



Poster Z246

Vienna, Austria, April 2013
Wednesday, 10 Apr 2013, 08:00-19:30
author in attendance: 17:30-19:00

The PMIP 3 Database: latest news

Jean-Yves Peterschmitt¹, Sébastien Denvil², Mark Morgan²,
and the PMIP 3 Participants Team

¹ Laboratoire des Sciences du Climat et de l'Environnement (LSCE), Gif-sur-Yvette, France, jean-yves.peterschmitt@lsce.ipsl.fr
² IPSL, UPMC, Paris, France



LABORATOIRE DES SCIENCES DU CLIMAT & DE L'ENVIRONNEMENT



Abstract

EGU2013-9107

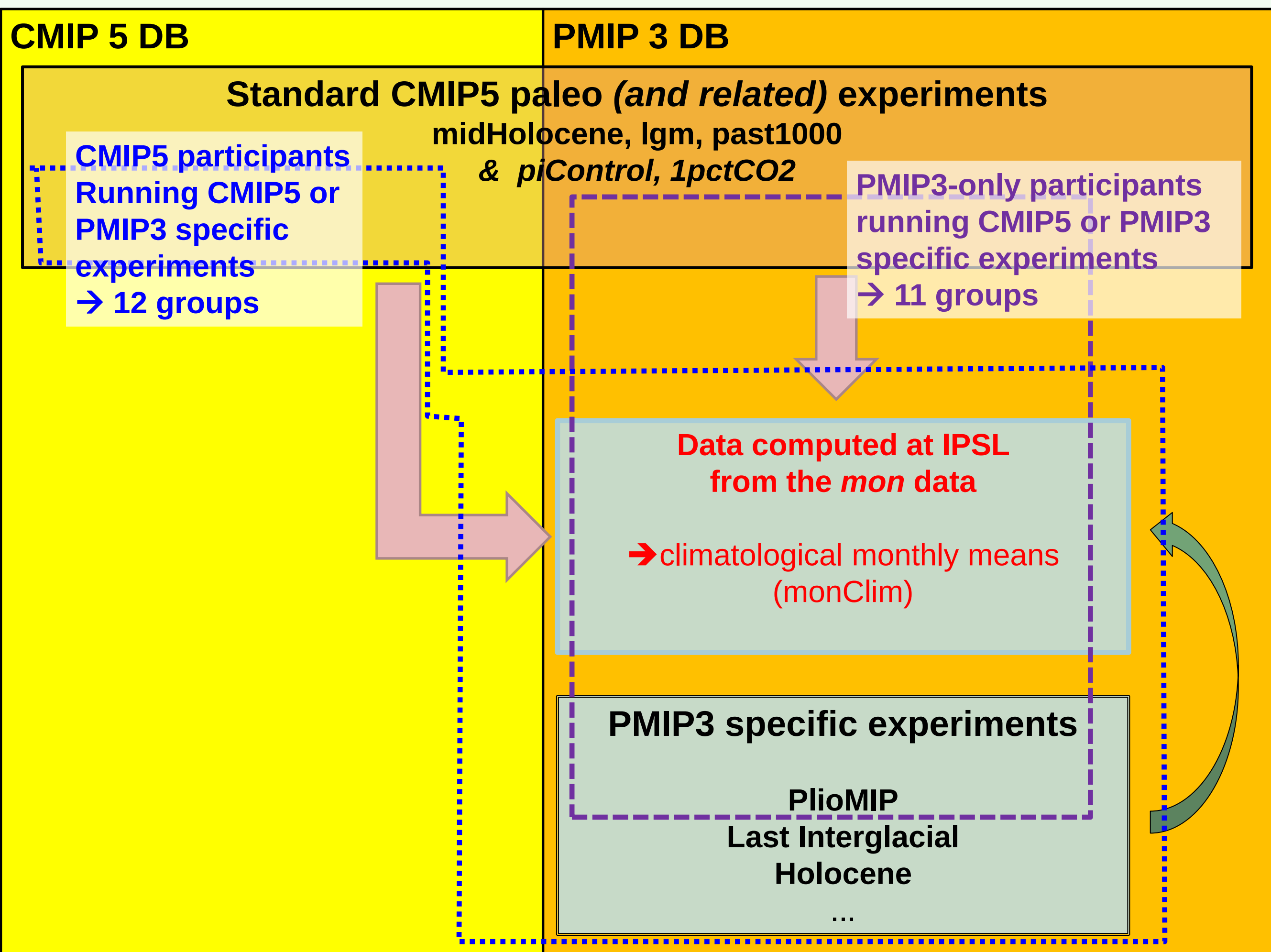
The Paleoclimate Modelling Intercomparison Project (PMIP) is a long standing initiative that has provided an efficient mechanism for coordinating paleoclimate modelling activities that provide valuable information on the mechanisms of climate change, the identification of key feedbacks operating in the climate system and, through model evaluation, the capability of climate models to reproduce climates different from today. The third phase of PMIP (aka PMIP 3) started in 2009 and three of its key periods have been selected as part of the tier1 and tier2 of the CMIP5 set of simulations: the Last Glacial Maximum, the mid-Holocene and the Last Millennium periods. PMIP3 will also focus on mid-Pliocene (PlioMIP project) and Last Interglacial periods, and on the impact of freshwater events in the North Atlantic (such as the 8.2ka event in the early Holocene).

