Description RCM simulations in CLARIS LPB

Model

Short model name	Eta
Full model name	Eta
Institute	Instituto Nacional de Pesquisas Espaciais (INPE) (www.inpe.br)
Model version	Climate Change version 1.0
Contact person name	Chou Sin Chan
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General references	Pesquero et al 2009; Chou et al 2011; Marengo et al 2011

Experimental setup

Name of domain	South America
Size of full grid (lon x lat x vertical)	123 x 245 x 38
Horizontal resolution	50 x 50 km
Type of grid	lat/lon
Lateral Boundary Relaxation number of grid points	Mesinger scheme (Mesinger 1977), one row, not using relaxation scheme.
Nudging (if yes, provide some description spectral, variables, levels)	No nudging
Boundary zone excluded (grid points)	2
Size of post-processed output grid (lon x lat)	140 x 156 x 20

ERA-INTERIM

Time period	1990-2008
Source of boundary condition	ERA-INTERIM
Initial condition	ERA-INTERIM
Spin up period	Jan-Dec 1989
Internal reference of simulation	ERA-INTERIM

General model description

Process:	**Description:**	**Reference:**
Dynamics	Eta vertical coordinate, E grid, energy conserved in transformations potential to kinetic	Mesinger 1984; Janjic 1984; Janjic 1979
Radiation	GFDL scheme	Fels and Schwarzkopf (1975) Lacis and Hansen (1974)
Turbulence	MY 2.5	Mellor and Yamada (1974)
Explicit cloud and	Zhao scheme	Zhao et al 1997

precipitation		
Convection	Betts-Miller scheme modified by Janjic (1994)	Betts and Miller (1986), Janjic (1994)
Land-surface scheme	NOAH scheme	Ek et al 2003
Fluxes over sea	Includes molecular viscous sublayer	Janjic (1994)

Details in model description

Land-surface processes

Specification:	**Description:**	**Reference:**
Land cover map	PROVEG-INPE	Sestini et al 2003
Soil map		Tomasella and Moira 2008
Orography data	USGS 1km	
No of sub surfaces (tiles)	No	
Interactive vegetation	No	
Soil layers for temperature	4	
Soil layers for humidity	4	

References

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