PDRMIP data available

Experiment	CanESM2	MPI-ESM	NorESM1	NCAR-CESM1-CAM4	NCAR-CESM1-CAM5	MIROC-SPRINTARS	HadGEM2	HadGEM3	GISS-E2-R	IPSL-CM5A	ECHAM-HAM
Core											
Base	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Co2x2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x
Ch4x3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x
Solar	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x
Bcx10	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sulx5	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	x
Regional											
bcx10asia	x	x	✓	✓	✓	✓	x	✓	✓	✓	x
Sulx10asia	x	x	✓	✓	✓	✓	x	✓	✓	✓	x
Sulx10eur	x	x	✓	✓	✓	✓	x	✓	✓	✓	x
Sulred	x	x	x	x	x	✓	x	✓	x	x	x
Sulasiared	x	x	x	x	x	✓	x	x	x	x	x
Phase 2											
cfc12	x	x	✓	x✓	✓	✓	✓	x	x	x	✓*
cfc11	x	x	x	x✓	x	✓	✓	x	x	x	✓*
n2o1p	x	x	✓	x✓	x	✓	✓	x	x	x	✓*
ozone	x	x	✓*	x	x	x	x	x	x	x	x
lndus	x	x	✓	x	x	x	✓	x	x	x	x
bcslt	x	x	✓*	x✓	x	x	x	x	✓	x	✓

* Only available for fsst

Easier access to data:

Data files with systematic and consistent file names available for all models and all experiments at:
/projects/NS9042K/NORSTORE_OSL_DISK/NS9042K/renamed
renamed contains soft links to all data files
The files are sorted in subdirectories: model/ocean/
Filenames: var_kind_model_experiment_ocean_stime-etime.nc *

- var: variable name
- kind: Amon, day or fx
- model: CanESM2, NCAR-CESM1-CAM4, NCAR-CESM1-CAM5, GISS-E2-R, HadGEM2, HadGEM3, IPSL-CM5A, MPI-ESM, NorESM1, MIROC-SPRINTARS
- experiment: pdrmip-base, pdrmip-ch4x3, pdrmip-co2x2, pdrmip-solar, pdrmip-bcx10, pdrmip-sulx5, pdrmip-sulx10eur, pdrmip-sulx10asia, pdrmip-sulred, pdrmip-sulasiared, pdrmip-bcx10asia, pdrmip-cfc12, pdrmip-cfc11, pdrmip-n2o1p, pdrmip-ozone, pdrmip-lndus, pdrmip-bcslt
- ocean: coupled, fsst
- stime/etime: start time and end time in the format yearmonth eg. 201601-201612

```
[masan@tos-spw08 renamed]$ pwd
/projects/NS9042K/NORSTORE_OSL_DISK/NS9042K/renamed
[masan@tos-spw08 renamed]$ ls
CanESM2       HadGEM3        MPI-ESM         NorESM1          re-link_HadGEM2fsstBCx10.sh
GISS-E2-R     IPSL-CM5A      NCAR-CESM1-CAM4 pdrmip_translation.py  re-link_HadGEM2fsstBCx10.sh~
HadGEM2       MIROC-SPRINTARS NCAR-CESM1-CAM5 README.txt
```

For instance easy to pick out all tas-files for base runs at once:

```
[masan@tos-spw08 renamed]$ pwd
/projects/NS9042K/NORSTORE_OSL_DISK/NS9042K/renamed
[masan@tos-spw08 renamed]$ ls */coupled/tas_*base*
CanESM2/coupled/tas_Amon_CanESM2_pdrmip-base_coupled_185001-194912.nc
GISS-E2-R/coupled/tas_Amon_GISS-E2-R_pdrmip-base_coupled_195001-204912.nc
HadGEM2/coupled/tas_Amon_HadGEM2_pdrmip-base2_coupled_185912-195911.nc
HadGEM2/coupled/tas_Amon_HadGEM2_pdrmip-base_coupled_185912-195911.nc
HadGEM2/coupled/tas_day_HadGEM2_pdrmip-base_coupled_185912-195911.nc
HadGEM3/coupled/tas_Amon_HadGEM3_pdrmip-base_coupled_200001-209912.nc
IPSL-CM5A/coupled/tas_Amon_IPSL-CM5A_pdrmip-base_coupled_203001-212912.nc
IPSL-CM5A/coupled/tas_day_IPSL-CM5A_pdrmip-base_coupled_203001-212912.nc
MIROC-SPRINTARS/coupled/tas_Amon_MIROC-SPRINTARS_pdrmip-base_coupled_200101-210012.nc
MPI-ESM/coupled/tas_Amon_MPI-ESM_pdrmip-base_coupled_200001-224912.nc
NCAR-CESM1-CAM4/coupled/tas_Amon_NCAR-CESM1-CAM4_pdrmip-base_coupled_000101-012012.nc
NCAR-CESM1-CAM4/coupled/tas_day_NCAR-CESM1-CAM4_pdrmip-base_coupled_000012-012012.nc
NCAR-CESM1-CAM5/coupled/tas_Amon_NCAR-CESM1-CAM5_pdrmip-base_coupled_200601-213712.nc
NCAR-CESM1-CAM5/coupled/tas_day_NCAR-CESM1-CAM5_pdrmip-base_coupled_200512-213712.nc
NorESM1/coupled/tas_Amon_NorESM1_pdrmip-base_coupled_200501-210512.nc
NorESM1/coupled/tas_day_NorESM1_pdrmip-base_coupled_200501-210512.nc
```

