

Subject: Re: Putting TRACMIP on ESGF
From: Ross Dixon <rddixon@wisc.edu>
Date: 10/22/18, 8:48 AM
To: Tracmip <tracmip@gmail.com>

Hi Aiko!

So sorry, I saw this right before my sister and brother in law came to visit for the weekend and haven't had a chance to reply.

I usually use $PR = PRECC + PRECL$ but included the other terms as I felt they might make it more "complete". I think what you suggest would be the best solution. Thank you for pointing this out!

Sorry again for taking so long to get back to you. Hope things are going well!

Ross

Get [Outlook for iOS](#)

From: Tracmip <tracmip@gmail.com>
Sent: Sunday, October 21, 2018 11:44
To: Ross Dixon
Subject: Re: Putting TRACMIP on ESGF

Dear Ross,

I am considering to do the following:

$PR = PRECC + PRECL$

$PRC = PRECC$

$PRSN = PRECS + PRECSL$

PR, PRC and PRSN are precip, convective precip and snow fall demanded in the CMIP5 Amon table.

Does that sound ok?

Thanks, Aiko

On 17.10.18 23:27, Tracmip wrote:

Dear Ross,

I hope things are going well in Toulouse. I am finally starting with the CAM3 data, and have the following question. Total precip needs to be calculated manually, and you indicated earlier that the corresponding equation was $pr = PRECC + PRECL + PRECSH + PRECSL$. Yet, PRECSH (precip from shallow convection) is only available in the monthly data, and missing in the daily and 3hourly (I assume it was forgotten in the output streams). On the other hand, there is an additional field called PRECSL, which is convective snowfall.

Do you have a recommendation for how to handle this? Maybe the correct equation is $pr = PRECC + PRECL + PRECSC + PRECSL$? In this case, things would be fine, and the fact that PRECSH is missing for daily and 3hourly data wouldn't matter. I should also note that in the TRACMIP James paper we simply used $pr = PRECC + PRECL$.

All the best, Aiko

On 01.06.2018 12:40, Ross Dixon wrote:

Hi Aiko!

Thanks! Somehow my cryptocard has become un-synced so I cannot check the NCAR system where I thought I might be able to find the aqua4xCO2 3hr data. Feel free to forward my email to anyone who you think might find use in it. I have not communicated with the other CESM groups, but there are probably many similarities between our outputs, if they are still working on it.

You are absolutely right about cl, I had gotten this mixed up with clt. CLOUD is the full 3D cloud fraction field, where CLDTOT is the integrated cloud fraction.

I have updated the mt file and here is the updated variable list:

LIST OF VARIABLES AVAILABLE (variables which need numerical manipulation are starred)

CLOUD
CLDICE
TGCLICWP
CLDTOT
CLDLIQ
TGCLDCWP
SFQ
LHFLX
SHFLX
RELHUM
Q
PR*
PRECC

PRECSC
TMQ
PS
PSL
FLDS
FLDSC
RLUS*
FLUT
FLUTC
FSDS
FSDSC
SOLIN
RSUS*
RSUSCS*
RSUT*
RSUTCS*
T
TREFHT
TSMX
TSMN
TAUX
TAUY
TS
U
V
OMEGA
Z3

Let me know if you think of anything else!
Ross

From: Tracmip <tracmip@gmail.com>
Sent: Thursday, May 31, 2018 3:54 PM
To: Ross Dixon
Subject: Re: Putting TRACMIP on ESGF

Dear Ross,

Thanks for all the detailed informations and tipps, this is amazing! As for now I would not rerun anything, as I assume you are busy with other things. For the land4xCO2 I might just add a comment in the netcdf files that this simulation was started from aquaControl.

One question: isn't CLOUD what we need for cl?

Also, can I forward this to Jian-Liu who ran MPAS? I think your information answers some of the questions I had for MPAS ...

Best, Aiko

On 31.05.2018 17:38, Ross Dixon wrote:

Hi Aiko,

Here are the requested scripts! There are a few issues I discovered/remembered with the CAM3 output. First, the aqua4xCO2 3hr output is missing. I could attempt to find this on yellowstone or rerun it if necessary. I don't know what happened there. Second, the land4xCO2 simulation was initialized using the final state from the aquaControl. I had mentioned this earlier, and it shouldn't change the mean state, but should be noted for people looking at the transient behaviour. I could probably run this again restarting from the end of landControl.

