

Wikiprint Book

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Download

Download a model configuration to a specific machine using the **modipsl** tool.

1. Description

modipsl is a suite of scripts which allow you to

- obtain a model configuration from a computing center;
- to [compile](#) the model components of a model configuration on a specific machine.

modipsl is also the architecture hosting the models and tools of a chosen model configuration. **modipsl** is developed at IPSL.

2. Downloading modipsl

```
svn co http://forge.ipsl.jussieu.fr/igcmg/svn/modipsl/trunk modipsl
```

To avoid typing this command line for every new **modipsl** retrieval, we recommend to create an alias :

```
alias svn_ano='svn co http://forge.ipsl.jussieu.fr/igcmg/svn/modipsl/trunk modipsl'
```

The retrieval command then becomes

```
svn_ano
```

To learn more about SVN and other useful scripts, [click here](#).

3. How to use modipsl

3.1. The modipsl directories

After downloading and unpacking **modipsl**, you should have the following directory structure:

- **util** contains information and scripts necessary to setup the different versions of the IPSL models;
- **doc** contains the CECILL's license (license of the IPSL models)

modipsl also contains the following directories (empty in the beginning) :

- **modeles**: directories containing the model source codes (filled once the model configuration has been downloaded and unpacked)
- **config**: directories containing the experiment directories (filled once the model configuration has been downloaded and unpacked)
- **bin**: directory containing the executables (filled after compiling)
- **lib** and **tmp**: directories containing temporary files created during the compilation. Those directories will not be used by all models.

Main scripts in the directory *util*

- **model** --> Downloading script for available model configurations. This script also provides information on the available model configurations.
- **mod.def** --> File containing the information on the available model configurations : components, tags, svn servers
- **ins_make** --> Install Makefiles for the computing machine
- **ins_job** --> Script for running jobs on the computing machine

3.2. Available configurations via modipsl

Using **modipsl** will give you access to a large number of model configurations, each of them uses one or more IPSL models. To list the available model configurations, use the following script:

```
cd modipsl/util
./model -h
```

To obtain information on the models used (tags, versions,...) in a specific configuration, use the following script:

```
./model -h nom_de_la_config
```

Example with LMDZOR_v5 :

```
./model -h LMDZOR_v5

model : LMDZOR_v5

LMDZ and ORCHIDEE (closest version to IPSLCM5_v5)
This configuration can be used with LMDZ4(LMDZ4/branches/LMDZ4_AR5) or LMDZ5 (LMDZ5/trunk(default), LMDZ5/branches/LMDZ5_A

email address of the model manager: Josefine.Ghattas@ipsl.jussieu.fr

Component 1 : IOIPSL/tags/v2_2_1/src
Tag          1 : HEAD
System       1 : svn
Server       1 : http://forge.ipsl.jussieu.fr/igcmg/svn
Directory 1 : IOIPSL/src
Local Dir 1 : modeles
Component 2 : tags/ORCHIDEE_1_9_5/ORCHIDEE
Tag          2 : HEAD
System       2 : svn
Server       2 : svn://forge.ipsl.jussieu.fr/orchidee
Directory 2 : ORCHIDEE
Local Dir 2 : modeles
Component 3 : LMDZ5/trunk
Tag          3 : 1628
System       3 : svn
Server       3 : http://svn.lmd.jussieu.fr/LMDZ
Directory 3 : LMDZ
Local Dir 3 : modeles
Component 4 : CONFIG/UNIFORM/v5/LMDZOR_v5
Tag          4 : HEAD
System       4 : svn
Server       4 : http://forge.ipsl.jussieu.fr/igcmg/svn
Directory 4 : LMDZOR_v5
Local Dir 4 : config
Component 5 : tags/libIGCM_v2.0_rc3
Tag          5 : HEAD
System       5 : svn
Server       5 : http://forge.ipsl.jussieu.fr/libigcm/svn
Directory 5 : libIGCM
Local Dir 5 : .
```

If the requested model configuration does not exist :

```
./model -h Ornithorynque
Model Ornithorynque unknown
Try "model -h"
```

3.3. How to download and use a selected model configuration

Downloading is the recovery of the source codes of the model components of a specific model configuration from different SVN (and CVS) servers. The download can be done with this script:

```
./model config_name
```

When you try to access to the component servers, some of them request a login and a password: ORCHIDEE, NEMO, INCA and REPROBUS. To do so, you must contact the person in charge of the [model configuration](#) (see above the list of [special cases](#); model managers email addresses is available via the command **model -h**)

Example :

```
cd modipsl/util
# see all the available configurations
./model -h
# extract the LMDZOR_v5 configuration
./model LMDZOR_v5
```

The source codes of the downloaded models are in the **modipsl/modeles/** directory.

For the previous example you will obtain the following directories :

- modipsl/modeles/IOIPSL
- modipsl/modeles/LMDZ
- modipsl/modeles/ORCHIDEE

modipsl also installs a model **configuration**. It is installed in the directory **modipsl/config/** (here modipsl/config/LMDZOR_v5). Each model will be compiled and the simulation will be run in the **config** directory.

The log files of the installation are stored in the modipsl/util/log file.