Variable wishlist

3D Amon

MPI:	cl†
CAM5:	hus, zg†
SprintARS:	hus
HadGEM3:	wap, zg
GISS:	hus, zg, ua, va
IPSL-CM5A:	wap, zg

2D Amon

MPI:	hurs, huss, rsdscs, rsuscs, rtmt, ci, sci
CAM4:	sfcWind
CAM5:	prsn, clt, clwvi, clivi, ci, sci
SprintARS:	sci
HadGEM2:	ci
HadGEM3:	psl, ps, uas, vas, sfcWind, hurs, huss, prsn, clwvi, clivi, rtmt, ci, sci
GISS:	hurs
IPSL-CM5A:	sfcWind, hurs, huss, prsn, hfls, rlds, rlus, rsds, rsus, rsdscs, rsuscs, rldscs, rsdt, rsut, rlut, rlutcs, rsutcs, clwvi, clivi, rtmt, ci, sci
ECHAM:	rsdscs, rsucs, clwvi, clivi, rtmt, sci

2D daily

CanESM2:	tas
MPI:	tas, tasmin, tasmax, sfcWindmax,
NorESM:	rhs, sfcWind, sfcWindmax
CAM4:	sfcWind, sfcWindmax
SprintARS:	tas
HadGEM2:	prc, sfcWind, sfcWindmax
HadGEM3:	tas
GISS:	tas
IPSL-CM5A:	sfcWind, sfcWindmax
ECHAM:	tas

Aero

CanESM2:	od550aer, abs550aer
CAM4:	od550aer, abs550aer, concso4
CAM5:	od550aer, abs550aer, concbc, concso4
HadGEM2:	od550aer, abs550aer, (emibc, emiso2, emiso4)*, loadbc, loadso4, concbc†, concso4
HadGEM3:	od550aer, abs550aer, loadbc, loadso4, concso4
IPSL-CM5A:	od550aer, abs550aer, loadso4, concso4

* either fields or global numbers
†values for coupled ocean missing

Variables available

Amon 2D	CanESM2	MPI-ESM	NorESM1	NCAR-CESM1-CAM4	NCAR-CESM1-CAM5	MIROC-SPRINTARS	HadGEM2	HadGEM3	GISS-E2-R	IPSL-CM5A	ECHAM-HAM
tas	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
psl	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	✓
ps	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	✓
uas	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	✓
vas	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	✓
sfcWind	✓	✓	✓	x	✓	✓	✓	X	✓	x	✓
hurs	✓	x	✓	✓	✓	✓	✓	X	x	x	✓
huss	✓	x	✓	✓	✓	✓	✓	X	✓	x	✓
pr	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
prsn	✓	✓	✓	✓	x	✓	✓	X	✓	x	✓
prc	✓	✓	✓	✓	✓	✓	✓	- **	✓	✓	✓
evspsbl	✓	✓	✓	✓	✓	✓	✓	- ****	✓	✓	✓
hfls	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓
hfss	✓	✓	✓	✓	✓	✓	✓	✓	- *	- *	✓
rlds	✓	✓	✓	✓	✓	✓	✓	✓	✓	x ***	✓
rlus	✓	✓	✓	✓	✓	✓	✓	✓	✓	x ***	✓
rsds	✓	✓	✓	✓	✓	✓	✓	✓	✓	x ***	✓
rsus	✓	✓	✓	✓	✓	✓	✓	✓	✓	x ***	✓
rsdscs	✓	x	✓	✓	✓	✓	✓	✓	✓	x	x
rsuscs	✓	x	✓	✓	✓	✓	✓	✓	✓	x	x
rldscs	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓
rsdt	✓	✓	✓	✓	✓	✓	✓	✓	✓	x ***	✓
rsut	✓	✓	✓	✓	✓	✓	✓	✓	✓	x ***	✓
rlut	✓	✓	✓	✓	✓	✓	✓	✓	✓	x ***	✓
rlutcs	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓
rsutcs	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓
prw	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
clt	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓
clwvi	✓	✓	✓	✓	x	✓	✓	x	✓	x	x
clivi	✓	✓	✓	✓	x	✓	✓	x	✓	x	x
rtmt	✓	x	✓	✓	✓	✓	✓	x	✓	x	x
ci	✓	x	✓	✓	x	✓	x	x	✓	x	✓
sci	✓	x	✓	✓	x	x	✓	x	✓	x	x

