LMDZ Training January 2026

Preparatory session 7th January 2026

Goal : have LMDZ compiled and running on your personal workstation in sequential and parallel modes and have a look at how to examine results using ferret (with a ferret tutorial)

BigBlueButton link :
https://orsay.bbb.cnrs.fr/b/fai-mgc-knw-3zz

https://lmdz.lmd.jussieu.fr/utilisateurs/formation/winter_2026/

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Pre-requisites :

Personal computer or acces to account (IPSL's spirit cluster for example) with Linux OS - native or virtual machine - (other OS will be challenging) and following utilities :

- wget, tar, gzip, make, cmake
- fortran compiler (preferably gfortran), gcc
- some netcdf file visualisation program (ferret, grads, ncview, …)

Highly recommended :

- parallel librairies : MPI and OMP (necessary for some of the tutorials)
- netcdf libraries (to speed up the compilation)
- tmate helpful as well for help

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Pre-requisites met ?

The sequential installation :

Install the model using the script that lives here :
https://lmdz.lmd.jussieu.fr/pub/install_lmdz.sh

On your computer :

```
bash$ wget https://lmdz.lmd.jussieu.fr/pub/install_lmdz.sh
bash$ chmod +x install_lmdz.sh
bash$ ./install_lmdz.sh -name LMDZTraining -rad oldrad
```

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If all goes well, you should see the following text on your terminal (after a few minutes) :

```
    in abort_gcm
 Stopping in leapfrog
 Reason = Simulation finished

 Everything is cool
```

……

For any other result, please ask for help during the session.

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The parallel installation with netcdf:

In the directory where you have copied the `install_lmdz.sh` script, launch it again with the following options : (*sechiba/ipsl2000 is the identity/password for ORCHIDEE*)

```
bash$ ./install_lmdz.sh -name LMDZORpar -rad oldrad \
                        -parallel mpi_omp -veget CMIP6 -netcdf 0
```

If all goes well, you should again see the `Everything is cool` message. If not, please inform us. If there is a problem with the netcdf library installed on your machine, you could try the following command :

```
bash$ ./install_lmdz.sh -name LMDZORpar -rad oldrad \
   -parallel mpi_omp -veget CMIP6 -netcdf `pwd`/LMDZTraining
```

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Failure ? :
We are here to help, don’t hesitate to ask for help

• during the session, the BBB chat

• mattermost channel « #sos-lmdz » on LMDZ mattermost:
link : https://mattermost.lmd.ipsl.fr/lmdz/channels/sos-lmdz
(clicking on the link will ask you to open an account on the server if you do not already have one)

• lmdz-users mailing list :
https://listes.ipsl.fr/sympa/info/lmdz-users

• LMDZ sites :
https://lmdz.lmd.jussieu.fr/ https://lmdz-forge.lmd.jussieu.fr/mediawiki/LMDZPedia

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If your fortran compiler is an older version of gfortran (less than 10) you'll need to follow the following steps

```
bash$ # test compiler
bash$ gfortran -v
…
gcc version 9.4.0 (Ubuntu 9.4.0-1ubuntu1~20.04.2)
bash$ # if 9 or less
bash$ wget https://lmdz.lmd.jussieu.fr/pub/src_archives/misc/arch/LMDZ/arch-local-gfortran9.tar
bash$ tar xf arch-local-gfortran9.tar
bash$ wget https://lmdz.lmd.jussieu.fr/pub/install_lmdz.sh
bash$ chmod +x install_lmdz.sh
bash$ ./install_lmdz.sh -name LMDZTraining -rad oldrad \
    -arch local-gfortran9 -arch_dir `pwd`/arch
```

FOR THE ARCHIVES

If your fortran compiler is not a version of gfortran, SHOUT !