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Title: 1. IPSL-CM5A2-CHT model

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Table of Content

IPSL-CM5A2-CHT-VLR configuration

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1. IPSL-CM5A2-CHT model

IPSL-CM5A2-CHT is an **IPSL coupled climate model** including atmosphere, land, ocean, sea ice, carbon cycle, and atmospheric chemistry and aerosols. The goal of this model is to introduce interactiv chemistry and aerosols cycle in IPSLCM5A2-VLR version. Main characteritics of this model are the same than IPSLCM5A2-VLR **ORCA2-LIM2-PISCES x LMD 96x95x39, old LMDZ physics, ORCHIDEE with Choisnel hydrology (2 layers)**, we add **INCA6 model**. This model is available on Irene (TGCC) and JeanZay (IDRIS) supercomputers and benefits from last developments of libIGCM running environment.

IPSL-CM5A2 model includes :

- model components :
  - **LMDZ** as atmospheric model ;
  - **NEMO** as ocean model including sea ice (LIM2) and marine biogeochemistry (PISCES) ;
  - **ORCHIDEE** as land model ;
  - **INCA** as atmospheric chemistry and aerosols model ;
- tools :
  - **OASIS3-MCT** as parallel coupler ;
  - **XIOS 2.0** as I/O library ;
  - **libIGCM** as running environment (scripts) to run the model and to perform post processing ;

2. Technical details

For all technical details you can report to the IPSLCM5A2-VLR description. We will describe here differences due to Inca model.

2.1. Compilation

To compile you can choose between two target

- IPSLCM5A2CHT-VLR : compile Inca model to use the configuration NMHC_AER (chemistry and aerosols on troposphere) - For this specific target there is no experiments
- IPSLCM5A2CHTS-VLR (default) : compile Inca model to use the configuration NMHC_AER_S (chemistry and aerosols on troposphere and stratosphere)

2.2. Experiments

You can choose between two experiments

- S_historical
- S_piControl