

## RCEMIP MODEL DOCUMENTATION FORM

Please fill out the below with the relevant information for the model simulations you are submitting to RCEMIP. 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:     Allison Wing    

Your Institution:     Florida State University    

Your Email:     awing@fsu.edu    

### Model information

Model Name/Version:     SAM 6.11.2    

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

Citation for model: Khairoutdinov, M. F., and D.A. Randall, 2003: Cloud-resolving modeling of the ARM summer 1997 IOP: Model formulation, results, uncertainties and sensitivities. J. Atmos. Sci., 60, 607-625

### Model dynamical core

Type of grid (cartesian, spherical):     cartesian    

Dynamical core (e.g. finite volume):     anelastic equations, fully staggered Arakawa C-type grid (horizontally uniform),    

Time step:     RCE\_small: <=8s, RCE\_large: <=12s    

### Grid information

RCE\_small, number of grid points:     96x96x74    

RCE\_small, horizontal grid spacing:     1 km    

RCE\_large, number of grid points:     2048x192x74    

RCE\_large, horizontal grid spacing:     3 km    

Number of vertical levels:     74     (model top at 33 km)

Vertical levels:     RCEMIP grid as specified in GMD paper    

Sponge layer:     Newtonian damping of prognostic variables in upper third of model domain    

### Physics packages (fill out all applicable)

Radiation scheme:     RRTMG LW and RRTMG SW    

Microphysics scheme:     SAM1MOM     (SAM single moment microphysics)

Boundary layer scheme:     none    

Convection scheme:     none    

Sub-grid scale turbulence scheme:     Smagorinsky stationary version of 1.5 order closure for prognostic SGS TKE    

Other:     original SAM advection scheme based on Smolarkiewicz' MPDATA scheme with monotonic corrector

Other model-specific settings or parameters (beyond the specified RCEMIP parameters):  
\_\_\_radiation called every 30 time steps\_\_\_\_\_