There are a few issues with the mapping table:

- 1) CAM3 is missing the proper fields for cl, sfcWind, uas, and vas. I have commented these out in the mt file.
- 2) Some of the fields in the mt file require manipulation from the CAM3 output:

```
pr = PRECC + PRECL + PRECSH + PRECSL
rlus = FLDS + FLNS
rsus = FSDS - FSNS
rsuscs = FSDSC - FSNSC
rsut = SOLIN - FSNT
rsutcs = SOLIN - FSNTC
```

I don't know how you'd like to deal with these. Perhaps some kind of cdo / nco script? I have attached a file named "cmorize" which contains how I would go about manipulating the fields.

This file also shows how I would interpolate the hybrid sigma levels to the CMIP levels. You need PS,PHIS,hyai,hybi,hyba,hybm to run ml2pl. Here is an example:

```
#select variable and run and frequency
ncrcat -O -v U,PS,PHIS,hyai,hybi,hyam,hybm apmip.land.orbit.cam2.h0.00*
sigma_temp.nc
```

```
#here we put things in ECHAM format so ml2pl works right
ncap2 -O -s "hyai=hyai*100000;hyam=hyam*100000;" sigma_temp.nc sigma_temp.nc
cdo -cname,PS,sp -cname,PHIS,geosp sigma_temp.nc input.nc

#now interpolate to pressure levels from sigma hybrid levels using ml2pl
cdo
ml2pl,100000,92500,85000,70000,60000,50000,40000,30000,25000,20000,15000,10000,700
input.nc output.nc
```

LIST OF VARIABLES AVAILABLE (variables which need numerical manipulation are starred)

CLDICE
TGCLICWP
CLOUD
CLDLIQ
TGCLDCWP
SFQ
LHFLX
SHFLX
RELHUM
Q
PR*
PRECC
PRECSC
TMQ
PS
PSL
FLDS
FLDSC
RLUS*
FLUT
FLUTC
FSDS
FSDSC
SOLIN
RSUS*
RSUSCS*
RSUT*
RSUTCS*
T
TREFHT
TSMX
TSMN

TAUX
TAUY
TS
U
V
OMEGA
Z3

START DATE and END DATE for simulations:

AquaControl: 0001-01-01 --- 0045-12-31
Aqua4xCO2: 0046-01-01 --- 0085-12-31
LandControl: 0046-01-01 --- 0085-12-31
Land4xCO2: 0046-01-01 --- 0085-12-31
LandOrbit: 0086-01-01 --- 0125-12-31

Output stream available for each simulation:

AquaControl Amon 0016-01-01 - 0045-12-31
AquaControl Aday 0036-01-01 - 0045-12-31
AquaControl A3hr 0043-01-01 - 0045-12-31
Aqua4xCO2 Amon 0046-01-01 - 0085-12-31
Aqua4xCO2 Aday 0076-01-01 - 0085-12-31
Aqua4xCO2 A3hr missing? I don't know why.
LandControl Amon 0046-01-01 - 0085-12-31
LandControl Aday 0076-01-01 - 0085-12-31
LandControl A3hr 0083-01-01 - 0085-12-31
Land4xCO2 Amon 0046-01-01 - 0085-12-31
Land4xCO2 Aday 0076-01-01 - 0085-12-31
Land4xCO2 A3hr 0083-01-01 - 0085-12-31
LandOrbit Amon 0086-01-01 - 0125-12-31
LandOrbit Aday 0116-01-01 - 0125-12-31
LandOrbit A3hr 0123-01-01 - 0125-12-31

Hope this helps! Please let me know if you have any questions or need anything else from me!

Thank you for figuring out how to process all of these simulations and get them on the ESGF server!

Ross

From: Tracmip <tracmip@gmail.com>
Sent: Thursday, May 31, 2018 5:53 AM
To: Ross Dixon
Subject: Re: Putting TRACMIP on ESGF

Ping ping!
Thanks, Aiko

On 17.05.2018 18:58, Ross Dixon wrote:

Hi Aiko!

I feel so bad, I was working on it and then I got super swamped with deadlines with the postdoc. I am away from a computer where I can work on this until next Wednesday, but I should be able to get you this by the end of May. Sorry again for the delay!

