Wiki of ORCHIDEE model

This wiki aims at gathering information on ORCHIDEE model. Information is related to model and code documentation, main configurations under which ORCHIDEE model can be ran and description of the Tags and Branches of development. Evaluation results will be presented her, as well. Last, through this wiki, you will get access to the report of the ORCHIDEE meetings and the presentations given at the different ORCHIDEE seminars.

Latest News

- A little Retreat during 1.5 or 2 days will be organised in the coming months in order primarily to build a complete Documentation of the model. The objective is to gather altogether in an isolated place (probably in Saint Remy les Chevreuse) with one night there and to work on a complete, not static (i.e. included in the routines) documentation. It will be handle by DOXYGEN software. Additionally we will have a specific scientific discussion around a proposed new Energy balance scheme (multi-layer). Each participant will have to prepare before the meeting some text to document one or few routines (more details will follow soon). **You are all welcome to participate** (all fees except travel will be covered). Please contact P. Peylin for additional information
- Since few months, ORCHIDEE code is managed using Subversion software. It is a very useful tool which helps you also to manage your own ORCHIDEE code. With Subversion, you can for instance, see the history of your changes in your code and backup your code in a secure way. We plan to organize a Subversion course for ORCHIDEE users very soon at LSCE, Orme (probably in the room 100). The course will be in English and for phd students, post-doc and advisors. Other people involved in ORCHIDEE are welcome. It will last 2 to 3 hours approximately. No prerequisitives except basic linux commands. Please contact D. Solyga for additional information

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root

Visit: View revision:

Name	Size	Rev	Age	Last Change
branches		537	4 days	martial.mancip: Add RENORM_LAI for activate renormelization of LAI in slowproc_interlai.
Assimilation		460	2 months	ernest.koffi: EK: the last commit has some indesirable lines
Hydrology		537	4 days	martial.mancip: Add RENORM_LAI for activate renormelization of LAI in slowproc_interlai.
OpenMP		479	8 weeks	martial.mancip: Correct bugs with io in my last commit. Always make clean before commits ...
ORCHIDEE-BCOV		476	2 months	martial.mancip: Put emission fluxes in diffuco.
orchidee-N		416	3 months	bertrand.guenet: modififcations of parameters to avoid N limitation on plant growth
ORCHIDEE-STICS		188	7 months	nicolas.vuichard: debug calls to histsync function in intersurf
ORCHIDEE_EXT		510	3 weeks	didier.solyga: Correct wrong initialisation of the parameter is_c3
orchidee_FM		288	5 months	thomas.launois: forcing file time problem
ORCHIDEE_HIGH_LAT		502	4 weeks	didier.solyga: Delete binaries files in ORCHIDEE_OL
Restruct_Stomate		16	12 months	mmaipsl: first branch ! import orchidee version of Didier Solyga for Stomate ...
Spinup_analytic		484	6 weeks	didier.solyga: First steps to a new Spinup algorithm : the matrix method will start when ...
perso		538	4 days	martial.mancip: Correct some bugs on CMIP5 variables. Now variables are no more compatible ...
tags		529	7 days	martial.mancip: Old bug in OOL_SEC - only SECHIBA - script ! forget to copy LAI_MAP ...
ORCHIDEE_1_9_5		8	13 months	orchidee: import first tag equivalent to CVS orchidee_1_9_5 + OOL_1_9_5
ORCHIDEE_1_9_5_1		119	9 months	martial.mancip: PC, CE, MM : corrections for IPSLCM5A_C couple carbon model.
ORCHIDEE_1_9_5_2		529	7 days	martial.mancip: Old bug in OOL_SEC - only SECHIBA - script ! forget to copy LAI_MAP ...
trunk		534	5 days	didier.solyga: Correct HeadURL for some modules
ORCHIDEE		534	5 days	didier.solyga: Correct HeadURL for some modules
arch		8	13 months	orchidee: import first tag equivalent to CVS orchidee_1_9_5 + OOL_1_9_5
src_global		511	3 weeks	didier.solyga: Merge the externalization branch into the trunk (ORCHIDEE)
src_parallel		531	5 days	didier.solyga: Update externalized paramters(delete-add).Reorganize src_parameters. Clean ...
src_parameters		534	5 days	didier.solyga: Correct HeadURL for some modules
src_sechiba		534	5 days	didier.solyga: Correct HeadURL for some modules
src_stomate		531	5 days	didier.solyga: Update externalized paramters(delete-add).Reorganize src_parameters. Clean ...
AA_make	0.7 KB	41	11 months	mmaipsl: MM, MasaK : Group all definitions of R_Earth in the whole ORCHIDEE code : ...
AA_make.ldef	82 bytes	12	12 months	mmaipsl: correct Id, HeadURL, Date, Author and Revision svn properties.
Doxyfile_ORCHIDEE	9.1 KB	8	13 months	orchidee: import first tag equivalent to CVS orchidee_1_9_5 + OOL_1_9_5
makeorchidee_fcm	5.2 KB	8	13 months	orchidee: import first tag equivalent to CVS orchidee_1_9_5 + OOL_1_9_5
ORCHIDEE_CeCILL.LIC	2.1 KB	8	13 months	orchidee: import first tag equivalent to CVS orchidee_1_9_5 + OOL_1_9_5
ORCHIDEE_OL		532	5 days	didier.solyga: Delete unused externalized parameters.Clean comments

