

## **Wikiprint Book**

**Title: 1. IPSLCM6 model**

**Subject: Igcmg\_doc - Doc/Config/IPSLCM6\_rc1**

**Version: 16**

**Date: 07/01/24 08:43:15**

## Table of Content

<b>IPSLCM6_LR - (IPSLCM6_rc1) configuration</b>	<b>3</b>
<b>1. IPSLCM6 model</b>	<b>3</b>
<b>2. Resolutions and configurations</b>	<b>3</b>
2.1. IPSLCM6-LR_rc1	3
2.1.1. How to use it	4
2.1.2. Restart files	4
2.1.3. Output level	4
2.1.4. Lengths, frequencies	4
2.1.4.1. Period length	4
2.1.4.2. Pack Frequency	4
2.1.4.3. Rebuild frequency	4
2.1.4.4. How to add a parameter in NEMO's namelist?	5
2.1.4.5. What is the maximum length for a simulation name?	5
2.1.5. Computing centres	5
2.1.5.1. TGCC Bull Curie thin nodes (not anymore in service)	5

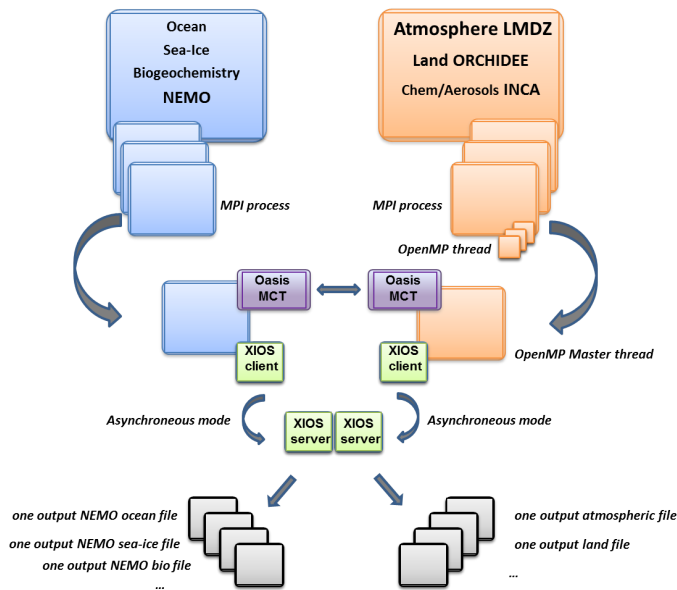
## IPSLCM6\_LR - (IPSLCM6\_rc1) configuration

Person in charge: Olivier Marti

### 1. IPSLCM6 model

You can find [here](#) a description for IPSLCM6 model

The version rc1 (IPSLCM6\_rc1) runs on **Curie-TGCC thin nodes**.



### 2. Resolutions and configurations

IPSLCM6 model will be available at different resolutions/configurations :

- **IPSLCM6A-VLR\_rc0** : LMDZ(Old Physics) 96x95x39-ORCHIDEE (Choisnel) - NEMO-LIM2-PISCES ORCA2. You can find [here](#) informations for the VLR (IPSLCM6\_rc0) configuration.
- **IPSLCM6-LR** (under development, **not available**) : LMDZ 144x144x79-ORCHIDEE (CWRR) - NEMO-LIM3-PISCES eORCA1xL75

#### 2.1. IPSLCM6-LR\_rc1

The resolution of LMDZ is 144x142 (2.5° in longitude and 1.5° in latitude) with 79 vertical levels. The ocean configuration is eORCA1L75 : global ocean with a tripolar grid with one South pole, one North pole above Siberia and one North pole above northern America. The resolution is 1°. In the tropical region, the latitudinal resolution decreases to 1/2°. There are 76 vertical levels, with 1m resolution near the surface, and 200m in the abyss.

For LMDZ, the new physics is used. Current test (Sept. 2015) is NP 5.17h.