Ross

Get [Outlook for iOS](#)

From: Tracmip <tracmip@gmail.com>
Sent: Monday, May 14, 2018 3:31:57 PM
To: Ross Dixon
Subject: Fwd: Re: Putting TRACMIP on ESGF

----- Forwarded Message -----

Subject: Re: Putting TRACMIP on ESGF
Date: Mon, 14 May 2018 22:30:26 +0200
From: Tracmip <tracmip@gmail.com>
To: DIXON Ross <ross.dixon@meteo.fr>

Dear Ross,
I hope you enjoy La France! I am in the middle of cmorizing the TRACMIP data. Any chance you can send me the required info for CAM3 sometime soon?
Btw, the first models are on ESGF - see the attached figure.
Best, Aiko

On 20.10.2017 14:06, DIXON Ross wrote:

Hi Aiko,

Yes, I am in Toulouse! It is a fantastic city, I often feel I would embrace it even more if I spoke French (I'm working on it, ha!).
I was finally able to work on the cmorizing scripts for the cam3 simulation this week, and will hopefully finish sometime next week.
Just wanted to let you know I hadn't forgotten about this.

Ross

----- Météo-France -----
DIXON ROSS
CNRM/GMME/MOANA
ross.dixon@meteo.fr
Fixe : +33 561079874

De: "Tracmip" <tracmip@gmail.com>
À: "Ross Dixon" <ross.dixon@meteo.fr>
Envoyé: Mardi 19 Septembre 2017 16:14:26
Objet: Re: Putting TRACMIP on ESGF

Hi Ross,
Thanks, October is fine. Are you in Toulouse? I did an exchange year there when studying, it's a real nice city.
Best, Aiko

On 19.09.2017 09:28, Ross Dixon wrote:

Hi Aiko!

I would be glad to do this. I am on vacation until the beginning of October and won't have access to an actual computer. I should be able to do this for you by the end of October at the latest, if that is acceptable. Thanks for doing the heavy lifting on this!

By the way, I am now a postdoc at CNRM, so my new work email is ross.dixon@meteo.fr I will continue to use the UW email, but I don't know how long I can keep it.

Cheers,
Ross

Get [Outlook for iOS](#)

From: Tracmip <tracmip@gmail.com>

Sent: Tuesday, September 19, 2017 04:28

Subject: Putting TRACMIP on ESGF

To: <aiko.voigt@kit.edu>

Cc: Michela Biasutti <mbiasutti@gmail.com>, Jack Scheff

<jscheff@uncc.edu>, Juergen Bader

<juergen.bader@mpimet.mpg.de>, Simona Bordoni

<bordoni@gps.caltech.edu>, Francis Codron

<francis.codron@lmd.jussieu.fr>, Ross Dixon <rddixon@wisc.edu>,

<skang.sarah@gmail.com>, Nicholas Pappas Klingaman,

<n.p.klingaman@reading.ac.uk>, <ruby.leung@pnnl.gov>,

<jian.lu@pnnl.gov>, Elizabeth Maroon

<emaroon@atmos.washington.edu>, Sonali McDermid,

<sps246@nyu.edu>, Park, Jong-yeon <[\[yeon.park@mpimet.mpg.de\]\(mailto:yeon.park@mpimet.mpg.de\)>, ROEHRIG, Romain](mailto:jong-</p></div><div data-bbox=)

<romain.roehrig@meteo.fr>, Rose, Brian <brose@albany.edu>, Brian,

Mapes <mapes@miami.edu>, Jeongbin Seo

<sjbin6822@naver.com>, Masakazu, Yoshimori

<myoshimo@ees.hokudai.ac.jp>, Lucas Randall Zeppetello,

<lrz2109@columbia.edu>, Thomas Toniazzo

<thomas.toniazzo@uni.no>, Ho-Hsuan, Wei <hwei@caltech.edu>

Dear Tracmipers!

I hope this email finds you well. Michela and I are working to put TRACMIP on ESGF, which also hosts CMIP and which many in the climate

community are very well familiar with. We hope this will make it easier for all of us as well as the wider scientific community to make use of this cool data set. However, ESGF data must be cmorized. I am willing to

do the heavy lifting of cmorizing, but in order to do so I need specific information regarding your model output in the form of specific files.

What I need is described in detail in the attached pdf. I believe putting together these information files can be done in a reasonable amount of time if everybody takes care of the model that he/she has

contributed. Once compiled, the information allows me to loop through the TRACMIP dataset and cmorize it using the cdo cmor operator.

Please let me know if you are willing to provide this information, and until when. I am hoping to have TRACMIP on ESGF by the end of this year.

Thanks, and holler if you have any questions.

Best, Aiko

PS: I am sending this to all of the authors of the TRACMIP 2016 introduction paper in JAMES. For some models, there is more than one responsible person, so please coordinate within these groups regarding how to generate the information I am asking for. Thanks!