

## **IPSLCM7 configuration - the ESM configuration**

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IPSLCM7\_work is a configuration under construction. Contact one of the persons in charge before first use.

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## 1. Philosophy of v7

v7 configuration lets you choose between a simulation using an icosahedral grid or a simulation using a regular grid. By default the compilation will compile for both grids and the user can switch between all experiments.

An other new feature is that now all sub-configuration will be available in the coupled model one, and will not exist anymore in the mod.def selection. The user can choose to extract all models, create executables for all sub-configuration, or extract only a specific subconfiguration. To do this you need to add the subconfiguration chosen after the name of the configuration when you are using the model script in modipsl/util directory

```
cd modipsl/util
./model IPSLCM7_work

or for example

cd modipsl/util
./model IPSLCM7_work ICOLMDZOR
```

For configurations using ORCHIDEE model, (LMDZOR, IPSLCM, or ORCHIDEE\_offline - but not for LMDZORINCA) the user will have the choice to compile and run with ORCHIDEE\_2\_2 or ORCHIDEE\_4.

## 2. Resolutions and configurations

IPSLCM7 model is available for different resolutions and sub-configurations :

- LR** : LMDZ 144x144x79-ORCHIDEE - NEMO4 eORCA1xL75
- IPSLCM-reg (for the moment without CO2 or biogenic cycles)
  - LMDZ
  - LMDZOR
  - LMDZORINCA (chemistries AER, GES, NMHC\_AER\_S)
- nbp40** : DYNAMICO LMDZ - ORCHIDEE - NEMO4 eORCA1xL75
- IPSLCM-ico (for the moment without CO2 or biogenic cycles)
  - ICOLMDZ
  - ICOLMDZOR
  - ICOLMDZORINCA (chemistries AER, GES)

**IPSLCM7** is composed of following components and tools (reference version used for training courses in Jan. 2024) :

#-C-	IPSLCM7_TP2024	master	3558d704	21	DYNAMICO	modeles	DYNAMICO
#-C-	IPSLCM7_TP2024	ICOSA_LMDZ	4616	20	ICOSA_LMDZ	modeles	DYNAMICO
#-C-	IPSLCM7_TP2024	IOIPSL/tags/v2_2_5	6644	8	IOIPSL	modeles	IOIPSL
#-C-	IPSLCM7_TP2024	branches/ORCHIDEE_2_2/ORCHIDEE	8388	14	ORCHIDEE_2_2	modeles	ORCHIDEE
#-C-	IPSLCM7_TP2024	trunk/ORCHIDEE	8388	14	ORCHIDEE_4	modeles	ORCHIDEE
#-C-	IPSLCM7_TP2024	CPL/oasis3-mct/branches/OASIS3-MCT_5.0_branch	6331	8	oasis3-mct	.	OASIS
#-C-	IPSLCM7_TP2024	LMDZ6/trunk	4515	20	LMDZ	modeles	LMDZ
#-C-	IPSLCM7_TP2024	LMDZ6/trunk/arch	4726	20	LMDZ/arch	modeles	LMDZ
#-C-	IPSLCM7_TP2024	CONFIG/UNIFORM/v7/IPSLCM7	6733	8	IPSLCM7	config	CONFIG
#-C-	IPSLCM7_TP2024	branches/ORCHIDEE_2_2/ORCHIDEE_OL	8391	14	ORCHIDEE_OL_2_2	config	ORCHIDEE
#-C-	IPSLCM7_TP2024	trunk/ORCHIDEE_OL	8378	14	ORCHIDEE_OL_4	config	ORCHIDEE
#-C-	IPSLCM7_TP2024	trunk/libIGCM	1621	10	libIGCM	.	libIGCM
#-C-	IPSLCM7_TP2024	4.2.0	HEAD	22	NEMO	modeles	NEMO
#-C-	IPSLCM7_TP2024	trunk/INCA6	1106	9	INCA	modeles	INCA
#-C-	IPSLCM7_TP2024	XIOS2/trunk	2590	12	XIOS	modeles	XIOS

## 2.1. IPSLCM

For the forced models on the regular grid (LMDZ, LMDZOR, LMDZORINCA) the configuration is close to [IPSLCM6.2](#) configuration. For the coupled model on the regular grid, the main difference from IPSLCM6.2 is the use of NEMO4 instead of NEMO3.

When you download IPSLCM7 in full version, or only for a sub-configuration, you will also download config directories to run ORCHIDEE model in offline mode.

- To compile you will use the target the command `./compile_ipslcm7.sh` (see [here?](#) for more details on compilation)
- For the experiments, you can choose between `EXPERIMENTS/`:
  - ICOLMDZ/aquaplanet
  - ICOLMDZ/clin\_noleap
  - ICOLMDZ/CREATE\_amip
  - ICOLMDZ/CREATE\_hadisst
  - ICOLMDZOR/clin\_pdControl
  - ICOLMDZOR/clin\_pdControl.orch4
  - ICOLMDZOR/highresmip
  - ICOLMDZOR/highresmip\_CMIP6
  - ICOLMDZORINCA/AER
  - ICOLMDZORINCA/GES
  - ICOLMDZORINCA/NMHC\_AER\_S
  - ICOLMDZORINCA/CREATE\_etat0
  - IPSLCM7-ico/piControl\_TEST
  - IPSLCM7-ico/piControl\_TEST.orch4
  - IPSLCM7-reg/pdControl\_TEST
  - IPSLCM7-reg/pdControl\_TUNING
  - IPSLCM7-reg/piControl\_TEST
  - LMDZ/clin\_360d
  - LMDZ/CREATE\_amip
  - LMDZ/CREATE\_clim
  - LMDZ/CREATE\_clim\_360d
  - LMDZOR/amip
  - LMDZOR/clin\_pdControl
  - LMDZORINCA/AER
  - LMDZORINCA/GES
  - LMDZORINCA/NMHC\_AER\_S

## 2.2. Output level

Output level are managed like in [IPSLCM6.2](#) configuration.