root

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Name	Size	Rev	Age	Last Change
branches		537	4 days	martial.mancip: Add RENORM_LAI for activate renormelization of LAI in slowproc_interlai.
perso		538	4 days	martial.mancip: Correct some bugs on CMIP5 variables. Now variables are no more compatible …
martial.mancip		538	4 days	martial.mancip: Correct some bugs on CMIP5 variables. Now variables are no more compatible …
ORCHIDEE		538	4 days	martial.mancip: Correct some bugs on CMIP5 variables. Now variables are no more compatible …
arch		8	13 months	orchidee: import first tag equivalent to CVS orchidee_1_9_5 + OOL_1_9_5
DOC		501	4 weeks	martial.mancip: add label/ref and hypertarget/hyperlink from Phenology documentation to …
src_global		42	11 months	mmaipsl: MM: Replace all 0.0 by 'zero' and 1.0 by 'un', and all 86400. by …
src_parallel		442	2 months	martial.mancip: Change code to utf8 modern encoding.
src_parameters		368	4 months	martial.mancip: Use new IOIPSL function histglobal_attr to give PFT list in history files.
src_sechiba		491	5 weeks	martial.mancip: Work with Fabienne on split phenology doc. Add DOT example in intersurf.
src_stomate		538	4 days	martial.mancip: Correct some bugs on CMIP5 variables. Now variables are no more compatible …
AA_make	1.1 KB	452	2 months	martial.mancip: Add Fabienne Maignan docs.
AA_make.ldef	82 bytes	12	12 months	mmaipsl: correct Id, HeadURL, Date, Author and Revision svn properties.
Doxyfile_ORCHIDEE.init	10.0 KB	494	5 weeks	martial.mancip: set EXAMPLE_PATH for tex documentation and DOT_PATH for dot files. Keep …
makeorchidee_fcm	7.5 KB	492	5 weeks	martial.mancip: Copy pdf products by -doc in ORCHIDEE directory.
ORCHIDEE_CeCILL.LIC	2.1 KB	8	13 months	orchidee: import first tag equivalent to CVS orchidee_1_9_5 + OOL_1_9_5
ORCHIDEE_OL		443	2 months	martial.mancip: Change code to utf8 modern encoding.
TOOLS		291	4 months	martial.mancip: get trunk martial personnal directory.
tags		529	7 days	martial.mancip: Old bug in OOL_SEC - only SECHIBA - script ! forget to copy LAI_MAP …
trunk		534	5 days	didier.solyga: Correct HeadURL for some modules

Note: See TracBrowser for help on using the browser.