**IPSLCM6-LR\_rc1** is composed of following components and tools (Sept. 2015) :

```
#-H- IPSLCM6_rc1 IPSLCM6_rc1 coupled configuration
#-H- IPSLCM6_rc1 Working configuration started 27/03/2015
#-H- IPSLCM6_rc1 NEMOGCM branches/v3_6_STABLE/NEMOGCM revision 5618
#-H- IPSLCM6_rc1 XIOS branch xios-1.0 revision 592
#-H- IPSLCM6_rc1 IOIPSL/src svn tags/v2_2_2
#-H- IPSLCM6_rc1 LMDZ5 trunk revision 2327
#-H- IPSLCM6_rc1 ORCHIDEE version trunk rev 2724
#-H- IPSLCM6_rc1 OASIS3-MCT 2.0_branch rev 1129
#-H- IPSLCM6_rc1 IPSLCM6 svn
```

```

#-H- IPSLCM6_rc1 libIGCM trunk 1174
#-M- IPSLCM6_rc1 arnaud.caubel@lsce.ipsl.fr
#-C- IPSLCM6_rc1 IOIPSL/tags/v2_2_2/src HEAD 8 IOIPSL/src modeles
#-C- IPSLCM6_rc1 trunk/ORCHIDEE 2848 14 ORCHIDEE modeles
#-C- IPSLCM6_rc1 branches/OASIS3-MCT_2.0_branch/oasis3-mct 1129 15 oasis3-mct .
#-C- IPSLCM6_rc1 LMDZ5/trunk 2327 11 LMDZ modeles
#-C- IPSLCM6_rc1 CONFIG/UNIFORM/v6/IPSLCM6 HEAD 8 IPSLCM6 config
#-C- IPSLCM6_rc1 trunk/libIGCM 1174 10 libIGCM .
#-C- IPSLCM6_rc1 branches/2015/nemo_v3_6_STABLE/NEMOGCM 5618 7 . modeles
#-C- IPSLCM6_rc1 trunk/ORCA1_LIM3_PISCES HEAD 17 . modeles/NEMOGCM/CONFIG
#-C- IPSLCM6_rc1 XIOS/branchs/xios-1.0 604 12 XIOS modeles

```

**Caution** : this is subject to quick changes !

### 2.1.1. How to use it

Here are the commands you need to know if you want to retrieve and compile the IPSLCM6 model and if you want to setup and run a piControl experiment (only piControl experiment is available):

```

mkdir YOUR_DIRECTORY ; cd YOUR_DIRECTORY
svn_ano # svn co http://forge.ipsl.jussieu.fr/igcmg/svn/modipsl/trunk modipsl
cd modipsl/util
./model IPSLCM6_rc1
cd ../config/IPSLCM6
gmake IPSLCM6-LR
cp EXPERIMENTS/IPSLCM6/EXP00/config.card .
vi config.card # modify JobName (at least) : MYJOBNAME, restarts
../util/ins_job # Check and complete job's header
# ../util/ins_job -m Intel # on ada after a compilation with Intel 2016.2
cd MYJOBNAME
vi Job_MYJOBNAME # modify PeriodNb, adjust the time, headers ...
llsubmit Job_MYJOBNAME # IDRIS
ccc_msub Job_MYJOBNAME # TGCC

```

### 2.1.2. Restart files

Not available yet. Waiting for reference simulations.

### 2.1.3. Output level

By default, only **monthly outputs** and **low output levels** are activated.

### 2.1.4. Lengths, frequencies

#### 2.1.4.1. Period length

Default period length is 1Y, i.e in config.card :

```
PeriodLength=1Y
```

Note that clean\_PeriodLength.job will remove last period files, i.e last simulated year files.

#### 2.1.4.2. Pack Frequency

Default pack frequency is 1Y, i.e in config.card :

```
PackFrequency=1Y
```

#### 2.1.4.3. Rebuild frequency

Since we run with XIOS (server mode) as output library, **the rebuild step is not needed anymore.**

#### 2.1.4.4. How to add a parameter in NEMO's namelist?

- let find the parameter in namelist\_ref. For example in modeles/NEMOGCM/CONFIG/SHARED/namelist\_ice\_lim3\_ref
- let find the namelist's name : for example &namicedyn
- let add a line with the new of the parameter in the file PARAM/namelist\_lim3\_ORCA1\_cfg in the &namicedyn section

#### 2.1.4.5. What is the maximum length for a simulation name?

Due to limitation in NEMO, a simulation should have **less than 39 characters**.

### 2.1.5. Computing centres

#### 2.1.5.1. TGCC Bull Curie thin nodes (not anymore in service)

Default configuration on **598 cores** allows you to run **3 simulated years per day**. Because of load-balancing (difference between ocean computing time and atmosphere computing time), not all configurations (in terms of number of process/threads) are efficient. If you want to run a configuration with less cores, ask Arnaud Caubel what would be the optimum configuration.