We will present an up-to-date overview of PMIP 3, in terms of participation to the different PMIP 3 time slices and available experiments. We will also show how we use the CMIP5 data hosting and distribution technology (Earth System Grid Federation) at IPSL to handle non-CMIP5 simulations and CMIP5-like simulations of "PMIP 3 but non-CMIP5" participants, and how the scientists can locate and use the data they need.

References:

<http://pmip3.lsce.ipsl.fr/>
http://www.esgf.org/wiki/ESGF_Overview

Group and data types in the PMIP3/CMIP5 DB



Notes :

- The relative sizes of the DBs above are not correct ☺
- The CMIP 5 data and the PMIP 3 data is physically distributed over many data centers

Paleoclimate Modelling



Intercomparison Project

PMIP3/CMIP5 Data: <http://esgf-node.ipsl.fr/>
Or any other ESG Federation P2P node ☺

PMIP3/CMIP5 participants in April 2013

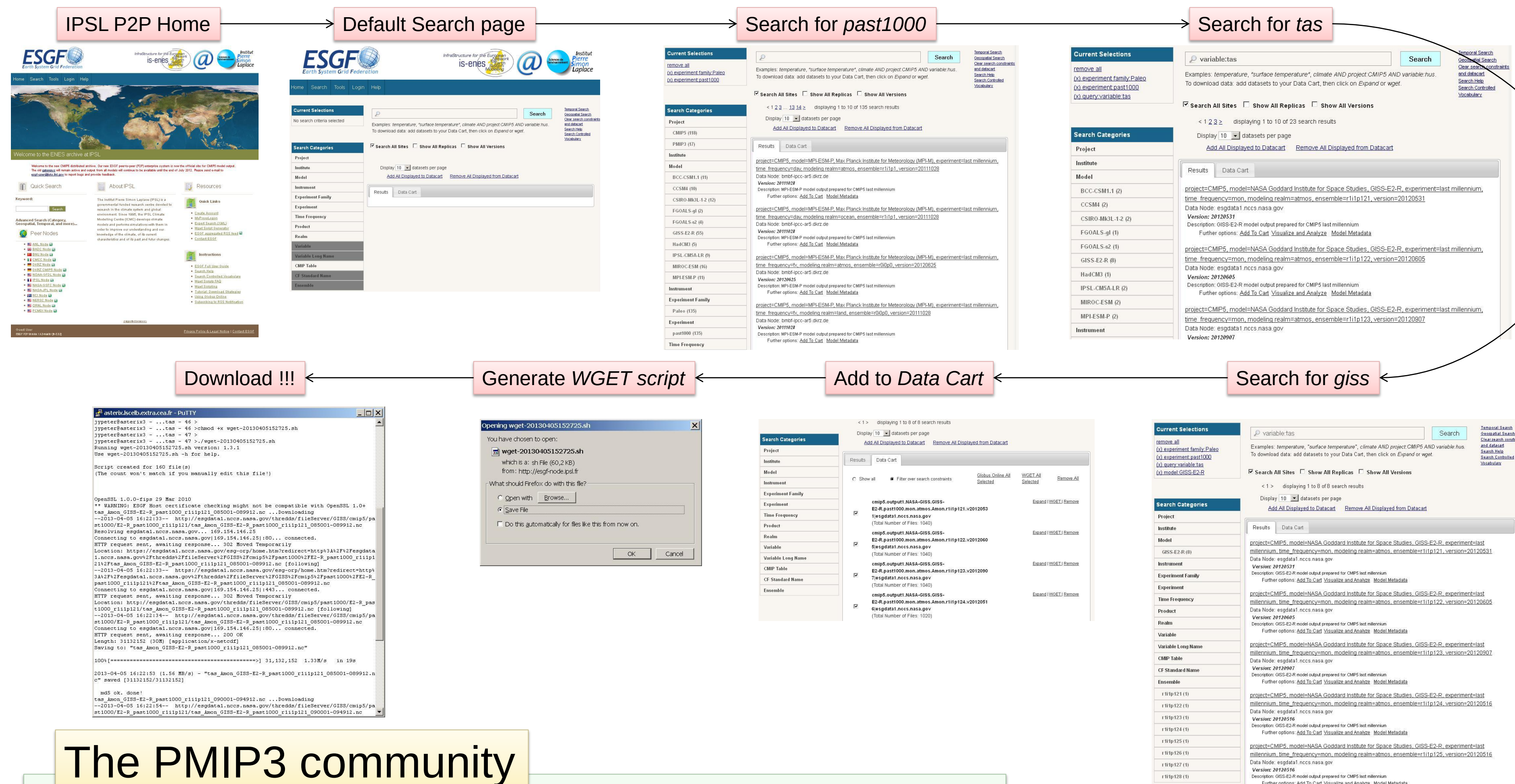
List of PMIP3/CMIP5 participants														
Information as of April 5th 2013														
Up to date info: https://pmip3.lsce.ipsl.fr/wiki/doku.php/pmip3:database:statu														
Some P2P nodes: https://pmip3.lsce.ipsl.fr/wiki/doku.php/pmip3:database:statu														
CMIP5 Errata: http://cmip5.lnl.gov/cmip5/serrata/cmip5serrata.html														
Models' documentation: http://q.cmip5.cea.fr/cmip5/publisheddocs/														
Institute	Country	0k piControl	6k midholocene	21k lgm	LM past1000 (1000 years)	1 % CO ₂ 1pctCO ₂ (140 years)	CMIP5 PMP3	CMIP5 PMP3	CMIP5 PMP3	CMIP5 PMP3	CMIP5 PMP3	CMIP5 PMP3	CMIP5 PMP3	CMIP5 PMP3