View changes…

Basic ORCHIDEE scripts

ORCHIDEE for CMIP5 and trunk (beginning of 2011) has three off-line drivers :

1. orchidee_ol that use all ORCHIDEE source (dim2_driver, SECHIBA, STOMATE and LPJ) and may run the full ORCHIDEE model or just a part of (juste the driver and SECHIBA with prescibe LAI).
2. teststomate is the driver to run only STOMATE and LPJ part of the model (daily). It is used to accelerate the SPINUP of the vegetation (but without feedback to the physic : soil temperature, hydrology).
3. forcesoil is the driver to accelerate the convergence of the soil carbon pools only.

There are four basic directories (configuration) to run ORCHIDEE in a simple mode :

1. OOL_SEC: used to run orchidee_ol without STOMATE and LPJ (SECHIBA with prescibe LAI).
2. OOL_SEC_STO : run orchidee_ol with the full ORCHIDEE model.
3. TESTSTOMATE : run teststomate and only STOMATE and LPJ part of the model
4. FORCESOIL : run forcesoil to converge the soil carbon pools.

Each of those directories contains :

- a config.card file to describe the configuration (see JobName, LongName, TagName, CalendarType, ListOfComponents), the experiment specifications (!Restarts and !Post) and informatic parameters (parallelization, WriteFrequency).
- in COMP directory, you may find "card" and "driver" files for each components list in ListOfComponents section of config.card.
- in PARAM directory you may find default parameters files for each components. It gives a list of all parameters required by the model with the routine "getin". Those files contains only default parameters (documented). You may change them with care because it can give an eratic behaviour of the model and some parameters are changed automaticly by the script (see remark 2 below).
- Finaly, POST directory gives configurations files for SECHIBA and STOMATE/LPJ component outputs. Please, see intranet wiki page on ⇨Monitoring, if you want to add your own variables in MONITORING web pages. See remark 3.

Some important remarks :

1. The type of the calendar (CalendarType) and the dates (DateBegin and DateEnd) are only use by the scripts to get the right input (forcings, maps ...) files, but they are not passed to the model. For ORCHIDEE model, the forcing file must give all informations on the calendar.
2. The options in the cards always gives priority parameters regards to those of the parameter files because the driver use those options to overwrite the parameter value in the last input parameter files in the RUN_DIR directory.
3. You may add you own TS (TimeSeries) monitoring in your DODS web page for your simulations. For that, you must verify that the variable is correctly output (right histdef and histwrite are created and calls in your version of the source code). You must control that the variable is listed in the TimeSeriesVars? option (2D or 3D list depends on the dimension of the variables) in the Post_1M_"your_component_history_file" section. Then it will be automaticly created if you have add the right line in your POST component file (with cfg extension).

SPINUP job

Spin-up are the algorithms to get the convergence of a part of the surface model. They are used to give correct initial state for historical simulations.

The equilibrium of the physic (SECHIBA) of the land surface should be reach in less than 10 years with a fix climatology and a prescribe LAI. You may take care of the year of the forcing file because Nino or Nina specific year may give bad results for global spin-up.

The equilibrium of the LAI (seasonnal variation of the vegetation) less than take two decade to converge. There is a big feedback between the LAI and the hydrology and energy budget.

But the soil carbon pools take thousand of years to converge, but there is no feedback between those pools and the LAI and the hydrology yet.

important remark :
This configuration use OOL_SEC, OOL_SEC_STO, TESTOMATE, FORCESOIL basic configurations as skeletons to launch each spinup stages, depends of the algorithm you have chosen.
You may not change those initial directories (or with great care) because it may change all your spin-up !