* opposite sign
** large fraction of missing values
*** net fluxes available
**** partial missing vaules

Amon 3D	CanESM2	MPI-ESM	NorESM1	NCAR-CESM1-CAM4	NCAR-CESM1-CAM5	MIROC-SPRINTARS	HadGEM2	HadGEM3	GISS-E2-R	IPSL-CM5A	ECHAM-HAM
cl	✓	✓†	✓	✓	✓	✓	✓	✓	✓	✓	✓
clw	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
cli	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ta	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
hus	✓	✓	✓	✓	x	x	✓	✓	x	✓	✓
hur	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
wap	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	✓
zg	✓	✓	✓	✓	✓†	✓	✓	x	x	x	✓
ua	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓
va	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓

†Only fsst data available

Day	CanESM2	MPI-ESM	NorESM1	NCAR-CESM1-CAM4	NCAR-CESM1-CAM5	MIROC-SPRINTARS	HadGEM2	HadGEM3	GISS-E2-R	IPSL-CM5A	ECHAM-HAM
rhs	✓	x	x	x	✓	✓	x	✓	✓	x	✓
prc	✓	✓	✓	✓	✓	✓	x	✓	✓	✓	✓
pr	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
tas	x	x	✓	✓	✓	x	✓	x	x	✓	x
tasmin	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓
tasmax	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓
sfcWind	✓	✓	x	x	✓	✓	x	✓	✓	x	✓
sfcWindmax	✓	x	x	x	✓	✓	x	✓	✓	x	✓

Aero	CanESM2	MPI-ESM	NorESM1	NCAR-CESM1-CAM4	NCAR-CESM1-CAM5	MIROC-SPRINTARS	HadGEM2	HadGEM3	GISS-E2-R	IPSL-CM5A	ECHAM-HAM
od550aer	x	-**	✓	x	x	✓	x	x	✓	x	✓
abs550aer	x	-**	✓	x	x	✓	x	x	✓	x	✓
emibc	✓	-**	-**	-**	✓	✓	x	-**	-**	-**	✓
emiso2	✓	-**	-**	-**	✓	✓	x	-**	-**	-**	✓
emiso4	✓	-**	-**	-**	✓	✓	x	-**	-**	-**	✓
loadbc	✓	-**	✓	- *	✓	✓	x	x	✓	✓	✓
loadso4	✓	-**	✓	- *	✓	✓	x	x	✓	x	✓
ec550aer	-**	-**	✓	-**	-**	✓	-**	-**	✓	-**	-**
concbc	✓	-**	✓	✓	x	✓	✓†	✓	✓	✓	✓
concso4	✓	-**	✓	x	x	✓	x	x	✓	x	✓

*wrong
unit

**no data required/ expected

†Only fsst data available

Ocean	CanESM2	MPI-ESM	NorESM1	NCAR-CESM1-CAM4	NCAR-CESM1-CAM5	MIROC-SPRINTARS	HadGEM2	HadGEM3	GISS-E2-R	IPSL-CM5A	ECHAM-HAM
sos	x	x	x	x	x	✓	x	x	x	✓	x
to	x	x	x	x	x	✓	x	x	x	x	x
vo	x	x	x	x	x	✓	x	x	x	x	x
wo	x	x	x	x	x	✓	x	x	x	x	x
zos	x	x	x	x	x	✓	x	x	x	x	x
hfds	x	x	x	x	x	x	x	x	x	x	x
hfx	x	x	x	x	x	x	x	x	x	✓	x
hfy	x	x	x	x	x	x	x	x	x	✓	x
hfxba	x	x	x	x	x	x	x	x	x	✓	x
hfyba	x	x	x	x	x	x	x	x	x	✓	x
hfxdiff	x	x	x	x	x	x	x	x	x	✓	x
hfydiff	x	x	x	x	x	x	x	x	x	✓	x