1	AWI	Germany	Completed	Completed	Completed	Completed	No	Yes	Yes	No	Yes	96x48 x L19	120x101 x L40	COSMOS-ss0 ?
2	BCC	China	Completed	Completed	Completed	Completed	No	Yes	No	No	Yes	128x64 x L26	360x232 x L40	bcc-csm1.1
3	BCCR	Norway	Completed	Running Summer 2013	Completed	Running Summer 2013	No	Yes	Yes	No	Yes	96x48 x L26	100x116 x L32	NorESM1-L
4	CAU-GEOMAR	Germany	Completed	Completed	Completed	Completed	No	Yes	Yes	?	No	96x48 x L19	182x149 x L31	KCM1.2-2
5	CNRM-CERFACS	France	Completed	Completed	Completed	Completed	Yes	No	No	No	No	256x128 x L31	362x292 x L42	CNRM-CM5
6	FUB	Germany	Completed	Completed	Completed	Completed	No	No	No	No	Yes	96x48 x L19	120x101 x L40	COSMOS-ss0
7	NOAA-GFDL	USA	Completed	Completed	Completed	Completed	Yes	No	No	No	Yes	144x90 x L24	360x200 x L50 360x210 x L64	GFDL-ESM2M GFDL-ESM2G
8	NASA-GISS	USA	Completed	Completed	Completed	Completed	Yes	Yes	?	Yes	No	144x90 x L40	288x180 x L32	GISS-E2-R
9	IPSL	France	Completed	Completed	Completed	Completed	Yes	Yes	Yes	Yes	Yes	96x95 x L39	182x149 x L31	IPSL-CM5A-LR
10	ICHEC (KMI)	Netherlands	Completed	Completed	Completed	Completed	No	Yes	No	No	No	320x160 x L62	362x292 x L42	EC-Earth-2.2
11a	LASG-CES	China	Completed	Completed	Completed	Completed	Yes	No	No	No	No	128x60 x L26	360x180 x L30	FGOALS-g2
11b	LASG-IAP	China	Completed	Completed	Completed	Completed	Yes	No	No	No	No	128x60 x L26	360x180 x L30	FGOALS-g2
