

RCEMIP-II MODEL DOCUMENTATION FORM

Please fill out the below with the relevant information for the model simulations you are submitting to RCEMIP-II. If you are submitting multiple sets of simulations from multiple versions or configurations of a model, please fill out a documentation form for each.

Your information

Your Name: Walter Hannah

Your Institution: Lawrence Livermore National Laboratory

Your Email: hannah6@llnl.gov

Model information

Model Name/Version: E3SM version 2

Model Name Abbreviation (\$MDL used in upload to DKRZ Cloud): E3SM

Citation for model: <https://doi.org/10.1029/2022MS003156>

Model dynamical core

Type of grid (cartesian, spherical): Cube-sphere

Dynamical core (e.g. finite volume): Spectral Element with Gaussian-Legendre-Lobatto (GLL) quadrature (np4)

Time step: 5-min for global dynamics (30-min for physics)

Grid information

number of grid points: 21,600

horizontal grid spacing: 166.5 km

Number of vertical levels: 72

Vertical levels: Hybrid pressure / terrain following

Sponge layer: 3 levels

Physics packages (fill out all applicable)

Radiation scheme: RRTMGP

Microphysics scheme: MG2 (Gettelman and Morrison, 2015; Gettelman et al., 2015)

Boundary layer scheme: CLUBB (Golaz et al., 2002; Larson et al., 2002; Larson and Golaz, 2005; Bogenschutz et al., 2013)

Convection scheme: Zhang-McFarlane (Zhang and McFarlane, 1995)

Sub-grid scale turbulence scheme: CLUBB

Other: _____

Other model-specific settings or parameters (beyond the specified RCEMIP parameters):
