLDXFU(13)='FPOS',
  CLCFU(1)='SURFTENS.TURB.ZO',
  CLDCFU(1)='FPOS',
  CLCFU(2)='SURFTENS.TURB.ME',
  CLDCFU(2)='FPOS',
  CLCFU(3)='SURFACCPLUIE',
  CLDCFU(3)='FPOS',
  CLCFU(4)='SURFACCNEIGE',
  CLDCFU(4)='FPOS',
  CLCFU(5)='SURFACCGRAUPEL',
  CLDCFU(5)='FPOS',
  CLCFU(6)='SOMMFLU.RAY.SOLA',
  CLDCFU(6)='FPOS',
  CLCFU(7)='SURFFLU.RAY.SOLA',
  CLDCFU(7)='FPOS',
  CLCFU(8)='SOMMFLU.RAY.THER',
  CLDCFU(8)='FPOS',
  CLCFU(9)='SURFFLU.RAY.THER',
  CLDCFU(9)='FPOS',
  CLCFU(10)='SURFFLU.LAT.MEVA',
  CLDCFU(10)='FPOS',
  CLCFU(11)='SURFFLU.LAT.MSUB',
  CLDCFU(11)='FPOS',
  CLCFU(12)='SURFFLU.MEVAP.EA',
  CLDCFU(12)='FPOS',
  CLCFU(13)='SURFFLU.MSUBL.NE',
  CLDCFU(13)='FPOS',
  CLCFU(14)='SURFFLU.CHA.SENS',
  CLDCFU(14)='FPOS',
/
```

namelist **namel_progrid**

```
 &NAML
 CLFSORT(1)='GRIDGEO',
 CDNOMF(1)='fort.11',
 CHOPER='L',
 INUMOD=213,
/
```

namelist **NAMFPD_bdap_zoeste**

```
 &NAMFPD
   NLAT=97,
   NLON=79,
   RLONC(1)=350.800000000000011,
   RLATC(1)=39.1021079012600,
   RDELX(1)=0.020,
   RDELY(1)=0.020,
 /
```

script **run_edf.sh**

```
#!/bin/ksh

list='03 06 09 12 15 18 21 24 27 30 33 36 39 42 45 48'

for jj in ${list}
do

cp PFAR01zoeste+00${jj} toto

cat <<FIN | awk '{print $1}' FS=";" > nam_EDF
&NAML
   INFO=.F.,
   LDAT=.T.,
   VIEW='E',
   TABCH(1)='CLSVENT.ZONAL'
   TABCH(2)='CLSVENT.MERIDIEN'
   TABCH(3)='CLSTEMPERATURE'
   TABCH(4)='H00050VENT_ZONAL'
   TABCH(5)='H00050VENT_MERID'
&END
FIN
./edf nam_EDF toto
ficsor=wind_10m_${jj}h.dat
awk '{print $1, $2, $3, $4}' ASCII.toto > ${ficsor}
ficsor=t2m_${jj}h.dat
awk '{print $1, $2, $5-273.15}' ASCII.toto > ${ficsor}
ficsor=wind_50m_${jj}h.dat
awk '{print $1, $2, $6, $7}' ASCII.toto > ${ficsor}

rm toto ASCII.toto

done
```