See page SpinUpJobs for additionnal informations.

root / trunk / ORCHIDEE_OL / OOL_SEC_STO

Visit: View revision:

Name	Size	Rev	Age	Last Change
../				
COMP		380	4 months	martial.mancip: Update all scripts for all-parallel drivers.
orchidee_ol.card	0.9 KB	380	4 months	martial.mancip: Update all scripts for all-parallel drivers.
orchidee_ol.driver	2.3 KB	254	6 months	martial.mancip: Correct default value for TIME_LENGTH in the driver. The number of time ...
sechiba.card	3.1 KB	380	4 months	martial.mancip: Update all scripts for all-parallel drivers.
sechiba.driver	5.7 KB	380	4 months	martial.mancip: Update all scripts for all-parallel drivers.
stomate.card	1.8 KB	380	4 months	martial.mancip: Update all scripts for all-parallel drivers.
stomate.driver	3.9 KB	380	4 months	martial.mancip: Update all scripts for all-parallel drivers.
PARAM		530	7 days	martial.mancip: Add CHECKTIME parameter in sechiba default files.
driver.def	9.4 KB	51	11 months	mmaipsl: Replace orchidee standard name for sechiba one in all scripts. Split ...
run.def	124 bytes	51	11 months	mmaipsl: Replace orchidee standard name for sechiba one in all scripts. Split ...
sechiba.def	27.5 KB	530	7 days	martial.mancip: Add CHECKTIME parameter in sechiba default files.
stomate.def	6.6 KB	51	11 months	mmaipsl: Replace orchidee standard name for sechiba one in all scripts. Split ...
POST		334	4 months	martial.mancip: Correct lai numbers for sechiba_LAND_USE and add stomate cfg file for ...
monitoring01_sechiba.cfg	6.0 KB	130	9 months	martial.mancip: suppress maxveget_forcing MONITORING variable because maxveget already ...
monitoring01_sechiba_LAND_USE_and_LAI_PFTs.cfg	6.1 KB	334	4 months	martial.mancip: Correct lai numbers for sechiba_LAND_USE and add stomate cfg file for ...
monitoring01_stomate.cfg	10.4 KB	334	4 months	martial.mancip: Correct lai numbers for sechiba_LAND_USE and add stomate cfg file for ...
monitoring01_stomate_DGVM.cfg	14.1 KB	334	4 months	martial.mancip: Correct lai numbers for sechiba_LAND_USE and add stomate cfg file for ...
config.card	3.9 KB	110	9 months	martial.mancip: Correct LAND USE map initialization (thanks to Juliette). Correct CONSERVE ...
config.card.OldName	3.7 KB	8	13 months	orchidee: import first tag equivalent to CVS orchidee_1_9_5 + OOL_1_9_5

Note: See TracBrowser for help on using the browser.

View changes...

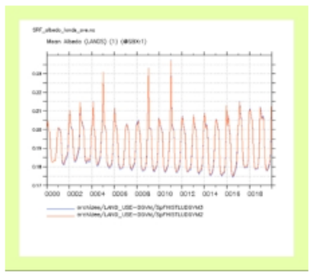
Monitoring comparison: SpFHISTLUDGVM3 vs SpFHISTLUDGVM2

at 2011-08-02 16:20:18

ALL **Filter :** SRF **Images :** 030 / 104

ATM CHM ICE MBG OCE SBG SRF *XOR* *CLR*

land ocean north south global forcing



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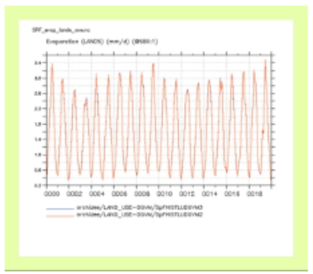

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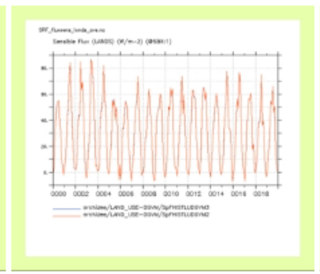

