LUMIP Land-use Time Series and Idealized Deforestation Spot Check Protocol
defined by the LUMIP SSG
updated 12/15/2016

With the goal of ensuring as much consistency as possible, the LUMIP SSG is offering to spot check (1) the use of the LUH2_v2.0 land use dataset in historical simulations and (2) the prescribed idealized deforestation utilized in the LUMIP globDeforest coupled experiment. For modeling groups that are interested in having their land-use implementation examined (note that this is not a requirement for participation in LUMIP), please follow the procedure below.

1. **Historical simulations**: Perform a transient land-only historical simulation, utilizing the new LUH2_v2.0 dataset, translated into a format applicable for each land model. The meteorological forcing dataset used in these simulations is not critical (and in fact these could be coupled simulations if that is easier). Ideally, the check should be conducted prior to running the CMIP6 Historical coupled model simulations. Gridded annual time series of selected variables should be delivered to the LUMIP SSG (see list and instructions below).

2. **globDeforest simulation** (see Lawrence et al. 2016 for detailed specification of this experiment): Groups should send the initial and final map of treeFrac as well as a map of landFrac.

Please contact **Dave Lawrence** (dlawren@ucar.edu) when your files are ready and he will point you to an anonymous ftp site where your files can be uploaded. Note that the files will not be utilized for any scientific purpose other than the spot check.

Annual gridded variables list (where applicable), in addition to static landFrac.

Priority 1
treeFrac
grassFrac
shrubFrac
cropFrac
pastureFrac

Priority 2
WoodHarvest (gC/m2/yr)
irrCrp

Lawrence, D.M., G.C. Hurtt, A. Arneth, V. Brovkin, K.V. Calvin, A.D. Jones, C.D. Jones, P.J. Lawrence, N. de Noblet-Ducoudre, J. Pongratz, S.I. Seneviratne, and E. Shevliakova, 2016: The Land Use Model Intercomparison Project (LUMIP) contribution to CMIP6: Rationale and experimental design. *GMD*, **9**, doi:10.5194/gmd-9-2973-2016.