Group : LSCE

Contact : Olivier Marti - olivier.marti@lsce.ipsl.fr

Experiment 1

Model description. IPSL ESM at very low resolution. Ocean 2° x Atmosphere 96x96x39

Experiment description Transient Holocene simulation (6ka BP - 2ka BP) with prescribed vegetation, interactive phenology and interactive carbon cycle

Acces to data : accessible on a http and thredds server. Please contact Olivier Marti.

Experiment 2

Model description IPSL ESM at standard resolution. Ocean 2° x Atmosphere 144x143x39

Experiment description Transient Holocene simulation (6ka BP - 2ka BP) with prescribed vegetation, interactive phenology and interactive carbon cycle

Acces to data : accessible on a http and thredds server. Please contact Olivier Marti. Mettre accès au DOI du papier.

Experiment 3

Model description. IPSL ESM at standard resolution. Ocean 2° x Atmosphere 144x143x39 with dynamical vegetation.

Experiment description Transient Holocene simulation (6ka BP - 2ka BP) with interactive vegetation and phenology :

Acces to data : accessible on a http and thredds server. Please contact Olivier Marti. Data from Braconnot et al. (2019) available at https://doi.org/10.14768/20191028001.1.

References

Braconnot, P., Marti, O., Crétat, J., Zhu, D., Sanogo, S., Balkanski, Y., Caubel, A., Cozic, A., Foujols, M.-A. and Servonnat, J.: Transient simulations of the last 6000 years with the IPSL model, in PMIP Workshop group P2FVAR., 2019.

Braconnot, P., Crétat, J., Marti, O., Balkanski, Y., Caubel, A., Cozic, A., Foujols, M.-A. and Sanogo, S.: Impact of Multiscale Variability on Last 6,000 Years Indian and West African Monsoon Rain, Geophys. Res. Lett., 46(23), 14021–14029, doi:10.1029/2019GL084797, 2019.

Braconnot, P., Zhu, D., Marti, O. and Servonnat, J.: Strengths and challenges for transient Mid- to Late Holocene simulations with dynamical vegetation, Clim. Past, 15(3), 997–1024,

doi:10.5194/cp-15-997-2019, 2019.

Animations

Please cite above references if you use these animations.

- Animation of June-August precipitation for simulation TR5AS-Vlr01 (experiment 1) : https://mycore.core-cloud.net/index.php/s/1UW9gr6Z5r3WrCW
- Animation of June-August precipitation for simulation TR6AV-Sr02 (experiment 3) : https://mycore.core-cloud.net/index.php/s/Xvvucla9zcSdstB
- Animation of amplitude of the seasonal cycle of near surface temperature (@2m height) for simulation TR5AS-Vlr01 (experiment 1): https://mycore.core-cloud.net/index.php/s/Xvvucla9zcSdstB
- Animation of amplitude of the seasonal cycle of near surface temperature (@2m height) for simulation TR6AV-Sr02 (experiment 3): https://mycore.core-cloud.net/index.php/s/umJwATAWEy9UX6r
- Animation grouping all the above : https://mycore.core-cloud.net/index.php/s/eG5S1BKNrb1dk1A

Group : MPI-M

Contact person Johann Jungclaus johann.jungclaus@mpimet.mpg.de

Model description MPI-ESM-LR : ocean 1.5 degr/40 levels (254x220x40), atmosphere 1.875 degr/47 levels (196x98x47).

Experiment 1

SLO0043 (TRSF) Experiment description Transient Holocene simulation (8 ka BP to 1850 CE) with interactive vegetation

Acces to data: data accessible via http server at DKRZ on request, contact Johann Jungclaus. Data from Dallmeyer et al. (2020) at: https://pure.mpg.de/pubman/faces/ViewItemOverviewPage.jsp?itemId=item_3081512.