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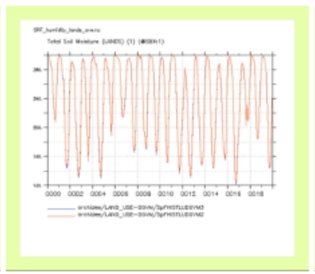

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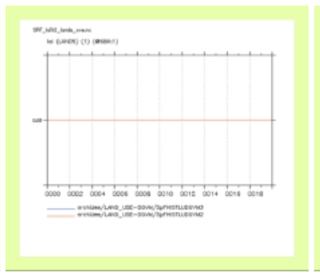

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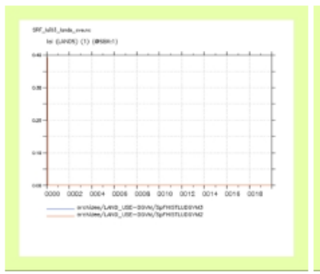

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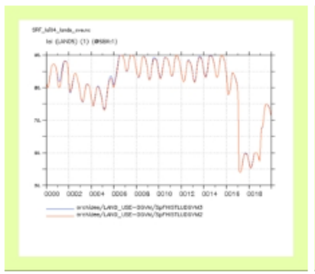

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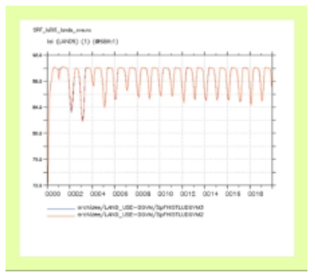

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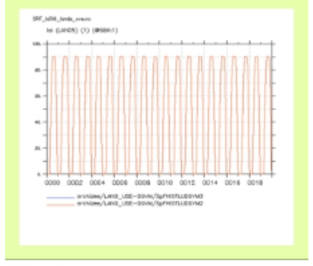

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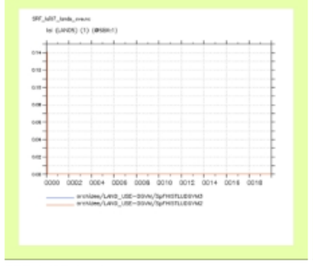

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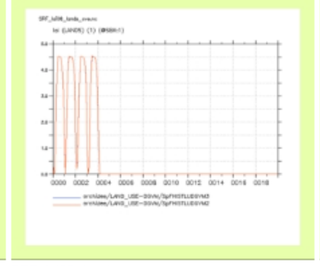

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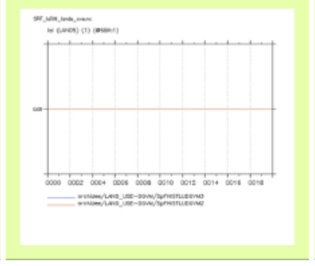

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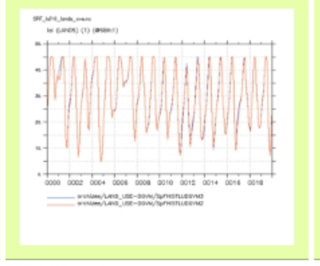

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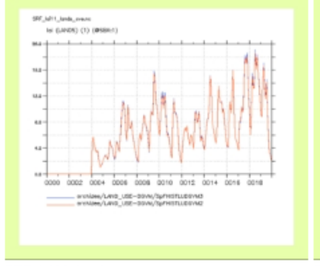

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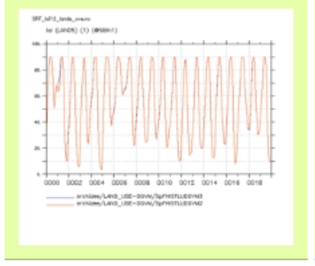

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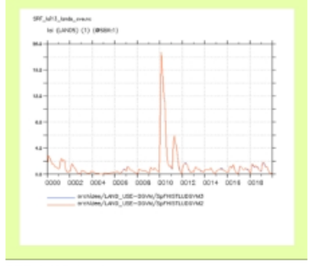