Global means for 2D-variables years 51-100 for base case

2D Amon Base	CanESM2	MPI-ESM	NorESM1	NCAR-CESM1-CAM4	NCAR-CESM1-CAM5	MIROC-SPRINTARS	HadGEM2	HadGEM3	GISS-E2-R	IPSL-CM5A
tas	286,815	287,907	286,689	289,527	288,179	287,403	286,745	289,413	289,227	287,355
psl	101138,920	101128,567	101142,133	101179,313	101164,047	101315,000	101128,831		100983,906	101219,305
ps	98459,462	98549,512	98524,953	98578,546	98554,012	98654,760	98571,484		98399,991	98507,898
uas	-0,311	-0,256	-0,731	-0,624	-0,501	-0,449	-0,402		-0,121	-0,394
vas	0,130	0,154	0,046	0,003	0,047	0,137	0,138		0,100	0,113
sfcWind	6,985	6,215	6,674			6,252	5,925		5,722	
hurs	81,685		78,304	78,691	78,150	77,490	75,987			
huss	1,083E-02		9,821E-03	1,161E-02	1,065E-02	8,850E-03	9,401E-03		1,048E-02	
pr	3,170E-05	3,321E-05	3,201E-05	3,473E-05	3,599E-05	3,655E-05	3,570E-05	3,741E-05	3,778E-05	3,252E-05
prsn	2,049E-06	1,985E-06	2,034E-06	1,595E-06		1,813E-06	2,621E-06		1,964E-06	
prc	1,714E-05	2,142E-05	1,962E-05	2,152E-05	2,598E-05	1,862E-05	2,657E-05	2,797E-05	1,565E-05	1,581E-05
evspsbl	3,170E-05	3,315E-05	3,201E-05	3,473E-05	3,599E-05	3,655E-05	3,568E-05	5,996E-06	3,778E-05	
hfls	79,425	82,942	80,075	86,876	89,984	91,379	89,316	93,450	94,444	
hfss	24,557	24,905	18,692	17,451	17,085	14,358	18,523	18,157	-18,878	-23,250
rlds	331,319	344,992	334,851	352,656	349,807	337,310	333,152	349,983	350,238	
rlus	391,334	398,994	394,921	409,551	402,638	393,963	395,657	408,589	406,403	
rsds	191,929	185,812	184,307	184,073	184,504	187,417	196,333	196,437	192,910	
rsus	27,664	22,947	24,354	22,127	23,140	23,806	24,725	25,980	22,317	
rsdscs	252,428		248,909	246,667	244,038	252,668	250,158	247,293	251,291	
rsuscs	34,338		31,174	28,362	28,499	32,464	30,854	30,558	27,520	
rldscs	302,419	317,332	309,705	329,740	325,037	309,626	307,917	327,754	327,627	
rsdt	341,279	340,564	340,328	341,357	340,422	341,747	341,400	341,400	341,571	
rsut	100,773	100,535	105,834	101,192	99,353	107,367	97,898	97,339	100,713	
rlut	240,350	239,190	232,083	238,030	237,004	233,321	243,088	243,326	240,370	
rlutcs	265,996	263,619	261,799	267,414	259,539	258,460	268,076	267,830	259,668	
rsutcs	53,487	53,177		48,235	49,866	53,677	54,261	54,525	51,502	
prw	22,071	24,480	23,910	29,381	26,875	22,442	22,089		25,286	
clt	61,381	62,143	53,461	53,571		66,947	53,476		61,224	
clwvi	0,117	0,062	0,127	0,149		0,095	0,092		0,191	
clivi	0,028	0,029	0,017	0,015		0,024	0,052		0,101	
rtmt	0,159		0,483	0,220	0,746	1,060	0,341		0,488	
ci	0,112		0,386	0,403		0,605			0,037	
sci	0,301		0,325	0,323			0,162		0,417	

Day Base	CanESM2	MPI-ESM	NorESM1	NCAR-CESM1-CAM4	NCAR-CESM1-CAM5	MIROC-SPRINTARS	HadGEM2	HadGEM3	GISS-E2-R	IPSL-CM5A
rhs	81,685				78,147	77,484		75,899	72,378	
prc	1,715E-05	2,142E-05		2,152E-05	2,598E-05	1,863E-05		2,762E-05	1,565E-05	1,581E-05
pr	3,171E-05	3,322E-05	3,201E-05	3,473E-05	3,599E-05	3,656E-05	3,570E-05	3,742E-05	3,778E-05	3,252E-05
tas			286,698	290,292	288,187		286,745			287,364
tasmin	284,637		284,970	288,471	286,543	285,685	284,756	288,381	287,549	285,657
tasmax	289,135		288,493	292,740	289,960	289,296	288,697	293,357	290,999	289,199
sfcWind	6,985	6,216				6,251		6,181	5,637	
sfcWindmax	9,347					8,187		7,790	7,518	