11c	LASG-IAP	China	Completed	Completed	Completed	Completed	Yes	No	No	No	No	72x45 x L26	360x180 x L30	FGOALS-g1
12	LOVECLIM	Belgium France Netherlands	Completed	Completed	Completed	Completed	No	No	Yes	Yes	No	128x64 x L30	122x65 x L20	LOVECLIM1.2
13	MIROC	Japan	Completed	Completed	Completed	Completed	Yes	Yes	?	?	Yes	128x64 x L80	256x192 x L44	MIROC-ESM
14	MPi-M	Germany	Completed	Completed	Completed	Completed	Yes	No	?	?	No	196x98 x L47	256x220 x L40	MPi-ESM-P
15	MRI	Japan	Completed	Completed	Completed	Completed	Yes	Yes	No	No	No	320x160 x L48	364x368 x L51	MRI-CGCM3
16	NCAR	USA	Completed	Completed	Completed	Completed	Yes	Yes	No	No	No	288x192 x L26	320x384 x L60	CCSM4
17	OSUWc	USA	Completed	Completed	Completed	Completed	Yes	Yes	No	No	No	128x64 x L10	100 x 100 x L19	OSUWc-0.3
18	CSIRO-QCCCE	Australia	Completed	Completed	Completed	Completed	Yes	No	No	No	No	192x96 x L31	192x192 x L31	CSIRO-Mk3.6.0
19a	MOHC (UK groups)	UK	Completed	Completed	Completed	Completed	Yes	Yes	Yes	Yes	Yes	192x144 x L38	360x216 x L40	HadGEM2-ES
19b	MOHC (UK groups)	UK	Completed	Completed	Completed	Completed	Yes	No	No	No	Yes	192x144 x L60	360x216 x L40	HadGEM2-CC
19c	MOHC (UK groups)	UK	Completed	Completed	Completed	Completed	Yes	Yes	Yes	Yes	No	96x73 x L19	288x144 x L20	HadCM3
20	UNSW	Australia	Completed	Completed	Completed	Completed	No	Yes	Yes	Yes	No	64x56 x L18	128x112 x L21	CSIRO-Mk3.1.2
21	UofT	Canada	Completed	Completed	Completed	Completed	Completed	No	No	No	No	256x128 x L26	320x384 x L40	UofT-CCSM3