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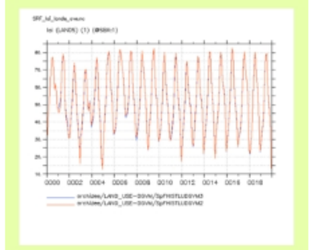

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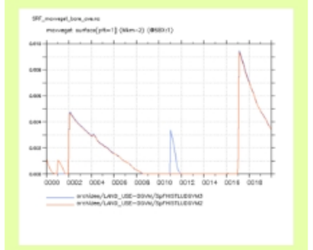

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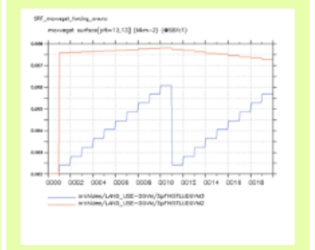

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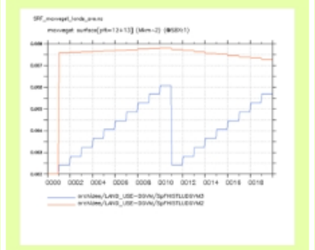

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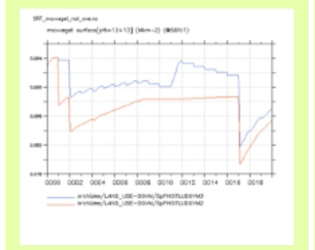

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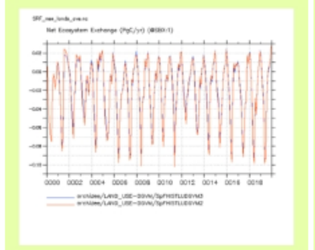

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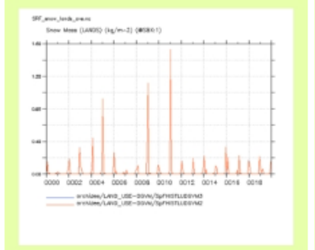

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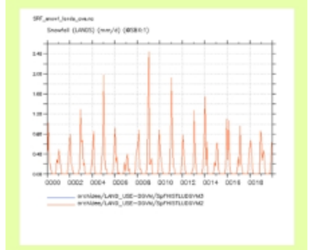
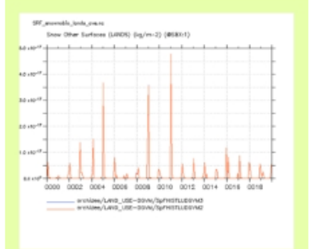


SRF_snowf_lands_ave



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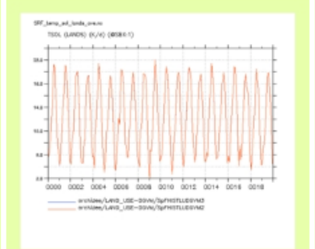
SRF_subli_lands_ave



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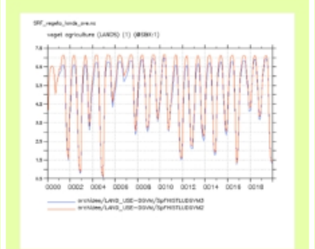

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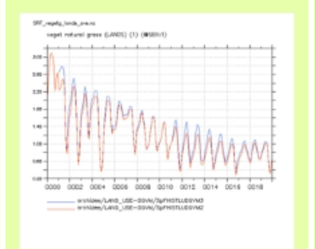

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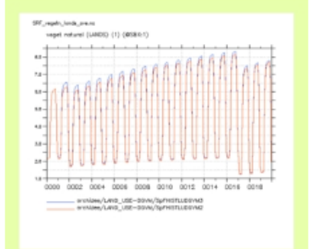

SRF_vegetn_lands_ave