Experiment 2

SLO0029 (TRFSC) **Experiment description** Transient Holocene simulation (8 ka BP to 1850 CE) with interactive vegetation and interactive carbon cycle

Acces to data data accessible via http server at DKRZ on request, contact: Johann Jungclaus. Data from Brovkin et al. (2019) available from the MPI-M library by contacting publications@mpimet.mpg.de

Experiment 3

SLO0050 (TRAF) Experiment description: Transient Holocene simulation (8 ka BP to 1850 CE) with interactive vegetation, and forcing by volcanic aerosols and solar irradiance changes. Acces to data: data accessible via http server at DKRZ on request, contact: Johann Jungclaus.

Acces to data ????

References

Bader, J.; Jungclaus, J.; Krivova, N.; Lorenz, S.; and Claussen, M., 2020: Global temperature modes shed light on the Holocene temperature conundrum", Nature Communications, 11: 4726. doi:10.1038/s41467-020-18478-6 .

Brovkin, V., Lorenz, S., Raddatz, T., Ilyina, T., Stemmler, I., Toohey, M., and Claussen, M.: What was the source of the atmospheric CO2 increase during the Holocene?, Biogeosciences, 16, 2543–2555, https://doi.org/10.5194/bg-16-2543-2019, 2019.

Dallmeyer, A. Claussen, M. , Lorenz, S.J., Shanahan, T.: The end of the African humid period as seen by a transient comprehensive Earth system model simulation of the last 8000 years, Clim. Past, 16, 117–140, doi: 10.5194/cp-16-117-2020, 2020.

Group : AWI

Contact person Gerrit Lohmann Gerrit.Lohmann@awi.de

Experiment 1

Model description AWI-ESM2 (T63-resolution in the atmosphere, JSBACH, FESOM2), dynamical vegetation

Experiment description Transient Holocene simulation (6 ka BP to 1850 CE) and dynamical vegetation

Acces to data ????

Experiment 2

Model description AWI-ESM2 (low-resolution in the atmosphere T31)

Experiment description Transient Holocene simulation (6 ka BP to 1850 CE)

Acces to data ????

Experiment 3

Model description AWI-ESM1 (T63)

Experiment description Transient Holocene simulation (9 ka BP to 6 ka BP) and dynamical vegetation

Acces to data ????

Experiment 4a, 4b

Model description MPI-ESM-LR, T63 with ECHAM6/MPIOM/JSBACH: ocean 1.5 degr/40 levels (254x220x40), atmosphere 1.875 degr/47 levels (196x98x47). With water isotopes

Experiment description Mid-Holocene and Pre-industrial with water isotopes Acces to data ????

Experiment 5

Model description ECHAM5-MPIOM-JSBACH (COSMOS, very low resolution model, T31). With water isotopes

Experiment description Transient Holocene simulation with isotopes (9 ka BP to 1850 CE) and dynamical vegetation

Acces to data ????

References

Sidorenko et al. 2019: Evaluation of FESOM2.0 coupled to ECHAM6.3: Pre-industrial and HighResMIP simulations. Journal of Advances in Modeling Earth Systems, 11, DOI: 10.1029/2019MS001696

Shi, X., Lohmann, G., Sidorenko, D., Yang, H. 2020 : Early-Holocene simulations using different forcings and resolutions in AWI-ESM. The Holocene.

Shi, X., and G. Lohmann, 2019: The Northern Hemisphere synoptic processes under early-Holocene regimes. Journal of Geophysical Research - Atmospheres (submitted)

Cauquoin, A., Werner, M., and Lohmann, G., 2019: Water isotopes – climate relationships for the mid-Holocene and preindustrial period simulated with an isotope-enabled version of MPI-ESM. Clim. Past, 15, 1913–1937. doi:10.5194/cp-15-1913-2019

Werner, M., Haese, B., Xu, X., Zhang, X., Butzin, M., and Lohmann, G.: Glacial–interglacial changes in H218O, HDO and deuterium excess – results from the fully coupled ECHAM5/MPI-OM Earth system model, Geosci. Model Dev., 9, 647-670, doi:10.5194/gmd-9-647-2016, 2016