3.4. Syntax in mod.def

When launching **./model config_name**, in mod.def lines starting with

- **#-H- config_name** only text information
- **#-M- config_name** an email will be sent to the given address only at first extraction at a new machine
- **#-C- config_name** code extraction

The code extraction line has the following syntax :

```
#-C- config_name versionOnServer revisionNumber depotNumber modelName dirInModipsl
```

- depotNumber is the reference of the repository address for the given code. The full address is set in the beginning of mod.def where all repository addresses are listed starting with **#-S- number**.
- versionOnServer is directory to extract find on the current depository address
- revisionNumber is the revision to extract. If revisionNumber is HEAD, the latest revision on the versionOnServer will be extracted.
- dirInModipsl is the directory in modipsl where the code will be installed
- modelName is the name of the installed directory. The code will be find in modipsl/dirInModipsl/modelName

As an example see here an extract from mod.def:

```
...
#-S- 8 svn http://forge.ipsl.jussieu.fr/igcmg/svn
#-S- 9 svn --username inca http://forge.ipsl.jussieu.fr/inca/svn
#-S- 10 svn http://forge.ipsl.jussieu.fr/libigcm/svn
#-S- 11 svn http://svn.lmd.jussieu.fr/LMDZ
#-S- 12 svn http://forge.ipsl.jussieu.fr/ioserver/svn
#-S- 13 svn http://forge.ipsl.jussieu.fr/fcm/svn
#-S- 14 svn svn://forge.ipsl.jussieu.fr/orchidee
...
...
#-H- LMDZ_v5 LMDZ (closest version to IPSLCM5_v5)
#-H- LMDZ_v5 This configuration can be used with LMDZ4(LMDZ4/branches/LMDZ4_AR5) or LMDZ5 (LMDZ5/trunk(default) LMDZ5/br
```

```

#-M- LMDZ_v5   Josefine.Ghattas@ipsl.jussieu.fr
#-C- LMDZ_v5   IOIPSL/tags/v2_2_2/src           HEAD           8 IOIPSL/src modeles
#-C- LMDZ_v5   LMDZ5/trunk                     2076           11 LMDZ       modeles
#-C- LMDZ_v5   CONFIG/UNIFORM/v5/LMDZ_v5      HEAD           8 LMDZ_v5    config
#-C- LMDZ_v5   tags/libIGCM_v2.5              HEAD           10 libIGCM    .
...

```

By launching `./model LMDZ_v5`, you'll install in directory

- `modipsl/modeles/IOIPSL/src` : the latest revision of `IOIPSL/tags/v2_2_2/src` from repository <http://forge.ipsl.jussieu.fr/igcmg/svn>
- `modipsl/modeles/LMDZ` : revision 2076 of `LMDZ5/trunk` from repository <http://svn.lmd.jussieu.fr/LMDZ>
- `modipsl/config/LMDZ_v5` : the latest revision of `CONFIG/UNIFORM/v5/LMDZ_v5` from repository <http://forge.ipsl.jussieu.fr/igcmg/svn>
- `modipsl/libIGCM` : the latest revision of `tags/libIGCM_v2.5` from repository <http://forge.ipsl.jussieu.fr/libigcm/svn>

3.5. Change a model version

By default the available model configurations use specific model versions. But different versions of a given model can be used with a specific configuration. This is the case for the LMDZ version in the "_v5" configurations. You might want to use the latest version on an `LMDZ4/branches/LMDZ4_AR5` branch (used for CMIP5 simulations) or you might want to use the new physics scheme of LMDZ and therefore you will need a more recent version of `LMDZ5/trunk`. To find out which model version to use, please contact the model development team directly.

If you already know which model version to use, you just have to change the section about the model configuration you selected in `modipsl/util/mod.def`.

For example with `LMDZOR_v5`, in `mod.def` you have the following lines:

```

#-C- LMDZOR_v5  tags/ORCHIDEE_1_9_5/ORCHIDEE      HEAD           14 ORCHIDEE  modeles
#-C- LMDZOR_v5  LMDZ5/trunk                     2076           11 LMDZ      modeles

```

The second column tells the version and third column the revision for this version. If it says HEAD, this means the latest revision. This means that you'll extract ORCHIDEE version `tags/ORCHIDEE_1_9_5/ORCHIDEE`, latest revision.

For example, to extract the `LMDZOR_v5` configuration with the latest revision (HEAD) of `LMDZ4_AR5`, change `mod.def` to obtain :

```

#-C- LMDZOR_v5 LMDZ4/branches/LMDZ4_AR5      HEAD           11 LMDZ      modeles

```

or for `LMDZ5/trunk` revision 1628 :

```

#-C- LMDZOR_v5 LMDZ5/trunk                   1628           11 LMDZ      modeles

```

or to use the "testing" branch of LMDZ with revision 2160:

```

#-C- LMDZOR_v5 LMDZ5/branches/testing        2160           11 LMDZ      modeles

```

You can also change to use a different branch for a model. For example if you want to use the branch `ORCHIDEE-DOFOCO` in `LMDZOR_v5.2` configuration, change to obtain following in `mod.def`:

```

#-C- LMDZOR_v5.2 branches/ORCHIDEE-DOFOCO/ORCHIDEE HEAD           14 ORCHIDEE  modeles

```

4. Special cases

- **Reprobus** : this model has restricted access via `svn+ssh`. Click [here](#) for more information.
- **Orchidee** :
 - If you want to use the trunk of ORCHIDEE, use configuration `LMDZOR_v5.2` or `ORCHIDEE_trunk`(offline)
 - Install LMDZOR and ORCHIDEE_OL with the same `modipsl` : [click here](#)
- **NEMO** : this model needs to get an account on [NEMO website](#). Required only the first time.
- **INCA** : this model needs also to get a specific account.