A focus on the past1000 experiment

PMIP3/CMIP5 past1000 Boundary Conditions														
Information as of April 5th 2013														
Up to date info: https://pmip3.lsce.ipsl.fr/wiki/doku.php/pmip3:database:statu														
Official past1000 BC or PMIP3-ss0														
past1000 GCM paper: http://www.pccp-model-dev.net/P1000/														
Institute	Country	LM past1000 (1000 years)	Carbon cycle	Atm	Ocn	Model id	Ensemble	Orbital parameters	Vertical expans	GHG	Volcanic aerosols	Solar irradiance	Ozone	Tropos aerosols
1	BCC	China	Completed	Yes	Yes	128x64 x L26	360x232 x L40	bcc-csm1.1	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013
2	BCCR	Norway	Completed	Yes	Yes	96x48 x L26	100x116 x L32	NorESM1-L	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013
3	NASA-GISS	USA	Completed	Yes	Yes	144x90 x L24	360x210 x L64	GISS-E2-R	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013
4	IPSL	France	Completed	Yes	Yes	96x95 x L39	182x149 x L31	IPSL-CM5A-LR	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013
5	LASG-IAP	China	Completed	Yes	Yes	128x60 x L26	360x180 x L30	FGOALS-g2	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013
6	LASG-IAP	China	Completed	Yes	Yes	72x45 x L26	360x180 x L30	FGOALS-g1	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013
7	LOVECLIM	Belgium France Netherlands	Completed	No	No	128x64 x L30	122x65 x L20	LOVECLIM1.2	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013
8	MIROC	Japan	Completed	Yes	Yes	128x64 x L80	256x192 x L44	MIROC-ESM	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013
9	MPi-M	Germany	Completed	Yes	Yes	196x98 x L47	256x220 x L40	MPi-ESM-P	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013
10	MRI	Japan	Completed	Yes	Yes	320x160 x L48	364x368 x L51	MRI-CGCM3	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013
11	NCAR	USA	Completed	Yes	Yes	288x192 x L26	320x384 x L60	CCSM4	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013
12	OSUWc	USA	Completed	Yes	Yes	128x64 x L10	100 x 100 x L19	OSUWc-0.3	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013
13	UNSW	Australia	Completed	Yes	Yes	64x56 x L18	128x112 x L21	CSIRO-Mk3.1.2	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013
14	UofT	Canada	Completed	Yes	Yes	256x128 x L26	320x384 x L40	UofT-CCSM3	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013	Running Summer 2013

Chasing the data... It's more fun than looking for chocolate easter eggs!

- The *OpenID*
 - You can create it on any P2P (Peer to Peer) ESGF portal
 - IPSL P2P: <http://esgf-node.ipsl.fr>
 - example OpenID (Jean-Yves): <https://esgf-node.ipsl.fr/esgf-idp/openid/jypmip>
 - You don't need an OpenID to search the data, only to download it!
- Power users can use automated tools
 - IPSL synchro-data: http://dods.ipsl.jussieu.fr/jripsl/synchro_data/README
 - ESGF Search: http://esgf.org/wiki/ESGF_Search_API
 - esgf-pyclient: <http://esgf-pyclient.readthedocs.org/en/latest/>
- WARNING! Data can change** (can be updated, removed, etc...) and you are supposed to keep track of what you use
 - Try to keep a trace of the versions of each dataset you use...
 - Remember that each netcdf file has a **unique tracking_id** global attribute
 - Example for tas_Amon_GISS-E2-R_past1000_r1i1p127_165101-170012.nc
ncdump -> tracking_id = "ef9dc548-4145-41a1-9903-d9b5dffa007e"



The PMIP3 community

We are not on Facebook, but we stay in touch:

- with a web site
<http://pmip3.lsce.ipsl.fr/>
- and a wiki (for faster changing information)
<https://lists.lsce.ipsl.fr/pmp3/doku.php/pmip3:index>
- PMIP working groups on the wiki
 - Past to Future (contact: Julia Hargreaves)
 - Climate variability and its relation to the mean state (contact: Chris Brierley)
 - Your group here?
- ... and mailing lists
 - pmp3-announce@lists.lsce.ipsl.fr
 - pliomip@lists.lsce.ipsl.fr
 - pmp3-wg-past2future@lists.lsce.ipsl.fr
 - pmp3-contacts@lists.lsce.ipsl.fr

Need more Information?

- PMIP 3 web site and wiki
- CMIP5 web site

<https://pmip3.lsce.ipsl.fr/>
<http://cmip-pcmdi.llnl.gov/cmip5/>

The TODO list

Too BIG to fit here ☺

- Model documentation
- Quality control
- CMORize more experiments
- Update web site and wiki
- Automatize/finalize/Clean monClim data production and distribution
- ...

